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Author

This final rule was prepared by Sally Stefferud, Endangered Species Staff, U.S. Fish and Wildlife Service, Albuquerque, New Mexico.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. Amend § 17.11(h) by adding the following, in alphabetical order under "Reptiles," to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
REPTILES							
*	*	*	*	*	*		
Snake, Concho water	*Nerodia harteri paucimaculata*	U.S.A. (TX)	Entire	T		NA	NA
*	*	*	*	*	*		

Dated: August 27, 1986.

P. Daniel Smith,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 86–19823 Filed 9–2–86; 8:45 am]

BILLING CODE 4310–55–M

federal register

Wednesday
September 3, 1986

Part IV

Department of Defense
General Services Administration
National Aeronautics and Space Administration

48 CFR Parts 5, 7, 13, 16, 19, 24, 31, 47, 50 and 52

Federal Acquisition Regulation; Final Rule

DEPARTMENT OF DEFENSE

GENERAL SERVICES ADMINISTRATION

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

48 CFR Parts 5, 7, 13, 16, 19, 24, 31, 47, 50, and 52

[Federal Acquisition Circular 84-21]

Federal Acquisition Regulation

AGENCIES: Department of Defense (DoD), General Services Administration (GSA), and National Aeronautics and Space Administration (NASA).

ACTION: Final rule.

SUMMARY: Federal Acquisition Circular (FAC) 84-21 amends the Federal Acquisition Regulation (FAR) with respect to the following: Publicizing and Response Time, Certificate of Competency (COC) for Commercial Activities, Blanket Purchase Agreement (BPA) Purchases under Federal Supply Schedules, Letter Contract Approval, Small Business Size Standards, Utilization of Women-Owned Small Businesses, Freedom of Information Act, Employee Rebate and Purchase Discount Plans, Retroactive or Backdated Insurance, Evaluation—F.O.B. Origin Provision, Extraordinary Contractual Actions, Women-Owned Small Business, Interest Rate, Cost Accounting Standards Contracts, Maintenance of FAR Matrices and other Editorial Corrections.

EFFECTIVE DATE: August 29, 1986.

FOR FURTHER INFORMATION CONTACT: Margaret A. Willis, FAR Secretariat, Room 4041, GS Building, Washington, DC 20405, Telephone (202) 523-4755.

SUPPLEMENTARY INFORMATION:

A. Public Comments

FAC 84-21, Items I through XIV (except Items VI, VIII, IX, XII, and XIII. Public comments have not been solicited with respect to these revisions in FAC 84-21 since such revisions either (a) do not alter the substantive meaning of any coverage in the FAR having a significant impact on contractors or offerors, or (b) do not have a significant effect beyond agency internal operating procedures.

FAC 84-21, Items VI, VIII, IX, XII, and XIII. Notices of proposed rules were published in the **Federal Register** on January 30, 1985 (50 FR 4241), October 9, 1985 (50 FR 41179), October 21, 1985 (509 FR 42657), March 22, 1985 (50 FR 11523), and October 28, 1985 (50 FR 43643). The Defense Acquisition Regulatory Council and the Civilian Agency Acquisition Council have considered the public comments solicited.

B. Paperwork Reduction Act

The Paperwork Reduction Act does not apply because these final rules do not contain information collection requirements which require the approval of OMB under 44 U.S.C. 3501, et seq.

C. Regulatory Flexibility Act

FAC 84-21, Items I through XIV (except Items VI, VIII, IX, XII, and XIII). Analyses of these revisions indicate that they are not "significant revisions" as defined in FAR 1.501-1; i.e., they do not alter the substantive meaning of any coverage in the FAR having a significant cost or administrative impact on contractors or offerors, or a significant effect beyond the internal operating procedures of the issuing agencies. Accordingly, and consistent with section 1212 of Pub. L. 98-525 and section 302 of Pub. L. 98-577 pertaining to publication of proposed regulations (as implemented in FAR Subpart 1.5, Agency and Public Participation), solicitation of agency and public views on these revisions is not required. Since such solicitation is not required, the Regulatory Flexibility Act (Pub. L. 96-354) does not apply.

FAC 84-21, Item VI, Utilization of Women-Owned Small Businesses. This revision will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601, et seq.) because the changes are merely minor revisions to incorporate controlling statutory or Code of Federal Regulations (CFR) language already implemented.

FAC 84-21, Item VIII, Employee Rebate and Purchase Discount Plans. This revision will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601, et seq.) because the practice at issue has involved large businesses only.

FAC 84-21, Item IX, Retroactive or Backdated Insurance. This revision will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601, et seq.) because most supplies and services obtained from small entities are acquired on a competitive fixed-price basis and the cost principles do not apply. For the remainder of supplies and services that are obtained from small entities, the cost principles are primarily used to establish negotiation objectives. Also, no specific comments were received from small entities indicating any significant impact.

FAC 84-21, Item XII, Women-Owned Small Business. This revision will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601, et seq.) because the changes merely clarify CFR language already implemented.

FAC 84-21, Item XIII, Interest Rate, Cost Accounting Standards Contracts. This revision will not have a significant impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601, et seq.) because contracts held by small businesses are not subject to the Cost Accounting Standards.

List of Subjects in 48 CFR Parts 5, 7, 13, 16, 19, 24, 31, 47, and 52

Government procurement.

Dated: August 29, 1986.

Lawrence J. Rizzi,

Director, Office of Federal Acquisition and Regulatory Policy.

Federal Acquisition Circular

[Number 84-21]

Unless otherwise specified, all Federal Acquisition Regulation (FAR) and other directive material contained in FAC 84-21 is effective August 29, 1986.

Eleanor S. Spector,

Deputy Assistant Secretary of Defense for Procurement.

Terence C. Golden,

Administrator, General Services Administration.

S.J. Evans,

Assistant Administrator for Procurement, National Aeronautics and Space Administration.

Federal Acquisition Circular (FAC) 84-21 amends the Federal Acquisition Regulation (FAR) as specified below.

Item I—Publicizing and Response Time

FAR 5.203, Publicizing and Response Time, is revised in paragraph (f) to provide additional guidance to contracting officers on how to proceed with a contract action when the contracting officer learns that a synopsis has not been published within prescribed timeframes.

Item II—Certificate of Competency (COC) for Commercial Activities

FAR 7.306, Evaluation, is revised to delete in paragraph (b) the improper term "responsible" as a minor editorial revision.

Item III—Blanket Purchase Agreement (BPA) Purchases Under Federal Supply Schedules

FAR 13.204 is revised to state that the small purchase limitation (currently $25,000) does not apply to individual BPA purchases under Federal Supply Schedule contracts.

Item IV—Letter Contract Approval

FAR 16.603-3 is revised to clarify that only a written determination and not a formal determination and finding is needed to approve the use of a letter contract.

Item V—Small Business Size Standards

FAR 19.102, Size Standards, is revised in the table of industry size standards to reflect corrections made by the Small Business Administration and to insert standards inadvertently omitted from the table.

Item VI—Utilization of Women-Owned Small Businesses

FAR 52.219-13, Utilization of Women-Owned Small Businesses, and FAR 19.902, Contract clause, which prescribes the use of that clause, are both revised to reflect the increase in the small purchase dollar limitation from $10,000 to $25,000, and to correct the prescriptive language to require inclusion of the clause in solicitations, as well as contracts, under specified conditions.

Item VII—Freedom of Information Act

FAR Subpart 24.2, Freedom of Information Act, is revised to provide guidance to contracting personnel concerning the handling of requests for disclosure of contractor-supplied information, pursuant to the Freedom of Information Act (FOIA).

Item VIII—Employee Rebate and Purchase Discount Plans

FAR 31.205-6 is revised to make unallowable, employee rebates and purchase discounts on contractor-produced products or services. Authoritative accounting has not conclusively decided whether employee discounts and rebates are reductions to sales or increases to costs. Accepting these amounts as costs under Government contracts would create a potential for serious abuse (particularly on consumer products with a high fixed-cost content) and an unworkable administrative problem with regard to verification of the cost structure of products manufactured in cost centers which are not normally subject to surveillance by Government cost auditors. For these reasons, these costs will not be accepted as part of the cost of fringe benefits of workers performing on Government contracts.

Item IX—Retroactive or Backdated Insurance

FAR 31.205-19 is revised to add subparagraph (a)(5) to make explicitly unallowable, premiums for retroactive or backdated insurance which is written to provide coverage for losses that have already occurred and are known. Since premiums for retroactive or backdated insurance are in fact payments for actual and known losses, this new subparagraph is consistent with the intent of the cost principle which already makes actual losses unallowable.

Item X—Evaluation—F.O.B. Origin Provision

FAR 47.305-3(f)(2) and the preface to the related provision at 52.247-47 are revised to provide guidance to contracting personnel concerning use of the provision entitled "Evaluation—F.o.b. Origin" when methods of transportation other than land are involved.

Item XI—Extraordinary Contractual Actions

FAR 50.306 is revised by adding an instruction to contracting officers concerning documentation required for contracts awarded under the extraordinary emergency authority granted by Pub. L. 85-804, as amended. The revision also requires documentation when the dollar amount exceeds an auditor's or other independent reviewer's recommendation.

Item XII—Women-Owned Small Business

FAR 52.219-13, Utilization of Women-Owned Small Businesses, is revised to define "small business concern"; to expand the definition of "women-owned small businesses" to include the criterion that women-owned small businesses are small business concerns; and, to specify that the contractor, acting in good faith, may rely on written representations by its subcontractors regarding their status as women-owned small businesses.

Item XIII—Interest Rate, Cost Accounting Standards Contracts.

The clauses at FAR 52.230-3, Cost Accounting Standards, and 52.230-5, Disclosure and Consistency of Cost Accounting Practices, are amended to delete the seven percent ceiling in interest assessments for increased costs paid by the Government on Cost Accounting Standards noncompliance issues. This change is required by section 934(b) of the Defense Authorization Act of 1986, which amends section 719 of the Defense Production Act by deleting the seven percent ceiling.

Item XIV—Maintenance of FAR Matrices

Replacement pages are provided for the looseleaf version of the FAR solicitation provision/contract clause matrices (Subpart 52.3) to effect changes made necessary by FAC's 84-1 through 84-13. A complete revision of all matrices, to effect changes made necessary by FAC's subsequent to FAC 84-13, and to include corrections proposed by FAR users, will be published in the looseleaf version of future FAC's. (The matrices are provided for guidance only; they are not regulatory and are not codified in 48 CFR.)

Therefore, 48 CFR Parts 5, 7, 13, 16, 19, 24, 31, 47, 50, and 52 are amended as set forth below.

1. The authority citation for 48 CFR Parts 5, 7, 13, 16, 19, 24, 31, 47, 50, and 52 continues to read as follows:

Authority: 40 U.S.C. 486(c); 10 U.S.C. Chapter 137; and 42 U.S.C. 2453(c).

PART 5—PUBLICIZING CONTRACT ACTIONS

2. Section 5.203 is amended by adding 3 sentences at the end of paragraph (f) to read as follows:

5.203 Publicizing and response time.

* * * * *

(f) * * * This presumption is based on the CBD's confirmation that publication does occur within these timeframes. This presumption does not negate the mandatory waiting or response times specified in paragraphs (a) through (d) of this section. Upon learning that a particular notice has not in fact been published within the presumed timeframes, contracting officers should consider whether the date for receipt of offers can be extended or whether circumstances have become sufficiently compelling to justify proceeding with the contract action under the authority of 5.202(a)(2).

PART 7—ACQUISITION PLANNING

7.306 [Amended]

3. Section 7.306 is amended by removing in the second sentence of paragraph (b) the word "responsible".

PART 13—SMALL PURCHASE AND OTHER SIMPLIFIED PURCHASE PROCEDURES

4. Section 13.204 is amended by revising paragraph (b) to read as follows:

* * * * *

13.204 Purchases under Blanket Purchase Agreements.

* * * * *

(b) Unless otherwise specified in agency regulations, individual purchases under BPA's, except those BPA's established in accordance with 13.203-1(f), shall not exceed the dollar limitation for small purchases (see 13.103).

* * * * *

PART 16—TYPES OF CONTRACTS

5. Section 16.603-3 is amended by revising the first sentence of the introductory text to read as follows:

16.603-3 Limitations.

A letter contract may be used only after the head of the contracting activity or a designee determines in writing that no other contract is suitable. * * *

* * * * *

PART 19—SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CONCERNS

6. Section 19.102 is amended by removing the number "50" in the number of employees in Major Group 22 for SIC Code 2271 and inserting in its place the number "750" and by adding in numerical sequence in Major Group 35, following SIC Code 3549, six standard industry codes and corresponding information to read as follows:

19.102 Size standards.

* * * * *

SIC	Description—Size standards in number of employees or millions of dollars
3551	Food Products Machinery 500
3552	Textile Machinery 500
3553	Woodworking Machinery 500
3554	Paper Industries Machinery 500
3555	Printing Trades Machinery and Equipment 500
3559	Special Industry Machinery, N.E.C. 500

* * * * *

7. Section 19.902 is revised to read as follows:

19.902 Contracting clause.

To encourage the use of women-owned small businesses in subcontracting, the contracting officer shall insert the clause at 52.219-13, Utilization of Women-Owned Small Businesses, in solicitations and contracts when the contract amount is expected to exceed the small purchase limitation, except—

(a) Contracts that, including all subcontracts thereunder, are to be performed entirely outside the United States, its possessions, Puerto Rico, and the Trust Territory of the Pacific Islands; and

(b) Contracts for personal services.

PART 24—PROTECTION OF PRIVACY AND FREEDOM OF INFORMATION

8. Section 24.202 is amended by designating the existing text as paragraph (a), and by adding paragraph (b) to read as follows:

24.202 Policy.

* * * * *

(b) Contracting officers may receive requests for records that may be exempted from mandatory public disclosure. The exemptions most often applicable are those relating to classified information, to trade secrets and confidential commercial or financial informaiton, to interagency or intra-agency memoranda, or to personal and medical information pertaining to an individual. Since these requests often involve complex issues requiring an in-depth knowledge of a large and increasing body of court rulings and policy guidance, contracting officers are cautioned to comply with the implementing regulations of their agency and to obtain necessary guidance from the agency officials having Freedom of Information Act responsibility. If additional assistance is needed, authorized agency officials may contact the Department of Justice, Office of Information and Privacy.

PART 31—CONTRACT COST PRINCIPLES AND PROCEDURES

9. Section 31.205-6 is amended by adding paragraph (n) to read as follows:

31.205-6 Compensation for personal services.

* * * * *

(n) *Employee rebate and purchase discount plans.* Rebates and purchase discounts, in whatever form, granted to employees on products or services produced by the contractor or affiliates are unallowable.

10. Section 31.205-19 is amended by adding paragraph (a)(5) to read as follows:

31.205-19 Insurance and indemnification.

(a) * * *

(5) Premiums for retroactive or backdated insurance written to cover occurred and known losses are unallowable.

* * * * *

PART 47—TRANSPORTATION

11. Section 47.305-3 is amended by revising paragraph (f)(2) to read as follows:

47.305-3 F.o.b. origin solicitations.

* * * * *

(f) * * *

(2) The contracting officer shall insert the provision at 52.247-47, Evaluation—F.o.b. Origin, in solicitations that require prices f.o.b. origin for the purpose of establishing the basis on which offers will be evaluated.

* * * * *

PART 50—EXTRAORDINARY CONTRACTUAL ACTIONS

12. Section 50.306 is amended by adding in paragraph (f) two sentences following the first sentence to read as follows:

50.306 Disposition.

* * * * *

(f) * * * The case files supporting this statement will show the derivation and rationale for the dollar amount of the award. When the dollar amount exceeds the amounts supported by audit or other independent reviews, the approving authority will further document the rationale for deviating the recommendation.

§ 50.307 [Amended]

13. Section 50.307 is amended by removing all references reading 52.222-6, 52.222-9, and 52.222-10.

PART 52—SOLICITATION PROVISIONS AND CONTRACT CLAUSES

14. Section 52.219-13 is amended by inserting a colon following the words "solicitations and contracts" and removing the remainder of the sentence; by removing from the title of the clause the date "(APR 1984)" and inserting in its place the date "(AUG 1986)"; by revising in paragraph (a) of the clause the definition "Women-owned businesses" and adding the definition "Small business concern"; by adding in the clause, paragraph (d); and by removing both derivation lines following "(End of clause)" as follows:

52.219-13 Utilization of Women-Owned Small Businesses.

* * * * *

(a) "Women-owned businesses," as used in this clause, means small business concerns that are at least 51 percent owned by women who are United States citizens and who also control and operate the business.

* * * * *

"Small business concern," as used in this clause, means a concern including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR 121.

* * * * *

(d) The Contractor may rely on written representations by its subcontractors regarding their status as women-owned small businesses.

52.230-3 [Amended]

15. Section 52.230-3 is amended by inserting in the introductory text a colon following the words "following clause" and removing the remainder of the sentence; by removing in the title of the clause the date "(APR 1984)" and inserting in its place the date "(AUG 1986)"; by removing in the second sentence of paragraph (a)(5) the words "or 7 percent per annum, whichever is less,"; and by removing all the derivation lines following "(End of clause)".

52.230-5 [Amended]

16. Section 52.230-5 is amended by inserting in the introductory text a colon following the words "following clause" and removing the remainder of the sentence; by removing in the title of the clause the date "(APR 1984)" and inserting in its place the date "(AUG 1986)"; and by removing in the second sentence in paragraph (a)(4) of the clause the words "or 7 percent per annum, whichever is less,"; and by removing the derivation line following "(End of clause)".

17. Section 52.247-47 is amended by revising the introductory text to read as follows:

52.247-47 Evaluation—F.o.b. Origin

As prescribed in 47.305-3(f)(2), insert the following provision. When it is appropriate to use methods other than land transportation in evaluating offers; e.g., air, pipeline, barge, or ocean tanker, the provision shall be modified accordingly.

* * * * *

[FR Doc. 86-19905 Filed 9-2-86; 8:45 am]

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federal register

Wednesday
September 3, 1986

Part V

Department of the Interior

Fish and Wildlife Service

50 CFR Part 20

Migratory Game Bird Hunting; Zones in Which Lead Shot Will Be Prohibited for Waterfowl and Coot Hunting in the 1986–87 Hunting Season; Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 20

Migratory Game Bird Hunting: Zones In Which Lead Shot Will Be Prohibited for Waterfowl and Coot Hunting In the 1986–87 Hunting Season.

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: When ingested by waterfowl and other migratory birds, spent lead shotgun pellets often have a toxic effect. To alleviate this problem, this rule describes areas in which lead shot will be prohibited for waterfowl and coot hunting in the 1986–87 hunting season. It describes the same areas that were proposed as nontoxic shot zones for waterfowl and coot hunting at 51 FR 409 with the following exceptions: (1) Minor technical changes and corrections were made to zones described for Kansas, Nevada, and New Mexico; (2) Parts of 69 counties in Arizona, Arkansas, California, Florida, Idaho, Illinois, Indiana, Minnesota, Missouri, New York, Oklahoma, Oregon, Texas, and Washington were added to the zones proposed for those States; (3) Ten counties in California, Missouri, Oregon, Texas, and Washington that were proposed for bald eagle protection were eliminated from consideration as nontoxic shot zones for 1986–87; and (4) Parts of 100 counties in Arizona, Arkansas, California, Idaho, Illinois, Maine, Minnesota, Missouri, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wisconsin, and Wyoming that were proposed for bald eagle protection were eliminated from consideration as nontoxic shot zones for 1986–87. The reasons for the differences between zones designated in the proposed and final rules are discussed under the "**SUPPLEMENTARY INFORMATION**" section.

EFFECTIVE DATE: September 3, 1986.

FOR FURTHER INFORMATION CONTACT: Rollin D. Sparrowe, Chief, Office of Migratory Bird Management, U.S. Fish and Wildlife Service, Room 536, Matomic Building, Washington, DC 20240 (202–254–3207).

SUPPLEMENTARY INFORMATION: The Migratory Bird Treaty Act of July 3, 1918, as amended (16 U.S.C. 703 *et seq.*; 40 Stat. 755) authorizes and directs the Secretary of the Interior, having due regard for the zones of temperature and for the distribution, abundance, economic value, breeding habits, and times and lines of flight of migratory game birds, to determine when, to what extent, and by what means such birds or any part, nest, or egg thereof may be taken, hunted, captured, killed, possessed, sold, purchased, shipped, carried, exported, or transported.

When ingested by waterfowl, bald eagles, and other birds, spent lead shotgun pellets often have a toxic effect. To alleviate lead poisoning problems, 50 CFR §§ 20.21(j) and 20.108 currently require nontoxic shot for waterfowl and coot hunting in certain designated zones; the only nontoxic shot presently available is steel shot. On January 6, 1986, at 51 FR 409, the U.S. Fish and Wildlife Service (Service) published a proposed rule to amend the list of zones in § 20.108 in which the use of nontoxic shot would be required for waterfowl and coot hunting in the 1986–87 hunting season. The comment period for the proposed rule was subsequently extended to February 19 (see 51 FR 3086), and then March 28, 1986 (see 51 FR 10415). This final rule addresses public comments on the proposed rule and amends § 20.108 as outlined below.

Since 1978, the Service has not been able to implement or enforce nontoxic shot zones in a State without approval of the appropriate State authorities. This restriction on use of funds by the Service has been contained in the Interior Department's Appropriations Act each year since 1978 (Pub. L. 98–473, Sec. 305). As a consequence of this restriction, (called the Stevens amendment) the Service can only propose additions and deletions to the designated nontoxic shot zones for waterfowl and coot hunting with the approval of State authorities. If States do not approve nontoxic shot zones when current Service guidelines and criteria indicate that such zones are necessary to protect migratory birds, the Service will not open the areas to waterfowl and coot hunting. This action is taken pursuant to the Service's responsibilities under the Migratory Bird Treaty Act and, in the case of zones proposed for bald eagle protection, the Endangered Species Act of 1973, as amended (16 U.S.C. 1531–1543; 87 Stat. 884) and the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668–668d; 54 Stat. 250).

On July 30, 1985, at 50 FR 30849, the Service published final criteria that serve as guidelines in determining areas where waterfowl ingestion of lead shotgun pellets is considered to be a significant problem and where use of lead shot by waterfowl hunters should be prohibited. In 1984–85, the Service conducted a program to monitor the occurrence of lead poisoning on 24 selected national wildlife refuges (NWRs). Based on the results of this work, and using the criteria described in the July 30 **Federal Register**, the Service concluded that lead poisoning is a matter of concern to at least 11 of the 24 refuges monitored. Therefore, lead shot prohibitions were proposed for the following refuges: Cibola in Arizona and California; White River in Arkansas; Colusa, Delevan, Modoc, Sacramento and Sutter in California; Red Rock Lakes in Montana; Ruby Lake and Stillwater in Nevada (Stillwater was monitored in 1983–84 and, at the State's request, also in 1984–85); and Lewis and Clark in Oregon. Benton Lake NWR, which was not approved as a nontoxic shot zone by the State of Montana in 1985–86, was again proposed for the 1986–87 waterfowl hunting season.

The Service also proposed to prohibit the use of lead shot in certain areas in 26 States to minimize the threat of lead poisoning to bald eagles. Bald eagles are known to suffer lead poisoning when they ingest lead shot contained in the gastrointestinal tract, or imbedded in the tissues, of their waterfowl prey. The nontoxic shot zones proposed gave highest priorty to areas where bald eagles are concentrated in winter and are associated with large harvests of ducks and geese. The Service believes it is reasonable to assume that the highest risks to bald eagles occur on or near major harvest areas, where large numbers of unrecovered hunter-crippled or -killed waterfowl become available for eagles to feed upon. To locate such areas, the Service identified counties in the United States based on two criteria: (1) An average harvest of 5,000 or more ducks and geese annually between 1971 and 1980, using data from Carney et al. (1983. Distribution of waterfowl species harvested in States and counties during 1971–80 hunting seasons. U.S. Fish and Wildlife Service Special Scientific Report—Wildlife No. 254.), and (2) a winter count of at least 25 bald eagles in one or more years between 1978 and 1984, using data from the National Wildlife Federation Bald Eagle Survey (1980–82), National Audubon Society Christmas Bird Count (1978–83), or surveys done on individual national wildlife refuges (1984).

One hundred and twenty-three counties were identified by the process described above. In the course of identifying these counties, it was recognized that bald eagles react to geographical and ecological boundaries rather than political ones. Therefore, 50 additional counties whose geographical/ecological boundaries are contiguous with those of counties meeting the above criteria were added to the list. Thus, a total of 173 counties in 26 States

were proposed as bald eagle zones, as noted in Table 1. All or parts of approximately 78 of the counties listed in Table 1 were also identified for inclusion in § 20.108 on the basis of the waterfowl lead poisoning criteria and refuge monitoring studies mentioned above, or because individual States previously concurred with them or requested that additional nontoxic shot zones containing these counties be established in their States.

TABLE 1.—COUNTIES WHERE IT WAS PROPOSED (AT 51 FR 409) TO PROHIBIT THE USE OF LEAD SHOT TO MINIMIZE THE THREAT OF LEAD POISONING TO BALD EAGLES

State and county	Bald Eagle count	Waterfowl harvest
Arizona: Coconio	53	5,811
Arkansas:		
Arkansas	38	77,397
Desha [1]	7	35,160
Monroe [1]	1	38,598
Phillips [1]	1	13,736
Little River	38	14,813
Sevier	25	8,634
Yell	25	13,843
Pope [1]	30	3,123
California:		
Butte [4]	37	111,203
Lassen	57	42,948
Modoc	41	27,190
Plumas	31	9,921
San Luis Obispo [4]	29	5,800
Shasta	61	10,506
Siskiyou	441	77,309
Colorado:		
Montrose	38	5,716
Morgan	44	12,738
Weld	81	39,947
Florida:		
Brevard	32	36,634
Collier	29	9,556
Osceola	99	9,538
Polk	80	10,700
Volusia	72	7,154
Idaho:		
Bannock	49	16,799
Bingham	101	12,472
Boundary	100	7,597
Canyon	34	52,260
Jefferson	87	22,203
Kootenai	72	5,407
Bonner [1]	100	2,080
Owyhee	39	13,072
Malheur, OR [1]	15	17,279
Power	41	13,856
Illinois:		
Alexander	72	11,329
Scot, MO [1]	0	867
Bureau	26	8,503
Calhoun	205	6,431
Greene [1]	11	3,973
Jersey [1]	0	6,168
Carroll	39	12,507
Cass	35	9,404
Schuyler [1]	5	762
Fulton	75	7,109
Henderson	159	11,816
Des Moines, IA [1]	157	3,122
Lee, IA [1]	55	4,052
Jackson	26	10,646
Perry, MO [1]	0	3,477
Jo Daviess	31	5,077
Mason	111	12,427
Peoria	89	6,501
Tazewell [1]	3	3,909
Woodford [1]	22	8,689
Pike	37	8,569
Ralls, MO [1]	16	
Putnam	49	12,040
Rock Island	239	5,579
Muscatine, IA [1]	29	3,415
Scott, IA [1]	64	4,719
Union	67	11,361

TABLE 1.—COUNTIES WHERE IT WAS PROPOSED (AT 51 FR 409) TO PROHIBIT THE USE OF LEAD SHOT TO MINIMIZE THE THREAT OF LEAD POISONING TO BALD EAGLES—Continued

State and county	Bald Eagle count	Waterfowl harvest
Cape Girardeau, MO [1]	26	1,600
Whiteside	109	5,529
Williamson	37	22,910
Iowa: [3]		
Allamakee	See Crawford County, WI	
Clayton	See Grant County, WI	
Clinton	35	22,002
Des Moines	See Henderson County, IL	
Dubuque	See Grant County, WI	
Freemont	49	33,029
Harrison	72	10,005
Washington, NE [1]	22	2,334
Jackson	78	10,102
Lee	See Henderson County, IL	
Muscatine	See Rock Island County, IL	
Scott	See Rock Island County, IL	
Kansas:		
Barton	35	38,792
Coffey	48	7,298
Cowley	25	5,636
Doniphan	See Holt County, MO	
Ellsworth	34	8,347
Jefferson	45	10,744
Mitchell	38	7,909
Stafford	53	13,189
Kentucky: Ballard	49	13,617
Maine:		
Hancock	31	13,788
Washington	42	10,377
Maryland: Dorchester	38	34,744
Minnesota:		
Dakota	See Pierce County, WI	
Houston	See Vernon County, WI	
Wabasha	See Buffalo County, WI	
Winona	See Buffalo County, WI	
Missouri:		
Cape Girardeau [4]	See Union County, IL	
Chariton	185	48,044
Henry	53	16,609
Benton [1] [4]	31	1,121
St. Clair [1]	53	2,884
Vernon [1]	23	16,804
Holt	184	24,993
Doniphan, KS [1]	0	1,560
Richardson, NE [1]	0	1,139
Lincoln	164	9,192
Linn	74	14,568
Perry [4]	See Union County, IL	
Pike	56	14,155
Ralls	See Pike County, IL	
Scott [4]	See Alexander County, IL	
St. Charles	60	19,378
Stoddard	35	16,204
Montana:		
Flathead	29	21,700
Lake	63	8,774
Lewis & Clark	39	8,495
Sanders	27	7,254
Yellowstone	64	6,728
Nebraska [3]		
Dawson	64	10,457
Garden	58	10,384
Harlan	63	5,250
Knox	28	7,315
Bon Homme, SD [1]	11	8,438
Lincoln	48	6,225
Richardson	See Holt County, MO	
Scotts Bluff	34	6,983
Washington	See Harrison County, IA	
New Mexico:		
Colfax	([2])	([2])
San Juan	80	5,367
Oklahoma:		
Bryan	31	5,219
Fannin, TX [1]	6	4,498
Haskell	32	6,059
McIntosh [1]	2	9,767
Pittsburg	2	3,579
Marshall	26	5,900
Muskogee	38	6,505
Osage	140	8,671

TABLE 1.—COUNTIES WHERE IT WAS PROPOSED (AT 51 FR 409) TO PROHIBIT THE USE OF LEAD SHOT TO MINIMIZE THE THREAT OF LEAD POISONING TO BALD EAGLES—Continued

State and county	Bald Eagle count	Waterfowl harvest
Kay [1]	33	1,914
Pawnee [1]	11	525
Sequoyah	77	10,565
Oregon:		
Columbia	26	42,670
Harney [4]	31	25,685
Klamath	295	59,232
Lake	91	31,522
Malheur	See Owyhee County, ID	
Morrow	See Benton County, WA	
Multnomah	27	37,737
South Dakota:		
Bon Homme	See Knox County, NE	
Charles Mix	112	9,739
Gregory [1]	5	3,309
Hughes	100	11,562
Stanley [1]	37	1,498
Tennessee:		
Lake	164	9,310
Obion	49	5,568
Texas:		
Deaf Smith [4]	35	8,259
Fannin	See Bryan County, OK	
Grayson	36	11,618
Henderson	41	6,598
Marion	52	5,886
Upshur [1]	1	1,739
Utah:		
Box Elder	87	94,085
Utah	41	9,864
Weber	45	54,029
Washington:		
Benton	47	13,654
Morrow, OR [1]	19	8,728
Clallam	154	30,991
Jefferson [1]	104	3,071
San Juan	318	667
Clark	27	16,592
Cowlitz [1]	16	2,542
Douglas	91	11,645
Chelan [1]	18	679
Okanogan [1]	87	4,264
Grant	194	135,435
Grays Harbor	79	17,821
King	34	14,228
Lincoln	28	17,847
Ferry [1] [4]	22	354
Stevens [1] [4]	27	2,418
Pierce	30	11,029
Skagit	414	49,580
Island [1]	34	3,429
Snohomish	101	24,559
Thurston	28	14,624
Whatcom	284	10,195
Wisconsin:		
Buffalo	33	24,838
Wabasha, MN [1]	10	9,998
Winona, MN [1]	4	6,481
Crawford	36	17,290
Allamakee, IA [1]	5	17,701
Grant	190	26,115
Clayton, IA [1]	7	7,860
Dubuque, IA [1]	5	373
Juneau	31	6,403
Pierce	36	7,841
Dakota, MN [1]	11	9,929
Vernon	40	6,600
Houston, MN [1]	0	14,161
Wyoming:		
Bighorn	50	5,050
Goshen	29	6,508

[1] County indicated was proposed because its geographic/ecological boundary is contiguous with that of the county listed directly above it, which was identified as a bald eagle zone using Service criteria described in the text.

[2] Colfax County, NM, was included because the Service's National Wildlife Health Center has confirmed four bald eagle deaths there in the last two years. Review of the situation indicates that the source of lead exposure is in this county.

[3] Listings for the States of Iowa and Nebraska are included in this table for completeness. However, these States currently require the use of nontoxic shot statewide.

[4] County indicated was removed from consideration as a nontoxic shot zone for bald eagle protection in 1986–87 for reasons outlined in this rule.

The nature of the data used in the above process necessitated identifying entire counties as nontoxic shot zones for protecting bald eagles. The Service sought additional information from parties reviewing the proposed rule that would allow the boundaries of the proposed zones to be refined while still affording adequate protection to eagles. Based on information brought to the Service's attention, the boundaries of 100 of the counties proposed to protect eagles in Arizona, Arkansas, California, Idaho, Illinois, Maine, Minnesota, Missouri, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wisconsin, and Wyoming were refined. Ten of the proposed counties in the State of California, Missouri, Oregon, Texas, and Washington were eliminated from consideration as 1986–87 nontoxic shot zones for eagle protection. All or part of 60 counties in Arizona, Arkansas, California, Florida, Idaho, Illinois, Minnesota, Missouri, Oklahoma, Oregon, Texas and Washington were added for eagle protection to the counties listed in Table 1. The reasons for and consequences of these actions are detailed under the section entitled "Responses to Comments on Zones Proposed for Individual States."

The Service recently updated the 1976 Final Environmental Impact Statement on the use of steel shot for hunting waterfowl in the United States. A draft of the Supplemental Environmental Impact Statement (SEIS), entitled "Use of Lead Shot for Hunting Migratory Birds in the United States," was available for public review during the comment period of the proposed rule. The Final SEIS was completed in June 1986. The SEIS' preferred alternative is to promulgate regulations that will prohibit the use of lead shot for waterfowl and coot hunting in zones where waterfowl harvest occurs at specified densities, with the eventual prohibition of lead shot nationwide no later than 1991–92. This phase-out begins with the 1987–88 waterfowl hunting season. For the 1986–87 hunting season, the preferred alternative calls for restriction of lead shot use in certain counties based upon criteria that designate lead poisoning problem areas for waterfowl and bald eagles. This rule reflects the application of the preferred alternative's proposal for the 1986–87 season.

Summary of Comments on the Proposed Rule

The Service received approximately 63 letters supporting and 215 letters opposing all or portions of the January 6, 1986, proposed rule (51 FR 409). (These totals do not include comments from State wildlife agencies, which are discussed separately below.) More than five letters were received from citizens and organizations concerned with nontoxic shot zones proposed for each of the following States: California (1 letter supporting, 37 opposing), Colorado (3 supporting, 11 opposing), Maine (0 supporting, 6 opposing), Montana (19 supporting, 30 opposing), Oklahoma (0 supporting, 10 opposing), Oregon (0 supporting, 10 opposing), Texas (0 supporting, 24 opposing), Washington (6 supporting, 64 opposing), and Wyoming (2 supporting, 5 opposing). In addition to the above letters, petitions concerned with zones proposed for the following States were received: California (1 petition with 80 signatures opposing), Colorado (1 Petition with 13 signatures supporting), Florida (2 petitions with 14 signatures opposing), New Jersey (57 petitions with 833 signatures opposing), Texas (23 petitions with 481 signatures opposing), and Washington (1 petition with 8 signatures opposing). In addition to the general public, conservation and hunter organizations (National Rifle Assocaition (NRA), National Wildlife Federation (NWF), Wildlife Legislative Fund of America, Wildlife Management Institute, and local/State groups), ammunition manufacturers (Federal Cartridge Corporation, Nontoxic Components, Inc., Remington Arms Company, Inc., and Winchester Group of Olin Corporation), State wildlife agencies, and Indian Tribes and organizations commented on the proposal.

The substantive issues raised in each letter were noted and tallied. Comments offered at public meetings held by the Service on proposed nontoxic shot zones in Arizona, California, Colorado, Montana, and Oklahoma were also noted. Most of the Comments received addressed general aspects of the lead poisoning issue, the use of steel shot, and other concerns. These comments are responded to the following section. Comments relating to specific nontoxic shot zones proposed for particular States, and comments received from State wildlife agencies and Indian Tribes, are addressed in the section entitled "Responses to Comments on Zones Proposed for Individual States." A number of commentors opposed the nontoxic shot zones proposed for a particular State but were not specific as to the reason for their opposition. Such comments were tallied but could not be specifically addressed.

Responses to General Comments on the Proposed Rule

Issue 1: Nineteen commentors expressed doubt that lead poisoning of waterfowl or bald eagles is a significant problem, particular by in the proposed nontoxic shot zones, because they have not observed lead-poisoned birds or seen other documented evidence of avian mortality.

Response: The average time to death of waterfowl after lead shot ingestion is approximately three weeks. During much of this period, the mobility of the affected birds is severely restricted and they are easy prey for a variety of predators. Sick birds also seek isolation and protective cover, further reducing the visibility of sick birds and the remains of carcasses. Studies have shown that duck carcasses are usually scavenged in a matter of a few days, sometimes hours. Most lead poisoning die-offs in waterfowl occur after the hunting season, when birds can feed undisturbed on previously hunted sites where shot has recently been deposited. At these times, hunters are not in the field as frequently and are less likely to observe dead or dying birds. Finally, the effects of lead poisoning may be confused with losses from crippling or those thought to be a result of starvation or some other cause. For these reasons, the apparent lack of dead birds in an area does not necessarily indicate that no lead poisoning is occurring there. The Service believes there is abundant evidence (reviewed in the SEIS) that lead poisoning is a significant problem in waterfowl and bald eagles.

Issue 2: Fifteen commentors felt that the relationship between the use of lead shot and avian mortality has not been adequately demonstrated.

Response: Numerous studies in which gizzard contents have been examined have shown that waterfowl ingest spent lead shot while feeding in the wild. In waterfowl concentration areas, bald eagles have been observed to prey on hunter-killed and -crippled waterfowl (see also the response to Issue 8). Lead shot has been found in the stomachs of necropsied bald eagles and eagles have been diagnosed as dying from lead poisoning. Experimental dosing studies and chemical analyses of avian tissues have proven the toxicity of lead shot to birds. When considered together, these facts confirm that lead shot used causes avian mortality. This subject is discussed in more detail in the SEIS.

Issue 3: Thirteen commentors, including the NRA, NWF, and Wildlife Legislative Fund of America, felt that the Service's criteria for establishing nontoxic shot zones for waterfowl and/or bald eagle protection are arbitrary, not applicable to all situations, unscientific, and/or do not relate to

known instances of mortality from lead shot ingestion.

Response: The Service's criteria for establishing nontoxic shot zones for waterfowl protection consider waterfowl harvest levels, lead-induced mortality, the incidence of lead shot in gizzards, and lead concentrations in blood and liver as indicators of lead poisoning. These criteria were developed on the basis of experimental and clinical laboratory evidence, field studies, and considerable input from State agencies, conservation organizations, and the general public. Questions and criticisms about, and the rationale behind, the waterfowl criteria have been addressed extensively in the SEIS and in previous rulemakings (50 FR 19268, 50 FR 30849). The Service believes that its waterfowl criteria provide a scientifically sound and practical way to identify the initial nontoxic shot zones on a reasonably uniform basis nationwide.

Unlike the waterfowl criteria, the criteria for establishing nontoxic shot zones for bald eagle protection are not based on the presence of dead eagles, ingested lead shot, or lead concentrations in eagle tissues. The presence of dead eagles is not necessarily a good indicator of lead poisoning problems in a particular area because eagles are wide-ranging and can die considerable distances from the source of the lead shot they ingest (see 50 FR 6017). Conversely, the absence of dead eagles in an area may reflect the fact that carcasses were scavenged, overlooked, or not methodically searched for. Obviously, eagles cannot be sacrificed to examine their stomachs and tissues for lead. Consequently, the Service chose criteria that would indicate the potential for lead poisoning based on two facts: (1) bald eagles are known to suffer lead poisoning from ingesting lead shot in their waterfowl prey (see responses to Issues 2 and 8), and (2) lead-contaminated waterfowl eaten by eagles are more prevalent in areas where high harvest occurs.

The nontoxic shot zones proposed by the Service for bald eagle protection in 1986–87 thus gave highest priority to areas where eagles are concentrated during and after the hunting season and are associated with large harvests of ducks and geese. The Service believes it is reasonable to assume that such areas pose the greatest threat to bald eagles because they offer a readily available source of lead shot-containing prey. Additional counties that are contiguous with counties meeting the above criteria were also proposed as nontoxic shot zones if they are likely to contain waterfowl prey used by eagles in the criteria-triggered counties. As noted in the SEIS, imposition of the 1986–87 zones will offer expanded and immediate protection to bald eagles during the subsequent phase-out of lead shot use in waterfowl hunting.

Issue 4: The NWF felt that the Service's basis for modifying the boundaries of nontoxic shot zones proposed for bald eagle protection is vague and that such modifications should not occur.

Response: As stated in response to Issue 3, the proposed "eagle zones" initially encompassed the boundaries of entire counties due to the nature of the bald eagle survey and waterfowl harvest data used to identify these zones. However, if parties reviewing the proposed rule supplied evidence that the distribution of eagles in triggered counties does not overlap with waterfowl harvest areas in those counties, the boundaries of the proposed counties were refined accordingly. The Service feels that bald eagles will still receive adequate protection in the modified "eagle zones." These modifications, and the rationale for each, are discussed below.

Issue 5: Sixteen commentors, including the NRA, felt that the implementation of nontoxic shot zones should only occur in "hot spots", e.g., well-defined areas where there is scientific evidence that a lead shot poisoning problem exists.

Response: Most of the new nontoxic shot zones proposed by the Service for the 1986–87 hunting season were identified using the "hot spot" approach. Individual national wildlife refuges, for instance, were proposed for conversion to nontoxic shot after monitoring studies confirmed lead poisoning on those sites. Such studies can be costly and labor-intensive and may not be feasible over a large area. Zones proposed for bald eagle protection initially encompassed entire counties because the waterfowl harvest and eagle survey data used to identify the zones are compiled on a county basis. However, the Service refined the boundaries of the proposed areas when data on eagle distribution relative to waterfowl harvest within a county were available and justified such a refinement; this refinement process is, in the Service's view, a "hot spot" approach. "Hot spots" designated for eagle protection are generally larger than those designated for waterfowl protection because the source of lead pellets is more dispersed for eagles (crippled and dead waterfowl) than for waterfowl (mostly wetlands).

The Service believes that the problem of lead poisoning in waterfowl and bald eagles is well documented and widespread enough that the "hot spot" approach should be superseded and supplemented by an orderly transition to a nationwide conversion to nontoxic shot for waterfowl and coot hunting. As discussed in the SEIS, the Service intends to phase in such a conversion gradually by the 1991–92 hunting season.

Issue 6: Fifty-two commentors felt that the Service had no data or incorrect data on which to base the establishment of particular nontoxic shot zones proposed in the January 6 rule.

Response: The data used by the Service to determine whether nontoxic shot zones are necessary in a particular area are discussed in response to Issue 3. Except as noted under the section entitled "Response to Comments on Zones Proposed for Individual States," no commentors presented quantitative biological data that caused the Service to question the need to establish nontoxic shot zones in the proposed areas for the 1986–87 hunting season.

Issue 7: Thirty-two commentors felt that there would not be a problem with lead ingestion in certain of the proposed nontoxic shot zones because the areas included plowed fields, deep water, or water areas with soft bottoms or high sedimentation rates. In such areas, the commentors contended, spent lead shot is or rapidly becomes unavailable to feeding waterfowl.

Response: The Service agrees that in certain habitats, such as offshore islands surrounded by deep waters, or wetlands subject to a high degree of sedimentation, spent lead shot *may* become unavailable to some waterfowl. However, the Service feels that it is generally impractical to designate zones on the basis of these factors for several reasons. First, the factors are difficult to evaluate objectively. Second, sedimentation rates may vary from year to year with flow rates, weather, and other factors. Third, only parts of a particular area may be affected; this would create a patchwork of nontoxic shot zones that would be difficult to enforce. In fields, lead shot plowed under one year may be exposed in succeeding years by subsequent plowing or soil erosion.

Commentors raising this issue were largely concerned with nontoxic shot zones that were proposed for bald eagle protection. The basis for proposing such areas is that eagles there could ingest lead pellets primarily by consuming hunter-killed or -crippled waterfowl. Therefore, habitat conditions affecting the availability of spent lead shot to

feeding waterfowl are generally not relevant.

Issue 8: Fourteen commentors felt that eagles would not be likely to ingest lead shot because they do not prey on hunter-crippled or -killed waterfowl.

Response: The bald eagle is generally regarded as a fish-eater throughout most of its range. However, it is largely an opportunistic feeder, shifting to the most readily available food source, e.g., small mammals, reptiles, and carrion. Observations and food habits studies have confirmed that during and after the hunting season, dead ducks and geese containing lead shot in their tissues or gastrointestinal tracts are eaten by bald eagles. The Service believes that the likelihood of eagles consuming waterfowl containing lead shot is especially high in the counties identified in Table 1 because the waterfowl harvest and eagle use of these areas are relatively high. In commenting on the proposed rule, the Illinois Natural History Survey pointed out, and the Service agrees, that because of the sensitivity of bald eagles to lead poisoning (as few as 10 ingested lead shot pellets have been known to kill an eagle), lead-containing waterfowl can pose a threat even if they are not a *major* part of the diet of eagles.

Issue 9: Eleven commentors, including the NRA, pointed out that other mortality factors are of greater detriment than lead poisoning to bald eagles.

Response: As noted in the SEIS, analyses of records of bald eagles necropsied by the Service's National Wildlife Health Laboratory indicate that illegal shooting is the most prevalent cause of eagle mortality (accounting for 23 percent of all deaths investigated), followed by traumatic injuries (eagles hitting or being hit by an object such as a vehicle; 21 percent). Poisoning is the third most common cause of bald eagle deaths (11 percent) and lead poisoning accounted for about half of the poisonings diagnosed. The Service is empowered by the Endangered Species Act to address controllable eagle mortality factors. The Service believes that lead poisoning in bald eagles can be eliminated or significantly reduced by banning the use of lead shot for waterfowl hunting in certain areas and, by this rule, has taken the actions necessary to do so.

Issue 10: Thirty-six commentors, including the NRA, questioned the impact of lead poisoning on bald eagles, and the need to protect eagles from it, in light of increasing eagle populations in specific areas, particular States, and nationwide.

Response: Although overall numbers of bald eagles have increased during the last ten years, eagle breeding populations south of Canada are still well below historic levels and remain classified as endangered or threatened. Given this fact, the Service is continuing to rely in part on the nontoxic shot program to exercise its authority under the Endangered Species Act to promote the species' recovery. Consequently, the Service will not permit actions, such as the use of lead shot for waterfowl hunting in certain areas, which have a reasonable likelihood of harming bald eagles. The possibility of losing individual eagles to a controllable mortality factor such as lead poisoning takes on added significance in light of the expense and efforts being undertaken to reintroduce the species into areas from which it was extirpated.

Issue 11: Ten commentors, including the NRA, felt that at least some of the lead poisoning occurring in birds may be due to lead from sources other than lead shotshell pellets, such as naturally occurring inorganic lead, industrial waste, vehicle emissions, and smelting operations.

Response: This issue has been addressed in previous rulemakings (50 FR 19178, 50 FR 30849) and in the SEIS. As indicated in response to Issue 2, field and laboratory studies have confirmed that lead shot is ingested by and toxic to waterfowl and bald eagles. There is no scientific evidence to date indicating that biologically incorporated lead in the foods of waterfowl or eagles is toxic to these species. Lead from other sources, primarily auto exhaust, is widespread throughout the environment. The distribution of lead from this source does not follow the pattern of lead poisoning in waterfowl or in bald eagles. The pattern of lead poisoning in migratory birds is more clearly related to the hunting of waterfowl than to any other source of lead. No other source provides edible particles of lead in anything approaching the quantities provided by spent lead shot.

Issue 12: Eighty-eight commentors, including the Wildlife Legislative Fund of America, felt that steel shot is ballistically ineffective and will cripple more waterfowl than would die of lead poisoning if lead shot were not banned.

Response: Steel shot has different ballistic properties than lead shot because it is less dense than lead shot. These properties are discussed in the SEIS. Comparative tests assessing crippling losses from steel shot (also reviewed in the SEIS) are difficult to conduct experimentally and have produced variable results. The Service believes that when steel shot is used by knowledgeable and experienced hunters, it can be as effective as lead shot. For less skilled shooters, the Service feels that any additional crippling losses that may occur with steel shot are more than offset by reduced mortality from lead poisoning.

Issue 13: Thirty-two commentors felt that the use of steel shot damages guns.

Response: Older shotguns, with thin-walled barrels or barrels made of soft steel, should not be used for firing steel shot loads. However, modern shotguns should not experience any more damage from steel shot than they would from lead shot.

Issue 14: Thirty-four commentors objected to the use of steel shot because it costs more than lead shot.

Response: The cost difference for steel shot loads is more a reflection of retail mark-up than cost of production. Presumably, costs will go down as more steel shot loads are produced. The relative cost of shot shells is a minor portion of the total expense of waterfowl hunting.

Issue 15: Eight commentors objected to the use of steel shot because they felt it either could not be reloaded or was dangerous to reload.

Response: Reloading components are available for shot sizes T, BBB, BB, B, 1, 2, 3, 4, 5, and 6. The Service is unaware of any data on the safety of reloading shotshells with steel shot. Obviously, instructions accompanying reloading components and equipment should be followed to ensure safe and effective results. No components or procedures other than those specifically recommended by the manufacturers as suitable for steel-loaded shotshells should be used in handloading such shells.

Issue 16: Nine commentors, including the NRA and Wildlife Legislative Fund of America, felt that efforts should be made to develop a ballistically superior, nontoxic alternative to steel shot.

Response: A number of alternatives to lead shot have been tested, including coated lead, various lead alloys, disintegratable lead, nickel, copper, zinc, tin, iron, and uranium waste. These tests are reviewed in the SEIS. On a relative basis, none of the alternatives was as acceptable in terms of their toxicity, economics of production, *and* ballistics as steel (soft iron) shot. The Service agrees that continued research, development, and testing is necessary in this area, but views these activities as appropriate functions of the private sector. Proposed revisions to the regulations in 50 CFR 20.134 governing approval procedures for lead shot alternatives where proposed at 50 FR

29706 and will be finalized in the near future. The Service believes it must ensure that clear standards exist by which any new substitutes to lead shot are tested toxicologically and ballistically. With regard to ballistics, the Service will rely upon standards formulated with assistance from the shooting arms manufacturing industry and others as it has no special expertise in this area.

Issue 17: Thirty-eight commentors, including the Central Flyway Council, Federal Cartridge Corporation, Remington Arms Company, Wildlife Management Institute, and Winchester Group-Olin Corporation, were concerned about the potential economic consequences of implementing the 1986–87 nontoxic shot zones. These commentors felt that the 1986–87 zones would not be finalized in time to provide ammunition manufacturers, distributors, dealers, and hunters sufficient advance notice to deplete their current supplies of lead shot and acquire adequate supplies of steel shot ammunition and components. To avoid the possible adverse hardship this could cause, some of these commentors suggested a one-year delay in implementing the proposed zones. Federal Cartridge Corporation specifically requested that 14 months advance notice be provided before any nontoxic shot zones are established.

Response: In July 1985, the Service sent to all States for comment a draft proposed rule outlining nontoxic shot zones for the 1986–87 waterfowl hunting season. Following State input, the Service planned to proceed through the rulemaking process and publish the final zone descriptions well in advance of the 1986–87 season, to provide all parties affected adequate advance notice. However, an August 1985 Federal court ruling *(National Wildlife Federation v. Hodel et al.*, Civ. No. S–85–0837 (E.D. Cal., Aug. 26, 1985)) caused the Service to prohibit the use of lead shot in certain areas to protect bald eagles from ingesting lead shot when feeding on lead-contaminated waterfowl. In light of this court decision and the length of time since the original environmental impact statement (EIS) on the use of lead shot for migratory bird hunting had been completed, the Service felt a supplement to the EIS was necessary. The July draft proposed rule had to be modified to reflect the preferred alternative in the draft supplemental EIS, which gave specific consideration to bald eagles. This series of events delayed the publication of the proposed rule. Since the proposed rule was published, added delays have been caused by the inability of some States to approve their proposed nontoxic shot zones (as required by the Stevens amendment) until public hearings or wildlife commission meetings are held.

The Service agrees that it is desirable for all parties concerned that more adequate notice be given as to where nontoxic shot zones are to be established. The Service will continue to make every effort to do this in the future, as it has in the past. The Service is bound by its responsibilities under the Migratory Bird Treaty Act, Endangered Species Act, and Bald and Golden Eagle Protection Act to place protection of the migratory bird resource as its first priority. It should be noted that in all States but Iowa and Nebraska there are still many areas where hunters can use their existing supplies of lead shot for hunting waterfowl. Iowa and Nebraska were converted to Statewide use of nontoxic shot for waterfowl hunting in the 1985–86 season and, thus, are not in practice affected by this rulemaking.

Issue 18: Six commentors, including the Central Flyway Council, felt that for greatest hunter compliance with nontoxic shot use requirements, an intensive information and education program on lead poisoning and the use of steel shot is necessary in advance of the implementation of new nontoxic shot zones.

Response: The Service agrees that information and education programs are essential for a successful transition to the use of steel shot. The Service's National Wildlife Health Laboratory has produced and distributed to interested States and other parties a videotape presentation on lead poisoning in waterfowl and bald eagles. Service employees have conducted numerous public meetings on the lead poisoning/steel shot issue, particularly at national wildlife refuges where monitoring studies have indicated that conversion to nontoxic shot is necessary. The Service is aware of numerous information and education efforts by individual States and ammunition companies, and urges that these be expanded. The Service is proposing to expand its own information and education program on lead posioning/steel shot issues.

Issue 19: Twenty-four commentors, including the NWF, felt that the proposed prohibitions on the use of lead shot should be expanded to cover entire States or should be made effective nationwide. The Central Flyway Council favored nationwide conversion following a five-year, publicized phase-in period.

Response: The SEIS evaluated a number of alternatives, including those raised by the commentors, relating to the use of lead shot for waterfowl hunting. After considering public comments on the draft SEIS, the Service selected a preferred alternative that will phase in, by 1991, the conversion of areas to nontoxic shot zones with the eventual goal, of prohibiting the use of lead shot for waterfowl and coot hunting nationwide. The basis for choosing this alternative, and the impacts it will have, are addressed in detail in the SEIS and the Record of Decision published in the **Federal Register** on August 20, 1986 (51 FR 29673).

Issue 20: The NWF pointed out that the proposed rule appeared to implement the preferred alternative of the draft SEIS, which the NWF feels offers minimal protection for bald eagles and waterfowl from lead poisoning.

Response: The NWF's concerns on the SEIS are addressed in that document.

Issue 21: Ten commentors felt that public notification of the proposed rule was inadequate.

Response: The Service sent copies of the proposed rule to each affected State and Indian Tribe, the major conservation and hunter organizations, and ammunition manufacturers. In addition, approximately 7,000 news releases were distributed and public meetings were held on the proposed nontoxic shot zones and the SEIS. The large volume of comments and newspaper articles generated in response to the proposed rule and the SEIS suggest that adequate public notice was given.

Issue 22: The NRA felt that the Service's statement that it will not open the 1986–87 waterfowl hunting season in the areas proposed unless the States involved approve the areas as nontoxic shot zones violates the intent of the Stevens amendment to the Interior Department's Appropriation Act. The NWF felt the Service's statement was vague.

Response: The Stevens amendment requires that the Service obtain State approval before implementing and enforcing nontoxic shot zones. However, this does not alter the Service's management responsibilities under the Endangered Species Act, and Migratory Bird Treaty Act. The Federal court decision referred to in response to Issue 17 affirmed the Service's authority, notwithstanding the Congressional intent of the Stevens amendment, to require nontoxic shot in areas where a known or potential problem of bald eagle ingestion of lead shot exists. Consequently, if a State cannot or will not approve the zones proposed within its boundaries, and offers no acceptable

biological justification for its actions, the Service will not open the waterfowl hunting season in the zones under consideration.

Issue 23: The National Congress of American Indians (NCAI) agreed that there is a need to establish nontoxic shot zones for the protection of bald eagles and waterfowl and stated that many Indian Tribes have taken steps to ban the use of lead shot. However, the NCAI contended that the Service's approach has been inequitable because State consent would be sought before establishing nontoxic establishing nontoxic shot zones on lands under State control, whereas the Service would not seek consent of affected Indian Tribes before establishing such zones on their lands. The NCAI stressed that, in their view, implementation of nontoxic shot zones that affect Indian Tribes cannot occur without the consent and cooperation of Tribal governments.

Response: The Stevens amendment to the Interior Department's Appropriations Bill requires that the Service obtain State consent to implement and enforce nontoxic shot zones. However, as stated in response to Issue 22, the Service has authority, notwithstanding the Stevens amendment, to protect waterfowl and bald eagles from lead poisoning. Therefore, if States do not approve nontoxic shot zones that the Service believes are needed biologically, the Service will not open the waterfowl hunting season in those areas.

The Service recognizes the complexity of jurisdictional responsibility for migratory bird hunting regulations on Federal Indian Reservations, Indian Territory and ceded lands, and this was taken into account when interim guidelines were implemented on September 3, 1985, and special hunting regulations were established for certain Tribes for the 1985–86 hunting season (50 FR 35762). The Service believes that these guidelines provide appropriate flexibility for interested Indian Tribes to exercise their reserved hunting rights and wildlife management authority, while ensuring that the migratory bird resource receives the necessary protection mandated by the various Migratory Bird Treaties with other countries.

The Service believes that nontoxic shot should be used in the proposed zones as a necessary measure to conserve bald eagles and waterfowl, and urges Tribal officials to implement the use of nontoxic shot. As noted in the following section, in commenting on the proposed rule, several Indian Tribes recognized a need to convert to the use of nontoxic shot. If they desire, Tribes may also establish nontoxic shot zones on Reservation lands, independent of the Service's zone proposals, through tribal regulations. However, the Stevens amendment requires State approval before the Service can implement and enforce nontoxic shot zones anywhere in a State (including Indian lands). If such approval is not granted, nontoxic shot zones on Indian lands may still be established, but must be implemented and enforced through Tribal hunting regulations. Because requirements for use of nontoxic shot on Indian lands may be more stringent than those indicated in 50 CFR 20.108, hunters should consult Indian regulations. The Service is not aware of any Tribe that opposes the use of nontoxic shot on Indian lands within the proposed zones, and it is presumed that all affected Tribes will require nontoxic shot for the 1986–87 waterfowl hunting season.

Issue 24: The NCAI expressed doubt that the Service contacted all Indian Tribes affected by the proposed rule.

Response: The Service sent the proposed rule to all Indian Tribes that it believed would be affected by the rule, i.e., those that have jurisdiction over lands within the boundaries of the proposed nontoxic shot zones. As indicated in response to Issue 21, approximately 7,000 news releases were distributed and public meetings were held on the proposed nontoxic shot zones and the SEIS. The following Indian Tribal organizations responded to the proposed rule: Great Lakes Indian Fish and Wildlife Commission, Hopi Tribe, Mille Lacs Band of Chippewa Indians, Nisqually Tribe, Passamaquoddy Tribe, Penobscot Indian Nation, Ramah Navajo Chapter, Confederated Salish and Kootenai Tribes of the Flathead Reservation, and Shoshone-Bannock Tribes of the Fort Hall Indian Reservation.

Responses to Comments on Zones Proposed for Individual States

Wildlife agencies in 23 of the 44 States affected by the January 6 rule approved the nontoxic shot zones within their boundaries as proposed. States in which the proposed zones were modified are discussed below. Also addressed below are comments received from State agencies, Indian Tribes, and the public (including conservation and hunter organizations) that pertain to particular nontoxic shot zones proposed for individual States.

Arizona

The Arizona Game and Fish Department (AGFD) objected to the Service's proposal to make all of Coconino County a nontoxic shot zone for bald eagle protection. The AGFD pointed out that the areas within the county with the most concentrated waterfowl harvest and eagle use are already included in the zone described in the proposed rule that included Game Management Unit 5B, Upper Lake Mary, Lower Lake Mary, and Mormon Lake. The AGFD noted further that the one confirmed case of lead poisoning in a bald eagle occurred within this zone. Therefore, the AGFD requested, and the Service agrees, that the listing for Coconino County be deleted from the final rule because the other proposed zone, which the AGFD approved, affords eagles in Coconino County adequate protection.

The Palo Verde Rod & Gun Club (PVRGC) opposed the Service's proposal to impose nontoxic shot requirements at Cibola NWR. The PVRGC contends that no waterfowl mortality from lead poisoning has been observed at the refuge. The Club also questioned the statistical validity of proposing to require the use of nontoxic shot at Cibola NWR on the basis that 6.2 percent of 109 birds sampled at the refuge contained lead in their gizzards. The Service's justification for using indicators other than the presence of dead birds, and for using a 100-bird minimum sample, in deciding whether an area should be converted to nontoxic shot is contained in previous rulemakings (50 FR 19268, 50 FR 30849; see also the response to Issue 3). Based on rationale contained in those documents, the Service believes there is adequate reason for requiring the use of nontoxic shot for waterfowl and coot hunting at Cibola NWR. The AGFD and the Arizona Waterfowl Association concur with the Service's designation of Cibola NWR as a nontoxic shot zone.

The Hopi and Navajo Tribal Councils supported the proposed rule, particularly as it related to bald eagle protection from lead shot ingestion. The AGFD concurred, per the provisions of the Stevens Amendment (see response to Issue 23), that the Service can implement and enforce nontoxic shot zones that include the Hopi and Navajo Indian Reservations and these zones have been added to those listed for Arizona in this rule.

Arkansas

The Arkansas Game and Fish Commission (AGFC) objected to the Service's time schedule for implementation of the nontoxic shot zones proposed for bald eagle protection in Arkansas. The AGFC pointed out that the lack of advance notice of the 1986–87 nontoxic shot zones inhibits the State's

information and education program, which is working toward gaining hunter acceptance of nontoxic shot through a gradual and planned phase-in. (This will result in Statewide use of nontoxic shot for waterfowl hunting in Arkansas by the 1990–91 season). Despite its reservations about the timing of implementing the proposed nontoxic shot zones, the AGFC indicated its desire to work with the Service in refining the boundaries of the eight proposed Arkansas counties to delineate the areas within the counties where bald eagle concentrations occur in proximity to large waterfowl harvests. To this end, the AGFC identified the Millwood Lake and Lake Dardanelle Wildlife Management Areas (WMAs) and the White River NWR as the only areas within the eight proposed counties that should be designated as nontoxic shot zones to ensure eagle protection. The two WMAs also include portions of Hempstead, Howard, Johnson, and Logan Counties, which were not listed in the proposed rule. The Service concurs with the AGFC's recommended changes to the nontoxic shot zones proposed for Arkansas and believes that eagles in the proposed zones will receive adequate protection from lead shot ingestion. The AGFC also requested that a portion of the Bayou Meto WMA be added to the nontoxic shot zones listed for Arkansas. This has been done in this rulemaking.

California

The California Department of Fish and Game (CDFG) expressed reservations about the Service's criteria for establishing nontoxic shot zones for waterfowl and bald eagle protection. The CDFG does not believe that nationwide criteria should be applied without regard to local conditions. The CDFG also stated that the Service has never demonstrated a correlation between its waterfowl and eagle criteria and mortality in wild populations. Further, according to the CDFG, results of a dosing study in California showed that ingestion rates twice that of the Service's criteria caused no difference in pintail band recovery rates. For these reasons, the CDFG disagreed that the nontoxic shot zones proposed for Cibola, Colusa, Delevan, Modoc, Sacramento, and Sutter NWRs, and the Klamath Basin (including Clear Lake, Lower Klamath, and Tule Lake NWRs), are necessary. In previous rulemakings (50 FR 19268, 50 FR 30849) and in response to Issues 3 and 4 above, the Service has put forth the rationale underlying its criteria for establishing nontoxic shot zones to protect waterfowl and bald eagles. The Service feels its criteria are biologically sound. Data collected by the Service indicate a significant lead poisoning problem in waterfowl, as measured by Service, Pacific Flyway, and State criteria, at Colusa, Delevan, Lower Klamath, Sacramento, Sutter, and Tule Lake NWRs. Problems in waterfowl at Cibola and Modoc NWRs were confirmed by Service and Flyway criteria. Clear Lake, Lower Klamath, Modoc, and Tule Lake NWRs are also appropriate for conversion to nontoxic shot because they lie within zones designated for bald eagle protection.

The CDFG disagreed with the need to protect bald eagles from lead poisoning, pointing out that the eagle population in California is large and increasing, and that eagle mortality from lead poisoning is within the incidental take limit allowed by the Endangered Species Act. As detailed in response to Issue 10, the Service feels that even though the bald eagle may be abundant in particular areas, the Endangered Species Act mandates the species' protection from all controllable mortality factors, including lead poisoning, in those and other areas. The incidental take statement referred to by the CDFG was made in the context that the proposed zones or refinements of them would be implemented; therefore, the statement is only valid if the Service's criteria for waterfowl or bald eagle protection are applied to minimize incidental take. The incidental take statement is consistent with the Service's responsibilities under Section (7)(a)(1) of the Endangered Species Act to conserve all listed species, including the bald eagle. The CDFG also stated that, since only five bald eagles are known to have died from plumbism in California, and none since 1982, plumbism cannot be jeopardizing the bald eagle. The Service agrees that plumbism is not likely to jeopardize the bald eagle as a species. Nonetheless, it is likely to slow recovery. As noted above, a lack of dead birds cannot be used as a reliable indicator that plumbism is not occurring. The Service's proposal seeks to minimize probable risks of such poisoning.

The CDFG recommended that Butte and San Luis Obispo Counties be deleted from consideration as nontoxic shot zones for bald eagle protection. In Butte County, eagles are infrequently sighted in valley bottom waterfowl areas, and few waterfowl are harvested in eagle use areas, which are largely around foothill reservoirs. Bald eagles in San Luis Obispo County are concentrated in the northern part of the county and in neighboring Monterey County around Nacimiento and San Antonio Reservoirs, with small numbers also at other, smaller reservoirs. Most waterfowl harvesting in San Luis Obispo County occurs elsewhere (primarily in Morro Bay), where bald eagle occurrences are unusual. The Service agrees that the geographical separation of eagle use areas and waterfowl harvest areas in Butte and San Luis Obispo Counties warrants their exclusion as nontoxic shot zones for bald eagle protection in the 1986–87 waterfowl hunting season.

The CDFG suggested refinements to the boundaries of the remaining five California counties proposed as nontoxic shot zones for eagle protection. The Service considered these suggestions and examined additional information on the distribution of eagles and waterfowl harvest in and around the five counties. The Service subsequently revised the original zone descriptions in a manner it believes will still afford adequate eagle protection. Specifically, portions of Plumas, Shasta, and Siskiyou Counties were eliminated from consideration as nontoxic shot zones because of their low eagle use and/or low waterfowl harvest. Portions of Sierra and Tehama Counties were added to the nontoxic shot zones because they are adjacent to counties meeting the criteria for such protection and are likely to be used by eagles from those other counties. The CDFG approved the modified eagle protection zones and the other nontoxic shot zones proposed for California.

One public commentor from California pointed out that waterfowl mortality from lead poisoning at Sutter NWR was minor relative to deaths from avian cholera and avian botulism. The commentor felt that more emphasis should be placed on the latter two mortality factors. The Service believes that its monitoring study at Sutter NWR confirmed the need for banning the use of lead shot there; sampling detected a significant lead poisoning problem, as measured by lead-induced waterfowl mortality as well as gizzard and liver analyses. With regard to avian botulism and avian cholera, the Service has an active avian disease research program administered by the National Wildlife Health Center.

The California Waterfowl Association felt that the Service's criteria for determining that a lead poisoning problem exists in waterfowl were inappropriate for evaluating data collected at Colusa, Delevan, Sacramento, and Sutter NWRs and proposing these areas as nontoxic shot zones. The Association contended that while the criteria may be appropriate for

mallards on a high corn diet, they are invalid for pintails on a balanced diet of cereal grains, natural marsh foods and benthic invertebrates (as occurs in the Sacramento Valley). The effect of diet on reducing the toxicity of ingested lead in waterfowl has been discussed in detail in a previous rulemaking (50 FR 30849) and in the SEIS. While the Service agrees that diet can affect toxicity, it has been shown that even ducks fed a completely nutritional diet die of lead poisoning if they ingest a sufficient amount of lead.

Colorado

The Colorado Division of Wildlife (CDW) stated its support for implementation of the Service's guidelines (50 FR 30849) for establishing nontoxic shot zones to protect waterfowl. In addition to establishing a monitoring schedule to detect lead poisoning problems in waterfowl, the CDW has initiated a public information and education program on lead poisoning and the use of steel shot. The CDW felt that the alterations to their schedules for monitoring and education, caused by the Service's new proposals for nontoxic shot zones to protect bald eagles, would lead to a low level of compliance with any bans on lead shot. The CDW also contended that the establishment of nontoxic shot zones in Montrose, Morgan, and Weld Counties for the 1986–87 hunting season would not allow sufficient time for ammunition dealers and hunters to deplete their supplies of lead shot shells and reloading materials. For these reasons, the CDW requested that the proposed restriction on the use of lead shot in Montrose, Morgan, and Weld Counties be delayed until at least the 1987–88 hunting season. The Service informed the CDW that a one-year delay would not be possible in light of the Service's belief that eagles in the three Colorado counties could presently be subject to lead poisoning. The ammunition supply problem is addressed in response to Issue 17. The CDW subsequently approved the proposed nontoxic shot zones for Colorado.

Florida

The Florida Game and Fresh Water Fish Commission (FGFWFC) approved the Florida nontoxic shot zones described in the proposed rule. The NWF pointed out that although Citrus County, Florida, meets the Service's criteria for designation as a nontoxic shot zone for bald eagle protection, it was not listed in the proposed rule; Citrus County had an eagle count of 27 eagles in 1980 and an average of 14,120 waterfowl are harvested there annually. Therefore, the Service requested that the FGFWFC also approve Citrus County as a nontoxic shot zone. The FGFWFC endorsed the inclusion of Citrus County. The FGFWFC also requested that portions of Lake, Levy, Marion, Orange, Putnam, and Seminole Counties be added to the list of nontoxic shot zones for Florida. These areas have been added to this rule.

Idaho

The Idaho Department of Fish and Game (IDFG) expressed concern that the timeframe for implementing the nontoxic shot zones proposed for Idaho is insufficient. The IDFG feels a minimum of two years advance notice is needed to allow current supplies of lead shot to be depleted, to permit sufficient supplies of nontoxic shot to be distributed, and to allow the public to be informed of the lead poisoning problem and the proper use of steel shot. These points have been addressed in response to Issues 17 and 18.

The IDFG also pointed out the need to refine the boundaries of some of the proposed zones to include only the areas where eagles and waterfowl harvest overlap. The Service considered these suggestions and examined additional information on the distribution of eagles and waterfowl harvest in and around the nine Idaho counties originally proposed for bald eagle protection. The Service subsequently revised the original zone descriptions in a manner it believes will still afford adequate eagle protection. Specifically, portions of Bannock, Bingham, Canyon, Jefferson (including Camas National Wildlife Refuge), Owyhee, and Power Counties were eliminated from consideration as nontoxic shot zones because of their low eagle use and/or low waterfowl harvest. Portions of Ada, Bonneville, Caribou, Cassia, Elmore, Madison, and Payette Counties were added to the nontoxic shot zones because they are adjacent to counties meeting the criteria for eagle protection and are likely to be used by eagles in those counties. The IDFG approved the modified zones.

The Service notes that some of the nontoxic shot zones in Idaho include the Fort Hall Indian Reservation of the Shoshone-Bannock Tribes. Tribal officials have indicated support for nontoxic shot use on the Reservation.

One public commentor from Idaho pointed out that on January 8, 1986, he counted at least 96 bald eagles along the Snake River in Bannock, Bingham, Jefferson, and Power Counties. Most of these birds were eating ducks and geese, many of which were hunter-crippled individuals. This information, although casually collected, supports designation of these counties as requiring protection for bald eagles.

Illinois

The Illinois Department of Conservation (IDC) concurred with the Service's proposal to include 22 Illinois counties as nontoxic shot zones for waterfowl protection. However, the State requested, and the Service agreed to, refinements in the boundaries of 17 of the proposed counties (all but Alexander, Fulton, Jackson, Union, and Williamson Counties). The IDC submitted extensive evidence to indicate that the refined nontoxic shot zones will include the portions of the original proposed counties in which virtually all of the eagle use and waterfowl harvest occur. For counties embracing the Illinois and Mississippi Rivers, this includes wetlands (river channel, backwaters, sloughs, adjacent lakes, flooded timber, etc.) in the floodplains of those rivers. The IDC also added portions of counties not originally proposed by the Service as nontoxic shot zones, including Adams and Mercer Counties along the Mississippi River, Brown and Morgan Counties along the Illinois River, and Franklin and Jefferson Counties along Rend Lake. The IDC held public hearings concerning these modified nontoxic shot zones and, based upon input from those hearings, subsequently approved the modified zones.

The Service requested that the IDC consider two counties not listed in the proposed rule for inclusion as nontoxic shot zones for bald eagle protection. The first is Marshall County, which the Illinois Natural History Survey (INHS) and the NWF, in commenting on the proposed rule, pointed out meets the Service's criteria for conversion to nontoxic shot for eagle protection; 41 eagles were counted in Marshall County in 1980 and an average of 7,555 waterfowl are harvested there annually. The second addition is Hancock County, which the INHS requested be made a nontoxic shot zone because of its extraordinarily high use by wintering bald eagles (peak count of 454 birds in 1979) and its moderate annual waterfowl harvest (4,738 birds). The IDC approved the addition of the ecologically important portions of these counties (e.g., the portions along the Illinois and Mississippi Rivers) to the nontoxic shot zones listed herein.

The Migratory Waterfowl Hunters, Inc., requested that Calhoun, Greene, and Jersey Counties be removed from consideration as nontoxic shot zones for bald eagle protection. The group's

biological reasons for doing so are: (1) The primary diet of eagles in these areas is fish; (2) there have been no documented losses of waterfowl or bald eagles from lead shot poisoning in these areas: (3) eagle populations are increasing in these counties, in Illinois, and nationwide; and (4) lead shot sinks quickly into the soft silt of the river bottom backwater areas of these counties and out of reach of waterfowl. The last three points have been addressed in response to Issues 1, 10, and 7, respectively, and the Service believes its general responses to these issues also apply to the three Illinois counties listed above.

With regard to the first point, the commentors cited several references suggesting that fish are the primary food items of eagles in West-central Illinois. The Service agrees that eagles in these areas will consume fish, but none of the information supplied by the commentors evaluated quantitatively the degree to which eagles consume fish in Calhoun, Greene, and Jersey Counties. Harvest figures, literature sources, and observations by Service personnel document the availability of waterfowl to eagles along the Illinois and Mississippi Rivers. As stated in response to Issue 8, eagles are opportunistic feeders and the Service believes it likely that eagles in these areas could ingest lead shot by consuming crippled and dead waterfowl at certain times of the year. This is particularly likely when the rivers freeze, limiting areas where fish can be caught and causing waterfowl (especially sick and crippled individuals) to congregate at the remaining open water sites. Such concentrations of waterfowl are known to attract bald eagles. Therefore, the Service does not agree, on the basis of bald eagle food habits in Calhoun, Greene, and Jersey Counties, that these areas should be eliminated entirely from consideration as nontoxic shot zones. However, as noted above, the zones in these counties have been reduced to include only areas adjacent to the Illinois and Mississippi Rivers.

Indiana

The Indiana Department of Natural Resources (IDNR) approved the nontoxic shot zones proposed for Indiana. The IDNR also requested that the Minnehaha Fish and Wildlife Area in Sullivan County be added to the nontoxic shot zones described for Indiana. This addition has been made.

Iowa

The Iowa Conservation Commission (ICC) pointed out that the ecologically important portions of the 11 Iowa counties proposed as nontoxic shot zones for eagle protection were already included within the first zone listed under Iowa in the proposed rule. As stated in that zone description, the use of nontoxic shot is required on virtually all water areas in Iowa. The ICC believes, and the Service concurs, that this prohibition will eliminate lead poisoning problems for bald eagles in the 11 Iowa counties proposed as nontoxic shot zones.

Kansas

The Kansas Fish and Game Department (KFGD) requested that the proposed nontoxic shot zone that described the Cheyenne Bottoms, Texas Lake, Neosho, Marais des Cygnes, and Jamestown Wildlife Areas be deleted because these areas are already included in the zone that lists all State Wildlife Areas. The KFGD requested that the listing for all State Wildlife Areas be amended to include associated Bureau of Reclamation and Army Corps of Engineers reservoirs and lands, to more clearly define those nontoxic shot zones. The Bureau and Corps concurred with this action. These changes have been made in the final rule, and the KFGD approved the resulting nontoxic shot zones. The KFGD also expressed its opinion that an information and education program on lead poisoning and the use of steel shot is necessary to enhance hunter compliance in nontoxic shot zones. This point has been addressed in response to Issue 18.

Two public commentors pointed out that much of the waterfowl harvest near the Kirwin NWR, which was designated as nontoxic shot zone, occurs on the Kirwin Reservoir dam controlled by the Bureau of Reclamation. Crippled waterfowl and spent shot originating from Bureau land often fall into the refuge, where waterfowl and bald eagles congregate. Therefore, the commentors suggested that the Bureau of Reclamation lands associated with Kirwin Reservoir be added to the Kirwin NWR nontoxic shot zone to ensure adequate protection of waterfowl and eagles. The Service and the KFGD agree and the Kirwin zone description has been modified accordingly.

Maine

The Maine Department of Inland Fisheries and Wildlife (MDIFW) stated that it favors the concept of implementing nontoxic shot zones for waterfowl hunting on a flyway basis, with the Atlantic Flyway being converted in the 1987–88 hunting season. The MDIFW stated that unless and until this occurs, it opposes the designation of "hot spots" as nontoxic shot zones. Therefore, the MDIFW disagreed with the Service's proposal to require nontoxic shot in Hancock and Washington Counties to protect bald eagles. The MDIFW also opposed the action because it believes that the action would jeopardize ongoing recovery efforts for the eagle in Maine by creating an "anti-eagle reaction" in some people.

The MDIFW initially requested that the nontoxic shot zone boundaries in Hancock and Washington Counties be reduced to include only State Wildlife Management Unit (WMU) 6 along the coastal portions of the two counties. The Service evaluated this request and available data and believes that for adequate bald eagle protection from lead shot exposure in Hancock and Washington Counties, the use of nontoxic shot must be required in WMU 6 and an adjacent area along the St. Croix River in Washington County. The MDIFW subsequently concurred with these modified nontoxic shot zones.

Maryland

The Maryland Department of Natural Resources (DNR) initially informed the Service that it could not approve the Service's proposal to require the use of nontoxic shot in Dorchester County for bald eagle protection because Section 10–604(e) of the Annotated Code of Maryland restricted the Maryland DNR from promulgating any rule or regulation banning the use of lead shot for hunting waterfowl in Maryland. Subsequently, the DNR informed the Service that the Maryland General Assembly amended the regulation to give the DNR the authority to require the use of nontoxic shot for waterfowl hunting in those areas so classified by the Service. Consequently, the DNR approved the addition of Dorchester County to the zones listed in 50 CFR 20.108.

Michigan

The Michigan Department of Natural Resources approved the nontoxic shot zones proposed for Michigan. The Great Lakes Indian Fish and Wildlife Commission supported the proposed rule and formulated a Tribal resolution calling for a ban on the use of lead shot for waterfowl hunting in 1986–87 by Tribal members in the western portion of Michigan's Upper Peninsula. This resolution is contingent upon the approval of special regulation for the 1986–87 season for Tribal members hunting on ceded lands in Michigan.

Minnesota

The Minnesota Department of Natural Resources (MDNR) pointed out that the ecologically important portions of the four Minnesota counties proposed as nontoxic shot zones for eagle protection were already included within the third zone listed under Minnesota in the proposed rule. The Service agrees that this zone will afford adequate protection for bald eagles in these counties. The MDNR concurred with the remainder of the proposed nontoxic shot zones for Minnesota.

The Mille Lacs Band of Chippewa Indians requested that nontoxic shot zones be established on their Reservation and Trust lands in Aitkin, Crow Wing, Mille Lacs, and Pine Counties. The MDNR concurred, per the provisions of the Stevens amendment, that the Service can implement and enforce these zones (see response to Issue 23) and the zones have been added to this rule.

Mississippi

The Mississippi Department of Wildlife Conservation (MDWC) approved the nontoxic shot zones proposed for Mississippi. The MDWC also informed the Service that the Mississippi Commission on Wildlife Conservation voted to support a Statewide ban on lead shot for waterfowl hunting beginning in the 1987–88 season.

Missouri

The Missouri Department of Conservation (MDC) stated its support for implementation of the Service's guidelines (50 FR 30849) on establishing nontoxic shot zones for waterfowl protection. However, the MDC objected to the fact that the Service's new bald eagle protection criteria necessitated altering the planned implementation schedule established under the waterfowl criteria.

The MDC pointed out that the ecologically important portions of seven of the 15 Missouri counties proposed as nontoxic shot zones for eagle protection (Chariton, Holt, Lincoln, Linn, Pike, Ralls, and St. Charles Counties) were already included within the first three zones listed under Missouri in the proposed rule. The Service agrees that these zones will afford adequate protection for bald eagles in these counties.

The MDC presented data opposing the designation of Benton, Cape Girardeau, Perry, or Scott Counties as nontoxic shot zones. These counties were proposed because they are adjacent to counties meeting the Service criteria for bald eagle protection. The MDC pointed out, and the Service agrees, that these areas consist largely of high bluffs or former wetland areas that have been drained. They offer little or no waterfowl habitat, as reflected by the relatively low waterfowl harvest occurring there. Therefore, these four counties have been deleted from the final rule.

The MDC requested that the four remaining counties proposed for eagle protection in Missouri—Henry, St. Clair, Stoddard, and Vernon—be made nontoxic shot zones in 1987 or 1988, according to the schedule established for implementing the Service's waterfowl criteria. The Service informed the MDC that this would not be acceptable in light of the Service's belief that bald eagles in these counties could presently be subject to lead poisoning. Subsequently, the Service and the MDC discussed refinements to the boundaries of these counties that would offer adequate eagle protection. The MDC approved a southwest Missouri nontoxic shot zone that includes the ecologically important portions of Henry, St. Clair, and Vernon Counties (along with portions of Bates, Cass, Cedar, and Johnson Counties, which were not listed in the proposed rule) and a southeast Missouri zone that includes all of Stoddard County (along with portions of Bollinger, Butler, Dunklin, and Wayne Counties, which were not proposed). These zones have been added to this rulemaking.

The MDC requested that nine State Wildlife Areas, which were established as nontoxic shot zones by State regulations in 1985, also be added to the final rule. These areas are the Ben Cash (Dunklin County), Bob Brown (Holt County), Coon Island (Butler County), Dark Cypress (Bollinger County), Four Rivers (Bates and Vernon Counties), Grand Pass (Saline County), Hornersville Swamp (Dunklin County), Seven Island (Mississippi County), and Ten Mile Pond (Mississippi County) Wildlife Areas. They have been added to the zone descriptions in this rule.

Clarence Cannon NWR was proposed as a nontoxic shot zone but has been deleted from this rule because the Missouri portion of the refuge will be closed to waterfowl hunting in the 1986–87 season. The other NWRs and State Wildlife Areas proposed as nontoxic shot zones for Missouri were approved by the MDC.

Montana

The Montana Fish and Game Commission approved the nontoxic shot zones proposed for Montana. The Montana Department of Fish, Wildlife and Parks (MDFWP) stated its support for the use of nontoxic shot for waterfowl hunting. The MDFWP favors a total conversion to nontoxic shot, rather than the "zone approach," and plans to require nontoxic shot Statewide in Montana by the 1988–89 hunting season. The MDFWP feels that to ensure maximum compliance in the use of nontoxic shot, a public information and education program is needed on the problem of lead poisoning and the effective use of steel shot. The Service has already held several informational meetings on the 1986–87 nontoxic shot zone proposals in Montana, and has agreed to assist the MDFWP with additional programs in the five counties to be converted to nontoxic shot zones for bald eagle protection.

Two public commentors felt that the conversion of Lake County to the use of nontoxic shot is unwarranted because hunting there is so dispersed that lead shot deposition is not concentrated and there are no large concentrations of dead and crippled waterfowl. These commentors also contended that spent shot falls into deep areas of the Flathead River and into fields, where it is unavailable to waterfowl. Finally, the commentors pointed out that salmon is the main food of eagles on Flathead Lake and that as the salmon migrate from the lake into McDonald Creek in Glacier National Park the eagles congregate in the Park. Two of the commentors' points are addressed in response to Issues 7 and 8. The matter that the Service must consider with respect to Lake County is whether there is a probability that bald eagles there could ingest lead shot in their prey. The arguments presented by the commentors do not provide sufficient quantitative evidence to convince the Service that eagles are not likely to ingest lead shot from eating crippled or dead waterfowl in Lake County during at least part of the time they are there.

Another commentor suggested that the nontoxic shot zone in Flathead County be refined to include only bodies of water that do not freeze (i.e., those that would concentrate waterfowl), including portions of Whitefish Lake, deep portions of Flathead Lake, and portions of Flathead River. The Service does not believe that it is practical to delineate boundaries of nontoxic shot zones on the basis of frozen vs. open water. Variable weather conditions will cause the distribution of frozen and open water to change within and among years. In addition, the presence of frozen vs. open water does not necessarily determine whether an eagle might ingest lead-contaminated waterfowl.

The Five Valleys Audubon Society and two other commentors supported the Service's proposed nontoxic shot zones for Montana but felt that parts of Mineral, Missoula, Powell, and Ravalli Counties should also be included as nontoxic shot zones for bald eagle protection. These counties do not meet the Service's criteria and have not been proposed by the MDFWP. The Service feels that the areas will receive adequate protection under the State's planned conversion schedule.

The Montana Audubon Council, representing nine chapters, endorsed the Service's proposed nontoxic shot zones but reiterated the MDFWP's view that an adequate public information and education program is necessary before effective conversion to nontoxic shot can occur in Montana. As stated in response to Issue 18, the Service also agrees that information and education programs on lead poisoning and the use of steel shot are essential.

The Tribal Council of the Confederated Salish and Kootenai Indian Tribes of the Flathead Reservation passed a resolution supporting the use of nontoxic shot on lands under Tribal jurisdiction in Flathead, Lake, and Sanders Counties.

Nevada

The Nevada Department of Wildlife approved the nontoxic shot zones for Nevada. The Stillwater National Wildlife Refuge was incorrectly listed in the proposed rule; the Stillwater Wildlife Management Area should have been listed instead. This error has been corrected in the final rule.

New Hampshire

No nontoxic shot zones were proposed for New Hampshire. However, the Audubon Society of New Hampshire (ASNH) suggested that a nontoxic shot zone be established that would include the Great Bay estuary. The ASNH pointed out that the estuary is the most heavily hunted waterfowl area and the most important bald eagle wintering area in New Hampshire. The Service agrees with this statement, but neither the estuary as a whole nor the counties comprising it (Rockingham and Strafford) have a sufficient combination of bald eagle use and waterfowl harvest to meet the Service's criteria for eagle protection. The New Hampshire Fish and Game Department informed the Service that it does not support designation of the Great Bay estuary as a nontoxic shot zone at this time. Therefore, this area was not added to the nontoxic shot zones described in this rulemaking.

New Jersey

The New Jersey Department of Environmental Protection approved the nontoxic shot zones proposed for New Jersey. The Service received 57 pre-printed petitions, containing a total of approximately 833 signatures, from members of the Water Fowlers of Bergen County, NJ, Inc. These petitions objected to the New Jersey Fish and Game Council's decision to require nontoxic shot in the proposed zones. The Water Fowlers' objection was based on their belief that the use of steel shot will cripple more birds than would die of lead poisoning. This point is responded to under Issue 12. The Service believes that the State of New Jersey's decision to require nontoxic shot in the zones listed in this rule is based on sound biological information and concurs with the decision.

New Mexico

The New Mexico Department of Game and Fish approved the nontoxic shot zones proposed for New Mexico contingent upon several technical changes, which the service has made in the final rule. First, the listings for the Artesia and Karr Farm State Game Refuges have been deleted. These refuges were consolidated into the Artesia State Waterfowl Management Area, which is now listed in the rule. Second, the listings for Jackson Lake and Miller Mesa State Game Refuges have been deleted because these areas are within San Juan County, which is a nontoxic shot zone. Third, the listing for San Juan County was moved from the Central Flyway to the Pacific Flyway.

New York

The New York Department of Environmental Conservation (NYDEC) approved the nontoxic shot zones proposed for New York. The NYDEC also pointed out that the Bashakill Wildife Management Area in Sullivan and Orange Counties was inadvertently omitted from the proposed rule and it has been added to this rule. In addition, the NYDEC requested a technical modification that will expand the Hudson River nontoxic shot zone. This change has also been made in this rule.

Oklahoma

The Oklahoma Department of Wildlife Conservation (ODWC) requested a one-year extension for implementation of the proposed nontoxic shot zones in Oklahoma, to allow sportsmen an opportunity to have their interests heard. The Service could not grant this time extension in light of the Service's belief that waterfowl and bald eagle mortality could potentially occur in the areas proposed if lead shot were allowed to be used there during the 1986–87 hunting season. In addition, the service feels that the comment period for the proposed rule allowed adequate time for the public to voice opinions on the issue (see response to Issue 21).

Upon further consideration, the ODWC proposed refinement of the boundaries of the proposed nontoxic zones to exclude areas where waterfowl hunting and/or eagle use are minimal or nonexistent. In place of the ten counties originally proposed for eagle protection in Oklahoma, the Oklahoma Wildlife Conservation Commission submitted data supporting three zones. These zones include the ecologically important portions of the ten original counties plus portions of Noble, Lattimer, LeFlore, and Johnston Counties. The Service agrees with these revised nontoxic shot zones for Oklahoma.

Oregon

The Oregon Department of Fish and Wildlife (ODFW) stated its support for implementation of the Service's guidelines (50 FR 30849) for establishing nontoxic shot zones to protect waterfowl. The ODFW began monitoring certain counties in 1985–86, for possible conversion to nontoxic shot in 1987–88, according to the schedule outlined in the guidelines. The ODFW objected to the fact that the Service's new proposal for nontoxic shot zones to protect bald eagles would eliminate the need for the monitoring the ODFW had already done in four counties in 1985–86. The ODFW feels that eagles will receive adequate protection as areas are converted to nontoxic shot for waterfowl protection. The Service believes the threat of lead poisoning in bald eagles in the counties monitored is of sufficient magnitude that it would be unacceptable to delay their conversion to nontoxic shot until 1987–88 or beyond. For eagle protection, the boundaries of these counties may be refined to include only areas having high eagle use and waterfowl harvest. Thus, the data collected by the ODFW could be used later to designate additional nontoxic shot zones for waterfowl protection in the portions of the counties not converted for eagle protection.

The ODFW questioned the need for the establishment of nontoxic shot zones to protect bald eagles in light of the fact that eagles are increasing in number despite various mortality factors, including lead poisoning. This point has been responded to under Issue 10.

The ODFW approved at an earlier date the implementation of nontoxic

shot zones at Sauvie Island Wildlife Management Area, and Ankeny, Baskett Slough, Lewis and Clark, and William L. Finley National Wildlife Refuges for the 1986–87 waterfowl hunting season. The Service discussed with the ODFW the other zones listed in the January 6 rule, which included seven counties proposed for bald eagle protection, and examined additional information on the distribution of eagles and waterfowl harvest in and around the seven counties. The Service subsequently revised the original zone descriptions in a manner it believes will still afford adequate eagle protection. Specifically, portions of Columbia, Lake (including Hart Mountain National Wildlife Refuge), Malheur, Morrow, and Multnomah Counties were eliminated from consideration as nontoxic shot zones because of their low eagle use and/or low waterfowl harvest. Portions of Clatsop, Gilliam, and Umatilla Counties were added to the nontoxic shot zones because they are adjacent to counties meeting the criteria for eagle protection and are likely to be used by eagles in those counties. Lower Klamath National Wildlife Refuge, located in Klamath County, was inadvertently omitted from the proposed rule and has been added to the zones described in this rule.

Several commentors requested that Harney County be deleted from consideration as a nontoxic shot zone for bald eagle protection. They pointed out that eagles migrate through the county in February and March, whereas waterfowl hunting occurs in November and December. The Service also noted, in examining additional information, that most eagle use in Harney County occurs north of waterfowl harvest areas, and that the major eagle food source there is rabbits and carrion (deer and cattle). For these reasons, Harney County (and Malheur NWR within the county) has been excluded as a nontoxic zone for bald eagle protection in the 1986–87 waterfowl hunting season.

The ODFW subsequently approved the modified eagle protection zones.

South Dakota

The South Dakota Department of Game, Fish and Parks (SDDGFP) pointed out that the ecologically important portions of the five South Dakota counties proposed as nontoxic shot zones for eagle protection (Bon Homme, Charles Mix, Gregory, Hughes, and Stanley) were already included within the first three zones listed under South Dakota in the proposed rule. The Service agreed that these zones would afford adequate bald eagle protection in these counties.

The SDDGFP subsequently notified the Service that the South Dakota Game, Fish and Parks Commission (SDGFPC) voted to retain a provision that currently exempts certain hunters from complying with nontoxic shot use requirements in South Dakota. Specifically, hunters under 16 years of age using 16 or 28 gauge or .410 caliber shotguns and hunters using muzzle-loading shotguns are not required to use nontoxic shot for waterfowl hunting. The Service informed the SDDGFP that it feels these exemptions create the potential for eagles in the five counties mentioned above to be exposed to lead shot and the SDGFPC subsequently removed the exemptions in those areas. The remaining zones proposed for South Dakota were ones added to 50 CFR 20.108 at State request in the 1985–86 season. Since the Service has no data indicating that lead shot is necessarily causing migratory bird mortality in these areas, they have been included in this rule with the provision exempting certain hunters from using nontoxic shot within these zones.

Tennessee

The Tennessee Wildlife Resources Agency (TWRA) requested a one-year delay in implementation of the two Tennessee counties proposed as nontoxic shot zones for bald eagle protection. The TWRA pointed out that this time schedule would be consistent with the one outlined for these counties under the Service's guidelines for implementing nontoxic shot zones to prevent lead poisoning in waterfowl (50 FR 30849). The Service informed the TWRA that a one-year delay would not be possible in light of the Service's belief that eagles in Lake and Obion Counties could presently be subject to lead poisoning. The TWRA subsequently approved these nontoxic shot zones.

Texas

The Texas Parks and Wildlife Department (TPWD) felt the Service's criteria for designating nontoxic shot zones to protect bald eagles were arbitrary and capricious. The TPWD further stated its opinion that the proposed zones should be deferred until the 1987–88 hunting season to allow the TPWD, sportsmen, and ammunition retailers to adjust to the expansion of the nontoxic shot zones. The Service disagrees with these two comments for reasons outlined in response to Issues 3 and 17, respectively.

The TPWD requested that the proposal to require nontoxic shot in Deaf Smith County be reconsidered because the county does not meet the Service's criteria for designating areas to protect bald eagles. The conversion of Deaf Smith County was also opposed in 20 letters, and 22 petitions containing approximately 445 signatures, from the public, including members of the Texas Waterfowlers Association, Inc. The Service reexamined the National Audubon Society Christmas Bird Count data base used to determine the eagle population in Deaf Smith County and discovered that eagles counted in adjacent Randall County were erroneously attributed to Deaf Smith County. Therefore, the Service agrees that it is inappropriate to designate Deaf Smith County as a nontoxic shot zone for the 1986–87 waterfowl hunting season on the basis of the Service's criteria for protecting bald eagles.

The TPWD felt that the inclusion of Fannin County as a nontoxic shot zone was inappropriate because it was proposed on the basis of eagle numbers in Bryan County, Oklahoma. The Service delineated a portion of Fannin County that it feels should be included as a nontoxic shot zone because waterfowl crippled or killed in this area may be preyed upon by eagles from Lake Texoma in nearby Bryan and Marshall Counties, Oklahoma. In addition, there is some eagle use of the Red River below Lake Texoma in the portion of Fannin County delineated by the Service. The TPWD subsequently concurred with this boundary adjustment.

The TPWD proposed refinements to the boundaries of Grayson, Henderson, Marion, and Upshur Counties to more accurately reflect the actual distribution of bald eagles and waterfowl harvest in those counties. The Service agrees with these refinements and believes that bald eagles will receive adequate protection from lead shot ingestion in the revised nontoxic shot zones. In delineating the revised zone boundaries, the TPWD added portions of Anderson, Cass, Cook, Harrison, Kaufman, and Morris Counties to the final nontoxic shot zones for Texas. These counties were not listed in the proposed rule.

The TPWD recommended that the portion of Caddo Lake lying within Caddo Parish, Louisiana, be included as a nontoxic shot zone for eagle protection since the remainder of the lake, which lies within Marion County, Texas, was designated as a zone in the TPWD's refinement of Marion County. The Service, in examining available eagle survey data for Caddo Lake, noted that only three eagles were counted on the Marion County portion of Caddo Lake in 1982; the majority of eagles occuring in Marion County used Lake O' the Pines.

In 1981, no eagles were detected at Caddo Lake, and between 1978 and 1983 the maximum count for all of Caddo Parish was only 11 eagles. Therefore, the Service feels there is sufficient evidence to warrant placing all or part of Caddo Parish, Louisiana, in a nontoxic shot zone for eagle protection in 1986–87. The TPWD wished to keep the portion of Caddo Lake in Marion County in a nontoxic shot zone.

Utah

The Utah Division of Wildlife Resources (UDWR) stated its support for implementation of the Service's guidelines (50 FR 30849) for establishing nontoxic shot zones for waterfowl protection. However, the UDWR objected to the fact that the Service's new eagle protection criteria necessitated altering the planned implementation schedule established under the waterfowl criteria. The UDWR feels that the stable or increasing status of eagle populations under current lead shot use indicates that additional protection for eagles, beyond conversion to nontoxic shot under the waterfowl criteria, is unwarranted. The Service disagrees for reasons outlined in response to Issue 10.

The UDWR requested that Box Elder, Utah, and Weber Counties, which were proposed for conversion to nontoxic shot to protect bald eagles, be exempted from the 1986–87 zones. The primary justification for requesting the exemption was based on analyses and observations of bald eagle food habits by UDWR personnel. These studies purported to show that eagles in Utah prey largely on mammals and fish and, therefore, are not likely to be exposed to lead shot in waterfowl tissue. The Service reviewed the data submitted by the UDWR, and other available information, and concluded that the UDWR data were applicable to the arid portions of Utah but not to the portions of the three counties in question that are adjacent to and within the Great Salt Lake (Box Elder and Weber Counties) and Utah Lake (Utah County). Harvest figures suggest that crippled and dead waterfowl are available to eagles in these areas and since eagles are opportunistic feeders (see response to Issue 8), the Service feels there is a likelihood that eagles in these areas could ingest lead shot by consuming such waterfowl. Therefore, the Service could not grant the UDWR's requested exemption.

Subsequently, the UDWR concurred with the designation of all of Utah and Weber Counties, and the portion of Box Elder County on and around the Great Salt Lake, as nontoxic shot zones. The Service agrees that the designated portion of Box Elder County will afford adequate protection to bald eagles.

Washington

The Washington Department of Game (WDG) stated its opinion that the Service's criteria for establishing nontoxic shot zones to protect bald eagles are arbitrary and unscientific because they have not shown to correlate with lead poisoning in eagles. The WDG feels that until research is done to provide such a correlation, the only valid criteria for establishing zones to protect eagles should be the occurrence of eagle mortality from lead poisoning in particular areas. The Service addressed the basis for its eagle protection criteria under Issue 3. With the exception of Ferry and Stevens Counties (see below), the Service believes it is unacceptable to delay implementation of the nontoxic shot zones proposed for eagle protection in Washington.

The WDG pointed out that lead poisoning is a relatively minor mortality factor to eagles and waterfowl populations. This point has been responded to under Issue 9 and in the SEIS.

The WDG favors application of the Pacific Flyway criteria for determining lead poisoning problems in waterfowl. The Service disagrees, for reasons outlined in previous rulemakings that dealt with establishment of waterfowl criteria (50 FR 19268, 50 FR 30849).

The WDG approved at an earlier date the implementation of a nontoxic shot zone at Ridgefield National Wildlife Refuge for the 1986–87 waterfowl hunting season. The WDG recommended several alternate nontoxic shot zones in parts of Pierce, Skagit, Snohomish, and Thurston Counties. The Service discussed these zones with the WDG and examined additional information on the distribution of bald eagles and waterfowl harvest in and around the 21 counties (and associated refuges) proposed for eagle protection. The Service subsequently revised the original zone descriptions in a manner it believes will still afford adequate eagle protection. Specifically, portions of all 21 proposed counties except Douglas, Ferry, Island, San Juan, and Stevens Counties were eliminated from consideration as nontoxic shot zones because of their low eagle use and/or waterfowl harvest. Portions of Adams, Franklin (including McNary National Wildlife Refuge), Kittitas, Kitsap, Klickitat, Mason, Pacific (including Columbian White-tailed Deer and Willapa National Wildlife Refuges), Skamania, Wahkiakum, Walla Walla, and Yakima Counties were added to the nontoxic shot zones because they are adjacent to counties meeting the criteria for eagle protection and are likely to be used by eagles in those counties.

Upon examining additional information on eagle distribution in relation to waterfowl harvest, the Service concluded that Ferry and Stevens Counties should be deleted entirely from consideration as nontoxic shot zones for bald eagle protection. These counties were originally proposed because they are adjacent to Lincoln County, which meets the Service's criteria for bald eagle protection. However, Ferry and Stevens have very low waterfowl harvests and eagles within the counties do not use areas near the waterfowl harvests. For these reasons, Ferry and Stevens Counties have been excluded as nontoxic shot zones for bald eagle protection in the 1986–87 waterfowl hunting season.

The WDG subsequently approved the modified eagle protection zones.

The Nisqually Indian Tribe agreed with the Service's proposal to establish nontoxic shot zones for bald eagle protection, and stated its intention to modify its hunting ordinance to conform.

Wisconsin

The Wisconsin Department of Natural Resources (WDNR) pointed out that the ecologically important portions of five of the six Wisconsin counties proposed as nontoxic shot zones for eagle protection were already included within the first zone listed under Wisconsin in the proposed rule. These include Buffalo, Crawford, Grant, Pierce, and Vernon Counties. The Service agrees that this zone will afford adequate protection for bald eagles in these counties. The WDNR requested that the sixth county proposed for eagle protection—Juneau County—not be converted to a nontoxic shot zone until the 1987–88 hunting season, when nontoxic shot will be required for waterfowl hunting statewide in Wisconsin. The Service informed the WDNR that this would not be possible in light of the Service's belief that eagles in this county could presently be subject to lead poisoning. The WDNR subsequently approved the designation of Juneau County as a nontoxic shot zone. The WDNR also concurred with the remainder of the proposed nontoxic shot zones for Wisconsin.

The Great Lakes Indian Fish and Wildlife Commission supported the proposed rule and formulated a Tribal resolution calling for a ban on the use of lead shot for waterfowl hunting in 1986–

87 by Tribal members on off-reservation ceded lands in northern Wisconsin. The resolution is subject to ratification and/or modification by each of the eight Chippewa bands participating in the off-reservation waterfowl hunts.

Wyoming

The Wyoming Game and Fish Department (WGFD) initially informed the Service that it could not approve the Service's proposal to require the use of nontoxic shot in Big Horn and Goshen Counties for bald eagle protection because Wyoming State law (Senate File No. 0145) prohibited the Wyoming Game and Fish Commission from banning the use of lead shot unless it could be documented that a density of shotgun pellets in excess of 20,000 pellets per acre was present. Subsequently, the WGFD informed the Service that the Wyoming legislature amended the law to allow the approval of nontoxic shot zones proposed by the Service. The WGFD requested that the boundaries of the proposed zones be refined to exclude areas where waterfowl hunting and/or eagle use are minimal or nonexistent. Refinements were based on WGFD and Bureau of Land Managment mid-winter bald eagle surveys conducted from 1979 to 1985. The Service agrees with these refinements for Wyoming.

Economic Effect

Executive Order 12291, "Federal Regulation," of February 17, 1981, requires the preparation of regulatory impact anlayses for major rules. A major rule is one likely to result in an annual effect on the economy of $100 million or more; a major increase in costs or prices for consumers, individual industries, government agencies or geographic regions; or significant adverse effects on the ability of United States-based enterprises to compete with foreign-based enterprises. The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 *et seq.*) further requires the preparation of flexibility analyses for rules that will have a significant affect on a substantial number of small entities, which include small businesses, organizations or governmental jurisdictions.

In accordance with Executive Order 12291, a determination has been made that this rule is not a major rule. In accordance with the Regulatory Flexibility Act, a determination has been made that this rule, if implemented without adequate notice, could result in lead shot ammunition supplies for which there would be no local demand. Conversely, nontoxic shot zones could conceivably be established where little or no nontoxic shot ammunition would be available to hunters. The Service believes, however, that adequate notice has been provided and that sufficient supplies of nontoxic shot ammunition will be available to hunters. Therefore, this rule would not have a significant economic affect on a substantial number of small entities.

Paperwork Reduction Act

This rule will not result in the collection of information from, or place recordkeeping requirements on, the public under the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*).

Environmental Considerations

Pursuant to the requirements of Section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(C)), a Final Environmental Statement (FES) on the use of steel shot for hunting waterfowl in the United States was published in 1976. As stated above, a Supplemental Enviromental Impact Statement to the FES was completed in June 1986. Pursuant to the Endangered Species Act, a Section 7 consultation was done on the potential impacts of the provisions of this rule on bald eagles.

Regulations Promulgation

This rule could not be promulgated until the Record of Decision for the SEIS mentioned above had been signed. Because that action could not occur until mid-August 1986, and because certain waterfowl hunting seasons begin on September 1, this rule will become effective on September 1, 1986. The Service finds that "good cause" exists for taking this action, within the terms of 5 U.S.C. 553(d)(3) of the Administrative Procedures Act. The Service believes that the public had ample notice of this rule; the comment period for the proposed rule for the 1986–87 nontoxic shot zones was nearly three months long and a preliminary version of this final rule was published as Appendix O to the Final SEIS (FES 86–16) over one month ago. The imminent approach of the hunting seasons requires a partial waiver of the period set forth in 5 U.S.C. 553(d)(3).

List of Subjects in 50 CFR Part 20

Exports, Hunting, Imports, Transportation, Wildlife.

Accordingly, Part 20, Subchapter B, Chapter I of Title 50 of the *Code of Federal Regulations* is amended as set forth below:

PART 20—[AMENDED]

1. The authority citation for Part 20 continues to read as follows:

Authority: Migratory Bird Treaty Act, sec. 3, Pub. L. 65–186, 40 Stat. 755 (16 U.S.C. 704); sec. 3(h), Pub. L. 95–616, 92 Stat. 3112 (16 U.S.C. 712), unless otherwise noted.

2. Section 20.108 is revised to read as follows:

§ 20.108 Nontoxic shot zones.

The areas described within the States indicated below are designated for the purpose of § 20.21(j) as nontoxic shot zones for waterfowl and coot hunting.

Atlantic Flyway

Connecticut

1. That portion of New Haven and Fairfield Counties bounded by a line beginning at the north end of the breakwater at Milford Point extending south to Stratford Point, north along Prospect Drive and Route 113 to Interstate 95, easterly along I–95 to Naugatuck Avenue, southerly along Naugatuck Avenue and Milford Point Road and continuing along a line extending from the end of Milford Point Road to the north end of the breakwater at Milford Point.

2. That portion of New Haven County along the Quinnipiac River known as the Quinnipiac Meadows beginning at the intersection of Sackett Point Road and I–91, extending south along I–91 to Route 5, northerly along Route 5 to Sackett Point Road, and easterly along Sackett Point Road to I–91.

Delaware

All State and Federally owned property within the following areas:

1. Assawoman State Wildlife Area.
2. Augustine State Wildlife Area.
3. Cedar Swamp State Wildlife Area.
4. Chesapeake and Delaware Canal State Wildlife Area.
5. Gordon's Pond State Wildlife Area.
6. Little Creek State Wildlife Area.
7. Prime Hook State Wildlife Area.
8. Ted Harvey State Wildlife Area.
9. Woodland Beach State Wildlife Area.
10. Cape Henlopen State Park.
11. Delaware Seashores State Park.
12. Bombay Hook National Wildlife Refuge.
13. Prime Hook National Wildlife Refuge.

Florida

1. Brevard, Osceola, Broward, Polk, Dade, Citrus, Collier and Volusia Counties; Leon County (exclusive of Lake Talquin and the Ochlockonee River); Lake Miccosukee in Leon and Jefferson Counties; Orange Lake and Lochloosa Lake in Alachua County; the area lying lakeward of and bounded by the Lake Okeechobee levee, by the State

Road 78, Kissimmee River bridge, and by State Road 78 from its intersection with the Lake Okeechobee levee at points near Lakeport and the Old Sportsman's Village site; Occidental Wildlife Management Area as well as all of the Occidental Chemical Company phosphate pits east of US Highway 41, south of State Road 6, west of State Road 135 and north of White Springs, all in Township 1 north, Ranges 15 and 16 east in Hamilton County comprising approximately 35,000 acres; Lake Ponte Vedra in St. Johns County (all waters north Guana Dam); M-K Ranch public waterfowl area in Gulf County; that portion of Everglades Conservation Area 2 in Palm Beach County; that portion of Lake George lying in Putnam County; that portion of the St. Johns River floodplain lying in Lake, Seminole, and Orange Counties; and that portion of Lake Rousseau lying in Levy and Marion Counties.

2. Chassahowitzka National Wildlife Refuge.

3. Lower Suwannee National Wildlife Refuge.

4. Loxahatchee National Wildlife Refuge.

5. Merritt Island National Wildlife Refuge.

Georgia

1. Eufaula National Wildlife Refuge.

2. Savannah National Wildlife Refuge.

Maine

1. The portions of State Wildlife Management Unit 6 located in Hancock and Washington Counties.

2. The following portion of Washington County: commencing at the junction of State Highway 6 and the Canadian Border at Vanceboro, continuing west on State Highway 6 to the junction of U.S. Highway 1 at Topsfield, thence south on U.S. Highway 1 to where it enters State Wildlife Management Unit 6 at the Baileyville-Baring town lines.

Maryland

1. Dorchester County.

Massachusetts

1. Plum Island.

2. Parker River National Wildlife Refuge.

New Jersey

1. That portion of the State bounded on the north by the Shark River, on the west by the Garden State Parkway, on the south by the Cape May Canal, and on the east by the Atlantic Ocean. This zone includes Edwin B. Forsythe National Wildlife Refuge.

New York

All waters (including bays, lakes, ponds, marshes, swamps, rivers, streams, and ocean waters but not including temporary or sheet water) and all land areas within 150 yards of all waters of the following portions of New York:

1. That part of upstate New York west of I-81 that is north of I-90, and within a 150-yard zone of land adjacent to the margins of said waters in those areas, but not to include drainage ditches and temporary sheet waters outside the 150-yard zone of land adjacent to the margins of aforesaid waters, nor the waters of the Niagara River north of the Peace Bridge and the waters of Lake Ontario, outside the barrier beach, from the mouth of the Niagara River in Niagara County to Tibbets Point in Jefferson County but not to include the Henderson Bay-Black River Bay area east of a line running from Snowshoe Point on Henderson Harbor to Pillar Point on the southward portion of Pillar Point Peninsula. This zone includes Iroquois and Montezuma National Wildlife Refuges.

2. That part of Nassau County south of Route 27 that is west of Wantagh Parkway and its southerly extension to the Atlantic Ocean.

3. Oneida Lake and adjacent areas bounded on the north by Route 49, on the east by Route 13, on the south by Route 31 and on the west by I-81.

4. Bashakill Wildlife Management Area in Sullivan and Orange Counties.

5. Upper and Lower Lakes Wildlife Management Area in St. Lawrence County.

6. Wilson Hill Wildlife Management area in St. Lawrence County.

7. That area including and adjacent to the Hudson River south of an imaginary line extending perpendicular from the east and west shores and passing through the fixed marker number 13 in the river near Lampman Hill in the Town of Coxsackie, and north of an imaginary line extending perpendicular from the east and west shores and passing through buoy number 28 in the river near Tyler Point in the Town of Ulster.

North Carolina

1. Cedar Island National Wildlife Refuge.

2. Mattamuskeet National Wildlife Refuge.

3. Swanquarter National Wildlife Refuge.

4. Cape Hatteras National Seashore Recreation Area.

Pennsylvania

1. Crawford County, Middle Creek Wildlife Management Area in Lancaster and Lebanon Counties, and the waters of the Susquehanna River beginning at the confluence of the North and West branches at Northumberland and continuing southward to the Maryland-Pennsylvania State boundary and including a 25-yard zone of land adjacent to the waters of the Susquehanna River that are described above. This zone includes Erie National Wildlife Refuge.

Rhode Island

1. That portion of Washington County lying south and east of U.S. Route 1 but excluding Block Island and the waters of Block Island Sound and Narragansett Bay.

2. The Great Swamp Dike and Waterfowl Impoundment within the Great Swamp Management Area in South Kingstown.

South Carolina

1. Savannah National Wildlife Refuge.

Vermont

1. Missisquoi National Wildlife Refuge.

Mississippi Flyway

Alabama

1. Eufaula National Wildlife Refuge.

Arkansas

1. The Halowell Reservoir portion of Bayou Meto Wildlife Management Area.

2. Lake Dardanelle Wildlife Management Area.

3. Millwood Lake Wildlife Management Area.

4. White River National Wildlife Refuge.

Illinois

1. Mississippi River—

A. That portion of the Mississippi River and adjacent areas as bordered on the north by the Wisconsin State line and bordered on the east and south by IL-35 from the Wisconsin State line southwest to East Dubuque, US-20 from East Dubuque southeast to IL-84, IL-84 south to IL-136 near Fulton, Federal-Aid Secondary Route 1193 (Chase Road and Sand Road) south to IL-5, IL-5 southwest to I-80, I-80 south to I-280 west to IL-92, and IL-92 west to the bridge over the Mississippi River.

B. That portion of the Mississippi River and adjacent areas as bordered on the north by the railroad bridge at Keithsburg and bordered on the east and south by Federal-Aid Secondary

Route 216 from Keithsburg south to IL-164, IL-164 west to Oquawka and south to US-34, US-34 southwest to Federal Aid Secondary Route 418, Federal Aid Secondary Route 418 south through Carman to Lomax, IL-96 from Lomax southwest to Niota then southward through Nauvoo and Hamilton to Lima, Federal-Aid Secondary Route 2597 from Lima west to County Highway 7, County Highway 7 south to County Highway 8 and County Highway 8 west to Meyer at Lock and Dam 20.

C. The Bear Creek Unit of Mark Twain National Wildlife Refuge in Adams County.

D. That portion of the Mississippi River and adjacent areas as bordered on the north by US-36 and bordered on the east (or inland) by IL-96 from US-36 south to Mozier, Federal-Aid Secondary Route 755 from Mozier south through Hamburg, Gilead, Batchtown, and Beechville to Federal-Aid Secondary Route 764 approximately 1 mile west of Golden Eagle, Federal-Aid Secondary Route 764 east to Golden Eagle and north to Federal-Aid Secondary Route 754 (County Highway 1), Federal-Aid Secondary Route 754 east to the Brussels Ferry on the Illinois River, and IL-100 from the Brussels Ferry east to Grafton.

E. Upper Mississippi River Wild Life and Fish Refuge.

2. Illinois River—

A. That portion of the Illinois River and adjacent areas as bordered on the north and west by IL-29 from Spring Valley west to DePue and south to Peoria, US-24 from Peoria southwest to Fulton County, all of Fulton County, IL-100 from Fulton County southwest to US-67, IL-103 from US-67 west to Sugar grove, Federal-Aid Secondary Route 582 from Sugar Grove south through LaGrange to IL-99, and IL-99 southeast to Meredosia, and bordered on the east and south by IL-89 from Spring Valley south to IL-71, IL-71 west to IL-26, IL-26 south to East Peoria, IL-29 from East Peoria south to Powerton, Federal-Aid Secondary Route 461 from Powerton west and south through Manito and Forest City to US-136, US-136 west to Havana, IL-78 from Havana south to Chandlerville, Federal-Aid Secondary Route 577 from Chandlerville west to Beardstown, IL-100 from Beardstown south to IL-104, and IL-104 west to Meredosia.

B. That portion of the Illinois River and adjacent areas as bordered on the west by IL-100 from the ferry at Kampsville south to Hardin, Federal-Aid Secondary Route 754 (County Highway 1) from Hardin south to Brussels and east to the Brussels Ferry, and bordered on the north and east by IL-108 from the ferry at Kampsville east to Eldred, Federal-Aid Primary Route 155 from Eldred south to IL-100, and IL-100 south to the Brussels Ferry.

3. Southern Illinois Quota Zone—

All waters and lands in Alexander, Union, Jackson, and Williamson Counties, including Crab Orchard National Wildlife Refuge.

4. Rend Lake—

Rend Lake and related subimpoundments, and all adjacent lands managed by the U.S. Army Corps of Engineers and the Illinois Department of Conservation.

Indiana

1. On all waters of Lake, Porter (except that area south of U.S. 30 and north of S.R. 8), LaPorte, Newton (north of S.R. 114), Jasper (north of S.R. 114), Starke, Elkhart, Kosciusko, LaGrange, and Steuben Counties and within 150-yard zone of land in these counties adjacent to the margins of these waters. This includes lakes, ponds, marshes, swamps, rivers, streams, and seasonally flooded areas of all types. Excluded from these provisions are the waters of Lake Michigan and drainage ditches and temporary sheet waters that are more than 150 yards from the waters described above.

2. All waters and within a 150-yard zone of land adjacent to the margins of these waters on the Jasper-Pulaski, Tri-County, and Glendale Fish and Wildlife Areas.

3. Within the boundaries of the following State-owned or State-operated properties: Hovey Lake Fish and Wildlife Area in Posey County, Mallard Roost Wetland Conservation Area in Noble County, Monroe Reservoir in Monroe and Brown Counties, Patoka Reservoir in Dubois, Crawford and Orange Counties, Turtle Creek State Fish and Wildlife Area in Sullivan County, and Minnehaha Fish and Wildlife Area in Sullivan County.

4. Within the proposed boundaries of the Menominee Wetlands Conservation Area in Marshall County.

Iowa

1. On all lands and waters under the jurisdiction of the State Conservation Commission, the United States Government, or any county conservation board. Also on all waters and a 150-yard zone of land adjacent to these waters, including reservoirs, lakes, ponds, marshes, bayous, swamps, rivers, streams, and seasonally flooded areas of all types, except that temporary sheet water, farm ponds smaller than two surface acres in size, and streams with the water less than 25 feet in average width at the site where the hunting is occurring shall be excluded from the steel shot requirement, provided they are at least 150 yards from the water areas described above. Included in this zone are DeSoto, Mark Twain, and Union Slough National Wildlife Refuges and Upper Mississippi River Wild Life and Fish Refuge.

Kentucky

1. Western Zone—That area west of a line beginning at the Kentucky-Tennessee border at Fulton, Kentucky, and running northeast along the Purchase Parkway to Interstate 24, east to U.S. Highway 641, north to U.S. Highway 60, north to U.S. Highway 41, then north to the Kentucky-Indiana border near Henderson, Kentucky.

Louisiana

1. Lacassine National Wildlife Refuge.
2. Sabine National Wildlife Refuge.

Michigan

1. Eastern Upper Peninsula—

A. That area of Chippewa County within the following described boundary: Starting at the SW corner of Sec. 33, T44N, R1E on a line extending north 4 miles along the west side of Secs. 33, 29, 21, and 16 to the NW corner of Sec. 16, T44N, R1E; then east 1½ miles to the S quarter corner of Sec. 10, T44N, R1E; then north 1 mile to the N quarter corner of Sec. 10, T44N, R1E; then east ½ mile to the SE corner of Sec. 2, T44N, R1E; then north 1 mile to the NW corner of Sec. 2, T44N, R1E; then east along the north section lines of Secs. 1 and 2, T44N, R1E and Secs. 4, 5, and 6, T44N, R2E, to the NE meander corner of Sec. 4, T44N, R2E; then on a line southerly across Munuscong Lake to the NE meander corner of Sec. 28, T44N, R2E; then south on the E section lines of Secs. 28 and 33, T44N, R2E to the SE corner of Sec. 33, T44N, R2E; then west 7 miles along the south section line of Sec. 33, 32, and 31, T44N, R2E, and Secs. 36, 35, 34, and 33, T44N, R1E, to the point of beginning—the area the same as that named the "Munuscong Bay Goose Management Area."

B. The waters of Potagannissing Wildlife Flooding on Drummond Island.

2. Houghton Lake—

A. That area of water and land encompassing Houghton Lake, Roscommon County, described by road boundaries as follows: south of Meads Landing Road, County 300 and County 100; west of M-18; north of M-55; and east of US-27.

3. Saginaw Bay—

A. That area of Arenac, Bay, Tuscola, and Huron Counties south of US-23; east of M-13; north of M-25; south of

Cresent Beach Road (Caseville Township, Huron County); southwest of a line from the tip of Sand Point (Section 11, T17N R9E, Huron County) to Point Lookout (Section 13, T19N R7E, Arenac County); and Shore Road (Sims Township, Arenac County).

B. On all lands and waters within the posted boundaries of the following State or Federal management areas: Crow Island State Game Area (Bay and Saginaw Counties), Shiawassee River State Game Area (Saginaw County), and Shiawassee National Wildlife Refuge (Saginaw County).

4. Central Michigan—

A. That area of land and water encompassing the controlled water level impoundments (wetlands wildlife management units) of the Maple River State Game Area adjacent to US–27 in Gratiot County, as posted.

5. Southeastern Michigan——

A. That area of Jackson County (north of I–95 and east of M–106); Ingham County (east of M–106/M–52 and south of M–36); Livingston County (south of M–36, east of M–155, and south of M–59); Oakland County (south of M–59, west of US–24 [Telegraph Road], north of I–96, and west of I–275); Wayne County (west of I–275 and north of M–14); Washtenaw County (north of M–14 and I–94); and St. Clair, Macomb, Wayne and Monroe Counties east of I–94 and I–75 including the U.S. waters of the St. Clair River, Lake St. Clair, the Detroit River, and Lake Erie.

B. On all lands and waters within the posted boundaries of the U.S. Fish and Wildlife Service Schlee Waterfowl Production Area located in Section 6, T3S R2E of Grass Lake Township, Jackson County.

6. Southwestern Michigan—

A. That area of water and land encompassing Muskegon, Ottawa, and Kalamazoo Counties, and Allegan County west of US–131, including the waters of Lake Michigan lakeward for one-half mile from the shore. All county boundary waters and lakes partially within the steel shot zone are totally included.

Minnesota

1. All State Wildlife Management Areas and all Federal Waterfowl Production Areas.

2. On the waters of Swan and Middle Lakes in Nicollet County, North and South Heron Lakes in Jackson County, Pelican Lake in Wright County, Bear Lake in Freeborn County, and Christina Lake in Douglas and Grant Counties, and within a 150-yard zone of land adjacent to the margins of the above lakes.

3. Beginning at the intersection of the midline of the Mississippi River and U.S. Highway 61 at Hastings, thence southerly along U.S. Highway 61 to State Trunk Highway 16 at LaCrescent, thence southerly along State Trunk Highway 16 to State Trunk Highway 26, thence southerly along State Trunk Highway 26 to the southern boundary of the State, thence along the southern and eastern boundaries of the State to the confluence of the St. Croix and Mississippi Rivers, thence along the midline of the Mississippi River to the point of beginning. This zone includes the Upper Mississippi River Wild Life and Fish Refuge.

4. Lac qui Parle Zone: Beginning at the intersection of U.S. Highway 212 and County State Aid Highway (CSAH) 27, Lac qui Parle County; thence along CSAH 27 to CSAH 20, Lac qui Parle County; thence along CSAH 20 to State Trunk Highway (STH) 40; thence along STH 40 to STH 119; thence along STH 119 to CSAH 34, Lac qui Parle County; thence along CSAH 34 to CSAH 19, Lac qui Parle County; thence along CSAH 19 to CSAH 38, Lac qui Parle County; thence along CSAH 38 to U.S. Highway 75; thence along U.S. Highway 75 to STH 7; thence along STH 7 to CSAH 6, Swift County; thence along CSAH 6 to County Road 65, Swift County; thence along County Road 65 to County Road 34, Chippewa County; thence along County Road 34 to CSAH 12, Chippewa County; thence along CSAH 12, to CSAH 9, Chippewa County; thence along CSAH 9 to STH 7; thence along STH 7 to Montevideo; thence along the municipal boundary of Montevideo to U.S. Highway 212; thence along U.S. Highway 212 to the point of the beginning.

5. Minnesota Valley National Wildlife Refuge.

6. Sherburne National Wildlife Refuge.

7. Tamarac National Wildlife Refuge.

8. Chippewa Indian lands on the Mille Lacs Reservation in Aitkin, Crow Wing, Mille Lacs, and Pine Counties.

Mississippi

1. Hillside National Wildlife Refuge.

2. Mathews Brake National Wildlife Refuge.

3. Morgan Brake National Wildlife Refuge.

4. Noxubee National Wildlife Refuge.

5. Panther Swamp National Wildlife Refuge.

Missouri

1. The northwest Missouri area, west of Interstate Highway 29 from St. Joseph to the Iowa State line.

2. The Swan Lake zone, bounded by U.S. Highway 36 on the north, Missouri Highway 5 on the east, Missouri Highway 240 and U.S. Highway 65 on the south, and U.S. Highway 65 on the west. This zone includes Swan Lake National Wildlife Refuge.

3. The northeast Missouri area, north of the Missouri River from its confluence with the Mississippi River west to U.S. Highway 61, then east of U.S. Highway 61 to Hannibal. This zone includes Mark Twain National Wildlife Refuge.

4. The southwest Missouri area, bounded by Missouri Highway 2 on the north, Missouri Highway 13 on the east, U.S. Highway 54 on the south, and U.S. Highway 71 on the west.

5. The southeast Missouri area, bounded by Missouri Highway 34 on the north, Missouri Highways 51, 91 and 25 on the east, U.S. Highways 62 on the south, and U.S. Highway 67 and Missouri Highway 53 on the west. This zone includes Mingo National Wildlife Refuge.

6. The following State Wildlife Management Areas: Ben Cash, Bob Brown, Coon Island, Dark Cypress, Duck Creek, Fountain Grove, Four Rivers, Grand Pass, Hornersville Swamp, Marais Temps Clair, Montrose, Otter Slough, Schell-Osage, Seven Island, Ted Shanks, and Ten Mile Pond. (Note: These areas may lie within the zones described under numbers 1–5 above.)

Ohio

1. On the Maumee River in Wood County, and on all waters of Erie, Ottawa, Sandusky, Cuyahoga, Wayne, Holmes, and Lucas Counties and within a 150-yard zone of land adjacent to the margins of these waters. These waters include lakes, ponds, marshes, swamps, rivers, streams, and seasonally flooded areas of all types. Drainage ditches and temporary sheet water more than 150 yards from the water areas described are excluded from the nontoxic shot requirements. This zone includes Ottawa National Wildlife Refuge.

Tennessee

1. Lake and Obion Counties.

2. Cross Creeks National Wildlife Refuge.

3. Hatchie National Wildlife Refuge.

4. Lower Hatchie National Wildlife Refuge.

Wisconsin

1. That portion of the State lying west of the Burlington Northern Railway in Pierce, Pepin, Buffalo, Trempealeau, La Crosse, Vernon, Crawford and Grant Counties and all signed Federal lands lying east of such railway in these same counties. This zone includes Trempealeau National Wildlife Refuge

and Upper Mississippi River Wildlife and Fish Refuge.

2. All waters in the Counties of Calumet, Columbia, Dodge, Fond du Lac, Green, Jefferson, Kenosha, Lake, Manitowoc, Marquette, Milwaukee, Outagamie, Ozaukee, Racine, Sheboygan, Walworth, Waukesha, Winnebago, Washington, Waupaca and those portions of Oconto and Marinette Counties east of U.S. Highway 41, Waushara County east of Highway 49 and that portion of Brown County lying northwest of the Fox River and east of U.S. Highway 141, and the Brown County islands in Green Bay and including the west 1,000 feet of Green Bay waters, and within a 150-yard zone of land adjacent to the margins of these waters, except that in the Horicon and Central goose management zones. The waters referred to above include lakes, ponds, marshes, swamps, rivers, streams, and seasonally flooded areas of all types. Drainage ditches and temporary sheet water more than 150 yards from the water areas described above and the open water of Lake Michigan and Green Bay are excluded from the nontoxic shot requirements. All county boundary waters and lakes partially within a nontoxic shot zone are totally included.

3. On any State Wildlife Area within the zones described above, nontoxic shot is required for hunting waterfowl anywhere on State-owned lands or waters within the boundaries of said Wildlife Area and on the following State-owned Wildlife Areas which are not within the zones described: Mead Wildlife Area in Marathon, Wood, and Portage Counties; Wood County Wildlife Area and Sandhill Wildlife Area in Wood County; and Meadow Valley Wildlife Area in Juneau and Monroe Counties.

4. Juneau County.

5. Horicon National Wildlife Refuge.

6. Necedah National Wildlife Refuge.

Central Flyway

Colorado

1. Weld and Morgan Counties.

Kansas

1. Barton, Coffey, Cowley, Doniphan, Ellswotth, Jefferson, Mitchell, and Stafford Counties.

2. All areas administered by the Kansas Fish and Game Commission, U.S. Army Corps of Engineers, and U.S. Bureau of Reclamation, including those within the boundaries of the above counties.

3. Flint Hills National Wildlife Refuge.

4. Kirwin National Wildlife Refuge, Kirwin Reservoir, and all U.S. Bureau of Reclamation lands adjacent to Kirwin Reservoir.

5. Quivira National Wildlife Refuge.

Montana

1. Yellowstone County.

Nebraska

1. Statewide, including Valentine National Wildlife Refuge.

New Mexico

1. That area bounded by a line beginning at the northeast corner of the Bosque del Apache National Wildlife Refuge (BNWR) boundary and running east to the road joining the White Sands Missile Range Military Reservation Extension Co-Use (WSMRMREC) boundary from the northwest, thence southeast along the road to its junction with the WSMRMREC boundary, thence north, east, and west along the WSMRMREC boundary to its junction with the Sevilleta National Wildlife Refuge (SNWR), thence north and east along the boundary of the SNWR to its intersection with U.S. Highway 60, thence west along U.S. Highway 60 to its junction with State Highway 47, thence north along State Highway 47 to its intersection with the Isleta Indian Reservation, thence west and south along the southern boundary of the Isleta Indian Reservation to its intersection with Interstate Highway 25, thence south along Interstate Highway 25 to its junction with the SNWR boundary, thence following the SNWR boundary west, north, then south and east to Interstate Highway 25, thence south along Interstate Highway 25 to its junction with BNWR boundary and following the BNWR boundary west, southwest, southeast, east, and northeast to the northeast corner of BNWR. This zone includes Belen, Bernardo, and La Joya State Game Refuges.

2. That area bounded by a line starting at the junction of State Highway 3 and State Highway 21 and running northeast along State Highway 21 to its junction with Coyote Creek; thence southeast along Coyote Creek to its junction with the Mora River; thence westerly along the Mora River to its junction with State Highway 161; thence north and west along State Highway 161 to its intersection with State Highway 3 and north on State Highway 3 to its junction with State Highway 21.

3. Colfax County.

4. The designated portions of Bitter Lake and Las Vegas National Wildlife Refuges, and the Santa Fe Spillway Basin Marsh.

5. Artesia State Waterfowl Management Area.

6. McAllister State Game Refuge.

7. Salt Lake State Game Refuge.

Oklahoma

1. U.S. Highway 77 from the Kansas border south to U.S. Highway 177, U.S. Highway 177 south to State Highway 15, State Highway 15 east to State Highway 18, State Highway 18 south to U.S. Highway 64, U.S. Highway 64 east to State Highway 99, State Highway 99 south to State Highway 51, State Highway 51 east to State Highway 97, State Highway 97 north to its junction with unnamed county roadway, northwestwardly on the county roadway to its junction with State Highway 20, State Highway 20 west to State Highway 18, State Highway 18 north to the Kansas border.

2. Interstate 40 from the Arkansas border west to State Highway 82, State Highway 82 north to State Highway 100, State Highway 100 west to State Highway 10A, State Highway 10A west to State Highway 10, State Highway 10 north to State Highway 80, State Highway 80 north to State Highway 251A, State Highway 251A southwest to Muskogee Turnpike, Muskogee Turnpike south to Interstate 40, Interstate 40 west to U.S. Highway 69, U.S. Highway 69 north to U.S. Highway 266, U.S. Highway 266 west to U.S. Highway 62, U.S. Highway 62 south to Indian Nation Turnpike, Indian Nation Turnpike south to U.S. Highway 270, U.S. Highway 270 east to State Highway 2, State Highway 2 north to State Highway 31, State Highway 31 west to State Highway 71, State Highway 71 north to State Highway 9, State Highway 9 to State Highway 9A, and State Highway 9A north and east to the Arkansas border. This zone includes Sequoyah National Wildlife Refuge.

3. State Highway 78 from the Texas border north and west to U.S. Highway 75, U.S. Highway 75 north to State Highway 78, State Highway 78 west to State Highway 22, State Highway 22 north and west to its junction with State Highway 12 at Ravia, south and west on State Highway 12 to State Highway 199 to State Highway 99C near Oakland, south and west on State Highway 99C and State Highway 32 to the junction of Interstate Highway 35 near Marietta, south down Interstate Highway 35 to the Texas border. This zone includes Tishomingo National Wildlife Refuge.

4. Washita National Wildlife Refuge.

South Dakota

1. In the following areas, nontoxic shot must be used by all hunters:

A. That portion of Hughes County lying west and north of U.S. Highway 83 and lying south of U.S. Highway 14.

B. That portion of Stanley County lying east and north of the Lower Brule-Antelope Creek Road from the Lyman-Stanley County line to Fort Pierre and that portion of Stanley County lying north of State Highway 34 for approximately five miles west of Fort Pierre and east of Stanley County Federal Aid Secondary Highway 6193 and State Highway 1806 to Minneconjou Bay.

C. On or within 100 yards of the water's edge of Lake Andes in Charles Mix County.

D. Those portions of Bon Homme, Charles Mix, and Gregory Counties lying on or within 100 yards of the water's edge of the Missouri River, from Fort Randall Dam downstream to the Bon Homme—Yankton County line.

2. In the following areas, nontoxic shot must be used by all hunters except those under 16 years of age using 16 gauge, 28 gauge, or .410 caliber shotguns, and those using muzzle-loading shotguns:

A. Those portions of Potter and Sully Counties lying west of U.S. Highway 83; that portion of Hyde County lying south of U.S. Highway 14 and west of Hyde County Federal Aid Secondary Highway 6547 (commonly called the Holabird Grade) and that portion of Hyde County lying south of U.S. Highway 34 and west of State Highway 47; that portion of Buffalo County lying west of State Highway 47; that portion of Lyman County lying east and north of the Lower Brule-Antelope Creek Road from State Highway 47 to the Lyman-Stanley County line.

B. Those portions of Clay, Union, and Yankton Counties lying on or within 100 yards of the water's edge of the Missouri River, from the Bon Homme-Yankton County line downstream to the Iowa border, including Lake Yankton and all islands and bars.

C. On or within 100 yards of Grupe Slough State Game Bird Refuge in Marshall County.

Texas

1. That area lying within boundaries beginning at the Louisiana State line, thence westward along IH 10 to the junction of U.S. Highway 90 and IH 10 in Beaumont, thence westward along U.S. 90 to its junction with IH 610 in Houston, thence north and west along IH 610 to its junction with U.S. Highway 290 in Houston, thence westward along U.S. Highway 290 to its junction with State Highway 159 in Hempstead, thence southwestward along State Highway 159 to its junction with State Highway 36 in Bellville, thence eastward along State Highway 36 to its junction with FM 2429, thence southward along FM 2429 to its junction with FM 949, thence southwestward along FM 949 to its junction with IH 10, thence westward along IH 10 to its junction with U.S. Highway 77 at Schulenburg, thence southward along U.S. Highway 77 to its junction with the U.S.-Mexico international boundary at Brownsville, thence eastward along the U.S.-Mexico international boundary to the Gulf of Mexico, thence east and seaward to the three marine league limit, thence northeastward along the three marine league limit to the Louisiana State line, thence northward along the Texas-Louisiana State line to its junction with IH 10. This zone includes Anahuac, Big Boggy, Brazoria, Matagorda Island, McFaddin, San Bernard, and Texas Point National Wildlife Refuges.

2. The portions of Grayson, Fannin and Cooke Counties lying within boundaries beginning at the Oklahoma State line, thence southward along I-35 to its junction with U.S. Highway 82 at Gainesville, thence eastward along U.S. Highway 82 to its junction with State Highway 78 at Bonham, thence northward along State Highway 78 to its junction with the Oklahoma State line, thence westward along the Oklahoma-Texas State line to its junction with I-35.

3. The portions of Upshur, Cass, Harrison, Morris, and Marion Counties lying within boundaries beginning at the Louisiana State line, thence westward along State Highway 49 to its junction with U.S. Highway 259 at Daingerfield, thence southward along U.S. Highway 259 to its junction with State Highway 450 at Ore City, thence eastward on State Highway 450 to its junction with State Highway 154 at Harleton, thence southeastward along State Highway 154 to its junction with U.S. Highway 80 at Marshall, thence eastward along U.S. Highway 80 to its junction with State Highway 43, thence northeastward along State Highway 43 to its junction with Farm-to-Market Road (FM) 2682 at Karnack, thence eastward along FM 2682 to its junction with FM 134, thence southward along FM 134 to its junction with FM 1999 at Leigh, thence eastward along FM 1999 to its junction with the Louisiana State line, thence northward along the Louisiana-Texas border to its junction with State Highway 49.

4. The portions of Henderson, Kaufman, and Anderson Counties lying within boundaries beginning at the junction of State Highway 31 and FM 2661, thence westwardly along State Highway 31 to its junction with U.S. Highway 175 at Athens, thence northwestward along U.S. Highway 175 to its junction with FM 90, thence northward along FM 90 to its junction with FM 1391, thence westward along FM 1391 to its junction with U.S. Highway 175 at Kemp, thence southward along U.S. Highway 175 to its junction with State Highway 274, thence south along State Highway 274 to its junction with State Highway 31 at Trinidad, thence eastward along State Highway 31 to its junction with FM 3441 at Malakoff, thence southward along FM 3441 to its junction with FM 59 at Cross Roads, thence southward along FM 59 to its junction with U.S. Highway 287 at Cayuga, thence southeastward along U.S. Highway 287 to its junction with FM 860, thence northward along FM 860 to its junction with FM 837, thence northeastward along FM 837 to its junction with U.S. Highway 175 at Frankston, then eastward along U.S. Highway 175 to its junction with FM 855, thence northward along FM 855 to its junction with FM 346, thence northward along FM 346 to its junction with FM 344, thence northward along FM 344 to its junction with FM 2661, thence northward along FM 2661 to its junction with State Highway 31.

Wyoming

1. Big Horn County: Along and within one mile either side of the water line of the Big Horn River, Yellowtail Reservoir, Shoshone River, Nowood River, and portions of Medicine Lodge Creek and Paintrock Creek where they flow into the Nowood River, beginning from their confluence to where they flow from the mountains.

2. Goshen County:

A. North Platte River/Laramie River—Beginning where U.S. Highway 26 crosses the Wyoming-Nebraska State line; south along said State line to Goshen County Road No. 7-108; west along said road to Wyoming Highway 92; west, then northerly along said highway to U.S. Highway 85; northerly along said highway to Wyoming Highway 156; westerly and northerly along said highway to Goshen County Road No. 7-62; westerly along said road to the Fort Laramie Canal Road; northwesterly along said road to Goshen County Road No. 7-48; southwesterly along said road to the Goshen-Platte County line; north along said line to U.S. Highway 26; southeast along said highway to the point of beginning.

B. Table Mountain—Beginning where Wyoming Highway 92 intersects Wyoming Highway 158; south along said highway to Goshen County Road No. 7-171; west along said road to the Fort Laramie Canal Road; northwesterly along said road to Goshen County Road

No. 7–160; east along said road to Goshen County Road No. 7–166; north along said road to Goshen County Road No. 7–114; east along said road to Wyoming Highway 92; east along said highway to the point of beginning.

C. Hawk Springs—Beginning where Goshen County Road No. 7–184 intersects Goshen County Road No. 7–187; south along said road to Goshen County Road No. 7–188; west, then south along said road to Horse Creek; northwesterly along said creek to Goshen County Road No. 7–184; southeasterly along said road to the point of beginning.

D. Springer—Beginning where Wyoming Highway 154 intersects U.S. Highway 85; south along said highway to Goshen County Road No. 7–138; west along said road to Goshen County Road No. 7–129; north along said road to Wyoming Highway 154; east along said highway to the point of beginning.

Pacific Flyway

Arizona

1. Game Management Unit 5B, Upper Lake Mary, Lower Lake Mary, and Mormon Lake.

2. Cibola National Wildlife Refuge.

3. Hopi Indian Reservation lands in Coconino and Navajo Counties.

4. Navajo Indian Reservation lands in Apache, Coconino and Navajo Counties.

California

1. Sacramento Refuge Complex Zone. Sacramento National Wildlife Refuge in Glenn and Colusa Counties, Delevan National Wildlife Refuge in Colusa County, Colusa National Wildlife Refuge in Colusa County, and Sutter National Wildlife Refuge in Sutter County.

2. Northeastern Zone. Those portions of Siskiyou, Shasta, Sierra, Tehama, and Plumas Counties, and all of Lassen and Modoc Counties, bounded by the following line: Beginning at I–5 at the Oregon border, southerly on I–5 to State Highway, 89, thence southeasterly on State Highway 89 to State Highway 70, thence easterly on State Highway 70 to US 395, thence southerly on US 395 to the Nevada border. This zone includes Lower Klamath, Tule Lake, Modoc, and Clear Lake National Wildlife Refuges.

3. Cibola National Wildlife Refuge Zone. Those portions of Cibola National Wildlife Refuge in Imperial County.

4. Grizzly Island Wildlife Management Area Zone. Grizzly Island Wildlife Management Area in Solano County.

Colorado

1. Montrose County.

Idaho

1. Southeastern Zone.

Those portions of Cassia, Power, Bannock, Bonneville, Bingham, Madison, Jefferson, and Caribou Counties bounded by the following line: Beginning at Sage Junction (I–15 and State Highway 33), thence southerly on I–15 to State Highway 39, thence southwesterly along State Highway 39 to American Falls Dam and the Union Pacific Railroad track, thence westerly along the Union Pacific track to the Power-Blaine County line, thence southerly along said line and continuing due south through Cassia County to I–86 (approximately at the Raft River Junction), thence easterly along I–86 to the west boundary of the Fort Hall Indian Reservation, thence following the Reservation boundary to include all lands and waters within the Reservation lying south and east of I–86 and US–91 (including all waters of the Blackfoot River bordering the Reservation), thence commencing northeasterly on US 91 at the northern boundary of the Reservation to Idaho Falls, thence northerly on US 20 to Rexburg, thence westerly on State Highway 33 to point of origin. This zone includes portions of Minidoka National Wildlife Refuge and all lands and waters within the Fort Hall Indian Reservation.

2. Southwestern Zone.

Those portions of Elmore, Ada, Canyon, Payette, and Owyhee Counties bounded by the following line: Beginning at the intersection of State Highway 78 and I–84 near Hammett, thence northwesterly along I–84 to the Idaho-Oregon State line, thence southerly along the Idaho-Oregon State line to State Highway 19, thence easterly along State Highway 19 to US–95, thence southerly on US–95 to State Highway 55, thence easterly on State Highway 55 to State Highway 78, thence southeasterly on State Highway 78 to the point of beginning. This zone includes Deer Flat National Wildlife Refuge.

3. Northern Zone.

All of Boundary, Bonner, and Kootenai Counties, including Kootenai National Wildlife Refuge.

Montana

1. Flathead, Lake, Lewis and Clark, and Sanders Counties, including Swan River National Wildlife Refuge and Confederated Salish and Kootenai Indian Tribal lands on the Flathead Reservation.

2. Benton Lake National Wildlife Refuge.

3. Red Rock Lakes National Wildlife Refuge.

Nevada

1. Ruby Lake National Wildlife Refuge.

2. Stillwater Wildlife Management Area.

New Mexico

1. San Juan County.

Oregon

1. Southcentral Zone.

All of Klamath County, excluding Davis Lake, and that portion of Lake County lying west of Highway 395. This zone includes Lower Klamath, Upper Klamath and Klamath Forest National Wildlife Refuges.

2. Lower Columbia River Zone.

Those portions of Multnomah, Columbia, and Clatsop Counties bounded by the following line: Beginning at the Bonneville Dam, westerly on Highway I–84 to Portland, thence northwesterly on US 30 to the Astoria bridge, thence partially across Astoria bridge to the Oregon-Washington State line, thence upriver on the Washington-Oregon State line to point of origin. This zone includes Lewis and Clark National Wildlife Refuge and Sauvie Island Wildlife Management Area.

3. Malheur County Zone.

That portion of Malheur County bounded by a line beginning at I–84 at the Oregon-Idaho State line, thence northwesterly on I–84 to State Highway 201, thence southerly on State Highway 201 to State Highway 19, thence easterly on State Highway 19 to the Oregon-Idaho State line, thence along the Oregon-Idaho State line to the point of beginning. This zone includes the Snake River Unit of Deer Flat National Wildlife Refuge.

4. Willamette Valley Zone.

Baskett Slough National Wildlife Refuge in Polk County, Ankeny National Wildlife Refuge in Marion County, and William L. Finley National Wildlife Refuge in Benton County.

5. Columbia Basin Zone.

Those portions of Gilliam, Morrow, and Umatilla Counties bounded by the following line: Beginning at the town of Arlington on I–84, thence easterly on I–84 to US–730, thence northeasterly on US–730 to the Oregon-Washington State border, thence westerly along the Columbia River, Oregon-Washington border to point of origin. This zone includes Umatilla National Wildlife Refuge.

Utah

1. Utah and Weber Counties.

2. That portion of Box Elder County lying east of a line extending from 80N at the Utah-Idaho border, thence southeast on 80N to the junction of the Snowville-Locomotive Springs Road, thence southwest on the Snowville-

Locomotive Springs Road to the junction of the Kelton Road, thence west on Kelton Road to the town of Kelton, thence south to the north shore of the Great Salt Lake, thence south along the west shore of the Great Salt Lake to the Box Elder County line. This zone includes Bear River Migratory Bird Refuge.

Washington

1. Southwestern Zone.

Those portions of Skamania, Clark, Cowlitz, Wahkiakum, Grays Harbor, and Pacific Counties south and west of the following line: Beginning at the Bonneville Dam, westerly on State Highway 14 to Vancouver, thence northerly on I-5 to Kelso, thence westerly on State Highway 4 to US 101, thence northerly on US 101 to Aberdeen, thence westerly on State Highway 109 to Ocean City, thence due west to the Pacific Ocean. This zone includes Ridgefield, Willapa, and Columbian Whitetailed Deer National Wildlife Refuges.

2. Puget Sound Zone.

Those portions of Whatcom, Skagit, San Juan, Island, Clallam, Jefferson, Kitsap, Mason, Thurston, Pierce, King, and Snohomish Counties bounded by the following line: Beginning at I-5 on the Washington-British Columbia, Canada border, thence west, southerly and westerly along said border to a point due north of Neah Bay, thence due south to Neah Bay, thence easterly on State Highway 112 to US-101, thence easterly and southerly on US-101 to I-5, thence northerly on I-5 to State Highway 538 near Mt. Vernon, thence easterly on State Highway 538 to State Highway 9, thence northerly on State Highway 9 to State Highway 20, thence westerly on State Highway 20 to I-5, thence northerly on I-5 to point of origin.

3. Columbia Basin Zone.

Those portions of Benton, Klickitat, Franklin, Adams, Grant, Yakima, Chelan, Kittitas, Douglas, Lincoln, Okanogan, and Walla Walla Counties bounded by the following line: Beginning at the Washington-Oregon State border on the Celilo Bridge on US-97, thence northerly on US-97 to State Highway 14, thence easterly on State Highway 14 to US-395/I-82, thence northerly on US-395/I-82 (formerly a continuation of State Highway 14) to Kennewick, thence westerly on State Highway 240, thence northerly on State Highway 240 to State Highway 24, thence westerly on State Highway 24 to US-97, thence northerly on US-97 to State Highway 155 at Omak, thence easterly and southerly on State Highway 155 to State Highway 174 at Grand Coulee, thence southeasterly on State Highway 174 to US-2, thence westerly on US-2 to State Highway 17, thence southerly on State Highway 17 to US-395, thence southerly on US-395 to US-12, thence southerly on US-12 and US-730 to the Oregon border (including the entire McNary National Wildlife Refuge), thence westerly along the Columbia River and the Washington-Oregon border to the point of origin. This zone includes Umatilla, Columbia, and McNary National Wildlife Refuges.

Dated: August 26, 1986.

P. Daniel Smith,

Deputy Assistant Secretary for Fish and Wildlife and Parks.

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Wednesday
September 3, 1986

Part VI

Department of Health and Human Services

Health Care Financing Administration

42 CFR Parts 405 and 412

Medicare Program; Changes to the Inpatient Hospital Prospective Payment System and Fiscal Year 1987 Rates; Final Rule

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Care Financing Administration

42 CFR Parts 405 and 412

[BERC-353-F]

Medicare Program; Changes to the Inpatient Hospital Prospective Payment System and Fiscal Year 1987 Rates

AGENCY: Health Care Financing Administration (HCFA), HHS.

ACTION: Final rule.

SUMMARY: We are amending the Medicare regulations governing the inpatient hospital prospective payment system to implement necessary changes arising from legislation and our continuing experience with the system.

In addition, we are describing changes in the methods, amounts, and factors necessary to determine prospective payment rates for Medicare inpatient hospital services. In general, these changes are applicable to discharges occurring on or after October 1, 1986. We are also setting forth the update factor for determining the rate-of-increase limits (target amounts) for hospitals excluded from the prospective payment system.

EFFECTIVE DATE: This final rule is effective on October 1, 1986. We refer the reader to section VI.A. of this preamble for a discussion of specific provisions that apply to specific periods.

FOR FURTHER INFORMATION CONTACT: Linda Magno, (301) 594-9343.

SUPPLEMENTARY INFORMATION:

I. Background

A. Summary of the Implementation of the Prospective Payment System

Under section 1886(d) of the Social Security Act (the Act), enacted by the Social Security Amendments of 1983 (Pub. L. 98-21) on April 20, 1983, a prospective payment system for Medicare payment of inpatient hospital services was established effective with hospital cost reporting periods beginning on or after October 1, 1983. Under this system, Medicare payment is made at a predetermined, specific rate for each discharge. All discharges are classified according to a list of diagnosis-related groups (DRGs).

We published an interim final rule in the **Federal Register** (48 FR 39752) on September 1, 1983 to implement the prospective payment system effective with hospital cost reporting periods beginning on or after October 1, 1983. Technical corrections for that rule were issued on October 19, 1983 (48 FR 48467).

On January 3, 1984, we issued a final rule (49 FR 234) to make changes resulting from our consideration of public comments that were received in response to the interim final rule. Technical corrections for that rule were issued on June 1, 1984 (49 FR 23010).

As a result of our first year of experience with the prospective payment system and to accommodate changes resulting from the enactment of the Deficit Reduction Act of 1984 (Pub. L. 98-369) on July 18, 1984, we published a final rule on August 31, 1984 (49 FR 34728) that further revised the prospective payment regulations. In addition, we made changes in the methods, amounts, and factors necessary to implement the second year of the transition period. Technical corrections for that final rule were issued on October 15, 1984 (49 FR 40167).

On March 29, 1985, we published a final rule (50 FR 12740) that redesignated the prospective payment regulations under a new 42 CFR Part 412. These regulations were previously located in 42 CFR 405.470 through 405.477.

Taking into consideration the recommendations made by the Prospective Payment Assessment Commission (PROPAC) under the authority of section 1886(d)(4)(D) of the Act, we published a final rule on September 3, 1985 (50 FR 35646) to implement the third year of the transition period. Technical corrections for that final rule were issued on October 28, 1985 (50 FR 43570). However, beginning on September 30, 1985, Congress enacted a series of statutory extensions of the hospital payment rates that were in effect on September 30, 1985. The effect was to delay implementation of the September 3, 1985 final rule with the result that the revised payment rates for hospitals covered by the prospective payment system and the rate-of-increase limits for hospitals excluded from that system, which were originally scheduled to be effective on October 1, 1985, were postponed through April 30, 1986. We notified the public about these extensions (50 FR 46651 and 49930, and 51 FR 4166) and, after the President signed the Consolidated Omnibus Budget Reconciliation Act of 1985 (Pub. L. 99-272) into law on April 7, 1986, we issued an interim final rule with comment period on May 6, 1986 (51 FR 16772). That rule implemented new Federal fiscal year (FY) 1986 hospital payment rates effective for discharges occurring on or after May 1, 1986 for prospective payment hospitals and for cost reporting periods beginning on or after October 1, 1985 for hospitals excluded from the prospective payment system.

The comment period for the interim final rule ended on June 5, 1986. We are responding to the comments received on that rule in section II of this preamble. Certain clarifying changes to the regulations, in response to the comments received on the interim final rule, are set forth in this document.

B. Summary of June 3, 1986 Proposed Rule

On June 3, 1986, we published a notice of proposed rulemaking (NPRM or proposed rule) in the **Federal Register** (51 FR 19970) to further amend the prospective payment system. We proposed to make the following changes:

- Under section 1886(a)(4) of the Act, we proposed to incorporate capital-related costs into the prospective payment system effective with cost reporting periods beginning in FY 1987. However, on July 2, 1986, Pub. L. 99-349 was enacted and included a provision (section 206) that amended section 1886(a)(4) of the Act to extend the period (through cost reporting periods beginning prior to October 1, 1987) during which capital-related costs must be treated separately from other inpatient hospital operating costs. Therefore, we are not incorporating capital-related costs into the prospective payment system in this final rule. Accordingly, we are not addressing in this final rule the comments we received concerning that proposal. However, we will consider the comments as we deliberate this matter further.
- We proposed to recompute the hospital market basket using data from a more recent base year (that is, "rebasing" the market basket) and to recalculate the weights of each of the components of the hospital market basket (that is, "reweighting" the market basket cost categories).
- We discussed several decisions and current provisions of the regulations in 42 CFR Parts 405 and 412, and set forth proposed changes concerning—

—Establishment of a base period for hospitals newly subject to the rate-of-increase ceiling;

—Extension of the exclusion for excluded alcohol/drug hospitals and units from the prospective payment system;

—Hospitals in redesignated rural counties which are surrounded on all sides by urban counties;

—Changes to referral center criteria; and

—Changes to the DRG classification system.

In addition, we explained why we decided to retain the existing transfer policy.

• We also proposed to eliminate periodic interim payments for hospitals. However, we dealt with this subject in a separate final rule, published on August 15, 1986 (51 FR 29386) and responded to the comments received on the proposal. Therefore, we are not discussing those provisions in this final rule.

• In the addendum to the proposed rule, we set forth proposed changes to the methods, amounts, and factors for determining the FY 1987 prospective payment rates. We also proposed new target rate percentages for determining the rate-of-increase limits for FY 1987 for hospitals excluded from the prospective payment system.

In addition, the proposed rule discussed in detail the April 1, 1986 recommendations made by the Prospective Payment Assessment Commission (ProPAC). ProPAC is directed by section 1886(d)(4)(D) of the Act to make recommendations to the Secretary with respect to adjustments to the DRG classification and weighting factors and to report to Congress with respect to its evaluation of any adjustments made by the Secretary.

ProPAC is also directed, by the provisions of sections 1886 (e)(2) and (e)(3) of the Act, to make recommendations to the Secretary each year on the appropriate factor to be used in updating the average standardized amounts. These recommendations are due to the Secretary no later than the April 1 preceding each Federal fiscal year. The statute requires that ProPAC, in making its recommendations, take into account changes in the hospital market basket, hospital productivity, technological and scientific advances, the quality of health care provided in hospitals, and long-term cost effectiveness in the provision of inpatient hospital services. As required under section 1886(e)(5) of the Act, we published the report of the recommendations from ProPAC as Appendix C to the proposed rule (51 FR 20123).

C. Number and Types of Public Comments

A total of 570 letters containing comments on the proposed regulations were received timely. Among the many issues addressed in the proposed rule, the following subjects received the majority of comments:

• Inclusion of capital into the prospective payment system.

• Elimination of periodic interim payments.

• Rate of increase in the prospective payment rates.

The contents of the proposed rule, the public comments, and our responses to the comments are discussed throughout this document in the appropriate sections. However, we are responding to a general comment here rather than in one of the more issue-specific areas below. As noted above, comments concerning the capital and periodic interim payment proposals are not being addressed in this final rule.

Comment: Several commenters objected that the 30-day comment period afforded them in the proposed rule was too short. They believe that this amount of time was inadequate to allow the hospital industry to evaluate thoroughly the complex issues included in that proposed rule. Several commenters suggested that the normal 60-day comment period be provided in order to give the public sufficient time to review the issues and provide meaningful comments. One commenter, representing a west coast State hospital association, claimed that mail delays, reproduction time, and distribution to membership consume more than half of the available comment period.

Response: In the September 3, 1985 final rule, we responded to similar comments objecting to a 30-day comment period (50 FR 35647). Although we recognize the importance of affording the public the fullest opportunity to evaluate the many issues raised in the NPRM, section 1886(e)(5) of the Act requires us to consider ProPAC recommendations and to publish proposed rates by June 1 and final ones by September 1 preceding the federal fiscal year to which the rates apply. This means that publication of rates for FY 1987 (which begins on October 1, 1986), as well as of any necessary amendments to the regulations, is required by September 1, 1986. We had only two months from the end of the comment period (July 3, 1986) to publication of the final rule to review and respond to comments, perform additional analyses, and evaluate the feasibility and impact of adopting recommended changes. Had we provided a 60-day comment period, we would have had to publish the NPRM by May 2, 1986 in order to have adequate time to develop the final rule. This in turn would not have allowed us adequate time to review ProPAC's April 1, 1986 report and recommendations, replicate their analyses and evaluate their recommended changes. Therefore, there was insufficient time available for a public comment period of more than 30 days between the publication of the proposed rule and the required date of publication of the final rule. In addition, the process for publishing the FY 1987 final rates was complicated by the passage of Pub. L. 99–272, which affected the FY 1987 prospective payment rates. Under these circumstances, we had no choice but to limit the comment period on the proposed rule to 30 days and to proceed with publication of the final regulations and rates for FY 1987 by September 1, 1986, as required by law.

It is and has been our policy to afford the public a comment period of sufficient length to evaluate and respond to proposed regulations. Normally, the comment period is for 60 days unless there is a substantial reason for providing a shorter period. As we stated above, the statutory mandate to publish final prospective payment rates and regulations by September 1, 1986, in conjunction with our need to fully assess and respond to ProPAC's April 1, 1986 recommendations, has necessitated our use in this case of a 30-day comment period.

II. Comments and Responses to the May 6, 1986 Interim Final Rule

On May 6, 1986, we published an interim final rule with comment period in the **Federal Register** (51 FR 16772) to implement sections 9101 through 9105 and 9112 of Pub. L. 99–272. The provisions of that interim final rule are as follows:

• For prospective payment hospitals, a one-half of one percent increase is provided in the adjusted standardized amounts effective for discharges occurring on or after May 1, 1986. The hospital-specific rates are also increased by one-half of one percent after the first seven months of a hospital's cost reporting period beginning in FY 1986.

• For excluded hospitals, the hospital's target amount for its cost reporting period beginning in FY 1985 is increased by five-twenty-fourths of one percent.

• For FY 1987 and thereafter, the update percentage for all hospitals will be determined by the Secretary except that the update for FY 1987 and FY 1988 is limited by the percent change in the market basket index.

• Except for hospitals located in Oregon, the three-year transition to a fully national prospective payment system is extended by one year. Oregon hospitals will continue to follow the three-year transition.

• The revised hospital wage index published in the September 3, 1985 final rule, further adjusted to correct data errors, is effective for discharges occurring on or after May 1, 1986.

• The factor used to determine the indirect medical education payment is reduced from 11.59 to approximately 8.1 percent for discharges occurring on or after May 1, 1986 and before October 1, 1988 and then changed to approximately 8.7 percent for discharges occurring on or after October 1, 1988. These revised percentages are approximations because the adjustment factor is applied on a curvilinear or variable basis (that is, the additional payment percentage declines as the intern and resident-to-bed ratio increases) rather than on a linear basis as it was prior to the Pub. L. 99–272 amendments.

• The changes we made in the September 3, 1985 final rule that would have excluded interns and residents assigned to outpatient departments or furnishing outpatient services in ancillary departments from the count used to determine a hospital's payment for indirect medical education activities were deleted from the regulations.

• A payment adjustment of up to 15 percent is made to the total DRG revenue of a hospital that serves a disproportionate share of low-income patients as defined in the statute. The payment adjustment is effective for discharges occurring on or after May 1, 1986 and before October 1, 1988.

• Effective with cost reporting periods beginning on or after January 1, 1986, the indirect medical education payment for hospitals that have a waiver under section 602(k) of Pub. L. 98–21 is to be computed as if the hospital were receiving under Medicare Part A all the payments that are made under Medicare Part B because of the waiver.

• Entities that are furnishing services to hospital inpatients under a section 602(k) waiver that permits the entities to bill under Part B for services that normally would now be furnished and paid for under Part A must accept the Medicare payment as payment in full for services furnished on or after April 17, 1986. These entities are paid at 100 percent of the Medicare reasonable charge.

We received 11 timely items of correspondence in response to our May 6, 1986 interim final rule. The commenters included six hospital associations, three hospitals, a fiscal intermediary, and a county health agency. The comments and our responses are discussed below.

A. Revised Wage Index

Comment: One commenter requested a more detailed explanation of the changes in the area wage index values that occurred between the tables published in the September 3, 1985 final rule (50 FR 35715) and the tables published in the May 6, 1986 interim final rule (51 FR 16778). The commenter was particularly concerned about these changes in view of our statement in the September 3, 1985 final rule that we did not plan to make any further corrections. The commenter also implied that the standardized amounts should have been restandardized to take into account the effect of the revised wage index.

Response: Between publication of the September 3, 1985 final rule and the May 6, 1986 interim final rule, we became aware of a number of data errors that needed to be corrected. For example, some hospitals were not placed in the correct county in our wage index data base, and one institution that was not a prospective payment hospital was improperly included in the data base. Making these corrections resulted in a change in the national average hourly wage from $8.0253 per hour to $8.0264 per hour.

Since the national average wage increased slightly as a result of our corrections, individual wage index values, which are determined by dividing each area's average hourly wage by the national average hourly wage, decreased slightly in a number of areas. Because the change in the national average hourly wage was so small, the impact on the vast majority of hospitals is minimal. If we had not made these corrections, however, the payment rate for hospitals in the affected areas would not have been correct.

With respect to restandardization, we note that revised and corrected wage indexes have been used to restandardize the standardized amounts that are effective for discharges occurring on or after October 1, 1986. We did not restandardize the rates applicable to discharges occurring on or after May 1, 1986 because, given the relatively short amount of time we had for preparing and publishing regulations to implement the various provisions of Pub. L. 99–272 (which was enacted on April 7, 1986), we were concerned with accomplishing what was most immediately necessary to implement those provisions of the law that were effective on May 1, 1986.

In addition, with respect to additional payments to disproportionate share hospitals and the revised indirect medical education adjustment factor, section 9105 of Pub. L. 99–272 enacted a new section 1886(d)(5)(F) of the Act that specified that the standardized amounts would be restandardized to reflect these changes effective with discharges occurring on or after October 1, 1986, even though the payment adjustments were effective for discharges on or after May 1, 1986. In view of these provisions, we decided to accomplish the restandardization process for all variables, including the revised wage index, with the standardized amounts that will become effective for discharges occurring on or after October 1, 1986, as announced in this final rule.

Comment: One State hospital association also noted the changes that were made in the wage index that was published on May 6, 1986, and requested that we publish the methodology used in calculating these wage index values.

Response: The methodology used in calculating the wage index published in the May 6, 1986 interim final rule is the same methodology described in the September 3, 1985 final rule (50 FR 35661 and 35662). An average hourly wage is calculated for each metropolitan statistical area (MSA) or New England County metropolitan area (NECMA), and for each non-MSA/non-NECMA area in each State. The average hourly wage figures for all areas are then summed, and the result divided by the number of areas to arrive at a national average hourly wage. Each area's average hourly wage is then divided by the national average hourly wage to derive the wage index for that area. As discussed in the response to the previous comment, the differences in the wage index published in the May 6, 1986 interim final rule from the wage index published in the September 3, 1985 final rule are due solely to the corrections made to the data and the resulting revision in the national average hourly wage.

Comment: We received one comment that indicated that wages for a psychiatric hospital (that is, a type of hospital excluded from the prospective payment system) were inappropriately included in the calculation of the average hourly wage used to compute the wage index value for the area in which that hospital is located. The commenter requested that we correct this error and recalculate the area's wage index value.

Response: We have reviewed this matter and have determined that only short-term prospective payment hospitals were included in the wage data for the area in question. The provider number mentioned in the comment was in fact included in the wage data; however, contrary to the commenter's assertion, this number is assigned to a prospective payment hospital and not to a psychiatric hospital. The psychiatric hospital that is located in the area in question was not included in the wage index data base.

Therefore, no correction of that area's wage index value is necessary.

B. Indirect Medical Education Costs

Comment: Several commenters expressed concern with the manner in which the indirect adjustment formula was presented in the May 6, 1986 **Federal Register** (51 FR 16776). The commenters referred to a transposition error of the digits comprising the exponent and also to the inappropriate positioning of the exponent in the formula.

Response: We regret any confusion that resulted from the manner in which the indirect medical education formula was presented in the interim final rule. The transposition of the figures (the exponent was presented as .045 instead of the correct .405) in the May 6, 1986 interim final rule was an inadvertent error and was noted in the June 3, 1986 proposed rule (51 FR 20014). However, in that proposed rule, the decimal point was omitted from the exponent. In addition, we believe that the positioning of the exponent within the formula could have been made clearer. Therefore, we would like to reiterate the formula to eliminate any confusion. To determine the indirect medical education factor for a particular hospital for discharges occurring on or after May 1, 1986 and before October 1, 1988, add 1.0 to the ratio of interns and residents in approved programs to beds, raise that sum to the 0.405 *power*, and subtract 1.0. The result is then doubled to produce a hospital's indirect medical education adjustment factor.

Comment: One commenter suggested that the formulas set forth in the interim final rule for the indirect medical education factor are incorrect and that we should review our calculations and policies related to the development of an appropriate curvilinear relationship. That commenter also presented revised formulas that the commenter believes are more appropriate for use in determining the indirect medical education factor.

Response: The formulas set forth in the interim final rule that are used to calculate a hospital's indirect medical education factor were specifically mandated by section 1886(d)(5)(B) of the Act as amended by section 9104 of Pub. L. 99-272. As such, we have no authority to adjust the formula as the commenter suggested.

Comment: Two commenters requested that in the final rule we include a table of indirect medical education adjustment factors similar to the table that was published in the **Federal Register** (51 FR 6750) on February 26, 1986 in the preamble to a proposed rule on indirect medical education. The commenters believe that inclusion of this type of table will give the public a better idea of how the new formulas are used.

Response: We agree with the commenters that a table may help clarify the effect of the new provisions. Set forth below are some examples of adjustment factors that will result from application of the revised formulas.

Ratio of interns and residents to beds	Adjustment factor	
	Discharges occurring on or after May 1, 1986 and before October 1, 1988	Discharges occurring on or after October 1, 1988
.0100	.0081	.0087
.1000	.0787	.0852
.2000	.1533	.1672
.3000	.2242	.2463
.4000	.2920	.3229
.5000	.3569	.3973
.6000	.4193	.4696
.7000	.4795	.5400
.8000	.5376	.6087
.9000	.5937	.6759
1.0000	.6482	.7415

It should be noted that, given the curvilinear application of the formula, the exact factor listed in the table would apply only in a hospital that has precisely the intern and resident-to-bed ratio listed. The example below illustrates this point.

Example: A 100-bed hospital has 26 interns and residents in approved programs. Therefore, its intern and resident-to-bed ratio is .26. The hospital's adjustment factor for discharges occurring on or after May 1, 1986 and before October 1, 1988 is computed as follows:

$$2\times[(1+.26)^{.405}-1]=$$
$$2\times[1.0981-1]=$$
$$2\times[.0981]=.1962$$

The hospital's indirect medical education adjustment factor is .1962.

Comment: One commenter stated that because of the requirement of section 1886(d)(5)(B)(iv) as amended by section 9104(a) of Pub. L. 99-272 that interns and residents assigned to outpatient departments of a hospital continue to be counted in determining the indirect medical education adjustment, § 412.118(g) should be modified to make it clear that interns and residents assigned to the outpatient department are counted.

Response: We agree with the commenter. In addition to the changes suggested, we are further modifying § 412.118(g) to clarify that a freestanding family practice center is only one example of a setting in which interns' and residents' assignments may not be counted for purposes of determining the indirect medical education adjustment.

C. Payment for Hospitals That Serve a Disproportionate Share of Low-Income Patients

Comment: One commenter was concerned about the lack of discussion in the interim final rule about how a hospital can apply for a disproportionate share adjustment. In particular, the commenter wants to know the means by which an adjustment is sought, the relative roles between HCFA and the fiscal intermediary, the time requirement for an application, and the criteria against which the application will be judged.

Response: It is not necessary for hospitals serving a disproportionate number of low income patients as defined under § 412.106(b)(1) to formally apply for a disproportionate share adjustment. The Medicare fiscal intermediaries have been given instructions to make a determination concerning each hospital's eligibility for an adjustment under § 412.106(b)(1) based on Medicaid data from the hospital's latest available cost report and the Supplemental Security Income (SSI)/Medicare percentages that have been supplied by HCFA central office. The intermediaries have reviewed the disproportionate share statistical data for each hospital they service and have begun making interim payments (subject to year-end settlement) for those hospitals that they have identified as disproportionate share hospitals.

As we stated in the interim final rule (51 FR 16777), hospitals may submit additional Medicaid and total patient day data to their fiscal intermediaries if they believe that their latest cost report does not accurately reflect these data. However, additional data supplied are subject to intermediary review and verification.

We are evaluating the need to publish regulations to outline procedures and requirements for hospitals to follow in applying for a disproportionate share adjustment based on the patient revenue criteria under section 1886(d)(5)(F)(i)(II) of the Act, as set forth in regulations at § 412.106(b)(2).

Comment: One commenter expressed concern that hospitals that have been identified as disproportionate share hospitals under section 1886(d)(5)(F)(i)(I) of the Act (§ 412.106(b)(1)) and are currently receiving payments under this provision, but that could also qualify for a larger adjustment under the provision on revenue from State and local governments for indigent care in section 1886(d)(5)(F)(i)(II) of the Act (§ 412.106(b)(2)), might be denied the higher adjustment simply because of a

timing difference of a hospital's qualification under the two separate provisions.

Response: Hospitals that have been identified by the intermediaries as serving a disproportionate share of low income patients are currently receiving disproportionate share payments on an interim basis. Final determination of a hospital's eligibility for a disproportionate share adjustment will be made at the end of its cost reporting period. At that time, hospitals will also have the opportunity to apply for an adjustment under the provision on revenue from State and local governments for indigent care. Hospitals that qualify for a disproportionate share adjustment under both criteria will receive the larger amount. The adjustment under the provision on revenue from State and local governments is 15 percent (section 1886(d)(5)(F)(iii) of the Act).

Comment: One commenter objected to the exclusion of beds assigned to newborns, custodial care, and excluded distinct part units from the calculation of a hospital's bed size category for purposes of determining the hospital's eligibility for a disproportionate share adjustment.

Response: We believe that the method for determining bed size for the disproportionate share adjustment should be consistent with the methods used for other Medicare purposes. Therefore, we are using the same method of determination that is currently used in calculating the indirect medical education adjustment, which is based on the standard bed size definition used by the Medicare program in connection with the prospective payment system (that is, the bed count excludes beds used for newborns, custodial care, and excluded distinct part units). This is also essentially consistent with the method of bed size determination that was used in the past to classify hospitals into the cost limit categories before the implementation of the prospective payment system. In addition, all statistical analyses performed on Medicare data in which bed size is a factor use this standard method of determining bed size. Our approach permits us to treat all hospitals the same with respect to their Medicare involvement. Thus, a hospital without beds assigned to newborns, custodial care, or excluded distinct parts is treated the same as a hospital with these non-Medicare beds.

Comment: We received comments stating that the criterion for identifying patient care revenues from State and local government sources is too restrictive in requiring that these funds be specifically earmarked for indigent patient care in order to be considered in determining whether a hospital qualifies for a disproportionate share adjustment under the provision on revenue from State and local governments for indigent care in section 1886(d)(5)(F)(i)(II) of the Act. The commenters pointed out that, in many cases, local government budgets will contain funds to support operating costs of their hospitals to cover both operating deficits and indigent care without specifically earmarking amounts for indigent care. The commenters believe that all funds from State and local government sources should be considered in determining whether a hospital qualifies for a disproportionate share adjustment under the provision on revenue from State and local governments for indigent care.

Response: Section 1886(d)(5)(F)(i)(II) of the Act provides that a hospital can qualify for a disproportionate share adjustment if it "can demonstrate" that more than 30 percent of its net patient revenue is provided by State and local government sources "for indigent care" furnished to patients not covered by Medicare or Medicaid. The law very clearly specifies that these government revenues must be for the care of indigent patients and that these indigent patients must not be covered by Medicare or Medicaid. We believe that the language of the law clearly indicates congressional intent that the 30 percent revenue criterion apply only to indigent patient care revenues. Therefore, we do not believe that it would be appropriate to include revenues that may be provided by State and local governments to finance operating deficits. Since the law also requires the hospital to demonstrate that it meets the 30 percent revenue criterion, we believe it is incumbent upon the hospital to provide adequate documentation indicating what portion of the State or local government funds were in fact used for indigent patient care.

Comment: Two commenters stated that the disproportionate share adjustment should be applied to a broader base to help cover the costs of uninsured individuals. These commenters believe that since Medicare shares in the benefit of a competitive health care market, it should also share in the cost of providing care to the uninsured.

Response: The disproportionate share adjustment, including the base on which the adjustment is calculated, follows the formula in section 1886(d)(5)(F)(vi) of the Act, which we cannot change administratively. Congress intended that this provision help ensure the financial viability of those hospitals that serve a disproportinate share of low-income patients. Moreover, the Congress established the particular definition of low-income patients recognizing that it is a proxy and that not all low-income patients would be included in the percentage. It is reasonable to assume that hospitals that serve a disproportionate share of low-income patients as defined also serve a disproportionate share of other low-income patients (that is, those not eligible for Medicaid or dually entitled to SSI and Medicare). Recognizing that there are certain instances in which hospitals furnish relatively little care to the Medicaid and SSI/Medicare patients included in the definition because they treat a large charitable care patient load, Congress also provided the disproportionate share adjustment to those urban hospitals of 100 or more beds that could demonstrate that at least 30 percent of their inpatient care revenues are from State and local governments for the care of indigent patients not covered by Medicare or Medicaid.

In addition, under the prospective payment system, hospitals are paid a predetermined amount for each Medicare patient. Therefore, to the extent that a hospital is able to maintain costs below its Medicare payments these additional funds can be used by the hospital for any purpose it deems appropriate. The Medicare program does not preclude a hospital from using profits it earns under the prospective payment system to help cover the cost of furnishing uncompensated care.

Comment: Two commenters suggested that an appeals mechanism be established for hospitals that are denied a disproportionate share adjustment.

Response: Since the disproportionate share adjustment is based on a hospital's cost reporting period, final determination of a hospital's eligibility for, and amount of, any disproportionate share adjustment will be made by the fiscal intermediary at the time of the year-end settlement of its cost report. Upon receipt of the Notice of Program Reimbursement, all hospitals have the right to appeal the fiscal intermediary's determination in accordance with the regulations set forth in 42 CFR Part 405, Subpart R, Provider Reimbursement Determination and Appeals (§§ 405.1801 through 405.1890). Since hospitals can appeal the denial of eligibility for the disproportionate share adjustment or the amount of the adjustment they receive under this general appeals mechanism, which is already in place, we do not believe an appeals

mechanism specific to the disproportionate share provision is necessary.

Comment: One commenter concurred with the need for a disproportionate share adjustment, but suggested that the adjustment be applied retroactively to the beginning of the prospective payment system (cost reporting periods beginning on or after October 1, 1983).

Response: Section 1886(d)(5)(F)(i) of the Act specifically provides that the disproportionate share adjustment is applicable to discharges occurring on or after May 1, 1986 and before October 1, 1988. The law is very specific concerning the time period to which the adjustment is to be applied. In any case, because of the prospective nature of the system, we believe it would not be appropriate to make retroactive adjustments.

Comment: We received several comments objecting to the fact that we are requiring hospitals to bear the expense of having their SSI/Medicare percentage recomputed for their own cost reporting period. These commenters pointed out that the law requires us to make the disproportionate patient percentage determination on a cost reporting period basis and therefore, that HCFA, not the hospital, should bear the cost if the hospital wishes to have its SSI/Medicare percentage recomputed based on its own cost reporting period.

Response: We recognize that the law specifies that the SSI/Medicare percentage be determined for each hospital on a cost reporting period basis. However, in the interim final rule we proposed matching SSI eligibility records to the Medicare bills on a Federal fiscal year basis because we believe this is the most efficient approach.

The data sources for computation of the SSI/Medicare percentage include the Medicare inpatient discharge file which is compiled on a Federal fiscal year basis and includes approximately 11 million billing records (this compilation is done about three or four months after the close of the Federal fiscal year and is then updated periodically as additional discharge data are received) and the SSI file that lists all SSI recipients for a 3-year period and denotes the months during that period in which the recipient was eligible for SSI benefits. (The SSI file includes over 5 million records.) In order to compute the SSI/Medicare percentage, the 11 million records from the discharge file must be individually matched by beneficiary number and month of hospitalization, with the SSI recipient records. On a Federal fiscal year basis, this match would be performed on a yearly basis. If done on a cost reporting period basis the match would have to be done on a flow basis. Because of the volatility of the SSI enrollment/disenrollment process and the billing lags, it would be necessary to set up an extensive, expensive on-going system that would require monthly submissions of eligibility records from the Social Security Administration to be used to annotate the Health Insurance Master File or a new SSI master file. This master file would have to contain individual periods of entitlement, since SSI eligibles may be enrolled and disenrolled on a month by month basis. These files would have to be matched to every inpatient billing record (approximately 1 million a month) and that billing record annotated by the number of covered days associated with a period of entitlement. Because the covered days in a hospital stay may span a period of 150 days, and there may be a series of enrollments and disenrollments within a particular hospital stay, it would be necessary to enlarge the billing record to accommodate these periods, resulting in an increase in processing times and costs.

Also, since the Medicare billing data does not indicate a hospital's cost reporting period, another match with the latest cost report file would be required to determine a hospital's cost reporting period. However, since cost reporting periods are subject to change, and HCFA Central Office does not know whether a hospital has changed cost reporting periods until its cost report is received through HCRIS, we could not assure the accuracy of this determination. Another reporting system would have to be established to ensure that we are computing the SSI/Medicare percentage for the appropriate period. Given the extensive amount of processing involved in computing the SSI/Medicare percentage by cost reporting period as well as the fact that we cannot guarantee timeliness and accuracy, we believe we are justified in making this determination on a Federal fiscal year basis.

Recognizing the difficulty hospitals would have identifying their Medicare patients who are also SSI recipients, we have undertaken the task (and expense) of determining for each hospital the number of patient days of those dually entitled to Medicare Part A and SSI and have removed this burden from hospitals. Therefore, we believe that if a hospital wishes to have its SSI/Medicare percentage recomputed based on its own cost reporting period, it is reasonable to require hospitals, at their own expense, to submit the appropriate billing data. We will, however, forego requiring hospitals to bear the cost of processing these data (that is, matching Medicare beneficiary data to the SSI file and computing the SSI/Medicare percentage) provided that the hospital submits its data in machine-readable tape format that contains all the necessary data for both verifying the beneficiary patient days and for matching the beneficiaries to the SSI file. We have revised § 412.106(a)(2) to specify that the data must be submitted in the appropriate machine-readable tape format and to eliminate the requirement that the hospital pay the processing costs. We will issue instructions shortly to outline the specific data format required. We should point out, however, that if a hospital has its SSI/Medicare percentage recomputed based on its own cost reporting period, this percentage will be used for purposes of its disproportionate share adjustment whether the result is higher or lower than the percentage computed based on the Federal fiscal year.

As stated in the interim final rule, we believe that the SSI/Medicare percentage for a hospital's own experience during the Federal fiscal year should be reasonably close to the percentage specific to the hospital's cost reporting period. In order to test this hypothesis, we computed the SSI/Medicare percentage for each hospital based on Federal FY 1984 and based on its own cost reporting period beginning in Federal FY 1984. This is the latest hospital cost reporting year for which we have reasonably complete data.

We tested the correlation of these two percentages for all hospitals combined and for each of the three disproportionate share hospital categories (that is, urban hospitals with 100 or more beds; urban hospitals with less than 100 beds; and rural hospitals).

We have found that the ratio of SSI days to Medicare covered days, (that is, the SSI/Medicare percentage) is generally similar when calculated by Federal fiscal year and by hospital cost reporting period. The degree of this relationship is reflected in the rather high correlation coefficients between hospital SSI ratios computed for Federal FY 1984 and for cost reporting periods beginning in Federal FY 1984, as shown below.

Disproportionate share group	Correlation coefficient	Number of hospitals [1]
Urban-100 or more beds	.99	1,650
Urban less than 100 beds	.97	469
Rural	.98	1,793
Overall	.98	3,912

[1] Excludes hospitals whose cost reporting period coincides with the Federal fiscal year.

These results indicate a high degree of correlation between SSI/Medicare percentages computed based on the Federal fiscal year and those computed by hospital cost reporting period. (A coefficient of 1.0 equals a perfect correlation.)

In addition, we also point out that for a significant proportion of hospitals within each of these groups, the SSI/Medicare ratio computed for Federal FY 1984 was within 2.3 percentage points (approximately one standard deviation of the mean difference) of the actual value derived from the hospital's own cost reporting period that began in Federal FY 1984, as shown below:

Disproportionate share groups	Percentage [1]
Urban—100 or more beds	95.5
Urban—less than 100 beds	81.4
Rural	80.5
Overall	86.9

[1] Percentage of hospitals whose SSI/Medicare ratio for Federal fiscal year 1984 is within .023 of the SSI/Medicare ratio for its cost reporting period beginning in Federal fiscal year 1984.

While the variability in the percentages is somewhat higher for the small urban hospital and rural hospital groups, generally only those hospitals in these two groups with overall disproportionate patient percentages that fall short by a small margin of meeting the necessary thresholds to qualify for an adjustment (that is, 40 percent and 45 percent, respectively) could be impacted. This is because the amount of the disproportionate share adjustment for qualifying hospitals in these two groups is not dependent on the amount of their disproportionate patient percentages.

We do not believe Congress intended to impose such a cumbersome and costly administrative burden as that described above in implementing this provision. The Secretary has general rulemaking authority under section 1102 and 1871 of the Act to deal with problems of implementing and administering the Act in an efficient manner. Based on the above discussion, we believe that using the Federal fiscal year instead of a hospital's own cost reporting period is the most feasible approach to implementing this provision in terms of accuracy, timeliness and cost efficiency. In addition, we believe we have complied with the law by affording hospitals the option of having their SSI/Medicare percentage computed based on its own cost reporting period.

Comment: Several commenters objected to our definition of Medicaid patient days for purposes of computing a hospital's disproportionate patient percentage. These commenters stated that all inpatient days associated with a Medicaid recipient should be counted whether or not the patient was actually covered by Medicaid for those days. These commenters focused on the term "patients who . . . were eligible for medical assistance . . ." in section 1886(d)(5)(F)(vi)(II) of the Act and argued that, since a patient would still be "eligible" for Medicaid benefits even though part or all of the patient's care may not be covered by Medicaid for a certain day, all patient days for which care was actually provided to a Medicaid eligible individual should be counted.

Response: We believe that the parenthetical phrase "for such days" in section 1886(d)(5)(F)(vi)(II) of the Act was intended to modify the phrase "eligible for medical assistance" and that Congress intended to include only such patient days for which the Medicaid patient was eligible to have his or her care paid for by the Medicaid program. We believe evidence of Congressional intent in this regard may be found in the legislative history of section 1886(d)(5)(F)(vi) of the Act.

The Conference Report described the House bill on section 9105 of Pub. L. 99-272 as defining low income patients as follows:

> The proxy measure for low income would be the percentage of a hospital's total inpatient days attributable to medicaid patients (including medicaid-eligible medicare beneficiaries—medicare/medicaid crossovers).

(See H.R. Rep. No. 99–453, 99th Cong., 1st Sess. 459 (1985).) The phrase "inpatient days attributable to medicaid patients" supports the commenters' interpretation that all days that are attributable to Medicaid patients (that is, for which the patient is Medicaid-eligible) must be included in the numerator of the definition. However, the House bill's definition was not ultimately accepted by the Conference Committee. The Conference Report states that:

> The percentage of low income patients will be defined as the total number of inpatient days attributable to Federal Supplemental Security Income beneficiaries divided by the total number of medicare patient days, plus the number of *medicaid patient days* divided by total patient days. (Emphasis added.)

(See H.R. Rep. No. 99–453, 99th Cong., 1st Sess. 461 (1985).) The substitution of the term "number of medicaid patient days" in the Conference agreement for the previous term "attributable to medicaid patients" suggests that Congress intended to adopt the definition as we currently understand it (that is, only hospital days covered by Medicaid should be included in the numerator.) We believe that Congress consciously changed the focus of the Medicaid definition from the number of days that may be attributable to individuals eligible for Medicaid to the actual "number of Medicaid patient days" (that is, days that were paid for by the State's Medicaid program).

We believe this interpretation, that only Medicaid covered days should be counted, is not inconsistent with the statutory scheme as a whole, since the formula in section 1886(d)(5)(F)(vi) of the Act does not purport to identify all indigent patients. Rather, it refers to certain Medicare and Medicaid patients as an easily and objectively determined proxy for the indigent. Thus, under any reading of the statute, not all indigent patients are included in the formula. A Medicaid eligible recipient who has exhausted his or her benefits is thus situated similarly to the indigent patient who is not eligible for Medicaid at all, and so it is logical to treat them the same for purposes of determining the disproportionate patient percentage.

In addition, given the relatively short timeframe for implementing section 1886(d)(5)(F)(vi) of the Act, we believe it is reasonable to assume that Congress anticipated that the Medicare cost report would serve as the primary source for Medicaid patient day statistics. Our definition of Medicaid patient days is consistent with the way we require Medicaid days to be reported on the Medicare cost report. On that form, a day of care is designated a Medicaid patient day only if the Medicaid program is the primary payor. There is no provision on the form for a patient day being counted as more than one type for payment purposes. We do not believe that Congress intended that an additional reporting mechanism, possibly tied to State eligibility records, be developed to obtain Medicaid statistics on noncovered patient days.

Therefore, since Congress clearly intended that the disproportionate share adjustment be implemented promptly with the data currently available, we believe the definition of Medicaid patient days published in the interim final rule is the one that Congress intended that we adopt.

We should also point out that our interpretation that the Medicaid portion of the definition of the disproportionate share percentage under section 1886(d)(5)(F)(vi)(II) of the Act refers only to Medicaid covered days is consistent with our interpretation of the Medicare portion under section 1886(d)(5)(F)(vi)(I) of the Act, (which uses similar language)

to refer only to Medicare covered days. In the preamble to the interim final rule, we indicated that we would count "covered" Medicare days in determining the Medicare portion of a hospital's disproportionate patient percentage. However, we received no comments on this issue.

D. Other Comments

Comment: One commenter believes that a 30-day comment period does not provide enough time for the public to comment on rule changes to a program as important as the prospective payment system. The commenter would prefer a 60-day comment period. In addition, the commenter is concerned that comments are considered only if they are received by HCFA by the end of the indicated comment period. Since commenters have no control over the date a comment is received, HCFA should consider all comments postmarked by the end of the comment period.

Response: It was important that we move quickly to inform the public as soon as possible about the provisions of Pub. L. 99-272 that affected implementation of the prospective payment system during FY 1986. Congress authorized issuance of an interim final rule (section 9115(b) of Pub. L. 99-272), and mandated the effective date of the provisions dealt with in the interim final rule. In addition, under section 1886(e)(5)(B) of the Act, we were required to issue the proposed update for the prospective payment system for FY 1987 by June 1, 1986 and the final rule by September 1, 1986.

As indicated in section I of this preamble, this leaves no time for a comment period of longer than 30 days on the proposed updates. Therefore, in order to deal with the comments on the Pub. L. 99-272 interim final rule and the proposed FY 1987 update in an organized sequential manner, we established the 30-day comment period for the interim final rule. A 60-day comment period would have meant that the comment periods for both the interim final rule and the proposed FY 1987 update would have ended virtually simultaneously. This in turn would have meant that we would have been required to address comments on both documents at the same time, thereby complicating the process of meeting the September 1, 1986 statutory deadline for publication of the FY 1987 final rule.

As discussed above, we normally provide a 60-day comment period if circumstances permit it. However, given the need to issue regulations to implement Pub. L. 99-272 quickly combined with the imminent publication of the FY 1987 prospective payment proposal, we determined that a 30-day comment period was necessary. We also point out that, for the most part, those provisions in Pub. L. 99-272 affecting the prospective payment system in FY 1986 were ones about which we had little administrative discretion concerning their substance or implementation. Therefore, a longer public comment period for those provisions would have been unnecessary. In addition, although there is no specified minimum time for the length of a public comment period, the courts have consistently held that a 30-day comment period is sufficient.

With regard to how the comment period date is applied, we consider to be timely only those comments that are received by the last day of the comment period rather than those postmarked by the last day of the comment period because postmarks are not always a reliable indicator of when a comment was sent. In many cases, the postmark is illegible and thus cannot be used to prove when a comment was sent. Also, for those commenters who use a postal meter outside the post office, a meter may be changed to reflect a date other than the one on which the comment was actually sent, or a predated envelope may be used to send a late comment. Expedited mail services are available from the post office and from private carriers to help ensure that comments are delivered timely. We believe that our policy is not only reliable but equitable since it imposes the same constraints on all commenters.

Comment: One commenter requested that in all future documents concerning the prospective payment system that are published in the **Federal Register**, we should present a table of outlier criteria and thresholds that includes the labor portion percentage, national ratio of cost to charges, the fixed dollar minimum, and the minimum multiple of the Federal DRG rate.

Response: The outlier criteria and thresholds are routinely published in the **Federal Register** as a part of the proposed and final rules concerning the annual update to the prospective payment rates. This information was not published in the May 6, 1986 interim final rule implementing sections 9101 through 9105 and 9112 of Pub. L. 99-272 since the outlier criteria and thresholds for FY 1986 published in the **Federal Register** on September 3, 1985, were not changed as a result of this legislation. We did not see the necessity of republishing this information since we believe it was clearly understood that absent any specific changes made by Pub. L. 99-272, the changes to the prospective payment system that were published in the **Federal Register** on September 3, 1985 would become effective May 1, 1986.

III. Rebasing and Reweighting of the Hospital Market Basket

A. Background

For cost reporting periods beginning on or after July 1, 1979, we developed and adopted a hospital input price index (that is, the hospital "market basket") for use in establishing the limits on hospitals' routine operating costs (44 FR 31802). The percentage change in the market basket reflects the average change in the price of goods and services purchased by hospitals to furnish inpatient care. Traditionally, we used the market basket to adjust hospitals' cost limits by an amount that reflects the average increase in the prices of the goods and services used to furnish inpatient care. This approach linked the increase in the cost limits to the efficient utilization of resources.

With the inception of the prospective payment system on October 1, 1983, we continued to use the market basket to update each hospital's 1981 inpatient operating cost per discharge used in establishing the standardized payment amounts. In addition, the projected change in the market basket is one of the integral components of the update factor by which the prospective payment rates were updated for FY 1985. An explanation of the market basket used to develop the prospective payment rates was published in the **Federal Register** on September 1, 1983 (48 FR 39764). For additional background information on the market basket index, we refer the reader to the article by Freeland, Anderson, and Schendler, "National Hospital Input Price Index," *Health Care Financing Review*, Summer 1979, pp. 37-61.

The market basket is a Laspeyres or fixed-weight price index constructed in two steps. First, a base period is selected and the proportion of total expenditures accounted for by designated spending categories is calculated. These proportions are called cost or expenditure weights. In the second step, a rate of increase for each spending category is multiplied by the expenditure weight for that category. The sum of these products for all cost categories yields the percentage change in the market basket, an estimate of price change for a fixed quantity of purchased goods and services.

The market basket is described as a fixed-weight index because it answers the question of how much more or less it would cost at a later time to purchase the same mix of goods and services that

was purchased in the base period. The effects on total expenditures resulting from changes in the quantity or mix of goods and services purchased subsequent to the base period are not considered. For example, shifts in the furnishing of a certain type of inpatient care to an outpatient setting might affect the volume of inpatient goods and services purchased by the hospital but would not be factored into the percentage change in the market basket.

The market basket that is currently in effect reflects base-year data from 1977 in the construction of the cost weights. In its April 1, 1985 report to the Secretary (described in Appendix C of our June 10, 1985 proposed FY 1986 prospective payment update (50 FR 24446)), ProPAC suggested that the market basket cost weights should be recalculated or "rebased" at least every five years or more frequently if significant changes in the weights occur.

We agree that it is desirable to rebase the market basket periodically in order that the cost weights reflect changes in the mix of goods and services that hospitals purchase (hospital inputs) in furnishing inpatient care. The five-year interval that ProPAC recommended coincides with the frequency of a survey conducted by the Department of Commerce, Bureau of Economic Analysis, on industry input consumption. This survey, most recently described in the report, "The Detailed Input-Output Structure of the U.S. Economy, 1977," contains a detailed source of information on hospital input expenditures. In the September 3, 1985 final rule (50 FR 35684), we stated that we were in the process of developing rebased market basket cost weights that would reflect later data. We also stated that we would consider revising the market basket cost weights if additional costs, such as capital-related costs, were incorporated into the prospective payment system. Rebasing the market basket is also the means of exercising our statutory obligation to adjust, from time to time, the proportion of costs considered labor-related and subject to the wage index adjustment.

B. Rebasing and Reweighting the Market Basket Index

In this rule we are revising the market basket in developing the FY 1987 update factor of the prospective payment rates. The new market basket is revised as follows:

- We are rebasing to reflect 1982, rather than 1977, cost data.
- We are expanding the number of market basket cost categories from 18 to 28.
- We are modifying certain variables used as the price proxies for some of the cost categories.

In developing the revised market basket, we reviewed hospital expenditures for the market basket cost categories. Preliminary data on hospital expenditures for the seven major operating expense categories (wages and salaries, employee benefits, professional fees and contracted nurses, depreciation, interest, utilities, and a residual "all other" category) were collected using 1982 data on Medicare participating hospitals from the AHA's Annual Survey for 1983. The AHA data include capital-related expenditures. No adjustments were made for hospitals with missing or AHA-imputed values. We then determined, for each category, the proportion it represents of total inpatient cost. These proportions represent the revised market basket weights. This approach is consistent with the way those values were calculated in 1979 using 1977 data. AHA's Hospital Administrative Survey provided the weight for malpractice insurance premiums that, although a median value, approximates the average derived from an analysis of malpractice premium cost data using preliminary Medicare cost report data. Weights for the sub-categories within the residual category, exclusive of malpractice, and for capital-related items other than interest and depreciation (which are directly reported in the AHA cost data), and for sub-categories within utilities were derived by projecting forward the U.S. Department of Commerce, Bureau of Economic Analysis' 1977 Hospital input and output data to 1982 using appropriate price proxies.

As described in the NPRM, this work resulted in the identification of 32 separate cost categories (four of which were related to capital) in the rebased market basket. Because we are not incorporating capital-related costs into the prospective payment system in this final rule, there are 28 separate cost categories in the rebased market basket. The differences between these categories and the ones used for the current 1977 based categories are summarized in the table below, and are as follows:

- Motor gasoline was disaggregated under utilities.
- Photographic supplies, paper products, minor machinery and equipment, miscellaneous equipment, computer data processing services, telephone, blood services, postage, and all other labor-intensive services and nonlabor-intensive services were made explicit under "all other products and services." A more detailed description of each category and its respective price proxy is provided in Appendix A of this document.

Table A.—Comparison of 1977 and 1982 Rebased Weights and Cost Categories

Expense categories	1977 market basket weights	Rebased market basket weights
1. Wages and Salaries [1]	57.24	55.83
2. Employee Benefits	8.22	9.80
3. Other Professional Fees	0.59	0.76
4. Capital		
a. Depreciation		
(1) Fixed Equipment		
(2) Moveable Equipment		
b. Interest		
c. Other		
5. Energy and Utilities	2.76	3.16
a. Fuel Oil, Coal, and Other Fuel	1.07	1.15
b. Electricity	0.77	1.09
c. Natural Gas	0.57	0.47
d. Motor Gasoline		[2] 0.42
e. Water and Sewage	0.35	0.03
6. Malpractice Insurance	1.96	0.66
7. All Other	29.23	29.79
All Other Products		21.05
a. Pharmaceuticals	2.82	4.10
b. Food	3.56	3.56
(1) Direct Purchase	1.78	2.27
(2) Contract Service	1.78	1.29
c. Chemicals and Cleaning Products	2.15	3.13
d. Surgical and Medical Instruments	2.03	2.38
e. Photographic Supplies		[3] 2.26
f. Rubber and Plastics	1.84	2.16
g. Paper Products		[3] 1.19
h. Apparel	1.65	1.08
i. Minor Machinery Equipment and		[3] 0.43
j. Miscellaneous Products		[3] 0.76
All Other Services		8.74
a. Business Services	4.70	3.02
b. Computer and Data Processing		[4] 1.40
c. Transportation and Shipping	1.72	1.08
d. Telephone		[4] 0.76
e. Blood Services		[3] 0.54
f. Postage		[3] 0.32
g. All Other Services: Labor Intensive		[4] 0.97
h. All Other Services: Nonlabor Intensive		[3] 0.65
All Other Miscellaneous	8.76	

[1] In the rebased market basket, wages and salaries are composed of nine subcategories that cor-

respond to the Employment Cost Index categories (Professionals and technicians, Managers, Sales, Clerical workers, Craft and kindred, Operatives except transport, Transport equipment operatives, Nonfarm laborers, and Service workers).

[2] This category was formerly incorporated into the original category—Fuel Oil, Coal, and Other Fuel.

[3] These categories were formerly incorporated into the original residual category, "All Other Miscellaneous."

[4] These categories were formerly incorporated into the original Business Services Category.

As shown in the table, the weights for a number of cost categories (current categories) declined from their 1977 level; namely, those weights for wages and salaries, malpractice insurance premiums, food at later stages of distribution, natural gas, water and sewerage, business services, transportation and shipping, and apparel. Weights for all the other categories increased.

The market basket weights published on September 1, 1983 (48 FR 39845) incorporate 1977 base-year cost-weights that were combined with differences in the rate of price proxy movements through 1981 to reflect their "relative importance" as a result of price changes in each variable. We have similarly adjusted the 1982 market basket cost weights shown above to reflect forecasted inflation through calendar year 1986. The 1986 relative importance weights for the rebased market basket cost categories are shown in Table 2 of section IV of the addendum.

In the September 1, 1983 interim final rule, for purposes of determining the labor-related portion of the standardized amounts, we summed the percentages of the labor-related items (that is, wages and salaries, employee benefits, professional fees, business services, and miscellaneous items) in the market basket (48 FR 39765). This summation resulted in a labor-related portion of the market basket of 79.15 percent and a nonlabor-related portion of 20.85 percent.

Sections 1886 (d)(2)(H) and (d)(3)(E) of the Act require that, in making payments under the prospective payment system, the Secretary adjust the proportion (as estimated by the Secretary from time to time) of payments that are wage-related. Since the inception of the prospective payment system, we have considered 79.15 percent of costs to be labor-related.

In connection with the rebasing and reweighting of the hospital market basket we have, under the authority of the applicable section of the statute cited above, re-estimated the labor-related share of the standardized amounts. Based on the relative weights described in Table 2 of section IV of the addendum, the labor-related portion that is subject to the hospital wage index adjustments (based on wages and salaries, employee benefits, professional fees, business services, computer and data processing, blood services, postage, and all other labor-intensive services) is 74.39 percent and the nonlabor-related portion is 25.61 percent. (In the June 3, 1986 NPRM, the proposed labor-related portion was 75.04 percent and the nonlabor-related portion was 24.96 percent.) To implement this change, effective with discharges occurring on or after October 1, 1986, we recomputed the labor-related and nonlabor-related shares of each hospital's base year costs used to establish the prospective payment rates, and then followed the procedures discussed in the September 1, 1983 interim final rule in order to obtain revised labor-related and nonlabor-related standardized amounts (see 48 FR 39765-39768).

The restandardized amounts in Table 1 of section IV of the addendum reflect the revised labor-related and nonlabor-related portions. It should be noted that, because of the revision of the labor and nonlabor proportions, the labor portions of the rates published in Table 1 of this final rule have decreased from those published in the May 6, 1986 interim final rule (51 FR 16778), even though they have been updated for FY 1987. Similarly, the nonlabor portions in Table 1 have increased by more than the update factor because they now are based on a nonlabor proportion that is greater than the nonlabor proportion reflected in the rates published on May 6, 1986.

Comment: One commenter maintained that many rural hospitals would benefit from the reduction in the portion of the adjusted standardized amounts that is considered labor-related because less of the rate is multiplied by a wage index that is usually less than 1.0000. This reduction of the labor-related portion occurs because of the restandardization of the adjusted standardized amounts to reflect the revised labor-related and nonlabor-related portions of the rebased and reweighted hospital market basket. However, the commenter questioned the validity of the difference in the adjusted standardized amounts between urban and rural hospitals, an outcome that was considered to be undesirable.

Response: The original urban and rural adjusted standardized amounts effective on October 1, 1983 were developed from actual cost data as reported by hospitals on their Medicare cost reports for fiscal years ending in calendar year 1981. The methodology was described at great length in both the September 1, 1983 interim final rule (48 FR 39752) and the January 3, 1984 final rule (49 FR 234). The differences in the regional/national rates between urban and rural hospitals reflect the actual hospital cost experience used to derive the initial adjusted standardized amounts, a difference that continues to exist in subsequent updates of the prospective payment system.

Comment: Several commenters objected to the reduction in the labor-related portion of the adjusted standardized amounts caused by the rebasing and reweighting of the hospital market basket. One commenter maintained that he did not understand how the labor-related share could be reduced since labor costs were increasing, while another commenter pointed out that the hospital that he represents would be disadvantaged by this change because of its rural location in a State with a low wage index.

Response: These comments reflect a misunderstanding of the revisions to the hospital market basket and the impact of changing the labor-related and nonlabor-related portions of the adjusted standardized amounts. While labor costs on a per unit basis (per employee, per hour worked, etc.) may be increasing due to inflation, a shortage of skilled workers, or for other reasons, the price of labor has increased less rapidly than the price of nonlabor inputs. Furthermore, hospitals have also altered the mix of labor-related and nonlabor-related expenditures necessary to furnish inpatient care since the market basket was initially adopted. The result has been that labor-related costs, as a proportion of total inpatient expenditures, have declined as described in Table 2 of section IV of the addendum.

This fact and the disaggregation of the original market basket to yield more precise expenditure categories account for the decline (from 79.15 percent to 74.39 percent) in the proportion of inpatient operating costs that is considered labor-related for purposes of developing the adjusted standardized amounts.

We note that the commenter's assertion that a rural hospital in a State with a comparatively low wage index would be disadvantaged by this change is incorrect. All other things being equal, reducing the labor-related portion of the standardized amounts in such a situation would result in an increase in prospective payment rates because a smaller proportion of the rates is subject to adjustment by the wage index, as the following simplified example demonstrates:

INPATIENT OPERATING COST

	Labor-related	Nonlabor-related	Total
Rate A	2,560	640	3,200
Rate B	2,400	800	3,200

Rate A reflects a prospective payment rate based on labor-related and nonlabor-related costs of 80 percent and 20 percent, respectively. In Rate B the proportion of labor-related and nonlabor-related costs has been revised to represent 75 percent/25 percent portions. Under the 80/20 apportionment, a hospital with a wage index of .8000 and a case-mix index of 1.000 would receive an average prospective payment rate for inpatient operating costs equal to (2560×.8000)×640 or $2688 per discharge. The average prospective payment rate under the 75/25 labor-related and nonlabor-related apportionment would equal (2400x.8000)+800 or $2720 per discharge. Reducing the labor-related portion of the adjusted standardized amounts results in an increase in the nonlabor-related portion. As long as a hospital has a wage index of less than 1.0000, reductions in the labor-related portion and increases in the nonlabor-related portion benefit hospitals.

Comment: Many commenters questioned how the 1982 rebased hospital market basket weight for the cost of malpractice insurance could be so much lower than the 1977 market basket weight when the cost of malpractice insurance has been going up at such fast rates. Others questioned whether the relative importance weight for malpractice insurance cost in the proposed market basket for 1986 is too low. Still others questioned the rates of increase in the proxy used to represent the change in malpractice insurance rates. Some speculated that part of the perceived deficiencies may be due to the fact that no data on self-insurers or insurance sold by foreign-based carriers are incorporated into the malpractice insurance cost weights or proxy.

Response: We use American Hospital Association (AHA) Annual Survey data on hospital costs to determine the cost shares for the various categories in the hospital market basket. The annual survey provides seven cost items. We then use other sources of information to develop the more detailed categories in the market basket. Malpractice insurance costs are part of the "other cost" category in the AHA data. We use data from another AHA source, the Hospital Administrative Services Monitrend data (HAS/Monitrend), to break out malpractice insurance costs. Those data indicate that the cost share for hospital malpractice insurance in 1982 is 0.66 percent of total costs.

Because HAS/Monitrend data were not available for use in the 1977-based hospital market basket, we, in conjunction with staff at AHA and elsewhere, had developed an estimate of the cost share for malpractice insurance for 1977 of 1.96 percent. However, recent reinvestigation has revealed that at least one important source of information used in those estimates was actually an estimate *of the total insurance costs of hospitals,* not just malpractice insurance costs. In addition, a Health Insurance Association of America study made for the AHA shows 1980 hospital malpractice insurance costs, as a percentage of total hospital costs, to be 0.65 percent, much lower than the 1.96 percent used in the previous market basket. For both of these reasons, we have determined that the weight in the previous market basket was inappropriately high rather than that the new weight is too low. This finding was corroborated by information derived from Medicare's Hospital Cost Report Information System (HCRIS), which indicates that malpractice insurance cost as a percentage of total hospital costs in 1982 is 0.59 percent. We decided to use the 0.66 percent figure from the HAS/Monitrend data because it is more beneficial to the hospital industry.

Some commenters asserted that if HCFA would use more recent data, 1984 data for example, the malpractice insurance cost weight would be significantly higher. First, we cannot use data for one component of the market basket that are from a period two years later than the data for the other components. In addition, we found that the data do not support this assertion. The 1984 weight from HAS/Monitrend is 0.56 percent, which, although lower, is not significantly different from the 1982 weight of 0.66.

Some confusion surrounds the meaning of the "relative importance weight" for malpractice insurance costs as well as for the other components of the market basket. The cost shares for the base period in the market basket do not change. For each year's estimate, the base weight is applied to the change in that year's price proxy. However, because the price proxies grow at varying rates, the relative importance of each category does change over time. If a number of cost categories have identical weights in the base year, the relative contribution to the overall hospital input price index growth by categories whose price proxies are growing more rapidly is greater than the contribution by categories whose price proxies are growing more slowly. When some commenters suggested changing the weight for malpractice insurance costs for 1986, they are speaking of changing the relative importance weight. That outcome cannot be effected by changing the category weight in any year except for the base year. As has already been explained, we believe that the newly revised base weight is correct.

The only other way to change the relative importance of a category is to change either its price proxy growth or the growth of other price proxies. To increase the relative importance of malpractice insurance costs, some combination of increases to the malpractice price proxy or decreases to some or all of the other price proxies must be made.

Based on recently updated industry data, we are revising the price proxy for hospital malpractice insurance costs from 17.7 percent to 26.5 percent in 1985. In addition, we are increasing the malpractice insurance cost proxy from 17.7 percent to 29.9 percent in 1986, and from 9.8 percent to 30.0 percent in 1987. The 1986 and 1987 proxy values are based on our best judgment after consultation with industry representatives. We hope to develop actual data as soon as possible.

Since 1981, our price proxy for malpractice insurance costs has been based on actuarial information supplied by the Insurance Service Organization (ISO), which is an industry-wide rating bureau whose rates are used by many small insurers. Although ISO data include neither foreign-based insurance carriers nor self-insured hospitals, they are the best data available. We do not know of any reliable data on self-insured hospitals because self-insurance by hospitals is a relatively recent phenomenon, having become more prevalent since the mid-1970s. (Some commenters suggested that self-insured and foreign-based insurer rates have increased more rapidly than other hospital malpractice insurance rates, but they presented no data to substantiate their assertion.)

As suggested by ProPAC, use of the ISO data may have led to an understatement of the hospital malpractice insurance price proxy for the years after 1984. HCFA has forecasted the years for 1986 and beyond on the basis of trend analysis. Thus, if factors affecting malpractice premium rates have changed, the historical trend model will not pick up these changes. However, we estimate the market basket every quarter and

will continue to update it with the best available data.

The effect of the malpractice price proxy revisions, in combination with the latest DRI forecasts for all other price proxies, is to raise the relative importance weight for malpractice insurance in 1986 from 1.00, as proposed in the NPRM, to 1.19. The revision in the malpractice insurance price changes results in a 0.1 percent increase in the overall forecast for 1986. In 1987 the relative importance weight is forecasted to change from 1.05, as proposed in the NPRM, to 1.49 as a result of these changes. Our purpose for indicating the 1987 relative importance weight is to illustrate that, although, as noted above, we have made significant changes in the malpractice price proxy, they do not have an immediate impact on the overall market basket or on the malpractice insurance costs component of the market basket.

Some commenters included analysis and suggestions concerning a Government Accounting Office (GAO) study on malpractice rates. The study, which appears to have been conducted by AHA for GAO, covers the years 1983 through 1984. A rate of increase in premiums of 47 percent in 1984 is cited by the commenters. However, the rate of increase is expressed in terms of hospital days, rather than in terms of the change in premium rate alone. Because total hospital days are declining, their use in this context overstates premium changes. The GAO study shows a premium rate change of about 39 percent in 1984, the latest available year. However, the GAO study seems to be based on a choice of the most expensive specialities. Also, some of the data are only for New York and Florida. Nationwide ISO data for the same year indicate rate changes of approximately 25 percent. While both values differ from our price proxy, the variance between them is also great. Therefore, we intend to proceed cautiously before making further changes to the malpractice price proxy.

Comment: Many commenters questioned why we are rebasing the hospital market basket input price index. Others questioned the choice of 1982 as the new base year when later data, 1984 for example, are available.

Response: The hospital market basket is based on a set of cost weights that are fixed in a base year. The initial market basket was based in the year 1977. The cost weights reflect the combination of the quantity of goods and services purchased in the base year and the price associated with those purchases. Because we are interested in measuring the effects of price change alone, the set of goods and services purchased must be held constant, and the index moved forward by the weighted sum of the changes in the various price proxies. This is the nature of a Laspeyres price index. However, it is also true that the combination of goods and services required by hospitals to furnish care changes over time. For example, new procedures may require more equipment and less labor. Therefore, the base period cost weights may no longer accurately reflect the set of goods and services purchased by hospitals. To correct for this phenomenon, the base period is periodically updated by recalculating the cost weights.

The original base year was chosen by us for two reasons. It was the year for which the most recent cost report data were available from AHA. Second, 1977 coincided with an economic census year. The Bureau of Economic Analysis Input/Output estimates are used to break out the detailed cost categories in the market basket, and the Input/Output structure is based on economic census data. An economic census is conducted every five years. Though it is considered to be an ambitious undertaking, we intend to rebase the hospital market basket every five years following the economic census schedule.

To rebase more frequently than every five years causes two problems. First, rebasing is a considerable task and consumes large amounts of resources. More importantly, to rebase more frequently effectively converts the index from a Laspeyres price index to a Paasche, current weight index that indistinguishably reflects changes in both prices and quantities. We account for quantity changes elsewhere in the update framework.

It is possible to rebase the hospital market basket using 1984 data, and we have examined the effects of such an index. Preliminary indications are that such a change would result in very little difference in the overall index, no more than one or two tenths of a percentage point in any forecast. In addition, using 1984 cost data would have very little effect on such controversial cost categories as malpractice insurance where the 1982 weight is .66 percent and the 1984 weight is lower at .56 percent based on HAS Monitrend data.

Comment: Many commenters argued that the wage proxy changes are arbitrary and undocumented. Other commenters suggested that external proxies should be used only if they closely parallel the internal wage measures.

Response: We believe that the external wage measure we use is the most appropriate wage proxy available at this time. The internal proxy, hospital worker average hourly earnings, formerly used to monitor wage price changes is not a true price proxy. It is developed by dividing total earnings by hours worked. Thus, it reflects changes in wage rates and changes in the composition of labor employed. The employment cost indexes, the external price proxies, measure changes in the wage rate only.

The employment cost index (ECI) is not without problems, however. It reflects the change in wages for several categories of workers, but the proportion of the amounts of the various types of workers used by hospitals had to be developed from a separate source. We derived this occupational mix from the 1980 Census of Population, Occupation by Industry reports. Another problem recognized by both ProPAC and us is that hospitals may, to some extent, employ a unique set of employees, especially in the technical and professional area. To allow for this possibility ProPAC recommended, and we adopted, a blend of the ECI external measures for the wage change for technical and professional workers averaged with the change indicated by the internal price proxy, average hourly earnings of hospital workers.

While we recognize that this is not the most desirable solution, it is the best currently available. A point to consider is that the movements in any of the various indexes that we examined were all reasonably similar over time. We do not agree with the suggestion by one commenter that an external index should be used only if it parallels the internal index. Our investigation has been aimed at developing the most appropriate hospital market basket. Because the market basket is based on change over time, not levels, to use a parallel index is in effect to use the same index.

The Bureau of Labor Statistics plans to make available in the near future an ECI specifically for hospitals. We will examine the new index and, if appropriate, propose to incorporate it into the market basket as soon as possible.

Comment: A few commenters suggested alternative price proxies for monitoring the rate of increase for several of the market basket expenditure categories. Most of these commenters recommended the selection of price proxies that they believe are better indicators of price inflation in the goods and services purchased by hospitals.

Response: We have carefully assessed the technical recommendations we

received for revising some of the price proxies used to measure historical and forecasted price increases in the hospital market basket. At this time we are able to accept a number of the recommendations whereas others warrant further investigation. For example, one commenter endorsed the use of the special index for processed foods that appears in Table 8 of the Producer Price Index detailed reports for monitoring increases in direct purchases of hospital food. The commenter believes this proxy to be superior to the Producer Price Index for processed foods and feeds that we proposed to continue to use.

We recognize the merit of the commenter's recommendation, but need to further evaluate such a change. However, based on our internal evaluation, we are revising the price proxies for the following market basket categories:

- Fuel Oil.
- Electricity.
- Pharmaceuticals.
- Paper Products.
- Apparel.

These changes represent refinements in the level of disaggregation of the price proxies, that is, the changes reflect a finer breakdown of the price measures used to approximate more closely price outlays. The more precise forecasts of these price proxies were not available at the time the NPRM was published. We note that the revised price proxy measures for those categories, and rationale for their use appears in Appendix A of this final rule.

Comment: One commenter noted that our statement in the NPRM, that is, that the market basket cost weights currently in effect reflected 1977 base-year data, was incorrect. The commenter stated that in implementing the prospective payment system in the September 1, 1983 interim final rule we had published revised market basket expenditure weights based on the estimated proportion of total inpatient operating costs, including malpractice insurance costs, attributable to each category.

Response: We do not agree with the commenter. The market basket cost weights implemented in connection with the FY 1984 prospective payment rates were based on 1977 data, inflated through calendar year 1981 to reflect their relative importance in accordance with historical price changes for each expenditure category (48 FR 39764). Prior to the establishment of the prospective payment system, malpractice insurance costs were excluded from the definition of the inpatient hospital operating costs. Under the prospective payment system, this exclusion was eliminated, that is, malpractice insurance costs were considered inpatient operating costs. Therefore, we added an expenditure category for malpractice insurance costs in the September 1, 1983 interim final rule and reweighted all other market basket cost categories. We note, however, that 1977 base year data have been used in developing all Medicare hospital market baskets to date.

The market basket provisions in the June 3, 1986 NPRM reflect the first rebasing of the hospital input price index since its introduction in connection with the hospital routine cost limits that were effective on July 1, 1979.

Comment: Several commenters objected to the reweighting and rebasing of the hospital market basket during the transition period from partially regional rates to fully national rates.

Response: We do not believe it is appropriate to delay the adoption of a revised and updated market basket until the transition period is over (October 1, 1987). ProPAC and we agree that it is desirable to periodically rebase the market basket such that the weights reflect changes in the mix of goods and services that hospitals purchase. Because of the questionable propriety of continuing to use 1977 base year data in establishing the FY 1987 prospective payment rates when 1982 cost data are available, we are implementing a revised market basket to reflect later data, more refined cost categories, and more appropriate price proxies.

Comment: One commenter noted correctly that linear regression analysis of hospital cost differences implies that a one percent difference in the area wage index is associated with a one percent difference in hospitals' cost per case. The commenter argues that this result implies that the proportion of the cost per case that is subject to adjustment by the area wage index should be increased, possibly to as much as 100 percent of the standardized payment amount.

Response: We currently adjust approximately 79 percent of the standardized payment amount by the wage index, and in FY 1987, we are reducing that proportion to approximately 74 percent. These proportions are derived from the labor-related share of total costs in the hospital market basket. We use the hospital market basket because it provides a more direct measure of the labor-related share than does the regression analysis. The wage index variable in the regression analysis may capture the effects of other variables that are correlated with, but not directly related to, input price differences.

C. Selection of Price Proxies

After the 1982 cost weights for the rebased market basket were computed, it was necessary to select appropriate wage and price proxies to monitor the rate of increase for each expenditure category. Most of the indicators are based on Bureau of Labor Statistics (BLS) data and are grouped into one of the following four BLS categories:

- *Producer price indexes*—Producer price indexes are used to measure price changes for goods sold in other than retail markets. They are the preferable proxies for goods that hospitals purchase as inputs as part of the process in producing their outputs. These indexes, which are fixed-weight, measure "price" change at the producer or intermediate stage of production.
- *Consumer price indexes*—Consumer price indexes measure change in the prices of final goods and services bought by the typical consumer. Similar to the producer price indexes, they are fixed-weight. Because they do not represent the price faced by the producers, the consumer price indexes were used if no appropriate producer price index was available, or if the expenditure was more similar to that of retail consumers in general, rather than a purchase at the wholesale level.
- *Employment cost indexes*—Employment cost indexes measure the rate of change in employee wage rates per hour worked. These indexes are fixed-weight indexes and thus measure strictly the change in wage rates and are not affected by shifts in employment mix.
- *Average hourly earnings indexes*—Average hourly earnings indexes are used to weight the hourly earnings for various occupations within a given industry and, therefore, reflect a weighted employment mix for a particular industry. The average hourly earnings index series is calculated by dividing gross payrolls by total hours, and measures actual earnings rather than wage rates. It is a current-weight rather than a fixed-weight index, and thus reflects shifts in employment mix.

Our price proxies for the rebased prospective payment system market basket are summarized in Table 2 of section IV of the addendum. For a more detailed explanation of each of the price proxies, we refer the reader to Appendix A in this final rule. However, because we are revising the price proxy substantially for the wages and salaries category (the highest-weighted category) of the market basket based on a model developed by HCFA, we are providing a separate discussion of the new price

proxy for the wages and salaries portion of the rebased market basket. For purposes of this discussion, we refer to the revised wages and salaries price proxy as the HCFA hospital occupational index.

D. The HCFA Hospital Occupational Index

Wages and salaries represent the largest single component of the hospital market basket, accounting for 56 percent of overall inpatient costs. Currently, the market basket increases in hospital wages and salaries are measured by using the average hourly earnings index for the hospital industry (Standard Industrial Classification 806), a data series collected by BLS.

In its April 1, 1985 report to the Secretary, ProPAC observed (in Recommendations Nos. 4 through 6) that the average hourly earnings series do not separate changes in inflation from changes in the mix of hospital workers over time. That is, rapid increases in average hourly wages could reflect changes in skill mix instead of in wage rates. ProPAC also expressed concern that HCFA's use of a price change measure specific to the hospital industry for the wages and salaries category allows hospital behavior to unduly influence changes in the market basket. For example, if the average hourly earnings series rises at a relatively high rate (as it did under the cost-based reimbursement system prior to the prospective payment system), exclusive use of a hospital industry series would permit hospitals to increase wages at a faster rate than other industries, even when unwarranted. Conversely, if growth in hospital wages and salaries is slower compared to other industries (such as in response to the prospective payment system or other incentives for cost containment), the market basket would reflect this behavior, and could provide an incentive for restricting wage increases for hospital employees.

To address these concerns, ProPAC recommended that separate wage and salary categories for occupational groups should be created to take into account the broad changes in skill mix among managers, professionals, and other hospital workers. ProPAC suggested that changes in wages for these categories should be measured using a combination of internal and external proxies as follows:

- Managers and Administrators—Employment cost index.
- Professionals and Technicians—A 50–50 blend of the average hourly earnings for the hospital industry and the employment cost index for professionals and technicians.
- Other Hospital Workers—A 50–50 blend of the average hourly earnings for the hospital industry and the employment cost index for all private industries.

The issue of whether to use only an internal wage proxy (that is, one based exclusively on hospital wage and salary data), or a combination of internal and external (hospital and nonhospital) wage proxies, has been debated for some time. It is generally accepted that prices for most nonlabor hospital inputs are nondiscretionary or beyond the control of the hospital industry. To monitor price changes in these expenditure categories, external prices are used. Hospital wages and salaries, however, should not be considered totally beyond industry control since there are employee categories for which hospitals are the principal employer (for example, registered nurses).

The market basket is intended to measure prices actually faced by the hospital industry. Thus, for labor we wish to measure only changes in wage rates, not changes in the composition of the labor used by hospitals. In reference to rebasing the market basket, we are using an external measure, in addition to an internal measure, because the external measure (the employment cost index) reflects changes in the price of wages only, not changes in price and wages as reflected by the internal measure (Average Hourly Earnings). When an employment cost index specific to hospital workers becomes available, we will consider using it explicitly rather than the current blend of internal and external measures.

By classifying hospital wages and salaries into specific broad-based occupational categories, it is possible to group wages and salaries into two groups, those for which an internal proxy is more appropriate, and those for which an external proxy is more appropriate. We believe we are refining ProPAC's recommendation by further disaggregating the mix of hospital workers into specific categories, and applying a combination of internal and external price proxies in the HCFA hospital occupational index.

HCFA's hospital occupational index groups hospital occupations into nine broad categories. For eight of these occupational groupings, we believe that hospitals compete for labor generally with employers outside the health sector. Accordingly, use of an employment cost index as an external price proxy for each occupation seems most appropriate. In the case of nurses' wages, especially those of registered nurses, as well as certain other health care technicians and professionals, the hospital market predominates. However, there is no appropriate internal or external measure available at this time for professionals and technicians. As better measures become available, such as an employment cost index for hospital professionals and technicians, we will consider making further changes. Because hospitals also compete with other industries to obtain certain other skilled professional and technical staff (for example, computer programmers), we believe a price proxy for professional and technical workers that reflects a 50–50 blend of internal and external wage increases is appropriate. The proxy for the wages and salaries component of the prospective payment system market basket reflects internal and external measures of price changes as follows:

HCFA Hospital Occupational Index

Wages/salaries component 1982 market basket index	Wages/salaries percentage	Wage proxy
1. Professionals and technicians	57.24	50–50 blend of: Average Hourly Earnings (Standard Industrial Classification (SIC) code 806) for nonsupervisory hospital workers; and employment cost index, wages and salaries, for professionals and technicians.
2. Managers	7.25	Employment cost index, wages and salaries, for managers and administrators.
3. Sales	.34	Employment cost index, wages and salaries, for sales workers.
4. Clerical Workers	12.54	Employment cost index, wages and salaries, for clerical workers.
5. Craft and Kindred	2.46	Employment cost index, wages and salaries, for craft and kindred workers.
6. Operatives Except Transport	.99	Employment cost index, wages and salaries, for operatives except transport.

HCFA Hospital Occupational Index—Continued

Wages/salaries component 1982 market basket index	Wages/salaries percentage	Wage proxy
7. Transport Equipment Operatives	.26	Employment cost index, wages and salaries, for transport equipment operatives.
8. Nonfarm Laborers	.20	Employment cost index, wages and salaries, for nonfarm laborers.
9. Service Workers	18.72	Employment cost index, wages and salaries, for service workers.
10. Total Wages	100.00	Total weight for wages is 55.83.

We believe that the HCFA hospital occupational index provides a more accurate and equitable basis for monitoring increases in the wages and salaries portion of the market basket, and that it responds to ProPAC's concern that the market basket should reflect labor market forces that are both internal and external to the hospital industry.

Comment: Several commenters expressed concern that the HCFA Hospital Occupational Index does not reflect labor pressures that are specific to the hospital industry.

For example, one commenter maintained that in response to declining admissions, hospitals have reduced staff, typically by laying off those workers with least seniority. This results in an increase in hospitals' average wage rates, an increase that is reflected in price proxies internal to the hospital industry, but not in external proxies. Another commenter pointed out that due to a sharp decline in nursing school enrollments, hospitals were likely to face a shortage of registered nurses, resulting in increases in hospital wages that could not be appropriately measured by nonhospital wage proxies.

Response: In constructing the HCFA Hospital Occupational Index, we grouped hospital occupations into nine broad categories for which employment cost indexes are available to forecast the estimated rate of increase in hospital wages. For eight of these groupings, we believe that hospitals compete for labor generally with employers outside the health sector. Accordingly, use of an external employment cost index, which measures the rate of change in wage rates per hour worked for a fixed group of employees, is appropriate for these categories. However, for those occupations for which hospitals are the major employer, such as registered nurses, we believe that an internal measure of wage increases is preferable. That is the basis for using a hospital-specific price proxy for 50 percent of the professionals and technicians component. To the extent that a nursing shortage places upward pressure on the rate of increase in nursing salaries, the professionals and technicians component will reflect such a change.

We also point out that use of external price proxies to project the rate of increase in the wages and salaries portion of the market basket represents a more objective measure of actual labor market forces for those employee categories in which hospitals compete with other industries. To the extent that providers may have unduly restrained wage increases in response to the prospective payment system, external price proxies avoid wage forecasts that are biased downward.

With respect to the suggestion that the HCFA Hospital Occupational Index fails to reflect the more costly mix of hospital workers remaining after less senior workers have been laid off, we believe the comment concerns shifts in hospital employment mix in response to the incentives of the prospective payment system. Pending the development of employment cost indexes for specific hospital worker categories, we cannot control for this potential source of distortion in the index. We note, however, that the Bureau of Labor Statistics is developing employment cost indexes for hospital worker categories. Once these indexes become available, we will consider revising the price proxy for the wages and salaries portion of the hospital market basket.

IV. Other Decisions and Changes to the Regulations

A. Establishing a Base Period for Purposes of Determining the Rate-of-Increase Ceiling for Hospitals Excluded from the Prospective Payment System (§ 405.463)

Hospitals that are excluded from the prospective payment system and, under certain conditions, cancer hospitals, are paid on a reasonable cost basis subject to the rate-of-increase ceilings under section 1886(b) of the Act and implementing regulations at § 405.463.

Section 405.463(b)(1) provides that each hospital's initial rate-of-increase ceiling will be based on allowable inpatient operating costs per case incurred—

- In the 12-month cost reporting period immediately preceding the first cost reporting period subject to the ceiling; or
- For short reporting periods (fewer than 12 months), the first 12-month period ending after October 1, 1982.

Concern was expressed as to the determination of the base period for hospitals excluded from the prospective payment system in States in which a demonstration project (section 402 of the Social Security Amendments of 1967 or section 222 of the Social Security Amendments of 1972) was terminating. We are revising § 405.463(b)(1), as we had proposed in the NPRM (51 FR 19990), to provide that each hospital's initial base period subject to the rate-of-increase ceiling is—

- The 12-month cost reporting period immediately preceding the first cost reporting period subject to the ceiling (for example, the base period would be the cost reporting period beginning on or after January 1, 1985 and before January 1, 1986 for a hospital paid under a demonstration project which terminates December 31, 1985); or
- Where the immediately preceding reporting period is a short cost reporting period (that is, less than 12 months), the base period will be the 12-month cost reporting period beginning on or after the date the hospital's exemption from the ceiling ends (for example, the base period would be the 12-month period beginning on or after January 1, 1986 for a hospital paid under a demonstration project which terminates December 31, 1985, if that hospital's cost reporting period beginning on or after January 1, 1985 and before January 1, 1986 is a short period).

We note that this revision applies to both hospitals in a State with a demonstration project that is terminating (and for which the hospitals would continue to be excluded from the prospective payment system), and to hospitals that are no longer exempt from the ceiling as new providers (§ 405.463(f)(1)).

We received no specific comments concerning these changes.

B. Extension of the Exclusion of Alcohol/Drug Hospitals and Units (§§ 412.23 and 412.32)

In the January 3, 1984 final rule, we established criteria for the exclusion of

hospitals and distinct part units that specialize in alcohol/drug dependency treatment (49 FR 241). In the September 3, 1985 final rule, we extended the exclusion (for hospitals and units already excluded) until the end of the hospital's cost reporting period beginning before October 1, 1986 (40 FR 35669). We did this because we redesigned and greatly improved the alcohol and drug treatment DRGs in major diagnostic category (MDC) 20 (Alcohol/Drug Abuse and Alcohol/Drug Induced Mental Disorders) but desired to gather additional data before terminating the exclusion. Our analysis of medical records did not proceed as quickly as we had hoped, however, and in the June 3, 1986 proposed rule we announced our intention to extend the exclusion for an additional year so that excluded hospitals and units could remain under the exclusion for an additional period of time.

All the organizations commenting on this provision supported it.

Comment: Two commenters requested that the regulations be further revised to permit hospitals and units not excluded during the cost reporting period beginning in Federal fiscal year 1985 to qualify for the exclusion.

Response: We noted in the preamble to the September 3, 1985 final rule that we did not permit new alcohol and drug hospitals and units to qualify for the exclusion because we believe that the revised DRGs are an appropriate expression of the clinical groupings of individuals who suffer from alcohol and drug abuse and who are in the Medicare age group. Our preliminary data indicate that the revised DRGs for these cases have greatly improved payment for the care; therefore, we have not made the exclusion to new providers. However, because delays in gathering complete data to evaluate these changes have led us to extend the existing exclusion for another year, we are continuing to consider extending the exclusion to new alcohol/drug hospitals and units. If we believe a change is necessary we will address the issue in a separate rulemaking document.

We would note that we are proceeding as quickly as possible to finish collecting information about these DRGs to enable us to make any needed changes so that they can be used as a basis for payment for these services in facilities and units that are now excluded. We are hopeful that we will be able to complete these changes and implement the revised DRGs in less than one year. Any changes we make, of course, would be accomplished through rulemaking.

Comment: One commenter also proposed that the exclusion be linked to the one granted to psychiatric hospitals and units and not be terminated until those hospitals and units are brought under the prospective payment system.

Response: We do not believe that the exclusion for alcohol and drug hospitals and units should be linked to the exclusion that relates to psychiatric hospitals and units. The exclusion of psychiatric hospitals and units is a statutory one (section 1886(d)(1)(B) of the Act)) and will continue unless Congress rescinds it. The exclusion of alcohol and drug hospitals and units was established by regulation as a temporary measure and was intended to last only until the DRGs for alcohol and drug abuse patients were revised. As we have noted, we believe that our revisions to these DRGs have already improved payment for the care in general hospitals and are confident that the analysis described above will enable us to make any further refinements that may be required so that further extensions of the exclusion will not be necessary.

C. Hospitals in Redesignated Rural Counties That Are Surrounded on All Sides by Urban Counties (§ 412.63)

Using our authority under section 1886(d)(5)(C)(iii) of the Act, to "provide by regulation for such other exceptions and adjustments" as are deemed appropriate, we proposed in the June 3, 1986 NPRM (51 FR 19990) to expand on the above provisions by recognizing the circumstances of a hospital located in a county that is reclassified from urban to rural, and that is surrounded on all sides by urban counties. Given the unique situation of such a hospital, we believe special consideration is warranted in order to ensure equitable treatment under the prospective payment system.

Therefore, effective with discharges occurring on or after October 1, 1986, we proposed to consider a hospital as urban, for prospective payment purposes, if it met all of the following criteria:

- The rural county in which the hospital is located must be surrounded on all sides by urban counties.
- The county in which the hospital is located was reclassified from an urban area to a rural area after April 20, 1983 (the date of enactment of Pub. L. 98–21).
- Based on the latest census data, at least 15 percent of employed workers in the county in which the hospital is located commute to the central county or counties of one of the adjacent areas. The term "central county," as defined by the Executive Office of Management and Budget (EOMB), is based on commuting patterns of employed workers.

Under the NPRM, hospitals that meet these criteria would be deemed urban for purposes of computing prospective payments, and, for purposes of assigning an appropriate wage index value, would be reclassified into the MSA or NECMA in which it had been previously designated prior to the EOMB redesignation. We proposed to revise § 412.63(b) to implement this provision.

Except for a minor modification, as described in the first comment and response, below, we are adopting the criteria we proposed on this revision in this final rule, and therefore, revising § 412.63(b) accordingly.

Comment: We received two comments, one of which was from the hospital located in Shiawassee County, indicating that although Shiawassee County, Michigan is virtually surrounded on all sides by urban areas, there is approximately a one-mile-long portion of its northwestern boundary that borders on a rural area.

Response: Based on the information provided by these commenters, it appears that Shiawassee County does not meet the proposed criterion under § 412.63(b)(3)(i) that would have required the county to be surrounded on "all sides" by urban areas in order to qualify for urban status. We believe the fact that one mile of Shiawassee County's border adjoins a rural county does not alter the premise of this provision, which is to recognize the unique circumstances of hospitals located in redesignated rural counties surrounded by urban areas. Therefore, we are revising the criterion proposed in § 412.63(b)(3)(i) to specify that at least 95 percent of the perimeter of the rural county must be contiguous with urban counties. We are considering Shiawassee County as an urban area in computing both the wage index and the standardized amounts.

Comment: Many commenters suggested alternative criteria for designating rural counties as urban. Most commenters believe that the proposed criteria in § 412.63(b)(3) are too restrictive and should be broadened in order to recognize counties adjacent to two or more MSAs. Specifically, the majority of commenters recommended that the EOMB standards for designating outlying counties of MSAs be modified for prospective payment purposes using the Secretary's general exceptions authority under section 1886(d)(5)(C)(iii) of the Act to consider total commuting rates to the central counties of all adjacent MSAs. These commenters argued that since their

counties have economic interaction with more than one urban area, it is appropriate to consider total commuting to central counties of all MSAs in determining whether a county should be designated urban under the prospective payment system.

Response: Given the volume of comments we received suggesting that we consider total commuting patterns to two or more MSAs in determining whether a county qualifies for urban status, we decided to investigate the feasibility of adopting the commenters' suggestions. Intuitively, the approach suggested by the commenters has merit and thus warranted our consideration.

We worked with staff of EOMB's Office of Information and Regulatory Affairs, which has responsibility for implementing the MSA classification system, to determine which counties would qualify as outlying counties of MSAs if commuting to the central county(ies) of more than one MSA was considered, and all other EOMB criteria were met. EOMB identified 28 counties (with 51 hospitals) that would qualify under this approach. (Nine other counties would also qualify; however, no Medicare-participating hospitals are currently located in them.)

Once we had identified the 28 affected counties, we compared the average hospital wage level in each county with the average hospital wage level for the MSA to which it has the highest commuting rate and with the State rural average hospital wage. We found that while the characteristics of the hospitals in the 28 qualifying counties vary widely, the hospital wage data on these counties suggest that the hospitals are essentially rural.

Specifically, our review of hospital wage levels in the 28 qualifying counties revealed the following:

- None of the qualifying counties has average hospital wages that exceed average hospital wages for the MSA to which they would be appended.
- Only eight counties have average hospital wages that are at least 90 percent of the urban average hospital wages.
- All other counties' wages are less than 90 percent of urban wages; six counties' wages are less than 80 percent of urban wages.
- Only six counties exceed the rural average wage by five percent or more.
- Fourteen counties are within five percent of the rural average wage.
- Thirteen counties have wages that are less than the rural average; three counties have wages that are 80 percent or less of the rural average.

We believe that the results above indicate that these counties generally are not competing with adjacent MSAs for the same labor pool. In addition, our analysis of the impact on other hospitals nationwide, if these 28 counties were reclassified from rural to urban, indicates that both the urban and rural national standardized rates would decrease. While the absolute dollar decrease in the urban standardized rate would be greater than the decrease in the rural standardized rate, the estimated reduction in total Medicare payments would be greater for rural hospitals.

Therefore, given the essentially rural characteristics of the 28 affected counties, we do not believe that it would be appropriate to adopt the recommendations of these commenters, which would benefit a small number of hospitals at the expense of all other hospitals nationwide.

We have acknowledged in previous **Federal Register** prospective payment rules that the current MSA/non-MSA definitions may not adequately recognize varying hospital labor market conditions, especially among rural counties. We are looking into possible alternative classification systems as part of our research on the feasibility of phasing-out the urban/rural distinction in the standardized payment rates. However, we believe extensive research and evaluation will be required before an alternative system can be adopted. As with any classification system in which boundaries are established, it is impossible to designate boundaries that are completely satisfactory to all concerned. We believe that the MSA definitions established by EOMB represent the only widely accepted statistical standard currently available for use in a national payment system. At this point, based on our analysis of the 28 qualifying counties, we do not believe it would be appropriate to modify the current MSA standards for prospective payment purposes.

Comment: One commenter suggested that the exception provision under proposed § 412.63(b)(3) should be expanded to provide a mechanism whereby a hospital itself (as opposed to the entire county) could be deemed urban if the hospital was surrounded by urbanized areas.

Response: Because the urban designations are defined by EOMB based on county areas, we believe that any criteria we establish for an exception in which an area would be deemed urban should also be based on county areas. In addition, we believe it would be virtually impossible to develop appropriate standards that could be applied uniformly on the basis of specific areas within a county.

Comment: We received several comments related to the differential between the urban and rural standardized payment rates. One commenter stated that the urban and rural categories for the payment rates should be eliminated. The commenters suggested that an analysis of later cost data would reveal that the current cost differential between urban and rural hospitals is no longer as great, and that most of the urban/rural variation in costs could be accounted for through the area wage index.

Response: In early 1983, when the Secretary proposed a prospective payment system for Medicare, it was recommended that all hospitals, whether urban or rural, be paid based on the same formula. However, in enacting the initial prospective payment system legislation (Pub. L. 98–21), Congress specified that standardized payment amounts be established separately for rural and urban hospitals. Nevertheless, Congress recognized that there might be certain imperfections that would require further study. Accordingly, under section 603 of Pub. L. 98–21 and section 2311 of Pub. L. 98–369, we will report to Congress on the results of an extensive study that focuses on the feasibility and impact of eliminating or phasing-out the urban/rural differential in the standardized payment rates. In addition, this report will address a number of rural hospital issues of particular concern to Congress as well as other issues that affect rural hospitals. We believe that this report will enable us to determine the extent to which the changes in the urban/rural classification system are necessary and appropriate.

D. Referral Centers (§ 412.96)

In the August 31, 1984 final rule, we added an alternative set of criteria to § 412.96 (then § 405.476(g)) that expanded the definition of referral centers to encompass more rural hospitals. We also added a new paragraph to that section that provides for a triennial review of referral centers to deterine if they continue to meet the criteria for a referral center. (See 49 FR 34740 for a detailed discussion of those revisions.) Under those alternative criteria, in order to qualify as a referral center, a hospital must meet two mandatory criteria (number of discharges and case-mix index) and at least one of three optional criteria (specialty composition of medical staff, source of inpatients, or volume of referrals), in addition to being located in a rural area.

1. *Number of Discharges*

In the NPRM, we proposed to update the number of discharges criteria effective with cost reporting periods beginning on or after October 1, 1986. The proposed values were updated using the most current data then available. In addition, we proposed to revise § 412.96 so that, rather than state the actual criteria, it would describe the process we would use to calculate the number of discharge values and will provide that we will publish the updated discharge values in the annual notices of prospective payment rates. These discharge criteria would be used during HCFA's triennial review to evaluate hospitals that are currently granted referral center status and in evaluating hospitals initially applying for referral center status.

Therefore, in addition to meeting other criteria, we proposed that for purposes of the triennial review to retain rural referral center status or to qualify as a referral center, for cost reporting periods beginning on or after October 1, 1986 and before October 1, 1987, a hospital's number of discharges for its most recently completed cost reporting period would have to be at least—

- 5,517; or
- Equal to the median number of discharges for urban hospitals calculated by HCFA for the census region in which the hospital is located as indicated in the table below.

Region	Median urban discharges
1	6,866
2	7,909
3	7,158
4	8,560
5	7,659
6	7,830
7	5,414
8	9,129
9	5,116

For both the national and regional discharge values, we reduced the 1981 standards as noted in the September 3, 1985 final rule (50 FR 35675–76) by 8.05 percent to reflect the national percentage change in the number of discharges from the year ending in September 1981 through the year ending in September 1985. The percentage was calculated from AHA panel survey data, which showed an 8.05 percent decrease in admissions to community hospitals between 1981 and 1985. Thus, the proposed national number of discharges criterion was computed by multiplying the 1981 discharge standard by .9195 (1.00 − .0805 = .9195), as follows: 6,000 times .9195 = 5,517.

The same method (and percentage value of 8.05) was used to reduce each 1981 regional median urban discharge value.

In addition, section 9106 of Pub. L. 99–272 amended section 1886(d)(5)(C)(i) of the Act to permit rural osteopathic hospitals to qualify for the rural referral center adjustment if they meet the case-mix index standard, one of the optional criteria, and if they have at least 3,000 discharges annually. This provision applies to cost reporting periods beginning on or after January 1, 1986. Accordingly, we proposed to revise §412.96(c)(2) to implement the statutory provision.

Comment: A number of commenters supported our lowering the number of discharges criteria to reflect the national decline in inpatient hospital services, while several commenters urged that we continue to reflect such changes annually. In addition, one commenter supported our proposed changes for osteopathic hospitals. However, several commenters stated that the proposed number of discharges criterion is still too high. Moreover, one commenter noted that we used AHA data based on hospital admissions rather than discharges, and that we did not identify the year ending date for the AHA data. Several commenters objected to our applying the number of discharges criteria prospectively, while other commenters believe that these criteria should be applied retrospectively to reflect actual utilization more accurately.

Response: At the time the proposed notice was published, AHA data were the most current data available to us that captured recent trends in total hospital admissions. The AHA collects data based on admissions only, not on discharges. Therefore, we used admission rather than discharge data, since they were the only data available at the time. We believe the percentage change in admissions over time is a reasonable proxy for the percentage change in discharges over the same period.

HCFA now has Medicare cost report data reflecting total discharges from hospitals for their first cost reporting period subject to the prospective payment system, that is, cost reporting periods beginning on or after October 1, 1983 and before October 1, 1984. Based on these data compared to data from cost reporting periods ending in 1981, we estimate that total discharges from rural hospitals declined by 10.51 percent from their 1981 level, a greater percentage of decline than that of urban hospitals. Therefore, in recognition of the fact that the decline in discharges has been greater for rural hospitals than for urban hospitals, we are using this figure in lieu of the AHA data and are lowering the 1981 national and regional number of discharges standards by 10.51 percent, computed as follows:
(1.00 − .1051 = .8949) 6,000 times .8949 = 5,369.

The same method and percentage value of 10.51 percent were used to reduce each 1981 regional median urban discharge value. Thus, in addition to meeting other criteria, we are requiring that for purposes of the triennial review to retain rural referral center status, or to qualify as a referral center for cost reporting periods beginning on or after October 1, 1986, a hospital's number of discharges for its most recently completed cost reporting period would have to be at least—

- 5,369; or
- Equal to the number of discharges calculated by HCFA for the census region in which the hospital is located as indicated in the table below.

Region	Discharges
1	6,682
2	7,697
3	6,967
4	8,331
5	7,455
6	7,620
7	5,269
8	8,885
9	4,979

In addition, in recognition of the fact that the Medicare cost report data on which we have based the percentage decline in discharges from rural hospitals reflect an historical trend, we are also revising the period to which these revised standards would apply for retention purposes to be more consistent with the period from which the discharge data are derived. Currently, in evaluating hospitals' initial applications for rural referral center status, there is a lag of several months between the period for which they are seeking rural referral center status and the period to which we apply the discharge criteria, as we apply the standard to a hospital's discharges in its last completed cost reporting period. That is, a hospital seeking rural referral center status effective for its cost reporting period January 1–December 31, 1987, must apply in the immediately preceding calendar quarter (October–December 1986). At the time of application, the most recently completed cost reporting period for that hospital ran from January 1–December 31, 1985.

Since that is the period to which the discharge standard would apply for hospitals initially seeking referral center

status, that is also the period to which we would apply the discharge standard for currently-qualified rural referral centers seeking to retain rural referral center status. Specifically, the 5,369 national discharge standard and the regional urban discharge standards in the preceding table would apply to hospitals' cost reporting periods beginning in Federal FY 1985 (that is, cost reporting periods beginning on or after October 1, 1984 and before October 1, 1985), regardless of whether the hospital is seeking to qualify initially as a rural referral center or to meet the retention criteria.

In making this revision, we avoid applying the number of discharges standards to different periods for hospitals seeking initial status versus those seeking retention as a rural referral center. In addition, for retention purposes, this approach eliminates the need to estimate discharges for a hospital's third cost reporting period as a rural referral center (that is, the year of its triennial review). In order to make this revision, however, it is also necessary to apply the 6,000 national discharge standard (or the applicable regional median discharge standards) for retention published in the September 3, 1985 final rule (50 FR 35675) to an earlier time period, that is, to cost reporting periods beginning on or after October 1, 1983 and before October 1, 1984 (instead of to cost reporting periods beginning on or after October 1, 1984 and before October 1, 1985). We believe that these changes will reduce the number of rural referral centers that will be adversely affected by the number of discharges criterion.

In the interest of clarification of the revised discharge criterion, we are providing the chart below to reiterate the number of discharges standards that must be met to qualify as a rural referral center.

Application Criteria

For rural referral center status effective with a hospital's cost reporting period beginning during—	Number of discharges standards
Federal FY 1985 (that is, 10/1/84–9/30/85).	(a) 6,000 for 1981; (b) 6,000 for the hospital's cost reporting period beginning during Federal FY 1983 (10/1/82-9/30/83); or (c) For 1981 or the cost reporting period beginning in Federal FY 1983, the applicable regional standard published in the August 31, 1984 final rule.
Federal FY 1986 (that is, 10/1/85–9/30/86).	For the hospital's cost reporting period beginning during Federal FY 1984 (10/1/83–9/30/84), (a) 6,000; or (b) The applicable regional standard published in the September 30, 1985 final rule.
Federal FY 1987 (that is, 10/1/86–9/30/87).	For the hospital's cost reporting period beginning during Federal FY 1985 (10/1/84–9/30/85), (a) 5,369; or (b) The applicable regional standard published in this final rule.
Federal FY 1988 (that is, 10/1/87–9/30/88).	For the hospital's cost reporting period beginning during Federal FY 1986 (10/1/85–9/30/86), (a) The national discharges standard; or (b) The applicable regional standard To be published in the FY 1988 update notice.

As stated above, we have decided to revise the periods of time to which these discharge standards for retention apply to more closely coincide with the periods of time from which the data are collected. Therefore, for retention purposes, the discharge standards published in this update apply to hospital cost reporting periods beginning in Federal FY 1985 (October 1, 1984–September 30, 1985). The chart below should help clarify the requirements as they pertain to the retention criteria.

Retention Criteria

To meet the retention criteria for the hospital's cost reporting period beginning during—	Number of discharges standards
Federal FY 1985 (that is, 10/1/84–9/30/85).	For the hospital's cost reporting period beginning during Federal FY 1984 (10/1/83–9/30/84): (a) 6000; or (b) The applicable regional standard published in the September 3, 1985 final rule.
Federal FY 1986 (that is, 10/1/85–9/30/86).	For the hospital's cost reporting period beginning during Federal FY 1985 (10/1/84–9/30/85): (a) 5369; or (b) The applicable regional urban standard published in this final rule.
Federal FY 1987 (that is, 10/1/86–9/30/87).	For the hospital's cost reporting period beginning during Federal FY 1986 (10/1/85–9/30/86): (a) The national discharges standard; or (b) The applicable regional median urban standard To be published in the FY 1988 update notice.

Comment: A number of commenters believe that we should eliminate the number of discharges criterion because the case-mix index criteria and the one of three optional criteria are sufficient to determine rural referral center status. They believe that failure to meet or sustain a specified number of discharges should not be a reason to deny or lose referral center status. Also, one commenter believes that we should substitute scope of services provided for the number of discharges criterion while another commenter believes that we should develop a standard that identifies variance in cost per case based on the typical urban hospital in the State or region. Another commenter suggested that the current regional criteria for discharges are unfair in that a hospital may meet the minimum standard in one region, but not in his own region. The commenter suggested that we establish a minimum number of discharges standard using the lowest standard of the nine regions. One commenter suggested that the number of discharges standard should be lowered to the 3,000 level that applies only to osteopathic hospitals.

Response: We continue to believe that the number of discharges criterion is an appropriate measure for determining and retaining rural referral center status. Congressional intent clearly indicates that the referral center adjustment be limited to larger than average hospitals. We believe that use of the number of discharges criterion is one measure of distinguishing larger hospitals. Moreover, the notion that a hospital must serve as a center for referrals loses any meaning when the discharge criterion is eliminated because there are a substantial number of hospitals that have high case-mix indexes not necessarily because they are referral

centers but because the relatively few Medicare beneficiaries they treat fall predominantly into high-weighted DRGs.

In reference to the commenter's suggestion that we substitute other criteria (such as scope of services or cost per case comparisons to typical urban hospitals) for the number of discharges criteria, we are continuing to investigate and evaluate other methods to identify and monitor rural referral centers. However, at this time, we do not believe that either of the suggested alternatives is viable. If we interpret scope of services to mean that a hospital has the capacity to furnish a wide range of disgnostic and therapeutic services, it does not necessarily follow that such a hospital is treating the sickest patients or most complex cases. For example, the AHA's listing of facility codes, which some commenters have suggested as the basis for a scope of services criterion, captures services that we would expect to be relatively sophisticated and resource-intensive (such as open heart surgery facilities, megavoltage radiation therapy, burn care unit, neonatal intensive care unit) as well as services that we would expect to be relatively less resource intensive (such as dental services or health promotion) and services that are common among virtually all hospitals (such as emergency department, organized outpatient department, pharmacy, and volunteer services department).

Because a large number of these facility codes describe services that are or may be furnished on other than an inpatient basis, the fact that a hospital offers a broad scope of services thus defined does not necessarily mean that its inpatient hospital services are comparable to the inpatient hospital services of a typical urban hospital.

Moreover, we believe that the number of dischargers criterion is a proxy, albeit an imperfect one, for scope of services. In general, larger hospitals (as measured by bed size) have historically had higher costs per case than smaller ones, all other things being equal. Since economic theory would predict the opposite (that is, that larger hospitals would have lower average costs per case than smaller hospitals because they can benefit from economies of scale), we believe that bed size may be related to scope of services. To the extent that this relationship exists, the number of discharges, which is a function of bed size, may already implicitly reflect scope of services. Neither do we believe that cost per case should be used to evaluate rural referral center status. The prospective payment system was specifically designed to move reimbursement away from recognition of reasonable costs. Thus, we are not persuaded that differentiating among hospitals on the basis of their costs is appropriate or that cost differences among hospitals capture the nature of a hospital as a referral center. Cost variation could also capture variations in practice patterns, organizational structure, operating inefficiency, and other characteristics not necessarily reflective of a referral center.

Section 1886(d)(5)(C)(i) of the Act requires that rural referral center status should be determined for a rural hospital (in part) "by reason of certain of its operating characteristics being similar to those of a typical urban hospital located *in the same region.*" [italics added] Therefore, we are not permitted to establish a minimum number of discharges standard based on the lowest median urban regional level.

We do not agree with the commenter's suggestion that all rural referral centers be evaluated using the 3,000 level for the number of discharges standard that applies to osteopathic hospitals. We believe that Congress established this lower standard for osteopathic hospitals because, as specialty hospitals, they are generally smaller and admit fewer patients. Because section 1886(d)(5)(C)(i) of the Act specifically limits this qualification to osteopathic hospitals, we do not believe that this standard should apply to all hospitals. As proposed, we are revising §412.96(c)(2) to provide that the 3,000 level for number of discharges applies to osteopathic hospitals.

Comment: One commenter asked whether we used different criteria in counting discharges for the purpose of rural referral center status in FYs 1985 and 1986; that is, in FY 1985, we excluded discharges from excluded distinct part units whereas in FY 1986, we excluded discharges from excluded distinct part units and newborn units.

Response: The mention of newborn units in both the June 10, 1985 NPRM and in the September 3, 1985 final rule was not a change of policy, but represented a clarification of established policy. Discharges from newborn nursery units are not included in the count of total discharges for any Medicare purposes. Therefore, we did not believe it was necessary to mention newborn units in our original regulations. However, because questions about such discharges were asked in several instances, we decided to clarify in the preamble to the FY 1986 prospective payment regulations that such discharges cannot be counted toward meeting the discharge criterion.

2. *Case Mix Index*

Section 412.96(c)(1) provides that HCFA will establish updated national and regional case-mix index values in each year's annual notice of prospective payment rates for purposes of determining referral center status.

On the basis of hospital bills received in HCFA through March 1986, we determined in the NPRM that the national average case-mix index had increased by 15.4 percent since 1981. Using these data, we proposed to update the national case-mix criterion as follows:

$$\frac{1.03 \times 1.154}{1.0105} = 1.1763$$

in which:

- 1.03 represented the 1981 case-mix index benchmark for complexity of cases treated in a facility;
- 1.154 represented the increase (15.4 percent) in the national average case mix since 1981, for discharges through the midpoint of the current Federal fiscal year; and
- 1.0105 represented the reduction in the DRG relative weights for discharges occurring on or after October 1, 1984. (See the August 31, 1984 final rule (49 FR 34770).)

The same method (and percentage value of 15.4) was used to increase each 1981 regional median urban case-mix value.

Therefore, in addition to meeting other criteria, we proposed in the NPRM that to qualify as a referral center for cost reporting periods beginning on or after October 1, 1986, or for purposes of the triennial review for retention of referral center status, a hospital's case-mix index for the Federal fiscal year ending September 30, 1986 would have to be at least—

- 1.1763; or
- Equal to the adjusted median case-mix index for urban areas calculated by HCFA for the census region in which the hospital is located as indicated in the table below.

Region	Adjusted urban median case-mix
1	1.2048
2	1.2230
3	1.1820
4	1.1945
5	1.1534
6	1.1671
7	1.1100
8	1.2060
9	1.2254

Comment: Several commenters stated that the proposed case-mix index criteria represented a fair measure of referral center status. However, a number of other commenters believe that the increase in the case-mix index standards was too high because they believe that the case mix of rural hospitals has increased at a slower rate than that of urban hospitals. One commenter noted that rural hospitals are unable to shift patients in lower-weighted DRGs to other hospitals because the rural hospital is frequently the only hospital located in an area. Another commenter urged that we eliminate case mix as a criterion for determining referral center status.

Response: We continue to believe that case mix is a valid and fair measure of referral center status. The case-mix index measures both the complexity of cases and the sophistication of care provided, a criterion we believe satisfies congressional intent (August 31, 1984 final rule (49 FR 34746)). We assume that rural referral centers treat the sickest patients and most complicated cases from other rural community hospitals that have neither the staff nor the equipment to care for them.

If a hospital is truly serving as a referral center and receiving the most complex cases, we do not believe the number of discharges in lower-weighted DRGs would be sufficient to affect its case-mix index seriously. Moreover, there is no evidence that rural hospitals have less opportunity than urban hospitals to shift certain types of cases to outpatient settings. In fact, many rural referral centers have complained that our failure to modify the number of discharges standard in the September 3, 1985 final rule disadvantaged them precisely because they had responded to the prospective payment system by moving certain cases from inpatient to outpatient settings.

However, based on the many comments received regarding the high case-mix index standards that must be met to qualify for and to retain rural referral center status, we are revising both the methodology for establishing the standards and the period of time to which the standards apply. To meet the application criteria for cost reporting periods beginning during Federal FY 1987 (October 1, 1986 through September 30, 1987) and to meet the retention criteria for cost reporting periods beginning in Federal FY 1986, the hospital must have a case-mix index based on its discharges subject to prospective payment occurring *during Federal FY 1985* equal to or exceeding either the national or the applicable regional value shown below.

National	1.1275
Region	
1	1.0923
2	1.0982
3	1.1272
4	1.1224
5	1.0988
6	1.1642
7	1.0658
8	1.1904
9	1.1710

Rather than updating the national benchmark of 1.03 and the regional urban median values by the overall percentage increase in the Medicare case mix, we have established these standards by determining the actual median Medicare case-mix indexes of urban hospitals nationally and by census region for discharges occurring in Federal FY 1985. However, because the actual median urban case-mix index (1.1165) for Region 7 for Federal FY 1985 exceeded the benchmark that we published in the September 3, 1985 final rule (which at that time applied to discharges in Federal FY 1985), and because we are publishing these standards in this final rule without opportunity for prior public comment, we have used the lower case-mix index value published September 3, 1985 so as not to disadvantage hospitals in this region.

For the benefit of hospitals seeking to qualify as referral centers or those wishing to know how their case-mix index compares to the criteria, we have published FY 1985 case-mix indexes in Table 3c of section IV of the addendum. In keeping with our policy on discharges, we have computed these case-mix indexes based on all Medicare discharges subject to DRG-based payment (that is, excluding Medicare patient discharges from excluded prospective payment system units). The resulting case-mix indexes are based on bills received in HCFA through June 1986.

We note that these case-mix indexes differ from those in the NPRM for the following reasons. These indexes are based on bills received in HCFA through June 1986 for discharges in Federal FY 1985, whereas those in the NPRM were based on bills received through March 1986 for discharges in Federal FY 1985. In addition, because the case-mix indexes in the NPRM were to be used in standardizing capital-related costs per case, they were calculated using the most current DRG classifications and weighting factors (that is, those in the September 3, 1985 final rule) in order to be as comparable as possible to the DRG classifications and weighting factors that would have been used to adjust the capital-related prospective payment rates. The case-mix indexes in Table 3c of section IV of the addendum are based on DRG classifications and weighting factors actually in effect during Federal FY 1985 (that is, those published in the August 31, 1984 final rule). In addition, the title of Table 3c in the NPRM inadvertently indicated that the case-mix indexes were computed on the basis of hospitals' cost reporting periods beginning in Federal FY 1985 rather than on the basis of discharges occurring in Federal FY 1985.

We are providing the chart below to clarify the application criteria.

Application Criteria

For rural referral center status effective with a hospital's cost reporting period begining during—	Case-Mix Index Standards
Federal FY 1985 (that is, 10/1/84–9/30/85).	(a) 1.03 for 1981; (b) 1.1053 for the hospital's first prospective payment cost reporting year; or (c) The applicable regional median urban case-mix index published in the August 31, 1984 final rule.
Federal FY 1986 (that is, 10/1/85–9/30/86).	For discharges occurring during Federal FY 1984 (10/1/83–9/30/84): (a) 1.1294; or (b) The applicable regional median urban case-mix index published in the September 3, 1985 final rule.
Federal FY 1987 (that is, 10/1/86–9/30/87).	For discharges occurring during Federal FY 1985 (10/1/84–9/30/85): (a) 1.1275; or (b) The applicable regional median urban case-mix index published in this final rule.
Federal FY 1988 (that is, 10/1/87–9/30/88).	For discharges occurring during Federal FY 1986 (10/1/85–9/30/86): (a) The national median urban case-mix index; or (b) The applicable regional median urban case-mix index To be published in the FY 1988 update notice.

The following chart elaborates on the case-mix index standards applicable to hospitals seeking to meet the retention criteria.

Retention Criteria

To meet the retention criteria for the hospital's cost reporting period beginning during—	Case-mix index standards
Federal FY 1985 (that is, 10/1/84–9/30/85).	For discharges occurring during Federal FY 1984 (10/1/83–9/30/84): (a) 1.1053; or (b) The applicable regional median urban case-mix index published in the August 31, 1984 final rule
Federal FY 1986 (that is, 10/1/85–9/30/86).	For discharges occurring during Federal FY 1985 (10/1/84–9/30/85): (a) 1.1275; or (b) The applicable regional median urban case-mix index published in this final rule.
Federal FY 1987 (that is, 10/1/86–9/30/87).	For discharges occurring during Federal FY 1986 (10/1/85–9/30/86): (a) The national median urban case-mix index; or (b) The applicable regional median urban case-mix index to be published in the FY 1988 update notice.

Comment: A number of commenters believe that it is unfair to include teaching hospitals in the calculation of both the national and the regional case-mix indexes. They stated that the case-mix indexes of rural referral centers should be compared to the case-mix indexes of typical full service community hospitals. Because teaching hospitals often have high case-mix indexes, they believe that those hospitals unfairly distort the national and regional levels.

Response: We do not agree with the commenters' suggestions for a number of reasons. First, inclusion of teaching hospitals in the case-mix index calculations is not a change as one commenter stated. The case-mix indexes of all urban hospitals, teaching and nonteaching, were included in establishing the base year regional median urban case-mix index standards, and all hospitals were considered in establishing the base year national case-mix index standard. Second, the case-mix index benchmarks for application of rural referral center status were established each year based on the percentage of change from our base year standards in 1981. Thus, although teaching hospitals in general have higher than average case-mix indexes, they also had higher than average case-mix indexes in 1981 as well. That does not necessarily mean that teaching hospitals have contributed disproportionately to the increase in the Medicare case mix.

Furthermore, of the approximately 5800 Medicare-participating hospitals under the prospective payment system, about 1000, or more than 17 percent, are considered teaching hospitals. Since our data show that a similar proportion (15 percent) of rural referral centers are also teaching hospitals, we do not believe that it would be reasonable to discount the case-mix index values of teaching hospitals in establishing the case-mix index standards.

Finally, to the extent that the greater proportion of Medicare cases from urban hospitals contributes disproportionately to the percentage increase in the Medicare case mix, we believe that using the actual median urban case-mix indexes instead of updating the 1981 case-mix index standards by a percentage change overcomes that shortcoming.

Comment: Several commenters were confused as to the specific period to which the case-mix index standards applied.

Response: We want to reiterate that the case-mix index is computed based on the Federal fiscal year, not on the basis of the hospital's own cost reporting period. The Federal fiscal year runs from October 1 of each year until September 30 of the following year. Thus, Federal FY 1985 ran from October 1, 1984 through September 30, 1985. Federal FY 1986 runs from October 1, 1985 through September 1, 1986, etc. The chart on retention criteria shown above should help to clarify the periods of time to which each year's criteria apply.

Comment: One commenter suggested that we establish a minimum case-mix index equal to the lowest case-mix index benchmark in any of the nine regions.

Response: We cannot accept the commenter's suggestion. Section 1886(d)(5)(C)(i) of the Act requires a rural hospital to be classified as a rural referral center "by reason of certain of its operating characteristics being similar to those of a typical urban hospital located in the same region." Thus, we believe the statute requires that rural hospitals be evaluated for referral center status on the basis of their comparability to urban hospitals in the same census region.

Comment: One commenter suggested that the case-mix index standard be established based on the median case-mix index level of urban hospitals that have fewer than 100 beds.

Response: We disagree with the commenter's suggestion because we do not believe it would represent a valid measure of referral center status and it does not follow congressional intent. In establishing referral centers under Pub. L. 98–21, Congress described referral centers as "large" facilities that treat "patients who require an intensity of resources beyond the capabilities of general community hospitals," and "large technologically sophisticated hospitals." (129 *Cong. Rec.* S3224 (daily ed., March 17, 1983).) Section 2311(a) of Pub. L. 98–369 expanded section 1886(d)(5)(C)(i) of the Act to provide that a rural hospital may be classified as a rural referral center by demonstrating its similarity to a typical urban hospital in the same census region. As to the commenter's note that there are approximately 500 urban hospitals with fewer than 100 beds, we note that that number of urban hospitals, if correct, represents a small percentage of Medicare-participating hospitals under the prospective payment system. The commenter has not provided ample documentation to suggest that urban hospitals smaller than 100 beds typify urban hospitals, and therefore, we do not believe that revising the case-mix criteria as suggested would be appropriate.

Comment: One commenter believes that the urban and rural designations discriminate against rural hospitals and suggests that the distinction be eliminated. If this action is not feasible, the commenter urged that all hospitals located in rural counties adjacent to MSAs be designated as referral centers if their number of discharges equals the national or regional median number of discharges values. The commenter also suggested that all rural hospitals located in the same city or county as a Veterans' Administration Hospital be granted referral center status because they have to pay higher wages to their employees, regardless of whether the referral center criteria in § 412.96 are met.

Response: As we noted in the September 3, 1985 final rule (50 FR 35675) in response to a similar comment regarding urban and rural designations, Congress enacted provisions to pay hospitals as rural and urban, and we have no authority to eliminate these distinctions.

Section 1886(d)(5)(C)(i) of the Act further states that a rural referral center should demonstrate that its characteristics are "similar to those of a typical urban hospital located in the same census region." We believe that both case-mix index and volume of discharges are appropriate criteria for determining rural referral center status and represent the intent of Congress in enacting section 1886(d)(5)(C)(i) of the

Act. To apply the number of discharges criteria without applying the case-mix index criteria for hospitals located in counties adjacent to MSAs could result in some hospitals with low case-mix indexes being granted referral center status inappropriately. Likewise, to grant referral center status to all rural hospitals located in the same city or county as a Veterans' Administration Hospital would preclude application of criteria that we believe are appropriate for determining referral center status, without demonstrating that the affected hospitals are similar to typical urban hospitals in the region. We believe that the criteria we have established in § 412.96 represent a fair measure for identifying which hospitals serve as referral centers.

Comment: One commenter noted that one of its competitor hospitals, although comparable in all other ways except for a slightly higher case-mix index, receives the advantage of the rural referral center adjustment while his hospital does not. The commenter argues that the competing hospital, because of this advantage, is able to subsidize non-Medicare patients and questions why we pay higher rates to that other hospital when his hospital is providing the same care and treatment at lower rates.

Response: We recognize that such a situation does occur occasionally because one hospital narrowly misses one or more of the criteria to be a rural referral center, whereas a nearby hospital narrowly succeeds in meeting them. As we have stated previously, whenever numeric standards are established, this situation could arise. If we were to allow exceptions to these criteria, they would have to be limited to certain tolerances that, again, some hospitals could meet or fail to meet by a small margin.

In the instance cited by the commenter, because its competitor meets the case-mix criteria, as well as the other referral center criteria, we believe that the competing hospital is treating more complex cases, which sets it apart from the average rural community hospital. By meeting these criteria, the hospital is entitled to receive the referral center adjustment under section 1886(d)(5)(C)(i) of the Act.

In addition, in previous prospective payment rules (August 31, 1984 final rule (49 FR 34746), June 10, 1985 proposed rule (50 FR 24380), and September 3, 1985 final rule (50 FR 35676)), we discussed the retention criteria, and the fact that a hospital must meet the retention criteria in two out of three years in order to qualify for rural referral center status for three more years. Due to oversight, § 412.96(f) does not describe the two-out-of-three-year requirement. Therefore, we are making a technical conforming change to § 412.96(f) to provide this requirement.

The number of comments we received on rural referral centers indicates continuing and widespread concern over the referral center criteria. We wish to indicate that we are sensitive to the concerns on rural referral center issues and will continue in the future to evaluate the appropriateness of the criteria for qualifying for and retaining referral center status. In this process, we will be examining alternatives and studying the impact of various alternative criteria.

E. Changes to DRG Classifications and Weighting Factors

Under the prospective payment system, we pay for inpatient hospital services on the basis of a rate per discharge that varies by the DRG to which a beneficiary's stay is assigned. The formula used to calculate payment for a specific case takes an individual hospital's payment rate per case (comprised, during the transition period which ends October 1, 1987, of a hospital-specific portion and an urban or rural Federal portion adjusted for area wages) and multiplies it by the weight of the DRG to which the case is assigned. Each DRG weight represents the average resources required to care for cases in that particular DRG relative to the national average resources consumed per case by the average hospital. Thus, cases in a DRG with a weight of 2.0 would, on average, require twice as many resources as the average case for the average hospital.

Congress recognized that it would be necessary to recalculate the DRG relative weights periodically to account for changes in resource consumption. In addition, Congress provided the Secretary with authority to reclassify services and procedures within the DRG system to take into account changes in medical technology and treatment patterns. Accordingly, section 1886(d)(4)(C) of the Act requires that the Secretary adjust the DRG classifications and weighting factors effective for discharges occurring in FY 1986 and at least every four fiscal years thereafter. These adjustments are made to reflect changes in resource consumption, treatment patterns, technology, and any other factors that may change the relative use of hospital resources. The intention of Congress was that we would make changes as often as needed to achieve the objectives of the prospective payment system, including the need to keep current with developments in the areas of coverage and medical technology. The DRG reclassifications for discharges occurring on or after October 1, 1986 are set forth below.

The method of classifying cases into DRGs for payment under the prospective payment system involves a number of steps. The intermediary enters medical and other information contained in each patient's bill into its claims system and subjects it to a series of automated screens called the Medicare Code Editor. These screens are designed to identify cases that require further review before classification into a DRG can be accomplished.

After screening through the Medicare Code Editor and any further development of the claims, cases are classified by GROUPER into the appropriate DRG. The GROUPER software program was developed as a means of classifying each case into the appropriate DRG on the basis of the diagnoses and procedure codes and demographic information, that is, age, sex, and discharge status. It is used both to classify past cases in order to establish the DRG weights and to classify current cases for payment.

During the initial operating period of the prospective payment system, we learned that the use of the DRG method of classification posed some operational challenges that we needed to address further. We issued a notice on March 13, 1986 (51 FR 8762) to propose a number of improvements to the DRG classification system and finalized the proposal in a June 3, 1986 final notice (51 FR 20192). We are reflecting those changes in a revised GROUPER program to be effective with discharges occurring on or after October 1, 1986. A summary of the revisions to the GROUPER program is provided in Table 6 of section IV of the addendum. A detailed description of the DRG classification system and definitions of each DRG may be obtained by writing to—

Health Systems International, 100 Broadway, New Haven, Connecticut 06511.

Although we originally intended to limit modifications of the DRG classification system to a single annual notice, we have found that, at least for this year, such a practice is not appropriate. In response to the public's request, we proposed DRG changes early in the calendar year (March 13, 1986). However, ProPAC has made several recommendations concerning additional DRG classification changes. These recommendations were not presented until after publication of our proposed changes. Some of ProPAC's

recommendations have merit and represent analysis of data that were not available to us or problems that were not raised to us. We do not believe it is appropriate to delay recognition of ProPAC's suggested changes on DRG classification issues until our next annual publication of classification changes simply because its report was made subsequent to our proposed changes. To do so would unnecessarily delay implementation of improvements to the system. Consequently, we are revising the reference to an annual notice in § 412.10(a), and are publishing a second notice of DRG classification changes that are included in this document.

We continue to believe it would be most beneficial to the industry to strive toward a single annual notice of DRG changes. We also believe it is appropriate to propose such changes prior to the proposed rule on prospective payment system changes required each June. We will attempt to work with ProPAC more closely in the future with a goal of better coordinating our efforts in this area so that we may eventually achieve a single annual notice of DRG classification changes.

Comment: One commenter expressed disappointment that the NPRM made no provisions for adjusting the prospective payments to account for severity of illness. The commenter encouraged the development of a severity measure for DRGs that explicity addresses variation in the nursing component of hospital care.

Response: We are continuing to study and evaluate the issue of refining DRGs to account for severity of illness. We point out that this is an extremely complex and involved issue that cannot be implemented without careful assessment. In this regard, we note that the implementation of any severity measure is likely to redistribute substantial amounts of program funds from small less sophisticated hospitals to larger teaching facilities. Consequently, the evaluation of such a mechanism must be considered in conjunction with all aspects of the prospective payment system, especially payments for indirect medical education costs.

Comment: Several commenters recommended that an additional payment be made to hospitals treating end stage renal disease (ESRD) patients requiring dialysis services. The commenters believe such payment should equal 80 percent of the outpatient dialysis rate.

Response: We note that § 412.104(b) provides for an additional payment to hospitals with a high percentage of ESRD discharges. We believe this provision adequately accounts for the additional costs incurred by these facilities.

Comment: One commenter objected to the classification of cases involving retransplant of kidneys to DRG 468. The commenter also noted that if a biopsy of the donated kidney was performed, which is common practice in the facility where she is employed, the case was then classified into DRG 442 or 443 which even further reduced payment.

Response: As was pointed out in previous **Federal Register** documents concerning this issue, the classification of retransplant cases is related to a deficiency in ICD-9-CM diagnosis coding. We have referred this issue to the ICD-9-CM Coordination and Maintenance Committee for consideration. Additional comments encouraging the adoption of refinements to the complications of transplanted organ code (996.8) should be forwarded to Ms. Sue Meads, Co-chairperson of the ICD-9-CM Coordination and Maintenance Committee, National Center for Health Statistics, Room 2-19 Center Building, 3700 East-West Highway, Hyattsville, Maryland, 20782.

With regard to the coding of a biopsy on the donor kidney, we note that any procedures performed on an organ donated for transplant should not be coded on the Medicare claim of the beneficiary. Only procedures performed on the beneficiary are to be reported on the claim form. Appropriate coding of such cases will result in assignment to DRG 468 as intended. A separate payment is made with respect to the costs of services to the donor (see §§ 409.18 and 412.100).

1. *DRG Logic Issues—DRG 385*

We have been advised that it is common practice in hospitals to report the discharge status of a newborn discharged to foster care as "transfer-other". The GROUPER program assigns all newborns to a distinct DRG (DRG 385) if the discharge status is reported as "died or transferred," regardless of the type of transfer cited.

The intent of DRG 385 is to establish a unique classification for acutely ill newborns. We do not believe it is appropriate to use this classification for normal newborns simply because they are discharged to foster care. Consequently, we are revising the GROUPER logic for DRG 385 so that only cases with reported discharge status of died or transferred to an acute care hospital will be classified to this DRG, as was originally intended. All other discharges for newborns are classified into the appropriate DRGs (DRGs 386-391) within MDC 15 based on their diagnosis and procedure codes. Since this is a low volume procedure for Medicare purposes, this classification change will not result in a change in the DRG weighting factor, but would only affect future classification of cases to this DRG.

Comment: One commenter objected to our proposal to limit DRG 385 to newborns who died or were transferred to an acute care hospital. The commenter believes that DRG 385 should be assigned when the newborn is transferred to a skilled nursing or intermediate care facility, home health care or foster care as such cases are likely to consume additional resources.

Response: DRG 385 is intended to include only those cases in which a newborn is so acutely ill that the infant either cannot be treated in a community hospital setting or does not survive. Newborns who are discharged alive, whether to a lower level of care facility, home health care, home, or to foster care, are appropriately classified to other DRGs within MDC 15. We point out that it is very rare for a newborn to be transferred to a skilled nursing facility (SNF). However, regardless of the age of the beneficiary, transfer to SNFs are considered as discharges for prospective payment purposes. We note that in most cases newborns that require skilled nursing care after discharge are not classified as normal newborns. Further, such infants are not currently classified into DRG 385 as these cases are considered discharges rather than transfers.

As the commenter pointed out, the UB-82 discharge status code of "transfer—other" is not intended to include foster care. Nonetheless, we have been advised that this code is frequently used in these situations. We believe it is appropriate to revise the DRG classification system to eliminate this unintended misclassification of such cases.

Comment: One commenter questioned the appropriateness of having all newborn transfers classified into the same DRG, citing the differences in resources associated with transfers of acutely ill infants to a referral center and transfers from a referral center to a community hospital just to gain weight.

Response: We agree that there may be significant differences in resources between the two types of transfers cited. However, we do not believe it is administratively feasible to alter the DRG configurations to address this issue as the Medicare billing form does not differentiate among transfers by reason

of transfer or type of hospital receiving the transfer. Further, we do not believe the transfer of an infant to a community hospital for purposes of gaining weight occurs frequently enough to warrant such a distinction. Therefore, we believe it is appropriate to group together into one DRG all cases of newborns who died or were transferred to another acute-care hospital.

2. *Burns*

Throughout the past year we have received numerous letters advising us of problems with the classification of burn cases. ProPAC also has studied this issue, although it did not make a formal recommendation on this matter. (See Technical Appendixes to ProPAC's April 1, 1986 Report to the Secretary, pages 124–133.)

There appear to be numerous factors contributing to the high heterogeneity of the burn DRGs, and we agree with ProPAC that additional evaluation of MDC 22 (Burns) is necessary. However, we have found that significant improvement in the homogeneity of DRG 457, Extensive burns, can be achieved by further classifying extensive burn cases based on operating room procedures. Consequently, we proposed establishing a new DRG for MDC 22. We are creating DRG 472, Extensive burns with burn-related operating room (O.R.) procedure, that would include cases with a principal or secondary diagnosis of extensive burns (those currently classified in DRG 457) and any of the operating room procedures currently classified in DRGs 458, Non-extensive burns with skin grafts, and 459, Non-extensive burns with wound debridement and other operating room procedure. DRG 457 is modified to specify that this classification includes extensive burns without these operating room procedures.

Comment: Two commenters expressed support for our proposed reclassification of extensive burn patients. These commenters encouraged similar treatment of other unspecified like areas in the future.

Response: We appreciate support on our reclassification of extensive burn patients. We point out, however, that each reclassification request is evaluated individually and in conjunction with its impact on the entire DRG structure. Commenters noting other areas potentially in need of reclassification must provide specific information as to the issues in question.

Comment: Two other commenters approved of the reclassification of extensive burn cases but did not believe the revision adequately addressed the problems in MDC 22. Both commenters noted the continued heterogeneity of the DRGs and the alleged inadequacy of outlier payments. They recommended that burn centers be paid in a different fashion from other acute care hospitals treating burn patients.

Response: We acknowledge that further refinements may be necessary in MDC 22. We will continue to study this issue and welcome specific suggestions in this regard. However, we do not believe it is appropriate to establish a separate payment mechanism for burn centers at this time. Such a recommendation requires detailed consideration of numerous aspects, such as criteria for qualification, operational modifications, and impact on the DRG structure, which cannot be made swiftly. If we find further changes in this MDC are necessary, they will be proposed in a future DRG classification notice.

Comment: Two other commenters recommended that procedure code 8699 (other operations on skin and subcutaneous tissue, not otherwise specified) be considered as an operating room procedure in DRGs 458, 459 and 472.

Response: We have previously responded to the issue of including this procedure as an operating room procedure in both the March 13, 1986 proposed notice (51 FR 8774) and June 3, 1986 final notice (51 FR 20199). As we noted in those documents, there is a wide variety of procedures coded as 8699, many of which do not require an operating room. We are currently considering a mechanism that would permit more precise identification of procedures coded under a single ICD-9-CM rubric. Development of such a mechanism may permit future classification changes to address this concern.

3. *Surgical Hierarchy*

Review of claims data and DRG relative weighting factors for DRGs has led us to conclude that revision of the surgical hierarchy of several MDCs is necessary. For the most part, the present hierarchy is based on clinical judgment and aged resource data. We have found that in some cases, the present hierarchy results in classification of cases with multiple surgical procedures to lower weighted DRGs because a less resource-intensive procedure is higher up in the hierarchy than another more resource-intensive procedure. Changes in practice patterns and technology have occurred since the surgical hierarchy was developed. The recalibration of the DRGs using FY 1984 claims data indicates current resource utilization for certain classes of surgical procedures is somewhat different from what was common when the surgical hierarchy was developed.

We believe that cases showing multiple surgical procedures should be classified into the DRG that coincides with the most resource intensive procedure performed. Therefore, we proposed reordering the surgical hierarchy for MDCs 2, 3, 5, 6, 7, and 21 as set forth below:

MDC 2—Extraocular Procedures Except Orbit are placed above Primary Iris Procedures.

MDC 3—Cleft Lip and Palate Repair, and Sinus and Mastoid Procedures (in that order) are placed above Salivary Gland Procedures Except Sialoadenectomy.

MDC 5—Permanent Cardiac Pacemaker Implantation is placed above Vascular Procedures.

MDC 6—Mouth procedures are placed above Anal and Stomal Procedures.

MDC 7—Diagnostic Procedures are placed above Biliary Tract.

MDC 21—Wound Debridements are placed above Skin Grafts.

The reclassifications affect the weights of the DRGs from which and to which cases are being moved. In the NPRM we estimated the revised weights wherever possible and reflected those estimated weights in that document.

However, because changes in the surgical hierarchy alter the order in which the GROUPER searches for surgical procedures upon which to base DRG assignments, the effects of the surgical hierarchy changes could not be estimated, as the GROUPER must be entirely reprogrammed to incorporate the hierarchy changes. Since we proposed the hierarchy changes based on the fact that the current relative weights for DRGs in certain sections of the hierarchy are greater than the relative weights for DRGs higher up in the surgical hierarchy, we anticipated that the surgical hierarchy changes should yield more homogeneous DRGs where multiple procedures are involved. The following table lists the DRGs whose weights are affected by the surgical hierarchy changes in each MDC:

MDC 2—DRGs 38, 40 and 41

MDC 3—DRGs 51, 52, 53 and 54

MDC 5—DRGs 108, 110, 111, 112, 113, 114, 115 and 116

MDC 6—DRGs 157, 158, 168 and 169

MDC 7—DRGs 193, 194, 195, 196, 197, 198, 199 and 200

MDC 21—DRGs 439 and 440

The revised GROUPER permits us to re-group Medicare cases from the FY 1984 Part A Tape Bill (PATBILL) file in accordance with the manner in which they would be grouped for payment

purposes beginning October 1, 1986. Once we revised the GROUPER program, we were able to evaluate the impact of our proposed changes. In nearly every instance, we found that the revisions produced results consistent with our expectations. That is, there was minimal movement of cases with only slight adjustments to the weighting factors. However, in proposing the change in the surgical hierarchy for MDC 7, we had not anticipated the significant number of cases involving both diagnostic and therapeutic biliary tract procedures. The proposed revision of the surgical hierarchy for MDC 7 would have resulted in an increase of over 43,000 cases being assigned to DRG 200 from the biliary tract procedure DRGs resulting in significant differences in the weighting factors for all DRGs affected.

The movement of this large volume of cases, in and of itself, would not be sufficient reason to curtail our proposed revision of the surgical hierarchy. However, upon analysis of the data in question, we became aware that the proposed change to MDC 7 resulted in DRGs which, when weighted for frequency, were less homogenous than the current DRG configurations. Further, the movement of a large volume of less costly cases involving both therapeutic and diagnostic procedures into DRGs 199 and 200 reduced the average charge for these DRGs. Thus, the proposed revision would result in the anomalous situation of assigning such multiple procedures to lower-weighted DRGs for diagnostic procedures. Consequently, we are not implementing our proposed revision of the surgical hierarchy change in MDC 7. That is, for FY 1987, biliary tract procedures will remain ordered above diagnostic procedures in the surgical hierarchy for MDC 7, as they are in the current GROUPER.

As mentioned above, all other proposed surgical hierarchy changes result in more appropriate DRG assignments of cases involving multiple procedures than does the current GROUPER. Accordingly, we are reweighting the DRGs in the final rule so as to ensure that the reclassifications adopted result in neither increases nor decreases in aggregate Medicare payments. Reweighting is distinguished from recalibration in that it involves use of the same data base as was used for the weights currently in place, whereas recalibration entails the use of a different, more recent data base. Because reweighting is otherwise identical to recalibration, we noted that the weights for DRGs in which no reclassification is made may be affected slightly.

Additional information pertaining to these changes may be obtained by writing to the following address:

HCFA, GROUPER CHANGES
P.O. Box 26681
Baltimore, Maryland 21207

Comment: One commenter questioned why the surgical hierarchy changes were not included with the hierarchy changes adopted in the September 3, 1985 final rule for FY 1986.

Response: We had proposed to alter the surgical hierarchy in MDCs 2, 3, 5, 6, 7, and 21 after reviewing the FY 1986 recalibrated weights and noted that some procedure groups that were ordered lower in the surgical hierarchy were more resource intensive than other procedure groups that were ordered higher in the hierarchy.

Failure to propose these changes at the time of proposing recalibration was due to the limited amount of time available between having the recalibration results available and publication of the June 10, 1985 proposed rule, as well as uncertainty of recalibration results published in the proposed rule. (The FY 1984 data base was incomplete at the time of publishing the proposed rules for FY 1986.) We do not believe this oversight in adjusting the surgical hierarchy at the time of recalibration in any way negates the necessity of making these changes once we have final recalibration results and sufficient time to evaluate the relative resource intensity of procedure groups using current data.

We point out that only claims showing multiple procedures from different parts of the surgical hierarchy in the same MDC are affected by the surgical hierarchy changes. Since such situations occur relatively infrequently, we expect only minimal changes in DRG weighting factors as a result of the change. However, we believe it is only equitable to allow claims involving multiple procedures to be classified to the higher weighted DRG.

Comment: One commenter questioned how the revised surgical hierarchy for MDC 5 affects DRG 108.

Response: The revision of the surgical hierarchy for MDC 5 would generally order implantation of permanent cardiac pacemaker systems above vascular procedures and amputations. DRG 108 includes both cardiovascular procedures and cardiothoracic procedures involving extracorporeal circulation. We believe that the use of extracorporeal circulation is more influential as an indication of resource intensity in these cases than the individual procedure performed. Consequently, we are not altering the surgical hierarchy of vascular procedures involving extracorporeal circulation. Only the vascular procedure DRGs performed without a heart pump (DRGs 110, 111, and 112) and amputations (DRGs 113 and 114) are affected by this revision of the hierarchy.

We are revising the titles of DRGs 108 and 109 slightly to clarify the composition of these DRGs. DRG 108 will now be titled "Other Cardiothoracic or Vascular Procedure with Pump." DRG 109 will be titled "Other Cardiothoracic Procedures without Pump." We believe this change more accurately describes the composition of these DRGs.

Comment: One commenter noted that changes in the surgical hierarchy had not been made to MDC 8. Given the classification changes proposed for this MDC, he believes surgical hierarchy changes are necessary to group cases with multiple procedures appropriately.

Response: We agree that changes in the surgical hierarchy of MDC 8 are necessary. Upon review of the weighting factors of the DRGs in this MDC, including the revisions to the upper extremity and hand DRGs (DRGs 223, 224, 228, and 229), we are revising the surgical hierarchy as follows:

- Bilateral or multiple major joint procedures of the lower extremity.
- Major joint and limb reattachment procedures of the lower extremity.
- Hip and femur procedures except major joint.
- Wound debridement and skin graft except hand.
- Amputations.
- Back and neck procedures.
- Biopsies.
- Lower extremity and humerus procedures except hip, foot and femur.
- Upper extremity procedures except humerus and hand.
- Local excision and removal of internal fixation devices.
- Knee procedures.
- Soft tissue procedures.
- Hand procedures.
- Arthroscopy.
- Foot procedures.
- Other musculoskeletal system and connective tissue O.R. procedures.

This revision is consistent with the hierarchy revisions proposed for other MDCs in that the GROUPER will assign cases involving multiple procedures to the DRG involving the most resource-intensive procedure. For example, a case involving both a foot procedure and a soft tissue procedure would be grouped to DRG 226 or 227, involving soft tissue procedures, instead of to DRG 225 (foot procedures), as is currently the case.

Based on FY 1984 PATBILL data, soft tissue procedures are more resource-intensive than foot procedures.

4. *ProPAC Recommendations and Our Responses on DRG Classifications and Weighting Factors*

a. Improving the Measurement of Hospital Case Mix (Recommendation No. 20)

Recommendation—ProPAC believes that the DRG system is currently the most appropriate of the available measures of hospital case mix for the Medicare prospective payment system and should be retained in principle as the system upon which to base Medicare payments to hospitals. Resource use varies considerably, however, within some DRGs. Therefore, ProPAC intends to continue its analysis of individual DRGs and to undertake a systematic evaluation of the entire system. The goal is to identify potential problems in DRG construction and classification and recommend changes that will improve the homogeneity within DRGs and the equity of payment across hospitals.

Response in the NPRM—We indicated our agreement with ProPAC's assessment of the DRG system and support its evaluation efforts. We anticipate the evaluation of the DRG system to be an ongoing process. To improve DRG assignment criteria and refine the grouping methodology in order to obtain more clinically homogeneous categories with less variance in inpatient resource consumption, we modified the DRG classifications in the September 3, 1985 final rule (50 FR 35647) and made further modifications in the June 3, 1986 final notice (51 FR 20192).

We received no comments on this provision.

b. Process for Maintaining and Updating the ICD-9-CM (Recommendation No. 21)

Recommendation—ProPAC recommended that the Secretary should establish a mechanism for maintaining and updating ICD-9-CM diagnosis and procedure codes in a timely and effective manner. This process should include adequate educational support for all users.

Response in the NPRM—We noted that the ICD-9-CM Coordination and Maintenance Committee had already been established for the purpose of maintaining and updating the ICD-9-CM codes. The Committee is comprised entirely of representatives of Federal agencies with an interest in ICD-9-CM coding and its modification, updating, and use for Federal programs. The Committee is co-chaired by staff from HCFA and the National Center for Health Statistics.

As was previously stated in the March 13, 1986 proposed notice (51 FR 8776) concerning DRG classification changes, new ICD-9-CM codes adopted by July 1 of each year by this Committee would be accommodated by the GROUPER program, without DRG classification changes, at the beginning of the next Federal fiscal year. When the NPRM was issued, the ICD-9-CM Coordination and Maintenance Committee, had approved new procedure codes in nine areas. The Committee held its spring meeting on May 21 and 22, 1986. New ICD-9-CM codes were being considered to identify the following:

Parenteral and Enteral Nutrition
HTLV-3/LAV Infections
Pacemaker Technology
Gastric Endoscopic Balloon Procedures
Percutaneous Balloon Valvoplasty
Lasers
Ureterscopy and Pyeloscopy
Percutaneous Angioscopy
Endoscopic and Percutaneous Procedures on the Biliary Tract
Percutaneous Embolization
Rectosigmoid Resection

The June 3, 1986 final notice of changes to the DRG classification system (51 FR 20201) contained a listing of new ICD-9-CM codes that had been approved by that date. The rubric assigned to implantation of artificial urinary sphincter in that publication contained a typographical error. The correct rubric is 58.93.

Subsequent to publication of the June 3, 1986 final notice, the following new procedure codes have been approved for use effective October 1, 1986.

Parenteral and enteral nutrition

96.6 Enteral infusion of concentrated nutritional substances
99.15 Parenteral infusion of concentrated nutritional substances

Percutaneous valvuloplasty

35.96 Percutaneous valvuloplasty

Percutaneous angioscopy

38.22 Percutaneous angioscopy

Gastric procedures

44.21 Dilation of pylorus by incision
44.22 Endoscopic dilation of pylorus
44.29 Other pyloroplasty
44.93 Insertion of gastric bubble
44.94 Removal of gastric bubble

Biliary tract procedures

51.97 Therapeutic Endoscopic procedures on biliary tract, oral route
51.98 Other percutaneous procedures on the biliary tract

Debridement of nail

86.27 Debridement of nail

In addition, the following new diagnosis codes have been approved for use effective October 1, 1986.

042.0 HTLV-111/LAV infection with specified infections
042.1 HTLV-111/LAV infection causing other specified infections
042.2 HTLV-111/LAV infection with specified malignant neoplasms
042.9 Acquired immunodeficiency syndrome with or without other conditions
043.0 HTLV-111/LAV infection causing lymphadenopathy
043.1 HTLV-111/LAV infection causing specified diseases of the central nervous system
043.2 HTLV-111/LAV infection causing other disorders involving the immune mechanism
043.3 HTLV-111/LAV infection causing other specified conditions
043.9 Acquired immunodeficiency syndrome-related complex with or without other conditions
044.0 HTLV-111/LAV infection with specified acute infections
044.9 HTLV-111/LAV infection not otherwise specified
795.8 Positive serological or viral culture findings for HTLV-111/LAV

Errata and other coding documentation (excludes notes, includes notes) will be published separately.

Comment: Many commenters objected to the fact that the American Hospital Association (AHA) and the American Medical Record Association (AMRA) are not members of the ICD-9-CM Coordination and Maintenance Committee. Numerous other organizations, such as the American Medical Association and the Health Insurance Association of America, were mentioned as organizations that should be included for membership in the Committee.

Response: The ICD-9-CM currently in use has not been updated since March, 1980. Medical technologies are rapidly evolving, but the ICD-9-CM procedure codes have not been revised to adequately capture this technology. Given the urgent need to update the ICD-9-CM codes, it was necessary to establish a mechanism to fulfill this requirement quickly.

In order to set into place quickly the necessary mechanism to update the ICD-9-CM coding system, we decided to establish a committee comprised of Federal members only. However, based

on comments, we are reconsidering our position concerning public members on the Committee. Currently, the Department of Defense and the Veterans Administration have nonvoting members on the Committee. We anticipate that public members would be included in the same capacity. In the meantime, the opinions of the public will continue to be solicited mainly through their participation in the Committee's open meetings, and carefully considered by the Committee in formulating decisions related to its mission.

Comment: Several commenters questioned the educational background of the members of the Committee, noting that it is essential that they have formal coding training.

Response: When the ICD-9-CM Coordination and Maintenance Committee was initially established, each participating agency designated personnel to be members. Some agencies believed it was important to designate management personnel to the Committee to assure the involvement of high level staff as the decision makers. Once it became clear that the work of the Committee is technical in nature, these nontechnical staff were replaced. Current members of the Committee are predominantly registered record administrators and accredited record technicians who are members of the AMRA. (Recommendations on the Committee must be approved by the Administrator of HCFA and the Director of the National Center for Health Statistics.)

Comment: One commenter questioned how coding errata material would be disseminated to hospital coders.

Response: Coding actions recommended by the Committee and approved by the co-chair agency heads by July 1 of each year will become effective October 1 of that year. During this 3-month period, members of the Committee and agency support staff will be preparing material for appropriate dissemination of the decisions. Hospital medical record departments may purchase the annual publication of the coding decisions through the Government Printing Office. This year's publication may be obtained by writing to Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, requesting New/Modified ICD-9-CM Procedure Codes and Alphabetic Index.

We have made arrangements for both the AHA *Coding Clinic for ICD-9-CM* and the September issue of the *Journal of the American Medical Record Association* to provide information on the coding decisions. We have also used the HCFA instructional issuance system to notify our contractors, PROs, and participating hospitals of the coding decisions. Finally, we have published a notice of new codes (August 29, 1986) as well as including new codes in the prospective payment notices. We believe that these avenues of dissemination should assure the ready availability of appropriate coding and instructional material to hospital coding personnel.

Comment: One commenter believes that the ICD-9-CM Coordination and Maintenance Committee cannot be an effective mechanism to address coding issues because the Committee is not adequately staffed, it meets only three times a year, and it is slow to respond to changing technology.

Response: We believe that the creation of the ICD-9-CM Coordination and Maintenance Committee was a significant advance in the improvement of the classification system. Although it has been only in effect since September 1985, the Committee has made major revisions to both the procedure and diagnosis sections. These revisions were incorporated into the FY 1987 GROUPER program. Using both government and industry channels, we were able to disseminate this information on a widespread basis. We believe that the Committee has been and continues to be very responsive to the issues identified by the public. In addition, we welcome suggestions for future revisions to the procedures and diagnosis sections at our upcoming meetings.

Although the commenter suggested that the Committee is slow to respond to changing technology, it should be noted that the Committee accomplished the first major revision of the ICD-9-CM since its publication in 1979, and that this revision was completed within its first year of existence.

The Committee includes representatives from member agencies who lead discussions on topics at the public meetings. However, much additional staff work is involved in preparation for the Committee meetings and in translating coding revisions into tabular and indexing modifications. We obtained the assistance of AMRA and AHA in developing the final tabular and indexing modifications to ensure that they would be useful and easily understood by coders.

One of the goals of the Committee is to eliminate inconsistently applied codes by issuing clear and precise instructions as to how new technologies should be coded. Previously, various hospitals chose different codes that they believed most clearly described a technology. The Committee provides a recognized means for consistently coding new technology.

We believe that the significant amount of staff work involved in meeting preparation and completion of coding revisions precludes the Committee from meeting more than three times per year. However, we will evaluate the need for the Committee to meet more frequently.

As one of the co-chairs of the Committee, HCFA is striving to improve the functioning of the Committee and to respond more rapidly to the needs of the coding community. In this regard, the public is encouraged to advise the Committee of potential problems and issues to be addressed. Agenda items should be submitted to Ms. Patricia Brooks, RRA, Health Care Financing Administration, Bureau of Data Management and Strategy, Room G-A-2 Meadows East Building, 6325 Security Boulevard, Baltimore, Maryland 21207. Submittals must include sufficient background information to show the need for Committee action, as well as a proposed solution (specific proposed modification of the ICD-9-CM tabular and index). The cooperation of the public in expeditiously advising the Committee of potential problems will significantly increase the Committee's ability to respond to coding needs.

Comment: Numerous commenters requested clarification of the specific procedures and processes that the Committee follows.

Response: The ICD-9-CM Coordination and Maintenance Committee was chartered in the summer of 1985 and held its first meeting in September, 1985. This initial meeting served as an organizational meeting designed to advise attendees of the need, function and process of the Committee.

In accordance with its charter, the function of the Committee is to—

—Develop errata and/or addenda of the ICD-9-CM to reflect new procedures and technologies, and newly identified diseases and to resolve coding problems; and

—Promote the use of Federal and non-Federal educational programs and other communications aimed toward standardizing coding applications and upgrading the quality of coded medical data.

Although membership of the Committee is currently limited to representatives from Federal agencies who actively use the ICD-9-CM in their programs (the Public Health Service, HCFA, the Veterans Administration and the Department of Defense), meetings of the

Committee are open to the public and the public is invited to participate in the process through submission of agenda items and active participation in the public meetings. We have requested that agenda items be submitted for consideration at least two months prior to the scheduled meeting. At least one month prior to each meeting, an announcement of the meeting date, time, and place is made in the **Federal Register**. In addition, a mailing list of interested parties is maintained so that copies of the meeting announcements may be individually forwarded.

Each agenda item is fully discussed at the public meetings where all attendees are encouraged to share their knowledge and opinions. The Committee formulates recommendations after considering the public discussions. However, the Committee's role is advisory. Final decisions are jointly made by the Director of the National Center for Health Statistics and the Administrator of HCFA. Once a decision is made, coding materials, such as appropriate "includes" and "excludes" notes for the ICD-9-CM tabular listings and indexing revisions, are prepared and published for use with a common effective date. In order to accommodate new codes into the DRG classification system, these new codes will generally become effective October 1 of the year in which the final decision is made.

Comment: Several commenters requested clarification of the relationship between the ICD-9-CM Coordination and Maintenance Committee and the AHA Central Office concerning ICD-9-CM.

Response: There is no formal relationship between the AHA Central Office on ICD-9-CM and the Committee. On an informal basis, representatives of the AHA have actively participated in the Committee's public meetings and in the preparation of materials disseminated by the Committee. The experience and expertise shared by the AHA in these efforts are valued and appreciated by the Committee. However, AHA remains a private organization and operates independently of the ICD-9-CM Coordination and Maintenance Committee.

c. Process for Interpretation and Assignment of Existing Codes (Recommendation No. 22)

Recommendation—The Secretary should ensure that interpretation and assignment of existing ICD-9-CM diagnosis and procedure codes for payment purposes strictly adhere to coding rules and guidelines. In order to maintain the integrity and uniformity of the coding system while allowing flexibility for payment purposes, the process for interpretation and assignment of existing ICD-9-CM codes should be assigned to one authorized group.

Response in the NPRM—We referred to ProPAC's acknowledgment that there are a number of organizations currently disseminating conflicting coding advice. We consider the ICD-9-CM Coordination and Maintenance Committee as the single group officially authorized to interpret, clarify, and update the ICD-9-CM system. This is performed by evaluating on a continuing basis the need to assign new codes to more fully describe new technologies. It also involves modifying the alphabetical index so that coders are able to apply more consistently codes for diagnoses and procedures. The Committee will also be involved with educational activities to ensure consistent and correct coding.

Coding guidelines are clarified through unanimous agreement by the cooperating members of the ICD-9-CM Coding Clinic (HCFA, National Center for Health Statistics, AMRA, and AHA). We recognize the importance of the input from the coding industry for clearly stating coding guidelines. The industry input frequently generates the need for modifying the ICD-9-CM, which, in turn, the IDC-9-CM Coordination and Maintenance Committee considers and makes changes, as appropriate, to the ICD-9-CM procedure and diagnosis codes.

Like ProPAC, we recognize the necessity of curtailing the dissemination of inaccurate and conflicting coding advice. Under contract to HCFA, the PROs are responsible for verifying the accuracy of ICD-9-CM codes reported on Medicare bills. The PROs continue to review a sample of claims, correct coding errors, and make educational contacts with appropriate hospital staff when problems are identified. We have established a procedure whereby PROs can direct coding questions to HCFA staff members of the ICD-9-CM Coordination and Maintenance Committee. In addition, we stated in the NPRM that we now require PROs to have a trained coding person on staff and that we intend to increase coding instructional material disseminated to the PROs from HCFA. We reiterate here that we believe we are taking the action necessary to encourage consistent application of ICD-9-CM, but that there is little we can do about the dissemination of inaccurate or inconsistent instructions from private sources.

Comment: One commenter inquired as to who is the appropriate source for coding advice when encountering unusual or unfamiliar medical terminology.

Response: We recommend that hospital medical record personnel contact their PRO for coding advice, particularly with regard to coding of Medicare claims. Under contract to HCFA, the PROs are responsible for verifying the accuracy of ICD-9-CM codes on reported Medicare bills. Furthermore, we have established a process for PROs to direct their coding questions to staff members of the ICD-9-CM Coordination and Maintenance Committee.

There are other generally recognized sources of coding advice available to the coding community, such as through the AMRA and AHA. However, if the issue in question has not previously been addressed by the cooperating parties to the Coding Clinic for ICD-9-CM Advisory Board or the ICD-9-CM Coordination and Maintenance Committee, PROs may reach a different conclusion from other private sources upon review of a Medicare claim. Therefore, hospitals may want to verify with their PRO coding information for Medicare claims obtained from an outside source.

d. Interim Mechanism for Coding Problems (Recommendation No. 23)

Recommendation—The Secretary should establish an interim mechanism to allow early identification of new technologies, procedures and diagnoses and more appropriate DRG assignment when ICD-9-CM codes cannot be updated in a timely manner.

Response in the NPRM—We support ProPAC's recommendation for a refinement to the ICD-9-CM codes to permit more rapid identification of new technologies and are currently considering alternatives for implementing such a mechanism. In the NPRM, we particularly solicited comments and suggestions on how best to adapt the Medicare claims processing system to assure more rapid availability of data on new and changing technologies. There were no comments received on this recommendation and our response.

e. Reclassification of Pacemaker Cases Based on Type of Device (Recommendation No. 25)

Recommendation—Prior to recalibration, the DRGs involving implantation of cardiac pacemakers (currently DRGs 115 through 118) should each be restructured into two DRGs, one

for cases involving dual-chamber or functionally similar pacemakers, and one for cases receiving other single-chamber pacemakers. New ICD-9-CM procedure codes should be created to distinguish between these types of cases. A mechanism should be established to evaluate the appropriateness of all implants involving dual-chamber or functionally similar pacemakers. In the initial year of this new classification, the weights for all pacemaker DRGs should be calculated using charge data from the Part A tape bills (PATBILL) file and data on cost differences between pacemaker types.

Response in the NPRM—We gave our reasons for disagreeing with this recommendation. First, DRGs 115 through 118 cover a wide spectrum of pacemaker procedures ranging from the initial implantation of a pacemaker system where there is acute myocardial infarction, heart failure or shock, through the replacement of an electrode. We do not believe that restructuring all of these DRGs into two classifications based on the type of pacemaker implanted would be appropriate. Cases involving implantation of a permanent pacemaker system, whether the initial implantation or a replacement, should be grouped into either DRG 115 or 116. These are the only DRGs that should reflect any differences due to the distinction in the cost of the two devices. If we propose changes on this basis in pacemaker cases at a future date, our changes would be limited to DRGs 115 and 116. At this time, however, there is no method available on our records for distinguishing between the two types of devices, and therefore, we do not have a method of establishing different DRGs for single and dual-chamber pacemakers.

As the coverage guidelines below indicate, if the use of a dual chamber pacemaker is not appropriate, we do not cover it. With respect to ProPAC's concerns on the appropriate use of dual-chamber pacemakers, we noted that we issued revised guidelines, effective on May 9, 1985, which clarify our coverage policies on dual-chamber pacemakers (Section 65-6 of the Coverage Issues Manual (HCFA-Pub. 6), formerly the Coverage Issues Appendix of the Part A Intermediary Manual). We believe these policies respond to ProPAC's concerns.

A change in ICD-9-CM coding would be the first step in any evaluation of pacemaker reclassification. This would allow for the collection of data for evaluation purposes and to propose changes, as appropriate.

f. Reclassification of Pacemaker Replacement Cases (Recommendation No. 26)

Recommendation—Prior to recalibration, the cases involving replacement of a permanent cardiac pacemaker, except those with myocardial infarction, congestive heart failure or shock, should be reassigned to DRGs that include only pacemaker replacements.

Response in the NPRM—We disagreed with ProPAC's recommendation because we believe the inconsistencies of DRG assignment for cases involving pacemaker replacement, as identified by ProPAC, are a result of inappropriate use of the ICD-9-CM codes rather than the DRG classification system. The ICD-9-CM coding system, if properly used, provides for the grouping of cases that involve replacement or removal of electrodes (and other changes to the system) to DRG 117. Likewise, because replacement of a pulse generator only is more resource intensive than the replacement or removal of electrodes, it would properly be assigned to DRG 118.

The replacement of a permanent pacemaker in its entirety is even more resource intensive than the pacemaker procedures in DRGs 117 and 118. If properly coded, that is, using operating room procedure codes 3770 (Insertion of cardiac pacemaker, not otherwise specified), 3773 (Insertion of permanent pacemaker into atrium, transvenous route), 3774 (Insertion of permanent pacemaker into ventricle, transvenous route), 3775 (Insertion of permanent cardiac pacemaker into unspecified site, transvenous route), 3776 (Insertion of permanent pacemaker into epicardium), and 3777 (Insertion of permanent cardiac pacemaker, unspecified approach), the replacement of a permanent pacemaker would be assigned to either DRG 115 or 116, depending upon the presence or absence of acute myocardial infarction, heart failure, or shock.

We expect that careful and consistent use of the surgical codes for pacemaker-related procedures would alleviate the difficulties identified by ProPAC. We are not, therefore, reassigning cases involving replacement of a permanent cardiac pacemaker.

Comment: Two commenters supported our response to ProPAC's recommendation concerning separate DRG classification for pacemaker replacements.

Response: Given that unpublished studies have indicated that coding of pacemaker replacements vary across hospitals, it is not clear that the cases identified as replacements by ProPAC in this analysis were indeed replacements. Nonetheless, ProPAC identified only three percent of the cases classified into DRGs 115 and 116 as replacement procedures. Charges for such replacement procedures do not vary significantly from the mean charges of these DRGs, thus indicating that it is not necessary, based on current Medicare data, to differentiate initial implantation of cardiac pacemaker systems from replacements of such total systems. Further, given that the number of such replacement systems is so small (less than 200 cases in DRG 115), we question the necessity of establishing separate DRGs for replacement procedures.

We emphasize that separate DRGs currently exist for replacement of component parts of pacemaker systems. DRG 117 is defined so that only those cases involving replacement, removal, or revision of pacemaker leads are assigned to this DRG. On the other hand, cases involving replacement of pulse generators only (without lead replacement) are assigned to DRG 118. Any hospital that has been coding both pulse generator replacement and lead replacement to indicate replacement of an entire pacemaker system should discontinue that practice.

Nonetheless, we recognize that there are some cases (approximately 750 in the FY 1984 recalibration file) grouped into DRGs 117 that contain procedure codes for both pulse generator replacements and lead replacements. Further, despite our efforts to educate hospitals as to the appropriate coding of simultaneous replacement of both pacemaker leads and pulse generators, some hospitals no doubt will continue to use two replacement codes to indicate such procedures. Consequently, we are revising the GROUPER logic so that such multiple procedure codes will be classified into the more resource-intensive DRG 118. We are also changing the title of DRGs 117 and 118 by removing the word "only" in each title to clarify the composition of cases assigned to these DRGs.

Comment: A number of commenters wrote to express support for ProPAC's recommendation to reclassify pacemaker cases based on type of device. The commenters noted the significant price difference between rate responsive devices and fixed rate devices. They believe that continuing to classify all types of devices into a single DRG would act as a disincentive to implant the most appropriate device in Medicare beneficiaries.

Response: ProPAC made two recommendations with regard to DRG

classification of pacemaker cases. The first recommendation related to separating pacemaker DRGs by type of device required that a method be available currently to distinguish between such devices. Current ICD-9-CM codes do not permit identification of such devices as rate-responsive and fixed-rate devices are currently coded using the same procedure code.

However, even if we were able to distinguish between these devices, Medicare billing data indicate there is little reason to believe such reclassification is necessary at this time. Review of the PATBILL data indicate that, in comparison to other DRGs, there is little variation in standardized charges for the pacemaker DRGs. For example, the coefficient of variation for DRG 116 is 40 percent, which is the third lowest coefficient of variation of all the DRGs. Further, the coefficient of variation for each of the four pacemaker DRGs is significantly lower than average. Thus, based on the distribution of charges around the means for these four DRGs, there is reason to believe that splitting the pacemaker DRGs would result in pairs of DRGs with the same weight.

One commenter suggested that dual-chamber and rate-responsive pacemakers could be identified in the PATBILL data by searching for cases showing two implantation of lead codes. We would note that there are not discrete codes to identify implantation of a pacemaker lead. We understand, though, that some hospitals have used, for their own data retrieval purposes, two different codes for implantation of a permanent pacemaker system to identify dual chamber pacemakers. This practice is not universal, however, because there has not been a formal coding guideline issued on coding to differentiate between single-chamber and dual-chamber pacemakers. Moreover, while searching out Medicare cases showing two pacemaker system implant codes might identify some dual-chamber pacemakers, it would not identify single-chamber rate-responsive devices. In addition, the Medicare billing system allows for identification of only three procedure codes. Consequently, the procedure code information available in many cases is incomplete. Given this limitation and the absence of formal coding instructions or guidelines to use two codes for implantation of a permanent pacemaker system, it is unlikely that very many dual-chamber pacemakers could be identified in this manner. Hence, many dual-chamber or rate-responsive devices would still be grouped with the single-chamber fixed-rates devices. We are, however, planning to issue billing instructions that would establish Medicare-specific coding requirements for each claim for implantation of rate-responsive pacemakers. Once we accumulate sufficient data in accordance with these rules, we can assess the appropriateness of splitting the pacemaker DRGs and report our findings in the FY 1988 prospective payment rule or in the notice of DRG classification changes.

In our response to ProPAC's recommendation published in the NPRM, we mistakenly stated that we believed only DRGs 115 and 116 should be considered for differentiation by type of pacemaker device. We recognize that DRG 118, Cardiac Pacemaker Pulse Generator Replacement Only, also reflects procedures that involve pacemaker devices. Thus, we will be evaluating this DRG as we study differentiation of pacemaker DRGs by type of device.

Comment: Several commenters supported revision of the ICD-9-CM procedure codes to identify pacemaker procedures.

Response: It is very clear that there are wide discrepancies among hospitals in the coding of pacemaker system implants, both initial and replacements, as well as in the coding of replacing or revising leads or pulse generators only. This variance has contributed to the difficulty in evaluating Medicare payment for pacemaker cases and has limited analysis of proposed reclassification. Revision of the pacemaker procedure codes was discussed at length at the May 1986 meeting of the ICD-9-CM Coordination and Maintenance Committee. While there was universal agreement that the current codes needed revising, there was no concensus on a single approach for the new codes. The Committee concluded that it was not able to recommend revision of the codes without further study of the alternatives and evaluation of their impact upon ICD-9-CM users. Written comments were solicited from the general public. We are now evaluating the comments that were submitted. We will be working with the Committee to assure this issue is resolved expeditiously.

g. Implantable Defibrillator (Recommendation No. 27

Recommendation—Implantable defibrillator cases should be assigned to a unique DRG. The labor portion and nonlabor portion of the standardized amounts should be redefined for this new DRG to reflect the labor-related and nonlabor-related shares of costs for these cases.

Response in the NPRM—We stated our belief that there are not sufficient data available currently to accept or reject this recommendation. At the time coverage was extended to the Automatic Implantable Cardioverter Defibrillators, we recognized that a separate DRG was a consideration but that additional cost and charge data were needed before this decision could be made. We believe that the best approach when insufficient data are available is the one we took in the final notice of DRG classification changes published in the June 3, 1986 **Federal Register** (51 FR 20192). This approach is to—

- Establish a unique ICD-9-CM code as soon as possible;
- Make payment based on an existing DRG; and
- Collect data to evaluate the appropriateness of DRG assignment.

As we stated in the NPRM, when cost and charge data are available, a decision can be made as to the appropriate placement of this new procedure within the system.

Comment: One commenter objected to the classification of automatic implantable cardioverter defibrillators (AICD) to DRG 104. The commenter believes this classification violates one of the central tenets of the DRG construction in that such a classification is not clinically meaningful. The commenter urged that a separate DRG be established for classification of AICD cases.

Responses: We share the commenters concern that classification of AICD cases with cardiac valve procedures strains the clinical consistency framework of this DRG. However, we emphasize that this classification is an interim measure for classification while we gather the necessary data to thoroughly evaluate the classification issue. Since Medicare coverage has been extended to AICD, we have received only one Medicare claim. Thus, we do not have adequate data from which to structure a weighting factor for a unique DRG for this procedure. When we have sufficient data on this procedure, we will reevaluate the appropriate DRG classification for the future.

h. Penile Prostheses (Recommendation No. 28)

Recommendation—Prior to recalibration, ProPAC recommended that cases involving the implantation of a penile prosthesis should be removed from DRG 341 and reassigned to a unique DRG. The labor portion and nonlabor portion of the standardized amounts should be redefined for this

new DRG to reflect the labor-related and nonlabor-related shares of costs for these cases. ProPAC contended that the difference between charges for penile prosthesis cases and charges for other cases within this DRG, estimated from the 1984 PATBILL data at about 35 percent, was due largely to the cost of the prosthesis.

Response in the NPRM—We stated that, after analyzing the FY 1984 PATBILL data for DRG 341, we found little reason to believe that reclassification of cases involving penile prosthesis procedures was necessary or appropriate.

Our analysis indicates that—

- DRG 341 shows very little variation in charges in comparison to the other DRGs. (The coefficient of variation equals .55.);
- Forty-three percent of the penile prosthesis cases showed standardized charges at or below the average standardized charge for the DRG;
- The most frequently reported standardized charge range (mode) for these cases was approximately 28 percent lower than the average standardized charge for DRG 341;
- The median standardized charge and the mean standardized charge for penile prosthesis cases were only slightly higher (9 percent and 17 percent, respectively) than the average standardized charge for DRG 341; and
- Distributional analysis indicates that the same hospitals performing penile prosthesis procedures are also performing lower cost penis procedures. Nationally, only one hospital furnished more than 30 penile prostheses to Medicare beneficiaries during FY 1984. Thus, it appears that penile prosthesis cases are concentrated in such a manner that the low resource-intensive procedures balance out the high resource-intensive procedures.

We noted that there are some differences between ProPAC's analysis and our own. This was primarily due to the fact that ProPAC used unadjusted charges while we analyzed standardized charges. We believe it is more appropriate to evaluate standardized charges as such charges eliminate much of the individual variation in hospital charge structures attributable to wages and teaching status. Moreover, standardized charges serve as the basis for the DRG weighting factors. We noted that ProPAC used standardized charges in much of its analysis related to other DRG classification changes. In reviewing ProPAC's analysis, we also noted that removal of penile prosthesis procedures from DRG 341 results in an increased coefficient of variation for the remaining penis procedures. Despite ProPAC's conclusion that removal of penile prosthesis is appropriate, the data indicate that penis procedures are more homogeneous in resource-intensity when grouped with penile prosthesis than when prosthesis procedures are removed. That is, although penile prosthesis cases may be more resource intensive on average than many minor penis procedures, their resource intensity is about the same as or less than several other penis procedures cases, such as reconstruction of penis. Thus, ProPAC's own data demonstrate that the homogeneity of DRG 341 is superior without reclassification.

In addition, we stated that we do not believe it is appropriate to establish single procedure DRGs under most circumstances. The basic concept of the DRG system is to group a number of clinically similar diagnoses and procedures that are similar in resource use. The establishment of single-procedure DRGs runs counter to the grouping concept and would establish a precedent to classify and develop weighting factors separately for all individual procedures and diagnoses. Under such a precedent, the number of DRGs could grow dramatically, rapidly resulting in an unmanageable system. In addition, establishing DRGs along these lines would represent a major step away from the prospective payment system as currently established, and a major step back toward a cost-based reimbursement system, in which payment to a hospital is closely tied to the actual costs incurred in furnishing individual services.

We concluded that procedure-specific DRGs should be utilized only in those situations in which the data indicate that the procedure is neither clinically coherent nor homogeneous with respect to resource use with any other procedures in the major diagnostic category. As we indicated above, our analysis of the data on penile prostheses does not indicate that this is the situation.

Comment: Several commenters urged that we reconsider our decision not to create a separate DRG for penile prosthesis cases. The commenters noted the significant difference in the average charge for penile prosthesis cases and other penis procedures as evidence of the need for reclassification.

Response: In evaluating proposals for reclassification of DRGs, we consider the impact of the proposal upon other inpatient hospital cases and the consistency of the proposal within the basic classification framework. We acknowledge that penile prosthesis cases, on average, are more resource intensive than several other penis procedures. However, in every surgical DRG, there are some procedures that are more resource intensive than the average of all others in the group. This fact is inevitable in a classification system based on groups of diagnoses or procedures. Consequently, the fact that a given procedure is more resource intensive than average, in and of itself, is not sufficient reason to make classification changes. Rather, in considering classification proposals we must assess the aggregate payment scheme and its impact upon hospitals and beneficiary access.

As we pointed out in the NPRM, we found little reason to believe reclassification of penile prosthesis cases is necessary. The fact that nearly 4000 penile implants were furnished to Medicare beneficiaries indicates that the current payment structure has not acted as a barrier to access for this service.

Analysis of data by provider indicates that the procedure is performed in nearly 1000 hospitals nationwide, with the majority of facilities furnishing fewer than five procedures on Medicare beneficiaries per year. Thus, there is ample opportunity to recover losses, if they occur on penile prosthesis cases, from the excess payments on low cost cases. More importantly, the PATBILL data show that numerous facilities are receiving payments in excess of the average standardized charge for penile prosthesis procedures under the current classification.

Finally, we considered the impact of the proposed reclassification upon other procedures currently classified in DRG 341. Removal of penile prosthesis cases from the DRG would result in decreased payment for the remaining procedures. However, there are several very resource intensive procedures currently assigned to this DRG, such as construction and reconstruction of the penis. The proposed reclassification would likely result in severe underpayments for these procedures.

i. Extracorporeal Shock Wave Lithotripsy (Recommendation No. 30)

Recommendation—Prior to recalibration, cases in which extracorporeal shock wave lithotripsy (ESWL) is the principal procedure should temporarily be removed from DRG 324 and reassigned to DRG 323. The payments and costs for all cases in this DRG should be monitored to determine the appropriateness of prospective payments for operating costs. A unique procedure code should be identified for this procedure.

Response in the NPRM—ProPAC's analysis found that payment under DRG 324 substantially understated the cost of ESWL. In the NPRM, we referred to the June 3, 1986 final notice of changes to the DRG classification system (51 FR 20201), and stated that a unique procedure code had been approved for ESWL (59.96). Consequently, we accepted ProPAC's recommendation. That is, we are classifying all cases involving a principal diagnosis of urinary stones treated by ESWL to DRG 323, regardless of age or absence of complications or comorbidities.

Comment: One commenter, who had submitted a report of a study on ESWL in response to our March 13, 1986 proposed notice of DRG classification changes, objected to our response to his comments in the June 3, 1986 final notice (51 FR 20197). The commenter believes his study is superior to ProPAC's analysis and urged that a separate DRG be established for ESWL.

Response: We did not intend to discredit the study carried out by the National Health Services and Practice Pattern Survey. We believe the study was very complete and well documented and represents one of the best collections of data on financing of ESWL as it existed at the time. However, as the commenter also pointed out, ESWL is a rapidly diffusing technology. For example, at the time of the study only 22 hospitals offered ESWL services, while the number of hospitals using this technology today totals more than 60.

Given the dynamic nature of this service, we believe it would be premature to take steps to establish a separate DRG for ESWL. It is a well accepted fact that the cost per treatment of ESWL is strongly related to the number of treatments furnished. We believe the most appropriate analysis of costs of this service can only be made once the technology has stabilized and hospitals gain experience with operation of the service.

In addition, as we have pointed out previously, we are generally opposed to the creation of single-procedure DRGs. Since this concept does not comport with the underlying principle of grouping that is inherent in the DRG classification structure, we believe this avenue should be employed only if there is substantial evidence of inequity through classification in any of the existing clinically consistent groupings.

A new ICD-9-CM code to identify ESWL has been approved for use effective October 1, 1986. We intend to monitor ESWL closely as Medicare data become available. If it becomes apparent that reclassification is necessary in the future, we will consider the alternative of developing a specific DRG for ESWL among the options for reclassification. In the meantime, we believe ProPAC's recommendation to assign all ESWL cases into DRG 323 offers a satisfactory mechanism for classification of ESWL.

j. Lymphomas and Leukemias (Recommendation No. 31)

Recommendation—Prior to recalibration, cases currently assigned to DRGs involving lymphoma, leukemia, and other related diagnoses (DRGs 400–404) should be reclassified into one of five newly defined DRGs:

DRG 400 Lymphoma/leukemia with major operating room procedure;

DRG 401 Acute leukemia without major operating room procedure;

DRG 402 Lymphoma/non-acute leukemia with other operating room procedure and complication/comorbidity;

DRG 403 Lymphoma/non-acute leukemia with other operating room procedure or complication/comorbidity; and

DRG 404 Lymphoma/non-acute leukemia without operating room procedure or complication/comorbidity.

ProPAC recommended that the new classification provide a unique DRG for acute leukemia cases not involving a major operative procedure (as distinct from non-acute leukemias and lymphomas), eliminate age as a criterion for DRG assignment, and modify present classification based on operative procedure, complications and comorbidity. Other ways of further improving these DRGs should continue to be explored.

Response in the NPRM—We agreed with ProPAC that DRGs 401 through 404 are more heterogeneous than most DRGs and, consequently, may indicate that reclassification of cases within these DRGs is appropriate. However, we noted concern with ProPAC's proposed reconfiguration of DRG 403, which combines about 7,000 surgical cases of lymphoma and non-acute leukemia with some 28,000 non-surgical cases of lymphoma and non-acute leukemia with complications or comorbidities. Our analyses indicate that the latter group of cases are about 25 percent more resource intensive than the surgical cases without complications or comorbidities. Moreover, the basic logic of the GROUPER program is structured so as to establish DRGs that are either medical or surgical. Each medical DRG is assigned based on a specific set of principal diagnoses, whereas a surgical DRG may not entail looking at a specific diagnosis within a major diagnostic category but only at procedures. The predominant exception to this logic occurs in cases where a principal diagnosis alone explains resource use, without regard to whether or not a surgical procedure is performed. This generally occurs when cases with a specific principal diagnosis virtually always entail surgical treatment or virtually never entail surgical treatment. We have found the latter to be the case with acute leukemias in that fewer than four percent of the cases in our data base involved surgical treatment.

We stated in the NPRM that, in light of our analysis and the foregoing discussion, we believe similar improvements in the homogeneity of these DRGs may be achieved without disrupting the logic inherent in the current classification structure. Therefore, we accepted the basic premises of ProPAC's recommendation. That is, we accepted ProPAC's suggestion that acute leukemia cases without major operating room procedure be classified into a single DRG. We added acute leukemia not otherwise specified (code 2080) to the other acute leukemia codes included in ProPAC's recommendation. In addition, we accepted ProPAC's suggestion that age considerations be eliminated from the criteria for classification of lymphoma and non-acute leukemia cases. We did not eliminate age as a criterion for classification of acute leukemia cases without an operating room procedure, however. Because DRG 405 already encompassed lymphoma and leukemia cases without an operating room procedure for patients under age 18 and because most pediatric leukemia cases are acute leukemias, we stated that it was appropriate to maintain the age split within the acute leukemia cases.

We are establishing the following classifications for lymphoma/leukemia patients:

DRG 400: Lymphoma/leukemia with major operating room procedure [no change].

DRG 401: Lymphoma/non-acute leukemia with other operating room procedure with complications or comorbidities.

DRG 402: Lymphoma/non-acute leukemia with other operating room procedure without complications or comorbidities.

DRG 403: Lymphoma/non-acute leukemia without operating room procedure with complications or comorbidities.

DRG 404: Lymphoma/non-acute leukemia without operating room procedure without complications or comorbidities.

DRG 405: Acute leukemia without major operating room procedure, age 0–17.

DRG 473: Acute leukemia without major operating room procedure, age greater than 17.

Acute leukemia is defined as patients with a principal diagnosis of—

- Acute lymphoid leukemia (code 2040);
- Acute myeloid leukemia (code 2050);
- Acute monocytic leukemia (code 2060);
- Acute erythemia (code 2070); and
- Acute leukemia, not otherwise specified (code 2080).

Although this reclassification we proposed is somewhat different from that recommended by ProPAC, we have found similar improvements in homogeneity. We believe it is appropriate to create an additional DRG for acute leukemia cases without major operating room procedure and to maintain the distinction between surgical and medical lymphoma and non-acute leukemia cases.

We received no comments on this provision.

k. Upper Extremity Procedures (Recommendation No. 32)

Recommendation—Prior to recalibration, cases involving procedures of the upper extremity that are currently classified in DRGs 223, 224, 228, and 229 should be reassigned based on anatomical location and the presence of systemic collagen vascular disease or implantation of joint prostheses or complications and/or comorbidities. Nonsurgical hip fracture cases currently being assigned to DRGs 223, 224, 225, 228, and 229 should be reassigned to the appropriate medical DRG.

Response in the NPRM—ProPAC's analysis in this regard includes two pairs of DRGs. DRGs 223 and 224 include upper extremity procedures except humerus and hand; DRGs 228 and 229 include humerus and hand procedures. With regard to DRGs 223 and 224, ProPAC found that age groups explained very little of the variation in charges between the DRGs. Rather, ProPAC found complications and comorbidities and joint replacement procedures showed a significant difference in resources from all other cases in these DRGs.

Similarly, in DRGs 228 and 229, which are currently distinguished based on ganglion and cyst diagnoses, ProPAC found rheumatoid diagnoses, complications and comorbidities and joint replacement procedures more appropriate indicators of resource utilization.

We stated that we also had been studying these four DRGs throughout the year and had reached similar conclusions with regard to complications or comorbidities and joint procedures. We disagreed, however, with ProPAC's recommendation with regard to collagen vascular diseases in the hand. We note that in ProPAC's analysis of DRGs 228 and 229, the addition of collagen vascular diseases decreased the amount of explained variation by 16 percent. We believe the comingling of uncomplicated rheumatoid cases with complicated cases and expensive joint replacement procedures would detract from the homogeneity of the revised DRGs. We should point out that ProPAC did not recommend classification of rheumatoid cases into the more resource-intensive DRG in upper extremity procedures except humerus and hand, where inclusion of these diagnoses similarly reduced the amount of explained variation by almost ten percent. Moreover, as part of our analysis we have found that other major joint procedures, such as arthrodesis and arthrotomy, are similar, both clinically and in terms of resource utilization, to joint procedures involving prosthesis. Consequently, we are expanding upon ProPAC's recommendation to include major joint procedures with the joint prosthesis procedures included in the more resource-intensive classification. We are establishing the following classifications in MDC 8:

DRG 223: Major shoulder or elbow procedures, or other shoulder, elbow or forearm procedures with complications or comorbidities.

DRG 224: Shoulder, elbow or forearm procedures, except major joint procedures, without complications or comorbidities.

DRG 228: Major thumb or joint procedures, or other hand or wrist procedures with complications or comorbidities.

DRG 229: Hand or wrist procedures, except major joint procedures, without complications or comorbidities.

Major elbow and shoulder procedures include the following procedure codes:

8011 Other arthrotomy of shoulder
8012 Other arthrotomy of elbow
8123 Arthrodesis of shoulder
8124 Arthrodesis of elbow
8181 Shoulder arthroplasty with prosthesis
8183 Shoulder arthroplasty, not elsewhere classified
8184 Elbow arthroplasty with prosthesis
8185 Elbow arthroplasty, not elsewhere classified

These procedures are eliminated from DRG 224. All other procedures currently in DRGs 223 and 224 result in assignment to DRG 223 only if a complication or comorbidity is also present.

Major wrist, thumb and hand procedures include the following procedure codes:

8013 Other arthrotomy of wrist
8014 Other arthrotomy of hand/finger
8171 Hand arthroplasty with prosthesis
8179 Hand arthroplasty, not elsewhere classified
8186 Carpal arthroplasty with synthetic prosthesis
8187 Wrist arthroplasty, not elsewhere classified
8261 Pollicization operation
8269 Other reconstruction of thumb

These procedures are eliminated from DRG 229. All other procedures currently in DRGs 228 and 229 result in assignment to DRG 228 only if a complication or comorbidity is also present.

In addition, we noted that procedure code 8421, thumb reattachment, had inadvertently been omitted from the procedures classified in MDC 8. Therefore, we are adding this procedure to DRGs 228 and 229.

Finally, ProPAC included in this recommendation a suggestion that cases involving both a surgical foot or upper extremity procedure and a nonsurgical hip diagnosis be classified on the basis of the more resource-intensive hip diagnosis.

We believe this situation is one example of the generic problem that could occur in any of the MDCs that contain a medical DRG with a higher weight than the least resource-intensive surgical DRG. Although we recognize that this issue may appear problematic, the situation occurs very infrequently. For example, ProPAC found only 125 cases related to this hip fracture issue. We believe this problem needs to be studied in a broad spectrum with detailed analysis of the frequency of occurrence, cost impact and impact on the DRG logic system before any piecemeal changes are implemented. Therefore, we deferred any action on this recommendation at the present time.

Comment: Several commenters supported the revised classification of upper extremity procedures. However, the commenters expressed concern that the estimated revised weighting factors continue to understate the costs of some resource-intensive procedures.

Response: It is not the intent of the prospective payment system to meet the

costs of care for every case in every hospital. Rather, the DRG weighting factors are based on the average resources consumed for procedures in a given DRG relative to the average case at the average hospital. In developing the DRG weighting factors published in this final rule, we regrouped the cases in the FY 1984 PATBILL file using the revised classification scheme. We then calculated weighting factors for upper extremity procedures in an identical fashion to that used in promulgating the weights for DRGs as set forth in the September 3, 1985 final rule.

In dealing with a system of averages, there will always be some cases both above and below the mean. Hospitals are expected to use the excess payment on low cost cases to offset the excess costs of other cases. The revised classification scheme for upper extremity procedures presents a more homogeneous grouping of cases and increases the amount of payment on major joint procedures. However, the fact that some hospitals will continue to receive payments below costs for some procedures is inevitable under a system that is based on averages.

Comment: One commenter objected to our response to ProPAC's recommendation concerning assignment of non-surgical hip procedures to a lower weighted DRG based on the presence of a less resource-intensive unrelated surgical procedure during the same admission.

Response: As we pointed out in the proposed rule, this ProPAC recommendation is but one example of a more generic problem. The remedy for this situation would require a fundamental restructuring of the DRG logic. The current system generally divides cases into surgical and medical groups by first determining whether any surgical procedures were performed and than assigning cases to the DRGs involving those procedures, from the most resource-intensive to the least, with cases in which all surgical procedures are unrelated to the principal diagnosis going to DRG 468, and then assigning the remaining (nonsurgical cases) to medical DRGs that are differentiated by nature of the diagnoses within each group, as well as by patient characteristics (that is, age, presence or absence of complications or comorbidities, discharge status). In order to accommodate the ProPAC recommendation, the list of surgical procedures would have to be modified (whereas it is presently a uniform list used in all MDCs to determine whether a case is surgical or medical) to eliminate consideration of certain surgical procedures in the DRG assignment of only those cases involving a principal diagnosis of hip fracture, thus ensuring assignment to a medical DRG (or to DRG 468). Moreover, it is not clear why ProPAC recommended removing hip fracture cases exclusively from DRGs 223, 224, 225, 228 and 229. Since the weight for nonsurgical hip fractures (DRG 236) is greater than the weights for DRGs 221, 222, 226, 227, 230, 231, and 232, it is not clear why ProPAC did not recommend removing nonsurgical hip fractures from these DRGs as well. While ProPAC may not have found any such cases in these DRGs in the FY 1984 data used for their analysis, such cases could occur in the future.

In addition, if ProPAC's assessment that the medical DRG is more appropriate is based on the relative weight for medical hip fractures being higher than the weights for surgical DRGs involving the upper extremities, hands, and feet, it is not readily apparent as to why ProPAC limited its recommendation to hip fracture diagnoses. The medical DRGs involving fractures of the femur, osteomyelitis, and septic arthritis (DRGs 235, 238, and 242, respectively) have even higher weights than the medical hip fractures (DRG 236).

In light of our questions about why ProPAC selected only certain diagnoses that would, in effect, override consideration of some, but not all, surgical procedures in making DRG assignment, we do not believe it is appropriate at this time to modify a fundamental building block in the GROUPER logic, that is, the split between medical and surgical cases in this and other MDCs, in order to develop an *ad hoc* solution to a problem of quite narrow dimensions (ProPAC found only 125 cases).

While it may be relatively simple in looking at billing data to group together cases that display comparable resource use, it is also necessary to define a general logic that sorts out criteria other than resource use but still assigns cases to the same groups as resources alone would do. Moreover, virtually every time cases are reclassified from one DRG to another, the weights for the redefined DRGs change. Therefore, it is possible to redefine groups, then to find it necessary to modify the surgical hierarchy, and once the revised hierarchy is used, discover that the redefined groups are less homogeneous than had been expected as occurred with our proposed modification of the MDC 7 hierarchy, discussed above). Thus, for all these reasons, we are not adopting this recommendation.

5. New Coverage

a. Cochlear Implants

Medicare coverage will soon be extended to implantation of cochlear prosthetic devices under certain circumstances. A cochlear implant device is an electronic instrument, part of which is implanted surgically to stimulate auditory nerve fibers, and part of which is worn like a pocket-type hearing aid on the body to capture and amplify sound. The purpose of implanting the device is to provide an awareness and identification of sounds to facilitate communication for persons who are profoundly hearing impaired.

The Office of Health Technology Assessment has only recently completed its analysis of the safety and efficacy of this procedure and HCFA is currently in the process of issuing a coverage instruction relating to it. (Consequently, we did not address the DRG classification of the procedure in the NPRM.) Even though the change in coverage has not yet been published, we believe it is appropriate under § 412.10(c) to make interim DRG assignment of this procedure without prior public comment in order to assure that Medicare claims for the procedure may be appropriately handled by the GROUPER program.

As stated above, appropriate usage of a cochlear prosthetic device requires both an internal device and an external device. Although an integral and inseparable component of the prosthesis, the external transmitting device is generally provided approximately three weeks after the surgical implant. Since neither device is useful without the other, we believe it is appropriate to consider both portions of the device as an inpatient hospital service (if the surgery is performed on an inpatient basis) subject to the rebundling provisions of section 1862(a)(14) of the Act and to make payment for the two portions, of what is essentially a single prosthesis, together. We note that some manufacturers package and supply both portions of the device at a single charge. Consequently, we are making payment for the entire device, including the external component in our payment for the inpatient admission (and discharge). Carriers will not recognize outpatient charges for the external device.

Based on data supplied by several hospitals participating in clinical trial testing of implantation of cochlear prosthetic devices, we believe that

appropriate interim assignment for this procedure is DRG 49, Major Head and Neck Procedures. As pointed out in the June 3, 1986 final notice, three new ICD-9-CM codes have been approved for this procedure (51 FR 20201). Procedure codes 20.96, 20.97, and 20.98 will be assigned to DRG 49. We have shared our findings on cochlear implants and our proposed classification scheme with ProPAC. However, to date we have not received a formal response on this issue. Once Medicare data are available for this procedure, we will reevaluate the DRG assignment.

b. Heart Transplants

On June 27, 1986, the Secretary announced that Medicare plans to begin covering payment for heart transplants in selected facilities across the country. Accordingly, we will issue a proposed notice in the **Federal Register** to describe the conditions and limitations applicable to such services and the criteria under which facilities may qualify to be paid for covered heart transplants. After a final notice is published, and Medicare begins paying for heart transplant services, payment will be made under DRG 103 (Heart Transplant). The DRG weight and the methodology for deriving it will be described in the coverage notice.

We note that the changes to the DRG classification and weighting factors, discussed throughout this section (IV.E. of the preamble), are summarized in Table 6 of Section IV of the addendum.

F. Aortic Aneurysm Repair

Over the past several months, we have been investigating the issue of appropriate classification of complex aortic aneurysm repairs. Specifically, we have been attempting to evaluate the classification of aortic aneurysm repairs that involve both the thoracic and abdominal portions of the aorta. Heretofore, there has not been a mechanism within the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) classification system to clearly differentiate these procedures. Consequently, our ability to secure usable data for this evaluation has been significantly hampered.

We have recently identified a number of cases involving this complex procedure and have conducted preliminary analysis of the data. In addition, new ICD-9-CM codes have been approved that will allow more precise identification of the procedure in the future. In the NPRM, we stated that we would continue to study the available data in determining whether an additional DRG classification change would be appropriate.

Comment: One commenter encouraged the reclassification of thoracoabdominal aortic aneurysm repair procedures to DRGs 104 and 105.

Response: Thoracoabdominal aortic aneurysm repair procedures are, in general, currently assigned to DRGs 110 and 111, Major Reconstructive Vascular Procedures without pump, with current weighting factors of 3.3215 and 2.4581, (as published in the September 3, 1985 final rule), respectively. Based on the data we have reviewed to date, we believe that it is more appropriate to classify these procedures into DRGs 108 and 109, Other Cardiothoracic Procedures, with revised weighting factors of 4.7810 (with pump) and 4.3597 (without pump). This reclassification will significantly increase Medicare payment for such procedures. In order for thoracoabdominal aortic aneurysm repair procedures to be appropriately classified into these DRGs, it is necessary that the cases be coded using the revised ICD-9-CM procedure codes that become effective October 1, 1986. That is, hospitals must report both abdominal aorta resection with replacement (3844) and thoracic vessel resection with replacement (3845).

Based on the data we have reviewed, we do not believe thoracoabdominal aortic aneurysm repair is appropriately classified into DRG 104 or 105 unless a cardiac valve procedure is also performed. The procedure does not appear to be clinically consistent with valve procedures, nor similar in resource intensity. However, we will continue to study this issue as Medicare data become available through use of the refined ICD-9-CM codes.

G. Transfer policy (§ 412.4)

Our current policy concerning transfers between prospective payment hospitals provides for transferring hospitals to receive payment on a per diem basis. The discharging hospital receives the full DRG payment. Transferring hospitals may also receive an additional payment for extraordinarily high-cost cases that meet the cost outlier criteria in §§ 412.80 and 412.84; they are not eligible for day outlier payments. However, the prospective payment system is intended to provide full payment, less applicable deductibles and coinsurance, for all inpatient services associated with the treatment of a particular diagnosis in an acute-care hospital. Since the discharge is the basis of payment, it became necessary to distinguish between discharges in which a patient has received complete treatment and discharges in which the patient is transferred to another acute-care hospital for related care. If a full DRG payment were made to each hospital involved in a transfer situation, we would pay at least twice as much under the prospective payment system for the transfer episode as would have been paid to a single hospital for identical care. We concluded that this would have provided a strong incentive to increase transfers and thereby potentially unnecessarily endanger patients by needlessly increasing their exposure to risks of infection in different hospital settings or by the need to travel to a distant hospital.

We anticipated that the per diem payment method combined with the required medical review of all transfers would discourage medically unnecessary transfers between prospective payment system hospitals while still providing sufficient payment to all hospitals incurring costs for the care of appropriately transferred patients. On several occasions we stated that our goal was to find a way to make one payment for all the hospitals involved in caring for transfer cases. However, we stated in the proposed rule that a single transfer payment policy would not represent an improvement over the current system.

We were able to use the 1984 PATBILL file to list the transfers included in the nearly 11 million 1984 bills received through April 28, 1985. About 60 percent of these bills were paid under the reasonable cost reimbursement system (subject to the ceiling on the rate-of-increase limits), and not under the prospective payment system. Rather than eliminate pre-prospective payment system discharges from consideration, we decided to assume, for purposes of this analysis, that a transfer occurred in all cases in which the date of discharge from one hospital was the same as the date of admission to another hospital, where both hospitals were or would be subject to the prospective payment system. The contiguous hospital stays were considered as episodes of treatment, involving one or more transfers. Considering all 1984 discharges, whether pre- or post-prospective payment system, we were able to identify over 188,000 of these episodes. The majority of these episodes (174,657 episodes, or 92.90 percent) represented treatment in only two hospitals. These two-hospital, or single-transfer, episodes formed the basic file for our analysis.

After a thorough review of the PATBILL data we determined that at this time, it is not possible to develop a

single payment policy that would be equitable or administratively feasible. Since these data included bills from hospitals subject to the reasonable cost reimbursement system, we will continue to study and evaluate the transfer policy based on more recent data from prospective payment system hospitals to determine whether modifications may be necessary in the future.

In general, the commenters were in favor of the retention of the per diem transfer payment policy, as provided under §412.4, in light of our continued study and evaluation of its effect on hospitals subject to the prospective payment system. Only two commenters elaborated on the transfer policy provisions.

Comment: One commenter requested continued study of the transfer policy, especially with respect to referral or tertiary care centers.

Response: We agree that the decision to continue the per diem payment to transfer hospitals should be retained until completion of the analysis of more recent bill data from hospitals subject to the prospective payment system. The relationship between tertiary care hospitals receiving transfers and transferring hospitals could be affected by the per diem payment to the transferring hospital. These hospitals will of course be included in our review of the impact of the transfer policy on the hospital industry.

Comment: One commenter, while agreeing that a single transfer payment policy would not be an improvement and that the existing transfer policy should be maintained, requested that full payment be made to each provider because, in most cases in which a transfer occurs, the patient has received substantial treatment at the transferring hospital prior to the transfer. The commenter suggests that such costs may not be covered under the current per diem computation. In addition, in no case should either the transferring hospital or the discharging hospital be placed at risk for services furnished outside their respective facilities.

Response: We do not agree that full payment should be made to the transferring hospital under the prospective payment system. This would result in the Medicare program making two or more DRG payments for services that would be classified and paid under a single DRG if provided in a single hospital stay. The increased payment could create an incentive for inappropriate transfers. We believe that the per diem payment to transferring hospitals is a disincentive to inappropriate transfers between acute-care hospitals subject to the prospective payment system, while still providing adequate payment in relation to the services provided. Those transferring hospitals that keep the patient for a period equal to the geometric mean length of stay for the DRG will receive the full DRG payment plus cost outlier payments for those cases in which the total charges meet the appropriate threshold amount. (See §412.4.)

Since about 60 percent of the bills in the 1984 PATBILL file were paid under the reasonable cost reimbursement system, we cannot assume that the data represent the impact of the per diem payment on transfer patterns between prospective payment hospitals. We will continue to evaluate the prospective payment system billing history to assess the impact of the per diem transfer payment policy on all prospective payment hospitals.

V. Other ProPAC Recommendations

As required by law, we reviewed the April 1, 1986 report submitted by ProPAC and gave its recommendations careful consideration in conjunction with the formulation of the proposals set forth in the NPRM. We received many comments on our treatment of the ProPAC recommendations. We have addressed these comments in our discussion of the issues to which they relate as they are set forth throughout the preamble and addendum to this final rule. Set forth below are the remaining ProPAC recommendations, our responses to the recommendations as we addressed them in the NPRM, and our responses to comments from the public concerning the recommendations.

A. Adjustments to the Payment Formula

1. Disproportionate Share Hospitals (Recommendation No. 9)

Recommendation—ProPAC recommended that an adjustment to the prospective payment rates for hospitals serving a disproportionate share of low-income patients should be implemented as soon as possible. This adjustment should specifically incorporate a definition and methodology in keeping with the character of the adjustments already being considered in Congress. This adjustment should not change the total aggregate dollar amount paid to all hospitals.

Response in the NPRM—Section 9105(a) of Pub. L. 99-272 added a new section 1886(d)(5)(F) to the Act to require that we make an additional payment for hospitals that serve a disproportionate share of low-income patients effective with discharges occurring on or after May 1, 1986. We implemented the payment provisions for disproportionate share hospitals in the May 6, 1986 interim final rule (51 FR 16788).

Section 9105(b) of Pub. L. 99-272 amended section 1886(d)(2)(C) of the Act to require that the standardized amounts be restandardized to reflect the disproportionate share adjustment provided in section 1886(d)(5)(F) of the Act. The methodology for this restandardization was described for comment in the NPRM and is set forth in section II.A. of the addendum.

We are responding to the comments received on the disproportionate share adjustment in section II of the preamble.

2. Improving the Definition of Hospital Labor-Market Areas (Recommendation No. 10)

Recommendation—The Secretary should improve the definition of hospital labor-market areas for FY 1987, if possible, and no later than FY 1988. For urban areas, the improved definitions should account for a greater amount of the wage variation between inner-city and suburban hospitals. For rural areas, the improved definitions should account for a greater amount of the wage variation between different rural areas within each State and between States. The implementation of improved definitions should not result in any change in aggregate hospital payments.

Response in the NPRM—We stated in the NPRM that we addressed a similar recommendation from ProPAC in the September 3, 1985 final rule (50 FR 35663-35664 and 35684-35685). In that final rule, we acknowledged that the current MSAs/non-MSAs may not adequately recognize widely varying hospital labor market conditions, especially among counties classified as rural. We have been looking into possible alternative classification systems that would better define hospital labor markets. However, we believe that further research and study are required before alternative labor market definitions are specified.

Also, as we have noted before, section 1886(d)(2) of the Act defines an urban area as an area within an MSA as designated by EOMB or within a similar area, as recognized under the regulations (§ 405.460) establishing limits on total inpatient operating costs under section 1886(a) of the Act. The designation of a county as urban or rural is based on whether or not a particular location qualifies as an MSA or NECMA. MSAs and NECMAs were the only urban designations recognized under § 405.460 with respect to hospital cost limits. The criteria for MSA or NECMA status are not within our

control. EOMB determines which areas qualify as MSAs or NECMAs and the effective date of their qualification is based on standards prepared by the Federal Committee on MSAs, which advises EOMB on metropolitan area definitions. (As discussed earlier in the preamble, the law provides the Secretary with a general exceptions and adjustments authority. We have not in the past used this authority to grant exceptions to the urban/rural criteria because we have no national, objective system of urban/rural designations other than the EOMB MSA designations. However, we proposed to use this authority to grant urban status to a particular rural county effective October 1, 1986.)

We received no comments on this provision.

3. Rural Hospitals (Recommendation No. 11)

Recommendation—In the original prospective payment legislation of 1983 (Pub. L. 98–21) and the Deficit Reduction Act of 1984 (Pub. L. 98–369), Congress required the Secretary to study and report on a number of rural hospital issues. To date, none of these studies has been submitted to Congress. Preliminary studies by ProPAC suggested that there are potential problems in the way rural hospitals are treated under the prospective payment system. ProPAC urged the Secretary to complete and publish the congressionally mandated studies as soon as possible. If the results of the Secretary's studies indicate that changes in payment policies affecting rural hospitals are warranted, appropriate modifications to current policy, including legislative change, if necessary, should be implemented as soon as possible.

Response in the NPRM—We stated that we share ProPAC's concern about the relative vulnerability of rural hospitals under the prospective payment system, and have developed substantial information to describe the short run impact of the prospective payment system on rural hospitals. Our information, which is preliminary, would permit us to complete the congressionally mandated studies in section 603 of Pub. L. 98–21 and section 2311 of pub. L. 98–369. We will include this information in the 1985 annual report to Congress (due out this year) on the impact of the prospective payment system on classes of hospitals, beneficiaries, other payers for inpatient hospital services, and other providers.

We received no comments on this provision.

B. Data Availability and Research

1. Earlier Availability of Medicare Cost Data (Recommendation No. 12)

Recommendation—ProPAC recommended that making cost data available as soon as possible be an ongoing effort, since these data are vital both to assess the relationship between prospective payments and hospital costs and to analyze the costs of individual DRGs. As part of this ongoing effort, alternative strategies for sampling hospital cost data should be considered. The necessary additional resources should be allocated for timely processing of these data.

Response in the NPRM—We agree with ProPAC's recommendation that Medicare cost report data should be made available as soon as possible for prospective payment system evaluation purposes. We noted in the NPRM that it has been a longstanding policy of HCFA to respond promptly to all requests for information and data (including cost reports), subject to the requirements of the Privacy Act (5 U.S.C. 552a), and to assist interested parties in conducting research or special analyses. Public access to disclosable records maintained by the Federal government is guaranteed under the Freedom of Information Act (5 U.S.C. 552).

As we stated in the NPRM, we expect that the implementation of HCFA's Hospital Cost Report Information System (HCRIS) will do much to speed up the availability of cost report data in various stages of audit for assessing the prospective payment system. However, because of recent statutory changes that necessitated modifying the cost report, the availability of cost report data has slowed down.

We received no comments on this provision.

2. Maintaining a Commitment to Data Development and Research on the Prospective Payment System (Recommendation No. 33)

Recommendation—The Secretary should continue to devote substantial resources to data development and research for monitoring and improving the prospective payment system and understanding its effects on the health care system. Studies mandated by Congress already due should be completed and made public as soon as possible, and new studies that analyze more recent data should be designed and implemented as soon as possible. While ProPAC and other organizations will participate in this process, the major commitment to prospective payment system data development and research must reside with the Department.

Response in the NPRM—We stated in the NPRM that as available resources permit, we will devote our efforts to improving data bases for analysis and to conducting necessary research into alternative approaches and refining the prospective payment system.

We received no comments on this provision.

C. Beneficiary Concerns

1. Beneficiary and Provider Information (Recommendation No. 15)

Recommendation—The Secretary should take immediate action to provide more and better written information about the Medicare prospective payment system to beneficiaries and providers of care. The Department should work with providers, beneficiaries, and associations of these groups to produce and disseminate this information. Associations of providers and beneficiaries should also increase their own efforts to educate and inform their members better about the Medicare prospective payment system.

Response in the NPRM—We stated that we agree with ProPAC that Medicare beneficiaries should be provided with clear and precise information about the prospective payment system. To that effect, we stated that we are preparing a new pamphlet on the prospective payment system. We hope that this pamphlet, which incorporates suggestions from ProPAC and other interested parties, will provide Medicare beneficiaries a better understanding of the prospective payment system. Copies of the pamphlet will be made available to Medicare beneficiaries not only through the local Social Security district offices, but also through other distribution channels, such as the Administration on Aging Network and other beneficiary representative organizations.

Comment: One commenter stated support for our proposed actions to better inform beneficiaries and providers about their rights and obligations under the prospective payment system.

Response: We have prepared a pamphlet tentatively titled, "Your Hospital Stay Under Medicare's Prospective Payment System." This pamphlet will provide beneficiaries and the general public with a clear and concise explanation of the prospective payment system.

2. Notice to Beneficiaries of Rights (Recommendation No. 16)

Recommendation—Beneficiaries should be made aware of the process of reconsideration and appeal of a denial of coverage for continued inpatient hospital care. Notification should be through a written notice or information bulletin. It should explain beneficiary rights in a clear, helpful and understandable manner. In addition to a clear statement of rights, the bulletin should inform beneficiaries that they should not accept any oral communication to the effect that they must leave the hospital because their "coverage" has "run out" or because there is a limit on the number of days "allowed" by Medicare for a DRG. The bulletin should be distributed at the time of admission or as soon thereafter as is appropriate based on the patient's clinical condition. However, additional avenues of distribution should also be developed.

Response in the NPRM—On February 24, 1986 we released a notice for Medicare beneficiaries to be distributed to them upon admission to a hospital. The notice explains to beneficiaries their rights under the prospective payment system and informs them of how to appeal a decision if they believe they are being discharged prematurely. In addition, we are developing a new pamphlet ("Your Appeal Rights Under Medicare") to discuss in greater detail Medicare beneficiary appeal rights. The new pamphlet will combine the current physician appeals and hospital appeals pamphlets and add new information for beneficiaries on appeal rights under the prospective payment system.

We understand that the geometric mean lengths of stay used in determining the outlier thresholds may have been misperceived as "maximum" lengths of stay, thereby fostering the misunderstanding, among hospitals, doctors and the public generally, that Medicare does not cover inpatient services for days beyond the average lengths of stay. In the September 3, 1985 final rule (50 FR 35710), we reiterated our policy that there are *no* requirements under the prospective payment system that Medicare patients classified within a given DRG be discharged after a specific number of days as indicated by the geometric mean length of stay for that DRG, *nor* will hospitals be paid for only a certain number of days of care for each discharge within a given DRG. (As stated in the September 3, 1985 final rule (50 FR 35710), the geometric mean lengths of stay are used for determining day outlier cutoffs and per diem payments for transfer cases.) To assist the reader in understanding the difference between the arithmetic and geometric mean lengths of stay, we published the arithmetic mean lengths of stay in Table 5 of the September 3, 1985 final rule (50 FR 35722).

To further dispel any misunderstanding about lengths of stay by DRG, we published in the NPRM, as Table 7 of the Addendum (51 FR 20080), the range of lengths of stay for each DRG in terms of selected percentiles. Each percentile threshold represents the proportion of Medicare discharges in each DRG with lengths of stay less than or equal to the indicated value.

Comment: One commenter believes that our notice, "An Important Message From Medicare," released on February 24, 1986, is negative in tone and injects an adversarial aspect into the patient/provider relationship.

Response: The present language in that notice is the result of consultations with, and contributions from, representatives of a wide range of organizations, associations, and other governmental entities, including the AHA, the American Association of Retired Persons, the Federation of American Health Systems, the House Select Committee on Aging, the National Council of Senior Citizens, the American Medical Peer Review Association, and the Senate Special Committee on Aging. We believe the tone and content of the notice, based on a consenus understanding reached with the outside interest groups, is appropriate, and that the notice is useful to beneficiaries while not adversely affecting the patient/provider relationship.

3. PRO Episode of Care Review (Recommendation No. 17)

Recommendation—ProPAC recommended that the focus of PRO quality of care review should be, to the extent possible, on the entire episode of care. The PRO's review should include, in addition to the period of hospitalization, the quality of care (and outcome) related to the overall episode of illness, including, if appropriate, skilled nursing or home health care.

Response in the NPRM—As we stated in the NPRM, during the 1986–1988 contract period, PROs will substantially intensify the quality of care aspects of inpatient hospital medical review, including discharge planning. We recognize the importance of PRO review of a patient's condition at the time of discharge. Therefore, every case under PRO review will be subject to—

- Discharge review criteria to detect premature discharges; and
- Review of discharge planning, to determine that the availability of needed post-discharge care was considered.

In addition, six PROs are currently involved in a pilot study to determine a patient's health status at the time of hospital discharge. We believe that the results from this study will provide insight into the extent of premature discharges from hospitals under the prospective payment system. In addition, we hope to identify the most effective method of review for identifying and dealing with premature discharges. We also noted in the NPRM that HCFA is exploring the possibility of developing a survey-type study on post-hospital care received by Medicare beneficiaries. This study would focus on both covered and non-covered services in an attempt to assess the post-hospital needs of beneficiaries and how the Medicare program addresses those needs.

We received a favorable comment on our use of pilot studies that move toward episode of care review.

4. PRO Review of Outpatient Surgery (Recommendation No. 18)

Recommendation—ProPAC was concerned that efforts to shift surgical services from the inpatient to the outpatient setting could have an adverse impact on quality of care for certain Medicare beneficiaries. The PROs should be required to review and monitor the quality of care (and outcome) of outpatient surgery for selected patients and procedures. As a starting point, the PROs should be required to review outpatient surgery cases for those procedures that have been identified for preadmission review, including in particular a sample of those cases for which the PRO has denied admission on preadmission review.

Response in the NPRM—Section 9401 of Pub. L. 99–272 requires 100 percent PRO review for certain surgical procedures, including second opinion for those cases in which the PRO believes such an opinion is necessary. We are in the process of developing a list of surgical procedures for which PRO review would be required. We are also considering changes in medical review for outpatient surgery for certain procedures.

Also, under section 9307 of Pub. L. 99–272, PRO review is required on a preprocedural basis for assistants at surgery for certain cataract operations, whether the services are performed on an inpatient or outpatient basis. On a

retrospective basis, these cases will also be reviewed from a number of perspectives, including quality of care. The Secretary, after consultation with the Physician Payment Review Commission, is responsible for developing recommendations and guidelines with respect to other surgical procedures for which an assistant at surgery is generally not medically necessary, and the circumstances under which the use of an assistant at surgery is generally appropriate but should be subject to prior approval of an appropriate entity.

The quality of care provided to a beneficiary is considered by the PRO when it performs preprocedure review. If the patient cannot safely and effectively be treated in an outpatient setting, the PRO would approve admission to a hospital.

We stated in the NPRM that we believe this level of activity to be sufficient to deal with potential quality problems in the outpatient setting. We reiterate that, if further experience reveals additional problems or issues, we would, of course, re-examine this position.

Comment: One commenter requested that we initiate a pilot project requiring PRO review of outpatient surgery for those procedures that have been identified for preadmission review.

Response: At this time, given the heavy demands on PRO resources, we are not contemplating expanding PRO review activities as the commenter requested. We believe that the activities discussed above in our response in the NPRM are sufficient.

5. Recalculating the Inpatient Hospital Deductible (Recommendation No. 19)

Recommendation—The Secretary should seek a legislative change in the formula for computing the inpatient hospital deductible so that the annual increase in the deductible is more consistent with the annual per-case increase in Medicare payments to hospitals. The proportion of the costs of inpatient hospital care borne by Medicare beneficiaries has inappropriately increased as a result of significant declines in length of stay experienced since the inception of the prospective payment system. This proportion should be lowered to its calendar year 1983 level.

Savings from shorter lengths of stay have benefited both hospitals and the Federal government, and ProPAC believes that Medicare beneficiaries should share in these gains as well. Hospitals have gained from the decline in length of stay because they keep the difference between the prospective payment and their costs for treating Medicare beneficiaries. The Federal government has gained as well, since the decline in the length of stay has been one of the factors considered in limiting increases in prospective payment rates.

Response in the NPRM—Section 1813(b)(2) of the Act specifies the manner in which the hospital inpatient deductible is computed. (The deductible represents the amount of beneficiary cost-sharing before the Medicare program assumes any liability for the additional costs of covered inpatient services.) The Secretary is required to determine the deductible amount each year according to the formula contained in the law.

For calendar year 1985, the amount of the deductible was $400. For calendar year 1986, the deductible increased 23 percent to $492. The dramatic increase in the inpatient deductible was largely caused by the significant decrease in inpatient hospital utilization evident since the inception of the prospective payment system. As hospitals have responded to the financial incentives of the system, Medicare length of stay and admission rates have decreased substantially. Because payments for inpatient services are now being spread over fewer days, the per diem formula for calculating the inpatient deductible described in section 1813(b)(2) of the Act has resulted in a substantial increase in the amount of the inpatient deductible, an increase that far exceeds the amount of inflation in the cost of furnishing hospital care.

To avoid future increases of this magnitude, ProPAC recommended that the deductible reflect a per discharge rather than a per diem payment formula, an approach consistent with the prospective payment system. The basis for ProPAC's recommendation is an anticipation of further significant declines in the days of care per admission furnished to Medicare inpatients.

We stated in the NPRM that we are currently examining this issue and possible alternatives for calculating the inpatient hospital deductible. Under section 9128 of Pub. L. 99-272, the Senate Finance Committee is expected to report legislation to reform the calculation of the annual increase in the deductible to relate it to annual increases in Medicare payments to hospitals.

We received no comments on this provision.

D. DRG Classifications and Weighting Factors

1. Adjustment of the Labor Portion of the Standardized Amounts for Some DRGs Involving Expensive Devices (Recommendation No. 24)

Recommendation—The labor portion and nonlabor portion of the standardized amounts should be redefined for DRGs 39 (lens procedures with or without vitrectomy), 104 and 105 (cardiac valve procedures with pump, with and without cardiac catheterization, respectively), 209 (major joint and limb reattachment procedures), 471 (bilateral or multiple major joint procedures of the lower extremity), and the newly defined DRGs for pacemaker implantation and replacement (Recommendations 25 and 26), implantable defibrillators (Recommendation 27), and penile prostheses (Recommendation 28). The new portions should more closely reflect the labor-related and nonlabor-related shares of costs for cases in each of these DRGs. These recalculations should be made so that total hospital payments remain unchanged. The correct labor and nonlabor portions of the standardized amounts should be calculated from data currently being generated in HCFA's study of the labor portion of costs by DRG. If this information proves to be incomplete, the portions should be calculated from available cost and charge data for these DRGs. The Secretary should study the need for adjustments to the labor and nonlabor portions of the standardized amounts in all DRGs.

Response in the NPRM—As we stated in the NPRM, we are continuing our studies to identify DRGs with high nonlabor-related cost shares. Our analyses of FY 1984 PATBILL charge patterns confirm ProPAC's finding that the following DRGs have charges for supplies that average approximately 20 percent or more of total inpatient charges:

- DRG 39 (lens procedures).
- DRGs 115 through 118 (cardiac pacemakers).
- DRG 209 (joint and limb procedures).
- DRG 341 (penis procedures).

However, the ratio of average charges for supplies to total inpatient charges for DRGs 104 and 105 (cardiac valve procedures), which represent the highest average charges of the nine DRGs under study, are lower than 20 percent.

Our review confirms ProPAC's conclusion that rural and urban hospital charges for cases in the selected DRGs are more similar than those for other

DRGs because both types of hospitals must buy devices from the same national markets. But the fact that some DRGs have supply charges that account for a much higher share of a bill than the average supply charge of eight percent does not justify an automatic adjustment to the labor and nonlabor portions of the standardized amounts.

We believe that increasing the nonlabor share for these DRGs would minimally redistribute funds from urban to rural hospitals. Our reimbursement simulations, which assume no changes in the classes of hospitals performing the identified DRGs, indicate that for each ten percent reduction in the labor-related portion of the standardized amounts for *all* DRGs, rural hospitals would gain up to four-tenths of one percent, while urban hospitals would lose about one-tenth of one percent. Thus, lowering the labor-related portion for only the identified DRGs would result in a much smaller effect. In 1984, these DRGs represented nearly seven percent of urban hospital cases and over eight percent of urban hospital revenues, but only less than four percent of rural hospital cases and about six percent of rural hospital revenues.

Moreover, lowering the labor-related portion of the standardized amounts for some DRGs logically implies increasing that portion for other DRGs. This could imply that ultimately the standardized amounts would be differentiated for each DRG. We believe to do so would unduly complicate the administration of the prospective payment system and may distort hospital incentives. While the ProPAC analysis and our preliminary analyses suggest that rural hospitals are relatively disadvantaged on certain types of cases, namely, those in which the nonlabor portion is higher than the national average, they are, by the same token, advantaged on those types of cases in which the nonlabor-related share is less than the national average. Accordingly, we believe that it is preferable to use national averages for all cases since there is no evidence to suggest that a class of hospitals is systematically disadvantaged in their entire Medicare business by our use of national average labor-related and nonlabor-related shares. Therefore, we are not accepting ProPAC's recommendation to adjust the labor and nonlabor portions of the standardized amounts for certain DRGs.

2. Additional Payment for Magnetic Resonance Imaging (Recommendation No. 29)

Recommendation—ProPAC recommended that, for a period of three years, Medicare should pay hospitals an additional amount for each covered inpatient magnetic resonance imaging (MRI) scan performed on a Medicare beneficiary in a prospective payment system hospital. Under existing capital payment policy (that is, payment of capital on a reasonable cost basis), the add-on for FY 1987 should be $124 for each scan performed on beneficiaries in institutions in which Medicare pays for the capital costs of an MRI scanner and $282 for each scan performed on a beneficiary in a hospital other than the hospital in which the beneficiary is currently an inpatient. In FY 1988 and FY 1989 the add-on amounts for all hospitals should be recalculated to reflect any change in the average cost of an efficiently produced scan and changes in capital payment policy.

Response in the NPRM—We stated that the allowance for technology and scientific advances, under section 1886(e)(4) of the Act already provides for an adjustment for new technology, such as MRI. Further, we believe that providing an explicit additional payment for the use of a particular technology would establish a precedent that runs counter to one of the principles of the prospective payment system, that is, the establishment of a single payment rate for all cases classified within a DRG regardless of the specific resources used in a particular case.

Comment: A number of commenters urged us to reconsider our position with regard to ProPAC's recommendation for additional payments for MRI. The commenters rejected our response pertaining to substitution of other imaging techniques, noting that ProPAC's analysis included a 30 percent reduction for substitution costs. They also rejected our position that recalibration would provide appropriate recognition of MRI costs, noting that only a small number of hospitals provide MRI and that the costs of the technology are diffused among numerous DRGs. They believe our position will act as a disincentive to the widespread adoption of a helpful medical diagnostic tool.

Response: The issue of how the prospective payment system might best respond to innovative medical technologies is complex. Currently, there are numerous mechanisms, such as the technology adjustment to the update factor, recalibration, and DRG reclassification, that have been used to respond to changing technology. Heretofore, we have not been able to identify MRI in our data base in order to appropriately evaluate the adequacy of Medicare payment for these services. In the absence of complaints and data from individual hospitals furnishing MRI citing inadequate payments, we conclude that the existing mechanisms in place have somewhat responded to hospitals' needs.

We appreciate the careful analysis and data gathering carried out by ProPAC. However, we emphasize that ProPAC itself noted that, "accurate cost and utilization data are not readily available" for MRI. Much of ProPAC's data is based on estimates from a panel of experts, such as MRI manufacturers, who have a proprietary interest in seeking additional payments for MRI.

New ICD-9-CM codes have been approved to identify MRI scans effective October 1, 1986. Medicare data relating to this service will be available in the near future. We intend to monitor payments for cases involving this service once data become available and will consider appropriate refinements if the data indicate an adjustment is necessary.

With respect to the expectation that MRI services may be furnished by only a small number of hospitals, we note that the DRG-based payment system was never intended or designed to compensate for differences in the "style of practice" across hospitals by paying for individual items and services furnished. The intent of the prospective payment system is to establish fixed all-inclusive payment rate for all Medicare patient stays that are similarly classified, regardless of the specific range of services furnished to each individual patient. A hospital is then free to decide what type of services, such as CT scan, MRI, or both, it chooses to furnish in diagnosing or treating a patient. Providing an incentive for hospitals to choose a particular style of practice does not comport with the basic DRG framework.

Comment: One commenter requested that we reconsider ProPAC's recommendation that Medicare should pay an additional amount for the costs of MRI performed on beneficiaries in hospitals under the prospective payment system. The commenter pointed out that although we have provided an explicit add-on for the cost of new technologies and scientific advances in our development of the policy target adjustment factor used in determining the annual prospective payment update factor, this adjustment is eliminated once the net effect of all the variables that determine the annual update factor are considered.

Response: Sections 1886(e)(2) and (e)(4) of the Act do not mandate that hospitals be given a specific add-on for the cost of new technologies and

scientific advances *exclusive* of other factors that affect the cost of care. Rather, we believe the intent of the law is to provide for an appropriate overall allowance that recognizes each of the statutorily prescribed variables and their net impact. Therefore, we believe it is appropriate, despite an explicit allowance of 1.5 percent in FY 1986 (September 3, 1985 final rule (50 FR 35708)) and 0.7 percent in FY 1987 (section II of the addendum to this final rule) for the cost of new technology and scientific advances, to promulgate an update factor that is based on the interactive effects of the—

—Forecasted market basket increase;

—Correction for case-mix change for FY 1986; and

—Composite policy target adjustment factor.

We continue to believe, as we stated in the NPRM (51 FR 20003), that providing special add-ons for specific technologies runs counter to one of the basic objectives of the prospective payment system, that is, the establishment of a single payment rate for cases similarly classified. It would also provide artificial incentives for the adoption of certain technologies rather than permit hospitals to choose which advances are appropriate for the care they furnish. We believe that the prospective payment system already provides sufficient means for the recognition of both the capital and operating costs of new technology through the variables used to determine the annual update factor. Therefore, we are not adopting the commenter's suggestion.

Comment: One commenter stated that since we had not proposed to recalibrate the DRGs it was inappropriate for us to say that the costs of new technology (such as MRI) that affect relative resource consumption across DRGs will be taken care of through recalibration.

Response: The latest available data that could be used for recalibration of the DRGs are FY 1985 data, whereas MRI was not a covered Medicare service until November 22, 1985. When we recalibrate the DRGs in FY 1988, as discussed in section II.C. of the addendum, the impact of MRI on the DRG relative weights should be reflected in that recalibration.

VI. Other Required Information

A. Effective Dates

The effective date of this final rule (including the addendum and appendix) is October 1, 1986. Specific provisions apply to specific periods as follows:

- § 412.96(c)(2)(ii)—Osteopathic hospitals as referral centers. The criteria apply to cost reporting periods beginning on or after January 1, 1986.
- §§ 412.23 and 412.32—Exclusion of alcohol/drug hospitals and unit. The exclusion is continued through cost reporting periods beginning before October 1, 1987.

The following changes are applicable beginning with cost reporting periods beginning on or after October 1, 1986:

- § 405.463—Base period for hospitals subject to the ceiling on rate of hospital increases.
- § 412.96(c)(2)(i) and (h)—Referral centers.

B. Paperwork Reduction Act

These provisions do not impose information collection requirements; consequently, they need not be reviewed by EOMB under the authority of the Paperwork Reduction Act of 1980 (44 U.S.C. 3504(h)).

C. List of Subjects

42 CFR Part 405

Administrative practice and procedure, Health facilities, Health professions, Kidney diseases, Laboratories, Medicare, Nursing homes, Reporting and recordkeeping requirements, Rural areas, X-rays.

42 CFR Part 412

Health facilities, Medicare.

D. Regulatory Impact Statement

The appendix to this final rule, which is printed immediately following the addendum to this final rule, sets forth our analyses of the projected impact and effect on small businesses of the changes that are set forth in this document.

42 CFR Chapter IV is amended as follows:

CHAPTER IV—HEALTH CARE FINANCING ADMINISTRATION, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Subchapter B—Medicare Programs

I. Part 405 is amended as follows:

PART 405—FEDERAL HEALTH INSURANCE FOR THE AGED AND DISABLED

A. Subpart D is amended as follows:

Subpart D—Principles of Reimbursement for Providers, Outpatient Maintenance Dialysis, and Services By Hospital-Based Physicians

1. The authority citation for Subpart D is revised to read as follows:

Authority: Secs. 1102, 1122(d), 1814(b), 1815, 1833(a), 1861(v), 1871, 1881, 1886, and 1887 of the Social Security Act as amended (42 U.S.C. 1302, 1320a-1(d), 1395f(b), 1395(g), 1395l(a), 1395x(v), 1395hh, 1395rr, 1395ww, and 1395xx).

2. Section 405.401 is amended by revising paragraph (d)(2) to read as follows:

§ 405.401 Introduction.

* * * * *

(d) *Payment for inpatient hospital services.*

* * * * *

(2) For cost reporting periods beginning on or after October 1, 1983, payment to short-term general hospitals located in the 50 States and the District of Columbia for the operating costs of inpatient hospital services is determined prospectively on a per discharge basis under Part 412 of this chapter except as follows:

(i) Payment for capital-related, medical education, and kidney acquisition costs, and the costs of certain anesthesia services, is described in § 412.113 of this chapter.

(ii) Payment to children's, psychiatric, rehabilitation and long-term hospitals (as well as separate psychiatric and rehabilitation units (distinct parts) of short-term general hospitals), which are excluded from the prospective payment system under Subpart B of Part 412 of this chapter, and to hospitals outside the 50 States and the District of Columbia is on a reasonable cost basis, subject to the provisions of § 405.463.

(iii) Payment to hospitals subject to a State reimbursement control system is described in paragraph (e) of this section.

* * * * *

3. Section 405.463 is amended by revising paragraph (b)(1) to read as follows:

§ 405.463 Ceiling on rate of hospital cost increases.

* * * * *

(b) *Cost-reporting periods subject to the rate of increase ceiling*—(1) *Base period.* Each hospital's initial ceiling will be based on allowable inpatient operating costs per case incurred in the 12-month cost reporting period immediately preceding the first cost reporting period subject to ceilings established under this section, except that, when the immediately preceding cost reporting period is a short reporting period (fewer than 12 months) the first 12-month period beginning on or after the date the hospital's exemption from the ceiling ends will be the base period.

* * * * *

II. Part 412 is amended as follows:

PART 412—PROPECTIVE PAYMENT SYSTEM FOR INPATIENT HOSPITAL SERVICES

A. The authority citation for Part 412 is revised to read as follows:

Authority: Secs. 1102, 1122, 1871, and 1886 of the Social Security Act, as amended (42 U.S.C. 1302, 1320a-1, 1395hh, and 1395ww).

B. In Subpart A, § 412.10 is amended by revising paragraph (a) to read as follows:

Subpart A—General Provisions

§ 412.10 Changes in the DRG classification system.

(a) *General rule.* HCFA issues changes in the DRG classification system in a Federal Register notice at least annually. Except as specified in paragraphs (c) and (d) of this section, the DRG changes will be effective prospectively with discharges occurring on or after the same date the payment rates are effective.

* * * * *

Suppart B is amended as follows:

C. Supbart B—Hospital Services Subject to and Excluded from the Prospective Payment System

1. In § 412.23, the introductory text in paragraph (c) is revised to read as follows:

§ 412.23 Excluded hospitals: Classifications.

* * * * *

(c) *Alcohol/drug hospitals.* If an alcohol/drug hospital meets the following requirements, it is excluded from the prospective payment system for its cost reporting periods beginning before October 1, 1987, but no hospital is excluded for its cost reporting periods beginning during Federal fiscal years 1986 and 1987 unless it was excluded for its cost reporting period beginning during Federal fiscal year 1985:

* * * * *

2. In § 412.32, the introductory text is revised to read as follows:

§ 412.32 Distinct part alcohol/drug units: Additional requirements.

If a distinct part alcohol/drug unit meets the following requirements, it is excluded from the prospective payment system for its cost reporting periods beginning before October 1, 1987, but no unit is excluded for its cost reporting periods beginning during Federal fiscal years 1986 and 1987 unless it was excluded for its cost reporting period beginning in Federal fiscal year 1985:

* * * * *

D. In Subpart D, § 412.63 is amended by adding paragraphs (b)(3), (c)(4), and (c)(5) to read as follows:

Subpart D—Basic Methodology for Determining Federal Prospective Payment Rates

§ 412.63 Federal rates for fiscal years after Federal fiscal year 1984.

* * * * *

(b) *Geographic classifications.* * * *

(3) For discharges occurring on or after October 1, 1986, a hospital classified as rural, as described in § 412.62(f), is deemed to be urban and receives the urban Federal payment amount if the county in which it is located meets the following criteria:

(i) At least 95 percent of the perimeter of the rural county is contiguous with urban counties.

(ii) The county was reclassified from an urban area to a rural area after April 20, 1983, as described in § 412.62(f)(1)(iv).

(iii) At least 15 percent of employed workers in the county commute to the central county of one of the adjacent MSAs or NECMAs.

(c) *Updating previous standardized amounts.*

* * * * *

(4) For fiscal years 1987 and 1988, HCFA standardizes the average standardized amounts by excluding an estimate of the payments for hospitals that serve a disproportionate share of low-income patients.

(5) For fiscal year 1987 onward, HCFA restandardizes the average standardized amounts by excluding an estimate of indirect medical education payments.

* * * * *

E. Subpart F is amended as follows:

Subpart F—Payment for Outlier Cases

1. In § 412.80, paragraph (c) is revised to read as follows:

§ 412.80 General provisions

* * * * *

(c) *Relation to indirect medical education costs and hospitals that serve a disproportionate share of low-income patients.* The outlier payment amounts are included in total DRG revenue for purposes of determining payments for indirect medical education costs under § 412.118(b) and to hospitals that serve a disproportionate share of low-income patients under § 412.106.

2. In § 412.84, paragraph (g) is revised as follows:

§ 412.84 Payment for extraordinarily high-cost cases (cost outliers).

* * * * *

(g) The intermediary bases the cost of the discharge on 66 percent of the billed charges for covered inpatient services. The cost is adjusted further to exclude an estimate of indirect medical education costs, and payments for hospitals that serve a disproportionate share of low-income patients, and to include the reasonable charges for nonphysician services billed by an outside supplier in accordance with § 489.23(c)(3) of this chapter.

* * * * *

F. Subpart G is amended as follows:

Subpart G—Special Treatment of Certain Facilities

1. In § 412.92, the introductory text of paragraphs (a) and (a)(2) are republished and paragraph (a)(2)(ii) is revised to read as follows:

§ 412.92 Special treatment: Sole community hospitals.

(a) *Criteria for classification as a sole community hospital.* HCFA classifies a hospital as a sole community hospital if it is located in a rural area (as defined in § 412.62(f)), and meets one of the following conditions:

* * * * *

(2) The hospital is located between 25 and 50 miles from other like hospitals ane meets one of the following criteria:

* * * * *

(ii) The hospital has fewer than 50 beds and the intermediary certifies that the hospital would have met the criteria in paragraph (a)(2)(i) of this section were it not for the fact that some beneficiaries or residents were forced to seek care outside the service area due to the unavailability of necessary specialty services at the community hospital; or

* * * * *

2. In § 412.96, the introductory text of paragraph (c) is republished; paragraphs (c)(1), (c)(2), (f) and (g) are revised, and a new paragraph (h) is added to read as follows:

§ 412.96 Special treatment: Referral centers.

* * * * *

(c) *Alternative criteria for cost reporting periods beginning on or after October 1, 1985.* For cost reporting periods beginning on or after October 1, 1985, a hospital that does not meet the criteria of paragraph (b) of this section is classified as a referral center if it is located in a rural area (as defined in § 412.62(f)) and meets the criteria specified in paragraphs (c)(1) and (c)(2) of this section and at least one of the three criteria specified in paragraphs (c)(3), (c)(4), and (c)(5) of this section.

(1) *Case-mix index.* The hospital's case-mix index for discharges (not including discharges from distinct part units excluded from the prospective payment system under Subpart B of this Part) during the Federal fiscal year that ended one year prior to the beginning of the cost reporting period for which the hospital is seeking referral center status must be at least equal to the national or regional casemix index value set forth in each year's annual notice of prospective payment rates published under § 412.8(b). The methodology HCFA uses to calculate these criteria is described in paragraph (g) of this section.

(2) *Number of discharges.*

(i) Except as provided in paragraph (c)(2)(ii) of this section for an osteopathic hospital, for the hospital's most recently completed cost reporting period, its number of discharges (not including discharges from distinct part units excluded from the prospective payment system under Subpart B of this Part or from newborn units) is at least equal to the number of discharges under either the national or regional criterion set forth in each year's annual notice of prospective payment rates published under § 412.8(b). The methodology HCFA uses to calculate these criteria is described in paragraph (h) of this section.

(ii) For cost reporting periods beginning on or after January 1, 1986, an osteopathic hospital, recognized by the American Osteopathic Hospital Association, that is located in a rural area must have at least 3,000 discharges during its most recently completed cost reporting period to meet the number of discharges criterion. The 3,000 discharges benchmark is also used in evaluating an osteopathic hospital for purposes of the triennial review.

* * * * *

(f) *HCFA review of referral center status.* The status of each hospital that is receiving a referral center adjustment will be reviewed by the HCFA regional office every three years to determine if the hospital continues to meet applicable criteria. To retain referral center status, a hospital must meet the applicable criteria in at least two of the three years. If the determination is to the effect that the hospital no longer qualifies for a referral center adjustment, HCFA will discontinue the adjustment beginning on the first day of the hospital's next cost reporting period.

(g) *Methodology for calculating case-mix index criteria.* HCFA calculates the national and regional case-mix index value criteria as described in paragraph (g)(1) through (g)(4) of this section.

(1) *Updating process.* HCFA updates the national and regional case-mix index standards using the latest available data from hospitals subject to the prospective payment system for the Federal fiscal year.

(2) *Source of data.* In making the calculations described in paragraph (g)(1) of this section, HCFA uses all inpatient hospital bills received for discharges subject to prospective payment during the Federal fiscal year being monitored.

(3) *Effective date.* HCFA sets forth the national and regional criteria in the annual notice of prospective payment rates published under § 412.8(b). These criteria are used to determine if a hospital qualifies for referral center status for cost reporting periods beginning on or after October 1 of the Federal fiscal year to which the notice applies.

(4) *Applicability of criteria to HCFA review of referral center status.* For purposes of the triennial HCFA review of a referral center's status as described in paragraph (f) of this section, the referral center's case-mix index value for a Federal fiscal year is evaluated using the appropriate case-mix value criteria published in the annual notice of prospective payment rates.

(h) *Methodology for calculating number of discharges criteria.* For purposes of determining compliance with the national or regional number of discharges criterion under paragraph (c)(2) of this section, HCFA calculates the criteria as follows:

(1) *Updating process.* HCFA updates the national and regional number of discharges using the latest available data for levels of admissions or discharges or both.

(2) *Source of data.* In making the calculations described in paragraphs (h)(1) and (h)(2) of this section, HCFA uses the most recent hospital admissions or discharge data available.

(3) *Annual notice.* HCFA sets forth the national and regional criteria in the annual notice of prospective payment rates published under § 412.8(b). These criteria are compared to an applying hospital's number of discharges for its most recently completed cost reporting period in determining if the hospital qualifies for referral center status for cost reporting periods beginning on or after October 1 of the Federal fiscal year to which the notice applies.

(4) *Applicability of criteria to HCFA review of referral center status.* For purposes of the triennial review of a referral center's status as described in paragraph (f) of this section, the referral center's number of discharges for its most recently completed cost reporting period is evaluated using the appropriate discharge criteria published in the annual notice of prospective payment rates.

3. Section 412.106 is amended by revising paragraph (a)(2) to read as follows:

§ 412.106 Special treatment: Hospitals that serve a disproportionate share of low-income patients.

(a) * * *

(2) For purposes of making the calculation in paragraph (a)(1)(i) of this section, a hospital may elect to have the count of the number of patient days made on the basis of its cost reporting period, rather than by Federal fiscal year, if the hospital furnishes to its intermediary, in machine-readable tape format as prescribed by HCFA, data on its Medicare Part A patients for its cost reporting period.

* * * * *

G. Subpart H is amended as follows:

Subpart H—Payments to Hospitals under the Prospective Payment System

1. Section 412.113 is amended by adding a new paragraph (d) to read as follows:

§ 412.113 Payments determined on a reasonable cost basis.

* * * * *

(d) *Kidney acquisition costs incurred by hospitals with approved renal transplantation center.* Payments for kidney acquisition costs incurred by hospitals with approved renal transplantation centers, are described in § 412.100, is made on a reasonable cost basis.

2. In § 412.118, paragraph (g)(1) is revised to read as follows:

§ 412.118 Determination of indirect medical education costs.

* * * * *

(g) *Limits on count of interns and residents.* (1) Interns and residents who are assigned, to a setting other than the inpatient or outpatient department of the hospital (such as a freestanding family practice center or an excluded distinct part hospital unit) on the day that the count of interns and residents (as described in paragraph (f)(2)(i) of this section) is made are not counted as full-time equivalents. Only the percentage of time that these interns and residents spend in the portion of the hospital subject to the prospective payment system or in the outpatient department of the hospital on the day the count is

made is used to determine the indirect medical education adjustment.

* * * * *

(Catalog of Federal Domestic Assistance Programs No. 13.773, Medicare-Hospital Insurance Program)

Dated: August 26, 1986.

William L. Roper,

Administrator, Health Care Financing Administration.

Approved: August 26, 1986.

Don M. Newman,

Acting Secretary.

Addendum—Schedule of Standardized Amounts Effective With Discharges on or After October 1, 1986, and Update Factors and Target Rate Percentages Effective With Cost Reporting Periods Beginning on or After October 1, 1986

I. Summary and Background

In this addendum to the final rule, we are making changes in the methods, amounts, and factors for determining prospective payment rates for Medicare inpatient hospital services during the fourth and final year of the transition period of the prospective payment system. In addition, the addendum sets forth new target rate percentages for determining the rate-of-increase limits (target amounts) for hospitals excluded from the prospective payment system.

For hospital cost reporting periods beginning on or after October 1, 1986 and before October 1, 1987, each hospital's payment per discharge under the prospective payment system will be the sum of 75 percent of the Federal rate and 25 percent of the hospital-specific rate (section 1886(d)(1)(C) of the Act as amended by section 9102 of Pub. L. 99–272). Sole community hospitals will continue to be paid on the basis of a rate per discharge composed of 75 percent of the hospital-specific rate and 25 percent of the applicable Federal regional rate. For hospitals located in the State of Oregon that are subject to the prospective payment system, the provisions in section 9102(c) of Pub. L. 99–272 (that amended section 1886(d)(1)(D) of the Act), regarding the extension of the transition period do not apply. Rather, the transition period provisions in effect prior to Pub. L. 99–272 continue to apply. Therefore, for hospitals in the State of Oregon, each hospital's payment per discharge will be based solely on the Federal national rate (section 9102(d)(4) of Pub. L. 99–272).

We note that, while the changes to the hospital-specific portion of the prospective payment rate are determined on the basis of cost reporting periods, the changes to the Federal portion are determined on the basis of the Federal fiscal year (FY).

During FY 1987, except for the policy on hospitals located in the State of Oregon as described above and for sole community hospitals, the Federal rates will be comprised of a blend of 50 percent of the national rate and 50 percent of the appropriate regional rate as required by section 1886(d)(1)(D) of the Act (as amended by section 9102 of Pub. L. 99–272). (Sole community hospitals also receive special treatment for the Federal rates, that is, their Federal portion is based solely on the regional rate.) During the first year of the transition period (that is, FY 1984), the Federal rates were comprised solely of the regional rate. During the second and third years, FYs 1985 and 1986, the Federal rates were comprised of a blend of 25 percent of the national rate and 75 percent of the regional rate.

As discussed below in section II, we are making changes (proposed on June 3, 1986 (51 FR 20012)) in the determination of the prospective payment rates. The basic method for determining these rates was described in more detail in the final rules listed at the beginning of the preamble of this final rule. The changes, to be applied prospectively, affect the amounts of both the Federal rates (adjusted standardized amounts) and the hospital-specific rates that are used to determine transition period prospective payment rates.

Section III, below, sets forth our proposed changes in determining the rate-of-increase limits for hospitals excluded from the prospective payment system. The tables to which we refer throughout the preamble to the final rule are presented in section IV of this addendum.

We are also including in the discussion below a summary of the comments we received on the adddendum of the June 3, 1986 notice of proposed rulemaking (NPRM or proposed rule) and our responses to the comments.

II. Changes to Prospective Payment Rates and DRG Weighting Factors for FY 1987

The basic methodology for determining Federal national prospective payment rates is set forth at § 412.63, and for hospital-specific rates is set forth in § 412.73. Below, we discuss the manner in which we are making changes to some of the factors and methodology used for determining the prospective payment rates. The Federal rate changes, the updated wage index, and the DRG weights, revised to reflect reclassifications of certain DRGs and modifications to the surgical hierarchy, will be effective with discharges occurring on or after October 1, 1986. Updated hospital-specific rates will be effective with hospital cost reporting periods beginning on or after October 1, 1986.

In summary, we are establishing the FY 1987 national and regional rates (that is, the standardized amounts set forth in Table 1 of section IV of this addendum) by—

- Restandardizing the hospital costs used to establish the rates to reflect the indirect costs of medical education as measured by the revised indirect medical education adjustment factor and to reflect payment adjustments to disproportionate share hospitals, as required by section 1886(d)(2)(C) of the Act, as amended by sections 9104(b)(1) and 9105(b) of Pub. L. 99–272, and to reflect technical corrections to the wage index;
- Grouping the adjusted operating costs per case for each hospital (labor-related and nonlabor-related, separately) to compute urban and rural, national and regional average standardized amounts;
- Reducing for the value of outlier payments;
- Updating the standardized amounts by 0.5 percent; and
- Making a further adjustment to the standardized amounts to reflect the savings from the change in the indirect medical education adjustment factor as required under section 1886(d)(3)(C)(ii) of the Act, as amended by section 9104(b)(2) of Pub. L. 99–272.

The new wage indexes (revised to reflect changes resulting from placing Shiawassee County, Michigan in the Flint, Michigan MSA, as we had proposed, and from reclassifying Merced County, California as an MSA, per EOMB's recently announced designation change) are provided in Tables 4a and 4b of section IV of the addendum. The new DRG weights and outlier criteria are provided in Table 5 of section IV of this addendum.

A. Calculation of Adjusted Standardized Amounts

1. Standardization and Restandardization of Base-Year Costs

Section 1886(d)(2)(A) of the Act required the establishment of base-year cost data containing allowable operating costs per inpatient hospital discharge for each hospital in order to set the payment rates for FY 1984. The preamble to the interim final rule, published September 1, 1983 (48 FR 39763), contained a detailed explanation of how base-year cost data were

established and how they were used in computing the Federal rates.

Section 1886(d)(2)(C) of the Act required that the updated base-year per discharge costs be standardized for the FY 1984 rates in order to remove from the cost data the effects of certain sources of variation in cost among hospitals. These include case mix, differences in area wage levels, cost of living adjustments, and indirect medical education costs. Under other statutory authority, we are restandardizing the base-year costs to reflect changes resulting from Pub. L. 99-272, as discussed below.

In the following sections we discuss how we are restandardizing (or not restandardizing) the base-year costs for the following variables:

- Hospital wage levels.
- Case mix.
- Indirect medical education costs.
- Cost of living for Alaska and Hawaii.
- Payments to hospitals that serve a disproportionate share of low-income patients.

a. Adjustments for Variation in Hospital Wage Levels

Section 1886(d)(2)(C)(ii) of the Act requires that for each inpatient hospital discharge in FY 1984 we standardize the average cost per case of each hospital used to develop the separate urban and rural standardized amounts for differences in area wage levels. Section 1886(d)(2)(H) of the Act requires that the FY 1984 standardized urban and rural amounts be adjusted for hospital area wage levels by a factor (established by the Secretary) as part of the methodology for determining prospective payments to hospitals. To fulfill both requirements, we constructed a wage index to eliminate variations in the average cost per case.

In accordance with section III of the preamble, we are using the rebased market basket as a basis for revising the labor and nonlabor portions. Thus, for each hospital, instead of 79.15 percent, we are using 74.39 percent as the labor portion when standardizing for area wage variations.

Following the June 10, 1985 proposed rule, we adopted the HCFA gross wage index in developing the FY 1986 prospective payment rates as published in the September 3, 1985 final rule. However, as a result of congressional action, we postponed application of several provisions of the September 3, 1985 final rule until May 1, 1986, as we discussed in the preamble of this final rule.

As a result of section 9103 of Pub. L. 99-272, the HCFA wage index, which was published in the September 3, 1985 final rule and modified subsequently for corrections to the data, became effective with discharges occurring on or after May 1, 1986. We published the wage indexes in the May 6, 1986 interim final rule (51 FR 16778) that implements section 9103 of Pub. L. 99-272. The HCFA wage index is the latest available measure of relative hospital wage levels that also addresses the part-time employment deficiency inherent in the BLS data. Therefore, we are using this measure of hospital wage levels to calculate the FY 1987 prospective payment rates. Except for changes resulting from the EOMB designation of Merced County, California as an MSA, as described in the addendum, and the deeming of Shiawassee County, Michigan as urban, as described in the preamble, for Medicare prospective payment system purposes, also described elsewhere in this document, the HCFA wage index values that appear in this final rule are based on the same data used to develop the wage indexes published in the May 6, 1986 interim final rule (51 FR 16778).

Comment: One commenter suggested that the data used to develop the wage index are four years old and do not include fringe benefits or recognize differences in the labor cost per case.

Response: The 1982 data base used to derive the current wage index is the latest data available that takes into account part-time employment experienced by many hospitals. However, we are currently evaluating possible alternatives for updating the wage index data. As part of this effort, we are currently collecting data as part of the audit of cost reports for the first year of the prospective payment system, which will enable us to recompute the present wage index. In addition, for hospital cost reports filed during calendar year 1986, we will be collecting average hourly wage data on the HCFA Form-339, which is filed with the cost report.

Although the 1982 wage index survey solicited hospital employee health and welfare expenses (fringe benefit costs), we did not compute wage indexes using the reported figures. We were concerned that the wide variability in the amount and scope of employee health and welfare expenses, in conjunction with the generally poor quality of the data reported, would have introduced a source of error in the development of the new hospital wage index. Therefore, as we discussed in the wage index report submitted to Congress on March 29, 1985, we did not use the fringe benefit data collected on the survey in developing either the adjusted or gross wage indexes.

With respect to our adoption of the gross wage index, rather than the adjusted wage index discussed in the wage index report, we refer the reader to the June 10, 1985 NPRM (50 FR 24375) and the September 3, 1985 final rule (50 FR 35661).

Comment: One commenter stated that the current wage index measures only the difference in hourly wage rates, and not the difference in labor cost per case. Since the DRG system is a per case payment system, the commenter suggested that the wage index formula be modified to measure the difference in labor costs per case.

Response: We believe the commenter may be referring to the situation addressed by ProPAC in its Recommendation No. 24. ProPAC recommended that the labor and nonlabor portions of the standardized amounts should be redefined for certain DRGs to more closely reflect the labor-related and nonlabor-related shares of costs for cases in each of these DRGs. In addition, ProPAC recommended that the Secretary study the need for adjustments to the labor and nonlabor portions of the standardized amounts in all DRGs. ProPAC's rationale for their recommendation is that, since the labor-related nonlabor-related shares are currently fixed across all DRGs and all hospitals, hospitals in high wage index areas are overcompensated and hospitals in low wage index areas are underpaid for those DRGs in which nonlabor-related costs constitute greater than the overall fixed nonlabor-related share of costs due to the use of expensive medical devices in those DRGs. As we stated in the June 3, 1986 NPRM in response to ProPac's recommendation (51 FR 20001), we believe it is preferable to use national averages for all cases since there is no evidence to suggest that a class of hospitals is systematically disadvantaged in their entire Medicare business by our use of national average labor-related and nonlabor-related shares, and therefore, we did not accept ProPAC's recommendation.

Comment: One commenter supported the continued use of the gross wage index, but pointed out that the revised measure does not account for differences in wage levels between inner-city and suburban hospitals. Because the wage index uses MSAs, which, in turn, are based on counties, as the basis for urban/rural distinctions, the problem of improving the definition of hospital labor market areas, as ProPAC recommended, is not addressed.

Response: The basis for the commenter's criticism is that the wage index fails to recognize the generally higher labor costs associated with hospitals in inner city areas as opposed to surrounding suburban areas. As we noted in the NPRM in response to ProPAC's recommendation No. 10, we recognize that although the current MSA definition may not adequately address widely varying hospital labor market conditions, we believe that further research and study are necessary before alternative labor market conditions are specified.

We agree that establishing urban distinctions for inner-city and suburban hospitals would permit more precise urban wage indexes, but note that in practice, it is impossible to designate boundaries that will be completely satisfactory to all hospitals. As discussed elsewhere in the preamble to this document, we are using the Secretary's general exceptions and adjustment authority under section 1886(d)(5)(C)(iii) of the Act to treat certain rural counties that meet specified criteria as urban counties. However, extensive research is still required before we could propose to make distinctions between inner-city and suburban hospitals. In this regard, we note that currently we are able to aggregate data only at the county level. We have no method available that permits ready and accurate identification of inner city and suburban boundaries, which often are not contiguous with county boundaries.

Section 9103(b) of Pub. L. 99–272 requires that we work with ProPAC to improve the definition of urban hospital labor-market areas. We are required to submit a report to Congress on this matter by May 1, 1987.

b. Variations in Case Mix Among Hospitals

Section 1886(d)(2)(C)(iii) of the Act requires that the updated FY 1984 amounts be standardized to adjust for variations in case mix among hospitals. The methodology used for determining the appropriate adjustment factor (that is, the case mix index) is explained in the September 1, 1983 interim final rule (48 FR 39768–39771). A case mix index has been calculated for each hospital based on 1981 cost and billing data.

Standardization, necessary to neutralize inpatient operating costs for the effects of variations in case mix, is accomplished by dividing the hospital's average cost per Medicare discharge by that hospital's case mix index. Tables 3a and 3b in the addendum to the September 1, 1983 interim final rule (48 FR 39847–39871) contain the case mix index values used for this purpose. The case mix indexes in Tables 3a and 3b of the September 1, 1983 interim final rule (48 FR 39847) continue to apply for purposes of standardizing the operating costs per case. Because each hospital's operating costs per case have already been standardized for case-mix differences, no restandardization is necessary.

c. Indirect Medical Education Costs

Section 1886(d)(2)(C)(i) of the Act requires that the updated FY 1984 amounts be standardized for indirect medical education costs. Section 1886(d)(5)(B) of the Act provides that prospective payment hospitals receive an additional payment for the indirect costs of medical education. Section 9104(a) of Pub. L. 99–272 revised section 1886(d)(5)(B) of the Act to reduce the indirect medical education factor from 11.59 percent to approximately 8.1 percent for discharges occurring on or after May 1, 1986 and before October 1, 1988. For discharges occurring on or after October 1, 1988, the adjustment factor is equal to approximately 8.7 percent. These factors are approximations because, in addition to being reduced, the adjustment factor is no longer applied on a linear basis, but rather on a curvilinear or variable basis. An adjustment made on a curvilinear basis reflects a nonlinear cost relationship; that is, each absolute increment in a hospital's ratio of interns and residents to beds does not result in an equal proportional increase in costs. Therefore, the adjustment factors are only approximately 8.1 percent and 8.7 percent.

The factor that was used (prior to May 1, 1986) in the formula to make indirect medical education payments was converted from a percentage of 5.795 which, when doubled (to 11.59 percent), is applied on a linear basis (that is, applied uniformly) to the adjusted intern and resident-to-bed ratio. The revised factor is expressed as an exponent, which has the effect of applying a variable percentage, specifically, one that declines as the intern and resident-to-bed ratio increases. This variable percentage is derived from a formula using an exponent of .405 and is doubled for discharges occurring on or after May 1, 1986 and before October 1, 1988. For discharges occurring on or after October 1, 1988, the exponent is .5795 and the resulting variable percentage is increased by 50 percent.

In the interim final rule of May 6, 1986 (51 FR 16788), we revised § 412.118 to conform to section 1886(d)(5)(B) of the Act. That section provides that for discharges occurring on or after May 1, 1986 and before October 1, 1988, the indirect medical education factor equals the following:

$$2\times\left(\frac{1+\text{interns and residents}}{\text{beds}}\right)^{.405}-1$$

For discharges occurring on or after October 1, 1988, the indirect medical education factor equals the following:

$$1.5\times\left(\frac{1+\text{interns and residents}}{\text{beds}}\right)^{.5795}-1$$

Section 9104(b) of Pub. L. 99–272 amended section 1886(d)(2)(C)(i) of the Act and provides that the standardized amounts be restandardized to reflect the changes made to the indirect medical education factor under section 9104(a) of Pub. L. 99–272 (that is, under section 1886(d)(5)(B) of the Act). Although section 1886(d)(2)(C) specifically refers to standardizing the base-year (1981) cost data used in developing FY 1984 prospective payment rates, it also states that this standardization applies to discharges occurring after September 30, 1986, that is, in FY 1987. We believe that the amended section 1886(d)(2)(C)(i)

was intended to require that the 1981 costs per case for each hospital, which were standardized for indirect medical education payments based on an 11.59 percent linear adjustment factor, be restandardized based on section 1886(d)(5)(B) of the Act, as amended by section 9104(a) of Pub. L. 99–272, before being used to establish the FY 1987 rates. Therefore, in establishing the standardized amounts used to determine the FY 1987 prospective payment rates, after adjusting each hospital's inpatient operating cost per discharge for inflation, differences in area wage levels, and case mix, we divide each teaching hospital's cost per discharge by 1.0 plus the individual hospital's indirect medical education adjustment factor, as computed using the formula described above, which section 1886(d)(5)(B)(ii)(I) of the Act requires be used for discharges on or after May 1, 1986 and before October 1, 1988.

We are responding to comments received on these provisions in section II of the preamble to this final rule.

d. Cost-of-Living Factor for Alaska and Hawaii

Section 1886(d)(5)(C)(iv) of the Act authorizes the Secretary to provide for such adjustments to the payment amounts as the Secretary deems appropriate to take into account the unique circumstances of hospitals located in Alaska and Hawaii.

Generally, these two States have higher levels of cost in comparison to other States in the nation. The high cost of labor is accounted for in the wage index adjustments discussed above. However, the high cost of living in these States also affects the cost of nonlabor items (for example, supplies and equipment). Therefore, in order to remove the effects of the higher nonlabor costs from the overall cost data (that is, for standardization purposes), the nonlabor portion of the average cost per Medicare discharge in hospitals located in Alaska and Hawaii is divided by an appropriate cost-of-living adjustment factor. Because the nonlabor portion has already been standardized for this adjustment, no restandardization is necessary.

e. Costs for Hospitals that Serve a Disproportionate Share of Low-Income Patients

Section 9105(b) of Pub. L. 99–272 amended section 1886(d)(2)(C) of the Act by adding a new section 1886(d)(2)(C)(iv) to provide that effective with discharges occurring on or after October 1, 1986 and before October 1, 1988, the updated amounts be standardized for the estimated additional payments made to hospitals that serve a disproportionate share of low-income patients. That is, we believe that although section 9105(b) of Pub. L. 99–272 amended section 1886(d)(2)(C) of the Act (which relates to FY 1984 prospective payment rates), this provision was intended to require us to standardize the 1981 costs per case for each hospital qualifying for disproportionate share payment adjustments, before using such costs in establishing the FY 1987 rates. For discharges occurring on or after October 1, 1988, we would eliminate the effects of this standardization of base-year costs per case for the estimated payments made to disproportionate share hospitals, since section 1886(d)(5)(F) of the Act does not authorize such payments for discharges after September 30, 1988.

Section 9105(a) of Pub. L. 99–272 added a new section 1886(d)(5)(F) to the Act to require that we make an additional payment for hospitals that serve a disproportionate share of low-income patients. In the interim final rule of May 6, 1986 (51 FR 16788), we added a new §412.106 to implement this provision.

Section 1886(d)(5)(F)(i) of the Act provides that for discharges occurring on or after May 1, 1986 and before October 1, 1988, an additional payment must be made for each prospective payment hospital that meets one of the following criteria:

- During the hospital's cost reporting period, the hospital has a disproportionate patient percentage that is at least equal to—
  - —15 percent, if the hospital is located in an urban area and has 100 or more beds;
  - —40 percent, if the hospital is located in an urban area and has fewer than 100 beds; or
  - —45 percent, if the hospital is located in a rural area.
- The hospital is located in an urban area, has 100 or more beds, and can demonstrate that during its cost reporting period, more than 30 percent of its total inpatient care revenue is derived from State and local government payments for care furnished to indigent patients not covered by Medicare or Medicaid.

Under section 1886(d)(5)(F) (iii) and (iv) of the Act, the additional payment adjustments for hospitals that meet the criteria of hospitals that serve disproportionate shares of low-income patients are determined as follows:

- For urban hospitals with 100 or more beds, the hospital's total DRG revenue is increased by 2.5 percent plus one-half the difference between the hospital's percentage of low-income patients and 15 percent, up to a maximum of 15 percent; that is, the disproportionate share adjustment factor is the lesser of 15 percent or $(P-.15)(.5)+.025$, where P equals the hospital's disproportionate patient percentage expressed as a decimal.
- For urban hospitals with fewer than 100 beds, the hospital's total DRG revenue is increased by five percent.
- For rural hospitals, the hospital's total DRG revenue is increased by four percent.
- For hospitals that qualify for disproportionate share adjustments based on the fact that at least 30 percent of their inpatient care revenue comes from State and local sources for indigent care, the hospital's total DRG revenue is increased by 15 percent.

Therefore, in establishing the standardized amounts for FY 1987, we are adjusting the inpatient operating cost per discharge of each hospital identified as meeting the above criteria by adding 1.0 to the applicable disproportionate share payment factor, and dividing the hospital's cost per discharge by that number.

In determining the disproportionate share adjustment factors for purposes of standardizing the standardized amounts, we used available data on the percentage of total days represented by Medicaid patient days from Medicare cost reports for cost reporting periods beginning in Federal FY 1984 and the percentage of total Medicare days for FY 1985 attributable to patients dually entitled to Medicare and Supplemental Security Income (SSI) derived from matching FY 1985 SSI eligibility files to Medicare FY 1985 PATBILL records.

We were unable to obtain either Medicaid or SSI data (primarily Medicaid data) for 118 hospitals out of the 5,501 hospitals in the 1981 data base used to compute the Federal standardized amounts. In order that these amounts be as accurate as possible, and that we comply with the requirements of the law that the rates be standardized to take into account the effect of payments to disproportionate share hospitals, we imputed values for these 118 hospitals by using the Statewide urban or rural mean Medicaid or SSI percentage, as applicable. Based on the imputed values, we estimated that 45 hospitals out of the 118 would qualify for disproportionate share payments. We believe that our use of this methodology is fully in compliance with section 1886(d)(2)(C)(iv) of the Act, which requires that we exclude, in computing rates for discharges on or after October 1, 1986, and before

October 1, 1988, ". . . an *estimate* of the additional payments to certain hospitals to be made under paragraph (5)(F)." [emphasis added]

In accomplishing such standardization for this final rule, we have not taken into account any payments to hospitals that qualify for disproportionate share payments based on the percentage of their revenue from State and local government sources for indigent care. This is because these hospitals must demonstrate on a hospital-by-hospital basis that they meet the criteria for a payment adjustment. Since the disproportionate share hospital provision has been in effect only since May 1, 1986, we do not know at this time how many or which hospitals will ultimately qualify under this provision. While we expect that the number of such hospitals is likely to be small, and therefore may not have a significant effect on the standardized rates, we will monitor this situation closely and, to the extent possible, will standardize the costs per case for such hospitals in establishing the FY 1988 rates. Section 1886(d)(2)(C)(iv) of the Act provides that the computation should exclude *an estimate* of the additional payments made to disproportionate share hospitals. We have made this estimate based on the best data available at this time. We doubt that this estimate would have been significantly different had data on hospitals qualifying under the alternative provision been available.

2. Grouping of Urban/Rural Averages Within Geographic Areas

Under section 1886(d)(2)(D) of the Act, the average standardized amounts must be determined for hospitals located in urban and rural areas of the nine census divisions and the nation. For FY 1987, except for sole community hospitals and hospitals in Oregon, the Federal rate used in computing each hospital's DRG payment per discharge will be comprised of 50 percent of the national rate and 50 percent of the appropriate regional rate (section 1886(d)(1)(D) of the Act). Therefore, Table 1 contains 40 standardized amounts (20 urban amounts of which 10 are labor-related and 10 are nonlabor-related, and 20 rural amounts of which 10 are labor-related and 10 are nonlabor-related). The methodology for computing the national average standardized amounts is identical to the methodology for determining the regional amounts, except that the national urban and national rural rates are based on the average standardized costs of hospitals from all urban and all rural geographic areas, respectively.

On June 13, 1986, EOMB designated a new MSA, effective June 30, 1986. The new MSA is comprised of Merced County, California. As stated in the January 3, 1984 final rule (49 FR 253), and in subsequent prospective payment final rules, such changes in designation will be recognized in the prospective payment rates at the beginning of the Federal fiscal year following the announced changes. The revised wage index (as well as the standardized amounts) included in this final rule incorporate this change (as well as the change for Shiawassee County, as indicated in section IV of the preamble) which will be effective October 1, 1986 for prospective payment purposes. Note that such changes account for modest changes in the standardized amounts.

Comment: One commenter pointed out that the nine census divisions for which urban and rural adjusted standardized amounts were developed represent administrative rather than economic areas. The commenter believes that greater accuracy in computing the adjusted standardized amounts could be achieved by developing and applying the amounts using hospital data from each of the 50 States. This would, in effect, result in 50 regional amounts rather than the nine that are presently recognized.

Response: Section 1886(d)(2)(D) of the Act provides that the regional standardized amounts must be developed with data from States that define each of the nine census divisions as established by the Bureau of the Census. Accordingly, the regional basis for deriving and applying the average standardized amounts is stipulated by law, and we have no discretion to do otherwise.

Comment: One commenter stated that the rural prospective payment rates are too low (by three to five percent) because we used a uniform budget neutrality factor.

Response: In determining the prospective payment rates, section 1886(d)(2)(D) requires that we compute urban and rural average standardized amounts for each of the nine census regions and the nation. Because the costs of rural hospitals generally are lower than the costs of urban hospitals, the average standardized amounts were lower. We note the commenter's concern that a uniform budget neutrality adjustment factor unduly disadvantages rural hospitals. Implicit in the commenter's concern is a belief that the percentage difference between payment to rural hospitals subject to the rate-of-increase limits and payment to those same hospitals if they were subject to the prospective payment system would have been less than the percentage difference between the rate of increase payments and prospective payments for urban hospitals. Without making a judgment on the commenter's statement, we note that sections 1886(e)(1) (A) and (B) of the Act, which govern budget neutrality, refer to adjustments that will ensure that "the aggregate payment amounts" under the prospective payment system will not be greater or less than the payments that would have been made under the rate-of-increase limits. Since the statute refers to "aggregate" payments, while distinguishing between the Federal rates and the hospital-specific rates, we developed separate budget neutrality factors based on aggregate estimates for the Federal rates and the hospital-specific rates.

We also note that section 1886(e)(1)(A) of the Act, in setting forth the requirements for budget neutrality of the hospital-specific rates, states in part ". . . the Secretary shall provide for such proportional adjustment in the applicable percentage increase (otherwise applicable to the periods under subsection (b)(3)(B)). . . ." Since there is a single update factor for the hospital-specific rates, and the statute requires an "adjustment" to that factor (that is, to the "applicable percentage increase"), we developed a single factor regardless of urban or rural location. Similarly, since under the statute the same update factor applies to the Federal rates and the hospital-specific rates, we also adjust this single factor, with respect to the Federal rates, by a single budget neutrality factor.

3. Updating the Average Standardized Amounts

a. Statutory Requirements

The basic requirements governing the method by which the average standardized amounts are updated are set forth at section 1886(d)(3)(A) of the Act, as follows:

(A) UPDATING PREVIOUS STANDARDIZED AMOUNTS.—The Secretary shall compute an average standardized amount for hospitals located in an urban area and for hospitals located in a rural area within the United States and for hospitals located in an urban area and for hospitals located in a rural area within each region, equal to the respective average standardized amount computed for the previous fiscal year under paragraph (2)(D) or under this subparagraph, increased for each of fiscal years 1985 and 1986 by the applicable percentage increase under subsection (b)(3)(B), and adjusted for subsequent fiscal years in accordance with the final determination of the Secretary under

subsection (e)(4), and adjusted to reflect the most recent case mix data available.

In accordance with section 1886(d)(3)(A) of the Act, we are adjusting the urban and rural average standardized amounts for FY 1987, using the applicable percentage as determined by the Secretary in accordance with section 1886(e)(4) of the Act. That section reads as follows:

(4) Taking into consideration the recommendations of the Commission [that is, the Prospective Payment Assessment Commission, or ProPAC], the Secretary shall determine for each fiscal year (beginning with fiscal year 1987) the percentage change which will apply for purposes of this section as the applicable percentage increase (otherwise described in subsection (b)(3)(B)) for discharges in that fiscal year, and which will take into account amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality.

As prescribed by section 1886(e)(2) of the Act, the Commission, in making its recommendations to the Secretary:

shall take into account changes in the hospital market-basket described in subsection (b)(3)(B), hospital productivity, technological and scientific advances, the quality of health care provided in hospitals (including the quality and skill level of professional nursing required to maintain quality care), and long-term cost-effectiveness in the provision of inpatient hospital services.

Section 1886(b) of the Act sets forth the requirements under which a rate-of-increase limit (target amount) is established for the inpatient operating costs of hospitals excluded from the prospective payment system. Under that section, a target amount is determined annually for each hospital cost reporting period, based on each hospital's base year cost per case, updated by an "applicable percentage increase."

For FYs 1987 and 1988, as required under 1886(b)(3)(B)(i)(II) of the Act, the "applicable percentage increase" is determined by the Secretary pursuant to section 1886(e)(4) of the Act and may not exceed the "market basket percentage increase" defined in section 1886(b)(3)(B)(ii) as:

with respect to cost reporting periods and discharges occurring in a fiscal year, the percentage, estimated by the Secretary before the beginning of the period or fiscal year, by which the cost of the mix of goods and services (including personnel costs but excluding non-operating costs) comprising routine, ancillary, and special care unit inpatient hospital services, based on an index of appropriately weighted indicators of changes in wages and prices which are representative of the mix of goods and services included in such inpatient hospital services, for the period or fiscal year will exceed the cost of such mix of goods and services for the preceding 12-month cost reporting period or fiscal year.

We have used the hospital market basket as the means to measure the change in the cost of goods and services for both prospective payment rates and the target amounts applicable to hospitals and units excluded from the prospective payment system. Under section 1886(b)(3)(B) of the Act as amended by section 9101(b) of Pub. L. 99-272, for FY 1987 the percentage determined by the Secretary under section 1886(e)(4) will be applied to both the prospective payment rates and the target amounts (rate-of-increase limits) applicable to hospitals and units excluded from the prospective payment system.

Comment: One commenter believes that it is inappropriate to develop the FY 1987 adjusted standardized amounts by essentially trending forward the FY 1986 amounts. This commenter maintains that the FY 1986 adjusted standardized amounts do not reflect the experience of New York and Massachusetts hospitals, an exclusion that the commenter estimates has reduced the adjusted standardized amounts by approximately four percent from what they otherwise should be.

Response: We disagree with the commenter's suggestion. In accordance with section 1886(d)(2) of the Act, we constructed the original adjusted standardized amounts (Federal portion of the prospective payment rates) using standardized costs from all available hospitals (not otherwise excluded from the prospective payment system under section 1886(d)(1)(B) of the Act). We included data from hospitals located in the States under a Medicare waiver at that time (New York, Massachusetts, New Jersey, and Maryland). We did not believe it would have been desirable to exclude data from waiver State hospitals to develop the adjusted standardized amounts in view of the significant impact such an exclusion would have had on the determination of certain regional rates. For example, excluding New York and New Jersey hospitals would have meant that the adjusted standardized amounts for the Middle Atlantic region would have been based entirely on data from hospitals in Pennsylvania. Because the list of Medicare waiver States can and has changed over time, we believe that the adjusted standardized amounts should reflect all available data from hospitals not otherwise excluded from the prospective payment system under section 1886(d)(1)(B) of the Act in order to avoid the potential for regional bias in those rates.

In addition, the exclusion of waiver States in developing the prospective payment rates would be inappropriate for the purpose of estimating what waiver State hospitals would have been paid had they been subject to the prospective payment system in accordance with the requirements of section 1886(c) of the Act. We believe that the waiver State hospitals should be included in the calculation of prospective payment rates that would have otherwise been paid so as not to skew the results of such comparisons.

Moreover, it appears that this commenter's analysis is flawed. Massachusetts and New York account for about one-eighth of inpatient reimbursement. An adjustment of three to four percent would imply that the inpatient costs of these States would be 24 to 32 percent higher than the national average, after considering the effects of case mix, area wage differences, and the indirect teaching adjustment. Since this is inconsistent with actual results, we are not accepting the commenter's suggestion.

Therefore, because data from the waiver States were used to develop the original adjusted standardized amounts implemented in FY 1984, the adjusted standardized amounts for FYs 1986 and 1987 similarly reflect the historical cost experience of New York and Massachusetts hospitals.

b. Factors Considered in Determining the FY 1987 Update

Based on the legal requirements for establishing the FY 1987 update (sections 1886(b)(3)(B) and (e)(4) of the Act), we had to consider at least the following factors in addition to the hospital market basket index:

- Hospital productivity.
- Cost-effective technologies.
- Improvements in practice patterns.

We believe that it is necessary, each year, to review the appropriateness of the level of the previous year's prospective payment rates for providing reasonable payment for inpatient hospital services furnished to beneficiaries. This review must include an assessment of whether the previous year's prospective payment rates have established adequate incentives for the efficient and effective delivery of needed care. In this way, we avoid carrying forward inaccuracies in the previous year's rates into the future and, thus, avoid overpaying or underpaying hospitals as a result of those inaccuracies.

Therefore, we believe that the FY 1987 standardized amounts should be established by a methodology that takes

into account the prior year's experience (whether understated or overstated). To this end, we have measured the observed change in case mix (both improved coding and real) to be 2.6 percent. (Note that in the NPRM the observed change in case mix was 2.7 percent. Our more recent data, through July 1986, indicate the change to be 2.6 percent.) We estimate that 0.6 percent of the observed change is for real increases in case mix, and thus 2.0 percent is for improved coding practices for FY 1986 as discussed in section II.A.3.c., below.

In response to public comments, we are also making an adjustment (0.0 percent) for *actual* market basket error in FY 1985 rather than *forecast* market basket error in FY 1986 as we had proposed. The discussion of this adjustment is in section II.A.3.d., below.

In addition, we have developed factors representing allowances or offsets for productivity, technological advances, and improvements in practice patterns that are necessary to ensure the cost-effective delivery of care. Each of these factors interacts with the others, to some extent, and has an impact on the quality of care. Taking into consideration ProPAC's recommendations on the policy target adjustment factor, we have determined an appropriate percent value for each of these factors, making conservative assumptions with regard to their potential effects on quality, and have combined these values into a composite policy target adjustment factor, as discussed in section II.A.3.f., below. For FY 1987, the factor equals −2.3 percent.

The forecast hospital market basket increase for FY 1987 is +3.7 percent. With the offsets for net case mix change from FY 1986 (−2.0 percent), and the composite policy target adjustment factor (−2.3 percent), and the adjustment for actual market basket error in FY 1985 (0.0 percent), we believe there is justification for a 0.6 percent decrease in the FY 1987 standardized amounts, as compared to those for FY 1986.

c. Nominal Case Mix Change for FY 1986.

We believe it is necessary to update the standardized amounts to take into consideration the overstatement in case mix as a result of improved coding practices. Through such an adjustment we would ensure that we are providing the amounts necessary for the efficient and effective delivery of medically needed health care. Not taking such overstatement into account would result in overpayments to hospitals, since the increased case mix would not be related to actual increases in resource use.

As part of our prospective payment monitoring system, we have been generating monthly case mix index values for each hospital under the prospective payment system. In the proposed rule, based on hospital bills received through April 1986, which included about 2.7 million discharges in FY 1986 for prospective payment system hospitals in States which did not have waivers in FY 1985, we observed that hospital case mix index values had increased an average of 2.7 percent over the comparable period in FY 1985.

We now have data through July 1986, which show that the hospital case mix index values have increased an average of 2.6 percent over the comparable period in FY 1985. This revised figure is incorporated into our offset for nominal, or coding-related, case-mix change.

Comment: Several commenters stated that in adjusting the prospective payment update factors for diagnostic coding improvements, we should pay for "real" case mix increases.

Response: We agree. This is what we proposed to do in the NPRM, and we are, in fact, allowing for "real" case mix changes in our analysis of an appropriate update factor, while at the same time incorporating an adjustment for coding improvements.

Comment: Some commenters stated that the data we used for case mix analysis are inadequate and that we used a sample of discharges for case mix analysis. They stated that we are in disagreement with ProPAC on measured increases in case mix.

Response: For bills received through July 1986, we now have 5.0 million discharges (excluding those from hospitals on State payment waivers in FY 1985). This includes data for each of the first ten months of FY 1986. This is the best data available to measure FY 1986 case-mix increases. ProPAC has different measurement results because it used data in its recommendations that predate FY 1986.

Comment: Some commenters argue that coding improvements are no longer occurring, or that coding improvements can only occur over a limited period of time.

Response: These comments certainly make intuitive sense. In fact, there are indications that coding improvements may finally be slowing down. Nevertheless, the data indicate that case mix coding increases are still occurring in FY 1986 and that these coding increases require that an adjustment be made to the FY 1987 rates. Moreover, DRG reclassifications and recalibration of the relative weights may both continue to create incentives for hospitals to modify their coding practices from time to time. To the extent that such changes in coding practices result in cases moving, in general, into higher-weighted DRGs from lower-weighted ones, such coding is reflected in increased case-mix indexes attributable solely to coding improvements.

Comment: We received several comments that the adjustments for coding improvements should not be retroactive.

Response: We have never made retroactive adjustments for coding improvements. If we had made retroactive adjustments, we would have had to recover payments already made, which would not be consistent with the concept of a prospective payment system. Since FY 1986 is the basis on which FY 1987 payments will be determined, we must adjust the FY 1987 update factor for the effects of coding improvements in FY 1986 so that the overpayments are not carried forward into FY 1987. We have assumed that once coding improvements occur, they stay in the system for future years. Experience to date bears this out.

Comment: Many commenters claim that recalibration of the DRG weights will fix the coding problem, or that we should change the relative weights of the DRGs associated with coding improvements. One commenter suggested that the average case mix should average 1.0 so that the concept of relative weights does not lose meaning. This commenter did state, however, that actual payments would not change if the average case mix was normalized to a number other than 1.0.

Response: If lower cost cases are coded into higher relative weight DRGs, recalibration will lower the relative weights of these same DRGs, but only if all other factors are held constant. Similarly, if higher cost cases (that is, cases that are higher relative to the DRG they should be classified in) are coded into a higher-weighted DRG, the cost of the upcoded case is higher relative to the average for that DRG, but again, only if all other factors are held constant. The important point to note here is that all other factors are not constant. Increases or decreases in weighting factors are dependent upon a number of variables, such as the total number of cases in affected DRGs, and the number of cases that are being upcoded. Therefore, it is not necessarily the case that recalibration will correct or otherwise address the coding problem. In addition, even assuming that recalibration by itself would address the coding problem, it would not solve the problem of excessive payments due to

coding improvements, because we normalize the new relative weights resulting from recalibration to the same average case weight values as the old relative weights. We do this so that aggregate payments will not be affected.

Hence, we must adjust the standardized amounts for coding improvements. We disagree that normalizing the relative weights to 1.0 would lead to a greater understanding of the DRG relative weights. The distribution of cases used to establish the initial set of DRG relative weights did not have an average case weight of 1.0, and we are unaware that the prospective payment system was more difficult to understand because of this fact. Further, as the mixture of DRGs changes, the average weight would change (which is what actually occurred). To avoid an impact on aggregate payments, the weights were then normalized to the same average case weight value as the old relative weights. We do agree with this commenter that the normalization level does not have to equal 1.0 in order for there to be no effect on aggregate payments to hospitals, provided that the weights are normalized after recalibration to the same average case weight as existed prior to recalibration.

Comment: Several commenters requested that we recode the base year from which changes are calculated.

Response: We disagree. We cannot recode 1981 DRGs because we do not have the medical records information to do it. Moreover, the medical records themselves would be different (much improved) if those hospital stays had been paid under the prospective payment system. For the FY 1987 rates, our base year for computing case mix changes is FY 1985 since we are now computing year-to-year changes in case mix. Since payments to hospitals were actually based on the 1985 DRGs, it would be unnecessary and inappropriate to recode the 1981 discharges (even if it were possible) for purposes of measuring case mix changes.

Comment: Several commenters stated that the PROs should review and make changes for diagnostic coding improvements.

Response: The PROs have changed DRGs on some of the cases they reviewed as a result of modifying the coding of a particular case. Because much of the increase in case mix is due to improvements rather than to errors in medical coding, however, PROs cannot change the DRG result from improved medical coding, even though we are paying more for these cases than we did previously. It is important to recognize that prior to the implementation of the prospective payment system, Medicare payment for hospital care did not depend on the particular diagnoses and procedures involved in treating each patient, so long as the care was medically necessary and reasonable. Accordingly, we requested and received coded bills for only a 20 percent sample of Medicare beneficiaries. Moreover, that coding was limited to the principal diagnosis, an indicator as to the presence or absence of secondary diagnoses, and one surgical procedure. Under the prospective payment system, up to four secondary diagnoses and three surgical procedures can be reported. Since the GROUPER logic is structured to provide that each secondary diagnosis or surgical procedure can move a case from a less resource-intensive to a more resource-intensive, and thus higher-weighted, DRG, we have found that coding of Medicare bills under the prospective payment system is, in general, far more complete than it was prior to the prospective payment system.

Comment: A commenter stated that within a certain State, the new GROUPER reduced the case mix for its Medicaid admissions by 0.2 percent.

Response: We normalized the new DRG relative weights so as to hold constant the average case weight before and after recalibration of the weights for FY 1986 and thus yield the same overall Medicare payments for the 10.8 million cases in our recalibration file. It is expected, despite such normalization, that the Medicare case-mix indexes for individual hospitals would be different. The potential effects of DRG classification changes and recalibration of the weights on measurement of non-Medicare case-mix indexes was not considered. We have repeatedly noted that the relative weights that we publish for the DRGs, except for those identified as low volume, are based exclusively on Medicare inpatient hospital cases and, as such, are valid and reliable as a measure of relative resource intensity only for the Medicare beneficiary population. While the DRG classification system establishes categories that are exhaustive and mutually exclusive, such that any case, including non-Medicare cases, can be classified into one and only one of the DRGs, the weights are derived from Medicare patients alone, and a published weight of 1.0000 corresponds to a particular Medicare payment level. To the extent that other payors, including State Medicaid programs, adopt a DRG-based payment methodology, we urge them to consider the development of their own relative weights. Use of the published prospective payment system relative weights for other patient populations could be inappropriate and may result in systematic overpayments or underpayments of some cases.

Comment: Several commenters stated that we did not consider real case mix increases in the 1983 to 1984 period, and that we finally are considering real case mix increases for the first time.

Response: FY 1984 and FY 1985 were years subject to the requirements for budget neutrality. As required under section 1886(e)(1) of the Act, payments under the prospective payment system were to be equal to what would have been paid under rate-of-increase and peer group limits on reasonable costs under prior law (section 1886(b) of the Act) as if the prospective payment system had never been implemented. Under the rate-of-increase limits and peer group limits, as long as a hospital's cost was lower than that hospital's limits, we paid that cost, regardless of whether real case mix increased or decreased, and regardless of the effect of actual case mix on the cost level for that hospital. (For example, a hospital's real case mix could have declined and its cost per discharge increased because of operating inefficiency, or other factors, but we paid that cost as long as the actual cost was lower than the target amount.) Increases in real case mix were built into the cost per case increase assumptions we used to model the rate-of-increase limits. These assumptions took into account estimates of the impact of the rate-of-increase limits and the peer group limits. Consequently, we considered increases in real case mix in FYs 1984 and 1985. Moreover, even these assumed increases in cost per case proved to be overstated as we received more recent data against which to evaluate our estimates. To have passed through updated prospective payment case-mix increases for FY 1984 and FY 1985 would have been improper because they would increase program payments over the level that would have been paid under the section 1886(b) limits. As stated above, we have already built case-mix increases into the cost-per-case assumptions used in deriving budget neutral prospective payment rates for FY 1984 and FY 1985.

Now that there is no further requirement for budget neutrality, we agree that real case-mix increases should be explicitly recognized. In fact, to the extent that case mix continues to increase, hospitals realize the benefit of such increase in increased payments for the current year. This is because we do

not recoup payments already made, but only adjust the rates to avoid compounding such overpayments in the future. Thus, FY 1986 prospective payment rates were based on FY 1985 rates, corrected to eliminate all increases in case mix through FY 1985 (since FY 1985 was a budget neutral year). However, we now have data that indicate that case mix has increased an additional 2.6 percent. Hospitals have been realizing the benefit of that increase through increased payments. Our update factor will be adjusted so as to not pass through in the FY 1987 rates 2.0 percentage points of the increase in case mix. However, the 0.6 percentage points that we estimate to reflect a real increase in case mix will be added to the update factor for FY 1987.

Comment: Several commenters suggested that coding improvements are not uniform among hospitals.

Response: We agree that coding improvements are not uniform among hospitals. Implicit in this comment is the suggestion that somehow through the prospective payment system we should make allowances for inter-hospital difference in coding improvements. However, as indicated in another response, we expect the phenomenon of coding increases to eventually taper off. We question the necessity of refining the computation and application of a measure that both we and the industry agree is essentially a temporary phenomenon brought about in large measure by the introduction and implementation of the prospective payment system. Coding increases should level off as the system continues in effect, and because the opportunities for coding improvements eventually will become constrained by the natural limitations of the system. For example, while it may be possible to assign a case to a higher-weighted DRG by being more precise on the bill about the presence of complicating conditions, more precise coding cannot change a diagnosis of appendicitis to one of severe burns.

However, if future review indicates that adjustments continue to be needed to take account of coding increases, we will evaluate the commenter's implicit suggestion further.

Comment: One commenter pointed out that we incorrectly recommended a 2.7 percent decrease for coding improvements in the NPRM.

Response: The 2.7 percent decrease (now revised to 2.6 percent) was for total case mix change, but it was offset by 0.6 percent increase corresponding to our estimate of real case mix increases, as discussed previously.

Comment: One commenter alleged that we did not consider seasonality in measuring the case mix increases.

Response: Our measurement methodology as described in the NPRM (51 FR 20016) does indeed adjust for seasonality. We compute the case mix increase using all patient bills we have received under the prospective payment system at the time of the determination. To determine the degree of difference, we compute a separate case mix index for each hospital for each month in FY 1986 for which we have bills by multiplying the number of discharges for each DRG by the relative weight for that DRG, summing the products, and then dividing that sum by the number of total discharges for that month and hospital. We weight all the monthly hospital case mix indexes by the number of discharges for each hospital for each month in FY 1986, and then sum the weights, to determine the FY 1986 average case mix.

We then compute a comparable average case mix for FY 1985. This is done by computing a case mix index for each hospital for each month in FY 1985 using FY 1985 DRGs and discharges. We weight all the FY 1985 monthly hospital case mixes by the number of FY 1986 discharges by month (the same number of discharges used for the FY 1986 calculation) to determine the comparable FY 1985 average case mix. The case mix increase for FY 1986 is computed by dividing the FY 1986 case mix index by the FY 1985 case mix index.

This methodology automatically excludes data for those months in FY 1986 for which we have no bills. It also compensates for any biases that could have been due to seasonal variations and the timeliness of submitting bills. Hospitals in States with Medicare waivers in 1985 (New York, Massachusetts, Maryland, and New Jersey) were excluded from this analysis so that the case mix increase was measured only for hospitals under the prospective payment system for both FY 1985 and FY 1986.

Comment: One commenter questioned the statistical validity of the study completed by the Rand Corporation for us which supported a full reduction in the FY 1986 prospective payment rates for nominal case-mix increase.

Response: The RAND study on case-mix index increase represents a statistically reliable and valid study on Medicare case-mix index increases. During the study a number of independent variables reflecting volume changes were added to the model. The results indicated that while volume declines tended to increase the case-mix index, the magnitude of this effect was quite small. In addition, the Rand Corporation noted that the inconsistencies between 1981 MEDPAR and 1984 PATBILL data bases represented a component of case-mix increase that was distinct from the effects of coding practices on the part of hospitals.

The commenter also reported a Durbin-Watson statistic that is in the range indicating the presence of autocorrelation. We note that one of the standard assumptions in the regression model is that the residuals, that is, the difference between the actual and predicted values of the dependent variable, are uncorrelated. Correlation in the residuals suggests that there is additional explanatory information in the data that is not reflected in the regression equation. If the observations have a natural sequential order, the correlation is referred to as autocorrelation.[1]

Autocorrelation can cause an overstatement of the statistical significance of a regression coefficient, though it does not lead to an inconsistent estimate of the regression coefficient itself. We are not concerned about autocorrelation in this analysis. First, the statistical significance of the variable ONPPS (that is, the discrete variable of whether a hospital was or was not on the prospective payment system) is so high that overstatement is unlikely to be a problem. The t-statistic is 4.8. Second, we estimated another specification of the model that would be much less likely to have autocorrelation (the dependent variable was the change from the year-ago quarter), and the results were similar.

d. Correction for Forecasted Market Basket Error for FY 1986.

The forecasted hospital market basket increase factors used to calculate the FY 1986 standardized amounts were 4.8 percent for 1985 and 4.1 percent for 1986. Based on these calendar year factors, we projected a hospital market basket increase factor for FY 1986 of 4.27 percent. Our latest hospital market basket factors, as of July 25, 1986 reflect more actual experience than those available at the time the FY 1986 rates were published. The market basket factors are not rebased or reweighted, as described in section III of the preamble. The most recent factors are

[1] For further information on autocorrelation, we refer the reader to *Regression Analysis By Example*, Samprit Chatterjee and Bertram Price, John Wiley and Sons, New York, 1977, pp. 123-142.

4.9 percent for 1985 and 3.9 percent for 1986.

Forecasted Market Basket (MB) Percent Increase for FY 1986 Rates and our More Recent FY 1986 Data

Calendar year	Forecasted MB percentage	Updated MB percentage
1985	4.8	4.9
1986	4.1	3.9

Based on these calendar year factors, we project that the hospital market basket increase for FY 1986 is 4.15 percent, calculated as follows:

Calendar year	No. of months	Portion of year	Inflation rate (percent)
1985	3	3/12=.25	4.9
1986	9	9/12=.75	3.9

FY 1986 forecasted market basket inflation $=(1.049)^{.25}(1.039)^{.75}-1=4.15\%$.

Using the latest market basket factors for correction of the standardized amounts, we could reduce them by 0.1 percent (4.27 percent minus 4.15 percent equals 0.12 percent), but we are not going to reduce them. Instead, we are establishing an adjustment for actual market basket error (rather than forecast) as discussed below.

Comment: Several commenters stated that a correction for a market basket change "never received" was inappropriate. Some suggested that we were inconsistent by making this correction in view of the fact that we had previously rejected making retroactive adjustments to payment rates to correct for market basket forecast errors. Others suggested that the 1986 market basket change is still a forecast, and that a final correction is not possible until actual measurements have been completed.

Response: The argument that the hospital industry did not receive the market basket change is incorrect. Had the market basket change not been taken into consideration, the technical factors for last year's update would have been 4.27 percentage points lower. Furthermore, the forecast correction does not affect the prospectivity of the system. Hospitals continue to be paid prospectively. The correction is to the base amount used to compute the DRG payment. If the market basket forecast was too low and was left uncorrected, not only would the payment for that year be too low, but, all other things being equal, so would the payment for all following years.

We have not contradicted ourselves by making a market basket forecast error correction. In the January 3, 1984 final rule, we rejected a recommendation to make retroactive payments for market basket forecast error because to do so would be contrary to the principles of a prospective system (49 FR 252). Furthermore, in the September 3, 1985 final rule, we specifically addressed the issue of forecast error corrections (51 FR 35699). In that response we noted that, "though this adjustment, in the sense of looking back, may have been retrospective, it certainly was not retroactive."

ProPAC has made several compelling arguments in favor of such a forecast error correction. ProPAC pointed out that forecast errors are built into the base or standardized amount. Thus, an uncorrected forecast error for the current fiscal year would affect payments in all future periods. If the forecast errors are systematically in one direction, the compound effect of the errors could become quite significant.

We believe that the logic of making corrections for forecast errors is well founded, even if the correction is for a year not yet completed. Such a correction in any event, even though still technically a forecast, would be based on the most recent, and therefore presumably the best data available. In addition, to the extent that a more recent forecast supports the need for a correction, it may be more appropriate to reflect that correction sooner rather than to risk making a larger correction later. However, we also agree that the argument that corrections should not be made based on later forecasts, but only after the period to which the forecast applies has elapsed, has some merit. Therefore, we are not making a correction for FY 1986 in determining the FY 1987 update rate. This correction will be made when actual data are available for 1986 and will be incorporated in the FY 1988 update determination. We wish to emphasize, however, that during the process of making the FY 1988 determinations, we will evaluate at that time whether it is appropriate to make any necessary corrections to the market basket forecast for FY 1987.

Actual data are now available for FY 1985 and, according to the logic presented above, we should make a forecast error correction. However, we have already made a correction for the FY 1985 market basket in the update of the FY 1986 rates (September 3, 1985 final rule). The amount of that correction was −1.2 percent based on an original market basket forecast increase of +6.3 percent for FY 1985 and last year's revised forecast of +5.0 percent. (Note that a +0.1 percent adjustment was made to the correction factor due to budget neutrality.) Our current estimate of the FY 1985 market basket increase is also +5.0 percent; therefore, no further adjustment is warranted.

To date, the forecast errors have favored the hospital industry. That is, the forecasts upon which payments have been based were too high. It is easy to speculate why this is happening given an economy in which inflation is slowing down. In addition, forecasts quite frequently lag behind in recognizing economic turning points and trends due in part to forecasters making conservative estimates. One should anticipate the same lags to occur during upswings in the economy.

e. Forecasted Market Basket Increase

We considered forecasted market basket increases in determining the percentage increase for both prospective payment rates and rate-of-increase limits (target amounts) for FY 1987. However, the percentage change determined under section 1886(e)(4) of the Act does not have to equal the market basket. Rather, the percentage change, or update factor, may not exceed the increase in the market basket. The table below shows the most current market basket forecasts.

FORECAST MARKET BASKET (MB) PERCENTAGE INCREASE

	MB Percentage
Calendar year:	
1986	3.0
1987	3.9
1988	5.0

Based on these calendar year factors, we project a hospital market basket increase factor for FY 1987 (that is, October 1, 1986 through September 30, 1987) of 3.7 percent, calculated as follows:

Calendar year	No. of months	Portion of year	Inflation rate (percent)
1986	3	3/12=.25	3.0
1987	9	9/12=.75	3.9

FY 1986 market basket inflation $=(1.03)^{.25}(1.039)^{.75}-1=3.67\%$ or 3.7%.

Data Resources, Inc. (DRI) provides HCFA the historical and forecasted rates of increase in the market basket cost categories. Anyone interested in obtaining additional information on these forecasts may contact Data Resources, Inc., 1750 K Street, NW., 9th

Floor, Washington, DC, 20006. Upon request DRI will provide in writing a description of the general methodology as well as all of the variables used in the market basket forecast model.

Comment: One commenter pointed out that we had stated in the NPRM that general information on the market basket forecasts is available from DRI upon request (51 FR 20017). Upon contacting DRI, the commenter was unable to obtain any information, and therefore, was assertedly deprived of evaluating the market basket forecast information during the comment period.

Response: We contacted DRI to determine the basis for this comment. DRI advised us that it had received a request from the AHA for general information and also for certain detailed information on the forecast equations that it used to project the hospital market basket rates of increase. Contrary to our statement in the preamble to the NPRM, DRI had not yet prepared the written general information and therefore was unable to furnish it to the requester. As to certain detailed information that was also requested, DRI maintained that the request involved the release of proprietary information that, if released, could jeopardize its competitive position as a firm offering economic forecasting and consulting services. As well, DRI informed the commenter that HCFA provides much of the specific information (which we do upon request) that the commenter had requested. Nonetheless, DRI advised us that in response to requests for general information, it furnishes a general oral description of the forecast methodology and the variables used in its model. In addition, DRI stated that the information we said would be available to interested parties is also contained in its subscription publication, *Health Care Costs.*

We regret any difficulties that the commenter may have had in obtaining the general information on the hospital market basket forecasts. To prevent future misunderstandings, we are taking action to ensure the availability of a standard information package for all interested parties in connection with future market basket forecasts to be used in developing the prospective payment update factor. In this case, we believe that public analysis was not impaired since the only requester, AHA, had used the DRI forecasting information in the past and has access to its own economic forecasting consultant. We also believe that complete knowledge of the proprietary equations in DRI's forecasting model is unnecessary to allow informed comment on the market basket increase factor since the ultimate forecasts in each cost category can be adequately reviewed, and, if appropriate, challenged with other information without detailed knowledge of the forecasting equations.

For the benefit of the reader, we are providing, below, the DRI Cost Forecasting Service Price and Wage Forecasting Methodology.

Underlying Economic Assumptions

The current forecasts of the HCFA market basket index for hospital inpatient services are based on the third quarter 1986 base-case long-term Cost Forecasting Service (CFS) forecast of prices and wages in the U.S. economy. Assumptions about future economic activity are provided by the Data Resources U.S. Economic Service. Several key assumptions are summarized below.

- Real GNP is projected to rise 2.4 percent this year and 2.8 percent in 1987.
- Even though Federal spending is cut significantly, the Federal budget deficit on a unified basis totals $198 billion in 1986. It declines to $149 billion in 1987.
- Real exports of goods and services are projected to rise an average of 7.9 percent annually from 1985 to 1987, outpacing average import growth of 3.9 percent.
- Natural gas surpluses, plus strong gains in nuclear power and coal, should hold down oil demand through 1987. Crude oil supplies, however, will continue to expand. As a result, the refiner's acquisition price for foreign oil is projected to drop from about $27 in 1985 to $16 in 1986 and just under $16 in 1987.
- Adequate production capacity, low food and energy prices, and wage restraints are moderating factors in the overall inflation outlook. The GNP deflator is projected to rise 2.6 percent in 1986 and 2.5 percent in 1987.
- The average unemployment rate for civilian workers drops from 7.2 percent in 1985 to 7.1 percent in 1986 and 6.8 percent in 1987.
- Following a 4.3 percent gain in 1985, employment costs, as measured by the employment cost index for all private industry workers, rise 3.3 percent in 1986 and 4.0 percent in 1987.
- Average hourly earnings for hospital workers, which rose 5.1 percent in 1985, are projected to rise 4.1 percent in 1986 and 4.6 percent in 1987.

Price Models

Producer Price Indexes are modelled as a function of both production costs (the cost of labor, materials, and energy) and market strength, where cost escalation is assumed to exert the dominant influence on price escalation over time. With a base path for product price escalation formed from escalation in production costs, the role of the market demand variables becomes one of accounting for deviations from the base path—that is, changing profit margins. For example, with strong demand pressures (i.e., excess demand) a producer may often be expected to increase the profit margin on a given commodity by raising price above the base path. In a weak market situation, a similar effect on the downward side may be expected. The producer price models capture the effects of differing degrees of market strength on price escalation.

Producer price index escalation often exhibits a seasonal pattern. Seasonality, by definition, affects price escalation patterns within a year, but has a zero net effect on annual price escalation. The seasonal term is included in the producer price index models to capture seasonal fluctuations within the year.

Consumer price indexes are modelled as a function of corresponding producer price indexes, labor costs, consumer activity, and seasonal variables.

All price forecasting models are estimated with quarterly data and are specified in percent change form.

Wage Models

Three sets of factors important to the forecasting of wages include those which influence labor's demand for wages, the demand for labor itself, and various institutional or structural phenomena peculiar to the sector being examined. The first of these, labor's demand for wages, is usually determined by both the cost of living and a measure of labor's opportunity costs. Costs of living are generally captured by a broad inflation index such as the consumer price index for wage earners or the personal consumption deflator for the gross national product (GNP). The significance of the influence of cost of living tends to increase as the level of unionization in a particular sector increases. Opportunity costs are captured by wage escalation for workers with similar skills or in similar industries (a demonstration wage).

The demand for labor in an industry is to a great extent a function of the demand for the industry's output and the cost (and productivity) of labor relative to other inputs. Relatively higher levels of production activity tend to exert upward pressure on wages for given contributions of capital and materials to the production process.

Wage escalation rates are also a function of various structural-institutional factors. Often wages are bargained for collectively (i.e., unions). This can have a limiting influence on the market forces that might otherwise determine prevailing wage rates. Factors such as labor strikes have only "one-time" impacts on wage escalation patterns. The DRI methodology for forecasting wage escalation recognizes and attempts to quantify each of these factors on wages historically and in the future.

Finally, wage escalation generally exhibits a seasonal pattern. Seasonality by definition affects wage patterns within a year, but has a zero net effect on annual wage escalation. A seasonal term is usually included in the forecasting models.

Escalation in the employment index for an occupation is determined primarily by wage escalation in those industries hiring workers in that occupation. The NATIONAL INDUSTRY-OCCUPATION EMPLOYMENT MATRIX, published by the Bureau of the Census of the Department of Commerce, provides data on the proportion of workers in each of twelve major occupation groups that work in industries classified under standard industrial classification (SIC) codes. Industry wage escalation is measured by production or nonsupervisory worker average hourly earnings (AHE) data. The AHE data corresponding to the industries are combined to form a weighted average based on the Census information. This weighted average forms a composite explanatory variable term for each of the occupation-based ECIs.

The AHE series in the composite term account for factors that affect the demand for wages (cost-of-living and opportunity costs of employees) and factors that affect the supply of wages (demand for labor as dictated by changes in industrial production). Therefore, supply and demand factors for labor are indirectly accounted for in the ECI models by including AHEs.

However, changes in industrial activity may affect occupation-based wages in a different manner than industry-average production worker wages (i.e., the AHE data). AHE series pertain to production workers only and include all production occupations (i.e., exclude supervisory personnel) in that industry; the ECIs measure occupations across all industries and include supervisory labor. Therefore, market demand terms are often included in the ECI models to account for unique effects of demand for labor on occupational employment cost index escalation.

Seasonal terms are also included in the models to capture the effects of seasonality on employment cost index escalation.

Description of Price and Wage Indexes

The primary data source for the price and wage indexes forecasted by the Cost Forecasting Service is the Bureau of Labor Statistics of the U.S. Department of Labor. Most of the indexes fall into one of four categories: 1) Employment Cost Indexes (ECIs), 2) Producer Price Indexes (PPIs), 3) Consumer Price Indexes (CPIs), and 4) Average Hourly Earnings Indexes (AHEs).

Most labor rate data are collected either by occupation or industry. The average hourly earnings (AHE) data are collected via monthly surveys of over 150,000 reporting units. The earnings series are based on reports of gross payroll and corresponding paid hours for production or non-supervisory workers in a given industry. Occupationally based indexes, like the ECIs, on the other hand, represent wage changes for workers across all industries whose jobs are considered similar in terms of their classification. For example, the ECI for professional and technical occupations includes engineers, lawyers, physicians, nurses, and economists across all industries which employ these types of workers. The ECIs are constructed from a sample of establishment data that is weighted to accurately represent the universe of employment establishments. The employment weights by occupation and the occupational classification system are based on the 1980 Census of Population. The ECIs are representative of, and track the compensation of, almost 88 million civilian nonfarm workers.

Producer Price Indexes are used to measure price changes for goods sold in other than retail markets. The prices used by BLS to construct the indexes generally represent the first significant commercial transactions for commodities in the United States. The indexes are fixed-weight (Laspeyres) price indexes, which are intended to measure "pure" price change, and not influenced by changes in quality, quantity, product mix, etc.

Consumer Price Indexes measure changes in the prices of goods and services bought by the typical consumer. Like the producer price indexes, they are 'fixed-weight," or market basket indexes.

Comment: Several commenters noted that only one firm, Data Resources Incorporated, currently prepares the forecasts of the rate of change in the hospital market basket. Because the rate of price change in the market basket is a significant component in developing the overall FY 1987 prospective payment update factor, the commenters suggested that several forecasts be used to estimate ranges of hospital market basket inflation in projecting the increase applicable to the prospective payment rates.

Response: The basis for the commenters' recommendation is that several estimates would increase the precision of the market basket forecasts used to develop the prospective payment rates. However, as we stated previously in response to a similar comment in the August 31, 1984 final rule (49 FR 34767), we have no reason to believe that the use of several economic forecasting firms would yield superior or more accurate estimates of the rate of increase in the market basket than those currently provided by one contractor. There is no evidence that the forecasts provided to us to date have been biased. In addition, using more than one service raises several issues. The first is the cost of obtaining more than one service in a period of diminishing Federal budgets. On technical grounds there is the question of how differing forecasts would be reconciled. Should the forecast be averaged, should parts of one forecast be merged with parts of other forecasts, should the service with the best recent track record be used? These are all questions that would need to be resolved.

We point out that all economic forecasting firms had an equal opportunity to bid competitively for the contract under which the estimates of the rate of change in the hospital input price index are provided according to prescribed criteria. Many of the recognized leaders in macro-economic forecasting business bid on the contract. The contractor selected is widely recognized and used by both the public and private sector, including the American Hospital Association.

f. Composite Policy Target Adjustment Factor

(1) General Considerations

In analyzing the prospective payment system, we must consider the effects of the rates we set on outcome measures such as quality and access to care, and the financial viability of the hospital industry insofar as it relates to beneficiary access to high quality care.

(a) Quality of and Access to Care

As we stated in the NPRM, we have not found any evidence of compromise or deterioration in the quality of, or

access to, inpatient hospital care for Medicare beneficiaries since the inception of the prospective payment system. In conjunction with our own studies on quality and access, we have monitored ProPAC's activity on quality and access assessments. Available data and study findings on subjects such as mortality trends and readmission rates do not indicate any negative findings regarding a deterioration in quality or access under the prospective payment system. Furthermore, we believe our commitment to high quality care and access are evident in the monitoring functions of the PROs and the implementation of procedures to ensure that beneficiary rights are maintained so that beneficiaries are protected against premature discharges as discussed in section V of the preamble.

Despite these efforts, some critics of the prospective payment system have expressed concern about the system's effect on quality and access, particularly in rural areas. As discussed below, we are increasing the payment rates above the level proposed in the NPRM in order to address these concerns.

(b) Financial Viability of the Hospital Industry

Profitability measures of the hospital industry have received much attention recently. We believe that it is *not* our responsibility to determine specific levels of appropriate hospital profit margins. We presented a review of financial information in the proposed rule in order to determine how well the hospital industry had done before and after the inception of the prospective payment system.

ProPAC has conducted a number of studies on the financial condition of hospitals in 1984 (see "Medicare Prospective Payment and the American Health Care System," Chapter 4, page 47, Report to Congress, February 1986). According to hospital industry financial data, operating margins increased significantly. These findings also showed that both teaching and nonteaching hospitals experienced large gains in operating margin ratios.

In addition, the Department's Office of the Inspector General has released an audit report titled, "Financial Impact of the Prospective Payment System on Medicare Participating Hospitals—1984" (ACN: 09-62021), which confirms ProPAC's findings.

Comment: Several commenters raised questions related to the evaluation of outcome measures that are reviewed in conjunction with updating the prospective payment rates. Many commenters stated that the update analyses provided in the NPRM were driven by budget deficit concerns, rather than by appropriate technical evaluations. Some questioned the analysis of the financial viability of the hospital industry and stated that the hospital "profit" margin analysis was primarily used to criticize the industry. One commenter stated that such profits may have resulted from payments by non-Medicare payors, as opposed to "excess" profits derived from the Medicare program. A number of comments were provided regarding independent studies containing analyses of the financial viability of the industry in current and future years.

Response: As described in the NPRM, in determining the update level of the FY 1987 prospective payment rates, we evaluated certain outcome measures, including quality of and access to care and the financial viability of the hospital industry insofar as it relates to beneficiary access to high quality care. These outcome evaluations were made to measure current and prospective effects on beneficiaries, taxpayers, and the industry. We believe that Congressional intent, as reflected in statutory requirements, is that the Secretary evaluate the appropriateness of the current payment levels for meeting the "amounts necessary for the efficient and effective" delivery of medically needed health care, rather than merely update the rates mechanically. One commenter astutely recognized this responsibility by stating that ". . . in the most simple terms the policy directions chosen for the Medicare program need to balance the often times competing interests of its beneficiaries, the taxpayers, and those participating health care organizations and private practitioners who provide health care services." We note that we believe that concern over budget deficits is not an appropriate outcome measure that should be included in our technical evaluations of appropriate update levels for prospective payment rates. Thus, this concern was purposely excluded from the technical analyses of outcome measures.

As stated in the NPRM, we believe it is not our responsibility to determine specific levels of appropriate hospital profit margins (51 FR 20017). However, we note that since Medicare payments represent a large share of community hospital inpatient revenues, Medicare should be a prudent purchaser of services furnished under the prospective payment system. One indication of how prudent we have been is the impact of our payments on hospital margins. If we have paid too little, all other things being equal, hospital margins will be down. If we have paid too much, margins will be be up, again, all things being equal. Thus, we included in the NPRM a number of tables on operating margins, Medicare shares of total revenues and days, and ratios of Medicare payments to charges, to illustrate how hospitals have fared under prospective payment. Because some commenters expressed confusion in understanding and interpreting the tables and the data included in them, we are providing additional information that we believe will be helpful in evaluating Medicare payments prior to, and after, implementation of the prospective payment system. The data are provided to evaluate whether or not Medicare payments have been adequate to provide high quality care to beneficiaries and to determine if Medicare pays a fair share of hospital costs.

Chart 1 graphically displays incurred Medicare shares of community hospital revenue and days of care for the most current yearly data available. Medicare is funding an increasingly larger share of hospital revenues while representing a smaller share of hospital days.

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CHART 1

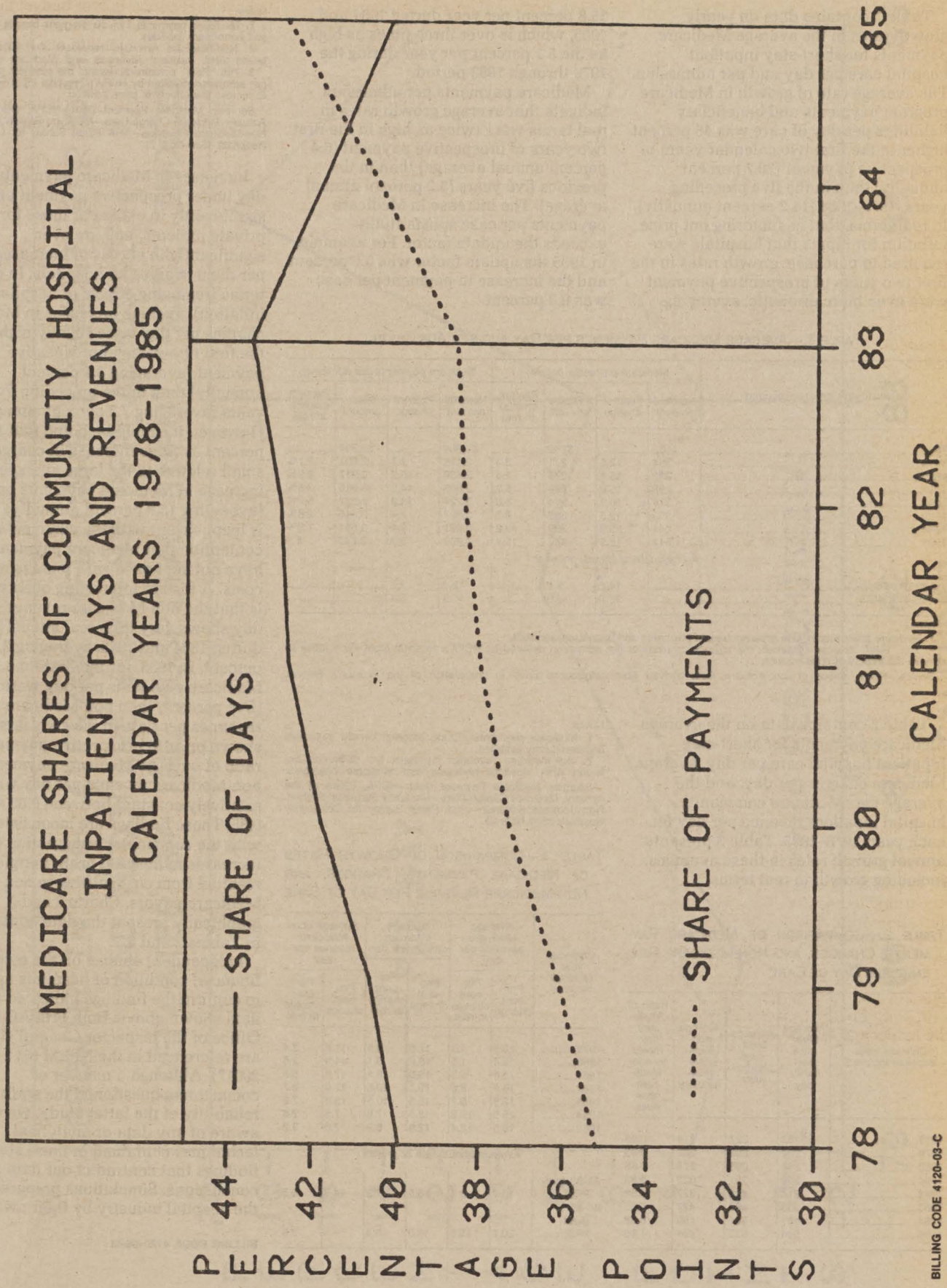

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Table 1 contains data on yearly growth rates in the average Medicare payments for short-stay inpatient hospital care per day and per admission. The average rate of growth in Medicare program payments and beneficiary liabilities per day of care was 46 percent higher in the first two calendar years of prospective payment (20.7 percent annually) than in the five preceding years, 1979–1983 (14.2 percent annually). In real terms, that is, factoring out price inflation for inputs that hospitals were required to purchase, growth rates in the first two years of prospective payment were even more dramatic, averaging 15.8 percent per year during 1984 and 1985, which is over three times as high as the 5.1 percent per year during the 1979 through 1983 period.

Medicare payments per admission indicate that average growth rates in real terms were twice as high in the first two years of prospective payment (6.4 percent annual average) than in the previous five years (3.2 percent annual average). The increase in Medicare payments per case substantially exceeds the update factor. For example, in 1985 the update factor was 3.2 percent and the increase in payment per case was 9.3 percent.

TABLE 1.—AVERAGE MEDICARE PAYMENTS PER DAY AND PER ADMISSION

Calendar year expense incurred	Medicare payments per day				Medicare payments per admission			
	Nominal amount	Percent change	Real amount	Percent change in real	Nominal amount	Percent change	Real amount	Percent change in real
1978	$182		$262		$1,964		$2,834	
1979	204	12.5	271	3.3	2,116	7.7	2,607	−1.1%
1980	232	13.4	275	1.5	2,459	16.2	2,917	3.9%
1981	269	15.8	289	5.2	2,808	14.2	3,026	3.8%
1982	314	16.9	314	8.6	3,227	14.9	3,227	6.7%
1983	353	12.5	335	6.7	3,497	8.4	3,315	2.8%
1984	441	25.0	399	19.2	3,931	12.4	3,551	7.2%
1985	514	16.5	447	12.4	4,297	9.3	3,740	5.5
Average rate of growth per year								
79–83 (Pre-PPS)		14.2	5.1		12.3	3.2		
84–85 (Post-PPS)		20.7	15.8		10.9	6.4		

Notes:
1. Medicare payments include program benefit payments and beneficiary liabilities.
2. The "Real" column represents the payment per day or per admission deflated by HCFA's Hospital Input Price Index to remove the effects of price inflation.

Source: HCFA, Office of the Actuary. Data derived from calculations done in preparation of the Trustee's Report.

Table 2 contains data on the average Medicare payments for short-stay inpatient hospital care per day, average Medicare charges per day, and the average non-Medicare community hospital inpatient revenue per day for each year, 1978–1985. Table 3 presents annual growth rates in these averages, including growth in real terms.

TABLE 2.—COMPARISON OF MEDICARE PAYMENTS, CHARGES, AND NON-MEDICARE REVENUE PER DAY OF CARE

Calendar year expense incurred	Average Medicare payment/day	Average Medicare charge/day	Average non-Medicare revenue/day	Ratio of Medicare payments to non-Medicare revenues
1978	$182	227	214	0.85
1979	204	256	239	0.85
1980	232	295	274	0.85
1981	269	351	323	0.83
1982	314	418	377	0.83
1983	353	487	427	0.83
1984	441	551	459	0.96
1985	514	622	491	1.05

Notes:
1. Medicare payments include program benefit payments and beneficiary liabilities.
2. Non-Medicare revenues represent the difference between AHA inpatient revenues and Medicare payments.

Sources: Medicare Payment Data—HCFA, Office of the Actuary. Medicare Charge Data—Medicare Statistical System. Non-Medicare Revenue—AHA Panel Survey for Community Hospitals (See Note 2).

TABLE 3.—COMPARISON OF GROWTH RATES OF MEDICARE PAYMENTS, CHARGES, AND NON-MEDICARE REVENUE PER DAY OF CARE

Calendar year expense incurred	Average Medicare payment per day		Average Medicare charge per day		Average non-Medicare revenue per day	
	Percent change	Percent change in real	Percent change	Percent change in real	Percent change	Percent change in real
1979	12.5	3.3	12.8	3.5	11.6	2.4
1980	13.4	1.5	15.2	3.1	14.5	2.5
1981	15.8	5.2	19.0	8.1	17.7	6.9
1982	16.9	8.6	19.1	10.6	17.0	8.7
1983	12.5	6.7	16.5	10.5	13.0	7.2
1984	25.0	19.2	13.1	7.9	7.5	2.6
1985	16.5	12.4	12.9	8.9	7.0	3.2
Average annual rate of growth						
79–83 (pre-PPS)	14.2	5.1	16.5	7.2	14.8	5.5
84–85 (post-PPS)	20.7	15.8	13.0	8.4	7.3	2.9

Notes:
1. Medicare payments include program benefit payments and beneficiary liabilities.
2. Non-Medicare revenues represent the difference between AHA inpatient revenues and Medicare payments.
3. The "Real" column represents the payment per day or per admission deflated by HCFA's Hospital Input Price Index to remove the effects of price inflation.

Sources: Medicare Payment Data—HCFA, Office of the Actuary. Medicare Charge Data—Medicare Statistical System. Non-Medicare Revenue—AHA Panel Survey for Community Hospitals. (See Note 2).

Increases in Medicare payments per day under prospective payment are significantly in excess of those for private patients, and are even significantly in excess of increases in per diem charges by hospitals. In real terms (removing effects of hospital price inflation), average increases in Medicare charges per day were slightly higher in the first two years of prospective payment (averaging 8.4 percent annually) than in the preceding five years (averaging 7.2 percent annually). However, it should be noted that this 8.4 percent average increase in charges was small relative to the large average increase in Medicare payments per day (averaging 15.8 percent annually). This is inconsistent with the commenters' contention that Medicare payments have not kept pace with increasing costs. A further interesting observation is that the non-Medicare revenue per day shows very little real annual growth during 1984 and 1985, averaging 2.9 percent. In 1985, for the first time, Medicare payments per day were higher (five percent) than non-Medicare revenues per day. In the six years shown prior to prospective payment, the ratio of average Medicare payments to non-Medicare revenue per day was relatively constant between 0.83 and 0.85. These findings are inconsistent with the commenter's suggestion that increases in hospital profit margins have resulted from cost shifting to non-Medicare payors. Charts 2 and 3 graphically present the data contained in Tables 2 and 3.

Independent studies on the recent financial condition of hospitals appear to confirm the findings indicated by the data shown above. Both ProPAC and the Office of the Inspector General studies are referenced in the NPRM (51 FR 20017). Although a number of commenters questioned the statistical reliability of the latter study, we are not aware of any data or analytical techniques contained in these study findings that contradict our data and conclusions. Simulations prepared for the hospital industry by their own

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CHART 2

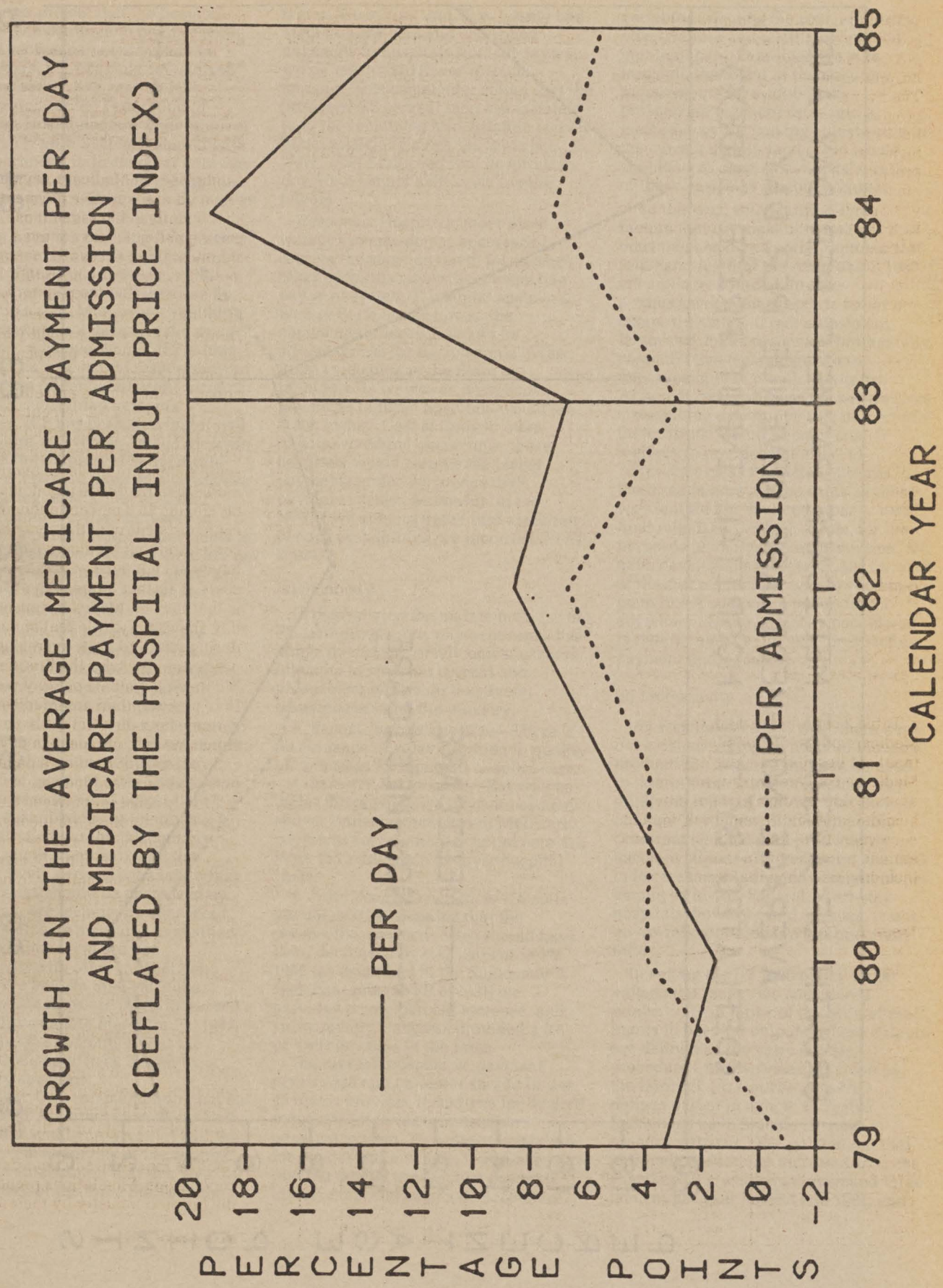
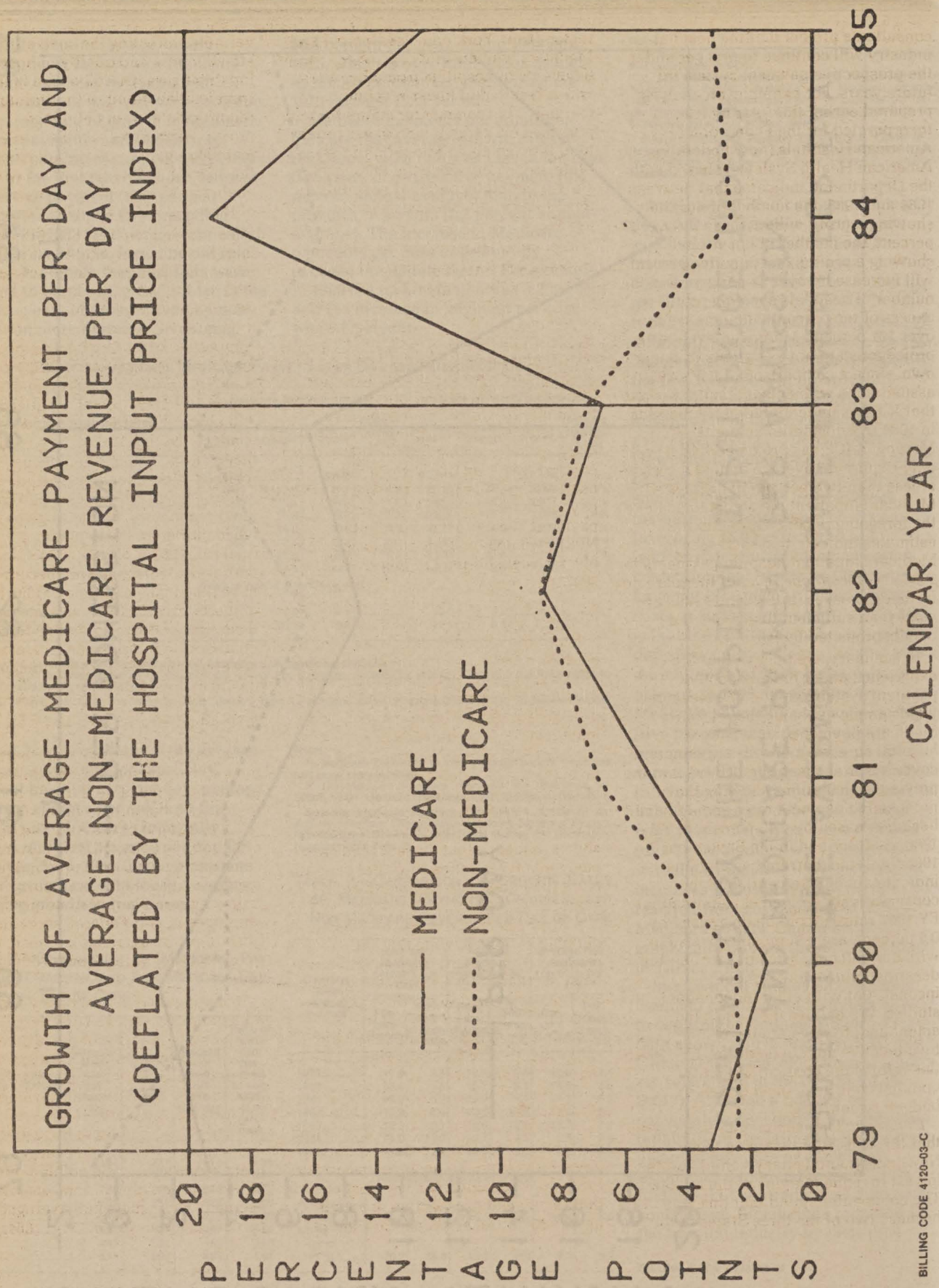

GROWTH IN THE AVERAGE MEDICARE PAYMENT PER DAY
AND MEDICARE PAYMENT PER ADMISSION
(DEFLATED BY THE HOSPITAL INPUT PRICE INDEX)
PER DAY
PER ADMISSION
PERCENTAGE POINTS
20
18
16
14
12
10
8
6
4
2
0
-2
79
80
81
82
83
84
85
CALENDAR YEAR

CHART 3



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consultants project that the hospital industry will continue to prosper under the prospective payment system in future years. For example, an analysis prepared earlier this year by ICF, Incorporated for the Federation of American Hospitals (now Federation of American Health Systems) shared with the Department, indicates that between 1984 and 1988, the number of hospitals showing a profit will increase by over 27 percent, the number of hospitals showing a profit exceeding five percent will increase by over 71 percent, and the number of hospitals showing profits in excess of ten percent will increase by over 121 percent. Moreover, even these projections are not as optimistic as our own, since a comparison of ICF's 1984 assumptions with actual results showed that ICF has understated profit margins in 1984 by substantial amounts. Moreover, ICF has projected that it will only require an average annual increase of less than two percent in aggregate Medicare inpatient payments to achieve the foregoing results. Our actuarial estimates indicate that increases in Medicare inpatient hospital payments in 1985 and 1986 *alone* (even if there are no further increases in 1987 and 1988), are *more* than sufficient to achieve the results projected by ICF.

In summary, we believe that the experience under the prospective payment system on outcome measures yields ample evidence that current Medicare payments for inpatient hospital care are more than adequate to cover hospital costs. We believe that the previous calculations showing that prospective payment rates should have been decreased by 4.42 percent in FY 1986, as described in the September 3, 1985 final rule (current calculations indicate about 6 percent), and the conservatively derived calculation that FY 1987 rates should be decreased by 0.6 percent, are technically consistent with our outcome measures evaluation described above and are not inconsistent with other independent studies. We believe that, since the actual update rates are being increased by a positive update factor for FY 1987, this refutes the contention that the update levels have been driven by budgetary concerns.

Comment: One commenter pointed out that the Mid-Atlantic region (New York, New Jersey, and Pennsylvania) had the lowest revenue margins of the regions. The commenter stated that this was because two of the three States in the region (New York and New Jersey) had Medicare waivers and controlled payments to hospitals from all payors, which resulted in lower revenue margins. This commenter stated that the proposed 0.5 percent increase is unfair to to the remaining Mid-Atlantic waiver State, especially since the State is a "low" cost State, and that hospitals in this State cannot shift costs to other payors.

Response: Hospitals under State waiver systems do not necessarily receive the same payment increase as other hospitals under the prospective payment system. If hospital costs in a waiver State are as low as the commenter alleges, it would be advantageous for the hospitals in the State to encourage the State to terminate its waiver as prospective payments to these hospitals would be much higher. Cost shifting to other payors would not occur since these hospitals would receive the higher payments under the prospective payment system. Moreover, in the NPRM we demonstrated that assertions of such cost shifting are incorrect (51 FR 20021).

(c) Summary

In determining the update level for the FY 1987 prospective payment rates, the above evaluation of outcome measures attempts to measure current and prospective effects on taxpayers, beneficiaries, and the industry.

- *Beneficiary Perspective*—There is no evidence of a deterioration in quality of, or access to, inpatient hospital care.
- *Industry Perspective*—Experience under the prospective payment system shows evidence that current Medicare payments for inpatient hospital care are more than adequate to cover hospital costs.
- *Prior Year's Experience*—Despite our calculation showing that the prospective payment rates should have been decreased by 4.42 percent in FY 1986 (as described in the September 3, 1985 final rule (50 FR 35693)) we provided a zero percent increase, and subsequently Congress provided a 0.5 percent increase in the rates.

The annual prospective payment percentage update factor should be set so that it provides incentives for desired outcomes under the prospective payment system. To achieve incentives for the desired outcome, we must ensure that the annual prospective payment update factor takes proper account of variables affecting the cost, efficiency, effectiveness and quality of hospital inpatient care. Our objective is to translate the intent of the statutory requirements for updating the prospective payment rates into a methodology for making adjustments to the current update factor that would enable us to express our consideration of these variables as policy targets.

To this end, we identified three factors that correspond to matters that must be considered under sections 1886 (e)(2) and (e)(4) of the Act. For FY 1987, we are incorporating into the prospective payment update factor a composite policy target adjustment factor that takes account of productivity, cost-effective technologies, and improvements in practice patterns. Although, as we discuss below, we have changed the descriptive title of the third factor (from "elimination of cost-ineffective practice patterns" to "improvements in practice patterns"), the three factors are the same as those we identified in the September 3, 1985 final rule (50 FR 35705). While, for the purposes of analysis and discussion, we have developed separate values for each of these three factors, we are combining them into a composite policy target adjustment factor, which is considered in determining the FY 1987 prospective payment update factor.

(2) Productivity

As was the case last year, there does not exist an aggregate hospital industry productivity measure that can be used to interpret the intent of sections 1886 (e)(2) and (e)(4) of the Act. The Bureau of Labor Statistics (BLS) is currently constructing a hospital productivity measure adjusted for case-mix. The BLS index measures adjusted admissions per employee in non-Federal, short-stay hospitals, however, and, as such, is not an overall operating input productivity index.

In setting the FY 1986 policy target adjustment factor, we considered productivity in terms of the ratio of real inputs to hospital outputs, where outputs are defined as the various tests, procedures, and services provided by the hospital. (In contrast, ProPAC defines output in a more inclusive fashion, so as to include changes in practice patterns.) We pointed out that national productivity increases over the economy as a whole had averaged three percent per year in 1983 and 1984, and

that after years of cost-based reimbursement, hospitals should be able to achieve a reduction in inputs of at least that amount. The argument was that hospitals ought to be able to equal the national average for productivity increases in the future because, with fixed and known payment rates, they could adjust their inputs to eliminate unnecessary costs. The FY 1986 productivity factor was set at one percent. This target was set conservatively because of uncertainty with regard to achievable productivity gains.

A primary objective of the prospective payment system is to encourage the efficient provision of hospital care by changing economic incentives under the payment system. It is reasonable to assume that hospitals have (or should have) made substantial productivity gains during the first three years of the prospective payment system. The only adjustment that we have made to DRG prices for any such productivity gains was the one percent offset used in updating the FY 1986 rates. We believe that productivity gains can and should continue. Although ProPAC recommends a 1.5 percent productivity offset, we are incorporating a 1.0 percent productivity offset in the FY 1987 policy target adjustment factor. We expect that a two percent or more annual increase in productivity would not be unreasonable; however, consistent with our approach in the September 3, 1985 final rule (50 FR 35707), we believe that a conservative offset (1.0 percent) is appropriate.

(3) Cost Effective Technologies

This add-on is a policy target rate of increase to allow for growth in cost-increasing, health-enhancing new technologies and scientific advances.

As with productivity, there is limited historical data to set a prospective target empirically, and there are substantial definitional problems in determining what measures would accurately reflect the intent of the law. Further, some technologies or scientific advances eventually have cost-decreasing effects.

ProPAC is conducting a number of studies to analyze this factor. Our assessment appears to be consistent with ProPAC evaluations. A major difference is that ProPAC is conducting analyses of the use of individual technologies for potentially making changes to the prospective payment rates. Of particular interest is the ProPAC finding that new medical devices and diagnostic procedure costs may have only a small impact on overall increases in Medicare payments and that major increases in costs during the 1970s were the result of changes in practice patterns (see p. 11 of the Technical Appendixes of ProPAC's April 1, 1986 Report). ProPAC has recommended a much lower target value (0.7 percent) for cost-effective technologies in FY 1987 than the 1.5 to 2.0 percent they recommended last year, although they are also including (Recommendation 29) a specific add-on amount for magnetic resonance imaging technology.

We are setting the policy target adjustment factor for cost-effective technologies and associated labor and nonlabor inputs at 0.7 percent. In the NPRM, we deliberately proposed to set this factor at a more generous level than that recommended by ProPAC because we were proposing to incorporate capital-related costs into the prospective payment system. However, based on section 206 of Pub. L. 99-349, we are not incorporating capital-related costs into the prospective payment system during FY 1987. Our intention is to encourage hospitals to use health-enhancing new technologies and scientific advances through setting this factor at a level that would promote such usage.

Comment: One commenter was concerned that the technology adjustment would not increase the payments to hospitals and that hospitals would not spend the technology adjustment on new technology.

Response: The upward technology adjustment increases payments to hospitals in excess of the payment that would have occurred if there was no technology adjustment. The concept of the prospective payment system is that we pay hospitals a predetermined amount for each admission. The hospitals may spend the payments as they choose as long as they provide appropriate care to Medicare patients.

(4) Improvements in Practice Patterns

We are changing the descriptive title of this output measure used in the analytical framework for updating the FY 1986 rates from the "elimination of ineffective practice patterns" to "improvements in practice patterns." However, the essence of this measure remains unchanged. It reflects the relationship between efficacious and cost-effective outputs (services) and discharges. We refer the reader to Appendix B of the June 10, 1985 proposed rule (50 FR 24440) for a more indepth discussion of the framework for analyzing the policy target adjustment factors. Also, see Arnett, Cocotas, Freeland, and Kowalczyk, "Framework for Analysis of the Prospective Payment System Rate—Increase Factors," *Health Care Financing Review*, Summer 1985 (Vol. 6 No. 4). Substantial savings result from improving practice patterns through cost effective use of resources. Improvements in practice patterns include shifts in the use of certain inpatient services for hospitalized patients to more appropriate lower cost settings and the elimination of services that do not give value for money expended; that is, reduced outputs associated with improvements in practice patterns.

In the first two years of the prospective payment system, the average length of stay of Medicare beneficiaries in prospective payment system hospitals decreased by 18 percent, despite a 12.4 percent increase in reported case mix.

For purposes of determining day outlier cases, we assume the marginal cost of an additional day of care to be equal to 60 percent of the average per diem for the applicable DRG, excluding payment for pass-through costs. ProPAC references studies that indicate that marginal costs associated with a patient day range between 20–80 percent. Assuming an average marginal cost rate of 50 percent, the 18 percent reduction in length of stay in the first two years of the prospective payment system translates into a nine percent reduction in costs. Since two percent were already offset for improved practice patterns in determining the FY 1986 prospective payment system update, a seven percent reduction in costs remains. Considering incentives inherent under prospective payment, together with the intent to be gradual and conservative, we are incorporating a two percent offset for improved practice patterns in the FY 1987 policy target adjustment factor.

(5) Composite Policy Target Adjustment Factor

For FY 1987, we are adjusting the average standardized amounts by a percentage composite policy target adjustment factor, as authorized under section 1886(e)(4) of the Act. For FY 1987, this composite policy target adjustment factor is a composite of the offsets and add-ons for productivity, cost-effective technologies, and improvements in practice patterns, as follows:

	Percent
Productivity	−1.0
Cost-effective technologies	+0.7
Improved practice patterns	−2.0
Total	−2.3

Comment: Many commenters questioned our adjustments for the

policy target adjustment factor. Several commenters recommended using only the forecasted market basket increase and an add-on for technology. In particular, many questioned the validity and accuracy of the productivity and practice pattern improvement offsets, suggesting that the two offset factors double count, that is, the same information is used, to some extent, in determining the offsets.

Response: The components of the policy target adjustment factor represent our interpretation of section 1886(e)(4) of the Act in determining the applicable percentage increase in the prospective payment rates. Likewise, ProPAC, under section 1886(e)(2) of the Act considers similar factors in making its recommendations to the Secretary. We developed and published an analytical framework used to assess the policy target adjustment factors (see Appendix B of the June 10, 1985 NPRM (50 FR 24440). Also, see the article, "Framework for Analysis of the Prospective Payment System Rate—Increase Factors," referred to above. We believe the framework is logically consistent and guards against inconsistent analysis from one year to the next. Because the factors are essentially required by statute, we must consider them in determining update levels. We do not have the legal authority to base the update solely upon the market basket and an add-on for technology.

As several comments were made about each component of the policy target adjustment factor, we will consider each component separately. We acknowledged in the NPRM that no satisfactory measure of overall hospital productivity is currently available. We also do not claim that such a measure, if it existed, would be appropriate as such an offset. The productivity offset is set prospectively as a policy target, rather than being measured. This is not to say that a hospital productivity measure would not be useful as a gauge of how effective the productivity policy target has been.

A primary purpose of the prospective payment system is to promote more efficient delivery of health care. A measure of productivity would tell us how hospitals had performed in the past, but it would not necessarily provide an incentive to improve. Hence, we set the productivity offset as a prospective standard. The standard used for hospitals is that of general, long-run, economy-wide productivity changes. Gains in excess of that standard accrue to hospitals. Hospitals failing to equal the standard for efficiency bear the cost, just as they profit when productivity improves beyond the standard.

The new science and technology factor is also set prospectively as a standard. Many industry analysts have indicated that the cost to hospitals of new science is quite small. (See, for example, ProPAC's Technical Appendixes to their April 1, 1986 *Report and Recommendations to the Secretary*, at p.11.) Even the effect on operating costs may be relatively small because, to some extent, new technologies supplant old ones. In addition, many new technologies, such as Percutaneous Transluminal Coronary Angioplasty, allow much less intensive and expensive treatment.

Prior to the proposal to incorporate capital into the standardized amounts, we considered setting this factor at +0.5 percent. In the NPRM, based on the inclusion of capital, a level of +1.0 percent was proposed. Because capital is not included in the FY 1987 update factor, we are accepting ProPAC's recommendation that this factor be set at 0.7 percent.

Under normal circumstances, hospitals should need no add-on for adoption of new science and technology because it is in their interest, for competitive reasons, to take advantage of these advances. Their use helps hospitals attract both patients and physicians. However, we recognize that the still recent implementation of the prospective payment system does not constitute normal circumstances. Therefore, we have attempted to be quite liberal when setting the level of this factor. After the transition period, this factor should be evaluated in terms of outcome measures including factors such as the financial viability of the hospital industry. When hospital operating margins are high, normal competitive demands should provide the incentive to employ new science and technology. In periods when margins are down, hospital resources may need to be supplemented in order to enable hospitals to continue to provide high quality care to Medicare beneficiaries through use of emerging new technologies.

Practice pattern improvements are not set as a standard, but rather by observing changes made by practitioners. No judgment is made about the "standard level" of practice. The improvements are modeled on cumulative changes in average length of stay for Medicare patients. This change reflects changes in site of care for some services and elimination of other services altogether. Pre-admission testing, reductions in intensive care unit time, and elimination of some in-hospital recovery days are examples often cited as practice pattern improvements.

The practice pattern offset is an adjustment to the standardized amounts for changes that have already occurred. Some have suggested that since these changes were a one-time-only phenomenon, no corrections in addition to those already made are needed. If we had taken the full amount of this correction in the first two years, this statement would be appropriate. However, cumulative average length of stay has declined 18 percent. In an attempt to avoid being disruptive and because length of stay may rise somewhat, we have only offset four percent of this reduction over the last two update periods.

No double counting occurs between the offsets for productivity and practice pattern improvements. As mentioned, the productivity adjustment is a prospective standard. The practice pattern adjustment is an indirect measurement used to make adjustments to the payment base. The practice pattern offset is a reflection of the changes in services per discharge. Productivity is a standard for changes in inputs per service. If services have been eliminated, that is, there have been changes in practice patterns, the inputs required for those services must also be eliminated. However, since such a one for one reduction (in input per outputs) yields a productivity change of zero, the productivity standard requires that efficiency improvements must be such that inputs are reduced relative to outputs in excess of the amounts needed to adjust for practice pattern changes. Given the differences in what is being accounted for, and the timing differences, we believe these two factors do not double count.

(6) Other ProPAC Recommendations on the Policy Target Adjustment Factors

ProPAC recommended (Recommendation 3) that an allowance should be made in the overall update factor to reflect real changes in case mix that are due to changes associated with the characteristics of patients. The allowance should reflect both shifts in patients among the DRG categories, as measured by changes in the average case-mix index (DRG case-mix change), and changes in the mix of patients within DRG categories (patient complexity change). ProPAC recommended an allowance in the FY 1987 Federal rates of 0.9 percent, representing a 0.2 percent adjustment for

DRG case-mix change and a 0.7 percent adjustment for patient complexity change.

This recommendation was previously reflected in ProPAC's recommendations No. 1 and No. 11 issued April 1, 1985. (See the June 10, 1985 proposed rule (50 FR 24446).) We agree, in principle, that the prospective payment rates should reflect real increases in case-mix.

ProPAC also recommended that the DRG weights should be adjusted to remove any increase in reported case mix during FY 1986. This would include nominal increases net of real increases.

Of the 0.9 percent add-on for real case mix that ProPAC recommended, 0.7 percent is for "patient complexity," which ProPAC defined as changes in the mix of patients within DRGs. We have funded extensive research on measuring severity of illness. However, we do not recognize changes in the mix of patients *within* DRGs (that is, severity of illness) because the methods for measuring severity of illness are not sufficiently developed at this time for use under a national prospective payment system.

Our estimates indicate that case mix has increased by 2.6 percent in FY 1986. Using ProPAC's estimate of a 0.9 percent add-on for real case mix, the net case-mix change adjustment would be −1.7 percent. As discussed above, only 0.2 percent of ProPAC's add-on is for real case mix. However, our preliminary estimate in the NPRM was that real case mix has increased 0.6 percent. This estimate was based on long-term trend estimates of real case-mix increases of 0.4 percent and an additional adjustment of 0.2 percent for further shifts of cases, including cases in DRG 39 (lens procedures with or without vitrectomy), to outpatient settings. Thus, our adjustment for net case-mix change is −2.0 percent, that is, −2.6 percent for total case-mix change plus 0.6 percent for real case-mix increases.

ProPAC recommended (Recommendation 13) that the standardized amounts be recalculated using cost data that reflect hospital behavior under the prospective payment system. The results of such a recalculation, with appropriate modifications, could be used in determining the update factor or in rebasing the standardized amounts.

The initial standardized amounts were established by using data from available 1981 cost reports for all hospitals subject to the prospective payment system and updating that data to FY 1984 by an inflation adjustment. Section 1886(d)(3)(A) of the Act specifically provides that the average standardized amounts for any given year beginning with FY 1985 are to equal the respective standardized amounts for the previous year, adjusted by an update factor. We believe, therefore, that there is no statutory requirement to recalculate (or rebase) the standardized amounts by repeating the original process with later data, such as cost data accumulated under the prospective payment system. Moreover, we believe that the framework for the update methodology affords us ample latitude to adjust the rates in light of more recent experience.

Comment: Several commenters suggested that the proposed FY 1987 prospective payment rates should provide an adjustment to account for severity of illness. One commenter recommended that any severity of illness refinement to the prospective payment rates should address variations in the intensity of nursing care among DRGs. The commenters endorse the use of an explicit severity of illness measure so that the DRGs would more accurately account for differences in resource utilization.

Response: We recognize that there may be wide differences in cost among cases classified by DRG reflecting variations in the severity of illness for cases with otherwise similar diagnostic characteristics. The feasibility of incorporating an explicit severity of illness measure into the prospective payment system has been the focus of ongoing investigation both within and outside of HCFA for quite some time. We have funded extensive research devoted to measuring severity of illness in order to improve hospital definitions of case-mix.

However, to quantify severity of illness in an objective manner for use under a national prospective payment system is a difficult problem. That is, those conditions or factors that make for a more severe case in one disease may not do so in another disease. Thus, comparability of severity indicators across diseases is problematic at best in addition to being not readily objective and measurable. For example, a patient with diverticular disease and nonmassive gastrointestinal bleeding is generally considered less severely ill than a diverticular patient with an obstruction or fistula. However, establishing objective criteria under which severity distinctions among otherwise clinically distinct patient types can be measured has proven to be elusive. The difficulty is further compounded if one considers severity discriminations across diseases because severity of illness usually refers to a disease-specific clinical condition. A patient with an uncomplicated acute myocardial infarction, for example, may or may not be considered less severely ill than a patient with diverticular disease complicated by a fistula. The issue is further complicated when one considers that more severely ill patients are not necessarily the more costly patients to treat. While a terminally ill cancer patient may require more hospital resources initially, resource consumption may decline as the disease progresses to a point at which further treatment has little effect.

Finally, a severity of illness index would presumably only redistribute payments from hospitals treating less severe case mixes to hospitals treating more severe case mixes. Therefore, while several severity of illness refinements are possible in the future, potential prospective payment adjustments incorporating severity of illness distinctions into the DRG classifications are not imminent and must await the outcome of further research.

Comment: One commenter pointed out the apparent inconsistency between our stated policy of not recognizing changes in the mix of patients within DRGs (that is, not providing an adjustment for increasing severity of illness) and our proposed 0.2 percent increase for a "sicker" (more resource intensive) group of patients within DRG 39 (51 FR 20026). The commenter stated that the same logic that was used to propose a 0.2 percent increase for the movement of lens procedure cases to outpatient settings resulting in a more complex, sicker profile of cases remaining in DRG 39 could also be extended to other DRGs, and thereby warrants a further increase in the proposed overall 0.6 percent allowance for real case-mix change.

Response: The comment regarding the 0.2 percent for sicker patients in DRG 39 is incorrect. We allowed 0.2 percent of the case mix increase to remain because many DRG 39 cases (which have a low relative weight) were moved to outpatient settings which would have resulted, had such a shift occurred in the base year (1981) used to set the Federal rates, in an increase of 0.2 percent in the average cost of the average case across hospitals for the remaining inpatient cases. Because DRG 39 used to represent a much larger percentage of Medicare inpatient cases in FY 1985 than it did in FY 1986, it contributed much more heavily in the past toward the average cost of an average case in a hospital. If DRG 39 had represented as small a percentage of total cases in the base year as it does currently, presumably the average cost of the average case would be higher. It is that

shift, the declining weight of DRG 39 cases in the measurement of average case mix, that this adjustment is intended to recognize. The inpatient cases remaining in DRG 39 may be more or less complex, on average, than the cases assigned to DRG 39 in the base year. Even though we expect almost no additional case-mix increase due to DRG 39, we are allowing a 0.2 percent increase for the further movement to outpatient settings for FY 1986.

We agree that the intensity of service input within a DRG can change over time. (Some DRGs may become more resource-intensive while other DRGs can become less resource-intensive.) That is one of the reasons why the statute requires periodic recalibration of the DRG relative weights. It is possible that intensity of service inputs in DRGs can change between recalibrations.

However, it is improper to conclude from this adjustment that the remaining cases in DRG 39 are somehow more resource-intensive, and thus more severe. Average case mix increases merely because there are fewer cases, relatively speaking, with lower weights.

g. Summary

The combined effect of the forecasted increase in the hospital market basket, the correction of case-mix change for FY 1986, and the composite policy target adjustment factors is as follows:

	Percent
Forecasted market basket increase	+3.7
Correction for case-mix change for FY 1986	−2.0
Correction for forecasted market basket error in FY 1985	0.0
Composite policy target adjustment factor	−2.3
Total	−0.6

Such a negative update factor would result in a modest decrease in the standardized amounts for FY 1987, compared to those for FY 1986. However, although we have substantial technical and legal justification for issuing FY 1987 standardized amounts that would be lower, on average, than FY 1986 standardized amounts, all other things being equal, we are not promulgating a negative update factor. Instead, we are increasing the standardized amounts by 0.5 percent.

The prospective payment system was intended, from its inception, to produce significant changes in the behavior of the hospital industry by changing the financial incentives facing hospitals. However, we do not want to cause these changes to take place too rapidly, because that may result in disruptions and unintended consequences that would adversely affect the industry, its patients, and the Medicare program. Neither do we want to encourage changes that would compromise access to the high quality inpatient hospital care historically enjoyed by Medicare beneficiaries.

Our objective is to set the FY 1987 update factor at a percentage that takes into account amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality, in accordance with section 1886(e)(4) of the Act, and we believe that the payment rates should be set to ensure that this statutory standard is met.

Promulgating a negative update factor, as derived through our technical anlysis, could have adverse effects, not only relative to the expectations of affected hospitals but also on the development and acceptance of the prospective payment system. Therefore, it would be inappropriate to set the FY 1987 Federal rates at a level that would appear to adversely affect the hospital industry.

While we have a responsibility to protect the integrity of the Medicare trust funds, we realize that reducing the prospective payment rates could lead to concern that we would be economically disadvantaging hospitals. Therefore, we believe that it is in the best interest of all parties, that is, the public, the hospital industry, and the government, to increase the rates for FY 1987.

Accordingly, we have determined that the Federal rates be increased by 0.5 percent for discharges occurring on or after October 1, 1986, and that the hospital-specific rates be increased by 0.5 percent for cost reporting periods beginning on or after October 1, 1986. In addition, the rate of increase used to compute the target amounts for hospitals excluded from the prospective payment system is also 0.5 percent for cost reporting periods beginning on or after October 1, 1986.

For the reasons given above, we believe that the resulting payments will take into account the amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality. However, we wish to emphasize that our incorporating this increase does not lessen our confidence in the analysis that shows that a decrease in the rates would be appropriate. In making the determination to implement the 0.5 percent increase in the standardized amounts as we proposed, we carefully considered ProPAC's comments in response to the NPRM, which recommended a 1.9 percent increase (assuming capital is not included in the prospective payment rates), and legislation under consideration by the Congress.

In addition to restandardizing the base-year costs for technical corrections to the wage index and adjusting the labor-related share (subject to wage index adjustment) on the basis of the revised market basket weights for labor-related and nonlabor-related cost categories, we are also restandardizing the base-year costs for a revised indirect medical education factor as specified in section 9104 of Pub. L. 99–272, standardizing the base-year costs to exclude an estimate of disproportionate share hospital payment adjustments as required by section 9105 of Pub. L. 99–272 and adjusting the national and regional standardized amounts in accordance with the provisions of section 9104 of Pub. L. 99–272 regarding the payment equality adjustment for indirect medical education costs. For these reasons, the FY 1987 standardized amounts are different from what they would be if the rates published in the May 6, 1986 interim final rule (51 FR 16778) were merely increased by the update factor.

In particular, after the current rates are recalculated to reflect the revised labor-related and nonlabor-related shares, the cumulative effects of the statutorily mandated restandardization for the revised indirect medical education factor, standardization for the disproportionate share hospital adjustment and the indirect medical education payment equality adjustment reduce the national urban standardized rates by 1.6 percent and the national rural standardized rates by 0.3 percent before the update factor is applied. These modifications were enacted in order to ensure budget neutrality of aggregate hospital prospective payments after the reduction in the indirect medical education factor and the incorporation of adjustments for hospitals serving a disproportionate share of low-income patients. In addition, we note that further adjustments are made to the standardized amounts for Region 2 for the special adjustment for teaching hospitals in States formerly under a waiver using the Secretary's general exceptions and adjustments authority under section 1886(d)(5)(C)(iii) of the Act.

For the benefit of the reader, we are displaying actual and projected increases in payment per admission under the prospective payment system.

RATE OF INCREASE IN PER CASE PAYMENTS UNDER THE PROSPECTIVE PAYMENT SYSTEM

	National average total payment per case [1]	Rate of increase
Fiscal year:		
1983 [2]	$3,168	
1984	3,485	10.0
1985	3,870	11.0
1986	4,134	6.8
1987	4,339	5.0

[1] These numbers represent total payment per admission, inclusive of payments for capital-related costs and other pass-throughs.
[2] The prospective payment system was implemented at the beginning of FY 1984.

Comment: Numerous commenters expressed concern over the proposed 0.5 percent increase in the FY 1987 prospective payment rates. They consider the amount of the increase to be completely inadequate and otherwise unacceptable with respect to the ability of hospitals to continue furnishing quality care to Medicare beneficiaries, given the rate of increase in the cost of goods and services that hospitals purchase. Other commenters claimed that we intend to use all available means at our disposal, including revising the wage index, rebasing and reweighting the hospital market basket, adjusting for nominal increases in case mix, and so forth, in order to preclude hospitals from receiving an increase in their FY 1987 prospective payment rates at least equal to hospital inflation. The commenters further claimed that financial considerations exclusively appeared to be driving the prospective payment system insofar as establishing a "meaningful" update factor is concerned, such that industry support for the prospective payment system will be undermined.

Response: In setting the level of the prospective payment rates each year, sections 1886(e)(2) and (e)(4) of the Act require us to consider not only the rate of market basket inflation in the cost of goods and services that hospitals purchase but also changes in productivity, the costs of new technology, long-term cost effectiveness in the provision of inpatient services, as well as ProPAC's recommendations. This review includes the latest available estimates of inflation in the hospital market basket as well as changes in hospital practice patterns and an assessment of the degree to which the prior year's payment rates provided adequate incentives for the efficient and effective delivery of medically appropriate and necessary care of high quality as required under section 1886(e)(4) of the Act.

To meet these legal requirements, we assess all of these factors within the context of an analytical framework that is described in the June 10, 1985 NPRM (50 FR 24440). Also, see the article, "Framework for Analysis of the Prospective Payment System Rate-Increase Factors," referred to above. Our detailed analysis of all of these factors reveals that a 0.6 percent *reduction* in the rates is, in fact, supportable.

While we have a responsibility to protect the integrity of the Medicare trust funds, we realize that to decrease the rates could lead to concern that we are subjecting hospitals to undue financial stress. Rather than reduce the rates through application of a negative update factor, we are increasing the rates by 0.5 percent. However, we also reiterate that setting the update factor at 0.5 percent in no way detracts from our analysis indicating that a 0.6 percent reduction in the prospective payment rates could be justified.

With respect to the commenters' assertion that financial considerations drive the prospective payment system, we point out that the changes we made in the FY 1986 prospective payment rates and proposed FY 1987 rates reflect statutory changes (such as the adoption of the gross wage index or the restandardization of the standardized amounts for the revised indirect medical education formula and for payments to disproportionate share hospitals), or continuing refinements to the prospective payment system resulting from the availability of later data, the development of more precise methodologies, or other technical improvements (such as the revised market basket). While each of these changes affects the level of the prospective payment rates (either by redistributing payments among hospitals or by changing the absolute level of payment for all hospitals), they are evaluated on the basis of their own merits, and not from the standpoint of whether their adoption would yield increased savings.

For example, we first recommended adoption of the gross wage index to resolve the inability of the previous Bureau of Labor Statistics measure to account for local variations in part-time hospital employment. Its implementation resulted in both increases and decreases in the FY 1986 regional and national prospective payment rates and the proposed FY 1987 rates solely due to the effects of restandardization of the standardized amounts. Likewise, we are revising the hospital market basket because we agree with ProPAC's recommendation in its April 1, 1985 Report to the Secretary that the expenditure categories that comprise the hospital input price index should be recalculated or rebased at least every five years to reflect changes in the mix of goods and services purchased. We support these revisions because they represent technical improvements to the prospective payment system.

Comment: Many commenters objected to the fact that the proposed prospective payment update factor is lower than the hospital market basket. The thrust of the comments seems to be that, if the market basket measures the increase in the cost of inputs, an update increase lower than market basket does not cover hospital costs.

Response: The hospital market basket input price index measures the change in prices faced by hospitals. Changes in hospital costs are determined by both the change in input prices they face and changes in the quantity of inputs they purchase. Thus, the prices of inputs can go up and the total cost (price x quantity) can remain unchanged or even decline depending on the quantity of goods and services purchased. Because hospital utilization, in terms of admissions and days, is declining, it is reasonable to assume that the quantity of inputs is, or should be, going down, even in the face of some possible increases in intensity of services.

The following is an example of a situation in which prices are increasing at a rate greater than total costs. The example demonstrates that prices can increase at a rate greater than aggregate costs if the quantity of goods and services purchased is reduced. We do not believe that some reduction in costs is unreasonable, given that under the prospective payment system, hospital days have declined a cumulative 23 percent, admissions have declined over seven percent, and occupancy rates average in the low 60 percent range. Even with some increased intensity, a three percent reduction in inputs is not inordinate. (Efficient operation would perhaps require much larger reductions.)

	Year 1	Year 2	Change (percent)
Price (Market Basket)	$100.00	$103.60	+3.6
Quantity (Inputs)	500	485	−3.0
Cost	50,000	50,246	+0.5

The point of the example is not that we have such measures for FY 1986, nor that we are predicting these effects for FY 1987. The example demonstrates that prices can increase at a greater rate than aggregate costs if the quantity of goods and services is reduced.

Another point to consider is that the proposed update factor does not reflect the total payments to hospitals in paying their costs. Total payments, including payments for items such as pass-throughs (capital-related and direct medical education costs, for example), coding improvements and other factors are estimated to increase the FY 1987 payment per case by at least five percent over the FY 1986 payment per case. That this can happen is illustrated by the FY 1986 experience in which payments have increased by an estimated 6.8 percent over the FY 1985 level even though the effective annual update rate was +0.2 percent. For all of these reasons, we believe that an update factor lower than the forecasted market basket increase is entirely appropriate and reasonable in FY 1987.

Comment: Several commenters noted that the proposed FY 1987 increase of 0.5 percent would not be an increase at all for many hospitals because of the amount of the reduction in the adjusted standardized amounts. The commenters maintained that we were only interested in reducing the Federal deficit and recomputed the adjusted standardized amounts with that goal in mind.

Response: Changes in the level of regional/national adjusted standardized amounts to which the proposed 0.5 percent increase was applied have occurred generally because of adjustments required by law. We note that the following adjustments to the standardized amounts are required by Pub. L. 99–272 and were not adopted with a view toward reducing the deficit but because they reflect either technical improvements in the prospective payment system or specific goals of Congress in reallocating the distribution of prospective payments:

- Revised formula for calculating indirect medical education costs.
- Disproportionate share adjustment.
- Indirect medical education payment equality factor.
- Treatment of States formerly under a Medicare waiver with respect to the allocation order of administrative and general costs.

4. Other Adjustments to the Average Standardized Amounts

a. *Part B Costs.* Section 1862(a)(14) of the Act prohibits payments for nonphysician services furnished to hospital inpatients unless the services are furnished either directly by the hospital, or by an entity under arrangements made by the hospital under which Medicare's payment to the hospital discharges the beneficiary's liability to pay for the services furnished.

In the September 3, 1985 final rule, we increased the average standardized amounts by 0.13 percent so that they represent costs previously billed under Part B (50 FR 35708). We are making no further adjustments for this factor in FY 1987, or in the future, because the appropriate adjustment has been built into the FY 1986 base. We received no comments on this provision.

b. *FICA Taxes.* Section 1886(b)(6) of the Act requires that adjustments be made in the base period costs in recognition that certain hospitals were required to enter the Social Security system and begin paying FICA taxes as of January 1, 1984. In the September 3, 1985 final rule, we increased the average standardized amounts by 0.18 percent to account for additional costs of payroll taxes for hospital entering the Social Security system (50 FR 35708). We are making no further adjustments for this factor in FY 1986, or in the future, because the appropriate adjustment has also been built into FY 1986 base. We received no comments on this provision.

c. *Nonphysician Anesthetist Costs.* Section 1886(d)(5)(D) of the Act provides that hospital costs for the services of nonphysician anesthetists are paid in full as a reasonable cost pass-through. Under section 2312(c) of Pub. L. 98–369, this pass-through is effective for cost reporting periods beginning on or after October 1, 1984, and before October 1, 1987. In the September 3, 1985 final rule, we noted that to the extent an adjustment was warranted in the prospective payment rates for FY 1985, it was incorporated in the overall budget neutrality adjustment (50 FR 35708). Therefore, because this adjustment has already been built into the FY 1985 base from which the FY 1986 and subsequently FY 1987 rates are derived, we are not making further adjustments to the average standardized amounts for FY 1987.

Comment: One commenter inquired as to how a hospital would be paid if it employed a certified registered nurse anesthetist (CRNA) in a cost reporting period beginning on or after October 1, 1987.

Response: Section 2312 of Pub L. 98–369 established a pass-through payment for the reasonable costs incurred by hospitals for nonphysician anesthetist services, including CRNA services. The pass-through provision is effective with hospital cost reporting periods beginning on or after October 1, 1984 and before October 1, 1987. Under section 2312(d) of Pub. L. 98–369, the Secretary is required to conduct a study (currently in progress) and report to Congress on the possible methods of Medicare reimbursement that would not discourage the use of CRNAs by hospitals. If Congress were to take no further action, the prospective payment rates would have to be adjusted to include payment for the services of CRNAs. For cost reporting periods beginning on or after October 1, 1987, hospitals would be compensated for CRNA services through the appropriate DRG payment under the prospective payment system.

d. Indirect Medical Education Payment Equality Factor. Section 9104(b) of Pub. L. 99–272 added section 1886(d)(3)(C)(ii) to the Act to provide that, effective for discharges occurring on or after October 1, 1986, the average standardized amounts be further reduced, taking into consideration the effects of the standardization for indirect medical education costs as described in section II.A.1.c. of this addendum. Specifically, for each geographic area (regional and national, urban and rural), total payments, including indirect medical education and disproportionate share hospital adjustments, based on payment rates standardized for an 8.1 percent curvilinear indirect medical education factor and disproportionate share, shall be neither more nor less than the estimated total of payments, including indirect medical education payments, that would have been made based on rates standardized for an 11.59 percent linear indirect medical education factor and paid out at 8.7 percent on a curvilinear basis. The adjustment is accomplished on a regional basis in order to reflect Congressional intent that the necessary resulting savings do not redistribute payments among the regions. Through this adjustment, Congress is ensuring that, within each region, total prospective payments, taking into consideration the restandardization of rates for disproportionate share payments and for a revised indirect medical education payment factor of approximately 8.1 percent on a curvilinear basis, will equal the aggregate payments that would have resulted if Congress had enacted no other change except to reduce the indirect medical education factor to 8.7 percent curvilinear in the payment formula only. That is, had rates standardized by the linear indirect medical education factor of 11.59 percent been used to compute payments in which the indirect medical education adjustment factor was approximately 8.7 percent curvilinear, a certain level of savings would have resulted, all other things being equal. Section 9104(b)(2) of Pub. L. 99–272 provides that that level of savings is to be preserved, and that the

payments based on rates standardized for a revised 8.1 percent curvilinear indirect teaching factor and disproportionate share adjustment are to be neither greater nor less than payments based on rates not restandardized but paid based on a curvilinear 8.7 percent indirect teaching formula. For discharges on or after October 1, 1988 (that is, after that part of the law requiring disproportionate share payments expires), the adjustment must be such as to ensure that the system savings resulting from the reductions in the indirect medical education factor are preserved.

We recognize that the statute discusses this adjustment in terms of a "reduction" in the average standardized amounts. However, we note that, as stated in sections 1886(d)(2)(C)(ii) (I) and (II), the purpose of this "reduction" is to attain equality of payments. As can be seen from the table below, attaining such equality in certain regions requires a slight increase in the rates. This result, along with the discussion in the conference committee report that stresses the equality of payments (H.R. Rep. No. 453, 99th Cong., 1st Sess. 457 (1985)), supports our interpretation that the standardized amounts are not necessarily to be reduced, but are in fact to be adjusted (upward or downward) in order to attain payment equality.

Therefore, under section 1886(d)(3)(C)(ii) of the Act, for FY 1987 we are adjusting the urban and rural regional and national standardized amounts to ensure payment equality.

The indirect medical education payment equality factors are as follows:

Region	Urban	Rural
1. New England (CT, ME, MA, NH, RI, VT)	.98711	.99975
2. Middle Atlantic (PA, NJ, NY)	.97961	.99738
3. South Atlantic (DE, DC, FL, GA,MD, NC, SC, VA, WV)	.99354	.99945
4. East North Central (IL, IN, MI,OH, WI)	1.00077	.99880
5. East South Central (AL, KY, MS, TN)	.98918	1.00357
6. West North Central (IA, KS, MN, MO, NB, ND, SD)	.99440	.99958
7. West South Central (AR, LA, OK, TX)	.99655	.99974
8. Mountain	.99146 (AZ, CO, ID, MT, NV, NM, UT, WY)	.99996
9. Pacific	.99243 (AK, CA, HI, OR, WA)	1.00068
10. National	.99239	.99979

We received no comments on this provision.

e. *Special Treatment of States Formerly Under a Waiver From Medicare's Hospital Reimbursement System.* Section 9202(j) of Pub. L. 99–272 provides for special treatment of States formerly under a waiver. The provision provides for special treatment of hospitals in a State whose waiver under section 1886(c) of the Act has been terminated effective with cost reporting periods beginning on or after January 1, 1986, whereby—

- The hospital shall be permitted to change the order in which it allocates administrative and general costs to the other cost centers, particularly the direct medical education cost centers, to conform with the order specified in the Medicare cost report;
- The hospital's hospital-specific portion of the prospective payment rate shall be adjusted for any hospital that actually chooses to use the order for step-down specified in the Medicare cost report; and
- The regional adjusted DRG prospective payment rate for the region in which the State is located may be appropriately adjusted based on the assumption that all teaching hospitals in the State allocate administrative and general costs in accordance with the order specified in the Medicare cost report. All such adjustments are to be based on the best data available.

Of the States in which hospitals were reimbursed under a waiver, Massachusetts and New York have terminated their waivers. However, hospitals in those States had been reimbursed for services pursuant to a reimbursement system approved as a demonstration project under section 402 of the Social Security Amendments of 1967 or section 222 of the Social Security Amendments of 1972, not under section 1886(c) of the Act. Under remaining waivers still in effect, Maryland hospitals are paid for services pursuant to a State reimbursement system under section 1814(b)(3) of the Act and New Jersey hospitals are paid for services pursuant to a State reimbursement system under section 1886(c) of the Act.

Even though section 9202(j) of Pub. L. 99–272 cites waivers under section 1886(c) of the Act, the conference committee report does not express any such restriction. The conference committee report (H.R. Rep. No. 453, 99th Cong., 1st Sess. 486 (1985)) expressing the Committee's expectation states,

"Certain hospital reimbursement systems that received waivers from Medicare have used methods of allocating administrative and general costs that are different from those required by the Medicare hospital cost reporting forms. The conferees are concerned that, where these alternative allocation methods are in use, the base year direct GME [graduate medical education] costs used to determine the approved FTE [full-time equivalency] resident amounts established by other provisions of this legislation, may be understated.

The conferees direct the Secretary to permit changes in these alternative allocation methods. The conferees further direct the Secretary to adjust the regional standardized payment amounts and the hospital-specific amounts to account for the overstatement of these amounts due to the method of allocation of overhead used by teaching hospitals in the base period."

In order to meet the expectations of the committee, we believe we should treat hospitals in States under a previous waiver that were not paid pursuant to section 1886(c) of the Act in accordance with such expectations. However, since there is no authority to treat hospitals in States formerly under waivers other than section 1886(c) waivers under the provisions of section 9202(j) of Pub. L. 99–272, we believe the expectations of the conference committee may be carried out under the general exception and adjustment authority under section 1886(d)(5)(C)(iii) of the Act.

Of the two States that terminated their waiver, New York is the only State affected by this provision. Most hospitals in New York, including hospitals with medical education costs, allocate administrative and general costs in a manner that differs from the recommended order prescribed in the Medicare cost report. Many of these hospitals use an order of allocation in which the administrative and general cost center *follows*, rather than precedes, the medical education cost centers. As a result of this methodology, none of the hospital's administrative and general costs were allocated to the medical education cost centers. This had the effect of increasing the Medicare inpatient operating costs for teaching hospitals in New York and reducing the amount of medical education costs. The results are the same as the expressed concerns of the conference committee as stated above.

Under the authority of section 1886(d)(5)(C)(ii), in order to achieve what we believe was congressional intent in enacting section 9202(j) of Pub. L. 99–272, we are providing that effective for cost reporting periods beginning on or after January 1, 1986, hospitals in New York with medical education costs will be permitted to change the order in which they allocate administrative and general costs to the order specified in the Medicare cost report. Also, the base-year costs used in the development of the hospital-specific portion of the prospective payment rate will be adjusted for any such hospital that revises the order in which it allocates

administrative and general costs to conform with that prescribed in the Medicare cost report. The revised hospital-specific rate will be effective with cost reporting periods beginning on or after January 1, 1986.

With respect to adjusting the regional standardized payment amounts, the Middle Atlantic census division will be affected by such an adjustment. The Middle Atlantic census division consists of the States of New York, New Jersey, and Pennsylvania, and hospitals in these States will be affected by any change. For purposes of this final rule, we determined the impact on the regional standardized payment amounts using cost reports from New York hospitals that allocate the administrative and general cost center after the direct medical education cost center. The adjusted regional standardized payment amounts are effective for discharges occurring on or after October 1, 1986.

In adjusting the regional standardized payment amounts for the Middle Atlantic census division, we recalculated the FY 1982 (base year for determining the hospital-specific rate) cost reports from New York hospitals with direct medical education centers to change the method by which administrative and general costs were allocated to the method specified in the Medicare cost report. The allowable Medicare inpatient cost reports for each hospital were used in determining a revised hospital-specific rate. The revised hospital-specific rate was compared to the hospital rate derived from the original method by which administrative and general costs were allocated. A percentage change in the hospital-specific rates was developed for each hospital. The percentage change was then applied to the base-year cost data, representing allowable costs per Medicare discharge, for each hospital included in the data base used to construct the standardized amounts. The average percentage change for the hospitals was applied for each of the remaining New York hospitals with direct medical education cost centers that were not included. After the costs per case of the New York teaching hospitals were thus adjusted, the regional standardized payment amounts were recomputed in accordance with the past methodologies used to calculate such rates. The regional standardized payment amounts are calculated showing the full effect of the actual change for all hospitals in New York with medical education cost centers.

We received one favorable comment on this provision.

f. *Outliers.* Section 1886(d)(5)(A) of the Act requires that, in addition to the basic prospective payment rates, payments must be made for discharges involving day outliers and may be made for cost outliers. Section 1886(d)(2)(E) of the Act correspondingly requires that the standardized amounts be reduced by a proportion that is estimated to reflect outlier payments. Furthermore, section 1886(d)(5)(A)(iv) of the Act further directs that outlier payments may not be less than five percent nor more than six percent of total payments projected to be made based on the prospective payment rates in any year. In FY 1984 we estimated outlier payments as six percent of total payments (including both standard prospective payment system payments and outlier payments). We made the maximum estimate permitted under the law in order to ensure that we would provide an adequate margin for outlier payments.

For both FY 1985 and FY 1986, we reduced the size of the reserve for outliers from six percent of total payments to five percent of total payments in order to provide proportionately greater payment for typical cases. We believe that it was in the greater interest of hospitals and the Medicare program to eliminate some of the reserve for outliers and correspondingly increase the amount in the standardized amounts, thereby providing hospitals with somewhat larger Federal rates for typical cases. We note that this has had the effect of increasing the predictability of total payments for hospitals in that less of the total is attributable to those cases that meet particular qualifications. Therefore, we are continuing to set the size of the outlier reserve at approximately the five percent level for FY 1987. As indicated in the previous rules on prospective payment, we will pay for any outlier that meets the criteria in §412.80, even if aggregate payments for outlier cases exceed five percent of total payments.

We are not revising the day outlier and cost outlier criteria. For FY 1986, we set the day outlier threshold at the lesser of 17 days or 1.94 standard deviations. We refer the reader to Table 5 in section IV of this addendum for the FY 1987 DRG day outlier thresholds. The specific thresholds have been recalculated for those DRGs affected by reclassifications, based on the length of stay distribution of the cases that would be in those DRGs in FY 1987. For FY 1986, we set the cost outlier thresholds at the greater of two times the Federal rate for the DRG, or $13,500. We are retaining these thresholds for FY 1987.

We indicated in the NPRM that we were proposing to revise the national ratio of cost to charges used to compute a hospital's cost outlier payments from .72 to .71 (51 FR 20029). The proposed revised factor of .71 reflected the inclusion of capital-related costs and the exclusion of interest income on funded depreciation, and was developed from FY 1984 cost and charge data.

Because we are not incorporating capital-related costs into the prospective payment system in this final rule, the revised factor, which reflects FY 1984 cost and charge data (rather than 1981 cost and charge data) is .66. This factor, which is computed using average per discharge values for both cost and charges, is based on data from 5,573 hospitals and was calculated as follows: Average Cost per discharge =$3,091.43, Average Charge per discharge=$4,701.51, National ratio of cost to charges=$3,091.43 divided by $4,701.51=.6575, rounded to 66 percent.

We note that this change in the national ratio of cost to charges is estimated not to affect the overall outlier reserve (of approximately five percent), and therefore, we are not revising the criteria for establishing day outlier and cost outlier thresholds. (We do note that DRG reclassifications have resulted in revised geometric means and outlier thresholds for the affected DRGs. These specific changes are reflected in Table 5 of section IV of the addendum.)

Because of the extent of the changes incorporated in this final rule, we are providing two examples below (one for day outliers and one for cost outliers). The day outlier example and the cost outlier example are applicable to hospitals with cost reporting periods that occur on the same basis as the Federal fiscal year (that is, October 1, 1986). (Note that the two examples pertain to all prospective payment system hospitals effective with discharges occurring on or after October 1, 1986, except that the Federal and hospital-specific blends would vary depending on when a hospital's cost reporting period begins on or after October 1, 1986.) The prior outlier examples in the September 1, 1983 interim final rule (48 FR 39777) did not show the full computation of the indirect medical education factor (or, of course, the recent changes to that factor) and did not include disproportionate share hospital adjustments.

The following is an example of how the additional payment would be determined for a day outlier in FY 1987: Hospital X is a small central city teaching hospital located in the San Francisco MSA. Hospital X has a ratio of interns and residents to beds of .1 and is eligible for a disproportionate share adjustment factor of 5 percent. Mrs.

Smith is admitted to hospital X on October 3, 1986 and is discharged October 31, 1986. Mrs. Smith's stay is classified in DRG 31. Because Mrs. Smith's 28 day stay exceeds the 20 day length-of-stay outlier threshold for DRG 31, hospital X is eligible for payment for 8 outlier days in addition to the otherwise applicable prospective payment. The amount of hospital X's total DRG revenue for this case, including outlier payments is calculated as follows:

Step 1—Computation of Federal rate (excludes payments for capital, indirect medical education costs and disproportionate share hospital adjustment):

Pacific Census Division Urban Standardized Amounts:	
Labor-related	$2043.41
Non labor-related	$899.94
National Urban Standardized Amounts:	
Labor-related	$2156.69
Non labor-related	$810.77
San Francisco MSA Wage Index	1.6387
DRG 31 Relative Weight	.5381

Federal rate = .5381 [.50 ($2043.41 × 1.6387 + $899.94) + .50 ($2156.69 × 1.6387 + $810.77)] = .5381 ($2124.24 + $2172.47) = $2312.06.

Federal portion of prospective payment rate = .75 percent. Federal payment = .75 [$2312.06] = $1734.05

Step 2—Computation of Day Outlier Payments:

Outlier days	28 − 20 = 8
DRG 31 geometric mean length of stay	3.9 days
Marginal cost factor	.60

Outlier payment (excludes adjustments for disproportionate share hospital payments and indirect medical education costs) = Number of outlier days × (Total Federal prospective payment ÷ Geometric mean length of stay for DRG) × Marginal cost factor = (8)($1734.05 ÷ 3.9)(.60) = $2134.22.

Total Day Outlier Payments = $2134.22.

Step 3—Computation of Federal DRG Revenue (Excludes Hospital-Specific Portion of Transition Period Rate):

Regular Federal payment	$1,734.05
Day outlier payment	2,134.22
Total Federal DRG revenue	3,868.27

Step 4—Computation of Indirect Medical Education Adjustment:

Intern and resident/bed ratio	.1

Indirect medical education adjustment factor $2[(1+.1)^{.405}-1] = .07871$ or 7.871%

Indirect medical education adjustment = Total Federal DRG revenue × Indirect medical education adjustment factor = ($3,868.27)(.07871) = $304.47.

Step 5—Computation of Disproportionate Share Payment:

Disproportionate share adjustment factor = 5% or .05. Disproportionate share payment = Total Federal DRG revenue × Disproportionate share adjustment factor = ($3,868.27)(.05) = $193.41.

Step 6—Computation of Total Federal DRG Payments:

Total Federal DRG revenue (including outlier payments)	$3,868.27
Indirect medical education adjustment	304.47
Disproportionate share payment	193.41
Total Federal DRG payment	4,366.15

The following is an example of how the additional payment would be determined for a high cost outlier in FY 1987:

Same facts as in the day outlier example with the exception that Mrs. Smith's length of stay was 16 days and she incurred total billed charges of $100,000.

Step 1—Computation of Hospital X's Standardized Cost

Billed Charges	$100,000.00
National ratio of cost to charges	.66
Indirect medical education adjustment factor	.07871
Disproportionate share hospital adjustment factor	.05

Hospital X's Standardized Cost =

$$\frac{\$100{,}000.00}{1+(.07871+.05)} \times .66 = \$58{,}473.83$$

Step 2—Determination of Cost Outlier Thresholds:

Computation 1 (Based on Federal Rate)

DRG 31 Federal rate $2,312.06

Federal rate, doubled 2 × $2312.06 = $4624.12.

Computation 2 (Based on Wage Index Adjusted Standard Cost Outlier Threshold

Standard Cost Outlier Threshold	$13,500
Labor-related share [1] (percent)	74.39
Nonlabor-related share [1] (percent)	25.61

[1] These market basket proportions reflect the labor-related and non-labor components as described in Table 2 of section IV of the addendum.

Wage index adjusted cost outlier threshold, including capital ($13,500 × .7439 × 1.6387) + ($13,500 × .2561) = $19,914.24

Computation 1 result	$4,624.12
Computation 2 result	19,914.24
Applicable cost outlier threshold (Higher of computation 1 or computation 2)	19,914.24

Step 3—Calculation of Cost Outlier Payment:

Outlier cost = Hospital X's standardized cost minus applicable Outlier Threshold = $58,473.83 − $19,914.24 = $38,559.59.

Federal portion of prospective payment rate 75%.

Federal portion of outlier cost .75 × $38,559.59 = $28,919.69.

Marginal cost factor .60.

Cost outlier payment $28,919.69 × .60 = $17,351.81.

Step 4—Computation of Federal DRG Revenue (Excludes Hospital-Specific Portion of Transition Period Rate

Regular Federal payment	$1,734.05
Cost outlier payment	17,351.81
Total Federal DRG revenue	19,085.86

Step 5—Computation of Indirect Medical Education Adjustment:

Indirect medical education adjustment = Total Federal DRG revenue × Indirect medical education adjustment factor = ($19,085.86)(.07871) = $1,502.25.

Step 6—Computation of Disproportionate Share Payment:

Disproportionate share payment = Total Federal DRG revenue × Disproportionate share adjustment factor = ($19,085.86)(.05) = $954.29.

Step 7—Computation of Total Federal DRG Payments:

Total Federal DRG revenue (including outlier payments)	$19,085.86
Indirect medical education adjustment	1,502.25
Disproportionate share payment	954.29
Total Federal DRG payment	21,542.40

For purposes of this rule, we are not revising the 60 percent marginal cost

factor used to compute outlier payments. To date, the 60 percent factor represents our best estimate of the ratio of marginal cost (that is, the incremental change in the actual cost of care per unit of output) to average cost.

Comment: Several commenters pointed out that outlier payments have fallen well short of the statutorily prescribed targets and requested either more liberal thresholds to increase the number of outlier cases or application of a higher marginal cost factor. Other commenters advocated retroactive adjustments for the amount of outlier underpayments incurred in prior prospective payment periods.

Response: Section 1886(d)(5)(A)(iv) of the Act provides that total outlier payments under the prospective payment system may not be less than five percent nor more than six percent of total estimated prospective payments in a given fiscal year. The FY 1984 prospective payment rates reflected a six percent statutory estimated target while payments for FYs 1985 and 1986 reflected a five percent estimated target. Although the law provides that outlier payments fall between five and six percent of total estimated prospective payments, the actual target amounts are less than this due to the changing blends between the Federal and hospital-specific portions of the prospective payment rates during the transition period to fully national rates.

The Federal portions of the prospective payment rates in FY 1984 and FY 1985 were 25 percent and 50 percent, respectively, while the hospital-specific portions were 75 percent and 50 percent, respectively. (FY 1985 is the most recent year for which reasonably complete outlier payment data are available.) Outlier payments, however, are made only for the Federal portion of each outlier discharge. Outlier payments are not appropriate for the hospital-specific portion of the prospective payments since each hospital's historical experience with outlier cases is reflected in the base period costs used to develop the hospital-specific portion. Therefore, in FY 1984 estimated outlier payments represented 1.5 percent of total prospective payments (based on a 25 percent Federal portion), and in FY 1985 estimated outlier payments represented 2.5 percent of total prospective payments (based on a 50 percent Federal portion).

FY 1984 data on outlier payments were included in the Secretary's 1984 Annual Report to Congress on the impact of the prospective payment system. This report, which shows outlier payment data based on bills processed through November 1984, revealed that outlier payments accounted for about 0.8 percent of total prospective payments in FY 1984. Revised FY 1984 data, updated to reflect bills processed through April 1985, reveal that actual outlier payments were 1.2 percent of total prospective payments in FY 1984, close to the 1.5 percent target. Outlier payment data for FYs 1985 and 1986 are not yet available.

Although FY 1984 and FY 1985 outlier payments have fallen short of the target amounts, as the actual FY 1984 data and the preliminary FY 1985 data show, we believe that we have met the statutory requirement that projected outlier payments equal between five and six percent of *estimated* prospective payments in a given fiscal year. Therefore, retroactive adjustment of the amount of any aggregate outlier underpayments would not be appropriate. Moreover, had we exceeded the outlier targets, we would not have recouped outlier payments in excess of the targets. We note that the difference between the actual and target outlier payments was primarily due to the unanticipated magnitude of the decline in Medicare length of stay since the inception of the prospective payment system, resulting in fewer overall outlier days. Because the decline in length of stay appears to be stabilizing, we expect that future outlier payments will approach more closely the targeted levels.

In addition, we point out that the thresholds that a discharge is required to meet in order to qualify as an outlier are reevaluated each year based on our experience under the prospective payment system. For example, the FY 1986 prospective payment rates in the September 3, 1985 final rule reflected a reduction in the DRG length of stay outlier thresholds in recognition of the decline in overall Medicare length of stay (50 FR 35708). However, a series of congressional postponements, as discussed in the preamble, delayed implementation of the FY 1986 payment rates and revised outlier criteria through April 30, 1986.

We believe that maintaining the same outlier criteria will significantly reduce the likelihood of future aggregate outlier payments significantly below estimates. We will reexamine this policy if our monitoring of outlier payments reveals a significant persistent deviation from the statutorily prescribed targets.

Comment: One commenter requested that we use DRG-specific marginal cost ratios in computing outlier payments rather than the 60 percent marginal cost factor. The commenter believes that any uniform increase in the marginal cost factor, while at the same time limiting outlier payments to five percent of total prospective payments, would increase the current day and cost outlier thresholds perpetuating inadequate outlier payments.

Response: We disagree with the commenter that uniformly increasing the .60 outlier marginal cost factor would only make it more difficult for a particular case to qualify as an outlier because of an accompanying increase in the day and cost outlier thresholds. The marginal cost factor does not affect whether a case qualifies as an outlier, but rather how it is paid once it qualifies as an outlier.

We agree with the commenter that it is likely that marginal cost varies across DRGs. For example, cases that require an unusual level of nursing care intensity throughout the stay, such as extensive burn cases, probably have marginal cost factors that, at least on a per diem basis, exceed the presently used 60 percent. However, determining the appropriate level of DRG-specific marginal cost ratios would entail an extremely comprehensive and detailed research project. While we encourage research that would contribute to a better understanding of marginal cost variation across DRGs, another approach would be to vary the marginal cost factor regardless of the particular DRG involved once resource consumption exceeds prescribed outlier thresholds. This approach would recognize that as the cost of care for outlier cases rises, the more likely it is that the associated marginal cost of care exceeds the national average of 60 percent for all DRGs. It would avoid the need to establish empirically-based DRG-specific marginal cost factors while at the same time provide a reasonable way to compensate hospitals for unusually expensive outlier cases. We will continue investigating the feasibility of this alternative as well as others in response to the commenter's request.

Comment: One commenter questioned the propriety of using a national ratio of cost to charges in computing cost outlier payments. He suggested that each hospital's outlier costs and payments be computed using the facility's prior year ratio of cost to charges. If a hospital's own ratio were not available, the hospital could be required to use the average cost-to-charge ratio for hospitals in the same State.

Response: We previously responded to a similar comment in the January 3, 1984 final rule (49 FR 265). The basis of the commenter's concern at that time was the variability in hospital cost-to-charge ratios due to location, payor mix, and degree of cross-subsidization among

hospital service departments. The commenter pointed out that providers with actual cost-to-charge ratios less than 72 percent could receive windfalls under the current policy while hospitals with ratios greater than the national average would be penalized.

Both the length of stay and cost outlier criteria were developed from national data. Therefore, use of a national cost-to-charge ratio to compute outlier payments is not inappropriate. Ease of administration was also a factor in our decision to apply an overall national ratio to each hospital's billed charges to determine outlier payments.

The use of hospital-specific cost-to-charge ratios to compute outlier payments would require that they be frequently revised to account for changes in the mix and scope of services provided. Application of a national ratio derived from data aggregated from all available hospitals substantially reduces the need for periodic revisions in view of the decreased likelihood of overall change. In addition, there is much diversity in the structure of ancillary service departments among hospitals. For example, a large teaching hospital may have multiple radiology cost centers, each with its own ratio of costs to charges, while a small nonteaching hospital may have only one radiology department. Adopting the commenter's suggestion would require recognition of either—

—Each hospital's service department structure in the PRICER program so that cost-to-charge ratios could be applied to each covered charge from numerous, sometimes unique departments; or

—Only specific ancillary departments within each hospital.

Either approach would greatly increase the complexity of the cost outlier computations.

The commenter may also be suggesting that we should use an overall hospital-wide cost-to-charge ratio (rather than cost center-specific ratios). While such an approach would avoid the problems discussed above, we believe that its adoption could introduce a new source of inaccuracy. This is because, with the reduced scope of audit activity for prospective payment hospitals' cost reports (since they are no longer paid for inpatient services on a cost basis), the cost data for use in the cost-to-charge ratios may not be accurate. The effect of inaccuracies on a hospital-by-hospital basis is likely mitigated by the use of an overall aggregated cost-to-charge ratio.

An additional source of inaccuracy could arise from the fact that the hospital-specific cost-to-charge ratios would presumably be from completed cost reports, which means that they would lag behind the current period for which they would be used in computing outlier payments.

We note that these two reasons (discussed above) for not adopting the commenter's suggestion as it relates to hospital-wide cost-to-charge ratios are also applicable to the suggested use of department-by-department cost-to-charge ratios in each hospital.

Comment: Several commenters expressed concern that the outlier thresholds are set so that approximately 85 percent of outlier cases are paid as day outliers and 15 percent are paid as cost outliers. The commenters maintained that the precedence of day outliers over cost outliers tends to disadvantage hospitals since in most cases payment as a cost outlier would have been greater than day outlier payment.

Response: As we stated in the September 1, 1983 interim final rule (48 FR 39776), the outlier criteria selected result in substantially more cases being identified as day outliers than as cost outliers. Because the application of the outlier criteria is sequential (except for transferring hospitals, a discharge cannot be considered a cost outlier if it meets the applicable day outlier criteria), the day outlier criteria would have to be set very high and the cost outlier criteria would have to be set very low in order to obtain an even allocation of payments between types of outliers. A low threshold for cost outliers could result in outlier payments simply because a hospital has higher than average costs or charges and not as a direct consequence of extraordinary services provided an individual patient.

We also stated in the January 3, 1984 final rule (49 FR 265) that our simulations of alternative outlier policies suggest that changing the shares of day and cost outlier payments to 75 percent and 25 percent, respectively, would not substantially alter the distribution of outlier payments across regions or across types of hospitals.

g. *Costs of Malpractice Insurance.* On April 1, 1986, we published an interim final rule in the Federal Register on payment for the cost of malpractice insurance (51 FR 11142). In that rule, we adopted an apportionment methodology for determining reasonable cost reimbursement for hospital malpractice insurance costs. The new apportionment policy for hospitals (§ 405.457), which generally will result in reimbursement of a larger proportion of malpractice costs than previous policy, divides total malpractice insurance premium cost into two components. The "administrative component" is included in the Administrative and General (A & G) cost center and is apportioned on the basis of the individual hospital's Medicare utilization rate. The "risk component" is apportioned on the basis of a formula that takes into account the individual hospital's utilization as well as the national Medicare patient utilization rate and the national Medicare malpractice loss ratio.

For purposes of updating the standardized amounts, the Federal rates already include sufficient costs to account for any changes made as a result of the April 1, 1986 interim final rule. The Federal rates are based on unaudited hospital cost reports from cost reporting periods that ended in 1981. Based on our review of the cost reports, it appears that a large number of hospitals, in order to preserve their rights to appeal the prior malpractice regulation (§ 405.452(a)(1)(ii) (the "1979 rule")), which provided for separate apportionment of malpractice costs, included such costs in the A & G cost center (that is, in accordance with the Medicare reimbursement principles in effect prior to the 1979 rule). The effect of this action on the part of hospitals is that the Federal rates reflect an amount for malpractice costs that is in excess of the amount that would have been recognized had hospitals, in completing their Medicare cost reports, generally adhered to the 1979 rule's provision for separate apportionment of Medicare malpractice costs.

We have included no adjustment in the update factor for increased malpractice insurance costs as a result of the interim final rule. Those hospitals that request adjustments to their base year costs will have their hospital-specific rates adjusted under the April 1, 1986 regulation. We are not making any adjustment to the Federal rates for malpractice, and we note that if such an adjustment were made, it would reduce the rates. This is because the Federal rates are based upon 1981 unaudited cost reports, and about half the hospitals submitted those cost reports under the regulations in effect prior to the 1979 rule, which provided for greater malpractice payments than provided for by the April 1, 1986 regulation. No downward adjustment was ever made to the 1981 base-year cost data or to the resulting Federal rates to correct for this practice in reporting malpractice costs. Also, we believe that the hospitals that submitted cost reports in accordance with the 1979 regulation are primarily those whose malpractice payments were either increased under the 1979 rule or were minimally reduced by the 1979 regulation. Thus, there is no reason to

believe that the malpractice insurance costs reported in the 1981 cost reports understated Medicare's share of those costs, and many hospitals clearly and deliberately reported costs so as to overstate Medicare's proper share of the costs.

In addition, as we stated in the September 3, 1985 final rule (50 FR 35703), our analyses indicate that the Federal rates are generally overstated for a number of other reasons. Furthermore, both the General Accounting Office and the Department's Office of the Inspector General have conducted studies showing that the Federal rates are overstated. In light of these findings, we believe that it is inappropriate to increase the rates further to reflect a modification in policy concerning reimbursement of malpractice insurance costs.

We are responding to the malpractice insurance comments, which were generally in regards to the market basket weight, in section III of the preamble.

B. Adjustments for Area Wage Levels and Cost-of-Living

This section contains an explanation of the application of two types of adjustments to the adjusted standardized amounts that will be made by the intermediaries in determining individual hospitals' prospective payments as described in section D below. For discussion purposes, it is necessary to present the adjusted standardized amounts divided into labor and nonlabor portions. Table 1 contains the actual labor-related and nonlabor-related shares that would be used to calculate the prospective payment rates.

1. Adjustment for Area Wage Levels

Section 1886(d)(2)(H) of the Act requires that an adjustment be made to the labor-related portion of the prospective payment rates to account for area differences in hospital wage levels. This adjustment is made by the intermediaries by multiplying the labor-related portion of the adjusted standardized amounts by the appropriate wage index for the area in which the hospital is located. The revised wage index, which incorporates minor modifications (for hospitals in redesignated rural counties that are deemed to be urban, and for the recently announced EOMB MSA designation) to the wage index published in the May 6, 1986 interim final rule, is set forth in Tables 4a and 4b of this addendum.

2. Adjustment for Cost of Living in Alaska and Hawaii

Section 1886(d)(5)(C)(iv) of the Act authorizes an adjustment to take into account the unique circumstances of hospitals in Alaska and Hawaii. Higher labor-related costs for these two States were included in the adjustment for area wages above. For FY 1987, the adjustment necessary for nonlabor-related costs for hospitals in Alaska and Hawaii will be made by the intermediaries by multiplying the nonlabor portion of the standardized amounts by the appropriate adjustment factor contained in the table below. (We note that the adjustment factors are different from those in effect in FY 1986.)

Table of Cost-of-Living Adjustment Factors, Alaska and Hawaii Hospitals

Alaska—All areas	1.25
Hawaii:	
Oahu	1.225
Kauai	1.175
Maui	1.20
Molokai	1.20
Lanai	1.20
Hawaii	1.15

(The above factors are based on information obtained from the U.S. Office of Personnel Management.)

C. DRG Weighting Factors

All inpatient hospital discharges are categorized according to a DRG as discussed in the September 1, 1983 interim final rule (48 FR 39760) and the September 3, 1985 final rule (50 FR 35647).

Congress recognized that it would be necessary to recalculate the DRG relative weights periodically to account for changes in medical technology and treatment patterns that may affect the cost of providing inpatient care. Accordingly, section 1886(d)(4)(C) of the Act provides that, effective for discharges occurring in FY 1986, and no less often than once every four years thereafter, the Secretary "shall adjust the classifications and weighting factors . . . to reflect changes in treatment patterns, technology, and other factors which may change the relative use of hospital resources."

In compliance with the law, we published in the September 3, 1985 final rule (50 FR 35722) revised DRG weights that were recalibrated to reflect changes in resource consumption that had occurred subsequent to 1981 (the base-year data used to derive the initial DRG weights). Unlike the FY 1984 (48 FR 39876) and FY 1985 (49 FR 34780) series of DRG weights, which were largely developed from 1981 Medicare cost report data and billing records from a 20 percent sample of Medicare beneficiaries, the DRG weights in the September 3, 1985 final rule were constructed from the FY 1984 Part A Tape Bill (PATBILL) file, which is comprised of the universe of available inpatient hospital bills for Medicare patients. The most recent DRG weights were based exclusively on hospital charges for nearly 11 million patient stays or some 95 percent of the discharges in FY 1984. For a detailed explanation of the development of these charge-based DRG relative weights, we refer the reader to the discussion in the June 10, 1985 proposed rule (50 FR 24372) and the September 3, 1985 final rule (50 FR 35652).

As a result of a series of Congressional postponements as described earlier, the prospective payment changes published in the September 3, 1985 final rule, including the revised DRG relative weights, which were to be effective for discharges occurring on or after October 1, 1985, were postponed through April 30, 1986. We implemented the revised DRG relative weights published in the September 3, 1985 final rule effective with discharges occurring on or after May 1, 1986 (51 FR 16772).

We considered recalibrating the DRG weights using a later PATBILL data set (subsequent to FY 1984) as recommended by ProPAC, but decided against this course of action for FY 1987.

Comment: Several commenters requested that we recalibrate the DRG weights on an annual basis to assure that DRG prices keep current with changing technologies, medical management, and case mix complexity within and among DRGs.

Responses: As we stated in the NPRM, because of a series of congressional postponements, the revised DRG weights published in the September 3, 1985 final rule did not become effective until May 1, 1986. We believe it is appropriate to leave those weights in place for at least one year because they were developed based on a new methodology (charges). Although we are confident of the weights, we wish to have an opportunity to further evaluate them and to compare them to weights derived using other methodologies. This evaluation can take place now that FY 1984 prospective payment system cost data files are relatively complete. Therefore, we are not recalibrating the DRG weights in FY

1987. However, in order to be responsive to changing technologies and shifts in the consumption of hospital resources among DRGs, we will recalibrate the DRG weights in FY 1988 and we intend to recalibrate annually in the future.

We note that in the June 3, 1986 final notice we made changes to the DRG classification system. In order to reflect those classification changes as well as the classification changes discussed elsewhere in the preamble to this final rule, we have reweighted the DRGs using the DRG classifications and GROUPER software that will be effective for discharges occurring on or after October 1, 1986. Because reweighting differs from recalibration only in that reweighting uses the same data base as was used to calibrate the weights, this process can affect the relative weights of those DRGs not affected by reclassification. The revised weights and outlier thresholds appear in Table 5 of section IV of the addendum.

D. Calculation of Prospective Payment Rates for FY 1987 General Formula for Calculation of Prospective Payment Rates for Cost Reporting Periods Beginning on or after October 1, 1986 and Before October 1, 1987

Prospective Payment Rate = Hospital-Specific Portion + Federal Portion

1. Hospital-Specific Portion

The hospital-specific portion of the prospective payment rate is based on a hospital's historical cost experience. For the first cost reporting period under prospective payment, a hospital-specific rate was calculated for each hospital, derived generally from the following formula:

$$\frac{\text{Base year costs per discharge}}{\text{1981 case-mix index}} \times \text{Updating factor} = \text{Hospital-specific rate}$$

For the first prospective payment cost reporting period, the hospital-specific portion of the total prospective payment equaled 75 percent of the hospital-specific rate. For each subsequent transition period cost reporting period, the hospital-specific portion is derived as follows:

Previous Period's Hospital-Specific Rate × Updating Factor × Blending Percentage × DRG Weight.

The blending percentage determines the portion of the total prospective payment that is based on the hospital-specific rate. (The balance is based on the Federal rate.)

Except for sole community hospitals (75 percent hospital-specific portion) and hospitals in the State of Oregon (zero percent hospital-specific portion), the blending percentage for hospital cost reporting periods beginning in FY 1987 is 25 percent. For a more detailed discussion of the hospital-specific portion, we refer the reader to the September 1, 1983 interim final rule (48 FR 39772).

a. Updating the Hospital-Specific Rates for FY 1987 Cost Reporting Periods

We are increasing the hospital-specific rates by 0.5 percent for cost reporting periods beginning on or after October 1, 1986. As required by section 1886(e)(4) of the Act in conjunction with section 1886(b)(3)(B) of the Act, this is the same percentage increase (0.5 percent) by which we are increasing the Federal rates for discharges occurring in FY 1987.

b. Calculation of Hospital-Specific Portion

For hospital cost reporting periods beginning on or after October 1, 1986, the hospital-specific portion of a hospital's payment for a given discharge would be calculated by:

Step 1—Multiplying the previous cost reporting period's hospital-specific rate, as described in the May 6, 1986 interim final rule, by the applicable update factor (1.005);

Step 2—Multiplying the result obtained in Step 1 by 25 percent; and

Step 3—Multiplying the amount resulting from Step 2 by the specific DRG weighting factor applicable to the discharge. The result is the hospital-specific portion of the FY 1987 prospective payment for a given discharge.

c. New Providers

Hospitals that did not complete a 12-month cost reporting period under Medicare prior to September 30, 1983 (either under current or previous ownership) and meet the criteria in § 412.74 are considered new providers for purposes of the prospective payment system. Their prospective payment rates are computed solely on the basis of the Federal rates. Thus, new providers are paid a blend of 50 percent of the appropriate Federal regional rate and 50 percent of the Federal national rate for discharges occurring on or after October 1, 1986 and before October 1, 1987.

2. Federal Portion. Except for sole community hospitals (25 percent Federal portion comprised of 100 percent of the appropriate Federal regional rate) and hospitals in the State of Oregon (100 percent Federal portion comprised of 100 percent of the Federal national rate), for cost reporting periods beginning on or after October 1, 1986 and before October 1, 1987, the Federal portion of the hospital's payment will be 75 percent of the hospital's Federal rate. Beginning with discharges occurring on or after October 1, 1986, the Federal rate is comprised of a blend of the appropriate Federal regional rate (50 percent) and the Federal national rate (50 percent). The Federal rates are determined as follows:

Step 1—Selecting the appropriate regional and national adjusted standardized amounts considering the location and urban and rural designation of the hospital (see Table 1, section IV of the addendum);

Step 2—Multiplying the labor-related portions of the regional and national standardized amounts by the appropriate wage index;

Step 3—For hospitals in Alaska and Hawaii, multiplying the nonlabor-related portions of the regional and national standardized amounts by the appropriate cost-of-living adjustment factor;

Step 4—Summing the amounts from step 2 and the nonlabor portion of the standardized amount (adjusted if appropriate under step 3);

Step 5—Multiplying both the regional and national rate results from step 4 by 50 percent;

Step 6—Summing the resulting regional and national labor-related and nonlabor-related amounts from step 5; and

Step 7—Multiplying the final amount from step 6 by the weighting factor corresponding to the appropriate DRG weight (see Table 5, section IV of the addendum).

III. Target Rate Percentages for Hospitals and Hospital Units Excluded From the Prospective Payment System

A. Background

The inpatient operating costs of hospitals and hospital units excluded from the prospective payment system are subject to rate-of-increase limits established under the authority of section 1886(b) of the Act, which is implemented in § 405.463 of the regulations. Under these limits, an annual target amount (stated as inpatient operating cost per discharge) is set for each hospital, based on the hospital's own cost experience. This target amount is applied as a ceiling on the allowable costs per discharge for the hospital's next cost reporting period.

A hospital that has inpatient operating costs per discharge in excess of its

target amount would be paid no more than that amount. However, a hospital that has inpatient operating costs less than its target amount would be paid its costs plus the lower of (1) 50 percent of the difference between the inpatient operating cost per discharge and the target amount, or (2) five percent of the target amount.

Each hospital's target amount is adjusted annually, before the beginning of its cost reporting period, by an applicable target rate percentage for the 12-month period, prorated, if necessary, based on calendar year target rate percentages. For cost reporting periods beginning in FY 1983 and FY 1984, the applicable target rate percentage was the estimated hospital market basket increase factor plus one percentage point. For cost reporting periods beginning in FY 1985, the applicable target rate percentage was the estimated hospital market basket increase factor plus one-quarter of one percentage point, as prescribed by section 1886(b)(3)(B) of the Act. Under section 9101 of Pub. L. 99-272, the applicable target rate percentage increase for cost reporting periods beginning on or after October 1, 1985 through September 30, 1986 is 5/24 of one percent. Section 9101 of Pub. L. 99-272 provides that for purposes of updating the target rate for FY 1987, the FY 1986 increase will be deemed to have been one-half of one percent. However, for cost reporting periods beginning in FY 1987, and thereafter, the target rate percentage is adjusted by an update factor determined by the Secretary under section 1886(e)(4) of the Act considering the recommendations of ProPAC under section 1886(e)(2) of the Act and may not exceed the market basket percentage as determined under section 1886(b)(3)(B) of the Act.

B. Target Amounts for Cost Reporting Periods Beginning in FY 1987

For cost reporting periods beginning in FY 1987, we are increasing each hospital's previous year's target amount by 0.5 percent. Under section 1886(b)(3)(B) of the Act, as amended by section 9101(b) of Pub. L. 99-272, the applicable percentage increase, for FYs 1987 and 1988, is determined pursuant to section 1886(e)(4) of the Act, and may not exceed the market basket increase. The same percentage increase, therefore, applies to the target rate amounts for hospitals and units excluded from the prospective payment system as applies to the prospective payment rates for hospitals subject to that system.

ProPAC recommended that for FY 1987, the target rate of increase limits for hospitals and units excluded from the prospective payment system be—

- Updated to reflect the projected increase in the hospital market basket (4.6-4.8 percent);
- Corrected for forecast errors in FY 1986 (−0.3 percent); and
- Adjusted for the policy target adjustment factor (−0.8 percent).

Comment: A number of commenters maintained that our proposal to adjust the target rate of increase by 0.5 percent for hospitals and distinct part units excluded from the prospective payment system was inequitable, inconsistent with the two percent increase contained in the President's proposed FY 1987 budget, and deviated significantly from ProPAC's recommendation of a 3.7 percent adjustment for such facilities. They pointed out that several of the adjustments reflected in the update factor applicable to prospective payment hospitals, such as the offset for nominal changes in case mix, the rate of inflation in the hospital market basket, and the offset for improved practice patterns due to a decline in length of stay as manifested by prospective payment hospitals, are inappropriate to hospitals and units excluded from the prospective payment system. Many commenters recommended that a separate update factor, which is more in line with ProPAC's recommendation but not less than two percent, be applied to hospitals and units excluded from the prospective payment system.

Response: The two percent increase contained in the President's proposed FY 1987 budget represented a placeholder estimate used exclusively for budgeting purposes. It did not represent the Administration's estimate of the minimum update factor used to develop the target rate of increase for hospitals and units excluded from the prospective payment system.

As we stated in the NPRM, section 9101(b) of Pub. L. 99-272 amended section 1886(b)(3)(B) of the Act to provide that the applicable percentage increase (that is, the update factor) for FYs 1987 and 1988 is determined pursuant to section 1886(e)(4) of the Act, and may not exceed the market basket increase. Therefore, the same percentage increase applies to the target rate amounts for hospitals and units excluded from the prospective payment system as applies to the prospective payment rates for hospitals subject to that system.

We addressed similar comments in the September 3, 1985 final rule (50 FR 35714) in regard to the appropriateness of setting the same update factor for prospective payment hospitals and excluded hospitals and units. Also, as we stated in the September 3, 1985 final rule, while excluded hospitals and units have not had the opportunity to increase their reimbursement through coding changes, we note that an excluded hospital may qualify for an exception to the rate of increase limit based on a change in case mix as a result of an addition or discontinuation of services that results in a distortion in the rate of cost increase (§ 405.463(g)).

We interpret the language in section 1886(b)(3)(B) of the Act as requiring the application of a single market basket index in developing the update factor mandated under section 1886(e)(4) of the Act. We also point out that the market basket which we use was constructed using data from non-Federal hospitals, including both facilities subject to and those excluded from the prospective payment system. Therefore, we believe it is appropriate to apply the same update factor to all hospitals.

IV. Tables

This section contains the tables referred to throughout the preamble to this final rule and in this addendum. For purposes of this final rule and to avoid confusion, we have retained the designations of Tables 1 through 5 that were first used in the September 1, 1983 initial prospective payment final rule (48 FR 39844). Tables 1, 2, 3c, 4a, 4b, 5, and 6 are presented below. The tables are as follows:

Table 1—Adjusted Standardized Amounts, Labor/Nonlabor
Table 2—Hospital Market Basket
Table 3c—Hospital Case-Mix Indexes for Discharges Occurring in Federal FY 1985
Table 4a—Wage Index for Urban Areas
Table 4b—Wage Index for Rural Areas
Table 5—Diagnosis-Related Groups
Table 6—Grouper Changes

TABLE 1.—ADJUSTED STANDARDIZED AMOUNTS, LABOR/NONLABOR

	Urban		Rural	
	Labor related	Nonlabor related	Labor related	Nonlabor related
1. New England (CT, ME, MA, NH, RI, VT)	2237.40	828.29	2026.11	629.40
2. Middle Atlantic (PA, NJ, NY)	2061.85	802.70	2069.77	637.52
3. South Atlantic (DE, DC, FL, GA, MD, NC, SC, VA, WV)	2196.87	746.61	1881.59	527.81
4. East North Central (IL, IN, MI, OH, WI)	2287.78	873.57	1916.34	593.87
5. East South Central (AL, KY, MS, TN)	2067.42	658.07	1862.95	491.99
6. West North Central (IA, KS, MN, MO, NB, ND, SD)	2133.24	780.47	1743.75	509.51
7. West South Central (AR, LA, OK, TX)	2147.80	729.56	1753.06	492.20
8. Mountain (AZ, CO, ID, MT, NV, NM, UT, WY)	2082.50	783.25	1726.21	552.31
9. Pacific (AK, CA, HI, OR, WA)	2043.41	899.94	1731.82	642.28
10. National	2156.69	810.77	1826.25	541.54

TABLE 2.—HOSPITAL MARKET BASKET

[1986 Relative Importance Weights] [1]

Expense categories	
1. Wages and Salaries [2]	57.29
2. Employee Benefits [2]	10.05
3. Professional Fees [2]	.78
4. Energy and Utilities	2.25
a. Fuel, Oil, Coal, and Other Petroleum	.60
b. Electricity	1.06
c. Natural Gas	.35
d. Motor Gasoline	.21
e. Water and Sewage	.03
5. Malpractice Insurance	1.19
6. All Other	28.44
All Other Products	19.77
a. Pharmaceuticals	4.92
b. Food	3.29
(1) Contract Service	1.28

TABLE 2.—HOSPITAL MARKET BASKET—Continued

[1986 Relative Importance Weights] [1]

Expense categories	
(2) Direct Purchase	2.01
c. Chemicals and Cleaning Products	2.42
d. Surgical and Medical Instruments	2.13
e. Photographic Supplies	2.08
f. Rubber and Plastics	1.86
g. Paper Products	1.09
h. Apparel	.92
i. Minor Machinery Equipment	.39
j. Miscellaneous Products	.67
All Other Services	8.67
a. Business Services [2]	3.00
b. Computer and Data Processing Services [2]	1.53

TABLE 2.—HOSPITAL MARKET BASKET—Continued

[1986 Relative Importance Weights] [1]

Expense categories	
c. Transportation and Shipping	.97
d. Telephone	.81
e. Blood Services [2]	.47
f. Postage [2]	.30
g. All Other Services Labor Intensive [2]	.97
h. All Other Services: Nonlabor Intensive	.62
Total	100.00

[1] These weights are used to develop the revised labor-related/nonlabor-related components of the standardized rates in Table 1.

[2] Considered labor-related.

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
010001	1.1024	010058	1.1264	010119	1.0942	030001	1.1717	030067	1.0169
010004	1.0282	010059	0.9266	010120	0.9545	030002	1.4107	030068	0.9844
010005	1.1377	010060	0.9552	010121	1.0221	030003	1.1585	030069	1.1609
010006	1.1480	010061	0.9860	010122	0.9526	030004	0.9174	030071	0.9320
010007	0.9535	010062	0.9255	010123	1.1099	030006	1.3581	030072	0.9717
010008	1.0243	010064	1.3693	010124	1.0365	030007	1.1026	030073	1.0839
010009	1.0071	010065	1.0569	010125	0.9294	030008	1.2185	030074	0.9253
010010	1.0023	010066	0.8983	010126	0.9946	030009	1.1896	030076	0.9900
010011	1.1433	010067	0.8826	010127	1.0672	030010	1.2779	030077	0.9452
010012	1.1111	010068	1.1027	010128	1.0297	030011	1.1499	030078	1.1060
010015	1.0615	010069	1.1144	010129	1.0327	030012	1.0828	030079	0.9496
010016	1.1437	010070	1.2192	010130	1.0462	030013	1.2378	030080	1.2542
010017	1.0457	010072	1.0869	010131	1.0475	030014	1.2031	030081	0.9395
010018	0.7274	010073	0.9766	010133	1.0087	030016	1.0943	030082	0.8180
010019	1.0370	010074	0.9083	010134	0.9457	030017	1.1874	030083	1.1693
010020	1.0068	010075	1.0161	010136	1.0382	030018	1.2358	030084	1.0452
010021	1.0395	010078	1.1871	010137	1.1636	030019	1.1036	030085	1.0319
010022	1.0167	010079	1.0294	010138	0.9584	030020	1.2646	030086	1.0532
010023	1.0888	010080	0.9763	010139	1.3786	030022	1.2275	030087	1.1434
010024	1.1055	010081	1.3784	010142	0.8871	030023	1.2242	030088	1.1272
010025	1.0822	010083	0.9786	010143	1.0692	030024	1.3832	040001	1.0423
010026	0.9470	010084	1.1304	010144	1.0861	030025	1.0532	040002	0.9749
010027	0.9476	010085	1.1145	010145	1.1111	030026	0.8484	040003	1.0145
010028	0.9894	010086	0.9719	010146	1.0539	030027	1.0062	040004	1.1381
010029	1.1426	010087	1.2493	010148	0.9644	030030	1.2457	040005	0.9873
010030	0.9725	010089	1.0194	010149	1.1631	030033	1.0745	040006	0.9990
010031	1.0770	010090	1.1760	010150	0.9741	030034	1.0708	040007	1.2425
010032	0.9526	010091	1.0338	010152	1.1237	030035	1.1344	040008	1.0202
010033	1.6512	010092	1.2953	020001	1.3094	030036	1.1458	040009	0.9897
010034	1.0023	010094	0.9770	020002	0.9971	030037	1.6823	040010	1.1031
010035	1.0453	010095	0.9953	020004	1.0853	030038	1.2876	040011	0.9361
010036	1.0230	010096	0.9793	020005	1.0305	030040	1.0452	040013	1.0129
010038	0.9922	010097	0.9624	020006	1.0525	030041	0.9702	040014	1.1006
010039	1.3513	010098	1.0418	020007	0.8774	030043	1.0950	040015	0.9938
010040	1.1409	010099	1.0275	020008	1.0184	030044	1.0219	040016	1.2135
010041	0.8861	010100	1.1608	020009	0.8947	030046	1.0657	040017	1.1023
010043	0.9538	010101	1.0013	020010	0.9171	030047	0.9368	040018	1.0614
010044	0.8897	010102	0.9159	020011	0.9390	030048	1.0012	040019	0.9913
010045	0.9688	010103	1.3053	020012	1.0727	030049	0.9978	040020	1.1503
010046	1.1216	010104	1.3503	020013	0.9472	030051	1.0730	040021	1.0611
010047	0.9996	010108	1.0189	020014	0.9949	030054	0.9207	040022	1.1470
010049	1.0067	010109	1.0913	020016	1.0447	030055	1.0285	040024	0.9428
010050	0.9506	010110	0.8909	020017	1.0795	030057	1.1574	040025	0.9310
010051	0.8735	010111	0.9022	020018	0.9611	030059	1.1831	040026	1.1924
010052	0.9883	010112	1.0629	020020	0.9610	030060	1.2206	040027	1.0948
010053	1.0717	010113	1.3167	020021	0.9971	030061	1.2388	040028	1.0011
010054	1.1010	010114	1.0911	020024	0.9531	030062	1.0265	040029	1.0059
010055	1.0973	010115	0.9975	020025	0.9330	030063	1.0008	040030	0.9391
010056	1.1778	010117	0.9508	020026	1.2041	030064	1.4287	040031	1.0006
010057	0.9746	010118	1.1112	020027	0.9043	030065	1.3205	040032	0.9979

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
040033	0.9070	040107	0.9794	050049	1.1057	050108	1.2404	050168	1.4039
040035	0.9517	040108	0.8891	050051	1.0354	050109	1.7928	050169	1.2834
040036	1.0910	040109	1.0429	050052	1.0700	050110	1.0840	050170	1.1954
040037	1.0429	040113	0.9455	050053	1.2000	050111	1.2513	050172	1.1365
040039	0.9546	040114	1.4253	050054	1.1421	050112	1.3004	050173	1.1987
040040	0.9918	040115	0.9930	050055	1.1652	050113	1.1026	050174	1.4668
040041	1.0906	040116	1.1151	050056	1.1381	050114	1.2456	050175	1.1304
040042	1.1692	040118	1.0174	050057	1.1926	050115	1.2428	050177	1.2425
040043	0.9882	040119	1.0614	050058	1.2114	050116	1.3276	050179	1.1193
040044	0.9425	040122	0.9638	050060	1.2474	050117	1.1767	050180	1.2494
040045	0.9157	040123	0.9839	050061	1.1650	050118	1.1504	050181	1.1338
040047	1.0660	040124	0.9931	050063	1.2395	050119	0.8879	050183	1.0977
040048	1.0745	040126	0.9410	050065	1.2904	050121	1.0853	050186	1.1801
040050	1.0054	040127	0.8771	050066	1.1890	050122	1.1727	050187	1.0858
040051	0.9255	050002	1.1373	050067	1.1542	050124	1.2200	050188	1.2066
040053	0.9858	050004	1.1243	050068	1.0962	050125	1.2117	050189	0.9966
040054	0.9892	050006	1.2237	050069	1.3910	050126	1.2420	050190	1.1446
040055	1.1997	050007	1.3439	050070	1.1867	050127	1.1710	050191	1.2616
040058	0.9559	050008	1.2164	050071	1.1760	050128	1.2555	050192	1.0510
040060	0.9913	050009	1.2745	050072	1.2280	050129	1.4438	050193	1.1899
040062	1.1860	050010	0.9901	050073	1.1476	050131	1.1965	050194	1.1249
040063	1.1992	050011	1.0698	050074	0.9415	050132	1.1571	050195	1.1750
040064	0.9697	050013	1.6610	050075	1.2288	050133	1.1193	050196	1.1942
040066	0.9511	050014	1.1412	050076	1.4650	050134	1.1135	050197	1.5333
040067	0.9791	050015	1.2410	050077	1.3674	050135	1.1953	050199	1.1290
040068	1.0135	050016	1.0838	050078	1.1755	050136	1.1556	050200	1.1669
040069	1.0393	050017	1.5572	050079	1.2321	050137	1.1482	050201	1.0744
040070	0.9161	050018	1.1104	050080	1.1775	050138	1.3973	050202	1.1792
040071	1.1583	050019	0.9259	050081	1.3582	050139	1.1620	050204	1.2620
040072	1.0193	050021	1.1655	050082	1.2162	050140	1.1385	050205	1.1690
040074	1.0260	050022	1.2094	050084	1.3671	050141	1.1023	050207	1.1739
040075	1.0185	050024	1.1053	050086	1.1008	050143	1.1140	050208	1.1743
040076	0.9711	050025	1.4072	050087	1.2346	050144	1.3149	050210	0.9805
040077	0.9103	050026	1.2458	050088	1.1012	050145	1.2030	050211	1.2192
040078	1.1645	050028	1.1828	050089	1.1371	050147	0.9776	050212	1.0978
040080	0.9853	050029	1.1660	050090	1.1195	050148	1.0159	050213	1.2314
040081	0.8847	050030	1.1294	050091	1.1700	050149	1.1551	050214	1.2015
040082	1.0717	050032	1.0639	050092	1.0703	050150	1.2230	050215	1.3303
040084	1.0250	050033	1.3034	050093	1.3708	050151	1.1965	050217	1.1662
040085	0.9478	050034	1.2429	050095	1.0345	050152	1.1841	050219	1.2355
040087	0.9744	050036	1.1885	050096	1.1092	050153	1.4002	050220	1.0915
040088	1.0915	050038	1.2265	050097	1.1976	050154	1.1510	050221	1.1839
040090	0.9626	050039	1.4284	050098	1.1170	050155	1.0821	050222	1.1650
040091	0.9788	050040	1.1270	050099	1.2118	050156	1.1478	050224	1.1918
040093	0.9827	050041	1.0877	050100	1.7463	050158	1.4626	050225	1.1440
040095	0.9788	050042	1.1404	050101	1.2194	050159	1.1521	050226	1.4721
040098	1.1037	050043	1.4677	050102	1.2249	050161	1.1187	050228	1.2175
040100	1.1290	050045	1.0916	050103	1.3323	050164	1.2119	050229	1.1740
040105	1.0232	050046	1.1311	050104	1.2702	050166	1.2662	050230	1.1940
040106	0.9896	050047	1.4252	050107	1.1452	050167	1.2471	050231	1.1846

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
050232	1.5308	050301	1.1521	050377	1.0802	050442	1.1627	050527	1.0953
050233	1.1126	050302	1.2235	050378	1.0904	050443	0.9872	050528	1.0704
050234	1.1736	050303	1.0703	050379	1.0200	050444	1.1378	050530	1.1839
050235	1.3011	050305	1.2008	050380	1.5251	050446	0.9368	050531	1.1734
050236	1.1502	050307	1.2114	050381	0.9096	050447	1.2469	050534	1.1987
050238	1.1824	050308	1.3711	050382	1.1362	050448	0.9861	050535	1.1184
050239	1.2348	050309	1.1651	050383	1.1149	050449	1.1188	050537	1.1789
050240	1.1765	050310	1.1370	050385	1.2013	050450	0.8765	050539	1.1511
050241	1.1710	050312	1.3124	050387	1.0287	050451	0.9397	050541	1.3238
050242	1.2702	050313	1.0633	050388	0.9708	050454	1.5989	050542	1.0139
050243	1.1910	050315	1.1710	050390	1.2172	050455	1.4051	050543	1.1026
050245	1.3507	050317	1.1172	050391	1.1444	050456	1.2839	050544	1.1051
050248	1.0744	050318	0.9119	050392	0.9771	050457	1.3847	050545	0.8224
050251	1.0112	050319	1.1876	050393	1.2369	050458	0.9375	050546	0.8836
050253	1.0909	050320	1.1191	050394	1.2982	050459	1.2156	050547	0.9290
050254	1.1536	050324	1.4330	050395	1.0471	050464	1.5913	050549	1.4121
050256	1.4114	050325	1.1323	050396	1.3957	050467	1.1388	050550	1.2444
050257	1.1563	050326	1.1538	050397	0.9826	050468	1.2064	050551	1.2487
050258	1.2473	050327	1.4375	050401	1.2205	050469	1.0132	050552	1.1457
050260	1.0519	050328	1.0762	050403	1.1203	050470	1.0737	050557	1.1714
050261	1.1405	050329	1.1648	050404	1.0265	050471	1.2481	050559	1.1885
050262	1.3894	050331	1.1391	050405	1.1061	050473	1.1905	050560	1.1632
050263	1.1505	050333	0.9853	050406	0.9550	050476	1.0771	050561	1.0961
050264	1.1905	050334	1.1798	050407	1.1286	050477	1.0617	050562	1.1059
050267	1.3890	050335	1.0593	050410	1.0262	050478	1.2176	050564	1.1817
050268	1.2325	050336	1.1700	050411	1.1610	050481	1.1430	050565	1.1038
050269	1.1276	050337	1.1420	050413	1.1952	050482	1.0395	050566	0.9845
050270	1.1902	050342	1.1977	050414	1.1084	050483	1.1700	050567	1.1802
050272	1.2216	050343	1.1044	050415	0.8380	050485	1.3249	050568	1.1897
050273	0.9758	050345	1.2270	050417	1.0918	050486	1.2185	050569	1.1696
050274	0.9103	050348	1.2737	050418	1.1018	050487	1.1647	050570	1.4789
050276	1.0784	050349	1.0246	050419	1.1660	050488	1.1938	050571	1.1744
050277	1.1725	050350	1.2379	050420	1.1481	050489	1.1583	050573	1.3364
050278	1.1761	050351	1.3526	050421	1.1850	050491	1.1671	050575	1.0782
050279	1.1546	050352	1.1450	050423	1.0324	050492	1.1011	050576	1.1880
050280	1.1727	050353	1.4741	050424	1.2437	050494	1.0734	050577	1.1833
050281	1.2485	050355	1.0178	050425	1.1863	050496	1.5179	050578	1.1246
050282	1.1512	050357	1.3887	050426	1.1551	050497	0.9842	050579	1.0911
050283	1.1840	050359	1.0805	050427	0.9302	050498	1.1397	050580	1.1680
050286	1.0824	050360	1.1961	050428	0.9141	050502	1.6870	050581	1.2221
050289	1.5378	050361	1.0265	050430	0.9491	050503	1.2498	050583	1.7015
050290	1.2233	050362	1.1503	050431	1.0867	050506	1.1946	050584	1.1698
050291	1.1514	050363	1.1077	050432	1.3523	050510	1.1646	050585	1.2234
050292	1.1723	050366	1.0982	050433	1.0016	050512	1.1689	050586	1.1432
050293	0.8505	050367	1.1575	050434	1.1326	050515	1.2075	050587	1.1321
050295	1.1551	050369	1.1523	050435	1.1792	050516	1.2172	050588	1.1633
050296	1.1018	050371	1.1047	050436	1.0390	050517	1.1324	050589	1.1907
050298	1.0622	050372	1.1079	050438	1.3686	050522	1.1373	050590	1.1994
050299	1.2689	050373	1.0768	050440	1.1986	050523	1.1191	050591	1.1837
050300	1.1405	050376	1.1927	050441	1.5076	050526	1.1383	050592	1.1539

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: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
050593	1.1308	060013	1.1813	060068	1.0793	070034	1.1647	100031	1.0667
050594	2.0031	060014	1.2718	060070	1.0644	070035	1.2201	100032	1.2298
050597	1.1360	060015	1.2248	060071	1.2104	070036	1.2389	100033	1.1342
050598	1.1413	060016	1.1731	060072	1.0689	080001	1.2088	100034	1.2680
050599	1.2484	060017	1.2183	060073	0.9919	080002	1.0964	100035	1.1598
050601	1.1653	060018	1.0967	060074	0.9147	080003	1.1763	100036	1.1119
050603	1.2463	060019	1.1769	060075	1.2109	080004	1.2024	100038	1.2553
050604	1.2770	060020	1.2386	060076	1.1248	080005	1.0885	100039	1.2071
050605	0.8997	060022	1.4634	060077	0.9495	080006	1.0714	100040	1.3190
050607	1.1573	060023	1.2372	060085	0.9606	080007	1.1027	100042	1.0159
050608	1.1168	060024	1.3940	060087	1.0911	090001	1.2647	100043	1.2118
050609	1.2191	060025	0.9763	060088	1.0834	090002	1.0943	100044	1.1514
050613	1.0005	060026	1.2271	060090	0.9878	090003	1.3023	100045	1.1692
050615	1.1629	060027	1.1909	060092	0.8552	090004	1.4861	100046	1.1244
050616	1.0928	060028	1.2824	060093	0.7725	090005	1.1690	100047	1.1158
050618	1.0098	060029	1.0157	060096	1.0850	090006	1.1882	100048	0.9140
050619	1.1942	060030	1.1449	060097	0.8855	090007	1.1135	100049	1.1341
050622	1.1096	060031	1.2396	060098	1.1562	090008	1.1677	100050	1.0544
050623	1.1024	060032	1.2704	070001	1.3652	090009	1.1387	100051	1.0385
050624	1.1649	060033	1.1728	070002	1.4056	090010	1.0187	100052	1.1844
050625	1.3172	060034	1.1732	070003	1.0943	090011	1.4646	100053	1.1346
050630	1.0904	060035	1.1253	070004	1.0626	100001	1.1767	100054	1.0785
050633	1.1659	060036	1.1765	070005	1.1512	100002	1.1829	100055	1.0911
050635	1.1871	060037	0.9720	070006	1.1499	100004	0.9236	100056	1.1234
050636	1.1936	060038	1.0073	070007	1.1284	100005	1.0590	100057	1.0710
050637	1.0766	060039	1.0871	070008	1.0602	100006	1.2503	100059	1.2228
050638	1.0993	060041	1.0093	070009	1.0458	100007	1.5134	100060	1.3857
050641	1.1119	060042	1.0540	070010	1.2892	100008	1.2253	100061	1.1824
050643	0.8978	060043	1.0820	070011	1.0490	100009	1.2459	100062	1.1739
050644	1.1336	060044	1.1179	070012	1.1375	100010	1.1698	100063	1.1210
050649	1.0525	060045	1.0763	070013	1.2157	100011	1.0059	100065	1.0925
050650	1.0874	060046	1.1665	070014	1.0662	100012	1.2154	100067	1.1700
050651	1.1373	060047	0.9066	070015	1.0417	100013	0.9369	100068	1.1549
050657	1.0587	060049	1.2352	070016	1.1289	100014	1.1272	100069	1.1242
050661	1.1773	060050	1.1616	070017	1.1550	100015	1.1156	100070	1.1923
050662	1.7264	060051	1.1747	070018	1.1031	100016	1.0019	100071	1.0941
050663	1.0799	060052	0.9360	070019	1.0585	100017	1.1909	100072	1.0863
050667	1.0817	060053	0.8993	070020	1.1294	100018	1.1416	100073	1.3309
050669	0.8433	060054	1.1589	070021	1.0911	100019	1.1343	100074	1.1127
060001	1.1954	060055	0.9484	070022	1.3350	100020	1.1390	100075	1.3484
060003	1.1387	060056	0.9556	070023	1.0704	100021	1.1073	100076	1.1209
060004	1.0858	060057	1.0682	070024	1.0583	100022	1.3239	100077	1.1233
060005	1.2316	060058	0.9660	070025	1.3862	100023	1.0629	100078	0.9954
060006	1.2368	060060	1.0192	070026	1.0792	100024	1.1434	100079	1.0672
060007	1.1266	060062	0.9788	070027	1.1790	100025	1.3449	100080	1.1513
060008	1.0679	060063	1.1679	070028	1.1759	100026	1.2518	100081	0.9341
060009	1.2209	060064	1.2458	070029	1.0995	100027	0.9235	100082	1.1761
060010	1.3131	060065	1.0930	070030	1.0670	100028	1.1294	100083	1.1130
060011	1.1248	060066	0.9813	070031	1.1702	100029	1.1295	100084	1.0516
060012	1.2696	060067	1.0235	070033	1.1314	100030	1.0332	100085	1.0343

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
100086	1.1279	100151	1.3817	100218	1.0461	110014	0.9124	110073	0.9339
100087	1.3578	100152	1.0833	100219	1.1614	110015	0.9975	110074	1.1608
100088	1.3331	100153	0.8424	100220	1.2570	110016	1.1552	110075	1.0730
100089	1.1266	100154	1.3418	100221	1.4848	110017	0.9786	110076	1.2180
100090	1.1392	100156	1.0485	100222	1.0763	110018	1.0682	110077	0.9158
100092	1.1020	100157	1.2503	100223	1.0981	110020	1.0515	110078	1.3433
100093	1.1579	100159	0.9366	100224	1.1137	110023	1.0787	110079	1.0973
100098	0.9635	100160	1.0659	100225	1.1015	110024	1.1584	110080	1.1210
100099	1.1035	100161	1.1587	100226	1.0833	110025	1.1213	110081	1.0103
100100	1.0669	100162	1.1514	100227	0.8942	110026	0.9756	110082	1.6505
100102	1.0544	100164	0.9840	100228	1.0901	110027	0.9783	110083	1.1405
100103	0.9109	100165	1.0668	100229	1.1157	110028	1.3848	110085	1.0981
100105	1.1082	100166	1.1306	100230	1.0866	110029	1.1084	110086	1.0960
100106	1.0103	100167	1.1468	100231	1.3808	110030	1.0354	110087	1.0558
100107	1.0837	100168	1.1308	100232	1.0640	110031	1.1122	110088	0.9113
100108	0.9434	100169	1.4309	100234	1.1768	110032	1.0557	110089	1.0407
100109	1.0589	100170	1.1293	100235	1.1896	110033	1.0156	110091	1.1841
100110	1.1441	100172	1.0236	100236	1.1523	110034	1.1764	110092	1.0025
100112	1.0031	100173	1.1127	100237	1.5263	110035	1.1162	110093	1.0117
100113	1.4431	100174	1.2305	100238	1.1274	110036	1.3806	110094	0.8992
100114	1.1264	100175	0.9779	100239	1.2490	110037	0.9087	110095	1.1300
100115	1.0846	100176	1.3507	100240	0.6797	110038	1.1463	110096	1.0100
100117	1.0947	100177	1.1407	100241	0.9502	110039	1.1071	110097	0.8986
100118	1.0762	100179	1.3570	100242	1.1412	110040	0.9640	110098	0.9583
100120	0.9782	100180	1.2188	100243	1.1120	110041	1.0526	110099	0.8943
100121	1.0543	100181	1.0661	100244	1.0985	110042	0.9986	110100	0.9996
100122	1.0122	100183	1.0543	100246	1.1797	110043	1.2200	110101	0.9324
100124	1.0607	100185	1.0935	100248	1.3521	110044	1.1116	110103	0.9675
100125	1.1156	100186	1.1882	100249	1.0605	110045	1.0322	110104	1.0532
100126	1.2032	100187	1.1280	100252	1.0469	110046	0.9992	110105	1.0814
100127	1.1989	100189	1.1316	100253	1.1540	110047	0.9001	110107	1.3281
100128	1.9405	100191	1.1536	100254	1.1315	110048	1.0098	110108	0.9086
100129	1.1154	100193	0.8323	100255	1.1323	110049	0.9092	110109	0.9609
100130	1.1240	100194	1.0940	100256	1.1332	110050	0.9858	110111	0.9260
100131	1.0917	100195	1.1114	100258	1.0909	110051	0.9254	110112	0.9075
100132	1.1459	100196	1.1752	100259	1.0992	110052	0.9094	110113	0.9632
100134	0.8890	100199	1.1238	100260	1.1312	110054	1.1576	110114	1.0130
100135	1.2821	100200	1.1243	100262	1.1338	110055	0.9059	110115	1.3150
100137	1.0561	100203	1.1497	110001	1.0868	110056	0.9618	110117	0.9176
100138	0.9523	100204	1.2961	110002	1.0595	110059	1.0161	110118	1.0244
100139	1.0458	100206	1.1292	110003	1.0641	110061	0.8931	110120	0.9714
100140	1.0342	100207	1.1227	110004	1.0646	110062	0.9544	110121	0.9426
100142	0.9945	100208	1.1089	110005	1.0293	110063	1.0130	110122	1.1750
100143	1.0225	100209	1.2015	110006	1.1466	110064	1.1724	110123	1.0323
100144	0.9977	100210	1.3070	110007	1.2395	110065	0.9073	110124	0.9991
100145	1.1288	100211	1.1299	110008	1.0615	110066	1.2137	110125	1.0689
100146	0.9721	100212	1.1051	110009	0.9737	110069	1.0822	110127	0.9511
100147	1.0179	100213	1.1882	110010	1.6980	110070	0.9170	110128	1.0819
100149	1.1282	100214	1.0841	110011	1.0502	110071	0.9528	110129	1.2844
100150	1.0504	100217	1.0446	110013	0.9720	110072	0.9369	110130	0.9132

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
110131	0.9274	110193	1.0503	130031	0.9906	140038	1.0423	140099	1.0593
110132	0.9643	110194	0.9504	130032	0.9625	140039	1.0582	140100	1.0067
110133	0.9242	110195	1.0644	130034	0.9276	140040	1.0567	140101	1.0555
110134	0.9133	110198	1.1916	130035	1.0456	140041	0.9911	140102	0.9417
110135	0.9296	120001	1.3628	130036	1.1537	140042	0.9553	140103	1.1184
110136	0.9711	120002	1.1145	130037	1.0167	140043	1.0996	140104	0.9896
110140	0.9255	120003	0.9954	130038	0.9410	140045	0.9713	140105	1.1827
110141	0.9273	120004	1.1365	130039	1.1325	140046	1.0781	140107	0.9467
110142	0.8679	120005	1.1239	130040	0.9499	140047	1.0263	140108	1.0617
110143	1.0949	120006	1.0974	130041	0.9456	140048	1.1046	140109	1.0145
110144	1.0942	120007	1.2849	130043	1.0039	140049	1.1471	140110	1.0983
110146	0.9191	120008	0.9549	130044	0.8676	140051	1.1123	140111	1.0463
110149	0.9737	120009	0.9577	130045	0.9427	140052	1.1117	140112	1.0093
110150	1.0782	120010	1.3824	130048	1.0143	140053	1.3897	140113	1.2351
110151	1.0194	120011	1.2699	130049	1.0919	140054	1.1368	140114	1.0700
110152	0.9789	120012	0.9707	130051	0.9292	140055	0.9434	140115	0.9792
110153	0.9420	120014	1.0977	130053	0.9008	140058	1.0167	140116	1.1704
110154	0.9102	120015	0.8540	130054	0.8466	140059	0.9819	140117	1.1100
110155	1.0060	120016	1.0361	140001	1.0243	140061	1.0205	140118	1.3129
110156	0.9217	120018	0.8467	140002	1.1562	140062	1.0924	140119	1.3542
110157	1.0136	120019	1.0473	140003	0.9361	140063	1.0940	140120	1.0480
110158	0.9653	120021	0.9394	140004	1.0480	140064	1.1054	140121	0.9338
110161	1.2191	120022	1.3690	140005	0.9010	140065	1.1511	140122	1.1462
110162	0.9753	130001	1.0413	140007	1.1284	140066	1.0211	140123	1.0956
110163	1.1683	130002	1.2005	140008	1.1601	140067	1.2757	140124	1.0212
110164	1.1827	130003	1.1210	140009	0.9776	140068	1.0375	140125	1.0883
110165	1.1465	130005	1.1561	140010	1.1874	140069	1.1052	140126	1.3012
110166	1.1496	130006	1.5077	140011	1.0502	140070	1.1051	140127	1.1134
110168	1.1471	130007	1.2495	140012	1.1430	140072	1.1197	140128	1.0485
110169	0.6024	130008	0.9439	140013	1.1048	140074	1.0364	140129	1.0410
110170	0.8356	130009	0.9557	140014	1.0074	140075	1.2059	140130	1.0808
110171	1.1975	130010	0.8808	140015	1.1192	140077	1.0090	140131	1.0815
110172	1.0900	130011	1.0983	140016	1.0319	140079	1.1000	140132	1.2259
110174	0.9217	130012	0.9188	140017	1.0840	140080	1.5065	140133	1.1465
110175	1.0459	130013	1.0881	140018	1.2142	140081	1.0408	140134	1.1814
110176	1.0827	130014	1.1582	140019	0.9442	140082	1.1252	140135	1.0650
110177	1.1111	130015	0.9988	140023	0.9998	140083	1.0531	140136	0.9960
110178	0.6929	130016	0.9482	140024	0.9811	140084	1.1262	140137	0.9957
110179	1.1582	130017	0.9331	140025	1.0883	140085	1.1075	140138	0.9841
110181	0.9782	130018	1.1806	140026	1.0840	140086	1.0083	140139	1.0410
110183	1.0825	130019	1.0647	140027	1.0337	140087	1.0939	140140	1.0359
110184	1.1016	130021	0.9553	140029	1.1571	140088	1.3294	140141	1.0093
110185	0.9303	130022	1.0404	140030	1.1961	140089	1.0362	140142	1.0540
110186	1.0161	130024	1.0898	140031	1.0767	140090	1.1950	140143	1.0461
110187	0.9821	130025	1.0458	140032	1.0339	140091	1.2075	140144	1.0146
110188	1.0910	130026	1.0448	140033	1.0833	140093	1.0322	140145	1.0927
110189	0.9291	130027	0.9303	140034	0.9957	140094	1.0704	140146	0.9215
110190	1.0134	130028	1.1184	140035	1.0734	140095	1.1584	140147	1.0106
110191	1.1024	130029	1.0556	140036	0.9912	140097	1.0484	140148	1.2840
110192	1.0988	130030	0.8855	140037	0.9950	140098	1.1075	140150	1.1867

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
140151	1.0090	140209	1.2358	140291	1.1008	150049	1.0454	150104	1.1130
140152	0.9982	140210	1.0197	140292	1.1337	150050	1.0883	150105	1.0543
140153	1.1572	140211	1.0258	140293	1.0783	150051	1.1259	150106	1.0084
140154	1.0991	140212	0.9946	140294	0.9566	150052	0.9309	150109	1.1918
140155	1.0355	140213	1.0777	140295	1.0253	150053	1.0055	150110	0.9605
140156	1.1432	140215	1.0259	140298	1.1063	150054	1.0138	150111	1.0730
140157	0.9515	140216	0.9159	150001	1.0805	150056	1.3719	150112	1.1283
140158	1.1560	140217	1.1107	150002	1.1133	150057	0.9393	150113	1.0765
140159	1.0342	140218	1.0739	150003	1.2961	150058	1.3086	150114	0.9709
140160	1.1169	140219	1.0430	150004	1.1881	150059	1.0718	150115	1.1768
140161	1.0330	140220	1.0521	150005	1.1197	150060	1.0340	150122	1.0273
140162	1.0363	140223	1.2546	150006	1.1405	150061	1.1118	150123	0.9756
140163	0.9569	140224	1.1088	150007	1.0321	150062	0.9738	150124	1.0672
140164	1.1181	140226	0.9726	150008	1.3086	150063	1.0780	150125	1.1230
140165	0.8932	140228	1.3086	150009	1.0984	150064	1.0482	150126	1.5509
140166	1.0503	140229	1.0003	150010	1.0526	150065	1.1063	150127	1.0718
140167	1.0251	140230	0.9951	150011	1.1251	150066	1.0147	150128	1.1117
140168	1.0783	140231	1.1673	150012	1.2425	150067	1.0275	150129	1.1104
140170	1.0305	140232	0.9831	150013	1.0163	150069	1.1002	150130	1.0651
140171	0.9516	140233	1.3281	150014	1.1914	150070	1.0518	150132	1.2468
140172	1.1938	140234	1.0045	150015	1.1123	150071	1.0942	150133	1.0770
140173	1.0249	140235	0.9691	150017	1.3964	150072	1.1546	150134	1.0526
140174	1.1627	140236	1.0433	150018	1.1619	150073	1.0560	150135	0.8946
140176	1.0706	140239	1.2674	150019	1.0442	150074	1.2656	160001	1.1312
140177	1.0346	140240	1.1741	150020	1.0716	150075	1.1598	160002	1.2320
140178	0.9625	140241	0.9299	150021	1.3893	150076	1.0732	160003	1.0513
140179	1.1420	140242	1.1857	150022	1.0684	150077	1.0859	160004	1.1107
140180	1.2333	140243	1.1212	150023	1.1564	150078	1.0440	160005	1.1869
140181	1.1125	140245	1.0488	150024	1.1592	150079	1.0213	160007	1.0130
140182	1.1252	140246	1.0129	150025	1.1822	150081	1.0314	160008	1.1150
140184	0.9736	140247	1.0438	150026	1.1426	150082	1.3173	160009	1.1039
140185	1.1512	140248	1.1489	150027	1.0227	150083	1.1289	160012	1.1148
140186	1.0316	140249	0.8021	150029	1.1504	150084	1.6180	160013	1.2037
140187	1.1455	140250	1.0864	150030	1.1051	150085	0.9290	160014	0.9816
140188	0.9606	140251	1.0531	150031	0.9580	150086	1.0892	160016	1.2118
140189	1.0724	140252	1.1399	150032	1.5634	150088	1.0758	160018	1.0136
140190	1.0008	140253	1.1152	150033	1.1726	150089	1.1835	160020	1.0027
140191	1.1010	140258	1.2156	150034	1.0739	150090	1.1473	160021	1.1051
140192	1.0784	140261	1.0280	150035	1.1227	150091	1.0961	160023	1.0648
140193	1.0012	140271	0.9394	150036	0.9735	150092	1.0230	160024	1.2023
140197	1.1046	140273	0.9683	150037	1.1224	150094	1.0176	160025	1.5781
140199	0.9972	140275	1.0656	150038	1.1156	150095	1.0422	160026	1.0995
140200	1.2112	140276	1.7378	150039	1.0102	150096	1.0160	160027	1.1584
140202	1.1019	140280	1.1313	150042	1.1354	150097	1.0085	160028	1.1161
140203	1.0205	140281	1.2619	150043	1.0680	150098	0.9509	160029	1.1977
140204	1.2128	140285	1.0561	150044	1.0852	150099	1.1424	160030	1.2292
140205	1.0733	140286	1.1594	150045	1.0847	150100	1.2015	160031	1.0525
140206	0.9819	140288	1.2024	150046	1.1450	150101	1.0548	160032	1.0623
140207	1.1152	140289	1.1722	150047	1.3233	150102	1.1189	160033	1.1977
140208	1.2399	140290	1.1273	150048	1.1483	150103	0.9548	160034	0.9945

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: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
160035	0.8992	160089	1.1392	160151	1.1001	170053	0.9721	170110	0.9694
160036	1.1777	160090	1.0424	160152	0.9772	170054	0.9783	170112	1.0503
160037	1.1762	160091	1.0688	160153	1.4232	170055	0.9968	170113	1.0131
160038	1.1318	160092	1.0374	170001	1.1234	170056	0.9616	170114	1.0332
160039	1.0259	160093	0.9348	170002	1.1345	170057	0.9684	170115	0.9944
160040	1.1378	160094	1.0698	170003	1.1146	170058	1.0346	170116	1.0630
160041	1.0288	160095	0.9991	170004	0.9707	170060	1.0135	170117	1.0184
160043	1.1083	160097	1.1335	170005	0.9251	170061	1.0354	170119	0.9118
160044	1.1329	160098	1.0722	170006	1.0889	170062	1.0032	170120	1.0741
160045	1.3337	160099	1.0017	170007	1.0795	170063	1.0209	170121	0.8796
160046	1.1343	160101	1.1128	170008	0.9568	170064	1.0055	170122	1.5856
160047	1.2460	160102	1.2194	170009	1.0565	170066	0.9963	170123	1.2427
160048	1.0743	160103	0.9360	170010	1.0430	170067	0.9960	170124	1.0112
160049	1.0120	160104	1.1057	170011	1.1276	170068	1.1127	170125	0.9253
160050	1.0526	160106	1.1193	170012	1.2602	170069	1.0387	170126	0.9136
160051	1.1174	160107	1.1273	170013	1.0935	170070	0.9813	170128	0.9603
160052	1.0955	160108	1.1348	170014	1.0211	170072	0.9692	170130	1.0657
160053	1.1501	160109	1.0660	170015	1.0467	170073	1.1016	170131	1.0761
160054	1.0710	160110	1.3364	170016	1.3488	170074	1.0562	170133	1.0884
160055	1.0427	160111	1.1189	170017	1.0636	170075	1.0071	170134	0.9829
160056	1.0207	160112	1.1823	170018	1.0731	170076	1.1264	170137	1.1505
160057	1.1649	160113	1.0534	170019	1.1510	170077	0.9384	170138	1.0727
160058	1.4024	160114	0.9736	170020	1.1530	170079	0.8656	170139	0.9633
160059	1.2200	160115	1.1096	170021	0.9481	170080	0.9510	170140	1.0120
160060	1.0540	160116	1.0478	170022	1.1002	170081	1.1038	170142	1.0823
160061	1.0376	160117	1.2311	170023	1.2138	170082	0.9762	170143	1.0671
160062	1.0246	160118	1.1017	170024	0.9997	170084	0.9488	170144	1.2550
160063	1.0686	160119	0.9677	170025	1.1779	170085	0.9477	170145	1.0624
160064	1.1875	160120	0.9665	170026	1.0755	170086	1.3061	170146	1.2220
160065	1.0983	160122	1.1067	170027	1.0712	170087	1.1740	170147	1.1276
160066	1.0796	160123	1.0951	170030	0.9681	170088	0.9893	170148	1.1792
160067	1.1289	160124	1.0834	170031	0.9955	170089	0.9106	170150	1.0494
160068	1.1116	160126	1.0913	170032	0.9875	170090	0.9663	170151	1.0426
160069	1.2567	160129	1.0902	170033	1.0590	170091	0.9363	170152	0.9264
160070	1.0701	160130	1.1254	170034	0.9735	170092	1.0599	170159	1.0291
160071	1.0819	160131	1.0904	170035	0.9686	170093	0.9929	170160	0.9400
160072	1.0981	160132	1.0809	170036	0.9862	170094	1.0236	170164	1.0564
160073	0.9721	160133	1.0702	170037	1.1262	170095	1.0300	170166	0.9825
160074	0.9781	160134	0.9757	170038	1.0091	170097	1.0201	170168	0.9154
160075	1.0039	160135	1.0136	170039	1.0230	170098	1.0030	170170	1.0766
160076	1.0147	160136	1.0710	170040	1.2773	170099	1.0337	170171	1.0517
160077	1.0821	160138	1.0970	170041	1.0031	170100	0.9002	170172	1.0226
160079	1.2286	160139	0.8523	170043	1.0043	170101	0.9542	170173	0.9458
160080	1.1216	160140	1.0164	170044	0.9968	170102	1.0113	170174	0.9326
160081	1.1462	160141	0.9915	170045	0.9548	170103	1.1096	170175	1.0599
160082	1.4316	160142	1.1244	170046	0.9857	170104	1.2498	170176	1.2067
160083	1.3946	160143	1.0885	170049	1.1700	170105	1.1166	170177	0.9442
160085	1.1619	160145	1.0658	170050	0.9866	170106	0.9498	180001	1.0827
160086	0.9762	160146	1.2245	170051	0.9603	170108	0.9659	180002	0.9906
160088	1.0706	160147	1.1327	170052	0.9663	170109	0.9860	180004	1.0205

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: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
180005	1.0102	180060	0.8651	180136	1.0865	190067	1.0188	190142	0.9341
180006	0.8897	180062	0.9275	180137	1.2293	190071	0.9178	190144	1.0345
180007	1.0988	180063	0.9331	190001	0.9787	190073	0.9369	190145	1.0456
180009	1.1004	180064	1.0298	190002	1.3013	190075	1.0997	190146	1.2839
180010	1.3834	180065	0.9314	190003	1.0817	190077	0.9570	190147	0.9815
180011	0.9862	180066	1.0380	190004	1.0494	190078	1.0489	190148	0.9446
180012	1.0795	180067	1.3745	190005	1.1081	190079	1.1407	190149	0.9725
180013	1.1390	180069	0.9768	190006	1.0845	190081	0.8899	190151	1.0414
180014	1.3621	180070	0.9625	190007	0.9589	190083	0.9665	190152	1.0814
180015	1.0166	180072	1.0336	190008	1.1553	190086	1.1154	190155	1.0111
180016	1.0934	180075	0.9295	190009	1.0714	190088	0.9714	190156	0.9382
180017	1.1001	180078	0.9466	190010	1.0386	190089	0.9747	190157	0.9669
180018	1.0869	180079	0.9905	190011	1.0346	190090	0.9755	190158	1.0748
180019	1.0324	180080	1.0045	190012	0.9155	190092	1.1568	190160	0.9823
180020	0.9733	180081	1.1056	190013	1.0706	190095	0.9274	190161	1.0255
180021	0.9436	180085	1.1301	190014	0.9333	190098	1.2627	190162	1.1419
180023	0.8921	180087	1.0393	190015	1.0423	190099	1.0014	190163	0.9302
180024	1.0016	180088	1.3171	190016	1.0392	190101	0.9265	190164	1.0341
180025	1.0760	180092	1.0607	190017	1.1272	190102	1.2291	190165	1.0093
180026	1.0402	180093	1.1520	190018	1.0701	190103	0.8812	190166	0.9995
180027	0.9988	180094	0.9558	190019	1.3139	190106	1.0164	190167	0.9670
180028	0.8990	180095	1.0498	190020	1.0304	190109	1.0841	190169	0.9296
180029	1.0218	180099	0.9153	190023	0.9234	190110	0.9939	190170	0.9577
180030	0.9540	180100	1.1247	190025	1.0710	190111	1.2455	190173	1.1415
180031	0.9945	180101	1.0419	190026	1.1861	190112	1.1352	190175	1.0777
180032	0.9485	180102	1.1445	190027	1.1942	190113	1.0701	190176	1.3316
180033	1.0236	180103	1.3271	190029	1.0975	190114	0.9129	190177	0.9848
180034	1.0130	180104	1.1773	190033	0.9536	190115	1.1108	190178	0.9404
180035	1.1255	180105	0.8918	190034	1.0392	190116	1.0229	190179	0.9887
180036	1.0398	180106	0.8765	190035	1.1990	190117	1.0071	190180	1.0626
180037	1.1496	180108	0.8778	190036	1.4087	190118	0.9969	190182	0.8975
180038	1.1034	180114	0.8913	190037	0.9103	190119	0.9285	190183	1.0394
180040	1.3294	180115	1.0226	190039	1.2362	190120	0.9659	190184	0.9226
180041	0.9914	180116	1.0685	190040	1.0901	190122	1.1548	190185	1.0967
180042	1.0351	180117	0.9166	190041	1.2584	190124	1.2077	190186	0.8997
180043	0.9971	180118	1.0114	190043	1.0345	190125	1.1687	190187	1.2212
180044	0.9873	180120	0.9489	190044	1.0195	190127	1.0599	190188	0.9532
180045	1.1018	180121	1.0016	190045	1.0469	190128	0.8697	190190	0.9086
180046	1.0336	180122	0.9078	190046	1.2394	190130	0.9389	190191	1.0950
180047	1.0282	180123	1.1359	190047	0.9944	190131	1.0000	190193	1.1156
180048	1.1003	180124	1.0776	190048	1.0380	190132	1.0794	190194	1.0024
180049	1.1034	180125	0.9200	190049	1.0068	190133	0.9830	190195	0.9566
180050	1.0077	180126	0.9212	190050	0.9807	190134	0.8690	190197	1.2389
180051	1.1344	180127	1.0583	190053	1.0174	190135	1.2898	190198	1.0635
180053	0.9446	180128	1.0186	190054	1.0856	190136	0.9463	200001	1.2212
180054	1.1146	180129	0.9813	190058	1.0010	190137	0.9284	200002	0.9640
180055	1.0430	180130	1.1397	190059	1.0673	190138	0.5597	200003	1.0539
180056	1.0332	180132	1.1124	190060	1.0953	190139	1.0132	200005	0.8831
180058	0.8952	180133	1.1206	190064	1.1804	190140	1.0580	200006	0.9934
180059	0.9534	180134	1.0694	190065	1.2749	190141	0.9190	200007	1.0066

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
200008	1.1627	210013	1.1382	220011	1.0990	220074	1.0307	220171	1.2591
200009	1.4606	210015	1.1381	220012	1.1928	220075	0.6486	230001	1.0270
200012	1.0940	210016	1.3922	220015	1.0982	220076	1.0637	230002	1.1133
200013	1.1377	210017	1.0767	220016	1.0984	220077	1.2528	230003	1.0829
200015	1.2047	210018	1.1573	220017	1.0919	220079	1.0256	230004	1.3225
200016	1.0703	210019	1.1797	220019	1.0763	220080	1.0580	230005	1.0700
200017	1.0936	210021	1.0638	220020	1.0870	220081	0.9907	230006	1.0338
200018	1.0917	210022	1.1203	220021	1.1331	220082	1.0966	230007	1.0349
200019	1.1830	210023	1.1540	220022	1.0755	220083	1.0805	230008	0.9641
200020	1.0446	210024	1.1759	220023	1.0830	220084	1.0861	230011	1.0614
200021	1.1347	210025	1.0614	220024	1.1232	220086	1.3238	230012	1.0437
200023	1.0011	210026	1.1485	220025	1.0623	220087	0.8959	230013	1.1525
200024	1.1641	210027	1.1077	220026	1.1403	220088	1.2297	230014	1.0739
200025	1.1122	210028	1.0272	220028	1.0848	220089	1.1038	230015	1.0775
200026	1.0151	210029	1.1804	220029	1.0275	220090	1.0349	230017	1.2519
200027	1.0665	210030	1.0289	220030	1.0688	220092	1.0698	230019	1.1956
200028	0.9665	210031	1.4006	220031	1.1981	220094	1.0556	230020	1.1785
200031	1.1634	210032	1.0498	220033	1.0845	220095	1.0142	230021	1.2393
200032	1.1754	210033	1.1037	220034	1.0356	220097	1.0302	230022	1.1248
200033	1.3169	210034	1.0919	220035	1.0849	220098	1.0799	230024	1.3411
200034	1.1024	210035	1.0882	220036	1.1630	220099	1.0586	230027	1.0133
200037	1.1198	210037	1.1161	220038	1.0415	220100	1.1948	230029	1.1564
200038	0.9966	210038	1.0306	220040	1.0658	220101	1.0914	230030	1.0775
200039	1.1743	210039	1.1120	220041	1.0823	220102	0.8381	230031	1.1962
200040	1.0785	210040	1.1764	220042	1.0348	220104	1.0275	230032	1.4106
200041	1.0181	210041	1.0652	220045	1.1008	220105	1.0533	230034	1.0464
200043	0.9530	210042	1.1262	220046	1.1770	220106	1.0739	230035	0.9867
200044	1.1317	210043	1.0694	220048	1.0859	220107	0.9777	230036	1.1380
200047	1.1035	210044	1.0548	220049	1.0653	220108	1.0606	230037	1.0528
200049	0.9569	210045	1.0301	220050	0.9847	220110	1.4292	230038	1.4782
200050	1.0476	210046	1.0076	220051	1.0742	220111	1.0682	230039	1.1421
200051	0.9964	210047	0.9594	220052	1.0734	220114	1.0092	230040	1.0965
200052	1.0423	210048	1.0572	220053	1.1044	220115	1.0923	230041	1.0875
200055	1.0100	210049	1.1033	220055	1.1000	220116	1.3241	230042	1.0583
200058	0.9509	210050	1.0166	220057	1.0621	220117	0.9465	230043	0.8837
200062	1.0307	210051	1.1610	220058	1.0640	220118	1.3173	230046	1.4420
200063	1.1832	210054	1.1026	220060	1.0685	220119	1.1277	230047	1.0882
200066	1.1516	210055	1.1132	220061	1.0137	220120	0.9587	230051	0.9996
210001	1.1873	210056	1.2228	220062	0.7408	220121	1.0545	230053	1.2600
210002	1.2706	210057	1.1986	220063	1.1043	220123	1.0110	230054	1.3136
210003	1.1423	210058	1.3964	220064	1.0772	220126	1.0907	230055	1.0442
210004	1.1423	220001	1.1000	220065	1.1000	220128	1.0293	230056	0.9803
210005	1.1707	220002	1.2521	220066	1.1215	220129	1.0951	230057	1.0598
210006	1.0695	220003	0.9877	220067	1.1530	220131	1.0073	230058	1.0556
210007	1.2158	220004	1.1092	220068	0.8801	220133	0.8517	230059	1.2203
210008	1.1074	220005	1.0137	220069	0.9518	220135	1.1243	230060	1.0640
210009	1.1925	220006	1.0832	220070	1.1375	220153	1.0016	230062	1.0575
210010	1.0601	220008	1.0585	220071	1.3018	220154	1.0389	230063	1.1328
210011	1.1830	220009	1.0875	220072	0.9814	220156	1.0796	230065	1.0996
210012	1.0955	220010	1.0686	220073	1.1300	220163	1.3086	230066	1.0989

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
230067	0.9768	230128	1.1411	230190	1.1034	240001	1.2832	240058	1.0559
230068	1.2010	230129	1.4605	230191	0.9257	240002	1.4025	240059	1.1002
230069	1.1034	230130	1.2566	230193	1.0841	240003	1.1604	240061	1.3505
230070	1.1863	230132	1.1830	230194	1.0545	240004	1.2934	240062	1.0866
230071	0.6680	230133	1.1246	230195	1.1482	240005	1.0083	240063	1.2441
230072	1.0921	230134	0.9929	230197	1.0808	240006	1.1115	240064	1.1308
230075	1.0954	230135	1.0644	230199	1.0642	240007	1.0796	240065	0.9353
230076	1.2100	230137	1.0630	230201	0.9606	240008	1.0505	240066	1.1833
230077	1.4845	230138	0.9088	230203	0.9326	240009	1.0459	240069	1.0326
230078	1.0338	230139	1.0079	230204	1.1922	240010	1.6994	240071	1.0855
230080	1.0559	230140	1.0144	230205	1.0884	240011	1.0552	240072	1.0324
230081	1.0346	230141	1.2762	230207	1.0395	240013	1.1359	240073	0.9907
230082	0.9557	230142	1.0639	230208	1.0126	240014	1.1134	240074	1.0722
230084	1.0438	230143	1.1959	230211	0.9191	240016	1.1397	240075	1.1456
230085	1.0724	230144	1.0412	230212	1.0551	240017	1.1501	240076	1.0873
230086	1.0536	230145	1.0646	230213	0.9693	240018	1.1433	240077	1.0013
230087	1.0364	230146	1.1385	230216	1.1589	240019	1.3297	240078	1.2477
230089	1.1037	230147	1.0603	230217	1.0627	240020	1.0830	240079	1.0188
230090	1.1289	230149	1.0089	230219	0.9133	240021	1.1253	240080	1.2420
230092	1.1195	230150	1.3825	230221	1.0961	240022	1.0603	240081	1.2205
230093	1.0603	230151	1.2297	230222	1.1096	240023	1.0681	240082	1.1300
230095	1.0285	230153	1.0693	230223	1.1250	240024	1.1994	240083	1.1762
230096	1.0092	230154	0.9501	230224	0.9851	240025	1.1060	240084	1.2088
230097	1.1537	230155	0.9581	230225	1.0112	240026	1.2472	240085	0.9791
230098	1.1378	230156	1.3040	230227	1.1082	240027	1.0555	240086	1.0606
230099	1.0630	230157	1.1101	230228	1.1384	240028	1.0352	240087	1.0908
230100	1.0108	230158	0.9817	230230	1.1331	240029	1.0651	240088	1.3068
230101	1.0815	230159	1.1211	230231	1.0140	240030	1.2719	240089	1.0106
230102	1.2356	230161	0.8709	230232	0.9292	240031	0.9132	240090	1.1082
230103	1.0292	230162	0.9104	230235	0.9606	240033	0.9684	240091	1.0037
230104	1.1761	230163	0.9831	230236	1.1750	240036	1.2608	240093	1.2269
230105	1.3243	230165	1.2922	230237	1.1300	240037	1.0722	240094	1.0375
230106	1.0301	230167	1.1119	230238	0.9456	240038	1.3235	240096	1.0497
230107	1.0095	230169	1.0907	230239	1.0088	240040	1.1524	240097	1.1613
230108	1.1320	230171	1.0159	230241	0.9888	240041	1.0706	240098	0.9991
230110	1.1194	230172	1.0936	230244	1.1029	240043	1.1678	240099	1.0760
230111	0.9386	230173	1.1073	230253	1.0245	240044	1.1156	240100	1.1317
230113	0.8881	230174	1.1134	230254	1.1139	240045	1.0530	240101	1.0491
230114	0.8447	230175	0.9832	230256	1.0088	240046	1.2475	240102	0.9922
230115	1.0770	230176	1.0945	230257	0.9833	240047	1.2416	240103	1.0941
230116	0.9229	230177	0.8974	230258	1.0318	240048	1.1165	240104	1.1453
230117	1.5737	230178	1.0047	230259	0.9922	240049	1.3808	240105	0.9587
230118	1.1068	230179	0.9376	230264	0.8583	240050	1.1271	240106	1.2252
230119	1.0330	230180	1.0150	230265	1.0768	240051	1.0836	240107	1.0330
230120	0.9853	230181	1.0219	230266	1.0497	240052	1.2006	240108	1.1063
230121	1.0173	230183	1.0808	230269	1.1064	240053	1.2528	240109	1.0351
230122	1.1634	230184	1.0285	230270	1.0905	240054	1.1620	240110	1.0662
230123	0.9285	230186	1.0110	230272	0.9761	240055	1.1626	240111	1.0645
230124	1.0419	230188	1.0093	230273	1.1393	240056	1.2639	240112	1.0036
230125	1.2066	230189	0.9156	230276	1.4308	240057	1.5648	240114	1.0506

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
240115	1.1764	240173	1.0208	250036	0.9587	250097	1.0131	260015	1.0359
240116	1.0120	240175	1.0287	250037	0.9071	250098	0.8718	260016	1.1288
240117	1.0673	240176	1.1024	250038	0.8937	250099	1.0420	260017	1.1277
240118	0.9481	240177	0.9507	250039	1.0205	250100	1.1270	260018	0.9335
240119	0.9539	240179	1.0418	250040	1.0720	250101	0.9276	260019	1.0440
240121	0.9764	240180	1.1096	250041	0.9305	250102	1.3152	260020	1.2495
240122	1.0249	240183	1.0300	250042	0.9969	250104	0.9857	260021	1.2172
240123	1.0423	240184	1.0926	250043	0.8927	250105	0.9373	260022	1.1445
240124	1.0312	240187	1.1394	250044	0.9781	250106	0.8667	260023	1.0479
240125	1.0757	240192	0.9413	250045	0.9920	250107	0.9500	260024	1.0593
240127	1.1094	240193	1.0565	250046	0.9584	250109	0.9343	260025	1.0913
240128	1.1496	240194	0.9910	250047	0.9219	250110	0.9764	260026	1.0713
240129	1.0084	240195	0.9571	250048	1.2670	250111	0.9319	260027	1.2535
240130	0.9982	240196	1.3769	250049	0.9219	250112	0.8766	260029	1.0644
240131	1.1977	240200	0.9432	250050	1.1328	250113	0.9335	260030	1.0414
240132	1.1915	240201	0.9818	250051	0.8305	250114	0.8963	260031	1.2945
240133	1.0967	240205	0.8823	250057	1.0160	250116	0.8784	260032	1.3952
240134	1.1430	240206	0.9340	250058	1.0611	250117	0.9477	260033	1.1645
240135	0.9410	240207	1.1773	250059	1.0176	250118	1.0115	260034	1.0282
240136	1.0635	250001	1.2955	250060	0.8822	250119	0.9031	260035	0.9778
240137	1.0723	250002	0.8873	250061	0.9724	250120	1.0789	260036	1.0204
240138	1.0360	250003	0.8886	250062	0.9416	250121	0.9521	260037	1.0875
240139	1.0685	250004	1.1885	250063	0.8831	250122	1.0118	260039	1.0525
240140	0.9618	250005	0.9536	250065	0.9144	250123	1.0792	260040	1.2506
240141	0.9835	250006	0.9356	250066	0.9141	250124	0.8965	260041	1.0539
240142	1.0950	250007	1.0055	250067	1.0616	250125	1.0762	260042	0.9229
240143	1.0199	250008	0.9287	250068	0.9057	250126	0.9926	260044	1.0325
240144	1.0794	250009	1.1052	250069	1.0699	250127	0.9234	260045	1.1009
240145	1.0335	250010	0.9113	250071	0.9683	250128	0.9879	260047	1.0703
240146	1.0150	250012	0.9570	250072	1.0870	250129	0.9798	260048	1.1442
240148	0.9996	250014	1.0075	250073	0.9554	250130	0.8905	260049	0.9333
240150	0.9242	250015	0.9933	250075	0.9914	250131	0.9902	260050	0.9959
240152	0.9865	250016	0.8576	250076	0.8939	250132	1.0121	260051	1.1181
240153	1.0177	250017	0.9190	250077	0.9277	250133	0.8692	260052	1.0868
240154	0.9932	250018	0.9857	250078	1.1365	250134	1.0555	260053	1.0897
240155	1.0392	250019	1.0925	250079	0.8831	250137	0.8687	260054	1.1996
240156	1.0407	250020	0.9386	250080	0.9342	260001	1.3258	260055	0.9720
240157	1.0373	250021	0.9792	250081	1.0660	260002	1.1280	260056	1.0573
240158	1.0601	250023	0.8659	250082	1.1497	260003	0.9905	260057	1.0754
240160	1.0383	250024	0.9465	250083	0.8806	260004	0.9881	260058	1.1986
240161	0.9460	250025	0.9705	250084	1.0459	260005	1.1501	260059	1.0426
240162	1.1341	250026	0.8441	250085	0.9872	260006	1.1129	260061	1.0477
240163	1.0009	250027	0.9605	250086	0.9871	260007	1.0534	260062	1.1015
240165	1.0735	250029	0.9541	250088	1.0072	260008	1.1557	260063	1.0487
240166	1.0513	250030	0.8970	250089	0.9907	260009	1.0924	260064	1.1036
240167	1.0135	250031	1.0246	250091	0.9248	260010	1.0924	260065	1.2965
240169	0.9605	250032	1.0720	250093	1.0324	260011	1.1115	260066	1.0213
240170	1.0338	250033	0.9266	250094	1.0863	260012	0.9370	260067	0.9916
240171	1.0545	250034	1.0645	250095	0.9290	260013	1.0380	260068	1.5029
240172	1.0629	250035	0.8909	250096	1.0410	260014	1.3285	260070	1.0075

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
260073	0.9729	260141	1.4937	270017	1.1923	280003	1.4664	280063	0.9094
260074	1.0845	260142	1.1015	270018	1.0236	280004	1.0733	280064	0.9993
260077	1.1642	260143	1.1264	270019	0.9387	280005	1.1968	280065	1.0965
260078	1.0273	260146	0.9125	270021	1.0352	280009	1.1886	280066	1.0563
260079	0.9917	260147	1.0528	270023	1.1947	280010	1.0784	280068	0.9868
260080	0.9866	260148	0.9777	270024	0.9770	280011	0.9455	280070	0.9880
260081	1.1903	260150	1.0742	270026	0.9147	280012	1.1001	280071	0.9423
260082	1.0898	260158	1.0356	270027	1.0146	280013	1.3427	280073	1.0181
260083	0.9806	260159	0.9158	270028	1.0381	280014	1.0123	280074	1.0717
260084	0.9160	260160	1.0451	270029	0.9398	280015	0.8957	280075	1.1309
260085	1.1793	260162	1.1040	270030	0.9125	280017	1.0115	280076	1.0075
260086	1.0121	260163	1.1360	270031	0.9113	280018	0.9914	280077	1.1171
260088	1.0067	260164	1.0357	270032	1.0630	280020	1.1347	280078	0.9479
260089	1.1198	260165	1.0614	270033	0.9041	280021	1.1819	280079	0.9626
260090	1.2186	260166	1.1107	270035	0.9931	280022	1.0594	280080	0.9651
260091	1.2466	260168	0.8993	270036	1.0829	280023	1.1322	280081	1.1882
260092	1.0177	260172	0.9862	270039	0.9277	280024	0.8888	280082	0.9359
260093	1.2003	260173	1.1295	270040	1.0571	280025	0.9395	280083	1.0477
260094	1.0479	260175	1.0417	270041	0.9657	280026	0.9630	280084	0.9782
260095	1.1172	260176	1.1444	270042	0.8245	280028	0.9322	280085	1.1558
260096	1.1961	260177	1.1677	270043	0.8469	280029	0.9721	280087	1.1665
260097	1.0854	260178	1.1390	270044	1.0122	280030	1.3806	280088	1.2653
260100	1.1252	260179	1.2622	270046	0.9213	280031	1.0011	280089	0.9780
260102	0.9313	260180	1.2391	270047	0.9053	280032	1.1479	280090	0.9080
260103	1.1714	260182	0.9958	270048	0.9955	280033	0.9639	280091	1.1252
260104	1.2728	260183	1.1287	270049	1.3266	280034	1.1376	280092	0.9014
260105	1.6231	260184	0.7824	270050	0.9847	280035	0.9480	280093	0.9139
260107	1.1338	260186	1.0713	270051	1.1119	280037	1.0849	280094	0.9769
260108	1.4011	260187	0.8211	270052	0.9383	280038	1.0980	280097	0.9677
260109	0.9243	260188	1.1081	270053	0.8920	280039	1.0140	280098	0.9217
260110	1.1813	260189	0.9951	270055	0.8024	280040	1.2945	280101	1.0049
260111	0.9663	260190	1.1105	270057	1.1236	280041	0.9352	280102	1.0005
260112	1.2061	260191	1.1235	270058	1.0033	280042	1.0565	280103	0.9072
260113	1.0678	260192	0.7276	270059	0.8818	280043	0.9889	280104	0.9736
260115	1.0006	260193	1.0990	270060	0.8964	280045	1.0492	280105	1.1132
260116	1.1200	260195	0.9929	270063	0.9826	280046	0.9906	280106	0.9741
260118	1.1915	260197	1.0528	270067	0.9954	280047	1.0873	280107	1.0387
260119	1.0285	270001	0.9296	270068	0.9693	280048	1.0387	280108	1.0599
260120	1.0754	270002	1.0122	270070	0.9129	280049	0.9459	280109	1.0053
260121	0.9508	270003	1.1012	270071	0.9321	280050	0.9944	280110	1.0218
260122	1.0564	270004	1.5114	270072	0.9160	280051	0.9994	280111	1.0582
260123	0.9535	270006	0.9822	270073	1.0296	280052	1.0298	280114	0.9697
260127	1.0007	270007	0.9421	270074	0.8693	280054	1.0893	280115	1.0065
260128	0.9138	270008	0.8995	270075	0.9156	280055	0.9694	280116	1.1101
260129	1.1054	270009	0.9493	270076	0.9300	280056	1.0798	280117	1.0175
260131	1.1672	270011	1.0341	270079	0.9117	280057	0.9574	280118	1.0325
260133	1.0842	270012	1.2588	270080	1.0844	280058	1.0791	280123	0.6988
260134	1.0711	270013	1.1858	270081	0.9933	280060	1.1271	290001	1.3601
260137	1.0773	270014	1.4949	270082	0.9282	280061	1.1951	290002	0.9682
260138	1.6566	270016	0.9421	280001	1.0117	280062	1.0598	290003	1.2907

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
290005	1.0880	310005	1.1451	310061	1.1230	320013	1.0079	330013	1.2679
290006	1.0084	310006	1.1379	310062	0.9972	320014	0.9249	330014	1.1140
290007	1.3174	310008	1.1331	310063	1.1911	320016	1.0351	330015	0.9791
290008	1.1387	310009	1.0643	310064	1.0815	320017	1.1289	330016	0.9909
290009	1.2470	310010	1.1300	310067	1.1199	320018	1.1530	330019	1.0245
290010	1.0025	310011	1.1211	310068	1.1386	320019	1.2619	330020	0.9730
290011	0.9579	310012	1.1569	310069	1.1000	320021	1.5144	330022	0.9962
290012	1.1904	310013	1.1340	310070	1.1478	320022	1.1153	330023	1.0756
290013	1.1912	310014	1.2150	310071	1.0387	320023	1.0159	330024	1.2583
290014	0.9651	310015	1.1962	310072	1.1650	320030	1.0590	330025	0.9908
290015	0.9268	310016	1.1454	310073	1.1396	320031	0.9371	330027	1.0945
290016	1.0748	310017	1.0929	310074	1.1272	320032	0.9431	330028	1.1188
290018	0.8397	310018	1.0093	310075	1.1434	320033	1.1087	330029	1.0693
290019	1.1672	310019	1.3566	310076	1.1234	320035	1.0071	330030	0.9658
290020	0.9733	310020	1.1103	310077	1.2477	320037	1.1632	330033	1.0068
290021	1.3359	310021	1.1015	310078	1.1230	320038	1.1074	330034	1.0705
290022	1.3240	310022	1.1084	310081	1.1692	320046	1.0352	330036	1.0326
290027	1.0576	310024	1.1166	310083	1.0495	320048	1.0889	330037	1.0437
290031	1.0533	310025	1.0585	310084	1.1496	320049	1.0670	330038	1.0568
290032	1.2042	310026	1.1030	310085	1.0502	320051	0.9449	330039	0.9979
300001	1.1475	310027	1.1214	310086	1.0725	320053	0.9756	330041	1.0212
300002	1.0985	310028	1.0311	310087	1.0987	320056	0.9124	330043	1.0502
300003	1.4231	310029	1.4212	310088	1.0631	320057	1.0728	330044	1.0835
300005	1.1423	310031	2.3026	310090	1.0968	320058	0.8921	330045	1.0792
300006	1.0585	310032	1.0804	310091	1.1252	320059	1.1139	330047	1.0720
300007	1.0639	310033	1.0236	310092	1.1599	320060	0.9501	330048	1.0121
300008	1.1240	310034	1.1183	310093	1.0030	320061	1.1016	330049	1.1015
300009	1.1092	310036	1.0693	310094	0.9672	320062	0.9212	330050	1.0083
300010	1.1007	310037	1.1408	310096	1.2927	320063	1.1143	330052	1.0171
300011	1.0934	310038	1.2960	310105	1.0263	320065	1.0789	330053	0.9929
300012	1.1312	310039	1.1298	310108	1.1311	320066	0.9312	330055	1.0851
300013	1.0822	310040	1.0548	310110	1.1367	320067	0.9280	330056	1.0995
300014	1.1098	310041	1.1506	310111	1.0655	320068	1.0064	330057	1.1762
300015	1.0267	310042	1.0626	310112	1.1087	320069	1.0430	330058	1.0870
300016	1.0503	310043	1.0714	310113	1.0607	320070	0.9943	330059	1.1897
300017	1.1154	310044	1.1073	310115	1.0684	320071	0.9666	330061	1.0185
300018	1.1274	310045	1.1049	310116	1.1388	320073	0.9407	330062	0.9952
300019	1.0909	310047	1.2188	310118	1.0459	320074	1.1741	330064	1.1209
300020	1.1143	310048	1.1552	310119	1.1838	330001	1.0878	330065	1.0252
300021	1.0884	310049	1.0768	310120	1.0349	330002	1.0716	330066	1.0388
300022	1.0425	310050	0.9682	320001	1.2387	330003	1.1175	330067	1.0914
300023	1.1468	310051	1.1995	320002	1.1780	330004	1.0414	330072	1.0755
300024	1.1191	310052	1.1243	320003	1.0804	330005	1.1840	330073	1.0159
300028	1.0692	310053	1.1306	320004	1.1080	330006	1.1383	330074	1.0932
300029	1.1568	310054	1.2114	320005	1.2102	330007	1.1002	330075	0.9631
300033	0.9747	310056	1.1132	320006	1.1350	330008	1.0340	330076	1.0139
300034	1.1550	310057	1.1922	320009	1.1872	330009	0.9462	330077	0.9681
310001	1.1883	310058	0.9995	320010	1.1054	330010	1.0165	330078	1.1263
310002	1.4692	310059	0.9252	320011	1.0335	330011	1.0723	330079	1.1162
310003	1.0896	310060	1.1216	320012	0.9378	330012	1.1411	330080	1.0179

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
330082	1.0333	330157	1.0040	330217	1.0054	330286	1.0993	340003	1.0983
330084	1.0006	330158	1.0899	330218	1.0249	330288	1.0064	340004	1.2428
330085	1.1722	330159	1.1606	330219	1.1217	330290	1.1478	340005	1.1216
330086	1.0209	330160	1.0423	330221	1.0703	330291	1.0055	340006	1.0194
330088	1.0988	330161	0.9739	330222	0.9875	330293	0.9737	340007	1.0474
330090	1.2479	330162	1.0959	330223	0.9498	330297	0.9810	340008	1.0362
330091	1.0904	330163	1.0080	330224	1.0508	330300	0.8729	340009	0.6773
330092	0.9900	330164	1.2531	330225	1.0295	330304	1.0718	340010	1.0911
330094	1.0809	330165	1.0858	330226	1.1200	330306	1.1350	340011	1.0054
330095	1.0354	330166	0.9970	330229	1.0378	330307	1.0514	340012	1.0638
330096	0.9605	330167	1.1505	330230	1.0562	330308	1.0710	340013	1.1284
330097	1.0316	330168	1.0747	330231	1.0362	330309	1.0761	340014	1.2224
330100	0.5646	330169	1.0870	330232	1.0884	330314	1.0782	340015	1.0991
330101	1.2552	330171	1.0820	330233	1.0651	330315	1.0651	340016	1.0564
330102	1.1377	330172	1.0148	330234	1.4884	330316	1.1100	340017	1.1263
330103	1.0711	330174	0.9655	330235	1.0954	330318	1.0501	340018	1.2092
330104	1.0720	330175	1.0203	330236	1.1139	330320	1.0202	340019	1.0620
330106	1.2536	330176	0.8892	330238	1.0317	330323	0.9882	340020	1.1049
330107	1.1165	330177	1.0224	330239	1.0386	330327	0.9377	340021	1.1662
330108	1.0383	330179	0.9200	330240	1.0039	330331	1.0519	340022	1.0351
330109	0.9744	330180	1.0389	330241	1.3999	330332	1.0364	340023	1.1143
330111	1.0605	330181	1.1048	330242	1.0820	330333	0.9563	340024	1.0335
330114	0.9519	330182	1.7808	330244	1.0508	330335	1.0411	340025	1.0787
330115	1.0373	330183	1.2571	330245	1.1116	330336	1.0471	340026	0.9486
330116	0.9640	330184	1.0717	330246	1.0616	330338	1.0072	340027	1.0614
330117	1.0611	330185	1.0388	330247	0.5476	330339	0.8890	340028	1.1421
330118	1.1474	330186	0.9895	330249	1.0496	330340	0.9495	340030	1.5061
330119	1.0847	330188	1.0982	330250	1.0165	330345	0.8691	340031	1.0710
330120	1.2635	330189	0.6215	330252	0.9408	330350	1.3413	340032	1.1976
330121	1.0325	330191	1.0637	330254	1.0138	330351	0.9571	340034	1.2350
330122	1.0377	330193	1.1180	330256	0.9528	330353	1.0514	340035	1.1421
330125	1.3819	330194	1.2828	330257	0.9536	330354	0.8872	340036	1.0163
330126	1.0275	330195	1.1821	330258	1.0635	330357	1.0664	340037	1.0560
330127	1.0563	330196	1.1280	330259	1.0640	330359	0.9624	340038	1.1329
330128	1.1053	330197	0.9863	330260	1.0732	330361	1.1958	340039	1.0982
330132	0.9967	330198	1.0734	330261	1.1104	330362	1.3057	340040	1.3510
330133	1.0290	330199	1.0754	330263	0.9755	330366	0.9950	340041	1.1559
330135	1.0297	330201	1.0760	330264	1.0178	330372	1.0498	340042	1.0506
330136	1.1870	330202	1.0570	330265	1.1210	330381	0.9413	340044	1.0310
330140	1.1818	330203	1.0131	330267	1.0840	330385	1.0433	340045	1.0450
330141	1.0841	330204	1.0469	330268	1.0357	330386	1.0419	340047	1.4456
330142	1.0391	330205	1.0225	330270	1.5339	330387	0.9743	340049	0.5966
330144	0.9709	330208	1.0438	330272	0.9370	330389	1.3528	340050	1.1022
330148	0.9794	330209	1.0297	330273	1.0269	330390	1.0044	340051	1.0952
330150	0.9462	330210	1.0030	330275	1.1374	330393	1.2210	340052	0.9749
330151	1.0037	330211	1.0283	330276	1.0752	330394	1.0614	340053	1.1634
330152	1.0750	330212	0.9732	330277	1.0112	330395	1.0651	340054	0.9795
330153	1.1094	330213	0.9636	330279	1.0733	330397	1.0802	340055	1.0969
330154	1.2154	330214	1.2803	330281	0.9448	340001	1.1196	340060	1.0492
330155	1.0295	330215	1.0522	330285	1.3394	340002	1.4045	340061	1.3618

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
340063	1.0706	340129	1.0702	350023	0.9948	360020	1.1274	360074	1.1449
340064	1.0584	340130	1.1223	350024	0.9780	360021	1.0913	360075	1.1496
340065	1.0437	340131	1.2266	350025	0.9803	360022	1.0659	360076	1.0871
340067	0.9649	340132	1.0982	350027	1.0100	360024	1.0520	360077	1.2060
340068	1.0292	340133	0.9686	350029	0.9803	360025	1.0635	360078	1.0998
340069	1.4371	340135	0.9899	350030	1.0480	360026	1.1180	360079	1.2011
340070	1.2436	340136	1.0021	350031	1.0441	360027	1.3254	360080	1.0868
340071	0.9900	340137	0.9682	350032	1.0407	360028	1.1690	360081	1.0952
340072	0.9857	340138	1.0720	350033	0.9314	360029	1.0215	360082	1.2183
340073	1.0715	340141	1.1963	350034	1.0280	360030	1.0908	360083	1.0927
340075	1.0970	340142	1.1610	350035	0.9101	360031	1.1686	360084	1.1838
340076	0.9979	340143	1.1726	350036	1.0812	360032	1.0883	360085	1.3784
340079	0.9634	340144	1.0291	350037	0.9761	360034	1.1106	360086	1.1251
340080	1.0161	340145	1.0422	350038	0.9301	360035	1.3195	360087	1.2139
340084	1.0412	340146	1.0121	350039	0.9757	360036	1.0840	360088	1.0524
340085	1.1373	340147	1.1972	350041	1.0007	360037	1.4617	360089	1.1166
340086	1.0150	340148	1.0787	350042	1.1255	360038	1.1448	360090	1.0925
340087	0.9793	340151	1.0451	350043	1.1613	360039	1.1092	360091	1.1792
340088	1.0843	340153	1.7283	350044	0.9390	360040	1.1345	360092	1.0573
340089	1.0162	340154	0.8551	350045	0.9552	360041	1.1461	360093	1.0403
340090	1.1032	340155	1.2281	350047	1.0243	360042	1.0239	360094	1.0762
340091	1.3939	340156	0.8861	350048	1.0014	360044	1.0910	360095	1.1432
340093	1.0949	340157	1.1301	350049	1.0291	360045	1.2469	360096	1.1076
340094	1.1193	340158	1.0301	350050	0.9321	360046	0.9900	360097	1.0488
340096	1.1213	340159	1.0756	350051	0.9520	360047	1.0032	360098	1.1852
340097	0.9865	340160	0.9915	350053	0.9927	360048	1.3069	360099	1.0549
340098	1.3675	340162	1.0724	350055	0.9263	360049	1.1484	360100	1.1171
340099	1.0789	340164	1.1153	350056	0.9428	360050	1.1318	360101	1.3053
340100	1.1653	340165	0.9724	350058	1.0197	360051	1.2170	360102	1.2031
340101	1.0850	350001	0.9675	350060	1.0014	360052	1.1727	360103	1.1477
340104	0.9687	350002	1.3032	350061	1.0218	360053	1.1674	360104	1.1073
340105	1.1736	350003	1.0755	350063	0.9099	360054	1.1302	360106	1.1647
340106	0.9628	350004	1.4438	350064	0.9251	360055	1.1447	360107	1.0898
340107	1.1672	350005	1.2240	360001	1.1221	360056	1.1092	360108	1.0867
340109	1.2245	350006	1.0968	360002	1.0779	360057	1.0374	360109	1.0584
340111	1.1332	350007	0.9987	360003	1.2024	360058	1.0754	360110	0.7811
340112	1.0395	350008	0.9333	360006	1.3482	360059	1.1942	360112	1.3376
340113	1.6081	350009	1.0861	360007	1.0558	360060	1.0080	360113	1.1176
340114	1.1010	350010	1.0684	360008	1.1025	360061	0.7150	360114	1.0291
340115	1.2067	350011	1.5326	360009	1.1468	360062	1.2466	360115	1.0904
340116	1.3332	350012	1.0031	360010	1.0826	360063	1.0191	360116	1.0791
340119	1.1066	350013	1.0114	360011	1.1696	360064	1.2659	360118	1.1457
340120	1.0354	350014	1.0074	360012	1.1611	360065	1.1764	360119	1.0767
340121	1.0469	350015	1.3863	360013	1.1254	360066	1.1152	360120	1.0061
340122	0.9949	350016	1.0791	360014	1.0437	360067	1.0711	360121	1.1763
340123	1.0798	350017	1.0874	360015	1.2809	360068	1.2861	360122	1.1209
340124	0.9426	350018	1.0477	360016	1.1876	360069	1.0315	360123	1.1179
340125	1.2494	350019	1.2630	360017	1.2388	360070	1.1503	360124	1.1269
340126	1.1528	350020	1.1929	360018	1.1218	360071	1.1023	360125	1.0779
340127	1.1382	350021	1.0103	360019	1.1332	360072	1.1332	360126	1.0787

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TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
360127	1.0220	360186	0.9574	370029	1.0814	370096	1.0211	370176	1.0749
360128	1.0374	360187	1.1780	370030	1.0673	370097	1.1051	370177	1.0109
360129	0.9965	360188	1.0304	370032	1.1154	370099	0.9768	370178	1.0657
360130	1.0519	360189	1.0604	370033	1.0292	370100	0.9350	370179	0.9775
360131	1.1113	360190	1.0369	370034	1.0723	370103	0.9380	370180	1.1196
360132	1.0416	360192	1.1676	370035	1.2845	370105	1.6893	370182	0.9811
360133	1.1965	360193	1.1374	370036	0.9903	370106	1.1611	370183	1.0408
360134	1.2356	360194	1.0818	370037	1.5271	370107	1.0165	370184	1.2377
360135	1.0336	360195	1.0506	370038	0.9883	370108	1.0339	380001	1.2379
360136	1.0290	360197	1.0328	370039	1.1166	370109	0.9145	380002	1.1841
360137	1.2838	360200	1.0769	370040	1.0651	370110	0.9962	380003	1.1513
360139	1.0014	360203	1.0392	370041	0.9724	370112	0.9150	380004	1.5834
360140	1.0388	360204	1.1096	370042	0.9010	370113	1.0078	380005	1.1090
360141	1.1998	360210	1.0665	370043	0.9558	370114	1.3926	380006	1.0706
360142	1.0447	360211	1.0284	370045	1.0947	370116	1.0010	380007	1.4035
360143	1.1502	360212	1.1902	370046	0.9964	370117	1.0883	380008	1.0995
360144	1.1280	360213	1.1329	370047	1.0873	370121	1.1491	380009	1.3548
360145	1.2523	360218	1.1451	370048	0.9869	370122	0.9456	380010	1.1236
360147	1.0087	360230	1.1540	370049	1.1376	370123	1.1560	380011	1.0633
360148	1.1319	360231	1.0231	370050	0.9523	370125	0.9729	380013	1.0374
360149	1.0466	360232	1.1471	370051	1.0332	370126	1.1330	380014	1.1661
360150	1.1401	360234	1.1123	370054	1.1119	370130	0.9752	380016	0.8176
360151	1.1440	360236	1.1335	370056	1.1946	370131	0.9174	380017	1.4359
360152	1.1974	360238	1.2489	370057	1.1281	370133	1.0095	380018	1.4436
360153	1.0621	360239	1.1045	370059	1.0972	370136	1.0570	380019	1.1223
360154	1.0337	360241	1.3386	370060	1.0209	370138	1.0113	380020	1.1778
360155	1.0668	370001	1.4089	370061	0.9836	370139	1.0511	380021	1.2160
360156	1.0556	370002	1.0287	370063	1.0667	370140	0.9735	380022	1.1198
360159	1.0955	370003	1.0123	370064	0.9880	370141	1.1770	380023	1.1380
360161	1.0417	370004	1.0211	370065	1.0520	370144	1.1600	380024	1.1275
360162	1.0775	370005	0.9573	370069	0.9004	370146	1.0283	380025	1.1881
360163	1.3447	370006	1.1067	370071	0.8994	370148	1.1852	380026	1.1109
360164	1.0507	370007	1.1852	370072	0.9990	370149	1.1663	380027	1.1167
360165	0.9733	370008	1.1508	370076	1.1137	370153	1.0180	380029	1.1000
360166	0.9717	370011	0.9815	370077	1.0834	370154	0.9919	380030	0.7671
360167	0.9837	370012	0.9366	370078	1.2565	370156	0.9886	380031	1.0193
360168	0.9945	370013	1.3339	370079	0.9393	370157	0.9692	380033	1.3492
360169	0.9685	370014	0.9857	370080	1.0775	370158	0.9957	380035	1.1219
360170	1.0576	370015	1.0573	370082	0.9616	370159	1.1357	380036	1.0610
360171	1.0804	370016	1.1492	370083	0.9856	370161	1.0127	380037	1.1208
360172	1.0750	370017	0.9846	370084	0.9634	370163	0.9312	380038	1.1712
360174	1.0364	370018	1.1640	370085	0.9556	370165	0.9495	380039	1.1947
360175	1.0473	370019	0.9724	370086	1.0458	370166	0.9847	380040	1.0117
360176	1.1010	370020	1.1531	370089	1.0556	370168	0.9191	380041	0.8453
360177	1.0635	370021	1.0094	370090	1.0723	370169	1.0090	380042	1.0859
360178	0.9983	370022	1.1205	370091	1.4038	370170	1.0826	380043	1.0879
360179	1.1363	370023	1.1294	370092	0.9616	370171	1.0146	380044	1.0322
360180	1.8179	370025	1.1920	370093	1.3366	370172	1.0226	380045	1.0224
360184	1.0824	370026	1.2014	370094	1.0958	370173	1.0931	380047	1.1995
360185	1.1015	370028	1.4040	370095	1.0323	370174	0.8335	380048	0.9473

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: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
380050	1.1467	390018	1.1308	390071	1.0573	390128	1.1154	390185	1.1028
380051	1.1907	390019	1.0303	390072	0.9945	390130	1.0341	390186	1.0286
380052	1.1088	390020	1.0347	390073	1.1456	390131	1.1319	390187	1.0692
380055	1.1959	390021	1.0742	390074	1.1420	390132	1.0483	390188	1.0952
380056	1.0033	390022	1.1110	390075	1.1321	390133	1.2578	390189	0.9875
380059	0.9770	390023	1.0743	390076	1.1281	390135	1.1430	390191	1.0754
380060	1.2248	390024	0.6654	390077	1.0923	390136	1.1164	390192	0.9886
380061	1.3631	390025	0.8182	390078	0.9877	390137	1.0738	390193	1.0732
380062	0.8641	390026	1.1958	390079	1.4731	390138	1.2364	390194	1.0133
380063	1.1510	390027	1.2476	390080	1.1402	390139	1.2511	390195	1.3518
380064	1.0929	390028	1.3835	390081	1.1860	390142	1.3404	390197	1.1234
380065	1.0684	390029	1.2977	390083	1.1397	390143	0.7392	390198	1.0739
380066	1.1074	390030	1.0723	390084	1.0055	390145	1.1007	390199	1.1272
380068	1.0622	390031	1.1213	390086	1.0482	390146	1.0595	390200	1.0472
380069	0.9971	390032	1.1184	390087	0.9590	390147	1.1003	390201	1.1775
380070	1.0390	390034	1.0663	390088	1.1346	390148	1.0430	390203	1.1327
380071	1.1311	390035	1.2060	390090	1.3330	390149	1.0878	390204	1.1127
380072	1.0163	390036	1.1266	390091	1.0920	390150	1.0922	390205	1.1376
380074	0.9814	390037	1.1322	390092	1.0012	390151	1.1527	390206	1.1429
380075	1.1604	390039	1.0289	390093	1.0586	390152	1.0742	390209	0.9687
380077	0.9557	390040	0.9688	390095	1.0093	390153	1.1196	390211	1.0590
380078	1.0942	390041	1.1143	390096	1.2301	390154	1.0908	390213	0.9569
380079	1.1622	390042	1.0982	390097	1.1630	390155	1.1359	390215	1.0840
380081	0.9702	390043	1.0354	390098	1.3731	390156	1.1376	390217	1.0549
380082	1.1158	390044	1.3102	390099	1.0513	390157	1.1075	390219	1.1152
380083	1.0753	390045	1.1431	390100	1.3413	390158	1.2141	390220	1.0622
380084	1.2469	390046	1.2800	390101	1.1459	390159	1.1631	390222	1.1571
380087	0.9022	390047	1.3258	390102	1.2228	390160	1.0308	390223	1.4429
380088	1.0183	390048	1.1333	390103	1.0386	390161	0.9857	390224	0.9303
380089	1.1907	390049	1.2352	390104	1.0392	390162	1.1646	390225	1.0825
380090	1.2158	390050	1.4990	390106	1.0419	390163	1.1236	390226	1.3114
380091	1.2141	390051	1.5882	390107	1.1333	390164	1.4209	390228	1.1647
380094	0.9841	390052	1.0510	390108	1.1535	390165	1.0282	390229	1.2041
390001	1.1965	390054	1.1017	390109	1.0039	390166	1.1106	390231	1.2003
390002	1.1308	390055	1.5055	390110	1.0822	390167	1.1304	390232	1.0529
390003	1.0868	390056	1.0656	390111	1.4928	390168	1.0336	390233	1.1875
390004	1.1302	390057	1.2293	390112	1.1310	390169	1.1075	390234	1.0772
390005	1.0066	390058	1.1466	390113	1.1181	390170	1.6016	390235	1.4333
390006	1.3494	390059	1.1576	390114	0.9099	390171	1.0358	390236	1.0348
390007	1.0793	390060	1.1011	390115	1.1462	390172	1.1020	390237	1.3106
390008	1.0793	390061	1.1826	390116	1.1243	390173	1.0540	390238	0.7157
390009	1.2166	390062	1.0688	390117	1.0383	390174	1.4686	390240	1.0528
390010	1.0808	390063	1.3738	390118	0.9945	390176	1.0845	390242	1.1784
390011	1.1251	390064	1.1507	390119	1.1351	390177	1.0055	390244	0.8895
390012	1.1524	390065	1.1490	390121	1.1182	390178	1.2359	390245	1.1103
390013	1.0815	390066	1.1347	390122	1.0485	390179	1.1145	390246	1.0063
390014	0.9207	390067	1.3436	390123	1.1506	390180	1.1680	390247	0.9838
390015	1.0480	390068	1.1161	390125	1.1216	390181	1.0291	390249	0.9666
390016	1.0576	390069	1.0578	390126	1.1238	390183	0.9971	390252	0.6996
390017	1.0310	390070	1.0833	390127	1.0697	390184	0.9820	390256	1.4476

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: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
390258	1.1294	420032	0.9490	430007	1.0654	430079	1.0553	440051	1.0021
390260	1.1402	420033	1.1328	430008	1.1073	430080	0.9057	440052	0.9384
390261	1.6379	420035	0.7944	430009	1.0000	430081	0.9638	440053	1.1128
390262	1.1792	420036	1.1382	430010	1.0061	430082	0.8910	440054	0.9483
390263	1.2746	420037	1.1043	430011	1.1173	430083	0.8841	440055	1.0574
390265	1.1842	420038	1.0352	430012	1.1737	430084	0.9274	440056	0.9290
390266	1.0608	420039	1.0345	430013	1.0481	430085	0.9378	440057	0.9760
390267	1.0980	420040	1.1574	430014	1.1495	430086	0.9185	440058	1.0331
390268	1.1252	420042	1.0781	430015	1.0222	430087	0.8307	440059	1.0865
390270	1.1283	420043	1.0491	430016	1.2219	430088	1.1102	440060	0.9486
390272	1.0576	420044	1.0888	430017	0.9569	440001	1.0128	440061	1.0802
410001	1.1997	420048	1.0120	430018	0.9931	440002	1.2612	440063	1.0893
410002	1.1127	420049	1.0244	430020	0.9636	440003	1.0394	440064	0.9767
410004	1.2191	420050	0.9787	430022	0.8707	440005	1.0089	440065	0.9746
410005	1.1911	420051	1.2627	430023	0.9895	440006	1.1594	440067	1.0315
410006	1.1886	420053	0.9494	430024	1.0177	440007	1.0249	440068	1.0717
410007	1.2939	420054	1.0897	430025	0.9345	440008	0.9897	440069	1.1551
410008	1.0614	420055	1.0158	430026	0.9380	440009	1.0110	440070	0.9699
410009	1.1615	420056	1.1088	430027	1.4012	440010	0.9645	440071	1.1240
410010	0.9624	420057	1.0815	430028	0.9760	440011	1.1431	440072	1.0892
410011	1.1062	420059	1.1126	430029	0.9127	440012	1.1031	440073	1.0705
410012	1.3226	420061	1.0267	430030	1.0642	440014	0.9668	440074	0.8728
410013	1.1069	420062	1.1180	430031	0.9498	440015	1.3266	440078	0.9782
410014	1.1448	420064	1.0142	430033	0.9943	440016	0.9976	440079	0.8614
410016	1.0253	420065	1.1030	430034	0.9881	440017	1.2499	440081	1.0426
420002	1.1217	420066	0.9120	430036	0.9916	440018	1.0883	440082	1.6436
420003	1.0400	420067	1.0016	430037	0.9199	440019	1.2196	440083	0.9355
420004	1.3225	420068	1.1546	430038	1.0630	440020	1.0176	440084	1.0031
420005	1.0458	420069	1.0343	430039	0.9307	440022	0.9969	440086	0.9423
420006	1.1686	420070	1.1657	430040	1.0096	440023	0.9777	440087	0.9464
420007	1.2878	420071	1.1588	430041	1.0505	440024	1.0982	440090	0.9673
420009	1.1036	420072	0.9053	430042	1.0270	440025	1.0723	440091	1.2329
420010	1.0169	420073	1.1273	430043	1.0665	440026	1.1299	440095	0.9702
420011	1.0101	420074	0.9672	430044	0.9073	440028	0.9568	440100	0.9292
420014	1.0360	420075	1.0010	430047	1.0294	440029	1.1214	440101	0.9861
420015	1.0800	420076	0.8373	430048	0.9671	440030	1.0550	440102	1.0549
420016	1.1124	420078	1.2486	430049	0.9266	440031	0.9819	440103	1.0371
420017	0.9710	420079	1.3140	430051	0.9642	440032	0.9960	440104	1.1930
420018	1.2809	420080	1.0659	430054	0.9347	440033	1.0304	440105	0.5815
420019	1.0502	420081	0.7449	430056	0.9471	440034	1.1508	440109	1.0511
420020	1.0377	420082	1.1153	430057	0.9603	440035	1.1496	440110	0.9985
420022	1.0258	420083	1.0736	430060	1.0671	440038	1.0182	440111	1.1856
420023	1.1502	420084	0.8158	430062	0.9021	440039	1.3534	440113	1.0298
420024	0.9147	420085	1.1347	430064	0.9613	440040	0.9074	440114	1.0254
420026	1.4267	420086	1.1315	430065	0.9669	440041	0.9251	440115	1.0016
420027	1.0948	420087	1.2842	430066	0.9333	440046	1.0698	440117	0.9021
420028	0.9803	420088	1.0599	430072	1.0254	440047	0.9648	440120	1.1429
420029	1.7649	430001	1.0502	430073	1.0189	440048	1.3293	440121	1.0274
420030	1.0259	430004	1.0625	430076	0.9565	440049	1.2719	440125	1.1354
420031	0.9763	430005	1.0361	430077	1.1095	440050	1.0308	440128	1.0048

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: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
440130	1.1155	440193	1.0203	450055	1.0476	450122	0.9487	450185	0.8976
440131	1.0199	440194	1.0997	450056	1.2649	450123	1.1237	450187	1.2397
440132	0.9913	440196	1.0321	450057	1.1052	450124	1.3660	450188	0.9430
440133	1.2485	440197	1.1754	450058	1.2089	450126	1.1669	450190	1.0963
440134	1.0528	440200	0.9894	450059	1.1352	450127	0.9752	450191	1.1345
440135	1.0916	440202	0.8880	450060	1.0406	450128	1.1195	450192	1.0324
440136	1.0837	440203	1.0544	450063	0.9285	450129	0.8148	450193	1.9495
440137	1.0308	450002	1.1470	450064	1.2484	450130	1.1826	450194	1.0380
440141	0.9936	450004	1.0037	450065	0.9557	450131	1.0907	450195	1.1913
440142	0.8861	450005	0.9899	450066	1.1785	450132	1.3047	450196	1.1140
440143	0.9670	450007	1.1876	450068	1.2394	450133	1.1799	450197	1.0209
440144	1.0021	450008	1.1248	450069	0.9239	450134	1.0990	450200	1.2478
440145	0.9254	450010	1.1291	450070	1.0724	450135	1.2871	450201	1.0767
440146	0.8860	450011	1.1550	450072	1.0601	450136	0.9014	450203	1.0349
440147	0.7164	450013	1.2228	450073	1.0201	450137	1.1425	450206	1.0123
440148	1.0585	450014	0.9524	450074	1.0189	450140	0.8200	450207	1.0883
440149	1.0341	450015	1.2860	450077	0.9845	450141	0.8608	450208	1.1206
440150	1.1207	450016	1.2930	450078	1.0186	450142	1.0721	450209	1.1833
440151	1.0695	450018	1.2988	450079	1.0836	450143	0.9630	450210	0.9887
440152	1.2232	450019	1.1049	450080	1.1083	450144	0.9933	450211	1.1108
440153	0.9117	450020	1.0334	450081	1.0578	450145	0.8821	450213	1.2101
440154	0.9006	450021	1.3652	450082	0.9851	450146	0.8545	450214	1.0681
440156	1.1596	450022	1.0129	450083	1.2017	450147	1.1484	450217	0.9265
440157	0.9506	450023	1.1946	450084	1.0334	450148	1.1046	450218	0.9929
440159	1.0100	450024	1.1566	450085	1.0259	450149	1.1328	450219	1.0236
440160	0.9961	450025	1.2317	450087	1.1363	450150	1.0201	450221	0.9880
440161	1.3500	450027	1.0387	450090	1.0567	450151	0.9806	450222	1.1179
440162	0.9827	450028	1.1455	450092	1.0529	450152	1.1373	450224	0.9709
440166	1.2717	450029	1.1170	450093	0.9577	450153	1.2642	450229	1.1270
440167	1.1681	450031	1.0895	450094	1.1175	450154	1.0991	450230	1.0189
440168	1.0762	450032	1.0777	450095	1.0150	450155	1.0113	450231	1.3588
440170	0.6598	450033	1.3748	450096	1.2024	450157	1.0138	450233	0.9503
440171	1.0117	450034	1.3723	450097	1.1296	450160	0.8786	450234	0.9477
440173	1.0974	450035	1.1946	450098	0.9540	450162	1.2671	450235	0.9912
440174	0.9461	450037	1.1565	450099	1.0573	450163	1.0542	450236	0.9411
440175	0.9822	450039	1.1806	450101	1.1639	450164	0.9536	450237	1.2349
440176	1.0849	450040	1.4239	450102	1.2873	450165	0.9774	450239	1.1055
440177	0.9496	450041	1.0329	450104	1.0814	450166	0.9413	450241	0.9427
440178	1.1212	450042	1.4559	450107	1.2321	450169	0.9167	450242	0.9199
440180	0.9939	450043	1.1164	450108	1.0290	450170	1.0066	450243	0.9968
440181	1.0323	450044	1.3997	450109	1.0004	450174	1.0484	450246	0.9354
440182	0.9470	450045	1.1255	450110	1.0805	450175	0.9977	450247	0.9450
440183	1.1531	450046	1.1863	450111	1.0663	450176	1.1083	450248	1.0613
440184	1.0978	450047	1.0355	450112	1.1156	450177	1.0055	450249	0.9464
440185	1.0773	450048	1.0434	450113	1.0547	450178	0.9881	450250	0.8720
440186	0.9524	450050	1.0513	450115	1.0386	450179	1.1803	450253	0.9708
440187	0.9899	450051	1.4259	450116	1.1697	450181	0.8930	450256	0.9511
440189	1.1632	450052	1.0466	450118	1.1702	450182	0.9219	450258	0.8852
440191	1.0899	450053	1.0081	450119	1.1747	450183	1.1327	450259	1.0691
440192	1.0136	450054	1.3542	450121	1.2000	450184	1.2456	450261	0.9880

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
450263	1.0453	450340	1.0241	450425	0.9728	450550	1.0310	450631	1.3945
450264	0.9023	450341	0.8694	450429	0.9696	450551	0.9810	450632	0.9651
450267	0.8978	450342	0.9685	450431	1.2086	450557	0.9837	450633	1.2422
450268	1.0723	450343	1.0073	450438	1.0103	450558	1.2574	450634	1.1706
450269	0.9292	450346	1.0983	450440	0.9654	450559	0.9300	450635	1.1899
450270	0.9795	450347	1.0577	450446	0.9950	450561	1.1687	450637	1.0708
450271	1.0298	450348	1.0255	450447	1.1701	450563	0.9862	450638	1.2008
450272	1.1014	450349	1.0548	450450	0.8953	450565	1.1333	450639	1.0926
450275	0.9870	450351	1.0039	450451	0.9414	450568	1.0191	450641	0.9642
450276	1.0535	450352	1.1335	450454	0.9461	450569	1.0155	450643	1.0852
450278	0.9108	450353	1.0416	450455	0.9854	450570	0.9382	450644	1.1847
450280	1.1621	450355	0.9429	450457	1.3839	450571	1.1711	450646	1.2255
450281	1.1611	450357	1.0402	450458	0.8990	450573	1.0191	450647	1.4276
450282	0.8884	450358	1.5352	450459	0.8836	450574	0.9336	450648	1.0295
450283	0.9816	450359	0.9583	450460	0.9310	450575	0.9856	450649	1.0143
450284	1.0465	450362	0.9999	450462	1.2157	450577	0.8720	450651	1.1570
450286	1.0195	450365	0.9993	450464	0.9517	450578	0.8724	450652	0.9534
450288	1.0720	450366	1.0937	450465	1.0370	450579	0.9449	450653	1.1151
450289	1.1537	450369	1.0402	450467	0.9947	450580	1.0271	450654	0.9096
450292	1.0560	450370	0.9624	450469	1.1359	450581	0.9971	450655	0.8997
450293	0.9483	450371	1.0294	450472	1.0366	450582	0.8652	450656	1.0984
450296	0.9975	450372	1.1648	450473	1.0122	450583	1.0155	450657	0.8734
450297	0.9718	450373	1.1049	450475	0.9860	450584	1.0379	450658	0.9561
450299	1.0405	450374	0.8817	450476	0.9619	450586	0.9817	450659	1.1956
450300	0.9311	450376	1.2072	450481	0.9810	450587	1.0591	450660	1.3269
450303	0.9421	450378	1.1900	450484	1.1333	450588	0.9356	450661	1.0174
450304	0.9399	450379	1.1897	450486	0.9714	450590	1.0445	450662	1.1428
450305	1.0151	450381	0.9650	450488	0.9786	450591	1.1027	450665	0.9788
450306	0.9824	450382	0.9182	450489	0.9626	450595	0.9952	450666	1.0511
450307	0.8871	450388	1.3041	450492	0.9651	450596	1.0457	450667	0.9209
450309	1.0473	450389	1.0505	450493	0.9320	450597	1.0091	450668	1.3437
450311	0.9358	450391	1.0680	450497	1.0103	450600	0.9861	450669	1.0889
450312	0.9957	450393	1.1382	450498	0.9276	450603	0.8190	450670	1.0232
450315	1.0907	450394	1.1106	450508	1.1747	450604	1.0495	450671	0.9412
450317	0.9245	450395	0.9648	450513	0.9297	450605	1.1237	450672	1.2919
450319	0.9396	450399	0.9646	450514	1.0607	450607	0.8644	450673	1.0717
450320	1.1175	450400	0.9796	450517	0.9417	450609	0.9095	450674	0.8902
450321	0.8530	450402	1.1131	450518	1.1112	450610	1.1833	450675	1.1346
450322	0.9349	450403	1.1687	450523	1.1836	450614	0.9276	450676	0.9887
450324	1.2077	450410	0.9863	450527	0.9940	450615	0.9409	450677	1.1893
450325	0.9730	450411	0.9602	450530	1.1153	450617	1.1011	450678	1.1570
450327	0.9588	450415	1.0718	450534	0.8838	450620	1.0243	450679	0.9389
450328	0.9822	450416	1.1269	450535	1.0666	450621	0.9101	450681	1.1768
450330	1.0783	450417	0.9342	450537	1.1153	450623	1.0366	450682	1.0894
450331	1.0278	450418	1.2212	450538	1.0692	450624	0.9668	450683	1.1339
450332	0.9366	450419	0.9616	450539	1.1433	450626	0.9792	450684	1.1008
450333	1.1245	450421	1.0662	450544	1.0403	450627	0.9936	450685	1.1003
450334	1.0816	450422	0.5925	450545	1.0871	450628	0.8892	450686	1.1910
450337	1.0261	450423	1.0672	450546	1.0879	450629	0.9341	450687	1.1343
450338	1.0686	450424	1.0945	450547	0.9164	450630	1.3545	450688	1.0144

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
450690	1.1171	460033	0.9896	490030	1.0675	490100	1.1155	500029	0.9714
450691	1.0716	460035	0.8708	490031	1.0403	490101	1.0745	500030	1.2915
450694	1.1152	460036	1.0083	490032	1.6064	490104	0.8615	500031	1.1192
450696	1.0128	460037	0.9706	490033	1.1163	490105	0.8864	500033	1.1179
450697	1.1165	460039	0.9131	490035	1.0612	490106	0.9053	500034	1.0660
450698	0.8792	460041	1.1411	490037	1.0394	490107	1.0460	500035	1.2079
450700	0.9588	460042	1.1903	490038	0.9997	490108	0.9020	500036	1.1425
450702	1.1092	460044	1.0701	490040	1.1592	490109	0.9441	500037	1.0621
450703	1.0664	470001	1.0584	490041	1.0241	490110	1.0215	500039	1.1356
450704	1.0656	470003	1.5304	490042	1.0261	490111	1.0295	500040	1.0231
450705	0.8549	470004	1.0824	490043	1.0916	490112	1.3051	500041	1.2140
450706	1.0998	470005	1.1450	490044	1.0911	490113	1.0987	500042	1.1334
450709	1.0159	470006	1.0869	490045	1.1425	490114	0.9984	500043	1.0748
450711	1.1208	470008	1.1558	490046	1.1555	490115	1.0411	500044	1.5816
450712	0.8970	470010	1.0791	490047	1.0913	490116	0.9603	500045	1.1472
450713	1.1235	470011	1.1225	490048	1.1123	490117	0.9381	500046	1.2139
450715	1.1813	470012	1.1180	490050	1.1587	490118	1.3127	500048	0.9124
450716	1.0940	470013	1.0378	490052	1.1966	490119	1.1429	500049	1.1645
450718	1.0799	470015	1.1016	490053	1.0449	490120	1.1840	500050	1.1011
450721	0.8914	470016	1.0097	490054	0.9843	490122	1.0811	500051	1.3819
450724	1.2310	470018	1.1135	490055	0.8456	490123	1.1107	500052	1.1005
460001	1.3573	470020	0.9682	490056	0.8985	490124	1.0904	500053	1.0714
460003	1.3114	470023	1.1302	490057	1.1022	490125	1.0680	500054	1.5581
460004	1.4187	470024	1.0887	490059	1.2322	490126	1.0507	500055	1.0404
460005	1.1756	490001	0.9352	490060	0.9352	490127	0.9030	500057	1.1140
460006	1.1918	490002	0.9391	490063	1.2761	490130	1.1067	500058	1.1816
460007	1.1371	490003	0.5630	490066	1.0224	500001	1.2718	500059	1.0925
460008	1.0953	490004	1.1184	490067	1.0642	500002	1.2362	500060	1.0868
460009	1.3341	490005	1.2574	490069	1.1747	500003	1.1543	500061	1.0087
460010	1.5794	490006	1.0533	490071	1.1823	500005	1.3434	500062	0.9439
460011	1.0489	490007	1.4947	490073	1.1499	500006	1.1082	500064	1.3457
460012	1.4406	490008	0.9956	490074	1.1671	500007	1.1483	500065	1.1318
460013	1.2207	490009	1.3464	490075	1.0654	500008	1.6884	500066	0.9700
460014	0.9579	490010	0.9866	490077	1.1236	500009	1.1796	500068	1.0082
460015	1.1136	490011	1.1633	490078	0.9138	500010	1.1293	500069	1.0061
460016	0.8812	490012	0.9913	490079	1.0872	500011	1.1583	500070	1.0886
460017	1.1877	490013	1.0585	490083	0.5623	500012	1.3199	500071	1.1281
460018	0.9957	490014	1.3207	490084	1.0013	500014	1.4677	500072	1.1066
460019	1.0221	490015	1.1903	490085	1.0170	500015	1.2347	500073	1.0965
460020	1.0068	490017	1.1703	490088	1.0293	500016	1.3051	500074	1.0465
460021	1.1604	490018	1.0259	490089	0.9966	500017	1.1866	500075	1.1319
460022	0.9867	490019	1.1354	490090	1.0656	500019	1.0911	500076	1.0592
460023	1.0832	490020	1.0231	490091	1.1521	500020	1.1507	500077	1.2020
460024	0.9639	490021	1.0208	490092	1.0541	500021	1.1659	500078	1.1828
460025	0.8657	490022	1.0984	490093	1.1292	500023	1.0920	500079	1.1460
460026	0.9261	490023	1.1444	490094	1.1382	500024	1.2023	500080	0.8806
460027	0.8633	490024	1.2774	490095	1.1047	500025	1.6686	500081	0.8009
460029	0.9918	490027	0.9545	490097	1.0198	500026	1.2034	500084	0.9932
460030	1.0699	490028	1.0965	490098	1.0637	500027	1.3030	500085	1.0087
460032	0.9512	490029	1.0550	490099	0.9916	500028	1.0484	500086	1.1100

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
500087	1.1623	510024	1.1685	520006	1.0910	520063	1.1278	520126	0.9645
500088	1.1988	510025	0.9984	520007	1.0277	520064	1.4097	520127	0.9974
500089	1.1259	510026	1.0144	520008	1.1628	520066	1.1552	520130	0.9943
500090	0.9570	510027	1.0332	520009	1.2239	520067	1.3293	520131	1.0207
500092	1.0568	510028	1.0515	520010	1.1038	520068	1.0290	520132	1.2168
500093	1.0950	510029	1.0560	520011	1.1260	520069	1.1109	520134	1.0326
500094	0.9330	510030	1.0768	520012	0.9742	520070	1.2399	520135	1.0239
500096	1.0747	510031	1.0383	520013	1.1806	520071	1.1471	520136	1.3265
500097	0.9917	510033	1.1483	520014	1.1772	520074	1.0804	520138	1.6421
500098	0.9525	510035	0.9875	520015	1.1786	520075	1.2270	520139	1.1878
500100	0.9688	510036	1.0282	520016	0.9930	520076	1.1535	520140	1.2463
500101	0.9307	510038	1.0332	520017	1.0820	520077	0.9956	520141	1.0769
500102	0.9951	510039	1.1193	520018	0.9979	520078	1.1987	520142	0.9773
500104	1.1131	510040	0.8956	520019	1.1531	520081	1.2459	520143	0.9638
500106	0.9933	510043	0.9937	520020	1.2585	520082	1.0681	520144	1.0262
500107	1.0593	510045	0.9349	520021	1.1438	520083	1.3748	520145	1.0722
500108	1.4485	510046	1.0821	520022	1.0889	520084	1.0725	520146	1.0516
500109	1.1647	510047	1.0753	520024	0.9876	520087	1.3891	520148	1.0880
500110	1.1647	510048	1.0702	520025	1.0747	520088	1.1840	520149	1.1183
500114	1.2645	510050	1.1028	520026	1.0812	520089	1.2159	520151	1.0733
500118	1.1178	510052	1.0653	520027	1.1712	520090	1.0422	520152	1.1303
500119	1.1641	510053	0.9778	520028	1.2162	520091	1.2820	520153	1.0234
500122	1.2039	510054	0.9206	520029	1.0068	520092	1.1074	520154	1.0741
500123	0.8924	510055	1.1404	520030	1.3045	520094	1.2306	520156	1.0487
500124	1.1702	510058	1.1281	520031	1.1587	520095	1.1142	520157	1.0843
500125	1.0205	510059	0.5673	520032	1.0337	520096	1.2429	520159	1.0866
500129	1.3329	510060	1.0582	520033	1.1634	520097	1.1530	520160	1.5740
500132	0.9087	510061	1.0141	520034	1.1509	520098	1.4396	520161	1.0125
500133	1.1898	510062	1.1172	520035	1.1677	520100	1.1101	520167	1.1505
500135	1.1269	510063	1.0772	520037	1.4183	520101	1.0601	520170	1.1786
510001	1.1604	510064	1.0360	520038	1.1379	520102	1.1061	520171	1.0940
510002	1.1094	510065	0.9920	520039	1.0323	520103	1.2205	520173	1.1083
510003	1.0414	510066	1.0358	520040	1.2167	520104	0.9946	520174	1.4348
510004	0.9718	510067	1.0466	520041	1.0856	520105	1.0239	520175	0.8392
510005	1.0197	510068	1.0444	520042	1.0542	520107	1.1107	520177	1.3067
510006	1.1176	510070	0.9993	520043	1.3573	520109	1.0926	520178	1.0856
510007	1.1632	510071	1.0900	520044	1.1905	520110	1.0585	520180	0.7627
510008	1.0581	510072	1.0519	520045	1.3718	520111	1.1015	530001	1.1572
510009	1.0688	510074	0.9131	520047	1.0090	520112	1.0712	530002	1.1183
510011	1.0335	510076	0.9462	520048	1.2237	520113	1.1422	530003	0.9575
510012	1.0406	510077	0.9674	520049	1.5825	520114	1.0929	530004	1.0036
510013	1.0149	510080	0.9633	520051	1.5432	520115	1.2025	530005	0.9758
510014	1.0068	510081	0.9947	520053	1.0635	520116	1.0950	530006	1.0568
510015	1.0084	510082	1.0104	520054	1.0540	520117	1.0385	530007	1.0492
510016	0.9639	510084	1.0116	520056	1.1415	520118	1.0050	530008	1.0755
510018	1.0594	510085	1.1062	520057	1.0672	520120	1.1222	530009	1.0112
510019	0.9743	520001	1.1769	520058	1.0841	520121	1.0658	530010	1.1213
510020	1.1832	520002	1.2007	520059	1.1117	520122	1.0591	530011	1.1227
510022	1.3291	520003	1.0803	520060	1.0376	520123	1.1237	530012	1.2558
510023	1.0260	520004	1.1348	520062	1.1330	520124	1.1048	530014	1.0946

NOTE: CASE MIX INDEXES DO NOT INCLUDE DISCHARGES FROM PPS-EXEMPT UNITS.
: CASE MIX INDEXES INCLUDE CASES RECEIVED IN HCFA CENTRAL OFFICE THROUGH JUNE, 1986.

TABLE 3C HOSPITAL CASE MIX INDEXES FOR DISCHARGES OCCURRING IN FEDERAL FISCAL YEAR 1985

PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX	PROVIDER	CASE MIX
530015	1.0973								
530016	1.3066								
530017	0.8898								
530018	0.9414								
530019	0.9571								
530021	1.0579								
530022	0.9810								
530023	0.9284								
530024	0.9499								
530025	1.0739								
530026	1.0987								
530027	0.9080								
530029	0.9814								
530031	0.9877								

BILLING CODE 4120-03-C

TABLE 4a.—WAGE IDEX FOR URBAN AREAS

Urban area (constituent counties or county equivalents)	Wage Index
Abilene, TX	.8931
Taylor,TX	
Akron, OH	1.0993
Portage, OH	
Summit, OH	
Albany, GA	.8118
Dougherty, GA	
Lee, GA	
Albany-Schenectady-Troy, NY	.9175
Albany, NY	
Greene, NY	
Montgomery, NY	
Rensselaer, NY	
Saratoga, NY	
Schenectady, NY	
Albuquerque, NM	1.0991
Bernalillo, NM	
Alexandria, LA	.9096
Rapides, LA	
Allentown-Bethlehem, PA-NJ	1.0372
Warren, NJ	
Carbon, PA	
Lehigh, PA	
Northampton, PA	
Altoona, PA	.9943
Blair, PA	
Amarillo, TX	.9520
Potter, TX	
Randall, TX	
Anaheim-Santa Ana, CA	1.2516
Orange, CA	
Anchorage, AK	1.5724
Anchorage, AK	
Anderson, IN	.9696
Madison, IN	
Anderson, SC	.8303
Anderson, SC	
Ann Arbor, MI	1.2507
Washtenaw, MI	
Anniston, AL	.8452
Calhoun, AL	
Appleton-Oshkosh-Neenah, WI	1.0582
Calumet, WI	
Outagamie, WI	
Winnebago, WI	
Asheville, NC	.8774
Buncombe, NC	
Athens, GA	.8115
Clarke, GA	
Jackson, GA	
Madison, GA	
Oconee, GA	
Atlanta, GA	.9587
Barrow, GA	
Butts, GA	
Cherokee, GA	
Clayton, GA	
Cobb, GA	
Coweta, GA	
De Kalb, GA	
Douglas, GA	
Fayette, GA	
Forsyth, GA	
Fulton, GA	
Gwinnett, GA	
Henry, GA	
Newton, GA	
Paulding, GA	
Rockdale, GA	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Spalding, GA	
Walton, GA	
Atlantic City, NJ	1.0482
Atlantic, NJ	
Cape May, NJ	
Augusta, GA-SC	.9526
Columbia, GA	
McDuffie, GA	
Richmond, GA	
Aiken, SC	
Aurora-Elgin, IL	1.0928
Kane, IL	
Kendall, IL	
Austin, TX	1.1089
Hays, TX	
Travis, TX	
Williamson, TX	
Bakersfield, CA	1.1964
Kern, CA	
Baltimore, MD	1.1062
Anne Arundel, MD	
Baltimore, MD	
Baltimore City, MD	
Carroll, MD	
Harford, MD	
Howard, MD	
Queen Annes, MD	
Bangor, ME	.9212
Penobscot, ME	
Baton Rouge, LA	.9748
Ascension, LA	
East Baton Rouge, LA	
Livingston, LA	
West Baton Rouge, LA	
Battle Creek, MI	1.0221
Calhoun, MI	
Beaumont-Port Arthur, TX	1.0003
Hardin, TX	
Jefferson, TX	
Orange, TX	
Beaver County, PA	1.0833
Beaver, PA	
Bellingham, WA	1.1381
Whatcom, WA	
Benton Harbor, MI	.8841
Berrien, MI	
Bergen-Passaic, NJ	1.0663
Bergen, NJ	
Passaic, NJ	
Billings, MT	1.0145
Yellowstone, MT	
Biloxi-Gulfport, MS	.8422
Hancock, MS	
Harrison, MS	
Binghamton, NY	.9483
Broome, NY	
Tioga, NY	
Birmingham, AL	.9587
Blount, AL	
Jefferson, AL	
St. Clair, AL	
Shelby, AL	
Walker, AL	
Bismarck, ND	.9865
Burleigh, ND	
Morton, ND	
Bloomington, IN	.9821
Monroe, IN	
Bloomington-Normal, IL	.9767

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
McLean, IL	
Boise City, ID	1.0501
Ada, ID	
Boston-Lawrence-Salem-Lowell-Brockton, MA	1.1468
Essex, MA	
Middlesex, MA	
Norfolk, MA	
Plymouth, MA	
Suffolk, MA	
Boulder-Longmont, CO	1.1236
Boulder, CO	
Bradenton, FL	.9123
Manatee, FL	
Brazoria, TX	.8673
Brazoria, TX	
Bremerton, WA	.9736
Kitsap, WA	
Bridgeport-Stamford-Norwalk-Danbury, CT	1.1753
Fairfield, CT	
Brownsville-Harlingen, TX	.8906
Cameron, TX	
Bryan-College Station, TX	.9494
Brazos, TX	
Buffalo, NY	1.0603
Erie, NY	
Burlington, NC	.7863
Alamance, NC	
Burlington, VT	1.0051
Chittenden, VT	
Grand Isle, VT	
Canton, OH	1.0001
Carroll, OH	
Stark, OH	
Casper, WY	1.0976
Natrona, WY	
Cedar Rapids, IA	1.0094
Linn, IA	
Champaign-Urbana-Rantoul, IL	.9887
Champaign, IL	
Charleston, SC	.8841
Berkeley, SC	
Charleston, SC	
Dorchester, SC	
Charleston, WV	1.0399
Kanawha, WV	
Putnam, WV	
Charlotte-Gastonia-Rock Hill, NC-SC	.8920
Cabarrus, NC	
Gaston, NC	
Lincoln, NC	
Mecklenburg, NC	
Rowan, NC	
Union, NC	
York, SC	
Charlottesville, VA	.9271
Albermarle, VA	
Charlottesville City, VA	
Fluvanna, VA	
Greene, VA	
Chattanooga, TN-GA	.9962
Catoosa, GA	
Dade, GA	
Walker, GA	
Hamilton, TN	
Marion, TN	
Sequatchie, TN	
Cheyenne, WY	.9625

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Laramie, WY	
Chicago, IL	1.2253
Cook, IL	
Du Page, IL	
McHenry, IL	
Chico, CA	1.2365
Butte, CA	
Cincinnati, OH-KY-IN	1.0963
Dearborn, IN	
Boone, KY	
Campbell, KY	
Kenton, KY	
Clermont, OH	
Hamilton, OH	
Warren, OH	
Clarksville-Hopkinsville, TN-KY	.8119
Christian, KY	
Montgomery, TN	
Cleveland, OH	1.1473
Cuyahoga, OH	
Geauga, OH	
Lake, OH	
Medina, OH	
Colorado Springs, CO	1.0356
El Paso, CO	
Columbia, MO	1.0935
Boone, MO	
Columbia, SC	.9096
Lexington, SC	
Richland, SC	
Columbus, GA-AL	.7867
Russell, AL	
Chattahoochee, GA	
Muscogee, GA	
Columbus, OH	.9608
Delaware, OH	
Fairfield, OH	
Franklin, OH	
Licking, OH	
Madison, OH	
Pickaway, OH	
Union, OH	
Corpus Christi, TX	.9821
Nueces, TX	
San Patricio, TX	
Cumberland, MD-WV	.8925
Allegeny, MD	
Mineral, WV	
Dallas, TX	1.0649
Collin, TX	
Dallas, TX	
Denton, TX	
Ellis, TX	
Kaufman, TX	
Rockwall, TX	
Danville, VA	.8023
Danville City, VA	
Pittsylvania, VA	
Davenport-Rock Island-Moline, IA-IL	1.0576
Scott, IA	
Henry, IL	
Rock Island, IL	
Dayton-Springfield, OH	1.0853
Clark, OH	
Greene, OH	
Miami, OH	
Montgomery, OH	
Daytona Beach, FL	.9066
Volusia, FL	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Decatur, IL	.9516
Macon, IL	
Denver, CO	1.2763
Adams, CO	
Arapahoe, CO	
Denver, CO	
Douglas, CO	
Jefferson, CO	
Des Moines, IA	1.0473
Dallas, IA	
Polk, IA	
Warren, IA	
Detroit, MI	1.1633
Lapeer, MI	
Livingston, MI	
Macomb, MI	
Monroe, MI	
Oakland, MI	
St. Clair, MI	
Wayne, MI	
Dothan, AL	.8391
Dale, AL	
Houston, AL	
Dubuque, IA	1.0507
Dubuque, IA	
Duluth, MN-WI	.9852
St. Louis, MN	
Douglas, WI	
Eau Claire, WI	.9423
Chippewa, WI	
Eau Claire, WI	
El Paso, TX	.9362
El Paso, TX	
Elkhart-Goshen, IN	.9574
Elkhart, IN	
Elmira, NY	.9664
Chemung, NY	
Enid, OK	.9550
Garfield, OK	
Erie, PA	.9912
Erie, PA	
Eugene-Springfield, OR	1.1075
Lane, OR	
Evansville, IN-KY	1.0136
Posey, IN	
Vanderburgh, IN	
Warrick, IN	
Henderson, KY	
Fargo-Moorhead, ND-MN	1.0560
Clay, MN	
Cass, ND	
Fayetteville, NC	.8264
Cumberland, NC	
Fayetteville-Springdale, AR	.8014
Washington, AR	
Flint, MI	1.1953
Genesee, MI	
Shiawassee, MI	
Florence, AL	.7827
Colbert, AL	
Lauderdale, AL	
Florence, SC	.7625
Florence, SC	
Fort Collins-Loveland, CO	1.0761
Larimor, CO	
Fort Lauderdale-Hollywood-Pompano Beach, FL	1.1160
Broward, FL	
Fort Myers-Cape Coral, FL	.9458

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Lee, FL	
Fort Pierce, FL	1.0134
Martin, FL	
St. Lucie, FL	
Fort Smith, AR-OK	.9170
Crawford, AR	
Sebastian, AR	
Sequoyah, OK	
Fort Walton Beach, FL	.8682
Okaloosa, FL	
Fort Wayne, IN	.9492
Allen, IN	
De Kalb, IN	
Whitley, IN	
Fort Worth-Arlington, TX	.9920
Johnson, TX	
Parker, TX	
Tarrant, TX	
Fresno, CA	1.1399
Fresno, CA	
Gadsden, AL	.8708
Etowah, AL	
Gainesville, FL	.9566
Alachua, FL	
Bradford, FL	
Galveston-Texas City, TX	1.1322
Galveston, TX	
Gary-Hammond, IN	1.0892
Lake, IN	
Porter, IN	
Glens Falls, NY	.9531
Warren, NY	
Washington, NY	
Grand Forks, ND	.9793
Grand Forks, ND	
Grand Rapids, MI	1.0579
Kent, MI	
Ottawa, MI	
Great Falls, MT	1.0637
Cascade, MT	
Greeley, CO	1.0678
Weld, CO	
Green Bay, WI	1.0245
Brown, WI	
Greensboro-Winston-Salem-High Point, NC	.9314
Davidson, NC	
Davie, NC	
Forsyth, NC	
Guilford, NC	
Randolph, NC	
Stokes, NC	
Yadkin, NC	
Greenville-Spartanburg, SC	.9057
Greenville, SC	
Pickens, SC	
Spartanburg, SC	
Hagerstown, MD	.9510
Washington, MD	
Hamilton-Middletown, OH	1.0133
Butler, OH	
Harrisburg-Lebanon-Carlisle, PA	.9790
Cumberland, PA	
Dauphin, PA	
Lebanon, PA	
Perry, PA	
Hartford-Middletown-New Britain-Bristol, CT	1.1371
Hartford, CT	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Litchfield, CT	
Middlesex, CT	
Tolland, CT	
Hickory, NC	.8911
Alexander, NC	
Burke, NC	
Catawba, NC	
Honolulu, HI	1.1927
Honolulu, HI	
Houma-Thibodaux, LA	.9156
Lafourche, LA	
Terrebonne, LA	
Houston, TX	1.0584
Fort Bend, TX	
Harris, TX	
Liberty, TX	
Montgomery, TX	
Waller, TX	
Huntington-Ashland, WV-KY-OH	.9434
Boyd, KY	
Carter, KY	
Greenup, KY	
Lawrence, OH	
Cabell, WV	
Wayne, WV	
Huntsville, AL	.8593
Madison, AL	
Indianapolis, IN	1.0510
Boone, IN	
Hamilton, IN	
Hancock, IN	
Hendricks, IN	
Johnson, IN	
Marion, IN	
Morgan, IN	
Shelby, IN	
Iowa City, IA	1.2981
Johnson, IA	
Jackson, MI	1.0125
Jackson, MI	
Jackson, MS	.9281
Hinds, MS	
Madison, MS	
Rankin, MS	
Jackson, TN	.7853
Madison, TN	
Jacksonville, FL	.9406
Clay, FL	
Duval, FL	
Nassau, FL	
St. Johns, FL	
Jacksonville, NC	.7903
Onslow, NC	
Janesville-Beloit, WI	.9347
Rock, WI	
Jersey City, NJ	1.1020
Hudson, NJ	
Johnson City-Kingsport-Bristol, TN-VA	.8549
Carter, TN	
Hawkins, TN	
Sullivan, TN	
Unicoi, TN	
Washington, TN	
Bristol City, VA	
Scott, VA	
Washington, VA	
Johnstown, PA	.9451
Cambria, PA	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Somerset, PA	
Joliet, IL	1.1164
Grundy, IL	
Will, IL	
Joplin, MO	.9130
Jasper, MO	
Newton, MO	
Kalamazoo, MI	1.2244
Kalamazoo, MI	
Kankakee, IL	.9435
Kankakee, IL	
Kansas City, KS-MO	1.0576
Johnson, KS	
Leavenworth, KS	
Miami, KS	
Wyandotte, KS	
Cass, MO	
Clay, MO	
Jackson, MO	
Lafayette, MO	
Platte, MO	
Ray, MO	
Kenosha, WI	1.0789
Kenosha, WI	
Killeen-Temple, TX	.8779
Bell, TX	
Coryell, TX	
Knoxville, TN	.8925
Anderson, TN	
Blount, TN	
Grainger, TN	
Jefferson, TN	
Knox, TN	
Sevier, TN	
Union, TN	
Kokomo, IN	.9792
Howard, IN	
Tipton, IN	
LaCrosse, WI	1.0087
LaCrosse, WI	
Lafayette, LA	1.0034
Lafayette, LA	
St. Martin, LA	
Lafayette, IN	.9091
Tippecanoe, IN	
Lake Charles, LA	.9957
Calcasieu, LA	
Lake County, IL	1.1545
Lake, IL	
Lakeland-Winter Haven, FL	.8781
Polk, FL	
Lancaster, PA	1.0314
Lancaster, PA	
Lansing-East Lansing, MI	1.0684
Clinton, MI	
Eaton, MI	
Ingham, MI	
Laredo, TX	.8099
Webb, TX	
Las Cruces, NM	.8698
Dona Ana, NM	
Las Vegas, NV	1.1165
Clark, NV	
Lawrence, KS	1.0099
Douglas, KS	
Lawton, OK	.9394
Comanche, OK	
Lewiston-Auburn, ME	.9351
Androscoggin, ME	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Lexington-Fayette, KY	.9795
Bourbon, KY	
Clark, KY	
Fayette, KY	
Jessamine, KY	
Scott, KY	
Woodford, KY	
Lima, OH	.9788
Allen, OH	
Auglaize, OH	
Lincoln, NE	.9634
Lancaster, NE	
Little Rock-North Little Rock, AR	1.1047
Faulkner, AR	
Lonoke, AR	
Pulaski, AR	
Saline, AR	
Longview-Marshall, TX	.8344
Gregg, TX	
Harrison, TX	
Lorain-Elyria, OH	1.0198
Lorain, OH	
Los Angeles-Long Beach, CA	1.3185
Los Angeles, CA	
Louisville, KY-IN	1.0002
Clark, IN	
Floyd, IN	
Harrison, IN	
Bullitt, KY	
Jefferson, KY	
Oldham, KY	
Shelby, KY	
Lubbock, TX	1.0048
Lubbock, TX	
Lynchburg, VA	.9142
Amherst, VA	
Campbell, VA	
Lynchburg City, VA	
Macon-Warner Robins, GA	.9251
Bibb, GA	
Houston, GA	
Jones, GA	
Peach, GA	
Madison, WI	1.0815
Dane, WI	
Manchester-Nashua, NH	.9502
Hillsboro, NH	
Merrimack, NH	
Mansfield, OH	.9841
Richland, OH	
McAllen-Edinburg-Mission, TX	.8041
Hidalgo, TX	
Medford, OR	1.0274
Jackson, OR	
Melbourne-Titusville, FL	.9304
Brevard, FL	
Memphis, TN-AR-MS	1.0411
Crittenden, AR	
De Soto, MS	
Shelby, TN	
Tipton, TN	
Merced, CA	1.2038
Merced, CA	
Miami-Hialeah, FL	1.0618
Dade, FL	
Middlesex-Somerset-Hunterdon, NJ	1.0267
Hunterdon, NJ	
Middlesex, NJ	
Somerset, NJ	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Midland, TX	1.1215
Midland, TX	
Milwaukee, WI	1.1321
Milwaukee, WI	
Ozaukee, WI,	
Washington, WI	
Waukesha, WI	
Minneapolis-St. Paul, MN-WI	1.1679
Anoka, MN	
Carver, MN	
Chisago, MN	
Dakota, MN	
Hennepin, MN	
Isanti, MN	
Ramsey, MN	
Scott, MN	
Washington, MN	
Wright, MN	
St. Croix, WI	
Mobile, AL	.8857
Baldwin, AL	
Mobile, AL	
Modesto, CA	1.2007
Stanislaus, CA	
Monmouth-Ocean, NJ	.9846
Monmouth, NJ	
Ocean, NJ	
Monroe, LA	.9269
Ouachita, LA	
Montgomery, AL	.8806
Autauga, AL	
Elmore, AL	
Montgomery, AL	
Muncie, IN	.9986
Delaware, IN	
Muskegon, MI	.9833
Muskegon, MI	
Naples, FL	1.0366
Collier, FL	
Nashville, TN	.9340
Cheatham, TN	
Davidson, TN	
Dickson, TN	
Robertson, TN	
Rutherford, TN	
Sumner, TN	
Williamson, TN	
Wilson, TN	
Nassau-Suffolk, NY	1.3293
Nassau, NY	
Suffolk, NY	
New Bedford-Fall River-Attleboro, MA	.9718
Bristol, MA	
New Haven-West Haven-Waterbury-Meriden, CT	1.1187
New Haven, CT	
New London-Norwich, CT	1.1015
New London, CT	
New Orleans, LA	.9270
Jefferson, LA	
Orleans, LA	
St. Bernard, LA	
St. Charles, LA	
St. John the Baptist, LA	
St. Tammany, LA	
New York, NY	1.3700
Bronx, NY	
Kings, NY	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
New York City, NY	
Putnam, NY	
Queens, NY	
Richmond, NY	
Rockland, NY	
Westchester, NY	
Newark, NJ	1.1314
Essex, NJ	
Morris, NJ	
Sussex, NJ	
Union, NJ	
Niagara Falls, NY	.8892
Niagara, NY	
Norfolk-Virginia Beach-Newport News, VA	.9615
Chesapeake City, VA	
Gloucester, VA	
Hampton City, VA	
James City Co., VA	
Newport News City, VA	
Norfolk City, VA	
Poquoson, VA	
Portsmouth City, VA	
Suffolk City, VA	
Virginia Beach City, VA	
Williamsburg City, VA	
York, VA	
Oakland, CA	1.4775
Alameda, CA	
Contra Costa, CA	
Ocala, FL	.8666
Marion, FL	
Odessa, TX	.9543
Ector, TX	
Oklahoma City, OK	1.0844
Canadian, OK	
Cleveland, OK	
Logan, OK	
McClain, OK	
Oklahoma, OK	
Pottawatomie, OK	
Olympia, WA	1.0702
Thurston, WA	
Omaha, NE-IA	1.0426
Pottawattamie, IA	
Douglas, NE	
Sarpy, NE	
Washington, NE	
Orange County, NY	.9225
Orange, NY	
Orlando, FL	1.0108
Orange, FL	
Osceola, FL	
Seminole, FL	
Owensboro, KY	.8178
Daviess, KY	
Oxnard-Ventura, CA	1.2749
Ventura, CA	
Panama City, FL	.8288
Bay, FL	
Parkersburg-Marietta, WV-OH	.9049
Washington, OH	
Wood, WV	
Pascagoula, MS	.9601
Jackson, MS	
Pensacola, FL	.8673
Escambia, FL	
Santa Rosa, FL	
Peoria, IL	1.0501

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Peoria, IL	
Tazewell, IL	
Woodford, IL	
Philadelphia, PA-NJ	1.1690
Burlington, NJ	
Camden, NJ	
Gloucester, NJ	
Bucks, PA	
Chester, PA	
Delaware, PA	
Montgomery, PA	
Philadelphia, PA	
Phoenix, AZ	1.0716
Maricopa, AZ	
Pine Bluff, AR	.7946
Jefferson, AR	
Pittsburgh, PA	1.0924
Allegheny, PA	
Fayette, PA	
Washington, PA	
Westmoreland, PA	
Pittsfield, MA	1.0165
Berkshire, MA	
Portland, ME	.9802
Cumberland, ME	
Sagadahoc, ME	
York, ME	
Portland, OR	1.1979
Clackamas, OR	
Multnomah, OR	
Washington, OR	
Yamhill, OR	
Portsmouth-Dover-Rochester, NH	.9299
Rockingham, NH	
Strafford, NH	
Poughkeepsie, NY	.9973
Dutchess, NY	
Providence-Pawtucket-Woonsocket, RI	1.0419
Bristol, RI	
Kent, RI	
Newport, RI	
Providence, RI	
Statewide, RI	
Washington, RI	
Provo-Orem, UT	.9780
Utah, UT	
Pueblo, CO	1.1122
Pueblo, CO	
Racine, WI	.9923
Racine, WI	
Raleigh-Durham, NC	.9643
Durham, NC	
Franklin, NC	
Orange, NC	
Wake, NC	
Rapid City, SD	.9547
Pennington, SD	
Reading, PA	1.0167
Berks, PA	
Redding, CA	1.2298
Shasta, CA	
Reno, NV	1.1745
Washoe, NV	
Richland-Kennewick, WA	1.0175
Benton, WA	
Franklin, WA	
Richmond-Petersburg, VA	.9489
Charles City Co., VA	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Chesterfield, VA	
Colonial Heights City, VA	
Dinwiddie, VA	
Goochland, VA	
Hanover, VA	
Henrico, VA	
Hopewell City, VA	
New Kent, VA	
Petersburg City, VA	
Powhatan, VA	
Prince George, VA	
Richmond City, VA	
Riverside-San Bernardino, CA	1.2418
Riverside, CA	
San Bernardino, CA	
Roanoke, VA	.8925
Botetourt, VA	
Roanoke, VA	
Roanoke City, VA	
Salem City, VA	
Rochester, MN	1.0203
Olmsted, MN	
Rochester, NY	1.0145
Livingston, NY	
Monroe, NY	
Ontario, NY	
Orleans, NY	
Wayne, NY	
Rockford, IL	1.1264
Boone, IL	
Winnebago, IL	
Sacramento, CA	1.2866
Eldorado, CA	
Placer, CA	
Sacramento, CA	
Yolo, CA	
Saginaw-Bay City-Midland, MI	1.0983
Bay, MI	
Midland, MI	
Saginaw, MI	
St. Cloud, MN	.9938
Benton, MN	
Sherburne, MN	
Stearns, MN	
St. Joseph, MO	.9412
Buchanan, MO	
St. Louis, MO-IL	1.0741
Clinton, IL	
Jersey, IL	
Madison, IL	
Monroe, IL	
St. Clair, IL	
Franklin, MO	
Jefferson, MO	
St. Charles, MO	
St. Louis, MO	
St. Louis City, MO	
Salem, OR	1.0884
Marion, OR	
Polk, OR	
Salinas-Seaside-Monterey, CA	1.2472
Monterey, CA	
Salt Lake City-Ogden, UT	1.0272
Davis, UT	
Salt Lake, UT	
Weber, UT	
San Angelo, TX	.8650
Tom Green, TX	
San Antonio, TX	.8872

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Bexar, TX	
Comal, TX	
Guadalupe, TX	
San Diego, CA	1.3000
San Diego, CA	
San Francisco, CA	1.6367
Marin, CA	
San Francisco, CA	
San Mateo, CA	
San Jose, CA	1.4689
Santa Clara, CA	
Santa Barbara-Santa Maria-Lompoc, CA	1.1728
Santa Barbara, CA	
Santa Cruz, CA	1.2334
Santa Cruz, CA	
Santa Fe, NM	.9732
Los Alamos, NM	
Santa Fe, NM	
Santa Rosa-Petaluma, CA	1.3009
Sonoma, CA	
Sarasota, FL	.9563
Sarasota, FL	
Savannah, GA	.8847
Chatham, GA	
Effingham, GA	
Scranton-Wilkes Barre, PA	.9903
Columbia, PA	
Lackawanna, PA	
Luzerne, PA	
Monroe, PA	
Wyoming, PA	
Seattle, WA	1.1487
King, WA	
Snohomish, WA	
Sharon, PA	.9680
Mercer, PA	
Sheboygan, WI	.9807
Sheboygan, WI	
Sherman-Denison, TX	.8551
Grayson, TX	
Shreveport, LA	.9537
Bossier, LA	
Caddo, LA	
Sioux City, IA-NE	.9983
Woodbury, IA	
Dakota, NE	
Sioux Falls, SD	1.0130
Minnehaha, SD	
South Bend-Mishawaka, IN	1.0007
St. Joseph, IN	
Spokane, WA	1.1467
Spokane, WA	
Springfield, IL	1.0580
Menard, IL	
Sangamon, IL	
Springfield, MO	.9785
Christian, MO	
Greene, MO	
Springfield, MA	.9981
Hampden, MA	
Hampshire, MA	
State College, PA	1.0686
Centre, PA	
Steubenville-Weirton, OH-WV	.9579
Jefferson, OH	
Brooke, WV	
Hancock, WV	
Stockton, CA	1.2770

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
San Joaquin, CA	
Syracuse, NY	1.0220
Madison, NY	
Onondaga, NY	
Oswego, NY	
Tacoma, WA	1.0965
Pierce, WA	
Tallahassee, FL	.9434
Gadsden, FL	
Leon, FL	
Tampa-St. Petersburg-Clearwater, FL	.9753
Hernando, FL	
Hillsborough, FL	
Pasco, FL	
Pinellas, FL	
Terre Haute, IN	.8389
Clay, IN	
Vigo, IN	
Texarkana, TX-Texarkana, AR	.8582
Miller, AR	
Bowie, TX	
Toledo, OH	1.2170
Fulton, OH	
Lucas, OH	
Wood, OH	
Topeka, KS	1.0548
Shawnee, KS	
Trenton, NJ	1.0235
Mercer, NJ	
Tucson, AZ	1.0010
Pima, AZ	
Tulsa, OK	1.0051
Creeks, OK	
Osage, OK	
Rogers, OK	
Tulsa, OK	
Wagoner, OK	
Tuscaloosa, AL	1.0092
Tuscaloosa, AL	
Tyler, TX	.9956
Smith, TX	
Utica-Rome, NY	.8770
Herkimer, NY	
Oneida, NY	
Vallejo-Fairfield-Napa, CA	1.3291
Napa, CA	
Solano, CA	
Vancouver, WA	1.1567
Clark, WA	
Victoria, TX	.8140
Victoria, TX	
Vineland-Millville-Bridgeton, NJ	.9851
Cumberland, NJ	
Visalia-Tulare-Porterville, CA	1.0559
Tulare, CA	
Waco, TX	.9045
McLennan, TX	
Washington, D.C.-MD-VA	1.1870
District of Columbia, DC	
Calvert, MD	
Charles, MD	
Frederick, MD	
Montgomery, MD	
Prince Georges, MD	
Alexandria City, VA	
Arlington, VA	
Fairfax, VA	
Fairfax City, VA	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
Falls Church City, VA	
Loudoun, VA	
Manassas City, VA	
Manassas Park City, VA	
Prince William, VA	
Stafford, VA	
Waterloo-Cedar Falls, IA	.9914
Black Hawk, IA	
Bremer, IA	
Wausau, WI	.9793
Marathon, WI	
West Palm Beach-Boca Raton-Delray Beach, FL	.9894
Palm Beach, FL	
Wheeling, WV-OH	.9694
Belmont, OH	
Marshall, WV	
Ohio, WV	
Wichita, KS	1.1498
Butler, KS	
Sedgwick, KS	
Wichita Falls, TX	.8706
Wichita, TX	
Williamsport, PA	.8977
Lycoming, PA	
Wilmington, DE-NJ-MD	1.0504
New Castle, DE	
Cecil, MD	
Salem, NJ	
Wilmington, NC	.9515
New Hanover, NC	
Worcester-Fitchburg-Leominster, MA	1.0014
Worcester, MA	
Yakima, WA	1.0307
Yakima, WA	

TABLE 4a.—WAGE IDEX FOR URBAN AREAS—Continued

Urban area (constituent counties or county equivalents)	Wage Index
York, PA	.9775
Adams, PA	
York, PA	
Youngstown-Warren, OH	1.0397
Mahoning, OH	
Trumbull, OH	
Yuba City, CA	1.0378
Sutter, CA	
Yuba, CA	

TABLE 4b.—Wage Index for Rural Areas

Nonurban area	Wage index
Alabama	.7407
Alaska	1.4870
Arizona	.9249
Arkansas	.7642
California	1.1295
Colorado	.9252
Connecticut	1.0377
Delaware	.8577
Florida	.8745
Georgia	.7718
Hawaii	1.0077
Idaho	.9058
Illinois	.8847
Indiana	.8617
Iowa	.8650
Kansas	.8414
Kentucky	.7973
Louisiana	.8537
Maine	.8586

TABLE 4b.—Wage Index for Rural Areas—Continued

Nonurban area	Wage index
Maryland	.8704
Massachusetts	1.0465
Michigan	.9474
Minnesota	.8719
Mississippi	.7644
Missouri	.8260
Montana	.9081
Nebraska	.8244
Nevada	1.0714
New Hampshire	.9179
New Jersey*	
New Mexico	.9140
New York	.8662
North Carolina	.8066
North Dakota	.8989
Ohio	.9028
Oklahoma	.8395
Oregon	1.0697
Pennsylvania	.9352
Rhode Island*	
South Carolina	.7765
South Dakota	.8198
Tennessee	.7672
Texas	.8116
Utah	.9430
Vermont	.8818
Virginia	.8129
Washington	1.0192
West Virginia	.8746
Wisconsin	.8924
Wyoming	.9668

*All counties within the State are classified urban.

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TABLE 5

LIST OF DIAGNOSIS RELATED GROUPS (DRGS), RELATIVE WEIGHTING FACTORS, ARITHMETIC AND GEOMETRIC MEAN LENGTH OF STAY, AND LENGTH OF STAY OUTLIER CUTOFF POINTS USED IN THE PROSPECTIVE PAYMENT SYSTEM

DRG	MDC		TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
1	1 SURG		CRANIOTOMY AGE >17 EXCEPT FOR TRAUMA	3.5610	21.4	16.2	33
2	1 SURG		CRANIOTOMY FOR TRAUMA AGE >17	3.8111	19.7	13.4	30
3	1 SURG	*	CRANIOTOMY AGE <18	2.9183		12.7	30
4	1 SURG		SPINAL PROCEDURES	2.7296	20.2	15.0	32
5	1 SURG		EXTRACRANIAL VASCULAR PROCEDURES	1.6508	9.7	8.0	25
6	1 SURG		CARPAL TUNNEL RELEASE	.4073	2.8	2.3	7
7	1 SURG		PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC AGE >69 &/OR CC	1.3866	11.5	6.1	23
8	1 SURG		PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC AGE <70 W/O CC	.7464	5.6	3.7	19
9	1 MED		SPINAL DISORDERS & INJURIES	1.4235	14.4	8.4	25
10	1 MED		NERVOUS SYSTEM NEOPLASMS AGE >69 AND/OR CC	1.1322	11.6	7.8	25
11	1 MED		NERVOUS SYSTEM NEOPLASMS AGE <70 W/O CC	.9338	10.2	6.1	23
12	1 MED		DEGENERATIVE NERVOUS SYSTEM DISORDERS	1.0001	11.4	7.8	25
13	1 MED		MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA	.9790	10.9	7.7	25
14	1 MED		SPECIFIC CEREBROVASCULAR DISORDERS EXCEPT TIA	1.3143	12.6	8.5	26
15	1 MED		TRANSIENT ISCHEMIC ATTACK AND PRECEREBRAL OCCLUSIONS	.6241	6.1	4.7	19
16	1 MED		NONSPECIFIC CEREBROVASCULAR DISORDERS WITH CC	.9042	8.9	6.8	24
17	1 MED		NONSPECIFIC CEREBROVASCULAR DISORDERS W/O CC	.6802	7.8	5.6	23
18	1 MED		CRANIAL & PERIPHERAL NERVE DISORDERS AGE >69 AND/OR CC	.7566	8.2	6.1	23
19	1 MED		CRANIAL & PERIPHERAL NERVE DISORDERS AGE <70 W/O CC	.6549	7.2	5.3	22
20	1 MED		NERVOUS SYSTEM INFECTION EXCEPT VIRAL MENINGITIS	1.4087	11.5	7.8	25
21	1 MED		VIRAL MENINGITIS	1.3143	10.6	7.9	25
22	1 MED		HYPERTENSIVE ENCEPHALOPATHY	.7086	6.5	5.0	20
23	1 MED		NONTRAUMATIC STUPOR & COMA	1.1239	8.5	5.2	22
24	1 MED		SEIZURE & HEADACHE AGE >69 AND/OR CC	.7642	6.8	5.0	22
25	1 MED		SEIZURE & HEADACHE AGE 18-69 W/O CC	.5520	5.5	4.0	18
26	1 MED		SEIZURE & HEADACHE AGE 0-17	.6255	3.9	2.7	14
27	1 MED		TRAUMATIC STUPOR & COMA, COMA >1 HR	1.5645	9.8	4.7	22
28	1 MED		TRAUMATIC STUPOR & COMA, COMA <1 HR AGE >69 AND/OR CC	.9422	8.5	5.0	22
29	1 MED		TRAUMATIC STUPOR & COMA <1 HR AGE 18-69 W/O CC	.6462	6.0	3.6	21
30	1 MED	*	TRAUMATIC STUPOR & COMA <1 HR AGE 0-17	.3539		2.0	8
31	1 MED		CONCUSSION AGE >69 AND/OR CC	.5381	5.7	3.9	20
32	1 MED		CONCUSSION AGE 18-69 W/O CC	.4064	4.1	2.9	14
33	1 MED	*	CONCUSSION AGE 0-17	.2457		1.6	5
34	1 MED		OTHER DISORDERS OF NERVOUS SYSTEM AGE >69 AND/OR CC	.9761	8.9	6.1	23
35	1 MED		OTHER DISORDERS OF NERVOUS SYSTEM AGE <70 W/O CC	.7383	7.6	4.9	22

* MEDICARE DATA HAVE BEEN SUPPLEMENTED BY DATA FROM MARYLAND AND MICHIGAN FOR LOW VOLUME DRGS.
** DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.
NOTE: GEOMETRIC MEAN IS USED ONLY TO DETERMINE PAYMENT FOR OUTLIER AND TRANSFER CASES.
NOTE: RELATIVE WEIGHTS ARE BASED ON MEDICARE PATIENT DATA AND MAY NOT BE APPROPRIATE FOR OTHER PATIENTS.
NOTE: ARITHMETIC MEAN INCLUDED FOR COMPARATIVE PURPOSES. IT IS NOT USED FOR PAYMENT.

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DRG	MDC		TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
36	2 SURG		RETINAL PROCEDURES	.7101	4.7	4.1	12
37	2 SURG		ORBITAL PROCEDURES	.6687	4.2	3.2	12
38	2 SURG		PRIMARY IRIS PROCEDURES	.3963	3.0	2.4	8
39	2 SURG		LENS PROCEDURES WITH OR WITHOUT VITRECTOMY	.5719	2.3	2.1	4
40	2 SURG		EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE >17	.4133	2.5	2.1	6
41	2 SURG	*	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17	.3657		1.6	4
42	2 SURG		INTRAOCULAR PROCEDURES EXCEPT RETINA, IRIS & LENS	.6542	3.7	3.0	10
43	2 MED		HYPHEMA	.3461	4.6	3.7	13
44	2 MED		ACUTE MAJOR EYE INFECTIONS	.6395	7.3	5.9	21
45	2 MED		NEUROLOGICAL EYE DISORDERS	.5407	4.7	3.6	14
46	2 MED		OTHER DISORDERS OF THE EYE AGE >17 WITH CC	.6009	5.6	3.7	21
47	2 MED		OTHER DISORDERS OF THE EYE AGE >17 W/O CC	.4187	3.6	2.5	11
48	2 MED	*	OTHER DISORDERS OF THE EYE AGE 0-17	.4018		2.9	13
49	3 SURG		MAJOR HEAD & NECK PROCEDURES	2.8742	17.1	13.1	30
50	3 SURG		SIALOADENECTOMY	.7033	4.4	3.7	11
51	3 SURG		SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY	.5878	4.0	3.3	10
52	3 SURG		CLEFT LIP & PALATE REPAIR	.6955	4.4	3.5	13
53	3 SURG		SINUS & MASTOID PROCEDURES AGE >17	.6175	3.8	3.0	10
54	3 SURG	*	SINUS & MASTOID PROCEDURES AGE 0-17	.6889		3.2	11
55	3 SURG		MISCELLANEOUS EAR, NOSE & THROAT PROCEDURES	.4342	2.6	2.1	6
56	3 SURG		RHINOPLASTY	.4357	2.8	2.3	7
57	3 SURG		T&A PROC EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE >17	.7717	5.7	3.7	20
58	3 SURG	*	T&A PROC EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17	.3097		1.5	3
59	3 SURG		TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY, AGE >17	.4130	2.9	2.3	7
60	3 SURG	*	TONSILLECTOMY AND/OR ADENOIDECTOMY ONLY, AGE 0-17	.2616		1.5	3
61	3 SURG		MYRINGOTOMY WITH TUBE INSERTION AGE >17	.4273	2.9	2.0	8
62	3 SURG	*	MYRINGOTOMY WITH TUBE INSERTION AGE 0-17	.3089		1.3	3
63	3 SURG		OTHER EAR, NOSE & THROAT O.R. PROCEDURES	1.1618	8.1	5.1	22
64	3 MED		EAR, NOSE & THROAT MALIGNANCY	.9769	8.5	4.8	22
65	3 MED		DYSEQUILIBRIUM	.4500	4.8	3.8	14
66	3 MED		EPISTAXIS	.4144	4.3	3.3	13
67	3 MED		EPIGLOTTITIS	.9363	6.5	4.8	21
68	3 MED		OTITIS MEDIA & URI AGE >69 AND/OR CC	.6088	6.3	5.1	17
69	3 MED		OTITIS MEDIA & URI AGE 18-69 W/O CC	.5040	5.1	4.1	14
70	3 MED		OTITIS MEDIA & URI AGE 0-17	.5251	4.2	3.3	12

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NOTE: RELATIVE WEIGHTS ARE BASED ON MEDICARE PATIENT DATA AND MAY NOT BE APPROPRIATE FOR OTHER PATIENTS.
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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
71	3 MED	LARYNGOTRACHEITIS	.6582	5.8	4.6	18
72	3 MED	NASAL TRAUMA & DEFORMITY	.5216	5.2	3.5	19
73	3 MED	OTHER EAR, NOSE & THROAT DIAGNOSES AGE >17	.6045	5.1	3.4	18
74	3 MED *	OTHER EAR, NOSE & THROAT DIAGNOSES AGE 0-17	.3427		2.1	9
75	4 SURG	MAJOR CHEST PROCEDURES	2.9776	16.2	13.4	30
76	4 SURG	OTHER RESPIRATORY SYSTEM O.R. PROCEDURES WITH CC	2.5663	14.9	10.3	27
77	4 SURG	OTHER RESPIRATORY SYSTEM O.R. PROCEDURES W/O CC	1.6734	11.5	7.0	24
78	4 MED	PULMONARY EMBOLISM	1.4798	11.7	9.5	27
79	4 MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE >69 AND/OR CC	1.9344	12.9	9.6	27
80	4 MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 18-69 W/O CC	1.4387	12.0	8.5	26
81	4 MED *	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 0-17	.8652		6.1	23
82	4 MED	RESPIRATORY NEOPLASMS	1.1258	9.9	6.6	24
83	4 MED	MAJOR CHEST TRAUMA AGE >69 AND/OR CC	.8397	8.6	6.6	24
84	4 MED	MAJOR CHEST TRAUMA AGE <70 W/O CC	.5920	6.0	4.6	19
85	4 MED	PLEURAL EFFUSION AGE >69 AND/OR CC	1.1196	9.9	7.2	24
86	4 MED	PLEURAL EFFUSION AGE <70 W/O CC	.9761	8.8	5.9	23
87	4 MED	PULMONARY EDEMA & RESPIRATORY FAILURE	1.8076	10.2	7.0	24
88	4 MED	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1.0768	8.5	6.6	24
89	4 MED	SIMPLE PNEUMONIA & PLEURISY AGE >69 AND/OR CC	1.1657	9.6	7.5	25
90	4 MED	SIMPLE PNEUMONIA & PLEURISY AGE 18-69 W/O CC	.8842	7.7	6.2	22
91	4 MED	SIMPLE PNEUMONIA & PLEURISY AGE 0-17	.7914	5.5	4.3	18
92	4 MED	INTERSTITIAL LUNG DISEASE AGE >69 AND/OR CC	1.1115	9.0	6.8	24
93	4 MED	INTERSTITIAL LUNG DISEASE AGE <70 W/O CC	.8641	7.5	5.4	22
94	4 MED	PNEUMOTHORAX AGE >69 AND/OR CC	1.3044	10.1	7.6	25
95	4 MED	PNEUMOTHORAX AGE <70 W/O CC	.8796	7.8	5.9	23
96	4 MED	BRONCHITIS & ASTHMA AGE >69 AND/OR CC	.8446	7.3	6.0	20
97	4 MED	BRONCHITIS & ASTHMA AGE 18-69 W/O CC	.7091	6.2	5.1	17
98	4 MED	BRONCHITIS & ASTHMA AGE 0-17	.7201	4.5	3.8	12
99	4 MED	RESPIRATORY SIGNS & SYMPTOMS AGE >69 AND/OR CC	.8072	6.4	4.6	22
100	4 MED	RESPIRATORY SIGNS & SYMPTOMS AGE <70 W/O CC	.6253	5.0	3.6	16
101	4 MED	OTHER RESPIRATORY SYSTEM DIAGNOSES AGE >69 AND/OR CC	.8460	7.5	5.5	23
102	4 MED	OTHER RESPIRATORY SYSTEM DIAGNOSES AGE <70 WITHOUT CC	.6841	6.1	4.3	21
103	5 SURG	HEART TRANSPLANT				
104	5 SURG	CARDIAC VALVE PROCEDURE WITH PUMP & WITH CARDIAC CATH	7.3151	21.0	18.0	35
105	5 SURG	CARDIAC VALVE PROCEDURE WITH PUMP & W/O CARDIAC CATH	6.3388	18.2	15.0	32

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
106	5 SURG	CORONARY BYPASS WITH CARDIAC CATH	5.3324	16.3	14.7	32
107	5 SURG	CORONARY BYPASS W/O CARDIAC CATH	4.6608	14.5	12.7	30
108	5 SURG	OTHER CARDIOTHORACIC OR VASCULAR PROC, WITH PUMP	4.7803	14.7	10.6	28
109	5 SURG	OTHER CARDIOTHORACIC PROCEDURES W/O PUMP	4.3579	14.7	9.0	26
110	5 SURG	MAJOR RECONSTRUCTIVE VASCULAR PROC W/O PUMP AGE >69 AND/OR CC	3.3118	16.4	13.1	30
111	5 SURG	MAJOR RECONSTRUCTIVE VASCULAR PROC W/O PUMP AGE <70 W/O CC	2.4549	13.1	11.2	28
112	5 SURG	VASCULAR PROCEDURES EXCEPT MAJOR RECONSTRUCTION W/O PUMP	2.2055	11.7	8.1	25
113	5 SURG	AMPUTATION FOR CIRC SYSTEM DISORDERS EXCEPT UPPER LIMB & TOE	2.5345	21.7	17.2	34
114	5 SURG	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1.8918	17.2	12.4	29
115	5 SURG	PERM CARDIAC PACEMAKER IMPLANT WITH AMI, HEART FAILURE OR SHOCK	4.1727	16.7	13.9	31
116	5 SURG	PERM CARDIAC PACEMAKER IMPLANT W/O AMI, HEART FAILURE OR SHOCK	2.9868	9.7	7.8	25
117	5 SURG	CARDIAC PACEMAKER REPLACE & REVIS EXC PULSE GEN REPL	1.2989	6.4	4.8	20
118	5 SURG	CARDIAC PACEMAKER PULSE GENERATOR REPLACEMENT	1.9224	4.8	3.5	15
119	5 SURG	VEIN LIGATION & STRIPPING	.9164	7.7	5.6	23
120	5 SURG	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	2.2577	17.0	11.4	28
121	5 MED	CIRCULATORY DISORDERS WITH AMI & C.V. COMP. DISCH. ALIVE	1.7687	12.4	10.3	27
122	5 MED	CIRCULATORY DISORDERS WITH AMI W/O C.V. COMP. DISCH. ALIVE	1.3267	10.6	8.8	26
123	5 MED	CIRCULATORY DISORDERS WITH AMI, EXPIRED	1.3522	5.6	3.0	20
124	5 MED	CIRCULATORY DISORDERS EXC AMI,WITH CARD CATH & COMPLEX DIAG	1.2551	7.1	5.0	22
125	5 MED	CIRCULATORY DISORDERS EXC AMI,WITH CARD CATH W/O COMPLEX DIAG	.7265	3.8	2.8	11
126	5 MED	ACUTE & SUBACUTE ENDOCARDITIS	2.9836	23.8	18.1	35
127	5 MED	HEART FAILURE & SHOCK	1.0098	8.9	6.8	24
128	5 MED	DEEP VEIN THROMBOPHLEBITIS	.8456	9.9	8.6	24
129	5 MED	CARDIAC ARREST, UNEXPLAINED	1.7199	7.9	3.8	21
130	5 MED	PERIPHERAL VASCULAR DISORDERS AGE >69 AND/OR CC	.8251	8.3	5.7	23
131	5 MED	PERIPHERAL VASCULAR DISORDERS AGE <70 W/O CC	.6705	6.7	4.5	22
132	5 MED	ATHEROSCLEROSIS AGE >69 AND/OR CC	.8037	7.0	5.3	22
133	5 MED	ATHEROSCLEROSIS AGE <70 W/O CC	.7049	5.2	3.8	16
134	5 MED	HYPERTENSION	.6363	6.6	5.1	20
135	5 MED	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE >69 AND/OR CC	.8937	7.3	5.3	22
136	5 MED	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE 18-69 W/O CC	.7525	5.6	3.8	18
137	5 MED *	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE 0-17	.6315		3.3	20
138	5 MED	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS AGE >69 AND/OR CC	.8136	6.5	4.9	21
139	5 MED	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS AGE <70 W/O CC	.6514	5.1	3.9	16
140	5 MED	ANGINA PECTORIS	.6894	5.7	4.6	16

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
141	5 MED	SYNCOPE & COLLAPSE AGE >69 AND/OR CC	.6187	5.7	4.4	18
142	5 MED	SYNCOPE & COLLAPSE AGE <70 W/O CC	.5335	4.7	3.6	14
143	5 MED	CHEST PAIN	.5893	4.5	3.5	13
144	5 MED	OTHER CIRCULATORY SYSTEM DIAGNOSES WITH CC	1.1160	8.4	6.2	23
145	5 MED	OTHER CIRCULATORY SYSTEM DIAGNOSES W/O CC	.8475	7.1	5.0	22
146	6 SURG	RECTAL RESECTION AGE >69 AND/OR CC	3.0751	18.9	16.6	34
147	6 SURG	RECTAL RESECTION AGE <70 W/O CC	2.2735	15.4	14.0	31
148	6 SURG	MAJOR SMALL & LARGE BOWEL PROCEDURES AGE >69 AND/OR CC	2.9401	17.8	15.3	32
149	6 SURG	MAJOR SMALL & LARGE BOWEL PROCEDURES AGE <70 W/O CC	2.1069	14.3	12.6	30
150	6 SURG	PERITONEAL ADHESIOLYSIS AGE >69 AND/OR CC	2.3426	14.9	12.8	30
151	6 SURG	PERITONEAL ADHESIOLYSIS AGE <70 W/O CC	1.5900	11.5	10.1	27
152	6 SURG	MINOR SMALL & LARGE BOWEL PROCEDURES AGE >69 AND/OR CC	1.4059	10.8	8.6	26
153	6 SURG	MINOR SMALL & LARGE BOWEL PROCEDURES AGE <70 W/O CC	1.0992	9.1	7.3	24
154	6 SURG	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE >69 AND/OR CC	2.6876	15.1	11.5	29
155	6 SURG	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE 18-69 W/O CC	1.7902	11.7	8.9	26
156	6 SURG *	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE 0-17	.8382		6.0	20
157	6 SURG	ANAL AND STOMAL PROCEDURES AGE >69 AND/OR CC	.7302	6.4	4.8	21
158	6 SURG	ANAL AND STOMAL PROCEDURES AGE <70 W/O CC	.5511	4.9	3.9	14
159	6 SURG	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL AGE >69 AND/OR CC	.9997	7.8	6.3	22
160	6 SURG	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL AGE 18-69 W/O CC	.7457	5.9	5.0	16
161	6 SURG	INGUINAL & FEMORAL HERNIA PROCEDURES AGE >69 AND/OR CC	.6536	5.3	4.4	14
162	6 SURG	INGUINAL & FEMORAL HERNIA PROCEDURES AGE 18-69 W/O CC	.5261	4.1	3.6	10
163	6 SURG	HERNIA PROCEDURES AGE 0-17	.9647	5.6	4.2	18
164	6 SURG	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE>69 AND/OR CC	2.0646	12.2	10.7	28
165	6 SURG	APPENDECTOMY WITH COMPLICATED PRINC. DIAG AGE <70 W/O CC	1.4375	9.2	8.4	19
166	6 SURG	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE >69 AND/OR CC	1.3604	9.0	7.5	23
167	6 SURG	APPENDECTOMY W/O COMPLICATED PRINC. DIAG AGE <70 W/O CC	.8872	6.1	5.3	13
168	6 SURG	MOUTH PROCEDURES AGE >69 AND/OR CC	.9182	6.2	4.0	21
169	6 SURG	MOUTH PROCEDURES AGE <70 W/O CC	.6580	4.0	3.0	12
170	6 SURG	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES AGE >69 AND/OR CC	2.7611	17.6	12.3	29
171	6 SURG	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES AGE <70 W/O CC	2.3295	15.4	9.8	27
172	6 MED	DIGESTIVE MALIGNANCY AGE >69 AND/OR CC	1.0748	10.4	6.7	24
173	6 MED	DIGESTIVE MALIGNANCY AGE <70 W/O CC	.9602	9.3	5.4	22
174	6 MED	G.I. HEMORRHAGE AGE >69 AND/OR CC	.9073	7.5	5.8	23
175	6 MED	G.I. HEMORRHAGE AGE <70 W/O CC	.7067	6.0	4.7	18

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
176	6 MED	COMPLICATED PEPTIC ULCER	.9316	8.3	6.3	23
177	6 MED	UNCOMPLICATED PEPTIC ULCER >69 AND/OR CC	.6615	6.6	5.4	18
178	6 MED	UNCOMPLICATED PEPTIC ULCER <70 W/O CC	.5554	5.5	4.6	15
179	6 MED	INFLAMMATORY BOWEL DISEASE	.9875	9.6	7.1	24
180	6 MED	G.I. OBSTRUCTION AGE >69 AND/OR CC	.7583	7.4	5.4	22
181	6 MED	G.I. OBSTRUCTION AGE <70 W/O CC	.5827	5.8	4.5	18
182	6 MED	ESOPHAGITIS,GASTROENT.& MISC. DIGEST. DIS AGE >69 &/OR CC	.6032	6.1	4.8	18
183	6 MED	ESOPHAGITIS,GASTROENT.& MISC. DIGEST. DIS AGE 18-69 W/O CC	.5104	5.0	4.0	15
184	6 MED	ESOPHAGITIS, GASTROENTERITIS & MISC. DIGEST. DISORDERS AGE 0-17	.4828	3.7	2.6	12
185	6 MED	DENTAL & ORAL DIS. EXC EXTRACTIONS & RESTORATIONS,AGE >17	.7147	6.6	4.3	21
186	6 MED *	DENTAL & ORAL DIS. EXC EXTRACTIONS & RESTORATIONS,AGE 0-17	.4112		2.9	11
187	6 MED	DENTAL EXTRACTIONS & RESTORATIONS	.4209	2.9	2.3	7
188	6 MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE >69 AND/OR CC	.7171	6.4	4.3	21
189	6 MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 18-69 W/O CC	.5260	4.8	3.3	17
190	6 MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 0-17	.9178	6.1	4.3	21
191	7 SURG	MAJOR PANCREAS, LIVER & SHUNT PROCEDURES	4.4603	22.0	18.1	35
192	7 SURG	MINOR PANCREAS, LIVER & SHUNT PROCEDURES	4.0437	21.7	16.7	34
193	7 SURG	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE >69 &/OR CC	2.8115	18.4	15.7	33
194	7 SURG	BILIARY TRACT PROC EXC TOT CHOLECYSTECTOMY AGE <70 W/O CC	2.1204	15.0	12.3	25
195	7 SURG	TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE >69 AND/OR CC	2.2724	14.6	13.1	30
196	7 SURG	TOTAL CHOLECYSTECTOMY WITH C.D.E. AGE <70 W/O CC	1.5974	11.2	10.3	22
197	7 SURG	TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE >69 AND/OR CC	1.7055	11.9	10.5	27
198	7 SURG	TOTAL CHOLECYSTECTOMY W/O C.D.E. AGE <70 W/O CC	1.1399	8.7	8.0	17
199	7 SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY	2.3379	17.4	14.2	31
200	7 SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY	2.6281	15.8	10.9	28
201	7 SURG	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	2.7125	16.1	10.4	27
202	7 MED	CIRRHOSIS & ALCOHOLIC HEPATITIS	1.1665	10.8	7.8	25
203	7 MED	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS	1.0338	10.1	6.9	24
204	7 MED	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	.9698	8.2	6.5	24
205	7 MED	DISORDERS OF LIVER EXC MALIG.CIRR.ALC HEPA AGE >69 AND/OR CC	1.0718	9.5	6.7	24
206	7 MED	DISORDERS OF LIVER EXC MALIG.CIRR.ALC HEPA AGE <70 W/O CC	.7735	7.5	5.0	22
207	7 MED	DISORDERS OF THE BILIARY TRACT AGE >69 AND/OR CC	.7775	7.0	5.4	22
208	7 MED	DISORDERS OF THE BILIARY TRACT AGE <70 W/O CC	.5793	5.2	4.0	16
209	8 SURG	MAJOR JOINT AND LIMB REATTACHMENT PROCEDURES	2.3925	15.8	14.4	31
210	8 SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >69 AND/OR CC	2.0317	16.9	14.6	32

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
211	8 SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 18-69 W/O CC	1.7866	15.0	12.7	30
212	8 SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17	1.6608	9.7	8.3	23
213	8 SURG	AMPUTATIONS FOR MUSCULOSKELETAL SYSTEM & CONN. TISSUE DISORDERS	1.9750	17.1	12.1	29
214	8 SURG	BACK & NECK PROCEDURES AGE >69 AND/OR CC	1.8749	15.6	13.1	30
215	8 SURG	BACK & NECK PROCEDURES AGE <70 W/O CC	1.4275	12.0	10.2	27
216	8 SURG	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1.5565	13.7	8.9	26
217	8 SURG	WND DEBRID & SKN GRFT EXC HAND,FOR MUSCSKELETAL & CONN.TISS.DIS	2.3097	18.8	11.2	28
218	8 SURG	LOWER EXTREM & HUMER PROC EXC HIP,FOOT,FEMUR AGE >69 &/OR CC	1.3797	11.2	8.9	26
219	8 SURG	LOWER EXTREM & HUMER PROC EXC HIP,FOOT,FEMUR AGE 18-69 W/O CC	1.0436	8.1	6.7	22
220	8 SURG *	LOWER EXTREM & HUMER PROC EXC HIP,FOOT,FEMUR AGE 0-17	.9242		5.3	22
221	8 SURG	KNEE PROCEDURES AGE >69 AND/OR CC	1.0141	7.4	5.0	22
222	8 SURG	KNEE PROCEDURES AGE <70 W/O CC	.7262	4.8	3.5	16
223	8 SURG	MAJOR SHOULDER/ELBOW PROC,OR OTHER UPPER EXTREMITY PROC WITH CC	1.2263	8.6	6.6	24
224	8 SURG	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC, W/O CC	.6894	4.9	3.8	14
225	8 SURG	FOOT PROCEDURES	.6552	4.9	3.9	14
226	8 SURG	SOFT TISSUE PROCEDURES AGE >69 AND/OR CC	.8783	7.1	4.9	22
227	8 SURG	SOFT TISSUE PROCEDURES AGE <70 W/O CC	.6573	4.8	3.7	14
228	8 SURG	MAJOR THUMB OR JOINT PROC,OR OTH HAND OR WRIST PROC WITH CC	.8180	5.2	3.9	16
229	8 SURG	HAND OR WRIST PROC, EXCEPT MAJOR JOINT PROC, W/O CC	.4995	3.2	2.4	9
230	8 SURG	LOCAL EXCISION & REMOVAL OF INT FIX DEVICES OF HIP & FEMUR	1.0156	8.7	5.7	23
231	8 SURG	LOCAL EXCISION & REMOVAL OF INT FIX DEVICES EXCEPT HIP & FEMUR	.7381	5.4	3.6	18
232	8 SURG	ARTHROSCOPY	.6723	4.6	3.2	15
233	8 SURG	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC AGE >69 &/OR CC	1.3892	11.6	8.2	25
234	8 SURG	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC AGE <70 W/O CC	.9517	7.6	5.4	22
235	8 MED	FRACTURES OF FEMUR	1.4136	17.9	10.1	27
236	8 MED	FRACTURES OF HIP & PELVIS	1.0712	13.1	8.8	26
237	8 MED	SPRAINS, STRAINS, & DISLOCATIONS OF HIP, PELVIS & THIGH	.6049	7.4	5.4	22
238	8 MED	OSTEOMYELITIS	1.6471	15.8	11.1	28
239	8 MED	PATHOLOGICAL FRACTURES & MUSCULOSKELETAL & CONN.TISS.MALIGNANCY	.9268	10.6	8.0	25
240	8 MED	CONNECTIVE TISSUE DISORDERS AGE >69 AND/OR CC	.9047	9.5	7.3	24
241	8 MED	CONNECTIVE TISSUE DISORDERS AGE <70 W/O CC	.7463	8.1	6.2	23
242	8 MED	SEPTIC ARTHRITIS	1.4562	13.5	9.7	27
243	8 MED	MEDICAL BACK PROBLEMS	.6840	8.0	6.2	23
244	8 MED	BONE DISEASES & SPECIFIC ARTHROPATHIES AGE >69 AND/OR CC	.6742	7.9	6.1	23
245	8 MED	BONE DISEASES & SPECIFIC ARTHROPATHIES AGE <70 W/O CC	.6400	6.7	5.1	22

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DRG	MDC		TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
246	8 MED		NON-SPECIFIC ARTHROPATHIES	.5935	6.9	5.4	21
247	8 MED		SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONN TISSUE	.5793	6.3	4.7	21
248	8 MED		TENDONITIS, MYOSITIS & BURSITIS	.5892	6.3	4.8	20
249	8 MED		AFTERCARE, MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	.7875	8.8	5.6	23
250	8 MED		FX,SPRNS,STRNS & DISL OF FOREARM,HAND,FOOT AGE >69 &/OR CC	.5158	5.6	3.8	20
251	8 MED		FX,SPRNS,STRNS & DISL OF FOREARM,HAND,FOOT AGE 18-69 W/O CC	.4003	3.5	2.5	11
252	8 MED	*	FX,SPRNS,STRNS & DISL OF FOREARM,HAND,FOOT AGE 0-17	.3496		1.8	7
253	8 MED		FX,SPRNS,STRNS & DISL OF UPARM,LOWLEG EX FOOT AGE >69 &/OR CC	.6321	7.8	5.4	22
254	8 MED		FX,SPRNS,STRNS & DISL OF UPARM,LOWLEG EX FOOT AGE 18-69 W/O CC	.4929	5.8	4.0	20
255	8 MED	*	FX,SPRNS,STRNS & DISL OF UPARM,LOWLEG EX FOOT AGE 0-17	.4638		2.9	15
256	8 MED		OTHER DIAGNOSES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	.6991	7.2	4.9	22
257	9 SURG		TOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR CC	1.0630	8.7	7.8	19
258	9 SURG		TOTAL MASTECTOMY FOR MALIGNANCY AGE <70 W/O CC	.9696	7.6	6.9	16
259	9 SURG		SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE >69 AND/OR CC	.8605	7.0	4.9	22
260	9 SURG		SUBTOTAL MASTECTOMY FOR MALIGNANCY AGE <70 W/O CC	.6659	4.8	3.5	15
261	9 SURG		BREAST PROC FOR NON-MALIG EXCEPT BIOPSY & LOC EXC	.6104	4.1	3.3	11
262	9 SURG		BREAST BIOPSY & LOCAL EXCISION FOR NON-MALIGNANCY	.4252	2.8	2.3	6
263	9 SURG		SKIN-GRAFTS &/OR DEBRID FOR SKIN ULCER OR CELLULITIS AGE >69 &/OR	2.4173	22.1	16.1	33
264	9 SURG		SKIN-GRAFTS &/OR DEBRID FOR SKIN ULCER OR CELLULITIS AGE <70 W/O	2.1798	21.7	14.9	32
265	9 SURG		SKIN-GRAFT AND/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS WITH CC	1.3967	11.6	7.6	25
266	9 SURG		SKIN-GRAFT AND/OR DEBRID EXC FOR SKIN ULCER OR CELLULITIS W/O CC	.7313	6.1	4.0	21
267	9 SURG		PERIANAL & PILONIDAL PROCEDURES	.6360	5.4	4.0	17
268	9 SURG		SKIN,SUBCUTANEOUS TISSUE & BREAST PLASTIC PROCEDURES	.5657	3.9	2.8	12
269	9 SURG		OTHER SKIN, SUBCUT TISS & BREAST O.R. PROC AGE >69 &/OR CC	1.1334	9.6	5.5	23
270	9 SURG		OTHER SKIN, SUBCUT TISS & BREAST O.R. PROC AGE <70 W/O CC	.7622	6.3	3.8	21
271	9 MED		SKIN ULCERS	1.2612	14.1	10.1	27
272	9 MED		MAJOR SKIN DISORDERS AGE >69 AND/OR CC	.8524	9.5	7.2	24
273	9 MED		MAJOR SKIN DISORDERS AGE <70 W/O CC	.7971	9.4	6.5	24
274	9 MED		MALIGNANT BREAST DISORDERS AGE >69 AND/OR CC	1.0367	10.9	7.0	24
275	9 MED		MALIGNANT BREAST DISORDERS AGE <70 W/O CC	.9880	10.4	5.8	23
276	9 MED		NON-MALIGANT BREAST DISORDERS	.5677	5.4	3.4	19
277	9 MED		CELLULITIS AGE >69 AND/OR CC	.8861	9.2	7.3	24
278	9 MED		CELLULITIS AGE 18-69 W/O CC	.7582	7.9	6.2	23
279	9 MED	*	CELLULITIS AGE 0-17	.4739		4.2	13
280	9 MED		TRAUMA TO THE SKIN, SUBCUT TISS & BREAST AGE >69 &/OR CC	.5414	6.4	4.6	22

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
281	9 MED	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST AGE 18-69 W/O CC	.4467	4.8	3.4	16
282	9 MED *	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST AGE 0-17	.3424		2.2	9
283	9 MED	MINOR SKIN DISORDERS AGE >69 AND/OR CC	.6365	7.0	5.0	22
284	9 MED	MINOR SKIN DISORDERS AGE <70 W/O CC	.5170	5.3	3.7	18
285	10 SURG	AMPUTATION OF LOWER LIMB FOR ENDOCRINE,NUTRITIONAL&METABOLIC DIS.	3.2719	28.0	21.5	39
286	10 SURG	ADRENAL & PITUITARY PROCEDURES	2.6727	15.8	13.3	30
287	10 SURG	SKIN GRAFTS & WOUND DEBRIDE FOR ENDOC,NUTRIT & METAB DISORDERS	2.3776	21.5	15.7	33
288	10 SURG	O.R. PROCEDURES FOR OBESITY	2.1128	12.4	9.7	27
289	10 SURG	PARATHYROID PROCEDURES	1.3304	8.8	6.9	24
290	10 SURG	THYROID PROCEDURES	.6561	5.9	5.0	14
291	10 SURG	THYROGLOSSAL PROCEDURES	.6072	4.2	3.4	11
292	10 SURG	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC AGE > 69 &/OR CC	2.3129	16.7	11.3	28
293	10 SURG	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC AGE <70 W/O CC	1.7960	14.0	8.2	25
294	10 MED	DIABETES AGE > 35	.7454	8.3	6.7	24
295	10 MED	DIABETES AGE 0-35	.7886	6.7	5.0	22
296	10 MED	NUTRITIONAL & MISC. METABOLIC DISORDERS AGE >69 AND/OR CC	.8271	8.3	6.1	23
297	10 MED	NUTRITIONAL & MISC. METABOLIC DISORDERS AGE 18-69 W/O CC	.6984	7.0	4.9	22
298	10 MED	NUTRITIONAL & MISC. METABOLIC DISORDERS AGE 0-17	.7203	5.3	3.3	18
299	10 MED	INBORN ERRORS OF METABOLISM	.8041	7.6	5.3	22
300	10 MED	ENDOCRINE DISORDERS AGE >69 AND/OR CC	.9348	9.2	6.9	24
301	10 MED	ENDOCRINE DISORDERS AGE <70 W/O CC	.6882	6.9	5.1	22
302	11 SURG	KIDNEY TRANSPLANT	4.6267	24.6	21.3	38
303	11 SURG	KIDNEY,URETER & MAJOR BLADDER PROCEDURE FOR NEOPLASM	2.7606	16.6	14.2	31
304	11 SURG	KIDNEY,URETER & MAJ BLDR PROC FOR NON-NEOPL AGE >69 &/OR CC	2.0322	13.5	10.8	28
305	11 SURG	KIDNEY,URETER & MAJ BLDR PROC FOR NON-NEOPL AGE <70 W/O CC	1.4893	10.4	8.4	25
306	11 SURG	PROSTATECTOMY AGE >69 AND/OR CC	1.2593	9.8	8.1	25
307	11 SURG	PROSTATECTOMY AGE <70 W/O CC	.9585	7.7	6.5	19
308	11 SURG	MINOR BLADDER PROCEDURES AGE >69 AND/OR CC	1.1487	8.8	6.1	23
309	11 SURG	MINOR BLADDER PROCEDURES AGE <70 W/O CC	.8644	6.7	4.7	22
310	11 SURG	TRANSURETHRAL PROCEDURES AGE >69 AND/OR CC	.7265	5.6	4.3	17
311	11 SURG	TRANSURETHRAL PROCEDURES AGE <70 W/O CC	.5564	4.1	3.3	11
312	11 SURG	URETHRAL PROCEDURES, AGE >69 AND/OR CC	.7307	5.8	4.4	18
313	11 SURG	URETHRAL PROCEDURES, AGE 18-69 W/O CC	.5804	4.6	3.5	14
314	11 SURG *	URETHRAL PROCEDURES, AGE 0-17	.4323		2.3	11
315	11 SURG	OTHER KIDNEY & URINARY TRACT O.R. PROCEDURES	2.7736	15.3	9.8	27

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DRG	MDC		TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
316	11 MED		RENAL FAILURE	1.3210	10.0	6.4	23
317	11 MED		ADMIT FOR RENAL DIALYSIS	.4907	3.4	2.3	10
318	11 MED		KIDNEY & URINARY TRACT NEOPLASMS AGE >69 AND/OR CC	.9216	8.8	5.5	23
319	11 MED		KIDNEY & URINARY TRACT NEOPLASMS AGE <70 W/O CC	.7415	6.6	3.8	21
320	11 MED		KIDNEY & URINARY TRACT INFECTIONS AGE >69 AND/OR CC	.8626	8.2	6.5	24
321	11 MED		KIDNEY & URINARY TRACT INFECTIONS AGE 18-69 W/O CC	.6750	6.4	5.1	19
322	11 MED		KIDNEY & URINARY TRACT INFECTIONS AGE 0-17	.6996	6.4	5.2	19
323	11 MED		URINARY STONES AGE >69 &/OR CC, &/OR ESW LITHOTRIPSY	.5862	5.1	3.7	17
324	11 MED		URINARY STONES AGE <70 W/O CC	.4096	3.6	2.8	11
325	11 MED		KIDNEY & URINARY TRACT SIGNS & SYMPTOMS AGE >69 AND/OR CC	.6503	6.5	4.6	22
326	11 MED		KIDNEY & URINARY TRACT SIGNS & SYMPTOMS AGE 18-69 W/O CC	.5156	4.9	3.5	16
327	11 MED		KIDNEY & URINARY TRACT SIGNS & SYMPTOMS AGE 0-17	.5511	28.6	3.3	20
328	11 MED		URETHRAL STRICTURE AGE >69 AND/OR CC	.5939	5.4	4.0	18
329	11 MED		URETHRAL STRICTURE AGE 18-69 W/O CC	.4870	4.1	3.0	12
330	11 MED	*	URETHRAL STRICTURE AGE 0-17	.2788		1.6	5
331	11 MED		OTHER KIDNEY & URINARY TRACT DIAGNOSES AGE >69 AND/OR CC	.8329	7.6	5.4	22
332	11 MED		OTHER KIDNEY & URINARY TRACT DIAGNOSES AGE 18-69 W/O CC	.6725	6.0	4.1	21
333	11 MED		OTHER KIDNEY & URINARY TRACT DIAGNOSES AGE 0-17	.7912	5.9	3.7	21
334	12 SURG		MAJOR MALE PELVIC PROCEDURES WITH CC	1.8035	13.5	12.3	28
335	12 SURG		MAJOR MALE PELVIC PROCEDURES W/O CC	1.4643	11.9	11.0	23
336	12 SURG		TRANSURETHRAL PROSTATECTOMY AGE >69 AND/OR CC	.9869	7.9	7.0	18
337	12 SURG		TRANSURETHRAL PROSTATECTOMY AGE <70 W/O CC	.7788	6.3	5.8	12
338	12 SURG		TESTES PROCEDURES, FOR MALIGNANCY	.8907	7.3	4.9	22
339	12 SURG		TESTES PROCEDURES, NON-MALIGNANCY AGE >17	.5766	4.4	3.4	12
340	12 SURG	*	TESTES PROCEDURES, NON-MALIGNANCY AGE 0-17	.4335		2.4	7
341	12 SURG		PENIS PROCEDURES	.9970	6.4	5.3	16
342	12 SURG		CIRCUMCISION AGE >17	.4265	3.0	2.4	8
343	12 SURG	*	CIRCUMCISION AGE 0-17	.3788		1.7	4
344	12 SURG		OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY	1.1214	8.3	6.3	23
345	12 SURG		OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT FOR MALIG	.8173	6.5	4.8	22
346	12 MED		MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE >69 AND/OR CC	.8568	8.5	5.6	23
347	12 MED		MALIGNANCY, MALE REPRODUCTIVE SYSTEM, AGE <70 W/O CC	.6441	5.9	3.7	21
348	12 MED		BENIGN PROSTATIC HYPERTROPHY AGE >69 AND/OR CC	.6257	5.6	3.9	19
349	12 MED		BENIGN PROSTATIC HYPERTROPHY AGE <70 W/O CC	.4853	3.9	2.9	12
350	12 MED		INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM	.6270	5.9	4.8	17

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
351	12 MED	STERILIZATION, MALE	.3333	1.9	1.6	5
352	12 MED	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES	.5354	4.8	3.3	16
353	13 SURG	PELVIC EVISCERATION, RADICAL HYSTERECTOMY & RADICAL VULVECTOMY	2.3887	17.3	14.8	32
354	13 SURG	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIGN AGE >69 OR CC	1.3563	10.3	9.2	22
355	13 SURG	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIGN AGE < 70 W/O C	1.0359	8.1	7.6	15
356	13 SURG	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	.8470	7.6	7.0	15
357	13 SURG	UTERINE & ADNEXA PROCEDURES, FOR OVARIAN OR ADNEXAL MALIGNANCY	2.1103	14.5	12.7	30
358	13 SURG	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY, AGE > 69 OR CC	1.1152	9.0	8.2	18
359	13 SURG	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY AGE < 70 W/O CC	.9462	7.6	7.1	14
360	13 SURG	VAGINA, CERVIX & VULVA PROCEDURES	.6338	5.1	3.6	17
361	13 SURG	LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION	.6594	4.5	3.1	15
362	13 SURG	ENDOSCOPIC TUBAL INTERRUPTION	.3510	2.0	1.8	4
363	13 SURG	D&C,CONIZATION & RADIO-IMPLANT, FOR MALIGNANCY	.6156	4.9	3.6	15
364	13 SURG	D&C,CONIZATION EXCEPT FOR MALIGNANCY	.3921	2.8	2.2	7
365	13 SURG	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES	1.9085	14.0	10.9	28
366	13 MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE >69 AND/OR CC	.8624	8.4	4.9	22
367	13 MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM AGE <70 W/O CC	.5353	4.7	2.8	16
368	13 MED	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM	.7610	7.8	5.9	23
369	13 MED	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	.5496	5.6	3.9	20
370	14 SURG	CESAREAN SECTION WITH CC	1.1063	8.0	7.1	17
371	14 SURG	CESAREAN SECTION W/O CC	.7669	6.2	5.6	12
372	14 MED	VAGINAL DELIVERY WITH COMPLICATING DIAGNOSES	.5942	5.2	4.0	14
373	14 MED	VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES	.3538	3.1	2.8	7
374	14 SURG	VAGINAL DELIVERY WITH STERILIZATION AND/OR D&C	.5754	3.7	3.3	8
375	14 SURG *	VAGINAL DELIVERY WITH O.R. PROC EXCEPT STERIL AND/OR D&C	.6817		4.4	15
376	14 MED	POSTPARTUM AND POSTABORTION DIAGNOSES W/O O.R. PROCEDURE	.4539	5.0	3.4	16
377	14 SURG	POSTPARTUM AND POSTABORTION DIAGNOSES WITH O.R. PROCEDURE	.7698	4.2	3.1	15
378	14 MED	ECTOPIC PREGNANCY	.7357	5.2	4.3	14
379	14 MED	THREATENED ABORTION	.2409	2.6	1.9	8
380	14 MED	ABORTION W/O D&C	.3792	3.2	2.1	10
381	14 MED	ABORTION WITH D&C, ASPIRATION CURETTAGE, OR HYSTEROTOMY	.3725	2.0	1.7	5
382	14 MED	FALSE LABOR	.1136	1.5	1.2	3
383	14 MED	OTHER ANTEPARTUM DIAGNOSES WITH MEDICAL COMPLICATIONS	.4452	4.8	3.4	16
384	14 MED	OTHER ANTEPARTUM DIAGNOSES W/O MEDICAL COMPLICATIONS	.4586	4.4	2.6	16
385	15 *	NEONATES, DIED OR TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	.6811		1.8	14

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DRG	MDC		TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
386	15	*	EXTREME IMMATURITY OR RESPIRATORY DISTRESS SYNDROME, NEONATE	3.6480		17.9	35
387	15	*	PREMATURITY WITH MAJOR PROBLEMS	1.8267		13.3	30
388	15	*	PREMATURITY W/O MAJOR PROBLEMS	1.1571		8.6	26
389	15	*	FULL TERM NEONATE WITH MAJOR PROBLEMS	.5425		4.7	16
390	15	*	NEONATES WITH OTHER SIGNIFICANT PROBLEMS	.3486		3.4	9
391	15	*	NORMAL NEWBORNS	.2218		3.1	7
392	16	SURG	SPLENECTOMY AGE >17	3.2488	17.3	13.7	31
393	16	SURG *	SPLENECTOMY AGE 0-17	1.5206		9.1	26
394	16	SURG	OTHER O.R. PROCEDURES OF THE BLOOD & BLOOD FORMING ORGANS	1.0889	8.0	5.0	22
395	16	MED	RED BLOOD CELL DISORDERS AGE >17	.7153	6.7	4.7	22
396	16	MED	RED BLOOD CELL DISORDERS AGE 0-17	.2952	1.7	1.3	4
397	16	MED	COAGULATION DISORDERS	.9969	8.4	5.9	23
398	16	MED	RETICULOENDOTHELIAL & IMMUNITY DISORDERS AGE >69 AND/OR CC	.9752	8.1	5.5	23
399	16	MED	RETICULOENDOTHELIAL & IMMUNITY DISORDERS AGE <70 W/O CC	.7247	6.4	4.2	21
400	17	SURG	LYMPHOMA & LEUKEMIA WITH MAJOR O.R. PROCEDURE	3.1139	15.0	12.0	29
401	17	SURG	LYMPHOMA & NON-ACUTE LEUKEMIA WITH OTHER O.R. PROC WITH CC	1.9327	14.5	10.2	27
402	17	SURG	LYMPHOMA & NON-ACUTE LEUKEMIA WITH OTHER O.R. PROCEDURE W/O CC	1.0514	8.7	5.9	23
403	17	MED	LYMPHOMA & NON-ACUTE LEUKEMIA WITH CC	1.3493	11.0	7.4	24
404	17	MED	LYMPHOMA & NON-ACUTE LEUKEMIA W/O CC	.9101	8.6	5.3	22
405	17	MED *	ACUTE LEUKEMIA WITHOUT MAJOR O.R. PROCEDURE AGE 0-17	1.0407		4.9	22
406	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPLASM W MAJ O.R.PROC & CC	2.5302	16.8	12.9	30
407	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R.PROC W/O CC	1.7124	13.0	8.6	26
408	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL WITH OTHER O.R.PROC	1.0500	8.3	5.3	22
409	17	MED	RADIOTHERAPY	.9855	10.9	7.0	24
410	17	MED	CHEMOTHERAPY	.4284	3.1	2.4	9
411	17	MED	HISTORY OF MALIGNANCY W/O ENDOSCOPY	.5907	5.9	3.8	21
412	17	MED	HISTORY OF MALIGNANCY WITH ENDOSCOPY	.3388	2.4	1.9	6
413	17	MED	OTHR MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE>69 &/OR C.C	1.0455	10.7	6.9	24
414	17	MED	OTHR MYELOPROLIF DISORD OR POORLY DIFF NEOPL DX AGE<70 W/O CC	.8983	9.2	5.4	22
415	18	SURG	O.R. PROCEDURE FOR INFECTIOUS & PARASITIC DISEASES	3.3287	20.5	14.7	32
416	18	MED	SEPTICEMIA AGE >17	1.6182	11.7	8.3	25
417	18	MED	SEPTICEMIA AGE 0-17	1.1530	7.6	5.4	22
418	18	MED	POSTOPERATIVE & POST-TRAUMATIC INFECTIONS	1.0022	9.8	7.5	25
419	18	MED	FEVER OF UNKNOWN ORIGIN AGE >69 AND/OR CC	.9305	8.4	6.1	23
420	18	MED	FEVER OF UNKNOWN ORIGIN AGE 18-69 W/O CC	.8316	7.5	5.5	23

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
421	18 MED	VIRAL ILLNESS AGE >17	.5672	5.8	4.6	16
422	18 MED	VIRAL ILLNESS & FEVER OF UNKNOWN ORIGIN AGE 0-17	.6583	5.2	3.6	18
423	18 MED	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES	1.3205	11.0	8.0	25
424	19 SURG	O.R. PROCEDURES WITH PRINCIPAL DIAGNOSIS OF MENTAL ILLNESS	2.2113	22.1	15.0	32
425	19 MED	ACUTE ADJUST REACT & DISTURBANCES OF PSYCHOSOCIAL DYSFUNCTION	.6090	7.6	4.8	22
426	19 MED	DEPRESSIVE NEUROSES	.8332	11.8	7.8	25
427	19 MED	NEUROSES EXCEPT DEPRESSIVE	.7018	9.8	6.4	23
428	19 MED	DISORDERS OF PERSONALITY & IMPULSE CONTROL	.8513	11.9	7.4	24
429	19 MED	ORGANIC DISTURBANCES & MENTAL RETARDATION	.8419	11.0	7.6	25
430	19 MED	PSYCHOSES	1.0760	15.5	10.5	28
431	19 MED	CHILDHOOD MENTAL DISORDERS	.8493	10.4	6.6	24
432	19 MED	OTHER DIAGNOSES OF MENTAL DISORDERS	.6968	8.1	4.9	22
433	20	ALCOHOL/DRUG USE AND INDUCED ORGANIC MENTAL DISORDERS, LEFT AMA	.3906	4.4	2.9	16
434	20	ALC/DRUG ABUSE,INTOX INDUCD MNTL SYN EXC DEPEND &/OR OTH SYMPT TR	.7096	8.2	5.4	22
435	20	ALCOHOL/DRUG DEPENDENCE, DETOX AND/OR OTHER SYMPTOMATIC TREATMENT	.7978	10.2	6.7	24
436	20	ALCOHOL/DRUG DEPENDENCE WITH REHABILITATION THERAPY	1.0166	14.2	9.8	27
437	20	ALCOHOL/DRUG DEPENDENCE, COMBINED REHABILITATION AND DETOX THERAP	1.3273	19.0	14.6	32
438		NO LONGER VALID	.0000			
439	21 SURG	SKIN GRAFTS FOR INJURIES	1.6505	14.2	8.0	25
440	21 SURG	WOUND DEBRIDEMENTS FOR INJURIES	2.0421	16.1	9.6	27
441	21 SURG	HAND PROCEDURES FOR INJURIES	.7303	4.6	2.7	16
442	21 SURG	OTHER O.R. PROCEDURES FOR INJURIES AGE >69 AND/OR CC	1.8143	10.5	6.1	23
443	21 SURG	OTHER O.R. PROCEDURES FOR INJURIES AGE <70 W/O CC	1.4841	9.4	5.6	23
444	21 MED	MULTIPLE TRAUMA AGE >69 AND/OR CC	.7072	7.7	5.4	22
445	21 MED	MULTIPLE TRAUMA AGE 18-69 W/O CC	.6014	6.2	4.1	21
446	21 MED *	MULTIPLE TRAUMA AGE 0-17	.4796		2.4	10
447	21 MED	ALLERGIC REACTIONS AGE >17	.4470	4.1	2.9	14
448	21 MED *	ALLERGIC REACTIONS AGE 0-17	.3470		2.9	9
449	21 MED	POISONING AND TOXIC EFFECTS OF DRUGS AGE >69 AND/OR CC	.6951	6.5	4.7	22
450	21 MED	POISONING AND TOXIC EFFECTS OF DRUGS AGE 18-69 W/O CC	.5422	5.1	3.3	18
451	21 MED	POISONING AND TOXIC EFFECTS OF DRUGS AGE 0-17	.5497	5.0	3.4	20
452	21 MED	COMPLICATIONS OF TREATMENT AGE >69 AND/OR CC	.8079	7.0	4.7	22
453	21 MED	COMPLICATIONS OF TREATMENT AGE <70 W/O CC	.7468	6.5	4.3	21
454	21 MED	OTHER INJURIES, POISONINGS & TOXIC EFF DIAG AGE >69 AND/OR CC	.8099	7.5	4.6	22
455	21 MED	OTHER INJURIES, POISONINGS & TOXIC EFF DIAG AGE <70 W/O CC	.6002	6.0	3.5	21

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DRG	MDC	TITLE	RELATIVE WEIGHTS	ARITHMETIC MEAN LOS	GEOMETRIC MEAN LOS	OUTLIER THRESHOLD
456	22	BURNS, TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	1.8155	11.9	5.5	23
457	22 MED	EXTENSIVE BURNS W/O O.R. PROCEDURE	3.2280	9.5	4.0	21
458	22 SURG	NON-EXTENSIVE BURNS WITH SKIN GRAFTS	3.9450	26.0	18.9	36
459	22 SURG	NON-EXTENSIVE BURNS WITH WOUND DEBRIDEMENT OR OTHER O.R. PROC	3.2658	20.8	13.5	31
460	22 MED	NON-EXTENSIVE BURNS W/O O.R. PROCEDURE	1.1592	11.2	7.5	25
461	23 SURG	O.R. PROC WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES	1.3548	10.2	5.3	22
462	23 MED	REHABILITATION	2.1404	24.2	18.0	35
463	23 MED	SIGNS & SYMPTOMS WITH CC	.7949	8.0	5.9	23
464	23 MED	SIGNS & SYMPTOMS W/O CC	.6952	7.8	5.0	22
465	23 MED	AFTERCARE WITH HISTORY OF MALIGNANCY AS SECONDARY DX	.2881	2.1	1.7	5
466	23 MED	AFTERCARE W/O HISTORY OF MALIGNANCY AS SECONDARY DX	.4152	4.5	2.7	16
467	23 MED	OTHER FACTORS INFLUENCING HEALTH STATUS	.7212	7.8	3.9	21
468		UNRELATED OR PROCEDURE	2.4516	17.1	11.7	29
469		** PDX INVALID AS DISCHARGE DIAGNOSIS	.0000	11.5	7.6	25
470		** UNGROUPABLE	.0000	12.1	7.1	24
471	8 SURG	BILATERAL OR MULTIPLE MAJOR JOINT PROCEDURES OF THE LOWER EXTREMI	3.6991	23.5	20.9	38
472	22 SURG	EXTENSIVE BURNS WITH O.R. PROCEDURE	12.3234	35.4	23.1	40
473	17 MED	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE AGE > 17	2.3275	13.6	7.5	25

* MEDICARE DATA HAVE BEEN SUPPLEMENTED BY DATA FROM MARYLAND AND MICHIGAN FOR LOW VOLUME DRGS.
** DRGS 469 AND 470 CONTAIN CASES WHICH COULD NOT BE ASSIGNED TO VALID DRGS.
NOTE: GEOMETRIC MEAN IS USED ONLY TO DETERMINE PAYMENT FOR OUTLIER AND TRANSFER CASES.
NOTE: RELATIVE WEIGHTS ARE BASED ON MEDICARE PATIENT DATA AND MAY NOT BE APPROPRIATE FOR OTHER PATIENTS.
NOTE: ARITHMETIC MEAN INCLUDED FOR COMPARATIVE PURPOSES. IT IS NOT USED FOR PAYMENT.

TABLE 6 - CHANGES TO GROUPER PROGRAM

PROBLEM	GROUPER MODIFICATION
A. DRG Logic Issues	
In the September 3, 1985 final rule concerning DRG classification changes, removal of coronary artery obstruction (procedure code 360) was deleted from DRG 109 and assigned to DRG 112 when there was no mention of use of extracorporeal circulation. Most such procedures were accomplished through percutaneous methods (PTCA) rather than open surgery	Unique procedure codes have been approved for PTCA and other methods of removing coronary artery obstructions. Therefore, open surgical removal of the obstruction (new procedure code 3603) is reassigned to DRG 109.
Procedure code 8421, thumb reattachment, had been inadvertently omitted from the procedures classified in MDC 8 (Diseases and Disorders of the Musculoskeletal System and Connective Tissue).	Add procedure code 8421 to DRGs 228 and 229.
DRG 385 (Neonates, Died or Transferred) includes transfers to foster care facilities, as well as other facilities, in addition to transfers to acute care hospitals. It is not appropriate to classify normal newborns transferred to foster care facilities, or similar facilities, into DRG 385.	Assign a newborn to DRG 385 only for cases with a reported discharge status of "died" or "transferred to an acute care hospital." Assign a newborn transferred to other than an acute care facility to DRGs 386-391, as appropriate, based on the diagnosis and procedure codes.
DRG 118 contains cases in which the only pacemaker procedure reported is replacement of pulse generator. Cases reporting replacement of both leads and pulse generator are assigned to DRG 117.	We are revising the decision table for MDC 5 by changing the criteria for DRG 118 by deleting the word "only". Cases involving replacement of pacemaker pulse generators and additional pacemaker procedures will now be classified to DRG 118.
B. SURGICAL HIERARCHY	
Cases showing multiple surgical procedures should be classified into the DRG that coincides with the most resource intensive procedure performed. Based upon the current weights:	
In MDC 2 (Diseases and Disorders of the Eye), extraocular procedures except orbit are more resource intensive than primary iris procedures.	1. The revised surgical hierarchy for MDC 2 is a follows: Retinal procedures (DRG 36) Orbital procedures (DRG 37) Intraocular procedures except retina, iris and lens (DRG 42) Lens procedures (DRG 39) Extraocular procedures except orbit (DRGs 40 & 41) Primary iris procedures (DRG 38)

PROBLEM

In MDC 3 (Diseases and Disorders of the Ear, Nose and Throat), cleft lip and palate repair and sinus and mastoid procedures, are more resource intensive than salivary gland procedures except sialoadenectomy.

In MDC 5 (Diseases and Disorders of the Circulatory System), permanent cardiac pacemaker implantations are more resource intensive than vascular procedures.

GROUPER MODIFICATION

2. The revised surgical hierarchy for MDC 3 is as follows:

Major head and neck procedures (DRG 49)
Sialoadenectomy (DRG 50)
Cleft lip and palate repair (DRG 52)
Sinus and mastoid procedures (DRGs 53 & 54)
Salivary gland procedures except sialoadenectomy (DRG 51)
Miscellaneous ear, nose and throat procedures (DRG 55)
Rhinoplasty (DRG 56)
Tonsillectomy and/or adenoidectomy only (DRGs 57 & 58)
Tonsil and adenoid procedures except tonsillectomy and/or adenoidectomy only (DRGs 59 & 60)
Myringotomy with tube insertion (DRGs 61 & 62)
Other ear, nose and throat operating room procedures (DRG 63)

3. The revised surgical hierarchy of MDC 5 is as follows:

Heart transplant (DRG 103)
Cardiac valve procedure with pump (DRGs 104 & 105)
Coronary bypass (DRGs 106 & 107)
Other cardiothoracic procedures (DRGs 108 & 109)
Vascular procedures with pump (DRG 108)
Permanent cardiac pacemaker implantation (DRGs 115 & 116)
Vascular procedures without pump (DRGs 110, 111, & 112)
Amputation except upper limb and toe (DRG 113)
Amputation upper limb and toe (DRG 114)
Cardiac pacemaker replacement and/or revision (DRGs 117 & 118)
Vein ligation and stripping (DRG 119)
Other circulatory system operating room procedures (DRG 120)

PROBLEM

In MDC 6 (Disease and Disorders of the Digestive System), mouth procedures are more resource intensive than anal and stomal procedures.

GROUPER MODIFICATION

4. The revised surgical hierarchy of MDC 6 is as follows:

Rectal resection (DRGs 146 & 147)
Major small and large bowel procedures (DRGs 148 & 149)
Stomach, esophageal and duodenal procedures (DRGs 154 & 155)
Peritoneal adhesiolysis (DRGs 150 & 151)
Minor small and large bowel procedures (DRGs 152 & 153)
Appendectomy (DRGs 164 through 167)
Hernia procedures (DRGs 159 through 162)
Mouth procedures (DRGs 168 & 169)
Anal and stomal procedures (DRGs 157 & 158)
Other digestive system operating room procedures (DRG 170)

In MDC 8 (Diseases and Disorders of the Musculoskeletal System and Connective Tissue), the present bottom half of surgical hierarchy does not reflect resource intensity or the revised definitions of DRGs 223, 224, 228, and 229 (see sections C.3. and C.4 of this Table).

5. The revised surgical hierarchy of MDC 8 is as follows:

Bilateral or multiple major joint procedures of the lower extremity (DRG 471)
Major joint and limb reattachment procedures (DRG 209)
Hip and femur procedures except major joint (DRGs 210, 211, and 212)
Wound debridement and skin graft except hand (DRG 217)

PROBLEM	GROUPER MODIFICATION
	Amputations (DRG 213) Back and neck procedures (DRGs 214 & 215) Biopsies (DRG 216) Lower extremity and humerus procedures except hip, foot, and femur (DRGs 218 through 220) Upper extremity procedures except humerus and hand (DRGs 223 & 224) Local excision and removal of internal fixation devices (DRGs 230 & 231) Knee procedures (DRGs 221 & 222) Soft tissue procedures (DRGs 226 & 227) Hand procedures (DRGs 228 and 229) Arthroscopy (DRG 232) Foot procedures (DRG 225) Other musculoskeletal system and connective tissue operating room procedures (DRGs 233 & 234)
In MDC 13 (Diseases and Disorders of the Female Reproductive System), the surgical hierarchy is changed because we are reconfiguring this category (see section C.6. of this Table).	6. The revised surgical hierarchy of MDC 13 is as follows: Pelvic eviseration, radical hysterectomy and radical vulvectomy (DRG 353) Uterus and adnexal procedures (DRGs 354, 355, 357, 358, & 359) Reconstruction (DRG 356) Vagina, cervix and vulva (DRG 360) Laparoscopy and incisional tubal interruption (DRG 361) D and C, conization and radio implant (DRG 363 & 364) Endoscopic tubal interruption (DRG 362) Other female reproductive system operating room procedures (DRG 365)
In MDC 21 (Injuries, Poisonings and Toxic Effect of Drugs), wound debridements are more resource intensive than skin grafts.	7. The revised surgical hierarachy of MDC 21 is as follows: Wound debridements (DRG 440) Skin grafts (DRG 439) Hand procedures (DRG 441) Other operating room procedures for injuries (DRGs 442 & 443)

PROBLEM	GROUPER MODIFICATION
C Homogeneity	
In MDC 4, the resources associated with treatment of cases in which the principal diagnosis is bacterial pneumonia, not elsewhere classified (diagnosis code 4828) were found to be significantly higher than other cases in DRG 89, 90 and 91 (simple pneumonia and pleurisy) thereby disrupting the homogeneity of these DRGs.	1. Diagnosis code 4828 is removed from DRGs 89, 90 and 91 and reassigned to DRGs 79, 80 and 81 (Respiratory Infections and Inflammations).
In MDC 5, thoraco-abdominal aortic aneurysms repair procedures are commonly assigned to DRGs 110 and 111 (Major reconstructive vascular procedures). The resources associated with this procedure are significantly higher than other procedures in these DRGs. Similarly, from a clinical perspective, the procedure is much more complex than other major vascular procedures.	2. Thoraco-abdominal aortic aneurysms repair (procedure codes 38.44 and 38.45 used simultaneously) are assigned to DRGs 108 and 109 since they are more homogeneous in both a clinical sense and from a resource perspective.
In MDC 8 (Diseases and Disorders of the Musculoskeletal System and Connective Tissue), the construction of DRGs 223-224, upper extremity O.R. procedures, results in the comingling of a broad range of procedures that can be performed on a single body site. There is substantial variability in resources associated with these procedures.	3. DRGs 223-224 are reconfigured to eliminate age considerations from this classification. Major shoulder and elbow joint procedures (codes 8011, 8012, 8123, 8124, 8181, 8183, 8184, and 8185) are grouped to DRG 223. Other upper extremity O.R. procedures are classified into DRG 223 if a CC is present and into DRG 224 if no CC is present.
Also in MDC 8, the construction of DRGs 228-229, hand O.R. procedures, results in the comingling of a broad range of surgical procedures, with DRG assignment dependent only on the presence or absence of ganglion diagnoses. There is substantial variation in the resources associated with these procedures.	4. DRGs 228-229 are reconfigured to eliminate ganglion diagnoses from consideration in the classification of hand procedures Major wrist, hand and thumb O.R. procedures (codes 8013, 8014, 8171, 8179, 8186, 8187, 8261, and 8269) and other O.R. procedures with CC are grouped to DRG 228. Hand or wrist procedures, other than major joint procedures, without CC comprise DRG 229.
In MDC 11 (Diseases and Disorders of the Kidney and Urinary Tract), it was found that age or absence of CC had little effect on the resource consumption associated with extracorporeal shock wave lithotripsy (ESWL). Regardless of patient age and the absence of complications or comorbidities, the procedure is similar in resources to those cases classified into DRG 323, urinary Stones, age greater than 69 and/or CC.	5. All cases with a principal diagnosis of urinary stones that were treated with ESWL and no O.R. procedures are assigned to DRG 323, regardless of age and/or CC.

PROBLEM

In MDC 13 (Diseases and Disorders of the Female Reproductive System), a high degree of heterogeneity existed.

In MDC 17 (Myeloproliferative Diseases and Disorders, and Poorly Differentiated Neoplasms), a high degree of heterogeneity exists in DRGs 401 through 404. Two factors have been identified as contributing to this heterogeneity, that is, comingling of acute leukemia with lymphoma and other leukemia cases and differentiating classification on the basis of age.

In MDC 22 (Burns), cases assigned to DRG 457 show a high degree of heterogeneity. One of the factors contributing to this heterogeneity is the comingling of cases requiring surgical procedures with those treated medically.

GROUPER MODIFICATION

6. MDC 13 has been reconfigured as follows:
   - Unilateral vulvectomy (procedure code 7161) and bilateral vulvectomy (procedure code 7162) are removed from DRG 353 and reassigned to DRG 360.
   - Uterus and adnexa procedures (except for incisional tubal interruption: procedure codes 6631, 6632, 6639, and 6663) are combined with the non-radical hysterectomy procedures (codes 6830, 6840, and 6850) above reconstructive procedures in the surgical hierarchy and sorted into DRGs based on principal diagnosis of ovarian and adnexal malignancy (DRG 357), other malignancy (DRG 354 or 355, depending on age or CC), and non-malignancy (DRG 358 or 359, depending on age or CC).
   - Incisional tubal interruption procedures are removed from DRG 359 and reassigned to DRG 361.

7. DRGS 401 through 405 are reconfigured to remove acute leukemia cases. Acute leukemia without major O.R. procedure is classified into 2 DRGs, that is, DRG 405 for patients under age 18 and a new DRG 473 for patients over age 17. Lymphoma/non-acute leukemia without major O.R. procedure is classified based on other O.R. procedures, with and without CC (DRGs 401 and 402), and medical cases, with and without CC (DRGs 403 and 404). Age no longer affects DRG classification of lymphoma/non-acute leukemia.

8. DRG 457, extensive burns, is divided into 2 categories. The new DRG 457 includes only extensive burns without O.R. procedures. A new DRG 472 includes extensive burns with burn-related O.R. procedures.

PROBLEM	GROUPER MODIFICATION
D. Other Changes	
Medicare coverage has been extended to implantation of automatic cardiac defibrillators under certain circumstances.	1. Implantation of a cardiac defibrillator total system (procedure code 3794) is assigned to DRG 104. Insertion or replacement of defibrillator leads or devices is assigned to DRG 117.
Medicare coverage for implantation of cochlear prosthetic devices will be announced soon.	2. Implantation or replacement of a cochlear prosthetic device (procedure codes 2096, 2097 and 2098) is assigned to DRG 49.

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Appendix A—Data Sources Used To Estimate the Market Basket Relative Weights, and Choice of Price Proxies

As discussed above in section III of the preamble, we are rebasing and reweighting the hospital market basket. The market basket reflects the average change in the price of goods and services purchased by hospitals to furnish inpatient care. Below we list the data sources used to estimate the relative weights in the hospital market basket and our choice of price proxies.

A. Data Sources Used to Estimate Relative Weights

1. Payroll Expenses: Wages and Salaries

Source: American Hospital Association, *Hospital Statistics*, Annual Survey. Chicago, Illinois, 1983.

2. Payroll Expenses: Employee Benefits

Source: Same as above.

3. Professional Fees

Source: Same as above.

This category was split into two components:

- Professional fees, medical; and
- Professional fees, other.

Medical professional fees comprise the larger portion of the professional fees component in the AHA *Annual Survey* of hospital costs. The weight for medical fees was calculated as a residual. The weight for other professional fees was derived from an analysis of the value of input consumption by the hospital industry as published in "The Detailed Input-Output Structure of the U.S. Economy: 1977," compiled by the Bureau of Economic Analysis (BEA), U.S. Department of Commerce.[1] This weight was then subtracted from professional fees, resulting in the weight for professional fees, medical.

4. Utility and Energy Consumption

Source: Same as above.

This item was split into five cost components: (1) Fuel, oil, coal and other fuel; (2) electricity; (3) natural gas; (4) motor gasoline; and (5) water and sewerage. The proportions of each cost were derived from an analysis of the value of input consumption by the hospital industry, as published in "The Detailed Input-Output Structure of the U.S. Economy: 1977," compiled by BEA.[2]

5. Malpractice Insurance

This cost category was derived from an analysis of the median percentage of professional liability insurance expense applied to total hospital insurance costs, as compiled in the *HAS/MONITREND Six-Month National Data Book*, published by the Hospital Administrative Services Division of AHA. The data from the six months ending June 30, 1982, and December 31, 1982, were combined and a weighted average based on bed-size was computed.

6. All Other Products and Services

This residual measures the weights of unattributed products and services included in the residual "Other" category published in the AHA Annual Survey. Shares were derived from an analysis of BEA's hospital input-output matrix and incorporates all noncapital-related categories consumed by the hospital industry, with the exception of utilities and energy consumption, malpractice insurance premiums, salaried and fee-paid other professional remuneration that were delineated above. The following major classifications were derived by aggregating like products and services consumed by the hospital industry:

Other Products

1. Pharmaceuticals
2. Food
   a. Direct Purchases
   b. Indirect Purchases (by dietary contractors)
3. Chemical and Cleaning Products
4. Surgical and Medical Instruments
5. Photographic Supplies
6. Rubber and Plastics
7. Paper Products
8. Apparel
9. Minor Machinery and Equipment
10. Miscellaneous Products

Other Services

1. Business Services
2. Computer and Data Processing Services
3. Transportation and Shipping
4. Telephone
5. Blood Services
6. Postage
7. All Other Services: Labor-Intensive
8. All Other Services: Nonlabor-Intensive

B. Choice of Price Proxies

1. Payroll Expenses (Wages and Salaries)

External Wage Variable (used in Reimbursement Price Index)—Percentage change in weighted average of nine employment cost indexes and the internal wage variable, as described below.

Data Source—Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*.

Frequency—Monthly.

Payroll expenses (wages and salaries) include all expenses defined as payroll by the AHA in their annual survey. Remuneration for salaried physicians, residents, and interns is included in payroll expenses, while remuneration for physicians who bill the hospital for their fees is not. Their fees are included in the cost category "professional fees, medical." For purposes of establishing the 1982 base-year weights, expenditures for trainees and residents and interns are removed.

In order to construct an external occupation-specific measure of hospital wages and salaries, occupational data were derived from a survey by the U.S. Census Bureau Survey of employment by the hospital industry published in the *1980 Census of Population, Subject Report, Occupation of Industry* in May 1984. The survey reported the number of employees in 1980 and the mean 1979 earnings of employees in each of these occupations. Earnings and employment levels were combined to yield total payroll (wages and salaries) costs for nine occupational categories that can be measured by a corresponding Employment Cost Index (ECI). The ECI maintains a series on the level of wages and salaries paid to private industry workers in each of these occupational groups. Total payroll for each occupation in 1979 was then updated to 1982 by using the change in the corresponding ECI. Weights for each category were calculated. By calculating a weighted average of price changes for each occupation, an external wage variable was constructed that associates the employment structure of the hospital industry with a reasonable measure of wage movements.

The following table describes the 1982 labor cost shares for wages and salaries paid employees of the hospital industry per ECI occupational groups.

[1] The Interindustry Economics Division of BEA conducts a survey of the value of input consumption by major industry classification at five-year intervals. The last study was for cost consumption during 1977. The calculated cost of each individual input goods and services supplied to the hospital industry was aged and updated from 1977 to 1982 using appropriate historical price movements for the detailed expense categories. Relative expenditure weights were then computed for the various cost categories.

[2] Ibid.

TABLE.—ECI OCCUPATIONAL GROUPS

	(1982) Wage cost shares (percent)
1. Professional/Technical	57.239
2. Managers/Administrators	7.248
3. Sales Workers	.337
4. Clerical Workers	12.537
5. Craft/Kindred Workers	2.461
6. Operatives, Except Transport	.994
7 Transport Equipment Operatives	.265
8. Nonfarm Workers	.196
9. Service Workers	18.723
Total	100.000

2. Employee Benefits

External Price Variable (used in Reimbursement Price Index)—Percentage change in supplements to wages and salaries per employee on nonagricultural payrolls.

Data Sources—For supplements to wages and salaries—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*. July issues have details on components. For number of employees on nonagricultural payrolls—U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*.

Frequency—For supplements to wages and salaries, quarterly; for number of employees on nonagricultural payrolls, monthly.

Employee benefits include employer-paid fringe benefits for Social Security, group insurance, retirement, and other fringe benefits. Supplements to wages and salaries have two major categories of benefits:

• Employer contributions for social insurance; and

• Employer contributions to private pension and welfare funds. Employer contributions for social insurance include Federal, State, and local social insurance funds. These funds are for old-age, survivors, disability, and hospital insurance; State unemployment insurance; workmen's compensation; and other programs. Employer contributions to private pension and welfare funds include pension and profit-sharing, group health insurance, group life insurance, workmen's compensation, and supplemental unemployment. Supplements to wages and salaries include an irrelevant third component, "Other," which was approximately 0.7 percent of the total in 1982.

In calendar year 1982, employee benefits were 15.2 percent of community hospital employee compensation.[3] For total nonfarm, supplements to wages and salaries were 16.0 percent of employee compensation, and for all domestic industries supplements to wages and salaries were 15.9 percent of employee compensation in 1982.[4]

The percent change in supplements to wages and salaries per employee on nonagricultural payrolls provides an external indicator of fringe benefit cost pressure on a per employee basis.

3. Professional Fees: Medical

External Price Variable (used in National Hospital—Percentage change in the charges for physicians' services as measured by the Price Index)—Consumer Price Index for All Urban Consumers (component of medical care services).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

The medical fees category primarily represents fees billed to hospitals by physicians for services furnished in hospital ancillary departments such as radiology, pathology and anesthesiology. These services are usually billed under Medicare Part B, and as such are not part of the prospective payment system inpatient market basket. Salaries for staff physicians as well as for interns and residents are not included in this classification. The physician services component of the Consumer Price Index is used to approximate percent changes in fees charged.

It is assumed that the physician specialists working in hospitals experience similar cost pressures in maintaining their practice and, thus, would generally modify their charge structure in line with the rest of the profession.

4. Professional Fees: Other

External Price Variable—Percentage change in the employment cost index for professionals and technicians.

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

The cost category "Professional Fees: Other," includes fees for legal, auditing, consulting, and other hospital-specific professional contracting. As such, this cost category reflects salaries as well as expenses for travel, research assistance, clerical assistance, and overhead. The proxy chosen is the Employment Cost Index for Professionals and Technicians.

5. Fuel Oil, Coal, and Other Fuel

External Price Variable—Percentage change in the cost of middle distillates as measured by the Producer Price Index (Commodity code #0573).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

Institutions purchase heating fuel in bulk quantities. Accordingly, price movement of this commodity is appropriately measured at the wholesale level. This proxy incorporates middle distillates, to include fuel oil number two and diesel, that are primarily utilized in the heating of plants. Since the cost of refining is included in the price charged for this fuel, use of a proxy reflecting only changes in the cost of crude oil was not considered adequate.

6. Electricity

External Price Variable—Percentage change in the cost of industrial electric power, 500 kw-demand, as measured by the Producer Price Index (Commodity code #0543).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

This proxy measures rates charged to industrial users (500 kw-demand). While the hospital industry is composed of both small and large size plants, average hospital usage is much higher than the 40 kw-demand (for commercial users) incorporated in the overall cost of electric power. On an average basis, hospital usage is more typical of industrial 500-kw demand, and thereby is the proxy of choice.

7. Natural Gas

External Price Variable—Percentage change in the cost of gas fuels as measured by the Producer Price index (Commodity code #0531).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

This proxy measures both domestic and imported costs of various gas fuels including liquified petroleum gas. Purchases by hospitals are generally from a regional gas company which may utilize all types of gas fuel; hence, a broadly-defined index of costs of gas fuels is appropriate.

8. Motor Gasoline

External Price Variable—Percentage change in the cost of gasoline as

[3] American Hospital Association, *National Hospital Panel Survey*.

[4] U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July 1982.

measured by the Producer Price Index (Commodity code #0571).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

Hospitals maintain a fleet of vehicles, including ambulances, and would generally purchase motor fuel at wholesale quantities. This index is composed of all grades of gasoline (regular, unleaded, and premium) used by different classes of vehicles.

9. Water and Sewage

External Price Variable—Percentage change in the cost of water and sewage maintenance, as measured by the Consumer Price Index for All Urban Consumers.

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

Costs for this combined product and service category are generally for purchases from municipal entities or utility companies. There are no data available on cost to preferred commercial users of these services and, thus, the Consumer Price Index for water and sewage is used to approximate price changes facing hospitals.

10. Malpractice Insurance

External Price Variable—Percentage change in the hospital malpractice insurance component in the AHA Annual Survey (for the period 1966–1976). Set by DHHS in collaboration with AHA from 1977 to 1981. Percentage changes in hospital insurance premium data from the Insurance Services Offices from 1982 through April 1985 and thereafter projected forward.

Data Source—Unpublished data provided to DHHS by AHA, Office of Research Affairs, and unpublished data from the Insurance Services Offices.

Frequency—For AHA and DHHS estimates and data, annually, and for the Insurance Services Offices data, quarterly.

The costs associated with professional liability in hospitals are difficult to quantify in both cross-section and time-series data. Hospitals may self-insure, pay on a claims-made basis, or purchase professional liability insurance for a fixed or changing level of coverage. Hospitals located in the same area may have varying experience ratings; therefore, premium rates may differ significantly. No national or regional data source currently exists that can quantify precisely the many variations in the cost associated with professional liability in hospitals.

11. Pharmaceuticals

External Price Variable—Percentage change in ethical (prescription) preparations as measured by the Producer Price Index (Commodity code #0635).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

Hospitals commonly purchase drugs in bulk quantities and, accordingly, a Producer Price Index is an appropriate measure. The more broadly-based Producer Price Index for drugs and pharmaceuticals was considered. That category consists of medicinal and chemical preparation, prescription and over-the-counter drugs, and other biological products. It also includes many items that are not usually associated with inpatient hospital treatment. On the other hand, prescription drugs predominate the use of drugs and pharmaceuticals used in hospitals, and therefore, the producer price index for ethical drugs is an appropriate proxy.

12. Food: Direct Purchases

External Price Variable—Percentage change in the cost of processed foods and feeds, as measured by the Producer Price Index (Commodity code #02).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

Items included under this variable are purchased directly by those hospitals that independently operate their dietary department or certain segments of their dietary service. Purchases tend to be in bulk quantity for both perishable and nonperishable foodstuffs, and prices generally reflect those available at the wholesale price level. Major groups of processed foods measured under this classification include cereal and bakery products, meats, poultry and fish, dairy products, processed fruits and vegetables, beverages, and other miscellaneous processed foods. Other ingredients utilized in the course of preparing the culinary output, such as oils, shortening and confectionary sweeteners, are also reflected in this index. Since price movements for raw, unprocessed farm products, such as milk and eggs, tend to parallel the price trends for processed foods, it is appropriate to use this index as a proxy for both categories of food purchases.

13. Food: Contract Services

External Price Variable—Percentage change in the cost of food purchased away from home, as measured by the Consumer Price Index for All Urban Consumers (Commodity code #19).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

Much of the hospital industry employs outside contractors to facilitate dietary preparations and service requirements for hospital patients and personnel. As such, the cost of food products is intermingled with the labor costs and other nonlabor costs (such as napkins, flatware and glassware) incurred by these contractors. Although a consumer price index is utilized for products typically purchased at a bulk rate, this index is considered relevant in that many of the food inputs provided at food service establishments are generally purchased at the wholesale level, especially by the nationwide chains so prevalent in the restaurant industry today. Therefore, the proxy of food purchased away from home tends to mirror the pattern of hospital dietary services provided by outside contractors.

14. Chemical and Cleaning Products

External Price Variable—Percentage change in the cost of industrial chemical products, as measured by the Producer Price Index (Commodity code #061).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.

Frequency—Monthly.

The hospital industry consumes a vast variety of chemical products, ranging from organic and inorganic solutions and compounds to cleaning agents and hygienic paraphernalia. The variable "Industrial Chemicals" was selected as representative of all chemical products and derivatives because the more broad-based index of "Chemicals and Allied Products" subsumes to a great extent the surveyed prices for drugs and pharmaceuticals, and for biological products, each of which is categorized and measured elsewhere in this market basket index. Industrial chemicals are comprised of both organic and inorganic solids, liquids, and gases.

15. Surgical and Medical Equipment

External Price Variable—Percentage change in Medical and Surgical instruments, as measured by the Producer Price Index (Commodity code #1562).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

Products and parts used for surgical and medical purposes incorporate a multitude of minor equipment and accessories too low in price to capitalize. This equipment ranges from parts of diagnostic and therapeutic instruments to pacemakers. Since most of these products utilize electronic components, a proxy reflecting a broad diversification of electronic parts and accessories was selected to monitor price movements for this category of costs. Included in the BLS survey under this classification are x-ray equipment and parts, generator parts, batteries and transistors, and a host of intricate mechanisms that are utilized in manufacturing an electronic appliance. Most of these specialized products are generally not available at the consumer level, and the Producer Price Index proxy is, therefore, indicated.

16. Photographic Supplies

External Price Variable—Percentage change in the cost of photographic supplies, as measured by the Producer Price Index (Commodity code #1542).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

A considerable quantity of photographic materials are consumed by the hospital industry, especially in the diagnostic services. Radiology and pathology departments use a variety of photographic apparatus and films. Therefore, it is reasonable to conclude that items under this classification are usually purchased in wholesale lots and changes in prices are best quantified by the Producer Price Index proxy.

17. Rubber and Plastics

External Price Variable—Percentage change in the cost of rubber and plastic products, as measured by the Producer Price Index (Commodity code #07).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

The rubber and plastic product category includes a wide array of miscellaneous rubber and plastic products, including rubber gloves, rubber hoses, and disposable plastic products. Among the items measured by this index are rubber clothing and coated fabrics, plastic packaging, and plastic tableware. Purchases are generally at the wholesale level, and the broad-based Producer Price Index for rubber and plastic products was chosen because it has tended to approximate combined price movements of both components historically.

18. Paper Products

External Price Variable—Weighted average of percentage change in the cost of converted paper and paperboard products, as measured by the Producer Price Index (Commodity code #0915) (59.9 percent), and percentage change in the cost of paper excluding newsprint and packaging paper (Commodity code #091301) (40.1 percent).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

Products measured under this category include printing and office paper goods, disposable garments and tableware, and packaging products. Hospitals are consumers in each of these areas. The proxy chosen encompasses an array of converted paper and paperboard products and various milled paper products, such as tissues and napkins, bags and writing paper.

19. Apparel

External Price Variable—Percentage change in the cost of textile house furnishings, as measured by the Producer Price Index (Commodity code #382).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

Hospitals are major purchasers of various types of textile goods, including uniforms, gowns, sheets, blankets, pillow cases, towels, and washcloths. Though this cost category is entitled "apparel," the majority of it is composed of textile house furnishings. The apparel portion of the Producer Price Index is heavily weighted toward apparel items that are irrelevant to hospital consumption, such as men's suits and women's dresses. The broad-based Producer Price Index for apparel and other fabricated textile products is unsatisfactory because it includes a significant amount of items like camping tents, automotive and other trimmings, etc., as well as the apparel items mentioned above. On the other hand, the Producer Price Index for textile house furnishings is almost entirely composed of items relevant to this hospital cost category (bedding supplies and other textile furnishings, such as towels, washcloths, draperies, and curtains). Since these products tend to be acquired in multiple quantities, the Producer Price Index for textile house furnishings is an appropriate variable.

20. Minor Machinery and Equipment

External Price Variable—Percentage change in the cost of machinery and equipment, as measured by the Producer Price Index (Commodity code #11).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

This category is designed to measure the various types of tools, accessories and parts that are minor in cost and, therefore, not capitalized. A broad-based Producer Price Index for minor machinery and equipment is used to approximate price movements for this cost category.

21. Miscellaneous Products

External Price Variable—Percentage change in the cost of all finished goods, as measured by the Producer Price Index.

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

This residual category is intended to measure a diversified grouping of consumable commodities utilized by hospitals, each of which is considered too small individually to have a measurable impact on price movements within this market basket. Some of these groups are identified as metals and metal products, nonmetallic mineral products, minor transportation equipment and parts, minor furniture and other household durables, photographic equipment, and other consumable products. Since these products are at the finished stage, a Producer Price Index measuring all finished goods is appropriate for such a broad-based grouping.

22. Business Services

External Price Variable—Percentage change in the average hourly earnings of employees engaged in the business services industry, as measured by the Employment and Earnings Index (SIC code #73).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings.*

Frequency—Monthly.

As is true in the majority of the service industry, the price charged for the various services furnished primarily reflects the salaries and wages paid the employees of each particular firm. Other

costs do indeed play a role in setting prices, but the key ingredient, labor-related costs, are predominant. This is also true for the hospital services industry. Therefore, a measurement of changes in average labor costs for a particular service-based industry is an appropriate indicator of the changes in prices charged to clients of those services.

By far, the largest component of services provided to a hospital from external sources, representing over a third of the total, is business services. A broad spectrum of business services purchased by hospitals includes computer programming and data processing, management and consulting services, stenographic services, credit collection, marketing, and numerous other administrative functions. Among the industries surveyed by the Bureau of Labor Statistics and classified under Business Services are those enumerated above, as well as a number of miscellaneous business services such as public relations or protective services. Since computer and data processing services compose a sizable segment on their own, those services were measured and proxied separately from other business services.

23. Computer and Data Processing Services

External Price Variable—Percentage change in the average hourly earnings of employees engaged in firms furnishing computer and data processing services, as measured by the Employment and Earnings Index (SIC code #737).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings.*

Frequency—Monthly.

This rapidly growing sector accounts for over 15 percent of all contracted services purchased by hospitals. Although hospitals may rely on their internal staff for the day-to-day operations of their information processing needs, institutions also often obtain the consulting services of firms specializing in the design and implementation of a computerized data-gathering and monitoring system. In addition, outside firms are often "on call" in facilitating solutions to any technical problems that may arise or to adopt a particular system to additional or modified uses. Changes in average hourly earnings in the computer and data processing services are an appropriate measure of price movements in this highly labor-intensive industry.

24. Transportation and Shipping

External Price Variable—Percentage change in the transportation component of the Consumer Price Index for All Urban Consumers.

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

This cost category encompasses a diverse group of transportation services utilized by the hospital industry. It includes public transportation services that may be used for business travel and private transportation sources such as ambulance travel for hospital patients. The cost of shipping and motor freight fees are applied to many hospital purchases. Each of these types of transportation costs is embodied in the total transportation component of the Consumer Price Index, which measures both private and public transportation modes. Since shipping fees are basically a function of the cost of maintaining the vehicles used to haul freight, this index is considered appropriate in that it also measures the underlying cost of operating a vehicle such as repairs, insurance fees, motor fuels, finance charges, and other incidentals.

25. Telephone

External Price Variable—Percentage change in the cost of telephone services, as measured by the Consumer Price Index for All Urban Consumers.

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

This component includes charges for both local and long-distance phone calls. In this rapidly changing industry, the cost to the phone companies of furnishing worldwide facilities fundamentally stems from a vast capital infrastructure and the most sophisticated, up-to-date equipment. Since labor-related costs are also reflected in telephone fees, the Consumer Price Index for telephones is used as the proxy.

26. Blood Services

External Price Variable—Percentage change in the cost of providing blood and related biologicals, as measured by the Producer Price Index (Commodity code #063711).

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

Blood supplies are often provided to hospitals from external sources, predominantly from public service agencies. In addition to whole blood products, many derivatives are obtained for specific types of operations. These include plasma, platelets, and other blood components. The index in the Producer Price Index measures both human blood and its derivatives, as well as other biological products, and, as such, is an appropriate measure of price movements.

27. Postage

External Price Variable—Percentage change in the cost of postage, as measured by the Consumer Price Index for All Urban Consumers.

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

In recent times, many businesses, including the hospital industry, have begun to make use of alternative mail services for either parcel post or express mail. However, the prevalent cost of postage services still appears to be linked to mail transported by the U.S. Postal Service. As such, the index for postage surveyed by the Consumer Price Index is considered an appropriate measure of price movements for this service.

28. All Other Services: Labor-Intensive

External Price Variable—Percentage change in the average employment cost index for all service workers.

Data Source U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings.*

Frequency—Monthly.

The majority of the residual services not measured before are highly labor-intensive and are grouped together for purposes of using the employment cost index for workers engaged in the services sector as a forecast proxy. Some of these individual services purchased by hospitals include miscellaneous repairs, commercial laundry, refuse systems, and general building services.

29. All Other Services: Nonlabor-Intensive

External Price Variable—Percentage change in the all-items component of the Consumer Price Index for All Urban Consumers.

Data Source—U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review.*

Frequency—Monthly.

The remaining residual services were classified as nonlabor-intensive and included such services as insurance (noncapital-related, such as property, automobile, and fidelity), bank service

charges, fees for business and professional associations, and vehicle rentals. In this case, an overall measure for all services covered by the Consumer Price Index is an appropriate indicator.

Appendix B—Regulatory Impact Analysis

A. Introduction

Executive Order 12291 (E.O. 12291) requires us to prepare and publish a regulatory impact analysis for any regulations that would be likely to result in: (1) An annual effect on the economy of $100 million or more, (2) a major increase in costs or prices for consumers, individual industries, government agencies, or geographic regions, or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets. In addition, we prepare and publish a regulatory flexibility analysis that is consistent with the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 through 612) unless the Secretary certifies that the regulations will not have a significant economic impact on a substantial number of small entities. Under the RFA, we treat all hospitals as small entities.

In the proposed rule published June 3, 1986, we included, as Appendix B, an initial combined economic impact and regulatory flexibility analysis. Several provisions proposed in that document met the criteria of E.O. 12291 and would affect a substantial number of small entities.

We also included in that document a regulatory impact and flexibility analysis of the interim final rule published May 6, 1986 (51 FR 16772) to implement provisions of Pub. L. 99–272 related to operation of the prospective payment system during FY 1986. (Due to time constraints, the Director of the Office of Management and Budget waived the requirements of E.O. 12291 for that interim final rule, and the Secretary deferred the preparation of a regulatory flexibility analysis, which is consistent with section 608 of the RFA. We promised in the May 6, 1986 interim final rule to prepare and publish the necessary analyses in conjunction with the proposed rule which was later published on June 3, 1986.)

The discussion below, in combination with the rest of this rule, constitutes a combined final regulatory impact analysis and regulatory flexibility analysis meeting the requirements of E.O. 12291 and the RFA. In it, we respond to comments received in the initial analyses published on June 3.

B. Changes Occurring Subsequent to Publication of the NPRM

In the June 3, 1986 NPRM we proposed to incorporate capital-related costs in the prospective payment system, under section 1886(a)(4) of the Act, to become effective with costs reporting periods beginning in FY 1987. In the same document, we also proposed to eliminate periodic interim payments for hospitals.

Subsequent to publishing the NPRM, the following events have occurred:

- On July 2, 1986, Pub. L. 99–349 was enacted, which included a provision (section 206) that amended section 1886(a)(4) of the Act to extend the period (through cost reporting periods beginning prior to October 1, 1987) during which capital-related costs must be treated separately from other inpatient hospital operating costs. Therefore, we are not incorporating capital-related costs into the prospective payment system in this final rule. Accordingly, we are not presenting a final impact analysis of the incorporation of capital-related costs into the prospective payment system, nor are we addressing comments regarding our initial analysis of the impact of the capital proposal included in the NPRM.
- Also, since publishing the NPRM we published a final rule on August 15, 1986 (51 FR 29386) that eliminates periodic interim payments for most hospitals. We presented a final impact analysis of that provision in that document, and therefore it will not be dealt with here.

C. Problems of Impact Quantification and Attributing Causality

With each successive iteration in promulgating prospective payment rates and modifications to the system, our analyses of the impact of such changes have increased both in scope and in sophistication. As we have learned how the prospective payment system affects the hospital industry, we have focused our attention and resources on those areas that appear most responsive to the financial incentives offered to providers and practitioners to increase efficiency and improve practice patterns. At the same time, we remain vigilant with respect to the quality of care provided to Medicare patients admitted to prospective payment hospitals.

In addition, we continue to study many aspects of the prospective payment system with the intent of obtaining more adequate data for the purpose of better quantifying the effects of behavioral changes caused by the payment system. Examples of these initiatives include various reports to Congress, as required by section 603 of Pub. L. 98–21 and sections 9113 and 9114 of Pub. L. 99–272. These studies will examine many issues including the feasibility and impact of eliminating or phasing out separate urban and rural DRG prospective payment rates, the feasibility and desirability of applying the payment methodology to payment by all payors for inpatient hospital services, and the impact of outlier and transfer policies on rural hospitals. We are also required, under section 603(a)(2)(A) of Pub. L. 98–21, to study and report annually to the Congress on the impact of the prospective payment system. In addition to these initiatives, we and others (such as the hospital industry) have undertaken a variety of studies on the effects of the prospective payment system, such as examining selected aspects of hospital management behavior under the prospective payment system, to be able to predict better certain effects and outcomes from the system.

Comment: Although the analysis included in the proposed rule included more impact data than any previous prospective payment regulatory impact analysis, some commenters criticized the analysis for not presenting even more detailed analysis. One commenter even requested that we provide analyses of the effects the proposed changes would have on individual hospitals.

Response: As our analytical capabilities and resources increase, we do present more detailed analyses. However, due to the limitations of our data and methodologies, many of the results we get from our model (which is discussed in section D. of this impact analysis) are reliable only in the aggregate.

To date, all our analytical efforts have been retrospective in nature; that is, they are concerned with examining the historical record in efforts to trace the impact of the prospective payment system through the perceived changes in the behavior of providers and practitioners. As a result, efforts to predict providers' responses to the new initiatives contained in this document take the form of speculations rather than of a rigorous analytic prediction. Only with a substantial increase in resources and data collection above current levels would we be able to attempt to develop a dynamic predictive model of the health care industry. Without vast amounts of data on individual providers and extensive computer modeling based on those data, we are confined to

making general statements based on reasoned judgment as to the likely responses of relatively broad categories of providers. Of necessity our present models are static, and reflect only the specific policy changes and their impact on the variables being measured.

Another limitation of our analytical methodology is the inability to establish definite causal relationships between policy changes and changes in provider behavior. The enormous number of variables at work in the economic environment, introduced both by the prospective payment system and other sources, make it nearly impossible to isolate and measure the effects of a single variable. The difficulty is compounded further by the interactive and stimulative effects of the different variables upon each other. For example, the introduction of the prospective payment system not only had a direct effect on hospital operations, but it also encouraged other third party payors (including Medicaid programs) to set up similar cost control systems. These non-Medicare initiatives also affected hospitals' behavior, and it is now impossible to distinguish the effects of the Medicare prospective payment system from the effects of these other cost control initiatives. In many cases, then, it may be difficult to determine the extent to which the prospective payment system in itself or some other initiative caused the result, or whether two (or more) initiatives caused the result interactively. Further, the prospective payment system itself is interactive and it is sometimes difficult to isolate the effects, within the system, of a particular change of policy or procedure.

Apart from the more easily identifiable initiatives that are affecting the demand side of the health care market, for example, the public and private efforts to control payment for health care services, changes also have been occurring on the supply side. Most notable of these changes is the increase in the supply of physicians, which enhances the competition for patients among providers. There also has been significant growth of facilities furnishing out-of-hospital treatment and of health maintenance organizations (HMOs). In addition, home health services are the fastest growing component of the Medicare program.

In view of the problems we have experienced in quantifying impacts and attributing causality, we believe that the approach we are taking in the specific impact discussions below is the most feasible one. In some cases we have included quantitative estimates of program savings or anticipated changes in payment levels. However, it is not possible to develop a reliable quantitative analysis and comparison of the costs and benefits of all the provisions. We focused on explaining the most significant kinds of interactions and the decisions that affected entities will have to consider.

Comment: One commenter criticized the initial regulatory impact analysis for not adequately explaining certain "unexpected findings". Examples cited included high profit margins for disproportionate share hospitals, and relatively low payments for proprietary and rural hospitals.

Response: As discussed above, it is difficult to be certain why some results happen. We must stress that our model is limited by historical data. Provider behavior changes in the recent past are not yet reflected in the data available to us, and future changes cannot be predicted. When we view a conclusion as speculative, to some extent, we try to qualify it appropriately. Were we not to do so, our analysis would be subject to criticism on another basis. Moreover, our objective in an impact analysis is to assess the probable direct consequences of changes being proposed or issued in final, not to evaluate the overall effects of the prospective payment system or to compare them to cost reimbursement.

Much of the available Medicare program data still reflect patterns and trends of utilization and payment under cost reimbursement. Where it is feasible and appropriate, we have used these data to model and analyze the effects of particular proposals. However, the quantitative estimates given below should be received with a qualified recognition of the limitations of the data on which they are based. Moreover, from October 1, 1985, through April 30, 1986, the prospective payment system was operating under legislative constraints that we had not expected. Further, the implementation of changes required under Pub. L. 99–272 (contained in the May 6, 1986 interim final rule) have made the task of modeling and presentation of the analysis more complex.

D. Basis and Methodology of Estimates

Comment: One commenter stated that it was too difficult to evaluate the validity of our impact results without more information regarding data sources, analytical methodology, and assumptions.

Response: In order to assess the impact of changes to the prospective payment system, we have developed a computerized statistical model of the payment system. The main objective of the regulatory impact analysis is to assess the effects of changes in payment policy on various groups of hospitals. For this reason, statistical modeling of impacts focuses on estimating the effects on payments of changes in the prospective payment formula. No attempt is made to model the subsequent responses of hospitals to the changes. In addition, the model does not incorporate forecasts of case mix or Medicare discharges. In this way, the impact analysis focuses on the impact of the Federal government's decisions, rather than on the impact of the decisions of other parties.

The strength of the model is its ability to simulate Medicare operating payments in considerable detail. In addition to modeling the basic components of PPS payments on an individual hospital basis (based on the historical costs, discharges and case mix of the hospital), the model accounts for special treatment accorded several types of hospitals: Sole community hospitals, rural referral centers, hospitals in metropolitan areas that cross regional boundaries, and new providers. In this regulation, cost per case data from the PPS–1 Medicare cost reports are also used to compute ratios of net Medicare operating revenues (Medicare operating revenue minus Medicare operating cost) to Medicare operating costs.

An attempt is made to include all hospitals in the impact analysis that are expected to receive prospective payment during the period under investigation. For this reason, hospitals in Maryland and New Jersey are omitted, as are New York hospitals that participate in the Rochester area and the Finger Lakes area demonstrations. The chief reason for excluding other hospitals from the analysis is the absence of necessary data. The most common reason for excluding a hospital from the impact analysis is the absence of a PPS–1 cost report. In the tables below we identify the number of hospitals used in each category for developing our impact results.

In order to simulate PPS payments, the following information is required. First, the relevant hospital-specific and Federal payment amounts (or rates) must be known. Determining the appropriate Federal payment amounts requires information on the location of the hospital (the census division and urban or rural status). Second, determining the appropriate wage index to use in adjusting the Federal payment amounts requires additional location information (the MSA for urban hospitals and the State for rural hospitals). The location information just

described, together with case mix and discharge data, is sufficient to simulate basic DRG payment and outlier payments.

Additional data are required to simulate the additional payments for indirect medical education and disproportionate share. Simulation of the payments for indirect medical education requires the resident-to-bed ratio for teaching hospitals. Simulation of disproportionate share payments requires knowledge of bed-size and urban/rural status, as well as estimates of the proportion of a hospital's total inpatient days provided to Medicaid recipients and the proportion of a hospital's Medicare inpatient days provided to Medicare beneficiaries that are eligible for the Supplemental Security Income (SSI) program. Finally, it is useful to know whether special payment rules are applicable, such as those for referral centers, sole community hospitals, etc.

The data used in the simulation model come from a variety of sources. Hospital location is obtained from records of Medicare certification. Case mix and discharge information is obtained from the MEDPAR file that is derived from Medicare patient bills. Hospital-specific rates, resident-to-bed ratios, and special characteristics (for example, sole community hospital status) come from the Provider Specific file that is obtained from the fiscal intermediaries. The SSI percent was obtained by matching MEDPAR records of individual beneficiary bills against the Social Security Administration's SSI eligibility file. Bed size and the percent Medicaid days were taken from the PPS–1 Medicare cost reports.

In general, the best available data are used. Some data items change little or not at all over time (hospital location and the base year hospital-specific rates) and are not regularly revised with more current values. The case mix indexes used in the impact analysis for this final rule have been updated since the proposed rule and are based on the most complete FY 1985 data currently available to us. Also updated is the SSI percent, which is now based on FY 1985 rather than FY 1984 data. Finally, this is the first time that bed-size data from the PPS–1 cost reports have been used.

Because this analysis includes a discussion of the May 6, 1986 interim final rule as well as provisions of this final rule, and because the provisions of Pub. L. 99–272 created certain analytic problems through extension of the transition period (with the Oregon exception) and requirements to restandardize the FY 1987 rates, we have had to consider carefully what baseline we used to assess the relative impacts of the various provisions of this rule. In previous impact analyses, we have simply used projected payments for the fiscal year preceding the year for which we were setting rates as the baseline, and represented the impact of specific provisions relative to the projected percent change in total payments.

As a result of the enactment of Pub. L. 99–272, however, payments for FY 1986 have been made on two distinct bases. Thus, we had a choice: We could use FY 1985 rates (that is, the rates actually paid during the first seven months of FY 1986), or the FY 1986 payment rates (that is, those paid during the period May 1, 1986 through September 30, 1986) as a baseline.

We decided to use the payment parameters in effect for the seven-month period from October 1, 1985 to April 30, 1986 as our initial baseline. Because of statutory postponements in implementing the September 3, 1985 rule, the rates paid during the first seven months of FY 1986 reflect the FY 1985 payment rates. Thus, the following discussion of the provisions of the interim final rule published May 6, 1986 compares payments for the baseline period to the May to September FY 1986 payments. The FY 1986 payments in effect from May through September 1986 are then used as the baseline for FY 1987 impact assessments of the provisions of this rule. To ensure comparability, we assumed that all payment periods and payment parameters used in the comparisons were in effect for a full twelve months.

Generally, to assess the effect of a specific provision, we have treated all hospitals in our database as if they had the same cost reporting period; that is, a cost reporting period coinciding with the Federal fiscal year. In some instances, however, we want to reflect the effects of hospitals' phasing in on different schedules according to their actual cost reporting periods. Those instances, such as the estimates of payment per case, are clearly identified below.

E. Hospitals Included In and Excluded From the Prospective Payment System

Since October 1983, hospitals operating under prospective payment have been phasing into the system according to their own accounting year starting dates. Further, since September 1985, both Massachusetts and New York have discontinued their waivers, and hospitals in those States have entered the prospective payment system. Based on the most recent data available, nearly 5700 hospitals (84 percent of all Medicare-participating hospitals) were operating under the prospective payment system. Only 169 hospitals remain excluded from the prospective payment system because of waivers (New Jersey and Maryland) or demonstrations (Rochester and Finger Lakes regions of New York State). Table I below shows the number of prospective payment hospitals in each payment category; that is, by urban/rural status by census division (hospitals in waiver States are excluded):

TABLE I.—NUMBER OF PROSPECTIVE PAYMENT HOSPITALS BY PAYMENT CELL [1]

[August 1986]

All Hospitals	5,658
Urban	2,892
New England	185
Mid Atlantic	370
South Atlantic	418
East North Central	526
East South Central	170
West North Central	201
West South Central	373
Mountain	118
Pacific	531
Rural	2,766
New England	62
Mid Atlantic	103
South Atlantic	358
East North Central	375
East South Central	330
West North Central	612
West South Central	670
Mountain	281
Pacific	175

[1] The number of hospitals included here as being under the prospective payment system may be lower than reported in other documents. We have found errors as a result of improperly assigned short-term care provider numbers to providers that should be excluded from the prospective payment system.

As of July 26, 1986, 732 Medicare hospitals were excluded from the prospective payment system and continue to be paid on the basis of reasonable cost reimbursement, subject to hospital-specific limits on the rate of their cost increases. Examples of these hospitals include psychiatric, rehabilitation, alcohol/drug, long-term, and children's hospitals. Another 1,702 psychiatric, rehabilitation, and alcohol/drug units, in hospitals included in the prospective payment system, are excluded from prospective payment as of the same date. These units, too, are paid on the basis of reasonable cost reimbursement, subject to hospital-specific limits on the rate of their cost increases. Of these excluded hospitals and units, 42 hospitals and 38 units are located in the waiver States.

More than four hundred hospitals are being paid on various special bases under the prospective payment system, as required by statute. They include hospitals accorded special treatment as described in our regulations at 42 CFR Part 412, Subpart G, such as sole community hospitals, and cancer

treatment and research hospitals. Also included in this group receiving payment on special bases are referral centers and hospitals that previously allowed extensive direct billing under Part B of Medicare.

F. Implementation of Certain Provisions of Pub. L. 99–272

As discussed earlier, on May 6, 1986, we published an interim final rule with comment period (51 FR 16772) implementing certain provisions of Pub. L. 99–272 that affected operation of the prospective payment system during FY 1986, as well as subsequent years. Comments received on that rule are responded to in section II of the preamble of this final rule. Although these statutory provisions generally afford us little administrative discretion, we have prepared a final analysis of the impact of these provisions. The provisions of the May 6, 1986 interim final rule are discussed in section II of the preamble of this final rule.

We received no substantive comments with respect to our initial analysis of these provisions. Thus, as in the NPRM, we have examined both the separate effects of the major provisions on selected categories of hospitals, and the combined effects of these provisions. The comparisons we made are based on the percent change in estimated annualized total payments for the periods October 1, 1985 to April 30, 1986, and May 1, 1986 to September 30, 1986. Table II, below, shows the comparative effect of implementation of certain provisions of Pub. L. 99–272, assuming that the provisions would be effective for all hospitals at the commencement of the Federal fiscal year. The results of this final analysis reflect a more complete hospital database of 5,391 hospitals compared to 4,642 hospitals used for the initial analysis. As a result of the more complete data available for this final analysis Table II shows a greater increase in payment amounts attributable to the changes mandated under Pub. L. 99–272 than were presented in the initial analysis. Nationally, payments are now estimated to increase 1.33 percent as a result of changes instituted by Pub. L. 99–272, compared to a 0.9 percent increase estimated in the initial analysis. The increase for the percentage change in payments over the base period is generally reflected across hospital payment cells and most hospital categories. The most notable exception is disproportionate share hospitals. The average percentage increase in payments for all categories of disproportionate share hospitals is estimated to be lower in our final analysis than in the initial analysis. Again, this results from more complete Medicaid data for these hospitals, which permitted us to include more hospitals in our impact database. Nonetheless, our impact database probably does not include all the hospitals that will qualify for these payments. We expect between 1100 and 1200 hospitals to qualify, about 200 of them being rural and the rest urban.

Note that the column titled "Total Combined Effects" reflects the use of the HCFA survey-based wage index and the statutory 0.50 percent increase to the FY 1986 standardized amounts and hospital-specific rates, as well as all the factors included in the separately identified columns.

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TABLE II-ESTIMATED IMPACT OF PUB. L. 99-272 REVISIONS TO OPERATING COST PAYMENTS FOR THE PERIOD MAY 1, 1986 TO SEPTEMBER 30, 1986, COMPARED TO OCTOBER 1, 1985 TO APRIL 30, 1986 PAYMENTS BASED ON FY 1985 PAYMENT PARAMETERS

	Number in Database	Reduction in Teaching Adjustment Factor	Additional Payments to Disproportionate Share Hospitals	Change in Blend (55/45)	Revised Outlier Criteria 1/	Total Combined Effects 2/
All Hospitals	5391	-1.28	0.94	0.16	1.05	1.35
Urban by Region	2749	-1.49	1.10	0.18	1.15	1.48
New England	184	-2.04	0.59	0.27	1.76	1.61
Mid Atlantic	321	-2.42	1.47	0.46	2.37	2.40
South Atlantic	402	-1.24	1.09	0.20	0.93	0.95
East North Central	513	-1.75	0.86	0.17	1.24	0.75
East South Central	165	-0.84	1.54	0.08	0.92	1.72
West North Central	197	-1.35	0.60	-0.08	0.87	0.87
West South Central	369	-0.83	1.20	-0.09	0.77	1.13
Mountain	100	-1.17	0.44	0.04	0.61	0.34
Pacific	498	-1.06	1.49	0.21 3/	0.44	2.69
Rural by Region	2642	-0.18	0.08	0.05	0.50	0.65
New England	56	-0.97	0.00	0.17	0.74	-0.66
Mid Atlantic	91	-0.69	0.01	0.31	1.43	-0.18
South Atlantic	336	-0.33	0.14	0.18	0.58	0.27
East North Central	365	-0.07	0.02	-0.00	0.50	0.34
East South Central	326	-0.03	0.21	0.02	0.52	1.12
West North Central	596	-0.05	0.02	-0.21	0.33	0.70
West South Central	452	-0.02	0.15	0.04	0.31	1.02
Mountain	256	-0.01	0.02	0.07	0.17	0.84
Pacific	164	-0.00	0.03	0.36 3/	0.03	2.38
Urban Hospitals	2749	-1.49	1.10	0.18	1.15	1.48
0-99 Beds	688	-0.10	0.15	0.58	0.49	1.99
100-404 Beds	1655	-0.82	1.15	0.10	0.94	2.15
405-684 Beds	333	-2.27	1.09	0.24	1.38	0.63
685 + Beds	73	-3.65	1.30	0.24	2.00	-0.05
Rural Hospitals	2642	-0.18	0.08	0.06	0.50	0.65
0-99 Beds	2045	-0.02	0.14	0.05	0.33	0.84
100-169 Beds	399	-0.02	0.05	-0.07	0.45	0.62
170 + Beds	198	-0.56	0.02	0.21	0.80	0.38

1/ These criteria were set forth in the September 3, 1985 final rule, but did not go into effect until May 1, 1986.

2/ This column includes the combined effects of all the previous columns, plus the statutory 0.5 percent increase to both standardized amounts and hospital-specific rates, plus the effect of implementation of the HCFA survey-based gross wage index.

3/ Oregon alone would receive payments based on 75 percent of the Federal rate and 25 percent of the hospital-specific rate.

TABLE II-ESTIMATED IMPACT OF PUB. L. 99-272 REVISIONS TO OPERATING COST PAYMENTS FOR THE PERIOD MAY 1, 1986 TO SEPTEMBER 30, 1986, COMPARED TO OCTOBER 1, 1985 TO APRIL 30, 1986 PAYMENTS BASED ON FY 1985 PAYMENT PARAMETERS

	Number in Database	Reduction in Teaching Adjustment Factor	Additional Payments to Disproportionate Share Hospitals	Change in Blend (55/45)	Revised Outlier Criteria 1/	Total Combined Effects 2/
Teaching Status						
Non-Teaching	4414	0.00	0.61	0.10	0.68	1.92
Resident/Bed Ratio Less than 0.25	808	-1.55	0.97	0.12	1.27	1.34
Resident/Bed Ratio 0.25 or Greater	169	-6.31	2.33	0.55	2.02	-1.30
Disproportionate Share Hospitals (DSH)						
No Additional Payments	4281	-0.78	0.03	0.16	0.91	0.75
Urban DSH 100 Beds or More	833	-2.48	3.01	0.14	1.40	2.68
Urban DSH fewer than 100 Beds	71	-0.15	2.03	0.60	0.62	3.48
Rural DSH	206	-0.01	1.49	0.28	0.38	2.21
Other Special Status						
Sole Community Hospital (SCHs)	338	-0.03	0.08	0.00	0.18	0.63
Rural Referral Centers (RRCs)	151	-0.68	0.03	0.63	0.72	0.78
Both SCH and RRC	16	-0.12	0.00	0.00	0.30	0.90
Rural with fewer than 50 Beds	1246	-0.03	0.17	0.33	0.33	1.28
Type of Ownership						
Voluntary	3242	-1.30	0.85	0.14	1.13	1.33
Proprietary	777	-0.23	0.80	-0.00	0.51	1.58
Government	1350	-1.94	1.58	0.39	1.03	1.32

1/ These criteria were set forth in the September 3, 1985 final rule, but did not go into effect until May 1, 1986.

2/ This column includes the combined effects of all the previous columns, plus the statutory 0.5 percent increase to both standardized amounts and hospital-specific rates, plus the effect of implementation of the HCFA survey-based gross wage index.

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We also analyzed the effect that these changes, as a whole, made on the average payment per case for operating costs. To do this, we modeled each hospital's total operating payments according to its own fiscal year. These payments again were compared for two annualized periods: the baseline used the FY 1985 payment parameters in effect for the 7-month period from October 1985 through April 1986, and the comparison period used the payment parameters established under Pub. L. 99–272. Payments included additional payment for the costs of indirect medical education and disproportionate share payments, but excluded payments for capital-related costs, the direct costs of medical education, and other pass-through costs. The results are shown in Table IV, in section J. of this appendix, along with projected average payments per case for FY 1987.

In the June 3, 1986 initial analysis, we projected savings as a result of modifying the calculation for determining payments for indirect medical education costs as a result of Pub. L. 99–272. We are not revising those estimates.

G. Referral Center Criteria

There are currently 170 rural referral centers and one urban referral center. Those that qualified for referral center status in FY 1984 must requalify in FY 1987, for a new three-year period to begin in FY 1988, or lose their referral center status. The bulk of referral centers qualified during FY 1985, and will not have to requalify for a new three-year period until FY 1988.

The criteria as revised in this final rule may enable some hospitals that could not meet the earlier discharge criteria to qualify in FY 1987. Under the specific criteria set forth in section 9106(a) of Pub. L. 99–272, we expect a small number of osteopathic hospitals to qualify, perhaps as few as two. Since hospitals in Massachusetts and New York State entered the prospective payment system only recently, we also expect some additional hospitals from those States to qualify for referral center status.

The initial qualification criteria for referral centers that qualified in FY 1984 included only hospitals with 500 beds or more. For the most part, those centers have met the qualifying criteria for at least two years since FY 1984, and should requalify in FY 1987. The revision to the discharge criteria minimizes the possibility that a hospital will fail to requalify because of that criterion. A hospital would have to have qualified on the basis of the 6000 discharges criterion (or the regional urban median) and have experienced a greater than average decline in discharges to fail to requalify solely on the basis of that criterion.

H. Excluded Hospitals and Units

1. Target Amount Updates

As noted above, 732 Medicare hospitals and 1,702 units in hospitals included in the prospective payment system currently are paid on a reasonable cost basis subject to the rate-of-increase ceiling requirement of §405.463. For cost reporting periods beginning in FY 1987, these hospitals will have a target amount 0.5 percent greater than the target amounts for their previous cost reporting period. That is, the FY 1986 cost reporting period target amount, which was equal to the FY 1985 target amount increased by five-twenty-fourths of a percent in accordance with section 9101 of Pub. L. 99–272, will be multiplied by 1.005.

The effect this will have on affected hospitals and units will vary depending on each one's existing relationship of costs per discharge to its target amount, and the relative gains in productivity (efficiency) the hospital or unit is able to achieve. For hospitals and units that achieve per discharge costs lower than their target amounts, the primary impact will be to affect the level of additional payments made under §405.463(d)(2) proportional to the hospital's increase or decrease in per-discharge costs.

In general, we expect the increased ceiling on payments will maintain existing incentives for economy and efficiency experienced by excluded hospitals and units. We do not believe that these limits will achieve incentives comparable to those produced by the prospective payment system. Therefore, we will, as required under the law, continue to study means for establishing an appropriate prospective payment methodology for those hospitals and units that are currently excluded from the prospective payment system. Nonetheless, we believe the target amount level will ensure that services furnished to beneficiaries by affected hospitals and units will, for the most part, be paid for at a level no higher than necessary for the efficient delivery of needed health services.

2. Alcohol/Drug Hospitals and Units

In the September 3, 1985 final rule we extended the exclusion of alcohol/drug hospitals and units from the prospective payment system for an additional year (50 FR 35669). As of July 1986, there were 26 excluded alcohol/drug hospitals and 359 excluded units in hospitals included in the prospective payment system. In June 1985, there were 23 hospitals and 317 units. Thus, there has been some increase in numbers over the additional extension period.

Our study of the potential effects of the new DRGs for these services is incomplete. Thus, we cannot predict the effect of bringing these hospitals and units under the prospective payment system.

I. DRG Classification Changes

The GROUPER changes contained in this document reflect both the changes proposed on March 13, 1986 in the Federal Register and finalized on June 3, (51 FR 20192) and changes proposed June 3 and finalized in this document in response to recommendations made by ProPAC. We do not expect these GROUPER modifications to have a significant impact on any particular category of hospitals, except possibly some of those hospitals specializing in treating cases that fall into affected DRGs or MDCs.

Changes in GROUPER classification, logic and surgical hierarchy are intended to foster greater homogeneity within each DRG, to ensure that the method of assigning cases to a DRG or MDC is such that payment for the average case does not systematically advantage one group of hospitals at the expense of another, or to ensure that DRG assignment accurately reflects appropriate resource consumption. Because we evaluate DRG classification changes from the perspective of their ability to better explain variation in resource use across cases, and because most DRGs are defined broadly enough so that there is little concentration of cases in a given DRG among hospitals, we do not believe that an analysis of the economic impact of our classification changes would reveal anything other than coincidental effects, particularly given the aggregate level of hospital payments at which we are capable of evaluating economic impacts.

J. Updated Payment Rates and Resulting FY 1987 Payment Amounts

The addendum to this rule, which is printed after the text of the regulation changes and which precedes this appendix, sets forth the methodology for computation of FY 1987 standardized amounts and includes tables of the Federal national and regional rates, DRG relative weights, and outlier thresholds. In this section we present an analysis of the impact of those payment rates and of the combined effects of the various provisions incorporated into those rates.

Many of the changes to hospital prospective payments for FY 1987 result

from changes required under sections 1886 (d) and (e) of the Act, as amended by sections 9101 through 9105 of Pub. L. 99–272. The following changes are required under the statute as currently amended:

• Effective with cost reporting periods beginning in FY 1987, except for hospitals located in Oregon and for sole community hospitals, hospital prospective payment rates will be the sum of 75 percent of the Federal rates and 25 percent of a hospital-specific rate (section 1886(d)(1)(C) of the Act);

• For discharges occurring on or after October 1, 1986, (with the exception of discharges from sole community hospitals and hospitals located in Oregon), the Federal portion of the prospective payment rates will be comprised of 50 percent of the national standardized amount and 50 percent of the appropriate regional standardized amounts, per section 1886(d)(1)(D) of the Act;

• The hospital costs used to establish the rates will be restandardized to reflect the indirect costs of medical education as measured by the revised indirect medical education adjustment factor and to reflect payment adjustments to disproportionate share hospitals per sections 1886(d)(2)(C)(i) and (iv) of the Act as amended by sections 9104(b) and 9105(b) of Pub. L. 99–272; and

• The standardized amounts will be adjusted, by the indirect medical education payment equality factor, to reflect the savings from the change in the indirect medical education adjustment, as required under section 1886(d)(3)(C)(iii) of the Act, as added by section 9104(b) of Pub. L. 99–272.

• Consistent with section 9202(d) of Pub. L. 99–272, the regional adjusted DRG prospective rate for the region in which a State has terminated its waiver from the prospective payment system effective with cost reporting periods beginning on or after January 1, 1986 may be adjusted to reflect a revised cost allocation sequence for teaching hospitals located within the State. The provisions also allow for a corresponding adjustment to be made to the hospital specific portion of the rate for any hospital that elects to change its allocation sequence. Because only teaching hospitals in New York State had used an allocation sequence differing from the Medicare sequence, the rates for the Mid Atlantic region are the only ones affected by this provision of the law.

In addition to reflecting changes required under the Act, the hospital payment rates reflect changes we initiated, some as a result of changes in the industry, in response to the prospective payment system and other influences, some as a result of more accurate data. We are proposing the following additional changes under general authority granted the Secretary in the prospective payment statute:

• A 0.5 percent update factor for both the Federal and hospital-specific rates (See section II.A.3.g. of the Addendum);

• A revised and rebased market basket, which results in different weights for the labor and non-labor components of the market basket (see section III of the preamble for a detailed discussion); and

• The incorporation of the HCFA gross wage index into the restandardization of the Federal amounts and for computing the prospective payment rates (See section II.A.1.a. of the addendum).

Table III below, replicates the same analysis that was presented in the initial impact analysis. The major differences, however, between this final analysis and the initial one are as follows:

• We have more complete data for the hospital data sets used in computing the standardized amounts and for computing payments to disproportionate share hospitals. In the initial impact analysis we had usable data from 4,673 hospitals. We now have data for 5,391 hospitals.

• The effect of the change in the labor/nonlabor portions of the market basket reflects the latest reweighting of the market basket that was performed since the NPRM, which increases the nonlabor portion even more.

• In addition to including the 0.5 percent update factor, the column headed "Total Combined Effects" also reflects the special adjustment for New York teaching hospitals and the latest HCFA wage index, which has been revised to reflect the latest MSA redesignations and corrections to the wage index values for certain geographic areas.

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TABLE III--ESTIMATED IMPACT ON PAYMENTS FOR OPERATING COSTS
FOR FY 1987 COMPARED TO FY 1986 RATES FOR THE PERIOD MAY 1, 1986 TO SEPTEMBER 30, 1986

	Number in Database	New Labor/ Nonlabor Portion	New Standardized Amounts (Federal Rates)1/	Combined Effect of Portion & Rate Changes2/	Blend Change (75/25)	Total Combined Effects3/
All Hospitals	5391	0.01	-0.81	-0.77	0.83	0.27
Urban by Region	2749	-0.01	-0.90	-0.91	0.95	0.20
New England	184	-0.02	-0.30	-0.31	1.00	0.63
Mid Atlantic4/	321	-0.11	-1.10	-1.20	2.99	1.78 5/
South Atlantic	402	0.10	-0.95	-0.84	0.89	0.42
East North Central	513	-0.01	-0.69	-0.69	-0.35	-0.87
East South Central	165	0.08	-1.30	-1.20	2.06	1.28
West North Central	197	0.01	-0.49	-0.46	0.30	-0.03
West South Central	369	0.07	-1.00	-0.95	0.31	-0.32
Mountain	100	-0.02	-0.44	-0.43	0.95	0.66
Pacific	498	-0.11	-1.30	-1.40	1.07 4/	0.38
Rural by Region	2642	0.16	-0.31	-0.02	0.17	0.64
New England	56	0.12	-0.09	0.05	-0.72	-0.25
Mid Atlantic4/	91	0.12	-0.29	-0.00	-0.73	-0.34 5/
South Atlantic	336	0.20	-0.42	-0.16	0.34	0.69
East North Central	365	0.18	-0.21	0.51	-0.86	-0.03
East South Central	326	0.20	-0.58	-0.33	0.55	1.01
West North Central	596	0.13	-0.12	0.06	-0.05	0.60
West South Central	452	0.18	-0.40	-0.17	1.12	1.54
Mountain	256	0.09	-0.12	-0.00	0.78	1.21
Pacific	164	0.02	-0.45	-0.45	1.27 4/	1.02
Urban Hospitals	2749	-0.01	-0.90	-0.91	0.95	0.20
0-99 Beds	688	0.04	-1.00	-0.99	2.46	1.70
100-404 Beds	1655	0.00	-0.90	-0.90	0.91	0.16
405-684 Beds	333	-0.01	-0.88	-0.89	0.82	0.12
685 + Beds	73	-0.14	-0.86	-0.99	0.77	0.13

1/ This column shows the combined effects of restandardization of base year cost data and adjustment of the standardized amounts by the indirect medical education payment equality factor.

2/ This column shows the combined effects of the previous two columns.

3/ This column includes the effects of the 0.5 percent update factor, application of the most recent wage index values to the most recent geographic area designations, and assumes that outlier criteria remain unchanged.

4/ Oregon alone would receive payments based on 100 percent of the Federal national rate.

5/ The Federal regional rates for the Mid-Atlantic region reflect the adjustment of base year costs to recognize the effects of a revised sequence of cost allocation for certain teaching hospitals. This change and the corresponding effects on hospital-specific rates and payments for the indirect costs of medical education are reflected in the projected payments for hospitals in that region.

TABLE III--ESTIMATED IMPACT ON PAYMENTS FOR OPERATING COSTS
FOR FY 1987 COMPARED TO FY 1986 RATES FOR THE PERIOD MAY 1, 1986 TO SEPTEMBER 30, 1986

	Number in Database	New Labor/ Nonlabor Portion	New Standardized Amounts (Federal Rates)1/	Combined Effect of Portion & Rate Changes2/	Blend Change (75/25)	Total Combined Effects3/
Rural Hospitals	2642	0.16	-0.31	-0.02	0.17	0.64
0-99 Beds	2045	0.02	-0.14	0.05	0.45	1.01
100-169 Beds	399	0.14	-0.30	-0.01	-0.48	-0.02
170 + Beds	198	0.37	-0.59	-0.13	0.38	0.71
Teaching Status						
Non-Teaching	4414	0.06	-0.76	-0.66	0.82	0.44
Resident/Bed Ratio Less than 0.25	808	-0.01	-0.85	-0.85	0.67	-0.02
Resident/Bed Ratio 0.25 or Greater	169	-0.15	-0.87	-1.00	1.39	0.42
Disproportionate Share Hospitals (DSH)						
No Additional Payments	4281	0.03	-0.74	-0.67	0.54	0.05
Urban DSH 100 Beds or More	833	-0.03	-0.97	-1.00	1.43	0.67
Urban DSH fewer than 100 Beds	71	0.03	-1.20	-1.20	3.42	3.35
Rural DSH	206	0.08	-0.29	-0.15	1.65	2.76
Other Special Status						
Sole Community Hospital (SCHs)	338	0.01	-0.11	-0.07	0.00	0.43
Rural Referral Centers (RRCs)	151	0.60	-0.91	-0.31	2.16	2.24
Both SCH and RRC	16	0.23	-0.28	-0.05	0.00	0.44
Rural fewer than 50 Beds	1246	0.01	-0.13	0.02	1.74	2.28
Type of Ownership						
Voluntary	3242	0.01	-0.79	-0.76	0.69	0.11
Proprietary	777	0.00	-0.96	-0.94	0.60	-0.07
Government	1350	0.06	-0.79	-0.69	1.87	1.47

1/ This column shows the combined effects of restandardization of base year cost data and adjustment of the standardized amounts by the indirect medical education payment equality factor.

2/ This column shows the combined effects of the previous two columns.

3/ This column includes the effects of the 0.5 percent update factor, application of the most recent wage index values to the most recent geographic area designations, and assumes that outlier criteria remain unchanged.

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The update factor of 0.5 percent, applied to both the Federal standardized amounts and the hospital-specific portion, results in an aggregate national increase of 0.26 percent in operating payments. In the aggregate, hospitals in rural areas will receive a higher percentage increase in payments than hospitals located in urban areas, although the average payment per case for a rural hospital is about 57 percent of the average payment per case for an urban hospital (see Table IV below). Among rural hospitals, those located in the West South Central census division will receive the greatest percentage increase in payments. Among urban hospitals, those located in the Mid-Atlantic census division will receive the greatest percentage increase, as well as the largest increase of all other census divisions, be they urban or rural.

Comment: We received one comment stating that we failed to analyze the impact of the combined effects of the new HCFA wage index and the reweighted market basket. The commenter contended that we failed to take into account the effect of the reweighted market basket on the wage index and the interaction between the new market basket and the decline in admissions to hospitals that has occurred since the beginning of the prospective payment system. The commenter maintains that unless we recognize and adjust the market basket for the resultant payment reductions, funds will be inappropriately removed from the system. For this reason the commenter suggested that we prepare a separate impact analysis of the changes in the market basket that reflects specifically the changes in discharges.

Response: We disagree with the commenter both with respect to the need for a separate impact analysis of the reweighted market basket beyond what we included in the NPRM and with respect to including the effects of declining hospital admissions on hospital payments. We discussed extensively the effects of implementing the wage index based on HCFA data in the June 10, 1985 NPRM (50 FR 24366) and in the September 3, 1985 final rule (50 FR 35646). We see no need to reexamine those effects in this document.

We did not consider the effects of declining admissions because, being a variable that is essentially exogenous to the prospective payment system, we treat it as a constant factor that should remain fixed regardless of our policy on weighting the market basket. Our primary concern in preparing an impact analysis is to identify and measure only the changes in those variables that are affected by our policy decisions, so as to enable the reader to assess what could be expected as a result of our actions. Since we believe that our decision to reweight the market basket will not affect hospital admission rates one way or the other, we see no point in measuring that variable. The major effect on payments of reweighting the market basket is the result of assigning a smaller portion of the standardized amount to the labor component. This will lower the average payment per case to hospitals with above-average wage index values (that is, wage index values above 1.000) and slightly increase payments for those hospitals with below-average labor costs (wage index values below 1.000). To the extent that a hospital with above-average labor cost may also be experiencing (either because of management decisions, demographic changes, or market factors beyond the hospital's control) a falling admission rate, the loss in revenues to that hospital will reflect both the change in the relative share of the labor component and the change in admissions.

In the second column of Table III above, the effect of the new labor/nonlabor portions on payments is presented. As one might expect, hospitals located in urban areas are estimated to sustain a slight drop in payments (0.01 percent reduction) as a result of the new labor/nonlabor portions. This compares to an average 0.16 percent estimated increase for hospitals located in rural areas. In neither case is the change in payments resulting from the reweighted market basket considered to be significant.

As in the NPRM, in addition to examining the percent change in payments, we looked at the trends in dollar amounts of payment per case. This enables us to reflect the practical effect of hospitals phasing into the prospective payment system on the basis of their own cost reporting periods. Table IV shows the comparative average payments per case for FYs 1986 and 1987, compared to the baseline payments for the period from October 1, 1985 to April 30, 1986.

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TABLE IV--COMPARISON OF ESTIMATED OPERATING PAYMENTS PER CASE PHASED IN ACCORDING TO HOSPITAL FISCAL YEAR[1/]

	Average Payment Per Case				
	Baseline Period [2/]	FY 1986	Percent Payment Difference (FY 1986/Base)	FY 1987	Percent Payment Difference (FY 1987/FY 1986)
All Hospitals	$3892.20	$3909.20	0.44	$3935.40	0.67
Urban by Region	$4367.50	$4388.50	0.48	$4417.30	0.66
New England	$4279.70	$4307.00	0.64	$4367.50	1.40
Mid Atlantic	$4536.90	$4570.40	0.74	$4674.20	2.27
South Atlantic	$3928.80	$3940.90	0.31	$3966.40	0.65
East North Central	$4638.30	$4646.80	0.18	$4612.40	-0.74
East South Central	$3586.30	$3607.00	0.58	$3664.90	1.61
West North Central	$4460.60	$4473.40	0.29	$4481.70	0.19
West South Central	$3935.40	$3951.90	0.42	$3962.80	0.28
Mountain	$4415.80	$4417.60	0.04	$4431.50	0.31
Pacific	$5009.00	$5055.90	0.93	$5099.00	0.85
Rural by Region	$2477.10	$2481.70	0.19	$2500.10	0.74
New England	$3197.00	$3185.70	-0.35	$3154.00	-1.00
Mid Atlantic	$2929.00	$2922.10	-0.24	$2893.10	-0.99
South Atlantic	$2441.30	$2443.10	0.07	$2461.30	0.74
East North Central	$2688.30	$2690.10	0.07	$2688.40	-0.06
East South Central	$2122.10	$2131.00	0.42	$2163.80	1.54
West North Central	$2363.60	$2369.70	0.26	$2390.00	0.86
West South Central	$2161.60	$2168.90	0.34	$2205.00	1.66
Mountain	$2656.70	$2662.70	0.22	$2696.10	1.25
Pacific	$3082.00	$3103.90	0.71	$3164.90	1.97
Urban Hospitals	$4367.50	$4388.50	0.48	$4417.30	0.66
0-99 Beds	$3326.40	$3346.10	0.59	$3412.30	1.98
100-404 Beds	$4104.70	$4135.90	0.76	$4178.20	1.02
405-684 Beds	$4843.20	$4849.50	0.13	$4851.80	0.05
685+ Beds	$5621.70	$5615.40	-0.11	$5599.30	-0.29
Rural Hospitals	$2477.10	$2481.70	0.19	$2500.10	0.74
0-99 Beds	$2208.40	$2214.00	0.26	$2239.10	1.13
100-169 Beds	$2528.40	$2533.80	0.21	$2541.70	0.31
170+ Beds	$2944.00	$2945.80	0.06	$2962.60	0.57

1/ Operating payments includes operating costs, disproportionate share payments, indirect medical education payments, and outlier payments, but exclude payments for capital-related costs and the direct costs of medical education.

2/ The baseline period extends from October 1, 1985 through April 30, 1986, during which hospitals were paid on the basis of parameters in effect for FY 1985.

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TABLE IV--COMPARISON OF ESTIMATED OPERATING PAYMENTS PER CASE PHASED IN ACCORDING TO HOSPITAL FISCAL YEAR[1/]

	Average Payment Per Case				
	Baseline Period [2/]	FY 1986	Percent Payment Difference (FY 1986/Base)	FY 1987	Percent Payment Difference (FY 1987/FY 1986)
Teaching Status					
Non-Teaching	$3258.60	$3280.70	0.68	$3319.30	1.18
Resident/Bed Ratio Less than 0.25	$4559.50	$4579.70	0.44	$4600.00	0.44
Resident/Bed Ratio 0.25 or Greater	$6634.50	$6587.70	-0.71	$6526.30	-0.93
Disproportionate Share Hospitals (DSH)					
No Additional Payments	$3654.30	$3661.70	0.20	$3668.20	0.18
Urban DSH 100 Beds or More	$4727.10	$4772.30	0.95	$4853.30	1.70
Urban DSH fewer than 100 Beds	$3363.90	$3402.70	1.15	$3536.30	3.93
Rural DSH	$1998.80	$2014.30	0.77	$2081.50	3.34
Other Special Status					
Sole Community Hospital (SCHs)	$2793.00	$2797.20	0.15	$2815.70	0.66
Rural Referral Centers (RRCs)	$3148.50	$3152.10	0.11	$3207.10	1.74
Both SCH and RRC	$3120.00	$3128.10	0.26	$3153.80	0.82
Rural Hospitals fewer than 50 Beds	$2070.90	$2078.20	0.35	$2123.70	2.19
Type of Ownership					
Voluntary	$4059.00	$4076.90	0.44	$4101.20	0.60
Proprietary	$3567.60	$3586.60	0.53	$3602.30	0.44
Government	$3345.40	$3357.40	0.36	$3402.30	1.34

1/ Operating payments includes operating costs, disproportionate share payments, indirect medical education payments, and outlier payments, but exclude payments for capital-related costs and the direct costs of medical education.

2/ The baseline period extends from October 1, 1985 through April 30, 1986, during which hospitals were paid on the basis of parameters in effect for FY 1985.

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Comment: Some commenters argued that our "profit" margin analysis in the June 3, 1986 initial analysis overstated the relative amount of profit hospitals have earned under the prospective payment system. They presented data showing hospital profit margins to be substantially lower than those we presented.

Response: We believe that the differences between our "profit" margin analysis and those that commenters have presented have more to do with differences in the various ways "profit" can be defined and calculated than with disagreements over the data.

We recognize that our method of computing "profit" margins may not be the generally accepted accounting method used by the hospital industry, and by labeling our results as "profits" we may have caused some confusion. Because of this possible confusion, we will refer to our results as "operating margins." We define and calculate "operating margin" in the following way:

Medicare operating revenue—Medicare operating costs = Net Medicare operating revenue

$$\frac{\text{Net Medicare operating revenue}}{\text{Medicare operating costs}} = \text{Operating margin}$$

We then divide operating margin by the number of discharges to arrive at an average operating margin per case.

Also, profitability depends on what revenues and costs are included in the computations and this, in turn, may depend on one's perspective. For example, a hospital administrator may want a measure of total operating profit that encompasses revenue and costs from all payment sources including Medicare. When margins reflect all payment sources, the results differ drastically from what they would be if only profits from Medicare were considered. As discussed in the addendum, Medicare revenue, as a portion of total hospital revenues, has increased while Medicare utilization has decreased. This suggests that non-Medicare revenue may be declining or, at least, not increasing as rapidly as Medicare revenues. The loss of profitability that some commenters claim may thus result from falling non-Medicare revenue sources rather than from our efforts to limit payments.

Given that our concern is to ensure that we pay only our fair share of hospital patient care cost, we include in our calculations only those costs and revenues that are directly related to Medicare patient care and that are required to be considered under our regulations. We are not concerned that our payments guarantee a certain level of profitability for hospitals. We prefer to examine the amount by which Medicare operating revenues exceed Medicare operating costs. This generally yields a somewhat higher margin than does the generally accepted accounting principle of comparing net revenues (total revenues less costs) to total revenues. The latter approach reflects a concern with a financial measure of profits while our approach reflects an economic concern for the relationship between revenue and costs.

Table V below compares operating margins as defined above for the baseline period (from October 1, 1985 to April 30, 1986), FY 1986 and FY 1987 by payment cell and for selected hospital categories. Since we are not now including capital costs in the prospective payment system, we are confining our analysis to the operating costs and revenue directly related to those activities paid for under DRG-based payments. However, in the June 3, 1986 proposed rule, the "profit" margin figures in Table VII of Appendix B were based on total Medicare revenues and costs (excluding the direct costs of medical education).

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TABLE V--COMPARISON OF ESTIMATED FY 1986 AND FY 1987 OPERATING MARGINS

	Estimated Base Year 1/ Operating Margin	Estimated FY 1986 2/ Operating Margin	Estimated FY 1987 3/ Operating Margin
All Hospitals	17.40	18.98	15.07
Urban by Region	18.66	20.42	16.38
New England	9.09	10.85	7.60
Mid Atlantic	15.65	18.43	16.27
South Atlantic	17.81	18.93	15.20
East North Central	20.19	21.09	15.79
East South Central	15.15	17.14	14.43
West North Central	25.64	26.73	22.20
West South Central	23.50	24.89	20.08
Mountain	20.74	21.15	17.62
Pacific	19.63	22.85	18.05
Rural by Region	11.20	11.92	8.64
New England	12.75	12.01	7.77
Mid Atlantic	6.74	6.54	2.42
South Atlantic	11.43	11.73	8.52
East North Central	13.03	13.42	9.37
East South Central	10.82	12.06	9.18
West North Central	10.58	11.36	8.05
West South Central	12.20	13.35	11.02
Mountain	10.49	11.42	8.77
Pacific	11.35	14.00	11.08
Urban Hospitals	18.66	20.42	16.38
0-99 Beds	18.11	20.46	18.17
100-404 Beds	16.89	19.40	15.35
405-684 Beds	21.00	21.76	17.59
685 + Beds	22.48	22.42	17.93
Rural Hospitals	11.20	11.92	8.64
0-99 Beds	10.94	11.88	9.00
100-169 Beds	8.99	9.67	5.76
170 + Beds	13.76	14.19	10.93

1/ Estimated for a hypothetical full year of payments using the payment parameters in effect from October 1, 1985 through April 30, 1986 (FY 1985 payment parameters).

2/ Estimated for a hypothetical full year of payments using the payment parameters in effect from May 1, 1986 through September 30, 1986.

3/ Projected for a hypothetical full year of payments with an 0.5 percent update factor applied to operating cost standardized amount (labor, nonlabor,) and the operating cost (excluding capital) hospital-specific portions. All projected costs were inflated using the projected hospital market basket. All hospitals were assumed to have the same cost reporting period, corresponding to the Federal fiscal year.

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TABLE V--COMPARISON OF ESTIMATED FY 1986 AND FY 1987 OPERATING MARGINS

	Estimated Base Year 1/ Operating Margin	Estimated FY 1986 2/ Operating Margin	Estimated FY 1987 3/ Operating Margin
Teaching Status			
Non-Teaching	14.59	16.79	13.14
Resident/Bed Ratio Less than 0.25	19.63	21.23	16.91
Resident/Bed Ratio 0.25 or Greater	23.87	22.26	18.42
Disproportionate Share Hospitals (DSH)			
No Additional Payments	17.07	17.95	13.82
Urban DSH 100 Beds or More	18.31	21.49	17.97
Urban DSH fewer than 100 Beds	16.30	20.35	19.97
Rural DSH	12.75	15.24	14.23
Other Special Status			
Sole Community Hospital (SCHs)	7.95	8.62	5.23
Rural Referral Centers (RRCs)	20.88	21.81	20.13
Both SCH and RRC	13.64	14.67	11.09
Rural fewer than 50 Beds	10.76	12.18	10.67
Type of Ownership			
Voluntary	17.76	19.33	15.22
Proprietary	14.75	16.56	12.35
Government	17.79	19.34	16.80

1/ Estimated for a hypothetical full year of payments using the payment parameters in effect from October 1, 1985 through April 30, 1986 (FY 1985 payment parameters).

2/ Estimated for a hypothetical full year of payments using the payment parameters in effect from May 1, 1986 through September 30, 1986.

3/ Projected f - a hypothetical full year of payments with an 0.5 percent update factor applied to operating cost standardized amount (labor, nonlabor,) and the operating cost (excluding capital) hospital-specific portions. All projected costs were inflated using the projected hospital market basket. All hospitals were assumed to have the same cost reporting period, corresponding to the Federal fiscal year.

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L. Quality of and Access to Care

We received several comments regarding access to and quality of care.

Comment: Several commenters displayed concern that our proposed policies regarding the update factor and incorporation of capital into the prospective payment system would have a detrimental effect on the access to and quality of care hospitals would be able to provide to Medicare patients.

Response: Since we are not incorporating capital-related payments into the prospective payment system, we believe that the concern over drastic reductions in total payments that was reflected in comments on the NPRM has been mitigated. Nonetheless, we are not convinced that the proposals we set forth on June 3, 1986 would have had an adverse impact on quality of and access to care. The commenters presented no evidence supporting their claims. We estimate that Medicare operating margins for FY 1987, even though decreased from previous levels, will still be quite robust for most hospitals. Hospitals should be able to at least maintain present levels of quality of and access to care at these payment levels. As yet, we see no basis for the concerns that the commenters express regarding the link between our efforts to control Medicare expenditures and an alleged degradation in the quality of and access to care that Medicare beneficiaries now enjoy.

In view of the extensive discussion in the NPRM of our efforts to ensure that quality of and access to care are maintained, and our adoption of several of ProPAC's recommendations regarding the interests of beneficiaries and the scope of PRO reviews, we do not believe there is much more we can do or say in this final rule regarding these issues.

M. Alternatives Considered

Throughout the discussions in the preamble and this analysis, we have explained why we are proposing to do one thing rather than another. Many interrelated decisions are involved in this process, and the number of possible combinations of different DRG weights, different update factors, and other proposals is large. Further, there are additional alternatives that had to be considered in developing the DRG classification changes and the update factor for the Federal rates. Altogether, there is a potentially enormous number of permutations.

Nonetheless, we have been particularly concerned with the impact of certain main options, and we have reviewed them in the light of how they would interact with each other. We also considered all the ProPAC recommendations. Each of the factors taken into consideration in the development of the FY 1987 standardized amounts has been reviewed both individually and in combination with other factors.

N. Summary and Conclusions

E.O. 12291 requires us to assess the benefits, costs, and net benefits of all rules, major or otherwise. For major rules, we must discuss those costs and benefits in impact analyses, and show that the potential benefits outweigh the potential cost to society. In addition, we must discuss alternative methods of achieving the objectives of our regulations. Throughout the preamble, addendum, and this impact analysis, such alternatives are discussed.

For the most part, the costs and disadvantages that could result from these changes will take the form of limiting the amount of payment to affected hospitals. Most of the changes will have their major effect through their influence on the level of FY 1987 prospective payments. As we have said before, the primary benefit expected to result from this rule is the maintenance and effective management of the prospective payment system itself. The incentives of this system are expected to produce substantial benefits in the form of economy and efficiency of operation of participating hospitals, and as improvements in trends of the health care marketplace as a whole. As noted earlier, the objective of this rule is to refine the prospective payment system. Whereas the system as a whole has had a large and dramatic impact, the refinements generally are of a marginal nature, rather than large-scale adjustments.

We believe that, from this perspective, the overall benefits to society more than offset any resulting liabilities. For the above reasons, we believe that this analysis meets the objectives of E.O. 12291 and the Regulatory Flexibility Act, as noted in the Introduction to this Regulatory Impact Analysis.

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