wood products for these materials' intended end use.

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[SWH-FRL 1681-7]

Hazardous Waste Management System: Identification and Listing of Hazardous Waste

AGENCY: U.S. Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency is today finalizing its lists of commercial chemical products, off-specification products, and intermediates that, when disposed of, are considered to be hazardous wastes (40 CFR 261.33). These lists were initially promulgated in interim final form on May 19, 1980 (45 FR 33124–33127). In addition, the Agency is deleting ethylenediamine (Hazardous Waste No. P053), N-nitrosodiphenylamine (Hazardous Waste No. P083), oleyl alcohol condensed with 2 moles of ethylene oxide (Hazardous Waste No. P086), 1,2-propanediol (Hazardous Waste No. P100), and chlorodibromomethane (Hazardous Waste Nos. U040 and U065) from the list of generically-named chemicals in § 261.33 (e) and (f), and making a number of technical changes in the listing descriptions of other listed, generically-named chemicals. Appendix VIII of Part 261 is being amended to reflect these deletions, and to add one compound whose name was omitted.

The Agency also is removing all trade names from the lists of § 261.33 (e) and (f), but clarifying that the scope of § 261.33 (e) and (f) includes in addition to the commercially pure grades of the chemicals, all technical grades, and all formulated products in which the listed chemical is the sole active ingredient. Finally, the Agency is responding to certain questions regarding the interpretation of § 261.33, and indicating that additional questions will be answered in a forthcoming Regulatory Interpretation Memoranda (RIM).

DATES: Effective Date: November 19, 1980. However, persons handling materials covered by this regulation which are formulated products in which a listed chemical is the sole active ingredient, and who have not yet notified the Agency due to a misunderstanding of the scope of the listings must do so by February 23, 1980. Facilities managing such wastes still may qualify for interim status if they submit a Part A permit application by May 25, 1981 (or, in the case of facilities which already have applied to manage other identified or listed hazardous wastes, if they submit an amended Part A application by that date). Interim status standards for all such facilities become effective on May 25, 1981.

ADDRESSES: The public docket for this regulation is located in Room 2711, U.S. Environmental Protection Agency, 401 M St., SW., Washington, D.C. 20460, and is available for viewing from 9 a.m. to 4 p.m. Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: For general information, contact David Friedman, Office of Solid Waste, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, (202) 755–9187.

For information in implementation contact:

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Region II—Dr. Ernest Regna, Chief, Solid Waste Branch, 26 Federal Plaza, New York, New York 10007, (212) 264–0504/5.

Region III—Robert L. Allen, Chief, Hazardous Materials Branch, 6th and Walnut Streets, Philadelphia, Pennsylvania 19106, (215) 597–0980.

Region IV—James Scarbrough, Chief, Residuals Management Branch, 345 Courtland Street, N.E., Atlanta, Georgia 30365, (404) 881–3016.

Region V—Karl J. Klepitsch, Jr., Chief, Waste Management Branch, 230 South Dearborn Street, Chicago, Illinois 60604, (312) 886–6148.

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Region VII—Robert L. Morby, Chief, Hazardous Materials Branch, 324 E. 11th Street, Kansas City, Missouri 64106, (816) 374–3307.

Region VIII—Lawrence P. Gazda, Chief, Waste Management Branch, 1860 Lincoln Street, Denver, Colorado 80203, (303) 837–2221.

Region IX—Arnold R. Den, Chief, Hazardous Materials Branch, 215 Fremont Street, San Francisco, California 94105, (415) 556–4606.

Region X—Kenneth D. Feigner, Chief, Waste Management Branch, 1200 6th Avenue, Seattle, Washington 98101, (206) 442–1260.

SUPPLEMENTARY INFORMATION: On May 19, 1980, as part of its final and interim final regulations implementing Section 3001 of RCRA, the Agency promulgated as § 261.33 of the regulations a list of 361 commercial chemical products or manufacturing chemical intermediates which are hazardous wastes if they are discarded or intended to be discarded. (45 FR 33124–33127.) Section 261.33 also lists as hazardous wastes off-specification variants and the residues and debris from the clean-up of spills of these 361 chemicals, if discarded or intended to be discarded (§ 261.33 (b) and (d)). Finally, § 261.33 lists as hazardous wastes the containers and inner liners of containers that have held 122 of these chemicals (those listed in paragraph (e)), if they are discarded or intended to be discarded, unless they have been triple rinsed with an appropriate solvent or have been decontaminated in an equivalent manner. (§ 261.33(c).) The regulation also covers materials not specifically listed by name, so long as they "have the generic name listed in paragraphs (e) or (f) . . . ." (§ 261.33 (a), (b), (c), and (d).)

The Agency received a large number of comments on this regulation. The comments for the most part challenged the Agency's decision to list particular substances as hazardous wastes. Some questions also were raised regarding the scope of the regulation, particularly with respect to trade products containing a listed chemical but not specifically listed themselves. Comments also were submitted concerning the difficulty of determining the chemical constituents of unlisted trade name products. Finally, many questions have been received regarding the interpretation of § 261.33.

We are setting forth in this preamble our disposition of all listings of particular substances, and a summary of the basis for our decision.[1] We also are clarifying the scope of coverage of trade products, and providing guidance as to how to determine whether a given tradename product is regulated under this section. We also are responding to certain of the interpretative questions raised regarding § 261.33. Additional questions will be answered in a forthcoming Regulatory Interpretation Memoranda (RIM).

[1] We also are indicating the appropriate conforming amendments to Appendix VIII to Part 261.

I. Finalization of Chemical Product Names in § 261.33 (e) and (f)

A. The changes made in response to comments on specific listings are described summarily below. More detailed explanations are contained in the revised Background Document.

EPA hazardous waste No.	Compound name	Action taken	Reason
P019 and U160	2-Butanone peroxide (Methyl ethyl ketone peroxide)	Deleted from § 261.33(e). Remains in § 261.33(f). Added (R) designation.	2-Butanone peroxide and methyl ethyl ketone peroxide, synonyms for the same compound, were mistakenly included in both the § 261.33 (e) and (f) lists. This compound does not meet the criteria for listing as an acutely hazardous waste. However, the compound's oral (rat) LD50 of 484 mg/kg qualifies it for continued inclusion in § 261.33(f). Moreover, the compound is reactive, since it is an oxidizer.
P025	1-(p-Chlorobenzoyl)-5-methoxy-2-methylindole-3-acetic acid.	Moved from § 261.33(e) to § 261.33(f)	After evaluating the data supplied by the commenter which indicated that the correct oral (rat) LD50 value for the subject compound (also known as indomethacin) is 1100 mg/Kg, not the cited 12 mg/Kg, the Agency concluded that waste does not pose an acute hazard. However, since the Agency's Carcinogen Assessment Group has concluded that substantial evidence of carcinogencity exists for indomethacin, the waste will remain listed under § 261.33(f) as U245.
P032	Cyanogen bromide	Moved from § 261.33(e) to § 261.33(f)	The LC50 value cited in the May 19th Background Document was incorrect. According to new data, the compound does not meet the criteria for listing as an acutely toxic waste. However, cyanogen bromide's inhalation (rat) LC50 of 4.35 mg/l/hr—only slightly less toxic than the standard for an acutely hazardous waste—qualifies it for inclusion as a hazardous waste. It thus remains listed under § 261.33(f) as U246.
P035	2,4-Dicholorophenoxyacetic acid [2,4-D]	Moved from § 261.33(e) to § 261.33(f) and listing clarified.	Re-evaluation of this listing in light of data received during the comment period indicates that the compound does not meet the criteria for listing as an acute hazard. Since the toxicity of 2,4-D is well recognized (for example, it is a National Interim Primary Drinking Water Standard pollutant), the compound is listed as a hazardous waste under § 261.33(f) as U240. The active pesticide ($C_6H_3(Cl_2)OCH_2COO$ moiety) is marketed commercially in a number of chemical forms. To clarify that the listing is meant to cover these various forms, the listing description has been clarified by explicitly including 2,4-D's salts and esters.
P052	Ethylcyanide	Deleted	Listing duplicated P101 listing.
P053	Ethylenediamine	Deleted	LDLo value cited in the May 19th Background Document was incorrect. New data indicates that the compound is unlikely to pose a substantial hazard to human health or the environment even if the waste is mismanaged, so the waste therefore has been deleted from § 261.33.
P061	Hexachloropropene	Moved from § 261.33(e) to § 261.33(f)	The LC50 value cited in the May 19th Background Document was incorrect. According to new data, the compound does not meet the criteria for listing as an acutely toxic waste. However, hexachloropropene's inhalation (rat) LC50 of 2.4 mg/l/hr—only slightly less toxic than the standard for an acutely hazardous waste—qualifies it for inclusion as a hazardous waste. It thus remains listed under § 261.33(f) as U243.
P079	Nitrogen peroxide	Deleted	Listing duplicated P078 listing.
P083	N-Nitrosodiphenylamine	Deleted	The LD50 value cited in the May 19th Background Document was incorrect. No information is presently available which shows that the waste poses a significant threat to human health or the environment even if it was mismanaged and it therefore has been deleted from § 261.33.
P086	Oleyl alcohol condensed with 2 moles of ethylene oxide.	Deleted	The LD50 value cited in the May 19th Background Document was incorrect. New data indicates that the compound is unlikely to pose a significant threat to human health or the environment even if the waste is mismanaged. This conclusion is supported by the decision of the Food & Drug Administration to permit the use of this compound as an indirect food additive.
P090	Pentachlorophenol	Moved from § 261.33(e) to § 261.33(f)	After reviewing in more detail the available studies, the Agency has concluded that pentachlorophenol does not meet the criteria for an acutely hazardous waste (see Listing Background Document for Wood Preserving, response to comments, November 1980). However, its toxicity is well recognized and the waste will remain listed under § 261.33(f) as U242.
P100	1,2-Propanediol	Deleted	The LD50 value cited in the May 19th Background Document was incorrect. New data indicates that the compound is unlikely to pose a significant hazard to either human health or the environment even if the waste is improperly managed. This decision is further supported by the Food & Drug Administration's approval of this compound as a direct food additive.

I. *Finalization of Chemical Product Names in § 261.33 (e) and (f)*—Continued

A. The changes made in response to comments on specific listings are described summarily below. More detailed explanations are contained in the revised Background Document.

EPA hazardous waste No.	Compound name	Action taken	Reason
P117	Thiuram	Moved from § 261.33(e) to § 261.33(f) and listing changed to clarify the specific waste being regulated.	According to the NIOSH "Registry of Toxic Effects of Chemical Substances", thiuram is a synonym for bis(dimethylthiocarbamoyl) disulfide. Comments were received which indicated that other compounds were also known as "thiurams". We have accordingly changed the listing "thiuram" to clarify that the intended compound is "bis(dimethylthiocarbamoyl) disulfide". Secondly, the LDLo data cited in the May 19th Background Document was incorrect. According to the new data, the waste does not meet the standard for an acutely hazardous waste. However, bis(dimethylthiocarbamoyl) disulfide's synergistic action with alcohol could pose a substantial hazard to human health if the waste was mismanaged and, as a result, contaminated drinking water. Thus the compound has been listed in § 261.33(f) as U244.
U040 and U065	Chlorodibromomethane and Dibromochloromethane	Deleted	After reevaluating the available environmental and toxicological information, the Agency has concluded that the information is not conclusive enough to justify retaining the listing. Pending receipt of additional data, the waste has been removed from inclusion under § 261.33.
U044	Chloroform	Deleted (I) designation	Mistakenly included. Chloroform does not have a flash point below 60°C.
U100	Dimethylnitrosamine	Deleted	Acutely toxic and remains listed as P082.
U104	2,4-Dinitrophenol	do	Acutely toxic and remains listed as P048.
U154	Methanol	Changed to (I) designation	After considering the comments received, the Agency has concluded that it has insufficient information to justify listing methanol for toxicity. However, since it has a flash point of 11°C, it will remain listed under § 261.33(f) as an ignitable waste.
U161	Methyl isobutyl ketone	Changed to (I) designation	After considering the comments received, the Agency has concluded that it has insufficient information to justify listing methyl isobutyl ketone for toxicity. However, since it has a flash point of 22.8°C, it will remain listed under § 261.33(f).
U197	Quinones	Changed to p-benzoquinone	As the May 19th Background Document indicated, the Agency's available toxicological data referred to p-benzoquinone only. The original listing of "Quinones" thus was over-inclusive. We are accordingly revising the listing description. Appendix A to the May 19th listing Background Document summarizes adverse health and environmental effects associated with p-benzoquinone.
U202	Saccharin	Added to listing ". . . and salts."	The May 19th Background Document was intended to include both the parent and its salts, since normal commercial use includes (and is known to include) both forms. In light of this common usage, we do not believe that any notice and comment issues are present. The arguments that saccharin is not carcinogenic were not deemed persuasive enough by the Agency to warrant deletion from § 261.33 list. That saccharin poses a significant carcinogenic hazard is amply demonstrated by the warnings that are required by the Food & Drug Administration to appear on any food to which saccharin is added.
U229	Trichlorofluoromethane	Deleted	Listing duplicated U121 listing.
U238	Urethane	Listing description modified	The original listing of urethane has been changed to read "ethyl carbamate (urethan)" to indicate more clearly that the listing does not refer to either the polymers commonly known as "polyurethanes" or their precursors.
U239	Xylene	Changed to (I) designation	Xylene was mistakingly listed as toxic instead of as ignitable. While xylene does not appear to pose a sufficient toxicity hazard for listing as a toxic waste, as the May 19th Background Document indicated, xylene is an ignitable waste due to its flash point of 27°C.

B. In addition to the above changes made in response to comments, the following changes, described summarily below, have been made as a result of the Agency's review of the interim final regulations.

EPA hazardous waste No.	Compound name	Action taken	Reason
P006	Aluminum phosphide	Added (T) designation	In addition to its reactivity toward water (indicated in the May 19th Background Document), the waste is also acutely toxic because of its toxicity. The (T) designation had been omitted inadvertently.
P030	Cyanide salt mixtures not otherwise specified	Modified listing description	Clarify the meaning of the term "cyanides" in light of a comment which indicated that the listing might be misunderstood.
P055	Ferric cyanide	Deleted	Listing duplicated P030 listing.

I. *Finalization of Chemical Product Names in § 261.33 (e) and (f)*—Continued

EPA hazardous waste No.	Compound name	Action taken	Reason
P065	Mercury fulminate	Added (R) designation	The (R) designation was omitted inadvertently. While mercury fulminate is toxic (as the May 19th Background Document points out), it is also acutely hazardous because of mercury fulminate's explosive properties.
P080	Nitrogen tetroxide	Deleted	Listing duplicated P078 listing.
P091	Phenyl dichloroarsine	Deleted	Listing duplicated P036 listing.
P097	Phosphorothioic acid, O,O-dimethyl ester, O-ester with N,N-dimethyl benezene sulfonamide.	Listing corrected	The Agency had mistakenly listed this compound. It does not exist. The correct compound is "Phosphorothioic acid, O,O-dimethyl O-[p-((dimethylamino)-sulfonyl)phenyl] ester."
P112	Tetranitromethane	Changed to (R) designation	The (R) designation was inadvertently omitted. While tetranitromethane is toxic (as the May 19th Background Document points out), it is acutely hazardous because of tetranitromethane's explosive properties.
U001	Acetaldehyde	Changed to (I) designation	This compound does not pose a sufficient hazard for listing because of toxicity. However, acetaldehyde's flash point of −37.8°C classes it as a hazardous waste by reason of ignitability.
U006	Acetyl chloride	Added (R) designation	The reactivity designation was mistakenly omitted from the listing, although the May 19th Background Document cited reactivity as a reason for listing.
U012	Aniline	Added (T) designation	In addition to aniline's ignitable properties, it is also toxic with an oral (rat) LD50 of 440 mg/kg (Merck Index).
U019	Benzene	Added (I) designation	As well as being toxic, this compound is highly flammable (10–12°C). (Merck Index.)
U033	Carbonyl fluoride	Added (R) designation	In addition to carbonyl fluoride's toxic properties, as the May 19th Background Document indicates, it also poses a hazard due to its reactivity.
U054	Cresylic acid	Deleted	Listing duplicated U052 listing, which now reads cresol and cresylic acid.
U055	Cumene	Changed to (I) designation	This compound does not pose a sufficient hazard for listing because of toxicity. However, cumene poses an ignitability hazard due to its flash point of 44°C.
U074	1,4-Dichloro-2-butene	Added (I) designation	A review of the literature indicated that as well as being toxic, this compound is highly flammable (flash point of 27°C).
U085	1,2:3,4-Diepoxybutane	Listing corrected	Clarification, prefix omitted by mistake.
U117	Ethyl ether	Changed to (I) designation	This compound does not pose a sufficient hazard for listing because of toxicity. However, ethyl ethers flash point of −45°C classified it as an ignitable waste.
U140	Isobutyl alcohol	Added (I) designation	This ignitability designation was mistakenly omitted. As the F005 Listing indicated, the waste posses a flash point of 28°C. (See discussion in section I. C. of this preamble.)
U152	Methacrylonitrile	Added (I) designation	As well as being toxic, this compound is highly flammable (12°C).
U153	Methanethiol	Added (I)	As well as being toxic, this compound is highly flammable (−18°C).
U156	Methyl chlorocarbonate	Added (I) designation	This designation was mistakenly omitted although the May 19th Background Document indicated that the waste presents a hazard due to ignitability. The waste in fact has a flash point of 12°C.
U162	Methyl methacrylate	Added (I) designation	This designation was mistakenly omitted from the regulation, although the May 19th Background Document indicates that the compound is ignitable. The waste, in fact, possesses a flash point of 10°C.
U175	N-Nitrosodi-n-propylamine	Deleted	Listing duplicated U111 listing
U194	n-Propylamine	Added (T) designation	The toxic designation was omitted mistakenly. Further discussion is contained in section I. C. of this preamble.
U223	Toluene diisocyanate	Added (R) designation	As well as being toxic, this compound is highly reactive. See discussion in 2. C. of this preamble.
U244	Toxaphene	Moved from § 261.33(f) to § 261.33(e)	Material has an oral (rat) LD50 of 40 mg/Kg; thus meeting the standards for an acutely hazardous waste. Its new hazardous waste number is P123.

C. Several comments were received which argued against the listing of a specific compound but were judged by the Agency to be nonpersuasive. These comments are summarized below along with the reason for our decision to retain the chemical in the § 261.33 lists.

EPA hazardous waste No.	Compound name	Reason
PO 56	Fluorine	This chemical was listed as intended. The hazardous material is flourine, the diatomic molecule F_2, not the polynuclear aromatic "fluorene" discussed in the comment. Since flourine has a reported inhalation (human) TCLo of .00035 mg/l/hr, which falls within the standards for an acutely hazardous waste, it will remain listed under § 261.33(e).
P107	Strontium sulfide	While the oral (rat) LD50 data cited in the May 19th Background Document was incorrect, the correct oral (human) TCLo data which was cited by the commenter—50 mg/Kg (Letter from Chemcial Products Corp., dated August 18, 1980)—confirms the agency's original classification of this waste as acutely hazardous.

EPA hazardous waste No.	Compound name	Reason
U007	Acrylamide	The Agency admits that the Health and Environmental Effects profile for acrylamide was unavailable for comment when the regulations were promulgated. However, the Agency strongly believes that sufficient information on the toxicity/carcinogenicity of this compound was presented in the listing Background Document for waste K014 to support the continued inclusion of acrylamide under § 261.33.
U030	4-Bromophenyl phenyl ether	The commenter claims that this compound is not in commerical use. Pending verification of the claim the compound will remain listed under § 261.33.
U037	Chlorobenzene	As was discussed in the Health and Environmental Effects Profile cited in the May 19th Background Document, chlorobenzene is absorbed from the gastrointestinal tract and is in part metabolized to chlorinated phenols. Although its acute toxicity is not very high, many chronic effects have been noted. Continued administration at low doses inhibits red blood cell formation, induces eosinophilia, and chromosome changes in the rat. Decreased spermatogenesis and other gonadal effects were also noted in male dogs and in female rats exposed to low doses. Chlorobenzene has also been found to be mutagenic in certain short term bioassays.
U075	Dichlorodifluoromethane	Commenter did not present any data to argue against the continued listing of dichlorodifluoromethane and the waste thus will remain listed. It should be noted that the Agency's overriding concern with this compound, as with all chlorinated fluorocarbons, relates to the fact that chlorinated fluorocarbons may indirectly cause skin cancer by depletion of the stratopheric ozone. For further information, the reader is referred to the Listing Background Document "Spent Halogenated and Non-Halogenated Solvents and Still Bottoms/Sludges From The Recovery Of Those Solvents."
U080	Dichloromethane	The Agency disagrees with the comment that dichloromethane does not pose a hazard if mismanged. Although the NCI sponsored bioassy studies have not been completed, EPA has found suggestive evidence of its carcinogencity. Therefore, while the Agency is revising the Background Document to indicate that dichloromethane is only a suspect carcinogen, it cannot ignore this preliminary finding particularly in light of the large quantity of this material in use and the likelihood of its being discarded. For further information the reader is referred to the Listing Background Document "Spent Halogenated and Non-Halogenated Solvents and the Still Bottoms/Sludges From the Recovery of these Solvents."
U102 and U107	Dimethyl phthalate (U102) and Di-n-octyl phthalate (U107).	While these compounds are not acutely toxic to man, they have been found to be teratogenic in rats, causing fetal resorbtion, gross abnormalities, and decreased fetal weight. Dimethyl phthalate is mutagenic in microbial assay systems. In addition, a recent report (Water Quality Criteria Document: Phthalate Esters, NTIS PB No. 81-117780) indicated that neurotoxic effects have been observed in workers exposed to mixtures of phthalates.
U121	Fluorotrichloromethane	Fluorotrichloromethane has been listed because of the danger it poses to the earth's ozone layer and thus its removal from the list of toxic chemicals under § 307 of the Clean Water Act is not germane to the reason it was listed as a hazardous waste.
U140	Isobutyl Alcohol	The Health and Environmental Effects Profile cited in the May 19, 1980 Background Document (Appendix A of the Listing Background Document) discusses and supports the listing of this waste as toxic. More specificially, oral administration in rats of relatively high concentrations of this substance resulted in biochemical and histologic liver changes. Liver carcinomas and sarcomas as well as mycloid leukemia have also been produced in this species. Additionally, this compound should also have been listed as ignitable in § 261.33(f), since the May 19, 1980 listing of waste F005 clearly indicates that the compound is ignitable. The waste, in fact, possesses a flash point 28°C. Isobutyl alcohol also will be added to Appendix VII of Part 261, from which it was omitted inadvertently.
U184	Pentachloroethane	Contrary to claims of the commenter, a Health and Environmental Effects Profile for this compound was published (Appendix A of §§ 261.31 and 261.32 Listing Background Documents, pp. 435-453. According to this profile, release of pentachloroethane to the environment poses a potential hazard to aquatic ecosystems. For example, according to the recent Water Quality Criteria Document (U.S. EPA, Ambient Water Quality Criteria: Chlorinated Ethanes. EPA 440/5-80-029. October 1980.), the maximum concentration that can be present in surface waters without danger to the exosystem is 38-87 μg/l. Pentachloroethane also is bioaccumulative, a futher reason for its continued listing.
U188	Phenol	The Agency strongly disagrees with the comment that mismanagement of waste phenol does not pose a hazard to human health. While the carcinogenicity of phenol has not been firmly established, both liver and kidney damage to humans will result from chronic exposure to phenol with death a potential consequence. In addition, the acute toxicity of phenol results in central nervous system depression with symptoms severe enough to earn phenol a toxicity rating of 'High' in Sax (*Dangerous Properties of Industrial Materials*, Fifth Edition, 1979, Van Nostrand Reinhold Co., New York). This standard reference indicates that "death or permanent injury may occur due to exposure at normal use . . .". Therefore, the Agency will continue to include phenol under § 261.33(f).
U194	n-Propylamine	While the commenter believes that compounds, such as this one, having an oral (rat) LD50 of 570 mg/kg are not toxic, the Agency disagrees. Other standard sources support the Agency's viewpoint. For example, "Clinical Toxicology of Commercial Products", (3rd ed.) considers compounds which have an oral LD50 (as determined using rats) in the range of 500 mg/kg to 5000 mg/kg to be toxic to moderately toxic; however, it should be noted that this compound is at the higher end of the range and would tend to be considered toxic rather than moderately toxic.
U207	Tetrachlorobenzene	The Health and Environmental Effects Profile cited in the May 19th Backgound Document discusses and supports the listing of all waste commercial chlorinated benzenes. Among the specific toxic effects of tetrachlorobenzene are its aquatic toxicity (14.5 μg/l) and bioconcentration factor (1800X). Since the commenter did not present any specific evidence or reasons for the Agency not to list tetrachlorobenzene as a hazardous waste, it will remain listed under § 261.33(f).
U212	2,3,4,6-Tetrachlorophenol	As stated in the Health Effects Profile for this compound, 2,3,4,6-Tetrachlorophenol is fetotoxic in rats, and inhibits both carbohydrate metabolism and the liver oxidase system. It also is bioaccumulative (bioaccumulation factor 1100). EPA has established 1 μg/l as the ambient water quality criterion based on organoleptic effects; 440 μg/l was established for the protection of aquatic life.
U220	Toluene	While toluene has a relatively low acute toxicity (oral [rat] LD50 of 5000 mg/Kg), as described in the cited Health and Environmental Effects Profile, low level chronic exposure to toluene has caused chromosome damage in humans and has led to the development of neuro-muscular disorders. Toluene has also reported to cause reproductive problems to female workers during occupational exposure.
U223	Toluene diisocyanate	The Agency believes that toluene diisocyanate (TDI) should continue to be listed as a hazardous waste when discarded. TDI exposure produces respiratory sensitization, and decreased lung function. Exposure to high concentrations can result in pulmonary edema and death. Additionally, the reaction of free isocyanate groups with water usually occurs very rapidly, is exothermic, and results in a possibly explosive release

EPA hazardous waste No.	Compound name	Action taken	Reason
			of toxic and potentially carcinogenic aromatic chemicals. Damage incidents of this type actually have occurred in waste management practice (see listing Background Document on Toluene Diisocyanate Production).
U226	1,1,1-Trichloroethane		No data was presented by the commenter to justify the contention that waste 1,1,1-trichloroethane does not pose a health hazard and should not be listed. As the bioassays described in the May 19th Appendix A Health and Environment Effects Profile indicate increased tumor production was noted in animals treated with 1,1,1-trichloroethane. In addition, *in vitro* transformation of rat embryo cells and subsequent firbosarcoma production by these cells when injected *in vivo*, also indicates that 1,1,1-trichloroethane has carcinogenic potential. It should also be noted that the Agency recently determined that 1,1,1-Trichloroethane should continue to be listed as a toxic pollutant under § 307(a) of the Clean Water Act.
U232 and U233	2,4,5-Trichlorophenoxyacetic acid and 2,4,5-Trichlorophenoxypropionic acid.		One commenter questioned the presence of these constituents on the § 261.33 list when the waste constituents are among the parameters measured by the characteristic of Extraction Procedure Toxicity (EP). We believe the concern is largely academic since discarded commercial chemical products consisting of these pesticides will undoubtedly contain concentrations many orders of magnitude above the EP levels.

D. The Agency received several comments indicating that a mistake had been made in converting from one set of units to another during the computation of inhalation toxicity values. We acknowledge that for a number of the compounds listed for acute inhalation toxicity, the conversions were errouneous so that the values given in the May 18th Background Document were incorrect. After recalculating the toxicity values, it was found that the following compounds still meet the criteria for lising as an acutely hazardous waste [inhalation (rat) LC50≤2 mg/l/hr or inhalation (human) LCLo ≤ 2 mg/l]. The recalculated raw data and the correct values are presented below. The formulas used in converting inhalation toxicity values are:

$ppm = mg/m^3 \times (22.4/MW)$
$mg/l = (mg/m^3)/1000$
$mg/l = (MW)(ppm)/(22.4)(1000)$
(mg/l/minute)/60=mg/l/hour
(mg/l/hour[s]) × (hour[s]=mg/l/hour
MW=Molecular weight

EPA hazardous waste No.	Compound name	Molecular weight	Cited value (mg/l/hr	Correct value (mg/l/hr)	Published value [source of data]
P005	Allyl alcohol	58	6.8	0.06	TCLo(hum) 25ppm [N]
P016	Bis(chloromethyl) ether	115	0.49	0.25	LC50(rat) 7ppm/7 hr [S]
P017	Bromoacetone	137	0.95	0.53	TCLo(hum) 3.2mg/l/10min [D]
P028	alpha-Chlorotoluene	127	0.003	1.70	LC50(rat) 150ppm/2hr [S]
P031	Cyanogen	52	0.16	0.81	LC50(rat) 350ppm/hr [S]
P033	Cyanogen chloride	61	0.59	0.01	TCLo(hum) 10mg/m³ [S]
P056	Flourine	38	1.85	0.03	LC50(rat) 185ppm/hr [S]
P064	Isocyanic acid, methyl ester	41	0.20	0.004	TCLo(hum) 2ppm [N]
P066	Methomyl	162	0.77	0.56	LC50(rat) 77ppm [N]
P068	Methyl hydrazine	46	2.96	0.61	LC50(rat) 74ppm/4hr [S]
P073	Nickel carbonyl	171	0.73	0.12	LC50(rat) 240mg/m³/30min [S]
P096	Phosphine	34	0.44	0.07	LC50(rat) 11ppm/4hr [S]
P110	Tetraethyl lead	324	1.58	0.09	LC50(rat) 6ppm [S]
P118	Trichloromethanethiol		[1]	0.45	

[1] Listed in oral exposure column of Backgound Document instead of inhalation exposure column.
[N]=NIOSH Registry, [S]=Sax, [D]=DOT.

E. The Agency also received a number of inquiries regarding the specific nomenclature used in listing the generic chemical names, expressing confusion in certain cases because these compounds often go by a number of different names. In order to eliminate any confusion, the Agency has revised the listing descriptions in § 261.33 (e) and (f). The new lists contain only the International Union for Pure and Applied Chemistry (IUPAC) name and, where available, a cross-reference to the compound's commonly-used generic name. Since the IUPAC name is the one employed in *Chemical Abstracts*, the premier guide to the world's chemical literature, the Agency believes that the new listing descriptions will permit unambiguous compound identification.

In compiling the new regulation, we have listed each identified substance in alphabetical order but have retained the hazardous waste number used in the May 19th, interim final regulation. As a result, the § 261.33 (e) and (f) lists no longer numbered consecutively. Furthermore, where a generic name and the IUPAC name are cross-referenced, both will be listed under the same hazardous waste number, but will not appear consecutively in the regulation. We have chosen this method of organization because we believe additional (and unnecessary) confusion would result if new hazardous waste numbers were assigned to each waste, and because the existing numbers

already have been used for notification purposes.[2]

F. Asbestos.

The Asbestos Information Association submitted extensive comments arguing that the interim final listing of discarded asbestos (as hazardous waste U013) was procedurally defective for want of prior notice, and substantively unjustified because disposal is already regulated under the National Emission Standard for Asbestos (NESHAP) program (40 CFR Part 61).

We disagree that the interim final promulgation of the asbestos listing was procedurally defective. In our view, the opportunity to comment prior to any regulatory effect of § 261.33 cures any possible procedural deficiencies. The situation here thus is distinguishable from those in such cases as *U.S. Steel Corp.* v. *EPA*, 595 F.2d 207 (5th Cir., 1979), and *State of New Jersey* v. *EPA*, —— F.2d —— (D.C. Cir., 1980), where interim final regulations became effective prior to opportunity for comment.

We are, however, more impressed with the commenter's substantive argument. Certainly, duplicative regulation should be avoided where possible. We therefore are temporarily deferring final promulgation of the listing of asbestos while we investigate further the relationship of the NESHAP and the RCRA management standards, and the extent to which NESHAP facilities afford comparable environmental protection in managing waste asbestos. One possible approach would be to grant NESHAP facilities a RCRA permit by rule, and apply substantive RCRA standards to discarded asbestos up until the point of disposal. (See § 265.1(c) (1) and (2) and § 122.26 (a) and (b) where the Agency has adopted a comparable approach for hazardous wastes also subject to regulation under the Marine Protection, Research, and Sanctuaries Act, and the Underground Injection Control program approved or promulgated under the Safe Drinking Water Act). Another approach would be integration of the Toxic Substances Control Act asbestos-in-the-schools program, the NESHAP program, and RCRA standards into a single regulatory program. The NESHAP program will serve as a safeguard against pollution problems resulting from asbestos disposal pending final determination of this issue.

[2] The Agency has not, however, used IUPAC names in Appendix VIII of Part 261, in large part because no questions have been raised about the identity of the Appendix VIII compounds. The Agency will consider using IUPAC names in Appendix VIII if the regulated community believes that such a change is warranted.

II. Trade Names Included in the List and Scope of Coverage of the Regulation

A. The May 19th regulation applied to all discarded commercial chemical products, manufacturing chemical intermediates, off-specification species, and container and spill residues thereof "having the generic name listed in paragraphs (e) or (f) . . . ." [3] (§ 261.33(a), (b), (d).) The regulation thus clearly included more materials than those listed specifically in § 261.33(e) and (f). A footnote to both § 261.33(e) and (f) likewise indicated that the scope of coverage of these provisions was broader than materials listed by name: "The Agency included those trade names of which it was aware; an omission of a trade name does not imply that the omitted material is not hazardous. The material is hazardous if it is listed under its generic name."

Included in this list of generically-named materials were several hundred trade name products (for example, RAT AND MICE BAIT, RO–DETH, and SPOR–KIL). As the above-cited footnote indicates, these trade names are illustrative, and not the exclusive list of hazardous discarded trade name products. However, the form of the list confused a number of commenters, who questioned why other similarly-constituted products were not named. Other commenters complained that the lists in (e) and (f) operated in a commercially discriminatory manner because their products were included by name, while other comparable products were included only by reference.

In order to eliminate this confusion, the Agency has decided to remove all trade names from the list of generic names in § 261.33(e) and (f). Since no trade names now will appear in the regulation, the footnote to these provisions also will be deleted. As before, all trade name products having a listed generic name are included within the scope of the regulation.

B. Questions also have been raised as to the precise meaning of the regulatory language "having the generic name listed in paragraphs (e) or (f)." The Agency intends that this language include the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. This scope of coverage was expressed in the May 19th regulation where hundreds of such products were listed by name in § 261.33(e) and (f).[4] We also believe that this reading conforms to usual understanding. Commercial chemicals are almost never sold in pure form. Generally, a chemical need not be present at full strength for a product to have its intended effect, and so is diluted to the desired concentration. For practical purposes, however, the product is considered to be the chemical comprising its active portion. For example, persons purchasing the fungicide pentachlorophenol (U–242) do not normally receive a pure chemical, but rather a formulation (e.g., Permatox DP–2) in which the fungicide pentachlorophenol is the active ingredient. There is no doubt, however, that this trade product formulation is identified with the active chemical constituent. Another more homely example is the functional identity of aspirin and acetylsalicylic acid even though an aspirin is not pure active acetylsalicylic acid [5]

This understanding likewise is reflected in the principal journals cataloguing chemical substances. The NIOSH Registry (National Institute of Occupational Safety and Health, *Registry of Toxic Effects of Chemical Substances* (1978 ed.)), for instance, lists generic chemical names along with the synonymous commercial product trade name, explaining that "commercial product trade names are included . . . when they represent a single active chemical entity . . . ." (*id.* at xvii.) *The Farm Chemicals Handbook* (Meister Publishing Co., 1979 ed.), probably the basic reference source for information on the agricultural chemicals industry, likewise lists all trade products having a generically-named chemical as the sole active ingredient as "other names" for that chemical. Similarly, manufacturers of trade name products, in complying with reporting obligations under the Toxic Substances Control Act, voluntarily and routinely report trade names as synonyms for the pure generically-named chemical even though the trade product does not consist of the chemical in its pure form. See, e.g., Toxic Substances Control Act Chemical Substance Inventory, Volume II, p. 111 (Arasan, Arasan 70, Arasan 75, Arasan-M, Arasan 425, Arasan-SF, and Arasan 70–S Red listed as synonyms for thiuram); p. 113 (Arsodent listed as synonym for arsenic trioxide).

Public comment on the interim final regulation likewise reflected an

[3] Containers and liners are included insofar as they held a material "having the generic name listed in paragraph (e)." § 261.33(c).

[4] We are, however, adding appropriate clarifying language to the comment to § 261.33.

[5] Needless to say, neither aspirin nor acetylsalicylic acid are hazardous wastes when discarded.

understanding that discarded products containing a generically-named chemical as the sole (or in some cases even the principal) active ingredient were included by the regulation. The Dow Chemical Company, for instance, commented that the "same generic material" generally is sold under many different trademarks, listing as an example 38 chemical names, trade name products, and synonyms for 1,1,1-trichloroethane, widely-used as a solvent. Almost all of these trade names are not the pure chemical, but rather contain the chemical as the (or an) active ingredient.[6] USS Agri-Chemicals, another commenter, also indicated that trade products need not be identical in chemical composition to the generically-named chemical to be thought of as that chemical.

The approach outlined above—that products containing a generically listed chemical as the sole active ingredient are included within the scope of the regulation—has a number of significant advantages. First, the approach seems to reflect normal commercial understanding. Further, a potential unintended loophole for diluted formulations of generically-listed chemicals is eliminated. In addition, the regulation would have little practical effect, and would be at odds with usual understanding, if it were read as applying only to pure chemicals, since 100% pure chemicals are used only rarely in commercial practice.

There should be little question that single active ingredient products containing a generically-listed chemical as its active ingredient will usually and frequently be toxic and thus hazardous waste when discarded. The toxicity data contained in the May 19th Background Document indicates that most of the chemicals need be present in only low concentrations for the product to have toxic effects. We further believe that products which are identified with the generically-listed chemical because the chemical is the sole active ingredient will normally contain concentrations of the chemical far higher than necessary to produce toxic effects or will be present in combination with so-called inert ingredients which tend to magnify its toxic effects (*e.g.*, solvents and surfactants). The products mentioned as synonyms for 1,1,1 trichloroethane in Dow's comments, for example, contain over 90% of the generically-listed chemical. We also note that many of the trade products regulated under this section are pesticides or fungicides, produced for the express purpose of destroying plant or animal life. It is evident that such a substance, when discarded, meets the RCRA definition of hazardous waste.

We recognize that this regulation is deficient in its failure to address products containing mixtures of chemicals listed in § 261.33 as their ingredients. Because these products are normally not thought of as having a 1:1 relationship to a listed compound, we do not think that we can address the problems by means of final or interim final Agency action. We do intend, however, in the near future to propose an amendment to § 261.33 to cover active ingredient mixtures.

We also recognize that some persons legitimately may not have realized the intended scope of coverage of § 261.33 and thus may have not notified the Agency that they generate these materials, nor, in the case of treaters, storers or disposers, filed a permit application as required by sections 3010 and 3005(e) of RCRA. Since this failure is, at least in part, due to an ambiguity in EPA's regulations, we do not believe it fair to penalize persons who thus far have failed to comply. Consequently, persons handling products covered by §261.33 which consist of a listed chemical as the sole active ingredient, and who have not yet notified the Agency, must do so by February 23, 1981.[7] Facilities managing these wastes still may qualify for interim status if they submit a Part A permit application (or an amended Part A application, in the case of facilities which already have applied to manage other identified or listed hazardous wastes) by May 25, 1981.

C. A number of comments indicated that trade name products listed specifically in the May 19th interim final regulation do not contain a generically-named chemical as the sole active ingredient, or (in some cases) do not refer to any specific product formulation but rather to a family of products. Since § 261.33 as promulgated and finalized applies only to sole active ingredient formulations, these products are not presently hazardous wastes when discarded. Trade name products in this category are D–CON (formerly listed as waste P001), PERMATOX (formerly listed as waste P090) and SANTOPHEN (formerly listed as waste P090). The Agency notes, however, that a number of products marketed under these general trademarks are in fact products which consist of a compound listed in § 261.33(e) or (f) as its sole active ingredient, and where this is the case, that trade name product is a hazardous waste when discarded. Examples are PERMATOX DP–2 (technical grade pentachlorophenol), and SANTOPHEN–20 (sole active ingredient pentachlorophenol).

Comments also reflected confusion about two of the other trade name products listed in the May 19th regulation. Even though trade names are now being removed from the text of the regulation, we believe it is important to clarify our intent. One commenter indicated that it handles a product called 'METAFOS 164', a trademark for the surfactant sodium hexametaphosphate. The commenter believed this product was included under the May 19th listing of 'METAFOS', a trade product listed in both the NIOSH Registry and the *Farm Chemicals Handbook* as a synonym for methyl parathion (P071). In fact, the similiarity of product names appears coincidental. The Agency, as stated, intends to regulate only trade products containing a listed chemical (in this case methyl parathion) as the sole active ingredient, so that the product METAFOS 164 would not be a hazardous waste when discarded.

A second, similar situation arose with respect to another listed product, 'THIONEX'. THIONEX is a trade product name for the pesticide endosulfan (waste P050) (*Farm Chemicals Handbook*), and so is a hazardous waste when discarded. According to a commenter, however, an identically-named but chemically very different product also exists. Obviously, only the product consisting of the pesticide endosulfan is a hazardous waste when discarded. Confusion caused by name similarity should be addressed by determining the identity of a product's active ingredient.

III. The Problem of Identifying Which Discarded Trade Name Products Are Hazardous

The Agency is aware that many persons handling commercial products have found it difficult to determine whether these materials are hazardous wastes when discarded because the product's chemical composition is not always readily obtainable. Manufacturers in many cases have been reluctant or have refused to divulge this information, in part because of concern

[6] Dow also commented that discarded products containing chemicals measured by the characteristic of EP toxicity should not be listed in § 261.33, again reflecting an understanding that products containing a § 261.33 (e) or (f) chemical as an active ingredient are covered by the regulation, since the comment would have little point if a pure chemical was involved (*viz.* a material containing 100% 2,4,5-T would always fail the test for the characteristic of EP toxicity).

[7] Under Section 3010 of RCRA, persons who already have notified that they handle any identified or listed hazardous waste are not required to notify again.

for revealing proprietary data. In the face of these difficulties, some commenters went so far as to suggest that generators not be responsible for complying with the regulations unless they have actual knowledge of the product's chemical composition.

The Agency is taking a number of steps to deal with this problem. First, we are now preparing a directory of chemical products [8] which are hazardous wastes when discarded. The Directory will include generic names, other names by which the chemicals are known (e.g., myrbane oil for nitrobenzene) and the names of trade products which are regulated under § 261.33 as well as the applicable hazardous waste number. The Directory will be advisory, not part of the regulation itself, so that a defendant in an enforcement proceeding will still be able to show that a waste listed in the Directory is not a waste listed in § 261.33. By the same token, absence of a product name from the Directory is not a defense. The Agency will expand the Directory over time to try and provide as complete a list as possible.

A second form of Agency guidance is the recently-implemented RCRA Industry Assistance Hotline. Persons unsure whether the trade name product they are discarding is a hazardous waste may call this toll-free number and provide the name of the product. The Agency will then provide advice as to whether the product is a hazardous waste and its basis for the determination. As with the Directory, the Agency's response will be advisory, not a formal regulatory action. The hotline telephone number is 800–424–9346 (in Washington, D.C., 554–1404).

We also expect that persons unsure of the hazardousness of a given product will call the manufacturer of the product. Although manufacturers may not want to give out the formula for their products, the Agency believes it is reasonable to expect suppliers to inform customers if disposal of the product is regulated under either § 261.33(e) or § 261.33(f). Customers of course have the option of refusing to deal further with a supplier who will not divulge this information.

We disagree strongly with the suggestion that generators lacking actual knowledge of a product's chemical composition remain unregulated. Such a standard provides a strong incentive for generators not to determine whether discarded products are hazardous wastes. One purpose of RCRA is to require closer attention and inquiry into the potentially hazardous nature of discarded materials, and generators of discarded trade products are no exception. Suggestions for further means of dealing with the question of identity are, however, solicited.

[8] SW–884, "Directory of Trade Name Products and Synonyms" will be available from Mr. Ed Cox, Solid Waste Information, U.S. Environmental Protection Agency, 26 West St. Clair St., Cincinnati, Ohio 45268 (telephone number 513–684–5362).

IV. Interpretative Issues

As noted above, most interpretative questions involving § 261.33 will not be resolved until publication of a forthcoming RIM. Certain questions, however, can be dealt with in this preamble.

A. Are solid wastes that contain one or more of the chemicals listed in § 261.33 hazardous wastes by virtue of containing these materials?

Solid wastes which simply contain one of the chemicals listed in § 261.33 are not thereby hazardous. Where EPA intends to list such wastes, it will do so by listing them in §§ 261.31 and 261.32. This intention is in fact clearly expressed in the comment to § 261.33(d) which is part of the promulgated regulation. The purpose of § 261.33 is to regulate only the listed chemical products and intermediates and their trade name equivalents (and certain off-specification variants, emptied containers [9] and spill residues and debris thereof) as hazardous wastes when they are discarded or intended to be discarded.

However, when a solid waste is mixed with one of these discarded materials, the resulting mixture is a hazardous waste until delisted (with certain exceptions set forth in § 261.5(h)). See § 261.3(a)(2)(ii). As set out in § 261.3(b)(2), the solid waste becomes a hazardous waste when the mixing of the § 261.33 chemical takes place either as an act of discarding that chemical or the time the chemical is intended for later discard (*i.e.*, at the time the § 261.33 substance becomes a hazardous waste).

There are many situations where a solid waste becomes a hazardous waste by virtue of the actual or intended discarding of materials listed in § 261.33. Some of these situations are:

1. Where excess, expired or otherwise unwanted commercial chemical products or manufacturing chemical intermediates are discarded by discharging them into a wastewater stream or are discarded by being mixed into other solid wastes.

2. Where off-specification materials that, if they met specification, would be commercial chemical products or manufacturing chemical intermediates, are discarded by being discharged into a wastewater stream or discarded by being mixed into other solid wastes.

Where contaminated residues or debris from the clean-up of spills of listed chemicals are discarded by being mixed into other solid wastes.

B. Are the commercial products and manufacturing chemical intermediates listed in § 261.33 subject to regulation if they are used, reused, recycled or reclaimed in lieu of being discarded?

No. A commercial chemical product or manufacturing chemical intermediate listed in § 261.33 is a hazardous waste only if discarded or intended to be discarded. If it continues to be used or sold, it is not being discarded and therefore is not a hazardous waste. If it is an off-specification material and is reprocessed, recycled or reclaimed it is not being discarded and therefore is not a hazardous waste. Thus the provisions of § 261.6(b) are not intended to apply to reuses of § 261.33 materials, since in such cases the materials are never discarded. The reference in § 261.6(b) to wastes "listed in subpart D" is confusing. Wastes listed in §§ 261.31 and 261.32 are the only wastes intended to be included.

There are numerous situations where the above interpretations apply. Some of these are:

1. Where a customer receives an off-specification product listed in § 261.33 and returns it to the manufacturer for reprocessing, the product is not being discarded and is not a hazardous waste.

2. Where a commercial product becomes excess inventory or outlives its expiration date in a wholesale or retail outlet or in the hands of a user and the supplier takes the product back for resale or reprocessing, the product is not being discarded by the wholesaler, retailer or user and is not a hazardous waste.

3. Where there is breakage of containers holding § 261.33 chemicals and the supplier takes back the affected chemicals, including recovered spilled chemicals, for repackaging or reprocessing, the chemicals are not being discarded and are not hazardous wastes. If, however, some of the spilled chemicals are discarded or intended to be discarded because they cannot be returned (*e.g.*, they are mixed with dirt or other materials), these spilled chemicals (and associated spill cleanup residues and debris) are hazardous wastes.

These are examples of common practice which EPA believes should be encouraged because they avoid discarding valuable materials and

[9] Regulation of containers which formerly held § 261.33 chemicals is addressed elsewhere in this Part X of the Federal Register.

thereby conserve resources, while at the same time avoiding the potential hazards associated with discarding of hazardous chemicals. The above practices also avoid causing many thousands of wholesalers, retailers and users from becoming generators of hazardous wastes because they will be able to return the materials for reuse instead of possibly discarding them. The Agency believes that many of these persons will be unfamiliar or not well acquainted with the regulations and may fail to properly perform the responsibilities of a generator if they have to discard the materials.

It is quite likely that, in some cases, a manufacturer or supplier will find it necessary to discard some portion of the materials returned to him because he is unable to reprocess, repackage, resell or use it. Where this occurs, that portion which is discarded becomes a hazardous waste when it is discarded or when a decision is made to discard the material. In this situation the manufacturer or supplier is the generator of a hazardous waste because he is the "person . . . whose act . . . produces hazardous waste . . ." (see the definintion of "generator" in § 260.10).

C. Are manufactured articles (such as battery and mercury vapor lights) that contain any of the chemicals listed in § 261.33 hazardous wastes by definition if they are discarded or intended to be discarded?

EPA intends that the materials listed in § 261.33 include only those commerical chemical products and manufacturing chemical intermediates that are known by the generic name of the chemicals listed in paragraphs (e) and (f) of that section. Manufactured articles that contain any of the chemicals listed in paragraphs (e) and (f) are rarely, if even, known by the generic name of the chemical(s) they contain and, therefore, are not covered by the § 261.33 listings. Should the Agency find it necessary to list any manufactured articles as hazardous wastes, it will initiate rulemaking to add these articles to § 261.33.

Date: November 20, 1980.

Douglas M. Costle,

Administrator.

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

Title 40, Part 261 of the Code of Federal Regulations is amended as follows:

1. Revise § 261.33 to read as follows:

§ 261.33 Discarded commercial chemical products, off-specification species, containers, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded:

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or (f) of this section.

(c) Any container or inner liner removed from a container that has been used to hold any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) of this section, unless:

(1) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate; or

(2) The container or inner liner has been cleansed by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(3) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this Section. [Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraphs (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraphs (e) or (f), such waste will be listed in either §§ 261.31 or 261.32 or will be identified as a hazardous waste by the characteristics set forth in Subpart C of this Part.]

(e) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in § 261.5(e). [Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.] These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Substance
P023	Acetaldehyde, chloro-
P002	Acetamide, N-(aminothioxomethyl)-
P057	Acetamide, 2-fluoro-
P058	Acetic acid, fluoro-, sodium salt
P066	Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester
P001	3-(alpha-acetonylbenzyl)-4-hydroxycoumarin and salts
P002	1-Acetyl-2-thiourea
P003	Acrolein
P070	Aldicarb
P004	Aldrin
P005	Allyl alcohol
P006	Aluminum phosphide
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-aAminopyridine
P009	Ammonium picrate (R)
P119	Ammonium vanadate
P010	Arsenic acid
P012	Arsenic (III) oxide
P011	Arsenic (V) oxide
P011	Arsenic pentoxide
P012	Arsenic trioxide
P038	Arsine, diethyl-
P054	Aziridine
P013	Barium cyanide
P024	Benzenamine, 4-chloro-
P077	Benzenamine, 4-nitro-
P028	Benzene, (chloromethyl)-
P042	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-
P014	Benzenethiol
P028	Benzyl chloride
P015	Beryllium dust
P016	Bis(chloromethyl) ether
P017	Bromoacetone
P018	Brucine
P021	Calcium cyanide
P123	Camphene, octachloro-
P103	Carbamimidoselenoic acid
P022	Carbon bisulfide
P022	Carbon disulfide
P095	Carbonyl chloride
P033	Chlorine cyanide
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P029	Copper cyanides
P030	Cyanides (soluble cyanide salts), not elsewhere specified
P031	Cyanogen
P033	Cyanogen chloride
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P039	O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate
P041	Diethyl-p-nitrophenyl phosphate
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	Diisopropyl fluorophosphate
P044	Dimethoate
P045	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino)carbonyl] oxime
P071	O,O-Dimethyl O-p-nitrophenyl phosphorothioate

Hazardous waste No.	Substance
P082	Dimethylnitrosamine
P046	alpha, alpha-Dimethylphenethylamine
P047	4,6-Dinitro-o-cresol and salts
P034	4,6-Dinitro-o-cyclohexylphenol
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramide, octamethyl-
P039	Disulfoton
P049	2,4-Dithiobiuret
P109	Dithiopyrophosphoric acid, tetraethyl ester
P050	Endosulfan
P088	Endothall
P051	Endrin
P042	Epinephrine
P046	Ethanamine, 1,1-dimethyl-2-phenyl-
P084	Ethenamine, N-methyl-N-nitroso-
P101	Ethyl cyanide
P054	Ethylenimine
P097	Famphur
P056	Fluorine
P057	Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
P065	Fulminic acid, mercury(II) salt (R,T)
P059	Heptachlor
P051	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene
P037	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,exo-1,4:5,8-demethanonaphthalene
P060	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonaphthalene
P004	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,exo-dimethanonaphthalene
P060	Hexachlorohexahydro-exo,exo-dimethanonaphthalene
P062	Hexaethyl tetraphosphate
P116	Hydrazinecarbothioamide
P068	Hydrazine, methyl-
P063	Hydrocyanic acid
P063	Hydrogen cyanide
P096	Hydrogen phosphide
P064	Isocyanic acid, methyl ester
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	Mercury, (acetato-O)phenyl-
P065	Mercury fulminate (R,T)
P016	Methane, oxybis(chloro-
P112	Methane, tetranitro- (R)
P118	Methanethiol, trichloro-
P059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	Methomyl
P067	2-Methylaziridine
P068	Methyl hydrazine
P064	Methyl isocyanate
P069	2-Methyllactonitrile
P071	Methyl parathion
P072	alpha-Naphthylthiourea
P073	Nickel carbonyl
P074	Nickel cyanide
P074	Nickel(II) cyanide
P073	Nickel tetracarbonyl
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline
P078	Nitrogen dioxide
P076	Nitrogen(II) oxide
P078	Nitrogen(IV) oxide
P081	Nitroglycerine (R)
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine
P050	5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite
P085	Octamethylpyrophosphoramide
P087	Osmium oxide
P087	Osmium tetroxide
P088	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	Parathion
P034	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	Phenol, 2,4-dinitro-
P047	Phenol, 2,4-dinitro-6-methyl-
P020	Phenol, 2,4-dinitro-6-(1-methylpropyl)-
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P036	Phenyl dichloroarsine
P092	Phenylmercuric acetate
P093	N-Phenylthiourea
P094	Phorate
P095	Phosgene
P096	Phosphine
P041	Phosphoric acid, diethyl p-nitrophenyl ester
P044	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl]ester
P043	Phosphorofluoric acid, bis(1-methylethyl)-ester
P094	Phosphorothioic acid, O,O-diethyl S-(ethylthio)methyl ester
P089	Phosphorothioci acid, O,O-diethyl O-(p-nitrophenyl) ester
P040	Phosphorothioic acid, O,O-diethyl O- pyrazinyl ester
P097	Phosphorothioic acid, O,O-dimethyl O-[p-((dimethylamino)-sullonyl)phenyl]ester
P110	Plumbane, tetraethyl-
P098	Potassium cyanide
P099	Potassium silver cyanide
P070	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	Propanenitrile
P027	Propanenitrile, 3-chloro-
P069	Propanenitrile, 2-hydroxy-2-methyl-
P081	1,2,3-Propanetriol, trinitrate- (R)
P017	2-Propanone, 1-bromo-
P102	Propargyl alcohol
P003	2-Propenal
P005	2-Propen-1-ol
P067	1,2-Propylenimine
P102	2-Propyn-1-ol
P008	4-Pyridinamine
P075	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
P111	Pyrophosphoric acid, tetraethyl ester
P103	Selenourea
P104	Silver cyanide
P105	Sodium azide
P106	Sodium cyanide
P107	Strontium sulfide
P108	Strychnidin-10-one, and salts
P018	Strychnidin-10-one, 2,3-dimethoxy-
P108	Strychnine and salts
P115	Sulfuric acid, thallium(I) salt
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane (R)
P062	Tetraphosphoric acid, hexaethyl ester
P113	Thallic oxide
P113	Thallium(III) oxide
P114	Thallium(I) selenite
P115	Thallium(I) sulfate
P045	Thiofanox
P049	Thioimidodicarbonic diamide
P014	Thiophenol
P116	Thiosemicarbazide
P026	Thiourea, (2-chlorophenyl)-
P072	Thiourea, 1-naphthalenyl-
P093	Thiourea, phenyl-
P123	Toxaphene
P118	Trichloromethanethiol
P119	Vanadic acid, ammonium salt
P120	Vanadium pentoxide
P120	Vanadium(V) oxide
P001	Warfarin
P121	Zinc cyanide
P122	Zinc phosphide (R,T)

(f) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a), (b), and (d) of this section, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in § 261.5(a) and (f). [Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.] These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Substance
U001	Acetaldehyde (I)
U034	Acetaldehyde, trichloro-
U187	Acetamide, N-(4-ethoxyphenyl)-
U005	Acetamide, N-9H-fluoren-2-yl-
U112	Acetic acid, ethyl ester (I)
U144	Acetic acid, lead salt
U214	Acetic acid, thallium(I) salt
U002	Acetone (I)
U003	Acetonitrile (I,T)
U004	Acetophenone
U005	2-Acetylaminolluorene
U006	Acetyl chloride (C,R,T)
U007	Acrylamide
U008	Acrylic acid (I)
U009	Acrylonitrile
U150	Alanine, 3-[p-bis(2-chloroethyl)amino] phenyl-, L-
U011	Amitrole
U012	Aniline (I,T)
U014	Auramine
U015	Azaserine
U010	Azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((aminocarbonyl) oxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-,
U157	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	Benz[c]acridine
U016	3,4-Benzacridine
U017	Benzal chloride
U018	Benz[a]anthracene
U018	1,2-Benzanthracene
U094	1,2-Benzanthracene, 7,12-dimethyl-
U012	Benzenamine (I,T)
U014	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-
U049	Benzenamine, 4-chloro-2-methyl-
U093	Benzenamine, N,N'-dimethyl-4-phenylazo-
U158	Benzenamine, 4,4'-methylenebis(2-chloro-
U222	Benzenamine, 2-methyl-, hydrochloride
U181	Benzenamine, 2-methyl-5-nitro
U019	Benzene (I,T)
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030	Benzene, 1-bromo-4-phenoxy-
U037	Benzene, chloro-
U190	1,2-Benzenedicarboxylic acid anhydride
U028	1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070	Benzene, 1,2-dichloro-
U071	Benzene, 1,3-dichloro-
U072	Benzene, 1,4-dichloro-
U017	Benzene, (dichloromethyl)-
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	Benzene, dimethyl-(I,T)
U201	1,3-Benzenediol
U127	Benzene, hexachloro-
U056	Benzene, hexahydro- (I)
U188	Benzene, hydroxy-
U220	Benzene, methyl-
U105	Benzene, 1-methyl-1-2,4-dinitro-
U106	Benzene, 1-methyl-2,6-dinitro-
U203	Benzene, 1,2-methylenedioxy-4-allyl-
U141	Benzene, 1,2-methylenedioxy-4-propenyl-
U090	Benzene, 1,2-methylenedioxy-4-propyl-
U055	Benzene, (1-methylethyl)- (I)
U169	Benzene, nitro- (I,T)
U183	Benzene, pentachloro-
U185	Benzene, pentachloro-nitro-
U020	Benzenesulfonic acid chloride (C,R)
U020	Benzenesulfonyl chloride (C,R)
U207	Benzene, 1,2,4,5-tetrachloro-
U023	Benzene, (trichloromethyl)-(C,R,T)
0234	Benzene, 1,3,5-trinitro- (R,T)
U021	Benzidine
U202	1,2-Benzisothiazolin-3-one, 1,1-dioxide
U120	Benzo[j,k]fluorene
U022	Benzo[a]pyrene
U022	3,4-Benzopyrene
U197	p-Benzoquinone
U023	Benzotrichloride (C,R,T)
U050	1,2-Benzphenanthrene
U085	2,2'-Bioxirane (I,T)
U021	(1,1'-Biphenyl)-4,4'-diamine
U073	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-
U091	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-

Hazardous Waste No.	Substance
U095	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-
U024	Bis(2-chloroethoxy) methane
U027	Bis(2-chloroisopropyl) ether
U244	Bis(dimethylthiocarbamoyl) disulfide
U028	Bis(2-ethylhexyl) phthalate
U246	Bromine cyanide
U225	Bromoform
U030	4-Bromophenyl phenyl ether
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	1-Butanamine, N-butyl-N-nitroso-
U035	Butanoic acid, 4-[Bis(2-chloroethyl)amino] benzene-
U031	1-Butanol (I)
U159	2-Butanone (I,T)
U160	2-Butanone peroxide (R,T)
U053	2-Butenal
U074	2-Butene, 1,4-dichloro- (I,T)
U031	n-Butyl alchohol (I)
U136	Cacodylic acid
U032	Calcium chromate
U238	Carbamic acid, ethyl ester
U178	Carbamic acid, methylnitroso-, ethyl ester
U176	Carbamide, N-ethyl-N-nitroso-
U177	Carbamide, N-methyl-N-nitroso-
U219	Carbamide, thio-
U097	Carbamoyl chloride, dimethyl-
U215	Carbonic acid, dithallium(I) salt
U156	Carbonochloridic acid, methyl ester (I,T)
U033	Carbon oxyfluoride (R,T)
U211	Carbon tetrachloride
U033	Carbonyl fluoride (R,T)
U034	Chloral
U035	Chlorambucil
U036	Chlordane, technical
U026	Chlornaphazine
U037	Chlorobenzene
U245	1-(p-Chlorobenzoyl)-5-methoxy-2-methylindole-3-acetic acid
U039	4-Chloro-m-cresol
U041	1-Chloro-2,3-epoxypropane
U042	2-Chloroethyl vinyl ether
U044	Chloroform
U046	Chloromethyl methyl ether
U047	beta-Chloronaphthalene
U048	o-Chlorophenol
U049	4-Chloro-o-toluidine, hydrochloride
U032	Chromic acid, calcium salt
U050	Chrysene
U051	Creosote
U052	Cresols
U052	Cresylic acid
U053	Crotonaldehyde
U055	Cumene (I)
U246	Cyanogen bromide
U197	1,4-Cyclohexadienedione
U056	Cyclohexane (I)
U057	Cyclohexanone (I)
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	Cyclophosphamide
U240	2,44-D, salts and esters
U059	Daunomycin
U060	DDD
U061	DDT
U142	Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one
U062	Diallate
U133	Diamine (R,T)
U221	Diaminotoluene
U063	Dibenz[a,h]anthracene
U063	1,2:5,6-Dibenzanthracene
U064	1,2:7,8-Dibenzopyrene
U064	Dibenz[a,i]pyrene
U066	1,2-Dibromo-3-chloropropane
U069	Dibutyl phthalate
U062	S-(2,3-Dichloroallyl) diisopropylthiocarbamate
U070	o-Dichlorobenzene
U071	m-Dichlorobenzene
U072	p-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene (I,T)
U075	Dichlorodifluoromethane
U192	3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide
U060	Dichloro diphenyl dichloroethane
U061	Dichloro diphenyl trichloroethane
U078	1,1-Dichloroethylene
U079	1,2-Dichloroethylene
U025	Dichloroethyl ether
U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol
U240	2,4-Dichlorophenoxyacetic acid, salts and esters

Hazardous Waste No.	Substance
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	1,2:3,4-Diepoxybutane (I,T)
U108	1,4-Diethylene dioxide
U086	N,N-Diethylhydrazine
U087	O,O-Diethyl-S-methyl-dithiophosphate
U088	Diethyl phthalate
U089	Diethylstilbestrol
U148	1,2-Dihydro-3,6-pyradizinedione
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine (I)
U093	Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U105	2,4-Dinitrotoluene
U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine
U110	Dipropylamine (I)
U111	Di-N-propylnitrosamine
U001	Ethanal (I)
U174	Ethanamine, N-ethyl-N-nitroso-
U067	Ethane, 1,2-dibromo-
U076	Ethane, 1,1-dichloro-
U077	Ethane, 1,2-dichloro-
U114	1,2-Ethanediylbiscarbamodithioic acid
U131	Ethane, 1,1,1,2,2,2-hexachloro-
U024	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U003	Ethanenitrile (I, T)
U117	Ethane,1,1'-oxybis- (I)
U025	Ethane, 1,1'-oxybis[2-chloro-
U184	Ethane, pentachloro-
U208	Ethane, 1,1,1,2-tetrachloro-
U209	Ethane, 1,1,2,2-tetrachloro-
U218	Ethanethioamide
U227	Ethane, 1,1,2-trichloro-
U043	Ethene, chloro-
U042	Ethene, 2-chloroethoxy-
U078	Ethene, 1,1-dichloro-
U079	Ethene, trans-1,2-dichloro-
U210	Ethene, 1,1,2,2-tetrachloro-
U173	Ethanol, 2,2'-(nitrosoimino)bis-
U004	Ethanone, 1-phenyl-
U006	Ethanoyl chloride (C,R,T)
U112	Ethyl acetate (I)
U113	Ethyl acrylate (I)
U238	Ethyl carbamate (urethan)
U038	Ethyl 4,4'-dichlorobenzilate
U114	Ethylenebis(dithiocarbamic acid)
U067	Etylene dibromide
U077	Ethylene dichloride
U115	Ethlene oxide (I,T)
U116	Ethylene thiourea
U117	Ethyl ether (I)
U076	Ethylidene dichloride
U118	Ethylmethacrylate
U119	Ethyl methanesulfonate
U139	Ferric dextran
U120	Fluoranthene
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
U125	2-Furancarboxaldehyde (I)
U147	2,5-Furandione
U213	Furan, tetrahydro- (I)
U125	Furfural (I)
U124	Furfuran (I)
U206	D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-
U126	Glycidylaldehyde
U163	Guanidine, N-nitroso-N-methyl-N'nitro-
U127	Hexachlorobenzene
U128	Hexachlorobutadiene
U129	Hexachlorocyclohexane (gamma isomer)
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
U243	Hexachloropropene
U133	Hydrazine (R,T)
U086	Hydrazine, 1,2-diethyl-
U098	Hydrazine, 1,1-dimethyl-
U099	Hydrazine, 1,2-dimethyl-

Hazardous Waste No.	Substance
U109	Hydrazine, 1,2-diphenyl-
U134	Hydrofluoric acid (C,T)
U134	Hydrogen fluoride (C,T)
U135	Hydrogen sulfide
U096	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U136	Hydroxydimethylarsine oxide
U116	2-Imidazolidinethione
U137	Indeno[1,2,3-cd]pyrene
U245	Indomethacin
U139	Iron dextran
U140	Isobutyl alcohol (I,T)
U141	Isosafrole
U142	Kepone
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U129	Lindane
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile (I,T)
U092	Methanamine, N-methyl- (I)
U029	Methane, bromo-
U045	Methane, chloro- (I,T)
U046	Methane, chloromethoxy-
U068	Methane, dibromo-
U080	Methane, dichloro-
U075	Methane, dichlorodifluoro-
U138	Methane, iodo-
U119	Methanesulfonic acid, ethyl ester
U211	Methane, tetrachloro-
U121	Methane, trichlorofluoro-
U153	Methanethiol (I,T)
U225	Methane, tribromo-
U044	Methane, trichloro-
U121	Methane, trichlorofluoro-
U123	Methanoic acid (C,T)
U036	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-
U154	Methanol (I)
U155	Methapyrilene
U154	Methyl alcohol (I)
U029	Methyl bromide
U186	1-Methylbutadiene (I)
U045	Methyl chloride (I,T)
U156	Methyl chlorocarbonate (I,T)
U226	Methylchloroform
U157	3-Methylcholanthrene
U158	4,4'-Methylenebis(2-chloroaniline)
U132	2,2'-Methylenebis(3,4,6-trichlorophenol)
U068	Methylene bromide
U080	Methylene chloride
U122	Methylene oxide
U159	Methyl ethyl ketone (I,T)
U160	Methyl ethyl ketone peroxide (R,T)
U138	Methyl iodide
U161	Methyl isobutyl ketone (I)
U162	Methyl methacrylate (I,T)
U163	N-Methyl-N'-nitro-N-nitrosoguanidine
U161	4-Methyl-2-pentanone (I)
U164	Methylthiouracil
U010	Mitomycin C
U059	5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
U165	Naphthalene
U047	Naphthalene, 2-chloro-
U166	1,4-Naphthalenedione
U236	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'diyl)]-bis (azo)bis(5-amino-4-hydroxy)-,tetrasodium salt
U166	1,4,Naphthaquinone
U167	1-Naphthylamine
U168	2-Naphthylamine
U167	alpha-Naphthylamine
U168	beta-Naphthylamine
U026	2-Naphthylamine, N,N'-bis(2-chloro-methyl)-
U169	Nitrobenzene (I,T)
U170	p-Nitrophenol
U171	2-Nitropropane (I)
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
U111	N-Nitroso-N-propylamine
U176	N-Nitroso-N-ethylurea
U177	N-Nitroso-N-methylurea
U178	N-Nitroso-N-methylurethane

Hazardous Waste No.	Substance
U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	5-Nitro-o-toluidine
U193	1,2-Oxathiolane, 2,2-dioxide
U058	2H-1,3,2-Oxazaphosphorine, 2-[bis(2-chloro- ethyl)amino]tetrahydro-, oxide 2-
U115	Oxirane (I,T)
U041	Oxirane, 2-(chloromethyl)-
U182	Paraldehyde
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene
U242	Pentachlorophenol
U186	1,3-Pentadiene (I)
U187	Phenacetin
U188	Phenol
U048	Phenol, 2-chloro-
U039	Phenol, 4-chloro-3-methyl-
U081	Phenol, 2,4-dichloro-
U082	Phenol, 2,6-dichloro-
U101	Phenol, 2,4-dimethyl-
U170	Phenol, 4-nitro-
U242	Phenol, pentachloro-
U212	Phenol, 2,3,4,6-tetrachloro-
U230	Phenol, 2,4,5-trichloro-
U231	Phenol, 2,4,6-trichloro-
U137	1,10-(1,2-phenylene)pyrene
U145	Phosphoric acid, Lead salt
U087	Phosphorodithioic acid, 0,0-diethyl-, S-methylester
U189	Phosphorous sulfide (R)
U190	Phthalic anhydride
U191	2-Picoline
U192	Pronamide
U194	1-Propanamine (I,T)
U110	1-Propanamine, N-propyl- (I)
U066	Propane, 1,2-dibromo-3-chloro-
U149	Propanedinitrile
U171	Propane, 2-nitro- (I)
U027	Propane, 2,2'oxybis[2-chloro-
U193	1,3-Propane sultone
U235	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U126	1-Propanol, 2,3-epoxy-
U140	1-Propanol, 2-methyl- (I,T)
U002	2-Propanone (I)
U007	2-Propenamide
U084	Propene, 1,3-dichloro-
U243	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	2-Propenenitrile
U152	2-Propenenitrile, 2-methyl- (I,T)
U008	2-Propenoic acid (I)
U113	2-Propenoic acid, ethyl ester (I)
U118	2-Propenoic acid, 2-methyl-, ethyl ester
U162	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U233	Propionic acid, 2-(2,4,5-trichlorophenoxy)-
U194	n-Propylamine (I,T)
U083	Propylene dichloride
U196	Pyridine
U155	Pyridine, 2-[(2-(dimethylamino)-2-thenylamino]-
U179	Pyridine, hexahydro-N-nitroso-
U191	Pyridine, 2-methyl-
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	Pyrrole, tetrahydro-N-nitroso-
U200	Reserpine
U201	Resorcinol
U202	Saccharin and salts
U203	Safrole
U204	Selenious acid
U204	Selenium dioxide
U205	Selenium disulfide (R,T)
U015	L-Serine, diazoacetate (ester)
U233	Silvex
U089	4,4'-Stilbenediol, alpha,alpha'-diethyl-
U206	Streptozotocin
U135	Sulfur hydride
U103	Sulfuric acid, dimethyl ester
U189	Sulfur phosphide (R)
U205	Sulfur selenide (R,T)
U232	2,4,5-T
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethylene
U212	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran (I)
U214	Thallium(I) acetate
U215	Thallium(I) carbonate
U216	Thallium(I) chloride
U217	Thallium(I) nitrate
U218	Thioacetamide
U153	Thiomethanol (I,T)
U219	Thiourea
U244	Thiram
U220	Toluene
U221	Toluenediamine
U223	Toluene diisocyanate (R,T)
U222	O-Toluidine hydrochloride
U011	1H-1,2,4-Triazol-3-amine
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethene
U228	Trichloroethylene
U121	Trichloromonofluoromethane
U230	2,4,5-Trichlorophenol
U231	2,4,6-Trichlorophenol
U232	2,4,5-Trichlorophenoxyacetic acid
U234	sym-Trinitrobenzene (R,T)
U182	1,3,5-Trioxane, 2,4,5-trimethyl-
U235	Tris(2,3-dibromopropyl) phosphate
U236	Trypan blue
U237	Uracil, 5[bis(2-chloromethyl)amino]-
U237	Uracil mustard
U043	Vinyl chloride
U239	Xylene (I)
U200	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester,

Appendix VIII [Amended]

2. In Appendix VIII of Part 261, delete the following compounds:

-Ethylenediamine

-N-Nitrosodiphenylamine

-.Oleyl alcohol condensed with 2 moles ethylene oxide

-1,2 Propanediol

Appendix VIII [Amended]

3. In Appendix VIII of Part 261, add the following constituent alphabetically:

-Iso butyl alcohol

These regulations are issued under the authority of Sections 1006, 2002(a) and 3001 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 USC 6905, 6912(a) and 6921.

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40 CFR Part 261

[SWH-FRL 1680-5]

Hazardous Waste Management System; Identification and Listing of Hazardous Waste

AGENCY: U.S. Environmental Protection Agency.

ACTION: Grant of temporary exclusions and request for comment.

SUMMARY: The Environmental Protection Agency (EPA) is today temporarily excluding solid wastes generated at several particular generating facilities from hazardous waste status. These temporary exclusions respond to delisting petitions submitted under 40 CFR 260.20 and 260.22 and are granted pursuant to 40 CFR 260.22(m). The effect of this action is to temporarily exclude certain wastes generated at these facilities from listing as hazardous wastes under 40 CFR 261, and from the management standards issued by EPA under Sections 3002 through 3006 of RCRA (40 CFR Parts 262 through 265 and 122 through 124 of this Chapter).

DATES: Effective date: November 19, 1980.

EPA will accept public comments on these temporary exclusions until January 26, 1981. Any person may request a hearing on these temporary exclusions by filing a request with John P. Lehman, whose address appears below, by December 17, 1980. The request must contain the information prescribed in § 260.20(d) of this chapter.

ADDRESSES: Comments should be sent to the Docket Clerk, Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

Requests for hearing should be addressed to John P. Lehman, Director, Hazardous and Industrial Waste Division, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, Washington, D.C. 20460. Communications should identify the regulatory docket number "Section 3001/Delisting Petitions."

The public docket for these temporary exclusions is located in Room 2711, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460 and is available for viewing from 9 a.m. to 4 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: Myles Morse, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C., (202) 755-9187.

SUPPLEMENTARY INFORMATION: On July 16, 1980 and November 12, 1980 as part of its final and interim final regulations implementing Section 3001 of RCRA, EPA published lists of hazardous wastes from non-specific and from specific sources. See 40 CFR §§ 261.31 and 261.32 (45 FR 47832-47836 and 74890-74892). These wastes were listed as hazardous because they typically and frequently exhibit either any of the characteristics of hazardous wastes identified in Subpart C of Part 261 (ignitability, corrosivity, reactivity and EP toxicity) or meet the criteria for listing contained in §§ 261.11(a)(2) or 261.11(a)(3).

The Agency, however, recognizes that individual waste streams may vary depending on raw materials, industrial processes and other factors. Thus, while a type of waste described in these regulations generally is hazardous, a specific waste meeting the listing description from an individual facility may not be hazardous. For this reason,

§§ 260.20 and 260.22 provide a delisting procedure, allowing persons to demonstrate that a specific waste from a particular generating facility should not be listed. To be delisted, petitioners must show that the waste produced at their facilities does not meet any of the criteria under which the waste was listed, and, in the case of an acutely hazardous waste, that it also does not meet the criterion of § 261.11(a)(3). (See § 260.22(a).) Wastes which are delisted may, however, still be hazardous if they exhibit any of the characteristics of a hazardous waste and generators remain obligated to make this determination.

In addition to wastes listed as hazardous in §§ 261.31 and 261.32, waste mixtures containing a listed hazardous waste and residues from the treatment, storage, or disposal of listed hazardous wastes also are eligible for delisting (and in fact remain hazardous wastes until delisted). (See §§ 261.3(a)(2)(ii), (c), and (d)(2).) Again, the substantive standard for delisting is that the waste not meet any of the criteria for which the waste was listed originally. Where the waste is a mixture of solid waste and one or more listed hazardous wastes, or is derived from one or more listed hazardous wastes, the demonstration may be made with respect to each constituent listed waste, or the waste mixture as a whole. (See § 260.22(b).) Like other delisted wastes, delisted mixtures and delisted hazardous waste treatment, storage or disposal residues remain subject to subpart C of Part 261, and so may be hazardous if they exhibit any of the characteristics of hazardous waste.

EPA recognizes as well that there will be circumstances where immediate action on delisting petitions is appropriate. Therefore, upon Agency review of a submitted petition, the Administrator may under § 260.22(m) grant a temporary exclusion if there is substantial likelihood that an exclusion will finally be granted.

The Agency to date has received 30 delisting petitions. Based on EPA's review of these petitions, seven temporary exclusions have been granted as indicated by today's publication. To allow the Agency to concentrate its efforts on petitions relating to waste listings becoming effective on November 19, 1980, the Agency has deferred action on five petitions which involve the interim final waste listings of July 16, 1980 (which become effective on January 16, 1981). An additional eight petitions have been mooted by amendments of the May 19, interim final hazardous waste listings (see 45 FR 74036 (October 30, 1980) and 45 FR 74884 (November 12, 1980)). Five other petitioners have been notified that the data supplied is insufficient and that additional information would be necessary in order to process their petitions. The remaining petitions were submitted too recently for the Agency to complete its evaluation by November 19, 1980. Additional temporary exclusions may be granted when our evaluation is completed.

It should be noted that the Agency has not run spot checks on the test data submitted to date in delisting petitions. The Agency believes that the sworn affidavits submitted with each petition sufficiently bind the petitioners to ensure presentation of truthful and accurate test results. The Agency may, however, spot sample and analyze wastes and/or groundwater before a final decision is made whether to exclude any particular waste from the hazardous waste regulations.

We also note that the temporary exclusions granted today apply only to the Federal hazardous waste management system established under the RCRA. States remain free to take any action they deem appropriate with regard to these wastes.

The temporary exclusions published today involve the following petitioners: The Stablex Corporation, Radnor, Pennsylvania, for its proposed waste treatment/stabilization facility in Groveland Township, Oakland County, Michigan; the Firestone Wire and Cable Company, Danville, Kentucky; the Fosbrink Machine Company, Connellsville, Pennsylvania; the General Electric Company/Lighting Business Group, Conneaut, Ohio; John Deere Des Moines Works, Des Moines, Iowa; Johnson Steel and Wire Company, Inc., Worcester, Massachusetts; and Dresser Industries, Inc./Tool Group, Johnson City, Tennessee. The Agency has determined as a result of analysis of treatment processes, waste constituent and leachate test data, and specific product formulation lists, that these petitioners may receive final exclusions for their wastes and therefore, that the granting of temporary exclusions is appropriate. The final decision, to exclude the wastes described above, will be made after the Agency receives additional testing and operational data (as specified in this publication) and reviews the comments submitted in response to this notice.

Discussion of Specific Temporary Exclusions

I. Stablex Corporation

A. *Petition for Delisting.* The Stablex Corporation (Stablex) plans to operate several hazardous waste treatment facilities, utilizing industrial waste treatment processes and stabilization techniques which are designed to produce a solid cementitious landfill material. Stablex presently is applying for the necessary state and federal permits to construct and operate a hazardous waste treatment facility in the State of Michigan. In anticipation of treatment of industrial wastes, Stablex has petitioned the Agency (as required by § 261.3(d)(2)) to delist the treatment residue produced by the Stablex treatment process for the following hazardous wastes:

Inorganic Pigments

K002 Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003 Wastewater treatment sludge from the production of molybdate orange pigments.
K004 Wastewater treatment sludge from the production of zinc yellow pigments.
K005 Wastewater treatment sludge from the production of chrome green pigments.
K006 Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
K007 Wastewater treatment sludge from the production of iron blue pigments.
K008 Oven residues from the production of chrome oxide green pigments.

Petroleum Refining

K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry.
K052 Tank bottoms (leaded) from the petroleum refining industry.

Leather Tanning and Finishing

K053[1] Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue: and shearing.
K054[1] Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearing.
K055[1] Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/ retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearing.
K056[1] Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet

[1] The Agency has deleted these wastes from the hazardous waste list in finalizing the May 19, 1980 interim final regulations (see 45 FR 72036 (October 30, 1980) and 45 FR 74844 (November 12, 1980)) so that the petition for delisting residues from treatment of these wastes is moot.

finish; no beamhouse; through-the-blue; and shearing.

K057[1] Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearing.

K058[1] Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

K059[1] Wastewater treatment sludges generated by the following subcategory of the leather tanning and finishing industry; hair save/non-chrome tan/retan/wet finish.

Metals Recovery

F013[1] Flotation tailings from selective flotation from mineral metals recovery operations.

F014 Cyanidation wastewater treatment tailing pond sediment from mineral metals recovery operations.

F015 Spent cyanide bath solutions from mineral metals recovery operations.

Scrubber Sludges

F016[1] Dewatered air pollution control scrubber sludges from coke ovens and blast furnaces.

Electroplating

F006[2] Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.

F007[2] Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions).

F008[2] Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges).

F009[2] Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions).

Metal Heat Treating

F010[2] Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching bath sludges).

F011[2] Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning).

F012[2] Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching wastewater treatment sludges).

Organic Chemicals

K021 Aqueous spent antimony catalyst waste from fluoromethanes production.

Iron and Steel

K060 Ammonia still lime sludge from coking operations

Commercial Chemical Products

P010 Arsenic Acid.
P011 Arsenic pentoxide.
P012 Arsenic trioxide.
P013 Barium cyanide.
P029 Copper cyanide.
P030 Cyanides.
P032 Cyanogen bromide.
P055 Ferric cyanide.
P098 Potassium cyanide.
P099 Potassium silver cyanide.
P104 Silver cyanide.
P106 Sodium cyanide.
P107 Strontium sulfide
P120 Vanadium pentoxide.
P121 Zinc cyanide.
U013[3] Asbestos.

Stablex argues that the residue (called "stablex material") from treatment of these hazardous wastes should be delisted because many of the hazardous constituents of each waste stream are present only in an immobilized, non-hazardous form, or are destroyed during the treatment process, leaving only negligible concentrations in the final stabilized material. Stablex therefore claims that its stabilized treatment sludge no longer meets the criteria for listing contained in 40 CFR §§ 261.11(a)(2) and 261.11(a)(3).

B. *Support for delisting.* Stablex claims that in operating its facilities it uses a prescreening program which accepts only wastes that can be fixed successfully by the Stablex process—predominately metal and cyanide-containing wastes. The Stablex process combines various hazardous waste treatment processes (including metal hydroxide precipitation, acid/alkaline neutralization, cyanide destruction via hypochlorite oxidation, and hexavalent chromium reduction and precipitation) with a waste fixation/stabilization process. The stabilization process is a mixed batching system which combines the treated waste sludges with cement and fly ash. The stablex material is pumped (as a sludge) to specified landfill sites. This fill material begins to set in 24 hours. The resulting stabilized product, the petitioner claims, is characterized by the formation of silicate lattices with "polymer-like" bonds, creating a cementitious material having compressive strength similar to an industrial grout (200–800 psi).

Stablex has been treating hazardous industrial wastes which are very similar in composition to the prospective U.S. wastes at its several existing English and Japanese facilities. These wastes includes sludge from the production of paint pigments, still lime sludge from coking operatings, sludge from metals recovery operations, quenching sludge from metal heat treating operations, and assorted sludges from electroplating operations. Automotive industry wastes also have been treated frequently.

In order to characterize the claimed non-hazardous nature of the stablex product, Stablex has submitted leachate tests on U.S., Japanese and English stabilized wastes. Total constituent analyses of the stablex material and groundwater and surface water run-off monitoring data (from active overseas operations) also were submitted. Waste streams from a typical range of processes in the U.S. automotive industry were tested, including plating operations (principle constituents nickel, chromium and copper); paint priming (principle constituent zinc phosphate); and waste treatment sludges from painting and metal preparation processes. Specific parameters measured in each EP toxicity test included arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, copper, iron, manganese, zinc, nickel, aluminum and cyanide.

EP toxicity tests were performed on stablex material which was ground to a fine powder to maximize the surface area available to the leaching action of the acidic solutions of these tests. EP toxicity tests performed on stabilized prospective U.S. wastes produced the following leachate results:

Leachate Concentration

Constituent	Parts per million
Arsenic	.02
Barium	1.4
Cadmium	0.01
Chromium	0.27
Cyanide	0.6
Lead	0.05
Mercury	0.004
Selenium	0.003
Silver	0.01

Note.—Total constituent analysis of the stablex material revealed cyanide concentrations of 1 ppm.

In addition, groundwater and surface water run-off monitoring data were submitted from the Stablex facility in

[2] These descriptions reflect the finalized listing description in 40 CFR 261.31 and 261.32 (45 FR 74890–74892 (November 12, 1980).)

[3] The Agency will delete asbestos from the hazardous waste list in finalizing the May 19, 1980 interim final regulations so that the petition for delisting residues from treatment of this waste is moot.

Thurrock, England which indicate that the concentration of the constituents of concern in groundwater were below the levels established by the U.S. interim primary drinking water standards. Maximum cyanide levels in groundwater were reported as 0.11 ppm. The Agency notes, however, that the low levels of hazardous constituents reported in groundwater are not necessarily satisfactory indicators of the long term fixation characteristics of a stabilized material (since particular landfill design features may impede groundwater contamination). Indeed, since the Thurrock facility has been operational only since 1978, high levels of contaminants in the groundwater would not be expected at this time unless particularly poor disposal practices were employed.

In addition to submitting analytic data, Stablex also offers a number of short-term safeguards to prevent environmental insult while the Agency reviews additional data before making a final decision on whether to grant a final delisting. Stablex has agreed with the Michigan Department of Natural Resources and the EPA to manage the stablex material as if it were a hazardous waste for the initial two year period of facility operation. During this period, the stablex material will be deposited within a demonstration cell containing a double underdrain/double compacted clay bottom liner and a PVC sidewall liner. The lower liner will consist of 4 feet of compacted clay, (with a permeability factor of 10^{-7}) while the upper liner will consist of 1 foot of compacted clay. A minimum separation of 12 feet between the bottom liner and the groundwater level will be maintained. During rain and winter conditions the stablex material will be placed in enclosed cylindrical molds within the lined demonstration cell to assure proper curing. Leachate monitoring systems will be constructed beneath the stablex material and the bottom liner of the demonstration cell and will incorporate sampling sumps for leachate withdrawal. In addition, monitoring wells will be placed along the perimeter of the placement area. A monitoring program involving analysis of leachate and storm run-off will be established during the demonstration period to determine the stability of the stablex product and the migratory potential of the leachate from the site.

C. *Agency analysis and action.* The Agency's function under RCRA includes the establishment of a national program to improve solid waste management and promotion of environmentally sound hazardous waste treatment and disposal practices. Historically-tested stabilization processes could assume an important role in properly managing hazardous wastes, particularly in view of the scarcity of hazardous waste disposal sites.

The Agency has reviewed the monitoring data submitted by the Stablex Corporation from its facility in Thurrock, England. Groundwater samples extracted from the Thurrock, England placement site revealed all EP toxic constituents to be at levels below the U.S. interim primary drinking water standards. The maximum reported cyanide concentration of 0.11 ppm in groundwater is one half that of the U.S. Public Health Service's suggested drinking water standard. However, the absence of high levels of these constituents in the groundwater below a very new landfill does not in itself indicate long-term inertness of the landfill material.

The Agency also has reviewed the leachate tests submitted from the facilities in England and Japan and domestic laboratories. Analysis of the EP toxic constituents in these waste extracts revealed concentrations well below the EP maximum toxicity levels for each waste stream tested. In addition, cyanides were present in the stablex material only in concentrations below 1 ppm, apparently indicating the effectiveness of the cyanide-destruction process.

Therefore, based predominately on the test data submitted on prospective U.S. wastes, the Agency is granting the Stablex Corporation's facility in Groveland Township, Oakland County, Michigan, a temporary exclusion for the stablex material produced using the treatment techniques described in its petition, from the following wastes listed in Subpart D of the hazardous waste regulations:

Inorganic Pigments

K002 Wastewater treatment sludge from the production of chrome yellow and orange pigments.

K003 Wastewater treatment sludge from the production of molybdate orange pigments.

K004 Wastewater treatment sludge from the production of zinc yellow pigments.

K005 Wastewater treatment sludge from the production of chrome green pigments.

K006 Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).

K007 Wastewater treatment sludge from the production of iron blue pigments.

K008 Oven residues from the production of chrome oxide green pigments.

Electroplating

F006 Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and miling of aluminum.

F007 Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions).

F008 Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges).

F009 Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions).

Metal Heat Treating

F010 Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching bath sludges).

F011 Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning).

F012 Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching wastewater treatment sludges).

Metals Recovery

F014 Cyanidation wastewater treatment tailing pond sediment from mineral metals recovery operations

F015 Spent cyanide bath solutions from mineral metals recovery operations

Commercial Chemical Products

P010 Arsenic acid.

P011 Arsenic pentoxide.
P012 Arsenic trioxide.
P013 Barium cyanide.
P029 Copper cyanide.
P030 Cyanides.
P032 Cyanogen bromide.
P055 Ferric cyanide.
P098 Potassium cyanide.
P099 Potassium silver cyanide.
P104 Silver cyanide.
P106 Sodium cyanide.
P121 Zinc cyanide.

We remained concerned, however, with the long-term leaching characteristics of the stablex material (and residue from other waste stablization processes). The Agency, as discussed further below, may find it necessary to have these long-term characteristics addressed before a final delisting is granted. Stablex' two year management pledge, however, is a safeguard during that period.

D. *Wastestreams for which Stablex submitted insufficient data.* The Agency has deferred action on the stablex material produced from the treatment of the following wastes due to submission of insufficient test data:

Organic Chemicals

K021 Aqueous spent antimony catalyst waste from fluoromethanes production.

Iron and Steel

K060 Ammonia still lime sludge from coking operations.

Petroleum

K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry.
K052 Tank bottoms (leaded) from the petroleum refining industry.

Commercial Chemical Products

P107 Strontium sulfide.
P120 Vanadium pentoxide.

Stablex has been notified of these deficiencies and is presently testing for the additional characterization of the total naphthalene, phenolics, carbon tetrachloride, chloroform, antimony, strontium sulfide, and vanadium pentoxide concentrations in the stablex material. If this data indicates that these constituents are either destroyed or immobilized as part of the treatment process, the Agency expects to grant a temporary exclusion for these waste streams as well. Data has also been requested characterizing the effects of organics present in petroleum refining wastes on the leaching characteristics of the metal constituents and on the overall stability of the stablex material.

E. *Agency information needs for final delisting.* The Stablex Corporation has been notified of a number of information needs before a final delisting can be granted. This information includes all test data previously mentioned in section D of this publication, as well as four repetitions of the EP Toxicity test for metals and cyanide, on each prospective U.S. waste on both cured and uncured stablex material; submission of a complete set of borehole monitoring data throughout placement areas in England and Japan, and a detailed description of the process and of the safety and monitoring features incorporated into each pretreatment operation. In addition, data addressing the long-term leaching characteristics of the stablex material should be presented. The Agency also may condition any final exclusion upon performance of certain operating standards such as continuous groundwater monitoring.

II. Firestone Wire and Cable Company

A. *Petition for delisting.* The Firestone Wire and Cable Company (Firestone), involved in the manufacture of high strength wires and strands, has petitioned the Agency to delist its wastewater treatment sludge, presently listed as EPA Hazardous Waste No. F006 (Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acide anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.[4] Cadmium, chromium, nickel, and cyanide are the hazardous constituents of this waste. Firestone has petitioned to delist its waste because it does not meet the criteria for which Hazardous Waste F006 was listed in Part 261, Subpart D. Firestone utilizes the processes of wire drawing, heat treating, acid and alkali cleaning, electroplating, electrochemical displacement deposition and twisting, in its production of steel wire and strands. Firestone indicates that since its electroplating process uses brass (copper and zinc) and bronze (copper and tin), its waste cannot contain hazardous levels of cadmium and chromium. Firestone further states that the cyanide destruction process eliminates all but negligble levels of cyanide in the sludge.

Firestone's brass and bronze cleaning and plating operations use hydrochloric and sulfuric acids, sodium hydroxide, copper and zinc cyanide, and copper and tin sulfate. These chemicals are rinsed from the wire after each process step. The rinse waters are piped directly to the effluent pretreatment plant. The pretreatment plant operation of acid neutralization utilizes alkali addition for pH adjustment, while the cyanide destruction process involves oxidation by chlorination. The sludge cake produced by flocculation, clarification, and filtration consists primarily of the hydroxides of iron, copper, zinc and tin.

B. *Support for delisting.* The Firestone Wire and Cable Company has submitted a detailed description of its sludge pretreatment system, results of influent sludge composition analyses, EP toxicity test results, distilled water leachate tests for cyanides, and total consituent analyses of sludge samples for chromium, cadmium, nickel and cyanide. Samples were obtained over a three month period to represent the uniformity of constituent concentrations in the waste.

The total constituent analyses revealed concentrations of cyanides in finished sludge of <2 ppm, while leachate tests produced cyanide leachate concentrations of <0.08 ppm. EP toxicity tests involving cadmium, chromium and nickel produced leachate levels of <0.1, <0.1, and <1 ppm respectively.

C. *Agency analysis and action.* The constituents of concern for Hazardous Waste No. F006 are cadmium, chromium, nickel and cyanide. Firestone does not use cadmium, chromium or nickel in its electroplating process. Cyanides however, are used and therefore may be present in the sludge. Firestone has, however, sufficiently demonstrated that its sludge pretreatment system removes the majority of cyanides from its waste, leaving residue concentrations of less than 2 ppm in the sludge. The cyanide leachate values of <0.08 ppm are well below the Public Health Service's recommended drinking water standard.

Total constituent levels of cadmium, chromium and nickel concentrations in the sludge of <1, 13, and 48 ppm respectively support the fact that the Firestone process does not use these metals in their plating operation. They apparently appear only as contaminants in other process solutions. Leachate concentrations of <0.1, <0.1, and 1 ppm for cadmium, chromium and nickel respectively, indicate that these elements also are present in essentially an immobile form.

Firestone therefore has presented sufficient data indicating the non-hazardous levels of cadmium, chromium, nickel, and cyanide in their waste. The Agency also acknowledges that the cyanide pretreatment operation is effective and employs satisfactory

[4] This listing reflects the finalized listing 40 CFR Part 261, Subpart D, November 12, 1980.

safety features, including transfer pumps automatically triggered by alkali/chlorination sensors, and a standard sampling operating procedure prior to the transfer of wastes to the pH adjustment tank. The Agency therefore has granted a temporary exclusion to Firestone's Danville, Kentucky facility for their electroplating wastewater treatment sludge, as described in its petition, from its listing under EPA Hazardous Waste No. F006.

III. Fosbrink Machine Company Incorporated

A. *Petition for delisting.* The Fosbrink Machine Company (Fosbrink), involved in the manufacture of wire and wire products, has petitioned the Agency for the delisting of its sludge, formerly listed as EPA Hazardous Waste No. K063, sludge from lime treatment of spent pickle liquor from steel finishing operations.[5] Fosbrink has petitioned to delist their waste because it does not meet the criteria for listing.

The Fosbrink Machine Company utilizes the processes of cold drawing, pickling and lime treatment in the production of wire from wire rods. Its waste treatment process for spent pickle liquor rinse and overflow wastes involves neutralization, oxidation, flocculation, settling, drying and recycling of the liquid waste stream component. They claim their sludge is environmentally stable and non-hazardous, and specifically that its sludge does not contain hazardous levels of chromium and lead, the constituents of concern in the spent pickle liquor of hazardous waste K062.

Fosbrink has submitted a detailed description of their sludge treatment system, and EP toxicity test results for all toxic constituents specified in Section 261.24 of the regulations. The sludge samples were taken over a one month period to represent sufficiently the uniformity of constituent concentrations in the waste. EP toxicity tests involving chromium and lead produced leachate levels of <0.04 and <0.03 ppm, respectively.

B. *Agency analysis and action.* The constituents of concern in this waste, are chromium and lead. EP extracts from sludge samples analyzed by Fosbrink show lead and chromium consistently below the national interim primary drinking water standards. These low leachate levels indicate that the constituents are present in essentially an immobile form. The Agency therefore, has granted temporary exclusion to the Fosbrink's facility in Connellsville, Pennsylvania for its treated pickling rinse and overflow wastes, as described in its petition.

IV. General Electric Company

A. *Petition for delisting.* The General Electric Company/Lighting Business Group's, Conneaut Base Plant (General Electric), involved in the production of light bulbs, has petitioned the Agency to delist its wastewater treatment sludge, presently listed as EPA Hazardous Waste No. F006, (Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.)[6] General Electric has petitioned to delist their waste because it does not meet the criteria for which Hazardous Waste F006 was listed in Part 261, Subpart D of the regulations.

The General Electric Company uses a "bright-dip" etching and stamping process for its light bulb bases which is characterized as an electroplating operation under Hazardous Waste F006. General Electric claims that the chemical etch or "bright-dip" process employed this facility does not use any of the hazardous constituents for which Waste No. F006 are listed. Instead, an aluminum and brass (copper and zinc) chemical etching process utilizing nitric and sulfuric acids is used. The stamping process generates a light diluting cutting oil as a waste stream. General Electric further states that its wastewater treatment process combines the streams for these two operations, and as a result, cracks the oils from the stamping process (due to the action of the etching acid wastes). The addition of sodium hydroxide, it is claimed, neutralizes these acids, rendering the waste non-hazardous.

General Electric has submitted a detailed description of the etching and stamping processes utilized at this facility to indicate that the listed hazardous waste constituents of Hazardous Waste No. F006 are not used in its operation. General Electric has also submitted constituent analyses and leachate tests of their sludge for chromium, cadmium, nickel and cyanide. Total constituent analyses revealed concentrations of <10, <22, <8 and $<.005$ ppm for chromium, cadmium, nickle and cyanide, respectively. EP toxicity tests produced leachate concentrations of <0.01, <0.02, and 0.08 ppm for chromium, cadmium, and nickel respectively. The levels of cadmium, chromium and nickel which appeared in these wastes are attributed to unknown sources, since they are not used intentionally in the process.

B. *Agency analysis and action.* The hazardous waste constituents for which EPA Hazardous Waste No. F006 is listed are cadmium, chromium, nickel and cyanide. General Electric has submitted sufficient evidence that the wastewater treatment sludge produced in its chemical etching process does not contain hazardous levels of these constituents. Concentrations of cadmium, chromium and nickel in EP extracts of the sludge were consistently below the national interim primary drinking water standards. The low leachate levels indicate that the constituents of concern are present in an immobile form. Cyanide concentrations of <0.005 ppm in the sludge are considered negligible. The low concentrations of these constituents are probably a result of unknown minor sources of contamination and background levels, rather than direct use of these constituents in the process. The Agency therefore, has granted a temporary exclusion to the General Electric Company, Conneaut Base Plant, for the wastes generated by its "bright-dip" chemical etching and stamping process as described in its petition, listed under EPA Hazardous Waste No. F006.

V. Dresser Industries, Incorporated

A. *Petition for delisting.* Dresser Industries, Inc. (Dresser), involved in the manufacture of hand tools, has petitioned the Agency to delist its sludge, formerly listed as EPA Hazardous Waste No. K063 (sludge from lime treatment of spent pickle liquor from steel finishing operations).[7] Dresser has petitioned to delist their waste because it does not meet the criteria for listing.

Dresser utilizes the processes of sulfuric acid pickling, phosphate coating

[5] On November 12, 1980 (45 FR 74884), EPA removed waste K063 from the hazardous waste list (§ 261.32). However, since these lime treatment sludges are generated from the treatment of a listed hazardous waste (K062), they still are considered to be a hazardous waste (§ 261.3(c)(2)). Further, they remain hazardous wastes until they no longer meet any of the characteristics of hazardous wastes and are delisted (§ 261.3(d)(2)).

[6] This listing reflects the finalized listing 40 CFR Part 261, Subpart D, November 12, 1980.

[7] On November 12, 1980 (45 FR 74884), EPA removed waste K063 from the hazardous waste list (§ 261.32). However, since these lime treatment sludges are generated from the treatment of a listed hazardous waste (K062), they still are considered to be a hazardous waste (§ 261.3(c)(2)). Further, they remain hazardous wastes until they no longer meet any of the characteristics of hazardous wastes and are delisted (§ 261.3(d)(2)).

and cold extrusion of medium carbon non-alloyed steel in the production of hand tools. Its waste treatment process for spent pickle liquor, pickling rinse and overflow wastes involves neutralization (using lime and sodium hydroxide), flocculation, settling, and filtration. Dresser claims that its sludge is environmentally stable and non-hazardous, and specifically that it does not contain hazardous levels of chromium and lead, the constituents of concern in the spent pickle liquor waste K062.

Dresser submitted a detailed description of their sludge treatment system, and EP toxicity test results for all toxic constituents specified in § 261.24 of the regulations. The samples were taken over a one month period to represent sufficiently the uniformity of constituent concentrations in the waste. EP toxicity tests performed on the waste produced chromium and lead leachate levels of <0.01 and <0.58 ppm, respectively.

B. *Agency analysis and action.* The constituents of concern is this waste are chromium and lead. EP extracts from sludge samples analyzed by Dresser show lead and chromium consistently well below the maximum EP toxicity levels. These low leachate levels indicate that the constituents are present in essentially an immobile form. The Agency, therefore, has granted temporary exclusion to Dresser's facility in Johnson City, Tennessee for its treated spent pickle liquor and pickling rinse waste sludge, as described in its petition.

VI. Johnson Steel & Wire Company, Inc.

A. *Petition for delisting.* The Johnson Steel and Wire Company (JS&W), involved in the manufacture of specialty ferrous wire, has petitioned the Agency to delist its sludge, formerly listed as EPA Hazardous Waste No. K063, (sludge from lime treatment of spent pickle liquor from steel finishing operations).[8] JS&W has petitioned to delist their waste because it does not meet the criteria for listing.

JS&W utilizes the processes of cold drawing, hydrochloric acid pickling, and replacement coating of tin, bronze and phosphate in the production of ferrous wire. Its waste treatment process for spent pickle liquor rinse and overflow wastes involves neutralization, lime and polymer flocculation, settling, and pressed filtration. They claim their sludge is environmentally stable and non-hazardous, and specifically that the sludge does not contain hazardous levels of chromium and lead, the constituents of concern in the spent pickle liquor of waste K062.

JS&W submitted a detailed decription of their sludge treatment system, and EP toxicity test results for all toxic constituents specified in § 261.24 of the regulations. The samples were taken over a one month period to represent sufficiently the uniformity of constituent concentrations in the waste. EP toxicity tests revealed chromium and lead levels in the waste extract of 0.07 and 0.04 ppm, respectively.

B. *Agency analysis and action.* The constituents of concern in this waste, are chromium and lead. EP extracts from sludge samples analyzed by JS&W show lead and chromium consistently well below the maximum EP toxicity levels. These low leachate levels indicate that the constituents are present in essentially an immobile form. The Agency therefore, has granted a temporary exclusion to the JS&W's facility in Worcester, Massachusetts for its treated spent pickle liquor, as described in its petition.

VII. John Deere Des Moines Works

A. *Petition for delisting.* John Deere Des Moines Works (John Deere), a company manufacturing farm equipment and machinery, has petitioned the Agency to delist its wastewater treatment sludge, presently listed as EPA Hazardous Waste No. F006 (Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum).[9] John Deere has petitioned to delist its sludge because it does not meet the criteria for which it was listed in Part 261, Subpart D, of the regulations.

John Deere utilizes the processes of metal cleaning, metal machining, electroplating of chromium and zinc, and metal heat treating in the production of farm machinery. It claims that its waste treatment process is successful in generating a non-hazardous sludge cake, with cadmium and chromium present at non-hazardous levels and in essentially an immobile form. In addition, John Deere states that nickel and cyanide are not used in its electroplating processes.

John Deere submitted a detailed description of its waste treatment system; EP toxicity test results for cadmium, chromium, and nickel; and total and amenable cyanide analyses of its sludge.

John Deere utilizes a lime/cationic polymer, pH regulated, precipitation waste treatment system. EP toxicity tests for cadmium, chromium and nickel performed on the resulting sludge cake produced maximum leachate concentrations of 0.08, .37, and 0.66 ppm, respectively. The total concentration of nickel and cyanide in sludge were reported at 10.6 and <0.13 ppm, respectively. The concentration of cyanide amenable to chlorination (free cyanide) was determined to be <0.007 ppm.

B. *Agency analysis and action.* The hazardous waste constituents for which Waste No. F006 is listed are cadmium, chromium, nickel and cyanide. Although John Deere does not use nickel and cyanide in its electroplating process, cadmium and chromium are used and are present in the sludge. These constituents appear, however, to be present in an immobile form.

EP toxicity test leachate results for cadmium and chromium are well below the EP maximum toxicity levels and indicate the immobile nature of these constituents. The low levels of nickel and cyanide in the sludge (10.6 and 0.13 ppm respectively) indicate that these constituents are not used in John Deere's electroplating process but are probably a result of known minor sources of contamination and background levels. The levels of cyanide found in the sludge are below the U.S. Public Health Service's suggested drinking water standard, and the low levels of free cyanide indicate that levels of mobile cyanide are even lower. The Agency therefore, has granted a temporary exclusion to the John Deere Des Moines Works, facility for its treated electroplating waste sludge, as described in its petition, listed under EPA Hazardous Waste No. F006.

Dated: November 13, 1980.

Eckardt C. Beck,

Assistant Administrator.

[FR Doc. 80-36884 Filed 11-24-80; 8:45 am]

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[8] On November 12, 1980 (45 FR 74884), EPA removed waste K063 from the hazardous waste list (§ 261.32). However, since these lime treatment sludges are generated from the treatment of a listed hazardous waste (K062), they still are considered to be a hazardous waste (§ 261.3(c)(2)). Further, they remain hazardous wastes until they no longer meet any of the characteristics of hazardous wastes and are delisted (§ 261.3(d)(2)).

[9] The listing reflects the finalized listing 40 CFR Part 261, Subpart D, November 12, 1980.

federal register

Tuesday
November 25, 1980

Part XI

Department of Health and Human Services

Public Health Service

National Guidelines for Health Planning; Proposed Rules

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

42 CFR Part 121

National Guidelines for Health Planning

AGENCY: Public Health Service, HHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: This Notice proposes to add national health planning goals to the National Guidelines for Health Planning under section 1501 of the Public Health Service Act. These goals concern health status outcomes, disease prevention and health promotion and personnel resources and systems of care. They supplement Subparts A and C of the Guidelines published as final regulations on March 28, 1978, which addressed standards for nine types of health services and facilities. Later issuances will provide additional goals and standards.

DATE: Comments must be received not later than February 23, 1981.

ADDRESS: Written comments and recommendations should be submitted to: Office of Planning, Evaluation, and Legislation, Health Resources Administration, Center Building, Room 10–22, 3700 East-West Highway, Hyattsville, Maryland 20782. All materials received in response to this Notice will be available for public inspection and copying at the above location during regular business hours.

FOR FURTHER INFORMATION CONTACT: James W. Stockdill, Associate Administrator for Planning, Evaluation and Legislation, Health Resources Administration, Center Building, Room 10–22, 3700 East-West Highway, Hyattsville, Maryland 20782, (301) 436–7270.

SUPPLEMENTARY INFORMATION:

A. Overview

The Assistant Secretary for Health, with the approval of the Secretary of Health and Human Services, proposes to add Subpart B to Part 121 of Title 42 of the Code of Federal Regulations to implement section 1501 of the Public Health Service Act, as amended by the Health Planning and Resources Development Amendments of 1979 (Pub. L. 96–79). This section requires the Secretary to issue, by regulation, Guidelines concerning national health planning policy. Guidelines must include:

(1) Standards respecting the appropriate supply, distribution, and organization of resources, and

(2) National health planning Goals developed after considering the National health priorities established by Congress in Section 1502 of the Act. To the maximum extent practicable, the Goals must be expressed in quantitative terms.

The Guidelines proposed here constitute statements of national health planning goals pursuant to Section 1501 (b)(2) of the Act. A statement of resource standards with respect to certain acute inpatient resources and services, issued pursuant to Section 1501 (b)(1) was published as a final regulation on March 28, 1978 (42 CFR Part 121; 43 FR 13040).

The House Committee reporting on the Health Planning and Resources Development Amendments of 1979 noted, "the purpose of the Guidelines is to help clarify and coordinate national health policy and to assist HSAs (Health Systems Agencies) in developing required health systems plans." The proposed goals, in line with this Congressional intent, are designed to serve this purpose. First, they serve as a statement of health goals for national achievement. All persons and organizations interested in better health for the people of the nation should contribute to the furtherance of the accomplishment of the goals. Second, they should assist health systems agencies (HSAs) established under Section 1512 of the Public Health Service Act in setting goals for their areas as they develop the Health Systems Plans required by the Act. In turn, these local experiences are expected to contribute to further development of the goals and national health policy in general. Thus, the Guidelines can serve as a bridge between national policy and State and local planning efforts.

Since the achievement of the goals will depend upon the efforts of entire communities, the HSAs should work with residents to stimulate, monitor, shape, and coordinate these efforts. The national health planning goals are intended to guide and assist HSAs, communities, and the nation as a whole in improving the health care system and health status.

This proposal is divided into three categories. Category I proposes goals with respect to health status outcomes. Category II proposes goals with respect to disease prevention and health promotion. Category III proposes goals with respect to institutional and personnel resources and systems of care. The national goals take a broad approach to health and are not limited to reductions in morbidity and mortality, but are also concerned with reductions in disability and dysfunction and improvements in the quality of life.

While these goals focus on a limited number of topics, when fully developed over time the Guidelines will present a comprehensive statement of national health goals and cover the full range of health care issues. Additional statements and proposed changes will be based on reviews of HSPs, Annual Implementation Plans (AIPs), and State Health Plans (SHPs), as well as on new research findings and analyses and other experience gained in developing and applying the goals. The development of the National Guidelines will be a long term process. Section 1501 of the Act requires that the Guidelines be reviewed each year.

Section 1501 also requires the Secretary to consider the seventeen national health priorities in section 1502 when developing the national health planning goals. Goals related to these priorities are marked with an asterisk. Other factors which were considered in selecting goals include: (1) potential for improving the health of the population; (2) relevance to the statutory mission of improving access, potential for increasing the quality of care, and constraining costs; (3) reference to an important health problem; (4) relation to other health policy statements in Federal laws or regulations and (5) potential for achievement.

In keeping with the statute, the proposed goals are expressed in quantified terms wherever possible. However, when quantified statements are not feasible, they are expressed in more general, qualitative terms.

The Notice invites all interested parties to submit written comments and recommendations concerning the proposed National Guidelines for Health Planning. After consideration of the material received in response to this Notice, the Secretary of Health and Human Services will, by regulation, issue the final Guidelines concerning national health planning goals.

B. Application

According to section 1513(b)(2) of the Act, HSAs must give "appropriate consideration" to the National Guidelines for Health Planning when developing their HSPs. In addition, HSAs, are expected to mobilize community efforts to accomplish the goals contained in these Guidelines.

Section 1513(b)(2) of the Act, as enacted by P.L. 93–641, called for the HSPs to give "appropriate consideration to" the National Guidelines (both goals and standards) and "be consistent with" the standards respecting the appropriate supply, distribution and organization of

health resources, which were published in Subpart C of Part 121. Subpart A, "General Provisions", reflects the former statutory requirements of consistency with the standards. The Health Planning and Resources Development Amendments of 1979 (P.L. 96–79) which amended Title XV of the Act, deleted the requirement for consistency with the resource standards, and Subpart A will accordingly be revised to reflect the statutory change. However, according to the Amendments (P.L. 96–79), if the goals of the HSP are not consistent with the National Guidelines—both goals and standards—the HSA must provide the State Health Planning and Development Agency (SHPDA) and the Secretary, with a detailed statement explaining the inconsistency. In addition, the HSA is required to report this statement when making its HSP available to the Statewide Health Coordinating Council (SHCC) under section 1524(c)(2)(A). The following are among the reasons why inconsistencies may exist: (1) the goal addresses a problem not prevalent within the health service area; (2) the problems unique to the area are of greater concern; and (3) the goal cannot be achieved within the time frame specified or with the resources available to the community.

When considering the goals, HSAs should be sensitive to the special needs, resources and priorities of their areas. Problems unique to specific geographic areas and population subgroups should be identified and addresses as HSPs are prepared and implemented. While HSPs should address each of the proposed goals, they also should address other issues of importance within their areas. Since local needs and resources vary, HSAs may differ in their priorities and, consequently, in their schedules and strategies for achieving the national health planning goals. It is expected that HSAs will acquire and analyze data on the application of goals to local circumstances, and will address in their HSPs the relationships between local experiences and aspirations and the national goals.

Except where otherwise noted, the goals are set for achievement in five years. However, HSAs should establish their own deadlines for goals which reflect local priorities and resources. Because substantial increase in the scope of many HSPs may be needed to address all the issues addressed in the proposed goals, HSAs may choose to phase the national health planning goals into their plans over a three-year period. All plans established after one year from the date the Secretary issues final regulations must, at a minimum, include a plan for when all the national goals will be addressed. This plan should be developed in consultation with the SHPDA and SHCC. All HSPs established after three years from the date of final regulations must address all the goals. Revised "Guidelines on the Development of Health Systems Plans and Annual Implementation Plans" will be issued as program guidance regarding further HSA responsibilities in applying the goals.

Each State Health Plan developed under section 1523(c)(2)(A) of the Act must be "made up of" the HSPs of the HSAs within the State, revised by the SHCC, or by the SHPDA in preparing the preliminary State Health Plan, to coordinate HSPs or deal more effectively with Statewide health needs. Since each HSP must consider the national goals, the State Health Plan will reflect them accordingly.

When setting priorities and developing strategies, State and local agencies should attempt to relate the cost of meeting their objectives to the benefits the goals are expected to produce they should also seek to identify public and private resources which can also be used to help achieve the goals.

While changes in health status are viewed as desirable longrange outcomes of improvements in institutional and personnel resources and systems of care, it is recognized that such gains will result not only from the implementation of Health Systems Plans, but also from a complex array of individual and societal factors not always directly susceptible to modification by Health Systems Agencies or even by the health care system.

The programs for Certificate of Need (CON), the review of new institutional health services, review and approval of proposed uses of Federal funds, and review for appropriateness of existing institutional health services, should be used to help achieve these goals. A range of voluntary and community actions also will be needed, and HSAs in particular should work as facilitators and catalysts, coordinating the efforts of those who are affected by planning decisions and who have resources to contribute toward implementing efforts. This group will include providers, State and local health departments, other State and local officials, hospitals, health care insurers and community agencies. In many instances, it will be necessary to coordinate a broad array of services—health, education, social and community support services, housing, transportation and recreation—to develop and achieve desired goals. Further strides in meeting the health-related needs of the elderly and those suffering from chronic illness and disabilities will depend upon such efforts.

The Department recognizes that all the actions required to achieve the proposed goals are not directly susceptible to HSA and SHPDA influence. The HSAs and SHPDAs do not have control over the performance of the health system. The changes they propose in their plans are usually recommendations and thus are not binding. Those who operate and finance the health care system have a more direct impact. Moreover, it is not yet possible to measure the effects of HSA decisions on systems performance. The link between systems change and health status outcome is even more tenuous. Finally, definitive indications of impact take a long period to measure, often a minimum of five years. Thus, the planning agencies cannot be held accountable for the actual achievement of the goals.

Nevertheless, in keeping with its responsibilities under section 1535 of the Act, the Department is interested in assuring that the statutory mandate for considering the goals is met. HSAs are responsible for working with their communities in setting health status and health systems goals, mobilizing community efforts to implement their plans, and stimulating community actions which will improve the health care system within their areas. The Department will review the efforts by the agencies in implementing their plans and stimulating community actions to make needed improvements in resources, systems of care and health status, and will hold the agencies accountable for performing these functions.

The Federal Government has, in the past, contributed significantly to progress on many of the proposed goals and can be expected to continue to do so. Agencies established under the Public Health Service Act, Community Mental Health Centers Act, Drug Abuse Office and Treatment Act, and the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitaton Act of 1970, and other Acts have helped develop these proposed goals and their programs will provide program support for their achievement. Federal activities however, are not expected to be the central factor. The achievement of these goals will require a full partnership of effort involving consumers and professionals, State and local government, and those in the voluntary and private sectors.

C. Process of Development

As required by the 1979 planning amendments, the Department has developed these Guidelines in consultation with HSAs, SHPDAs, SHCCs, associations and specialty societies representing medical and other health care providers, and the National Council on Health Planning and Development. The Department also solicited the views of consumers and other interested individuals and organizations.

The goals in this document reflect recommendations obtained during an extensive process of public consultation. This process began on June 12, 1975, with a notice in the **Federal Register** (40 FR 25080) requesting comments on developing Guidelines. In addition, agencies and organizations such as the Center for Disease Control, the Harvard School of Public Health, and the American Health Planning Association brought groups of interested individuals together to assist in identifying and analyzing issues that should be addressed. Many papers prepared in connection with these activities have been published in three volumes of "Background Papers on the National Health Guidelines."

In July 1976, an initial draft of 24 potential national health planning goals was distributed for comment. In October 1976, a more extensive draft of potential goals and standards was made available for public review and comment. These drafts were sent to State and local health planning agencies, more than 100 medical and other health professional associations, and interested consumer groups. Each DHHS regional office also organized a series of public meetings on the draft Guidelines at the local, State or regional level. Altogether, the Department received and analyzed 1,300 individual comments on the draft material.

On October 19, 1979, a Notice of Availability of Draft Regulations published in the **Federal Register** (44 FR 60342) announced that an advanced draft of the goals was now available. Like earlier drafts, copies were provided to HSAs, SHPDAs, SHCCs, Centers for Health Planning, a number of associations and specialty societies representing medical and other health care providers, consumer organizations, and the National Council on Health Planning and Development.

When the 45-day public comment period provided by the Notice of Availability ended on December 3, 1979, the Department had received a total of 388 written comments from a wide range of individuals and organizations. All comments were then categorized and presented to the National Council. The National Council on Health Planning and Development's Subcommittee on National Guidelines Goals, Standards and Priorities, also heard public testimony on the draft in Los Angeles, California on November 8–9, 1979.

In line with its statutory responsibilities, the National Council on Health Planning and Development has played a major role in providing advice and recommendations to the Department on draft goals since its establishment. The Council has emphasized the importance of developing a set of goals broad enough to provide a comprehensive framework for the development of HSPs and SHPs. The Council also has stressed the importance of (1) developing strategies for achieving high priority goals involving the combined efforts of the public and private sectors and (2) initiating selected projects which focus on a limited set of goals which can be measured and which can be achieved quickly.

The Council believes that joint public/private efforts can marshall broad support from the resources of industry, labor, third party payors, educational institutions, the health care industry and others to achieve common goals. In developing demonstration projects it has tentatively chosen seven goals as priorities for the demonstration projects. These relate to (1) reducing infant mortality, (2) reducing deaths from preventable communicable disease, (3) immunizing children, (4) regionalization, (5) developing strategies for strengthening preventive health services, (6) developing strategies for reducing or preventing alcoholism and related disabilities, and (7) new technology. Comments are solicited on these priorities. The Council recently established a Subcommittee on National Guidelines Goals, Standards and Priorities to review the national experience in these areas. With respect to health planning goals, the Subcommittee will identify those goals which should receive priority attention; investigate demonstration projects related to priority goals; study research needs appropriate to the develoment and refinement of the Guidelines; develop improved indicators to assess their impacts; and make recommendations on the need for further development and refinement of the Guidelines.

D. Major Issues

The major issues which emerged from the Notice of Availability, the public testimony, and the recommendations of the National Council on Health Planning and Development, are summarized below. A detailed analysis of the public comments and the Council recommendations are available upon request.

1. *Health Planning and Resources Development Amendments of 1979.*

Many of the written comments requested that this document list the seven new national health priorities added to section 1502 by the Health Planning and Resources Development Amendments of 1979. They are as follows:

(9) ". . . the development and use of cost saving technology."

(12) "The identification and discontinuance of duplicative or unneeded services and facilities."

(13) "The adoption of policies which will (A) contain the rapidly rising costs of health care delivery, (B) insure more appropriate use of health care services, and (C) promote greater efficiency in the health care delivery system."

(14) "The elimination of inappropriate placement in institutions of persons with mental health problems and the improvement of the quality of care provided those with mental health problems for whom institutional care is appropriate."

(15) "Assurance of access to community mental heath centers and other mental health care providers for needed mental health services to emphasize the provision of outpatient as a preferable alternative to inpatient mental health services."

(16) "The promotion of those health services which are provided in a manner cognizant of the emotional and psychological components of the prevention and treatment of illness and maintenance of health."

(17) "The strengthening of competitive forces in the health services industry wherever competition and consumer choice can constructively serve, in accordance with subsection (b), to advance the purposes of quality assurance, cost effectiveness and access."

Each of these new priorities is reflected in the proposed goals.

2. *Relationship to Other Federal Efforts.*

Healthy People, The Surgeon General's Report on Health Promotion and Disease Prevention, released in July 1979, proposed five major public health goals for each major age group in the society. The goals specified improvements in the health of infants, children, adolescents and young adults, adults and older adults which were to be achieved by 1990. The report also outlined the health promotion, health protection and disease prevention strategies which should be undertaken to accomplish these goals.

Many written comments sought clarification about the relationship between the proposed national health

planning goals and the longer range goals in the Surgeon General's Report. These proposed goals now incorporate the 1990 targets from the Surgeon General's Report.

Other questions were raised as to the relationship between the goals and the draft "Objectives for the Nation" released for public comment in August 1979, and the "Model Standards for Community Preventive Health Services issued in August, 1979, as a Report to Congress. Each of the documents is of a different scope and is designed to serve a different purpose. The proposed national goals provide a set of goals dealing with a broad range of issues related to changes in health status, and the health system. The draft "Objectives" set more specific targets to be achieved by 1990 in 15 areas of prevention and health promotion activities and the Model Standards are intended to provide models for State and local health agencies to use in setting standards within their areas.

Further, the DHHS Office of Professional Standards Review Organization (PSRO) has drafted a statement of Proposed National Professional Standards Review Organization Goals. These draft goals address problems of inappropriate variations in hospital utilization, medical and surgical procedures, medically unnecessary use of ancillary services, and substandard quality care. The PSRO national goals have also been incorporated into Goal III.B.5. on the Quality of Health Services.

3. *Special Needs of Rural Areas.*

While a number of the proposed goals relate to problems found in rural areas, a number of commenters called for additional attention to special circumstance and problems which exist in rural areas and which must be taken into account in applying national health planning goals. These include:

a. The chronic inequities in the distribution of medical care resources which are particularly severe in the 1,800 counties with populations of less than 25,000.

b. The health status of rural residents, which is poorer than that of residents of metropolitan areas when measured by such indicators as infant mortality rates, disability bed days and instances of chronic health conditions. Those living in rural areas with the greatest need for medical attention have the least access when measured by the supply of resources.

c. Poverty which increases the need for medical care while it decreases the ability to purchase care. In 1976, the percentage of the rural population without health insurance was almost double that of the urban population.

d. Low population density, which often precludes "economies of scale." People in rural areas also must often travel long distances to obtain care.

e. Cost control associated with using existing resources more efficiently, which tends not to be an issue in rural areas because residents there often face a more basic problem: the availability of a minimal level of health and medical care services, including emergency care.

f. Health education which may play a more significant role in rural areas since rural populations, for a variety of reasons, may be required to assume a greater responsibility for their own care.

g. Environmental and occupational health problems which are unique to rural areas. The inappropriate use of fertilizers and pesticides and their impact on the health of rural residents through air and water pollution is an important environmental issue. Occupational health services may need to be upgraded to account for the high incidence of accidents, injury and disability in such rural occupations as agriculture, forestry, construction and mining.

h. Some areas of the country face unique health problems resulting from rapid growth due to energy development. In addition to problems traditional to rural areas, the health problems in these areas become greatly magnified with energy development. Among the problems are: lack of adequate primary care; increased pressure on basic human services; the "bust" phenomenon which follows the "boom"; the long time period for development of health facilities and the presence of excess facilities when they are no longer needed; the unique environmental problems; and a high incidence of mental illness, alcoholism, and drug abuse. Given that sixty percent of natural energy reserves lie on or near Indian reservations, an effort must be made to protect these potentially vulnerable populations from such developmental problems.

i. Traditional guidelines regarding the efficiency of health care institutions which may not always be applicable in rural areas. An influx of migrant agricultural workers or tourists may create dramatic seasonal changes in the population.

Particular attention should be devoted to these distinct characteristics of rural areas.

4. *Levels of Specificity.*

Many commenters expressed concern that the goals were too general and urged that they be more specific and quantitative. General statements, it was pointed out, can limit the usefulness of the goals because they provide no way to measure progress. Moreover, many HSAs pointed out that the Department required them to be more quantitative in their own planning efforts than the Department itself had been when developing these goals.

Others, including the National Council on Health Planning and Development, felt the level of specificity was appropriate. They saw the goals as an expression of desirable aspirations for improving both health status and health care, and as a foundation for more substantive public discussions. They felt that highly specific goals could create major problems for communities for whom the goals were inappropriate or unattainable.

As indicated earlier, section 1501 requires that the goals be expressed in quantified terms to the maximum extent practicable. The Department has decided that the current level of specificity is appropriate for an initial statement of national health planning goals. Given the diversity that exists in this nation, it was judged not advisable to set goals which created a uniform standard for every area and community in the country. HSAs, however, are encouraged to quantify goals for their areas wherever possible. At the very least, local planning agencies should attempt to set numerical objectives when implementing the goals.

5. *Financing.*

Many commenters asked how local planning agencies, health care institutions and others should go about implementing national health goals, given the current structure of financing and reimbursement systems. These systems will play an important role in determining the resources available to implement the goals in any given community. While reimbursement mechanisms should be adjusted or developed to support the achievement of these goals, the lack of immediate reimbursement should not become a reason for failing to take actions leading to their implementation. Communities and health institutions should work towards developing ways of meeting the proposed goals which do not require the immediate availability of new funding.

6. *Specific Changes in the Goals.*

Some specific recommendations were received for restructuring the document. In line with these recommendations, several goals have been combined and the structure has been changed to include three categories of goals. The first is health status outcomes which represent the long range objectives (I). These are to be achieved by goals relating to increased health promotion

and prevention activities (II), and changes in institutional and personnel resources and systems of care (III).

A number of comments suggested additional goals. Goals addressing low birth weight infants and environmental and occupational health have been added. The goal on teenage pregnancy has been broadened to encompass all unintended pregnancies, with particular attention to certain high risk groups, such as teenagers. A new section, Category III.C., has been added on Coordinating Community Resources, which addresses issues of access for the disabled, and the availability and coordination of a broad array of health and human services. Goals related to alcoholism have been separated from those for drug abuse. Amphetamine and marijuana use have been added. The quantitative targets in many goals have been adjusted to reflect recent trends and experiences.

A statement has been added regarding the availability of a wide range of organizational and financial options for health care services and the goal on prepaid health care has been broadened to include not only federally-qualified HMOs but also similarly constituted ones.

With respect to Goal III.A.2 (Primary Care), many commenters criticized the concept that a certain number of nurse practitioners and physicians' assistants could be regarded as the full or partial equivalent of a physician. The commenters acknowledged that nurse practitioners and physicians' assistants could increase availability by providing limited medical care in the absence of a physician, but pointed out that they could not relieve the need for the kind of care a physician provides. In light of these concerns, the concept of equivalency has been dropped.

Many comments criticized an earlier draft goal which encouraged all individuals to seek a second opinion before undergoing elective surgery. Questions were raised about the evidence that indicated unnecessary surgery was occurring and whether the benefits of second opinion programs had been sufficiently documented. Nevertheless, there is growing evidence to indicate that certain elective surgical procedures are not always necessary or in the best interests of the patient's health. Moreover, Blue Cross/Blue Shield and other commercial insurers now routinely reimburse "second opinion" services and strongly advocate that their policy-holders seek second opinions prior to choosing elective surgery. Similarly, within the medical profession there is a noticeable trend towards supporting second opinion and peer review with respect to elective surgery. In addition, Federal agencies have found second opinion programs to be cost-effective and have approached this subject from the dual perspective of cost-savings and consumer (patient) education/awareness.

Other commenters including the National Council on Health Planning and Development when it considered the goals at their January 11, 1979, meeting, felt the goal on second opinion related more to questions of the clinical practice of medicine than to health systems considerations. In view of this concern, the goal on second opinion has been revised to focus on problems of inappropriate variations in surgical procedures, and incorporated in Goal III.B.5. on Quality of Health Services.

The concept of uniform cost accounting contained in the goal on management procedures also received substantial criticism. Many recommended that this be replaced with uniform cost reporting. Uniform cost reporting, the commenters contended, would meet the objectives of comparable data and information while providing greater flexibility without unnecessarily burdening providers and increasing administrative costs. Goal III.B.6 (Management Procedures) has been revised in line with this suggestion.

It is therefore proposed to add a new Subpart B to 42 CFR Part 121 as set forth below.

Dated: September 3, 1980.

Julius B. Richmond,

Assistant Secretary for Health.

Approved: October 30, 1980.

Patricia Roberts Harris,

Secretary.

PART 121—NATIONAL GUIDELINES FOR HEALTH PLANNING

Subpart B (§ 121.101) is added to Part 121 to read as follows:

Subpart B—National Health Planning Goals

§ 121.101 Scope of the subpart.

(a) The goals proposed below as Supplements A and B to this section set forth National Health Planning Goals issued as part of the National Guidelines For Health Planning pursuant to Section 1501(b)(2) of the Public Health Service Act. They supplement the National Standards respecting certain acute inpatient resources and services issued March 28, 1978 (42 CFR Part 121, 43 FR 13040).

(b) The House Committee reporting on the Health Planning and Resources Development Amendments of 1979 noted, "the purpose of the Guidelines is to help clarify and coordinate national health policy and to assist HSAs (Health Systems Agencies) in developing required health systems plans." The proposed goals, in line with this Congressional intent, are designed to serve this purpose. First, they serve as a statement of health goals for national achievement. All persons and organizations interested in better health for the people of the nation should contribute to the furtherance of the accomplishment of the goals. Second, they should assist health systems agencies (HSAs) established under Section 1512 of the Public Health Service Act in setting goals for their areas as they develop the Health Systems Plans required by the Act. In turn, these local experiences are expected to contribute to further development of the goals and national health policy in general. Thus, the Guidelines can serve as a bridge between national policy and State and local planning efforts.

(c) The national goals take a broad approach to health and are not limited to reductions in morbidity and mortality, but are also concerned with reductions in disability and dysfunction and improvements in the quality of life.

(d) While these goals focus on a limited number of topics, when fully developed over time the Guidelines will present a comprehensive statement of national health goals and cover the full range of health care issues. Additional statements and proposed changes will be based on reviews of HSPs, Annual Implementation Plans (AIPs), and State Health Plans (SHPs), as well as on new research findings and analyses and other experience gained in developing and applying the goals. The development of the National Guidelines will be a long-term process. Section 1501 of the Act requires that the Guidelines be reviewed each year.

(e) This proposal is divided into three categories. Category I proposes goals with respect to health status outcomes. Category II proposes goals with respect to disease prevention and health promotion. Category III proposes goals with respect to institutional and personnel resources and systems of care.

(f) The goals are first summarized below and then discussed in full.

SUPPLEMENT A TO § 121.101—SUMMARY STATEMENT OF GOALS

Part I: Health Status Outcomes

1. *Health Status Improvements.* Health status should be improved in all parts of the country and among all population groups, especially among medically underserved populations.

2. *Infant Health.* The health of infants should be improved by:

a. Reducing the incidence of low birth weight infants (prematurely born, or small-for-age infants weighing less than 2,500 grams) for every subgroup of the population (as defined by socioeconomic, ethnic and geographic characteristics) below the lowest reported current rate for such a subgroup; and

b. Reducing the infant mortality rate to less than 11 deaths per 1,000 live births by 1985 and to less than 9 deaths per 1,000 live births by 1990.

3. *Child Health.* Child health and development should be improved and death rates for those ages 1–14 reduced to less than 39 per 100,000 by 1985 and to less than 34 deaths per 100,000 by 1990.

4. *Preventable Communicable Diseases.* The incidence of preventable communicable diseases should be reduced, with a mortality rate of less than 22 deaths per 100,000 persons. Diseases and deaths preventable by routine childhood vaccination should approach zero. Measles should be eliminated as an endemic disease in the United States. Tuberculosis in children should be eliminated.

5. *Adolescent Health.* The health of adolescents and young adults should be improved and death rates for those aged 15 to 24 reduced to less than 105 per 100,000 by 1985 and to less than 93 deaths per 100,000 by 1990.

6. *Adult Health.* The health of adults should be improved and death rates for those aged 25–64 reduced to less than 472 per 100,000 by 1985 and to less than 400 per 100,000 by 1990.

7. *Older Adult Health.* The health and quality of life of older adults should be improved by:

a. Reducing the average annual number of days of restricted activity due to acute and chronic conditions for those age 65 and older to less than 33 days per year by 1985 and to less than 30 days per year by 1990; and

b. Reducing the average annual number of days of bed disability due to acute and chronic conditions for those age 65 and older to less than 13.0 days per year by 1985 and to less than 11.6 days per year by 1990.

8. *Alcoholism.* The prevalence of alcoholism and related disabilities and deaths should be reduced by at least 5 percent.

9. *Drug Abuse.* Drug abuse should be reduced by:

a. Reducing the proportion of youths age 12–17 years of age using marijuana and phencyclidine (PCP) to below 1977 levels;

b. Decreasing by at least 20 percent the use of barbiturates and other potentially harmful sedatives used for the treatment of insomnia; and

c. Reducing the annual number of amphetamine prescriptions written for the treatment of weight reduction by 20 percent.

10. *Oral Health.* Oral health status should be improved so that (1) for persons 17 years of age, at least 85 percent retain all of their permanent teeth and (2) for persons 55 to 64 years of age, at least 80 percent retain some natural teeth.

11. *Heart Disease, Cancer and Stroke.* Age-adjusted death rates for heart disease should be reduced to 156 per 100,000 persons and for stroke to 29 per 100,000 persons by 1985. Efforts should be directed toward improvements in survival rates through detection and treatment for all types of cancer.

Part II. Disease Prevention and Health Promotion

1. *Extension of Disease Prevention and Health Promotion.** Health promotion and disease prevention should be extended through both individual and community actions with emphasis on high risk populations, and be an integral component of care provided by health care and other community institutions.

2. *Consumer Information**. People should be better informed as to how, when, and where to get health care of an appropriate kind and quality at a reasonable cost.

3. Prenatal, Maternal and Perinatal Care*. Programs should be established to assure that all pregnant women receive adequate prenatal, puerperal and post partum care and that newborns receive adequate perinatal care.

4. *Unitended Pregnancy**. The rate and adverse consequences of unintended pregnancy should be reduced, particularly among teenagers and other high risk groups.

5. *Immunization**. An immunization level of at least 90 percent should be maintained for all children under 15 years of age, and newborns immunized at the earliest appropriate time against polio, measles, rubella, diphtheria, mumps, pertussis, and tetanus.

6. *Environmental and Occupational Health**. Environmental and occupational related morbidity and mortality should be reduced through the protection from and reduction of environmental and occupational hazards..

7. *Accidents**. Accidents in the home, during recreation, at work and on the highway should be prevented. Particular efforts should be made to reduce accidents involving children.

8. *Fluoridation**. Community water supplies containing insufficient natural fluoride should be fluoridated to optimal levels for the prevention of dental caries. In areas where community water fluoridation is not feasible, other appropriate fluoride measures should be implemented.

9. *Nutrition**. People should be informed about what constitutes good nutrition and should be encouraged and aided in obtaining a proper diet.

10. *Smoking**. Communities, working through all available institutions and media, should strive to discourage the initiation of the smoking habit among young people, and to break the habit among those who smoke.

Part III: Institutional and Personnel Resources and Systems of Care

A. *Service Delivery.*

1. *Access to Care**. Every person should have access to the full range of health care services. Equal access to needed health care services for all population subgroups (including racial and ethnic minorities, the elderly, the handicapped, and low income persons) should be fostered through the elimination of financial, physical, geographic, transportational, organizational and other barriers unrelated to the need for care. Planning and review decisions must take into account the specific health care needs of these groups and should give a priority to projects which seek to address these needs.

2. *Primary Care**.

a. *Supply.* The supply of primary care physicians in a health service area should be at least one physicain per 2,000 population under certain circumstances, services should be enhanced through more effective utilization of other health personnel including physicians' assistants and nurse practitioners.

b. *Balance Among Medical Specialties.* To the extent that shortages or excesses of primary care personnel or medical specialties exist and are documented, these imbalances should be corrected.

c. *Integration of Mental Health.* The integration of mental health services in general health care delivery programs should be increased through in-service mental health training of primary care providers and placement of mental health professionals in primary care programs.

3. *Mental Health**. An increasing proportion of mentally ill persons should be restored to productive living by:

a. developing community-based services for unserved, underserved, or inappropriately served populations, especially children and youth, the aged, the chronically mentally ill, racial and ethnic minorities, poor persons, and persons in rural areas.

b. minimizing unnecessary or inappropriate institutionalization and ensuring that persons requiring long-term residential care due to mental illness or disability receive such care in the least restrictive settings which assure high quality care and services appropriate to the patient's needs, and

c. providing economical and high quality health facilities for chronic mental patients who require prolonged periods of care.

4. *Child Mental Health**. Services should be available to improve the level of social and cognitive functioning for children identified as "most in need" of mental health services.

5. *Alcoholism and Drug Abuse**. Alcoholism and drug abuse services should be organized in ways that further the development of comprehensive community-based prevention and treatment services, and which are integrated into the mainstream of health care.

6. *Dental Services**. Dental services should be available to all persons who would seek dental care if it were reasonably accessible; an increasing proportion of persons should regularly seek and obtain adequate dental services.

B. *Systems of Care.*

1. *Regionalization**. Providers of health services should be organized into regionalized networks which assure that various types and levels of services are linked together to form comprehensive and efficient systems of care. These networks

*Goals marked with an asterisk grow out of the National Health Priorities contained in section 1502 of the Statute. They will be identified as such in the text following the goal statements.

should work to improve access to health services, eliminate unnecessary duplication of services, and improve quality.

2. *Multi-Institutional Systems and Shared Services**. Efficiency and productivity of health care institutions should be furthered through the development of multi-institutional arrangements for the sharing of clinical, administrative and support services.

3. *Emergency Medical Systems**. Networks of emergency medical services systems should be developed and improved in order to effectively coordinate the delivery of emergency medical care to all who require it.

4. *Options for Care**. Every resident within the health service area should have available the widest possible range of options for health care services with respect to both the organizational model for delivery and financing mechanisms.

a. The option of joining a federally-qualified or similarly constituted health maintenance organization should be available to every resident.

b. The number of group practice arrangements for the delivery of medical care should be substantially increased.

5. *Quality of Health Services**. The quality of health services should be improved by:

a. Reducing inappropriate variations in hospital utilization;

b. Reducing inappropriate variations in the incidence of surgical procedures;

c. Reducing inappropriate and medically unnecessary utilization of ancillary services;

d. Identifying and eliminating substandard care; and

e. Health planning and review decisions taking into account the results of quality assessment and utilization reviews.

6. *Managment Procedures**. Efficiency and productivity of health care institutions should be furthered through the adoption of uniform cost reporting, equitable reimbursement arrangements, utilization reporting systems and improved management reporting procedures.

7. *New Technology**. When found safe and effective, the introduction of new procedures and equipment should take place in ways that enhance economy, equity and quality. Reimbursement policies should foster the appropriate use of all technology.

8. *Energy Conservation**. Efforts should be made to promote an effective energy conservation and fuel conservation program for health service institutions to reduce the rate of growth of demand for energy.

C. *Coordinating Community Resources.*

1. *Access to Support Services for the Chronically Ill and Handicapped.* A full array of support services should be accessible to those with chronic or prolonged illnesses and/or physical or mental handicaps.

2. *Services Coordination and Case Management.* There should be close coordination among the various health, social, rehabilitative and other human services which those with chronic or prolonged disabilities often require. Case management should be available to the chronically ill and handicapped to direct them to needed health and support services.

SUPPLEMENT B TO § 121.101—NATIONAL HEALTH PLANNING GOALS

Part I: Health Status Outcomes

Goal I.1 *Health Status Improvements.*

HEALTH STATUS SHOULD BE IMPROVED IN ALL PARTS OF THE COUNTRY AND AMONG ALL POPULATION GROUPS, ESPECIALLY AMONG MEDICALLY UNDERSERVED POPULATIONS

Health status in the United States has shown dramatic improvements. Life expectancy, which was only 47 years in 1900, now averages more than 73 years. Death rates are at their lowest in history and now stand at 882 deaths per 100,000 persons.

There have also been setbacks. The age-adjusted death rate for cancer is on the rise, from 130.2 per 100,000 persons in 1968 to 133.2 per 100,000 in 1978 (provisional). Deaths from suicide and homicide are at high levels among young adults. Sexually-transmitted diseases are again on the rise. Alcoholism and drug addiction continue to be serious problems. Drug-resistant tuberculosis is an emerging public health problem.

The ten leading causes of death are diseases of the heart, malignant neoplasms, cardiovascular diseases, accidents, influenza and pneumonia, diabetes mellitus, cirrhosis of the liver, arteriosclerosis, suicide, and certain causes of mortality in early infancy. (See Tables 2 and 3).

Significant differences in health status exist by geographic area. These also reflect variations in age distributions, death rates for specific age groups, and variations in rates for individual causes of death. Different environmental influences, health-related human behavior, socio-economic status, the availability of health services and the distribution of the population by age and density also contribute to substantial differences in morbidity and mortality rates. For example, life expectancy at birth in 1978 for white males and females respectively (provisional) was 70.2 and 77.8 years while for non-whites these figures were 65.0 and 73.6 years, respectively.

A number of other very significant health problems, such as mental illness, tuberculosis, arthritis, childhood infectious diseases, dental diseases and conditions, or visual problems, though not major killers for Americans, cause considerable suffering, sickness and economic loss.

Goal I.2. *Infant Health.*

THE HEALTH OF INFANTS SHOULD BE IMPROVED BY:

a. REDUCING THE INCIDENCE OF LOW BIRTH WEIGHT INFANTS (PREMATURELY BORN OR SMALL-FOR-AGE INFANTS WEIGHING LESS THAN 2,500 GRAMS) FOR EVERY SUBGROUP OF THE POPULATION (AS DEFINED BY SOCIOECONOMIC, ETHNIC AND GEOGRAPHIC CHARACTERISTICS) BELOW THE LOWEST REPORTED CURRENT RATE FOR SUCH A SUBGROUP; AND

b. REDUCING THE INFANT MORTALITY RATE TO LESS THAN 11 DEATHS PER 1,000 LIVE BIRTHS BY 1985 AND TO LESS THAN 9 DEATHS PER 1,000 LIVE BIRTHS BY 1990.

Infant mortality rates in the U.S. are at their lowest point in history. Provisional data through October 1979 shows a rate of 13.1 deaths per 1,000 live births, a reduction of 3.7 percent from 1978 (Table 6). In October 1979 alone, infant mortality dropped to 12.9 percent, or 4.4 percent lower than in October 1978. These improvements have been due primarily to better nutrition, better housing and such factors as improved prenatal, obstetrical and pediatric care. If current trends continue, a rate of 11 deaths per 1,000 live births by 1985 and 9 deaths per 1,000 live births by 1990, the goal established in *Healthy People*, the Surgeon General's Report on Disease Prevention and Health Promotion, is attainable.

Nonetheless, among industrialized nations the United States ranked twelfth in infant mortality in 1977, and the first year of life continues to be the most hazardous period a person faces until he or she reaches age 65.

Low birth weight is the most likely explanation for the high infant mortality rate in the United States. In 1976, about 7 percent of all new-borns weighed less than 2,500 grams (5.5 pounds). In Sweden, this figure was 4 percent. At the present time, two-thirds of all infant deaths in this country occur among infants weighing less than 2,500 grams at birth. Infants below this weight are more than twenty times as likely to die within the first year after birth.

Lowering the number of low birth weight infants should result in substantial reductions in infant mortality, and thus should be a major public health goal. This effort should also narrow the present gap in infant mortality among different population groups. The 1977 rate for white infants for example, was 12.3 deaths per 1,000 live births, but was 21.7 deaths per 1,000 for other infants, or about 76 percent higher. Black infants are nearly twice as likely to die before their first birthday as whites. The rate also varies considerably in different parts of the country (Tables 5, 7). Particular attention needs to be paid to health service areas and population groups where the infant mortality rate is higher than 11 per 1,000 live births.

Many maternal factors are associated with low infant birth weight. They include infectious diseases, lack of prenatal care, poor nutrition, smoking, alcohol and drug abuse, age (especially youth of the mother), marital status, and social and economic background.

An expectant mother who receives no prenatal care is three times as likely to have a low birth weight child, especially since these mothers are likely to have other risk factors working against them. Regular prenatal care reduces this risk not only because medical and obstetrical services benefit mother and child, but also because the expectant mother is more likely to receive social and family support services as well.

Nutrition is another critical factor. Pregnant women lacking proper nutrition have a greater chance of bearing either a low birth weight or stillborn infant. Maternal cigarette and alcohol consumption also are hazardous for the child. Smoking slows fetal growth, doubles the chance of low birth weight and increases the risk of stillbirth. Some studies suggest that smoking may be a significant contributing factor in 20 to 40 percent of low birth weight infants born in the U.S. and

Canada. Alcohol use by pregnant women has also been found to represent a potential hazard to the development of the fetus. Heavy alcohol use has been associated with a variety of birth anomalies, including a cluster of distinctive physical and mental impairments known as the Fetal Alcohol Syndrome. Reports in the literature have placed this disorder as the third leading cause of birth defects with associated mental retardation—following Down's Syndrome and spina bifida—and the only one of the three that is preventable. In addition, increased risk for a range of less severe birth anomalies has been noted for women who reported drinking between 1 and 2 ounces of absolute alcohol per day (2–4 standard drinks).

Maternal age and marital status are other determinants of infant health. Teenage and unmarried mothers (who are most likely to be in their teens) are twice as likely as others to have infants of low birth weight.

Low birth weight is twice as common among blacks and some other minorities, regardless of income level. Low birth weight is associated with socioeconomics status as well as race. (See Table 5)

Many other conditions and diseases also contribute to the high rates of infant mortality which exist in the U.S. They include birth defects, such as congenital physical defects; mental retardation; genetic diseases; injuries at birth; sudden infant death syndrome; accidents; pneumonia viral and other bacterial infections; inadequate diets; and poor prenatal care. Not all problems of infant health, however, are reflected in mortality and mobidity figures. It is also important to foster early detection of developmental disorders during the first year of life so as to maximize the benefits of care. The first year is a significant period for laying the foundation for sound mental health as well. Programs are needed to increase parent-infant bonding and improve familial relationships with infants as well as programs to increase parental knowledge of normal infant/child development and appropriate infant/child care procedures.

Goal I.3. *Child Health.*

CHILD HEALTH AND DEVELOPMENT SHOULD BE IMPROVED AND DEATH RATES FOR THOSE AGES 1–14 REDUCED TO LESS THAN 39 PER 100,000 BY 1985, AND TO LESS THAN 34 DEATHS PER 100,000 BY 1990

Although there have been significant improvements in child health and the impact of communicable diseases on this age group is only a small fraction of what it has been in the past, these diseases still have a major impact on the health of children. In 1977, for example, approximately 40 percent of the nation's children, ages one to four, were inadequately immunized against communicable diseases, and 20 million of the 52 million young people under the age of 15 were not protected against the diseases for which vaccines are available.

Habits and attitudes developed during this period can provide early antecedents to adult disease and disability. As many as 40 percent of school children aged 11 to 14 have been estimated to have one or more of the risk factors associated with heart disease: overweight, high blood cholesterol, cigarette smoking, hypertension, poor physical fitness, or diabetes. Parents and school children should learn to recognize and deal with these factors.

A wide variety of other problems may substantially affect a child's well-being, including problems related to nutrition, dental caries, mental or emotional retardation, and growth and development. Children under 18 years of age, especially those eligible for Medicaid, should be brought into a system of ongoing and comprehensive primary health services which offer preventive, diagnostic, and treatment services, as appropriate for each age.

Episodes of acute illness constitute the most common morbidity problem among children. Respiratory illnesses and childhood diseases result in a large volume of short-term disability and medical care use.

Death rates for children decreased from a rate of 330 child deaths per 100,000 in 1925 to 90 per 100,000 in 1950 to approximately 43 in 1978 (provisional). Despite these improvements, significant variations among different population groups remain. Minority children have a 46 percent higher death rate (56.4 per 100,000), and minority preschool children have a 50 percent higher death rate than do white children. In addition, the overall rate of decline in child mortality has slowed. Special attention is needed in areas where the death rates for children between 1 and 14 years of age rise above 39 per 100,000.

The Surgeon General's Report on Disease Prevention and Health Promotion set as its goal a 20 percent reduction by 1990 from 1977 child death rates. Reducing by one-half the number of fatal accidents in this age group alone would achieve the reduction. Accidents cause 45 percent of all childhood deaths and are the major cause of death among children. Cancer, birth defects, influenza and pneumonia, and homicide are other leading causes.

The goals contained in this document are based on both the Surgeon General's Report and the potential impact of the various interventions currently available. A ten percent reduction in child mortality to 39 deaths per 100,000 is to be achieved by 1985. A 20 percent reduction to 34 deaths per 100,000 is sought by 1990.

Goal I.4 *Preventable Communicable Diseases.*

THE INCIDENCE OF PREVENTABLE COMMUNICABLE DISEASES SHOULD BE REDUCED, WITH A MORTALITY RATE OF LESS THAN 22 DEATHS PER 100,000 PERSONS. DISEASES AND DEATHS PREVENTABLE BY ROUTINE CHILDHOOD VACCINATION SHOULD APPROACH ZERO. MEASLES SHOULD BE ELIMINATED AS AN ENDEMIC DISEASE IN THE UNITED STATES. TUBERCULOSIS IN CHILDREN SHOULD BE ELIMINATED

Achievement of this goal represents a one-third reduction from 1977 mortality rates. In 1977, four States were below the target level of 22, and seven States were approaching it. All States could reach the desired levels by intensifying communicable disease prevention efforts. (Table 9) Special attention must be directed towards the poor, blacks and other minorities who remain at higher risks for all preventable diseases because of lower immunization levels.

There were approximately 69,000 deaths from preventable communicable diseases in 1977, or 32 per 100,000 persons, including infectious and parasitic diseases, acute bronchitis, and influenza and pneumonia for all ages. (Table 10)

Disease of childhood which cause significant morbidity but contribute little to the overall infectious disease mortality rate include diphtheria, pertussis, polio, measles, rubella, mumps and tuberculosis. If all children were adequately immunized or treated preventively, many of the permanent physical handicaps these diseases can cause would be virtually eliminated. A reduction in the present rates of morbidity and mortality and the ultimate attainment of as close as possible to no cases of childhood diseases which can be prevented by vaccination is a desirable and achievable goal for every community. But, each year more than 3 million infants are born who must be immunized early to prevent a recurrence of the diseases and their long-term effects.

Measles is now considered the most severe contagious childhood disease. Its frequent complications include pneumonia, ear infections, deafness, encephalitis, permanent brain damage, and mental retardation. About one of every 10,000 children with measles will die, usually as a result of complications. All children should be vaccinated against rubella (German measles) before puberty. Because severe damage to unborn children can occur if the mother is affected early in pregnancy, all susceptible females who are not pregnant also should be vaccinated.

Tuberculosis is a serious disease of children because of the potential complications of meningitis which may lead to severe brain damage and death. Because of its severity, special efforts should be directed towards eliminating tuberculosis among children.

Because incidence and mortality rates vary significantly due to epidemics, the most recent five-year average rates should be used as a basis for monitoring achievement of this goal.

Goal I.5. *Adolescent Health.*

THE HEALTH OF ADOLESCENTS AND YOUNG ADULTS SHOULD BE IMPROVED AND DEATH RATES FOR THOSE AGED 15 TO 24 REDUCED TO LESS THAN 105 PER 100,00 BY 1985 AND TO BE LESS THAN 93 DEATHS PER 100,000 BY 1990

Despite improvements over the past 75 years, death rates for adolescents and young adults are now increasing. Death rates were 106 per 100,000 in 1960, and 117 per 100,000 in 1977. Preliminary 1978 statistics show an increase to 120 per 100,000.

The goal of less than 93 deaths per 100,000 is consistent with *Healthy People*, the Surgeon General's Report on Health Promotion and Disease Prevention. It represents a 20 percent reduction by 1990 from current adolescent death rates. This goal is attainable with increased efforts, particularly in accident, alcohol and drug abuse control and homicide and suicide

prevention. The goal of 105 deaths per 100,000 represents 10 percent reduction in 1977 adolescent mortality rates, to be reached by 1985, and is consistent with the 1990 target date.

The principal health problems for adolescents and young adults include violent death and injury, sexually transmitted diseases, unwanted pregnancies, alcohol and drug abuse, dental diseases, and emotional problems. Violent deaths such as those resulting from accidents, homicides and suicides account for three-fourths of all deaths among adolescents and young adults. Sexually transmitted diseases (STD) cause considerable morbidity in this age group. Pelvic inflammatory disease is a major consequence of STD in women, with subsequent risks of ectopic pregnancy and lifelong impairment of fertility. Special consideration should be given to the needs and problems, both physical and psychological, of individuals in this age group.

There is substantial variation in death rates among different population groups. Traumatic deaths occur three to four times as frequently for males as for females. Deaths caused by motor vehicle accidents are more likely to occur among white youth. Young blacks of either sex are at least five times as likely to be murdered as young whites. Homicide is the leading cause of death for young blacks, ranking slightly ahead of accidents.

Goal I.6. *Adult Health.*

THE HEALTH OF ADULTS SHOULD BE IMPROVED AND DEATH RATES FOR THOSE AGED 25–64 REDUCED TO LESS THAN 472 PER 100,000 BY 1985 AND TO LESS THAN 400 PER 100,000 BY 1990

Although death rates for adults ages 25 to 64 have increased from 640 deaths per 100,000 in 1960 to 657 per 100,000 in 1970, there has been an average annual decrease of 2.6 percent since 1970. The 1977 adult death rate was 540 per 100,000, and preliminary data shows a further 2.2 percent decrease to 528 for 1978. This varies by area, and particular attention should be given to areas and population groups where the mortality rate of adults is high.

The goal of less than 400 deaths per 100,000 population represents a 25 percent reduction by 1990 from current adult death rates and is consistent with the goal set in *Healthy People*, the Surgeon General's Report on Health Promotion and Disease Prevention. This goal is attainable provided the steady drop in adult mortality which has been observed since 1970 continues. The goal of 472 deaths per 100,000 represents an approximate 12.5 percent reduction in current adult mortality rates, to be reached by 1985, and is consistent with the 1990 target rate.

The leading causes of death in this age group are heart disease, cancer, stroke and cirrhosis of the liver. Accidents are a prominent problem for the younger members of this group, but overall the chronic diseases predominate. More than one-third of all deaths in this group are due to cardiovascular diseases, principally coronary artery disease and stroke. However, such deaths have declined in recent years and account for most of the recent decreases in mortality. In addition to the various causes of death, dental diseases and disability from mental illness present major health problems for this age group.

Goal I.7. *Older Adult Health.*

THE HEALTH AND QUALITY OF LIFE OF OLDER ADULTS SHOULD BE IMPROVED BY:

A. REDUCING THE AVERAGE ANNUAL NUMBER OF DAYS OF RESTRICTED ACTIVITY DUE TO ACUTE AND CHRONIC CONDITIONS FOR THOSE AGE 65 AND OLDER TO LESS THAN 33 DAYS PER YEAR BY 1985 AND TO LESS THAN 30 DAYS PER YEAR BY 1990; AND

B. REDUCING THE AVERAGE ANNUAL NUMBER OF DAYS OF BED DISABILITY DUE TO ACUTE AND CHRONIC CONDITIONS FOR THOSE AGE 65 AND OLDER TO LESS THAN 13.0 DAYS PER YEAR BY 1985 AND TO LESS THAN 11.6 DAYS PER YEAR BY 1990.

More Americans are living to an older age than ever before. In 1900, there were only 3.1 million people aged 65 and over in the United States, and they accounted for only four percent of the population. The 65 and over group is the fastest growing segment of the population. By the year 2030, there will be more than 50 million Americans 65 years or older, and they will represent nearly 17 percent of the population.

In 1900, the average life span was 47 years. By 1978, it had increased to more than 73 years. Eighty percent of the elderly have one or more chronic conditions, and their medical treatment accounts for 29 percent of the nation's health care expenditures. The elderly have 50 percent more physician visits, and have more and longer hospital admissions. The leading cause of death for this age group are heart disease, cancer, stroke, influenza, and pneumonia.

In 1976, about 9.9 million of the 21.8 million persons aged 65 or older, or 45 percent, had some activity limitations due to chronic conditions. Some limitations are associated with mental disabilities, but most are due to physical handicaps caused by heart conditions, arthritis and rheumatism, hearing loss, and visual impairments among others (Table 111). Up to 20 percent of older people (between one-third and one-half of those with any activity limitations) are limited in their ability to move about freely.

One measure of the impact of illness, both chronic and acute, is the total number of restricted bed days per person per year, a subset of restricted activity days. The average number of days an older person's activities are limited, regardless of the reason, has not changed much in the past ten years, ranging from 31 to 38 days per person per year. Bed disability days, however, has shown a constant increase from 12.9 days per person over age 65 per year in 1969 to 14.3 in 1974 and 14.5 in 1978.

In meeting the needs of the elderly, it is important to consider not only the need to increase longevity or to reduce death rates, but to allow each individual to seek an independent and rewarding life in old age, unlimited by the variety of health and social problems that are within his or her capacity to control. Health, social, day care, medical and dental services should be provided to prevent the loss of functional abilities, minimize the effect of the loss when it occurs, and rehabilitate to the maximum extent feasible. Special attention needs to be paid to the poor and minority elderly.

Studies have shown that the elderly have improved feelings of well-being, and significantly decreased disease and disability, when they are allowed to take as much control and responsibility for their own day-to-day care as possible. Programs to encourage the exercise of self-responsibility in such settings as nursing homes, and to teach stress management techniques to the elderly, can have positive effects on physical and emotional health, as well as personal and social happiness.

A critical problem is to match each individual to that setting which will allow the most appropriate type and level of care. Access to noninstitutionalized services which reduce dependency and allow individuals the opportunity to function in their normal environment promotes both mental and physical health and preserves individual dignity. Alternatives to institutionalization include: day health care centers, outpatient clinics, community care organizations, and mobile health units. Since more than half of those over 65 with incomes below the poverty line live alone, these services could be a valuable adjunct to maintaining independent living arrangements.

The goal of an average of less than 30 days of restricted activity per year due to acute and chronic conditions to be reached by 1990 is consistent with *Healthy People*, the Surgeon General's Report on Health Promotion and Disease Prevention. This is a 20 percent decrease from the 1977 rate of days of restricted activity. The goal of 33 days of restricted activity per year due to acute and chronic conditions to be reached by 1985 represents a 10 percent reduction in current rates and is in line with the longer range target.

In recent years, annual rates have shown significant year-to-year variation not indicative of overall trends. For this reason, multiple-year averages of annual rates of days of restricted activity should be employed where possible as a basis for monitoring goal achievement.

The goal of an average of 11.6 days of bed disability is also consistent with reductions in the Surgeon General's Report, representing a 20 percent decrease from the 1977 rate of 14.5 days of bed disability. The target of 13.0 days of bed disability per year to be reached by 1985 represents a 10 percent reduction in current rates, and is in line with the longer range target.

Goal I.8 *Alcoholism.*

THE PREVALENCE OF ALCOHOLISM AND RELATED DISABILITIES AND DEATHS SHOULD BE REDUCED BY AT LEAST 5 PERCENT

The disease of alcoholism and the associated problems of alcohol abuse constitute a very significant health problem.

Approximately 10 million persons aged 18 years and over are problem drinkers and their drinking affects the lives of 40 million

more people. Alcohol-related deaths accounted for nearly 11% of the total deaths in the United States in 1975, and clinical studies have consistently found that abusive alcohol consumption is associated with mortality and morbidity rates that are 2 to 6 times higher than rates for the general population. A significant number of traffic and other accidents have been attributed to alcohol use. Alcohol has been found to be significantly involved in half of all motor vehicle traffic fatalities and one third of all traffic injuries.

Studies have found that up to 40 percent of fatal industrial accidents, 83 percent of drownings, 87 percent of fire fatalities, and 70 percent of fatal falls were alcohol related. Alcohol use has frequently been implicated in homicides and assaultive behaviors, including spouse and child abuse, and studies have found that more than one third of all suicides involve alcohol.

In terms of medical and health problems, alcohol has been found to impact on a wide range of physiologic systems and biomedical disorders. Although the rate of deaths from cirrhosis has been gradually decreasing, liver cirrhosis, which is predominantly associated with alcohol use, still ranked as the seventh leading cause of death in 1975. Alcohol is directly related to certain neuropsychiatric diseases, such as Wernicke-Korsakoff's syndrome, and is frequently associated with a range of emotional and mental problems such as depression. The use of alcohol has been found to be associated with malnutrition, increased infection (e.g., pneunomia), and a variety of gastronintestinal problems including pancreatitis and inflammatory and bleeding lesions of the stomach.

Alcohol use by pregnant women has been found to impair the development of the fetus. Heavy alcohol use has been associated with a variety of birth anomalies, including a cluster of distinctive physical and mental impairments known as the Fetal Alcohol Syndrome. In addition, increased risk for a range of less severe birth anomalies has been noted for women who reported drinking between 1 and 2 ounces of absolute alcohol per day (2–4 standard drinks).

Alcohol has been found to be associated with a variety of cardiovascular problems, including a specific cardiomyopathy, cardiac arrhythmias, and depressed myocardial contractility. Moreover, there is evidence that alcohol can act to increase the risk of developing certain cancers, particularly in combination with tobacco use. Heavy alcohol consumption has been associated with increased risk for cancers of the tongue, mouth, pharynx, esophagus, larynx, and liver. These constitute 6 to 9 percent of all cancers in the white population in the United States and 12 percent of cancers in the Black population.

Seventy percent of today's teenagers have tried alcoholic beverages. Of the 16.9 million people in the 14 to 17 age group, 3.3 million are estimated to be problem drinkers. Alcohol problems among youth tend to be acute rather than chronic. More specifically, alcohol problems among youth typically involve consumption of large amounts of alcohol, followed by impaired driving performance, accidents, aggression and violence, disturbed interpersonal relationships, property damage and impaired school and/or job performance.

An estimated 24 percent of the adult problem drinking population is female, and this estimate is probably low. Few treatment facilities provide care targeted to this population, as reflected in the fact that only 17.5 percent of the population in treatment are women.

The far-reaching consequences of alcoholism affect all aspects of American life, affecting the non-drinker as well as the drinker. For example, the total cost to the Nation was estimated to be over $42 billion in 1975. Of special concern is the estimate that approximately $12.7 billion of this amount was expended on alcohol-related health and medical problems. The $8.4 billion spent for hospital care was nearly 20 percent of all hospital expenditures for adults during 1975. (Table 12)

Since alcoholism is a very complex but treatable illness, a wide range of prevention programs and treatment services need to be available. Health Systems Agencies need to encourage alcohol services as a routine and integral component with existing services. To obtain data on the prevalence of alcoholism and related disabilities HSAs are encouraged to contact their State alcoholism authority.

Evidence from epidemiologic research indicates that the greatest amount of chronic, damaging drinking occurs among employed persons and their families. A large proportion of the 10 million problem drinkers in the nation are found in the work force.

Strategies to minimize the health and economic costs of alcoholism should involve the development of occupational alcoholism programs and early identification and treatment of individuals with alcohol problems likely to produce other health consequences such as cirrnosis of the liver. Prevention programs should be aimed at all youth but particularly those who drive while intoxicated. Prevention programs should also be aimed at women. Both populations have been underserved.

Goal I.9. *Drug Abuse.*

DRUG ABUSE SHOULD BE REDUCED BY:

a. REDUCING THE PROPORTION OF YOUTH AGE 12–17 YEARS OF AGE USING MARIJUANA AND PHENCYCLIDINE (PCP) TO BELOW 1977 LEVELS;

b. DECREASING BY AT LEAST 20 PERCENT THE USE OF BARBITURATES AND OTHER POTENTIALLY HARMFUL SEDATIVES USED FOR THE TREATMENT OF INSOMNIA; AND

c. REDUCING THE ANNUAL NUMBER OF AMPHETAMINE PRESCRIPTIONS WRITTEN FOR THE TREATMENT OF WEIGHT REDUCTION BY 20 PERCENT.

Marijuana and PCP

Drug abuse among young people is a continuing public health concern. Society discourages any use of psychoactive substances during adolescence because of the adverse effects such use could have on a young peron's physical and emotional development. Disruption of these critical processes could leave a youth without the necessary skills and maturity to cope with later adult responsibilities.

Recent survey data (The National Survey on Drug Abuse: 1977, and Drug Use Among American High School Students: 1975 to 1977) suggest that there is abundant reason for concern about adolescent drug use. Most noteworthy among the findings of these surveys is the rapid increase between 1974 and 1977 in marijuana use both among 12 to 17 year olds in the general population and among high school seniors. The relatively stable trends reported for other drugs indicate this increase was not simply part of a general trend toward increased psychoactive drug use of all types.

Increased marijuana use among young people is worrisome for two reasons. First, our understanding of the long-term impact of marijuana use during the important developmental years of adolescence is incomplete. We simply do not know what the long-term effects of marijuana use will be during this period. Second, there is increasing evidence that marijuana is a "gateway" drug for many individuals who later become involved in dysfunctional drug use. The implication here is not that marijuana inevitably leads to more serious drug involvement; rather, marijuana use is seen as a stage—a "gateway"—through which those who eventually become dysfunctional drug users may pass. Thus, prevention efforts in connection with marijuana should focus on young people who are as yet minimally involved in drug abuse experimentation.

Assuming continuation of current conditions (i.e., that marijuana remains illegal, but with a continuing relaxation of criminal sanctions against possession for personal use), and assuming no major changes in the available evidence regarding health hazards associated with the drug, "current" marijuana use levels for the 12–17 population are projected at 22.2 percent in 1985. Since the projection is based on limited data which may not reflect stable, long-term trends, periodic recalculation will be required to reflect data that will become available during the next few years. The 15 percent reduction target sets the 1985 use at 18.9 percent. This can be achieved by employing a variety of health promotion and drug prevention strategies which encompass information, education, alternatives, and intervention.

A drug whose use has increased four-fold from 1976–1978 is phencyclidine (PCP). Known on the street as "Angel Dust" and by a variety of other names, PCP can be synthesized relatively easily from widely available precursor chemicals. The many industrial uses of these chemicals reduce the effectiveness of law enforcement efforts in controlling the drug's availability. As a result, PCP, like marijuana, is widely and readily available at a price that young people can afford. The effects of PCP use are unpredictable, and chronic use is associated with a variety of negative consequences. Overdose symptoms range from an inability to coordinate one's movements, catatonic staring and assaultiveness to convulsions, respiratory depression, and, in extreme cases, coma and death. Although present data systems underestimate the frequency of PCP-

related emergencies (due to the frequent misrepresentation of PCP as other drugs), available data suggest a startling increase in the number of PCP emergencies during the past two years.

Reduction to 1977 levels of marijuana and PCP usage can be achieved through increased drug prevention efforts in and out of schools. These include but are not limited to school and community health education and the encouragement of alternatives to drug abuse. It is believed that information on the health hazards of PCP use can have an impact on levels of use if the information is accurate and disseminated widely. The achievement of these goals requires active involvement and cooperation between education, health, criminal justice and employment services. Health Systems Agencies can foster such coordination.

Barbiturates

In recent years, there also has been increased concen about the risks associated with the use of sedative-hypnotics, in particular "short-acting" barbiturates and some of the non-barbiturate, nonbenzodiazepine drugs, whose potential for abuse is well documented. They are the second most common group of drugs associated with deaths. Equally effective and safe alternative drugs are available.

During the past few years, various Federal agencies have reviewed the risks and benefits associated with sedative-hypnotic drugs as a general class and with the barbiturates in particular. The Federal Government has been concerned about the barbiturates since the early 1970s when high morbidity and mortality levels resulted in a tightening of legal controls on the manufacture and distribution of barbiturates. The number of deaths in which barbiturates were identified as the underlying cause has declined markedly from over 2,600 in 1970 to under 1,300 in 1976.

While a substantial number of deaths involving barbiturates are of a suicidal nature, many also result from ignorance of the potentially lethal effects of barbiturates used in combination with other central nervous system depressants such as alcohol. The mortality associated with barbiturate use could be reduced by a concerted effort to educate physicians and patients about the risks associated with the use of barbiturates in combination with other drugs.

The 20 percent reduction in use of barbiturates and other potentially harmful sedatives used in the treatment of insomnia can be achieved with increased efforts over the next few years. These efforts should include physician education to reduce the total availability of these drugs, public information and education, the encouragement of alternative treatment methods, and promoting drug abuse prevention and treatment as a routine and integral component of existing health and other human services.

Amphetamines

Two national reporting systems (the Drug Abuse Warning Network—DAWN, and the Client-Oriented Data Acquisition Process—CODAP) of the National Institute of Drug Abuse (NIDA) reveal that amphetamines are common drugs of abuse among persons seen at emergency rooms and drug treatment facilities. Other national drug abuse survey data clearly indicate widespread nonmedical use of amphetamines. (The three medically-approved uses of amphetamines are for minimum brain dysfunction, narcolepsy, and obesity). While a dramatic decline occurred in amphetamine prescriptions between 1970 and 1974, the number has remained essentially unchanged since then, following a reclassification of amphetamines from Schedule III to Schedule II by the Controlled Substances Act of 1970. The National Prescription Audit data also shows a similar decline in amphetamine prescriptions between 1970 and 1974, but little change in the numbers of amphetamine prescriptions between 1974 and 1976. This information suggests an amphetamine-associated morbidity with the numbers of prescriptions written for these drugs over the last several years.

Amphetamines are prescribed primarily for obesity. A number of nonamphetamine anorectics are equally effective, yet they apparently lack the appeal of amphetamines as drugs of abuse, as they are seldom implicated in drug-associated morbidity, recreational or compulsive use. Study findings reveal that the choice of a particular drug to use on a weight reduction program is largely a matter of individual preference of the prescribing physician. Through increased efforts at both physician and public education, the goal of a 20 percent reduction in such prescribing can be achieved.

The National Disease and Therapeutic Index and/or the National Prescription Audit, a proprietary index, can be used to monitor progress towards the achievement of reducing the annual number of amphetamine prescriptions.

Goal I. 10. *Oral Health.*

ORAL HEALTH STATUS SHOULD BE IMPROVED SO THAT (1) FOR PERSONS 17 YEARS OF AGE, AT LEAST 85 PERCENT RETAIN ALL OF THEIR PERMANENT TEETH AND (2) FOR PERSONS 55 TO 64 YEARS OF AGE, AT LEAST 80 PERCENT RETAIN SOME NATURAL TEETH

Optimal oral health is characterized by a full complement of functional natural teeth and supporting tissues free of disease. Virtually every person experiences tooth decay (dental caries), and most persons also develop periodontal disease. Based on current knowledge, each of these diseases usually can be prevented or controlled. If either disease is neglected tooth loss results.

Dental caries is localized, progressive destruction of the tooth initiated by acid demineralization of tooth enamel. It can be prevented through (1) reduction of bacteria on the teeth through a proper personal oral hygiene regimen and regular prophylaxes given by a dental hygienist or dentist; (2) avoidance of highly cariogenic foods and snacks, particularly refined sugar, which react with the bacteria to form acid on the teeth; and (3) optimum intake of fluoride from birth to provide the tooth surface with optimal resistance to acid dissolution.

Caries begins in early childhood by attacking the primary teeth and is a continuing problem in the permanent teeth. By the time children reach 17 years of age, 94 percent have experienced caries in their permanent teeth. Many adults also develop new caries and have continuing dental problems resulting from the effects of caries experienced during childhood.

Periodontal disease is an inflammatory disease which progressively affects the gingival tissues (gums) which surround the teeth and then the alveolar bone supporting the teeth. The most common type of periodontal disease, gingivitis or inflammation of the gum, affects both children and adults. If not controlled, gingivitis usually develops into periodonitis, the chronic destructive stage of the disease, which mostly affects adults and is most common in persons 45 years of age and older. Preventive measures include (1) a proper personal oral hygiene regimen, (2) regular prophylaxes given by a dental hygienist or dentist, and (3) prompt treatment when the disease occurs.

The total number of persons who have experienced periodontal disease is not known; however, the extensiveness of the disease is reflected in findings of the national health examination survey conducted during 1971–1974. Among children, 14 percent of the 6–11 years olds and 32 percent of the 12–17 year olds had gingivitis at the time they were examined. Among adults who still had some of their natural teeth, 44 percent of the 18–44 year olds, 56 percent of persons 45–64 years of age, and 64 percent of those 65–74 years old had either gingivitis or destructive periodontal disease.

Regular dental checkups to detect caries and periodontal disease and prompt therapy when they are diagnosed are the major factors in controlling these diseases and in preventing tooth loss. Yet, only one half of the population visits a dentist each year and nearly two-thirds of the population has unmet needs for treatment of dental diseases, primarily dental caries and periodontal disease.

Because of the inevitability of tooth loss if dental caries and periodontal disease are not controlled, a useful and easily determined indicator of progress being made toward improving the oral health status of a population is the percent of persons who retain their permanent teeth. By establishing two goals on tooth retention, one for 17 year olds and one for persons 55–64 years of age, short-term progress in oral health improvement can be monitored for both the child and the adult populations.

In the early 1970's, only 62 percent of the 17 year olds retained all of their permanent teeth (Table 17). The children's goal aims five years hence to decrease by slightly more than one half the percentage of 17 year olds who are missing one or more permanent teeth.

The percentage of adults retaining at least some of their natural teeth decreases rapidly with age (Table 18). The decrease is particularly sharp for the 55–64 year age group. In the early 1970's only 66 percent of this age group still had some natural teeth present, as compared with 83 percent for the 45–54 age group. The adult goal aim five years hence to increase the percentage of persons aged 55–64 years who retain some of

their natural teeth to about the experience of 45–54 year olds in the early 1970's, thereby at least postponing total tooth loss to an older age.

Due to the progressive nature of dental caries and periodontal disease, the oral health status of adults to a large extent is the result of the preventive and therapeutic services they received as children and of the total hygiene practices and dietary habits they develop during childhood and continue into their adult lives. Therefore, the beneficial impact of newly developed dental preventive or treatment services resources on the overall oral health status of a population is not fully realized for a considerable time. Accordingly, attainment of the short-term goals started here will be only a step toward assuring optimum oral health for all.

Measures to help attain the short-term goals, such as improving accessibility of dental services to underserved population groups, as well as measures which will produce long-range results in improving the overall oral health status of a population, such as community water fluoridation, need to be initiated now.

Goal I. 11. *Heart Disease, Cancer and Stroke.*

AGE-ADJUSTED DEATH RATES FOR HEART DISEASE SHOULD BE REDUCED TO 156 PER 100,000 PERSONS AND FOR STROKE TO 29 PER 100,000 PERSONS BY 1985. EFFORTS SHOULD BE DIRECTED TOWARD IMPROVEMENTS IN SURVIVAL RATES THROUGH DETECTION AND TREATMENT FOR ALL TYPES OF CANCER

Nearly four of every 10 deaths during 1978 were attributed to heart disease, the leading cause of death for over fifty years. While age-specific death rates have decreased by approximately 19 percent between 1968 and 1978 as a result of improved methods of prevention, detection and treatment, the proportion of deaths due to heart disease has remained stable due to the increasing age of the population. The mortality rate for heart disease is higher for blacks than for whites.

The greatest possibilities for control of heart disease lie with preventive actions for reducing risks and promoting a healthful environment. Lifestyles and behavioral patterns, including an unhealthy diet, cigarette consumption, lack of exercise, obesity and psychological stress and most importantly, hypertension, have been associated with putting an individual at greater risk for heart disease.

Cancer is the second ranking cause of death in America. It has recently been estimated that one of four Americans will develop some form of cancer during their lifetime, and one of five will die from cancer.

Cancer affects every age group, both sexes, and every part of the body. For women, cancers of the breast, colon and rectum, uterus, lung, pancreas, and stomach, plus leukemia, account for more than 70 percent of cancer deaths. The principal fatal cancers among men are lung, colon and rectum, prostate, stomach, pancreas, leukemia and bladder. Among non-white adult males, there has been a startling increase in cancer deaths for some groups, possibly due to the large migration to industrial cities followed by employment-related exposure to carcinogenic chemicals and limited access to health care. Cancer mortality rates are twice as high for blacks as for whites.

Lung cancer, a disease with enormous potential for prevention, is responsible for the greatest number of cancer deaths. A strong causal association has been found between lung cancer and cigarette smoking. The average male smoker is 10 times more likely to develop lung cancer than is a nonsmoker.

An HEW Task Force recently concluded that, "Probably over 90 percent of malignant neoplasms are induced, maintained, or promoted by specific environmental factors." Recently, it was found that at least 20 percent of all cancers in the U.S. may be work-related.

The long latency periods characteristic of cancer etiology make it desirable to use a health status measure sensitive to short-term shifts in cancer trends, such as five-year survival rates, in measuring progress to 1985. This measures the proportion of cancer patients surviving to the fifth year following detection of their disease. The national experience indicates that dramatic improvements in five-year survival rates for many types of cancer are possible with improved detection and treatment modalities. While apparent improvements in survival rates for some cancers can be explained by earlier diagnosis, and thus no real health status change occurs, there are significant exceptions. For male prostate cancer, survival rates increased 11 percent for whites and 20 percent for blacks among those people diagnosed between 1967 and 1973 compared to those diagnosed between 1960 and 1966. Among both groups, the percent of cases in which the cancer was localized, a factor which indicates the stage of disease at the time of detection, remained unchanged. Case management must be considered a critical factor in this improvement.

HSAs should enourage the expansion of screening and self-examination programs, as well as the development of improved case management for all types of cancer. Particular attention should be directed to cancer types of major impact for subgroups of the population, such as leukemia among those under 15, and lung and prostate cancer among black males.

Stroke is a leading cause of disability and is the third leading cause of death. In 1978, it accounted for 9 percent of all mortality. Minorities and males are the primary populations at risk, as indicated by the 1977 age-adjusted death rates. (Tables 19, 20)

Over one-half of the estimated one-half million people who suffer their first stroke each year survive their first 30 days. Only 10 percent of those 500,000 people, however, recover without a discernible disability. This high disability percentage underscores the importance of access to and utilization of rehabilitation therapy and long-term care.

While more knowledge is needed regarding the personal and environmental factors associated with increasing the risk of stroke, there is sufficient evidence that hypertension, pre-existing cardiovascular disease, age and diabetes make a person more susceptible to stroke.

Hypertension (high blood pressure) is one of the most significant risk factors for both heart disease and stroke and thus represents a major health concern. It affects approximately 18 percent of the adult population and is found more frequently among minorities and older adults. (Table 21) Since hypertension is without distinctive physical or psychological symptoms, its victims are not alerted to seek medical care, and thus may suffer serious physical damage. Periodic screening programs and an effective system for referral, treatment and follow-up should be undertaken to identify and treat hypertensive persons, particularly for that 25 percent of the population which does not see a physician each year. The National Heart, Lung, and Blood Institute has developed a program that seeks to reduce by one-half every five years the number of people whose diastolic blood pressure is 105 or higher. A diastolic pressure of 80 is considered normal.

If the trends of 1968–1978 continue the expected age-adjusted mortality rate for heart disease in 1985 will be 173/100,000 and for stroke will be 33/100,000. The targets for heart disease and stroke represent a 10 percent reduction from each of these projected levels for 1985. They may be achieved through a broad array of prevention, health program, and detection strategies. The potential for improvements in survival rates for all types of cancer is underscored by substantial improvements in these rates since the early 1960s for patients with 7 of the 10 most common forms of cancer in the U.S., accounting for nearly 65 percent of all cancers.

Part II: Disease Prevention and Health Promotion

Goal II. 1. *Extention of Disease Prevention and Health Promotion* *.

HEALTH PROMOTION AND DISEASE PREVENTION SHOULD BE EXTENDED THROUGH BOTH INDIVIDUAL AND COMMUNITY ACTIONS WITH EMPHASIS ON HIGH RISK POPULATIONS, AND BE AN INTEGRAL COMPONENT OF CARE PROVIDED BY HEALTH CARE AND OTHER COMMUNITY INSTITUTIONS

The early detection of diseases, the creation of a safe environment, and the promotion of healthful ways of living can extend the duration and improve the quality of life and reduce the long-term costs of health care.

Health promotion and disease prevention depend upon both individual and community actions. Because lifestyle and daily practices are important factors in determining how well and how long we live, planned educational strategies for improving the personal choices people make regarding health-related behavior are an essential part of a health program. These require efforts aimed at increasing the awareness of risks, facilitating behavior change and creating a social climate condutive to healthful behaviors.

For people who smoke, abuse alcohol or other drugs, or have other unwise health behaviors, awareness of the personal health risks associated with these action is a first step. Specific programs should be available to help them make the desired behavior changes. Community actions to prevent illness, disability and diseases can support

and supplement individual actions. Home, workplace, school and community should be safer and more conducive to healthful living.

A broad range of personnel, including physicians, dentists, dental hygienists, nurses, pharmacists, and other health professionals, should be involved in educating the public. Knowledge about health promotion, however, does not automatically lead to a change in behavior. Health education can employ a variety of educational strategies to help an individual bridge the gap between information and practice, ultimately aimed at helping the individual become an active participant in his own health care, not merely a passive recipient of information.

For this reason, health promotion and preventive health services need to be integrated into existing health care and community programs in order to provide the full range of services necessary to enhance the qualtiy of life and prevent or delay illness.

In addition to those agencies with major health responsibilities, educational and social agencies, employers, and others, should be encouraged to include health promotion and preventive health services in their respective programs. Preventive programs, for example, might include screening for hypertension, occupational assistance programs for alcoholism and drug abuse problems or dental health education. Wherever they are located, prevention programs should be aimed at providing members of the public with knowledge and attitudes that encourage them to choose to improve their behaviors related to health, personal health status and the appropriate use of health services.

Altering the various public and private reimbursement systems would encourage expansion of existing programs of health promotion and preventive health service and the establishment of new programs in these areas. Current reimbursement patterns generally constitute a disincentive to health promotion and disease prevention.

It is important to monitor the cost effecitveness of these programs, because improvement in health status or health practices may not occur just because health education programs are offered.

Congressional interest in these efforts is indicated in Priorities 8, 10, and 13 of section 1502:

(8) "The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services."

(10) "The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services * * *"

(13) "The adoption of policies which will * * * (B) insure more appropriate use of health care services * * *"

Title XVII of the Public Health Service Act, the Health Promotion and Health Information Program (P.L. 94–317) also is aimed at strengthening activities in this field.

GOAL II. 2. *Consumer Information*.

PEOPLE SHOULD BE BETTER INFORMED AS TO HOW, WHEN, AND WHERE TO GET HEALTH CARE OF AN APPROPRIATE KIND AND QUALITY AT A REASONABLE COST

Health care consumers must be instructed to know when and how to seek health care services. They should also know how to care for themselves and their families and when not to use the health care system. An increasing number of individuals are becoming actively involved in their own health care.

More informed and more cost-conscious consumers may help stimulate the greater competition among providers of health services which Congress cited as a priority under section 1502:

(17) "The strengthening of competitive forces in the health services industry wherever competition and consumer choice can constructively serve . . . to advance the purposes of quality assurance, cost effectiveness and access."

Congressional concern for this issue is also indicated in the following National Health Priority:

(10) "The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services."

Goal II. 3. *Prenatal, Maternal and Perinatal Care*.

PROGRAMS SHOULD BE ESTABLISHED TO ASSURE THAT ALL PREGNANT WOMEN RECEIVE ADEQUATE PRENATAL, PUERPERAL AND POSTPARTUM CARE AND THAT NEWBORNS RECEIVE ADEQUATE PERINATAL CARE

All women receive prenatal care during the first three months of pregnancy and thereafter at regular intervals. However, nearly 23 percent of white women and 41 percent of black women who gave birth in 1977 received no prenatal care during the first trimester of pregnancy, the period in which approximately 80 percent of high risk pregnancies can be identified. The women who are least likely to receive adequate prenatal care are those who are poor, non-white and under 20. Infants of mothers who had late and infrequent prenatal care experience a mortality rate that is three times higher and have significantly higher morbidity rates than infants of mothers who started prenatal care during the first trimester of pregnancy.

Adequate prenatal care has been shown to contribute to the prevention of premature birth, and of fetal and neonatal health problems and post partum care programs should be available to all pregnant women. These should include active community outreach programs, public education, residential care for pregnant adolescents, screening and prompt referral as part of the regionalization of perinatal services and other services to enable pregnant adolescents to remain in school or at work. Special attention should be given to nutrition counseling, emotional needs, and health education regarding the use of alcohol and other substances. The provision of prenatal care services for women living in rural areas should receive particular emphasis.

Although most women experience uncomplicated childbirth, about 20% have some problems during labor. Because these problems require prompt intervention, preventive care during pregnancy should also focus on the birth process itself and include education about childbirth and the preparation of both parents. Attention should also be given to adequate puerperal care for the mother, which is care in the period of confinement immediately following labor.

Once a baby is born, prospects for good health can be enhanced by a number of preventive services. These include immunizations, regular growth and development assessments, and screening for metabolic disorders with referrals as necessary and desired. Although not major causes of death, problems created by the lack of proper infant care can have a significant impact on health.

Emphasis on the provision of adequate prenatal care is in line with the following National Health Priority:

(8) "The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services."

Goal II. 4. *Unintended Pregnancy*.

THE RATE AND ADVERSE CONSEQUENCES OF UNINTENDED PREGNANCY SHOULD BE REDUCED, PARTICULARLY AMONG TEENAGERS AND OTHER HIGH RISK GROUPS

Family planning is an important public health measure. It allows individuals to make their own decisions regarding reproduction and to implement those decisions. Unintended pregnancies, on the other hand, often impose psychological and social costs that can continue throughout the lifetime of both mother and child.

Thirty-five percent of infants born to married American women between 1973 and 1976 were unintended. Tweny-five percent of these pregnancies would have been postponed to a future time.

Women who are poor, have language barriers, are illegal immigrants, live in rural areas or on Indian reservations or are teenagers have disproportionately high incidences of unwanted pregnancy and childbearing. These same women frequently have problems of access to all health services, including family planning. The proportion of unwanted births is twice as high among poor families than among families which are not poor. A 1973 survey reported that one of every four births by black women had been unintended whereas only one in every ten births by white women had been unintended.

Teenagers are by far the population subgroup most in need of family planning services. When compared to the pregnancies of older women, teenage pregnancies are associated with markedly increased risks of maternal morbidity and mortality and a greater probability of divorce, unemployment, welfare dependency and interruptions in education. Teenagers also have more infants who are premature or low birth weight, who then have reduced chances of surviving infancy and high rates of neurological impairment.

Teenage pregnancies are more likely to be unintended. One-fourth of American teenage women have had at least one pregnancy by age nineteen. Every year about one million adolescents under the age of nineteen become pregnant, including perhaps 300,000 who are under fifteen. This represents an annual rate of ten percent of all teenage women. Twenty-five percent of these women will again become pregnant within one year. Two-thirds of this group still will be unmarried. Current fertility rates for women less than eighteen years of age are near the highest ever observed in this country and exceed rates in more than a dozen developed countries and several developing countries. At least three of every ten elect to terminate their pregnancies. Of the more than one million American women who have pregnancies terminated by abortion each year, some 300,000 occur in the teenage population.

The major underlying problem which urgently needs addressing, especially in the teenage group, is inadequate knowledge of, and access to, information on sexual behavior, family planning and the responsibilities of being a parent. In 1976, an estimated forty percent of unmarried teenage women aged fifteen to nineteen (two-thirds by age nineteen) had engaged in sexual intercourse. Twenty-five percent never used any form of contraception. Birth control methods currently prevent an estimated 750,000 unintended pregnancies among teenagers annually. If all sexually active young people who do not want to have children were to use some effective form of contraception regularly, it is estimated that premarital pregnancies would drop by more than 300,000 a year.

Reducing the rate and adverse consequences of unintended pregnancy is in line with the following National Health Priorities:

(8) "The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services."

(10) "The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services."

Goal II. 5. *Immunization*.*

AN IMMUNIZATION LEVEL OF AT LEAST 90 PERCENT SHOULD BE MAINTAINED FOR ALL CHILDREN UNDER 15 YEARS OF AGE, AND NEWBORNS IMMUNIZED AT THE EARLIEST APPROPRIATE TIME AGAINST POLIO, MEASLES, RUBELLA, DIPHTHERIA, MUMPS, PERTUSSIS AND TETANUS

Immunization against disease has provided one of the most dramatic measures for reducing death and disability. As a result, many major diseases are no longer leading causes of death.

However, recent epidemics of measles and pertussis and occasional outbreaks of diphtheria and polio, indicate that reduction in disease incidence is temporary, and immunization must be continually emphasized. In 1977, for example, more than a third of all United States children under the age of 15 were not adequately immunized. Between 1976 and 1977 disease incidence increased for measles (up 39 percent), rubella (up 63 percent), and whooping cough (up 115 percent). Declines in incidence then were observed in 1978. Measles was down 53 percent, rubella down 13 percent and whooping cough down 8 percent.

More recently, an intensive, nationwide campaign was carried out to immunize children against vaccine-preventable diseases, ending in October, 1979. With more than 90 percent of school children protected, reported cases of all the diseases were at an all time low in 1979. The task now is to insure that all newborn and preschool aged children are immunized at the earliest appropriate age. All health care providers should adopt a system to track the immunization status of children under their care and should work with local school officials to see that immunization requirements are enforced.

The poor, blacks, other minorities, and migrant workers, remain at higher risk for all preventable diseases because of lower immunization levels. Special emphasis and immunization programs should be designed for persons who are highly mobile or who are determined by immunization survey data to reside in areas of increased disease incidence and/or low immunization levels.

To attain and sustain adequate immunization levels, a coordinated approach by parents, health departments, hospitals, physicians, and school officials is needed. Moreover, immunization services and education programs should be integrated with other existing health care services and resources, such as prenatal and postpartum care programs, teenage pregnancy programs and other programs which deal specifically with new mothers and young children.

Immunization is in line with the Congressional interest in preventive activities as indicated in the following National Health Priorities:

(1) "The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas."

(3) "The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services.

Goal II. 6. *Environmental and Occupational Health*.*

ENVIRONMENTAL AND OCCUPATIONAL RELATED MORBIDITY AND MORTALITY SHOULD BE REDUCED THROUGH THE PROTECTION FROM AND REDUCTION OF ENVIRONMENTAL AND OCCUPATIONAL HAZARDS

Although the cause and effect relationship of environmental exposure is not always clearly established, environmental agents are generally associated with nonfatal acute and chronic disease, injury and disability. The effects of environmental influences on mortality, however, are significant. Therefore, environmental health plays a significant role in the prevention of illnesses among the U.S. population.

The President's Council on Environmental Quality recently stated: "The adverse effects from chemical contaminants in our environment have become a significant determinant of human health and life expectancy." According to a task force report of the National Conference of Preventive Medicine, an estimated 60 to 90 percent of all cancers are related to environmental factors. Currently, more than 2,300 specific chemicals are suspected carcinogens. For another 20 chemicals and compounds, there is convincing epidemiologic evidence of a carcinogenic effect in humans. In addition, more than 20 agents are known to be associated with birth defects in humans.

Especially today, occupational illness and injury also are major health problems. Occupational exposure to toxic chemicals and physical hazards such as noise, radiation, vibration and ambient cigarette smoke can produce lung disease, cancers, sensory loss, degenerative diseases in a number of vital organ systems, birth defects, stillbirths and spontaneous abortion, reduced fertility, sterility and genetic changes, as well as acute poisonings. These toxic effects may be acute or chronic. Toxic effects have been reported for nearly 34,000 chemicals which are thought to appear in the workplace. As already mentioned, more than 2,300 are potential carcinogens. The most recent estimates on occupational illness, found in the 1972 President's Report on Occupational Safety and Health, estimated that 100,000 Americans die from occupational illnesses each year and that nearly 400,000 new cases of occupational disease are recognized. Therefore, occupational health and safety is considered a priority program.

Recent accounts of leaking abandoned chemical dumpsites such as the Love Canal in New York and the Valley of the Drums in Kentucky, have focused attention on the vast quantities of hazardous wastes being improperly disposed. The Environmental Protection Agency estimates that there are 32,250 sites which contain wastes which could cause adverse effects on public health and the environment. EPA also estimates that there are more than 3,500 spills of hazardous materials every year. These conditions extend the exposures suffered in the workplace to the community at large through contamination of water supplies, air and foods.

Attention should also be focused on those environmental health problems where local activity can produce a significant change that will enhance the health status of the community. The publications *Healthy People* and Preventing Disease and Promoting Health: Objectives for the Nation, produced in 1979 by DHHS, lay the foundation for those changes. Areas of local level environmental health concern include the following program areas:

Water supplies, food sanitation, waste water disposal, accident prevention, institutional environmental health, hazardous substances and product safety, housing, land use planning, recreational areas and waters

Water supplies, food and dairy products, and hospitals are sources of infectious diseases. In a typical year more than 1,500 infectious disease outbreaks occur throughout the country, according to the

Center for Disease Control. Better education of operators and managers, inspection of facilities and investigation and surveillance are needed to minimize these preventable diseases.

In 1977, work accidents resulted in 13,000 deaths and 2.3 million disabling injuries. Eighty thousand were permanently disabling. About one of every ten workers in private industry experiences an occupational injury. Because many vehicles and implements used on the farm lack basic safety features, particular attention should be paid to preventing accidents associated with farm work.

Linkages need to be developed with other agencies to urge action on environmental matters of high priority for health. Besides local and State agencies, this includes the Environmental Protection Agency (EPA), the Labor Department's Occupational Safety and Health Administration (OSHA), Department of Housing and Urban Development (HUD), and within DHHS, the Food and Drug Administration (FDA), the National Institutes of Health (NIH) and the Center for Disease Control (CDC).

Congressional interest in environmental and occupational health is expressed in the following National Health Priority:

(6) "The promotion of activities for the preventive of disease including studies of environmental factors affecting health and the provision of preventive care health services."

Goal II. 7. *Accidents**.

ACCIDENTS IN THE HOME, DURING RECREATION, AT WORK AND ON THE HIGHWAY SHOULD BE PREVENTED. PARTICULAR EFFORTS SHOULD BE MADE TO REDUCE ACCIDENTS INVOLVING CHILDREN.

Accidents are the leading cause of death among Americans between the ages of one and 14 years and the fourth leading cause of death for all age groups combined. More than 100,000 persons die from accidents each year and more than 61 million are injured. The highest death rates from accidents are among the elderly.

Children are particularly susceptible to accidents. Provisional data indicate that in 1978 over 9,750 children between the ages of one and 14 were killed in accidents. This was nearly five times as many as the number who died of cancer, the second leading cause of death for this age group.

Accidents during recreational activities are responsible for many childhood injuries. These injuries may be long-lasting and expensive. Accidental childhood poisoning due to the ingestion of drugs, cleaning agents, pesticides, and lead products constitute the most common pediatric medical emergency, primarily among children under five years of age. Accidents associated with the use of alcohol or drugs is a major problem. Pharmacists and other health professionals can play a crucial role in educating the public on the dangers of accidental poisoning and serve as a referral source on poison control.

More than 100,000 Americans lost their lives from accidental injuries in 1977, nearly half of them from motor vehicle accidents, the rest from firearms, falls, burns, poisonings, and others. Many of these accidents are preventable and the toll is made more significant when viewed in terms of years of life lost. A life taken at an early age due to an accident may differ from a life taken by cancer by as many a 50–60 years.

Most accidents are attributable to correctable environmental and occupational hazards, to inappropriate product design, to product defects or to careless or uninformed consumer behavior.

Prevention requires changing certain behaviors as well as promoting safety measures which can reduce the risk factors associated with accidents.

Goal II. 8. *Fluoridation**.

COMMUNITY WATER SUPPLIES CONTAINING INSUFFICIENT NATURAL FLUORIDE SHOULD BE FLUORIDATED TO OPTIMUM LEVELS FOR THE PREVENTION OF DENTAL CARIES. IN AREAS WHERE COMMUNITY WATER FLUORIDATION IS NOT FEASIBLE, OTHER APPROPRIATE FLUORIDE MEASURES SHOULD BE IMPLEMENTED.

Tooth decay (dental caries) affects virtually every person in the United States and is the leading chronic disease in children. The caries susceptibility of teeth is significantly reduced by the optimum intake of fluoride from birth. For persons who do not obtain sufficient fluoride as it occurs naturally in their drinking water, fluoride measures are needed. The ingestion of fluoride from birth provides the greatest benefit and is accomplished most easily through the fluoridation of drinking water supplies. Community water fluoridation provides protection to the greatest number of people while requiring no conscious effort on their part, and it is the most effective and least expensive public health measure for preventing tooth decay.

Dental, medical, and statistical evidence and over 30 years of community experience show that the adjustment of the fluoride content of drinking water which is deficient in naturally-occurring fluoride to the optimum level for dental health is a safe and beneficial procedure that does not produce harmful effects. Among children who drink fluoridated water from birth, the rate of tooth decay can be reduced by as much as two-thirds, tooth loss can be minimized, and certain orthodontic problems prevented. The cost of providing dental care for children in fluoridated communities can be less than one-half the cost of children's dental care in fluoride-deficient communities. Reduction in the incidence of caries during childhood also can reduce the need for caries-related treatment and tooth loss in adulthood.

Most community water systems in the United States use water supplies that are fluoride-deficient in the natural state. The optimum fluoride concentration in this country ranges from 0.7 to 1.2 parts of fluoride per million parts of water (ppm) depending on a community's maximum average annual air temperature. For most communities the optimum is 1.0 ppm. Since 1945, more than 6,800 communities have initiated fluoridation. However, many thousands of communities which need to fluoridate have not yet done so.

Approximately 17 percent of the population, however, lives in areas that are not served by community water systems and many of these persons have fluoride-deficient independent home water supplies. School water fluoridation is appropriate for elementary and secondary schools that (1) are not served by community water systems, (2) are located in fluoride-deficient areas and (3) are attended by children with fluoride-deficient drinking water at home. Reductions of up to 40 percent in the prevalence of dental caries can be expected in children benefiting from school fluoridation. Because children drink school water only part of the time, the recommended fluoride concentration for school fluoridation is 4.5 times the optimum concentration for community fluoridation in the same area.

Once community and school fluoridation systems are implemented, they must be properly operated and monitored regularly in order to ensure that optimum fluoride levels for the most effective caries reduction are constantly maintained. State-administered fluoridation surveillance systems serve to assure that the results from monitoring each fluoridated water system, as collected over a period of time, are in compliance with the optimum fluoride concentration recommended for each system.

Self-administered fluoride measures also exist for use in community programs. Dietary fluoride supplements, usually taken in tablet form, and fluoride mouthrinses are easily administered in the school setting. However, these measures should not be implemented as a substitute for community or school water fluoridation because their benefits are not as great and they cost more, but they can be used in schools served by community water systems until such time as fluoridation can be implemented.

To obtain maximum results in preventing tooth decay in children, the fluoride measure most appropriate for each community should be complemented by effective school-based dental health education programs that instruct children and their parents in the importance of having sound teeth and motivate children to follow a proper personal oral hygiene regimen, to avoid highly-cariogenic foods and snacks particularly those containing refined sugars, and to have regular dental checkups. The prevention of dental caries through community water fluoridation and other measures is in line with the following National Health Priority (8) "The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services.

Goal II. 9. *Nutrition**.

PEOPLE SHOULD BE INFORMED ABOUT WHAT CONSTITUTES GOOD NUTRITION AND SHOULD BE ENCOURAGED AND AIDED IN OBTAINING A PROPER DIET

Adequate diets are critical in promoting health, preventing disease, and facilitating recovery and rehabilitation from illness or injury. Poor dietary habits may be linked with health problems such as heart disease, obesity, tooth decay, and possibly some types of cancers. An adequate diet should be determined in accordance with the Dietary Guidelines for Americans developed by the

Department of Health and Human Services and the Department of Agriculture.

The two major nutritional problems in our society are undernutrition caused by inadequate diets and obesity resulting from overeating and improper eating habits. Poor nutrition impairs an individual's ability to learn, work and function in other ways.

Obesity is the most prevalent and serious form of malnutrition and it occurs in all segments of the population. Obesity is a progenitor of other serious health problems. If it occurs in conjunction with hypertension, hyperglycemia, or hypercholesterolemia, it significantly increases the risk of developing heart disease. Moreover, statistics indicate that 80 to 95 percent of those who lose weight eventually regain it. Other forms of malnutrition are less prevalent but may have serious consequences for health and survival. Poor nutrition among pregnant women can increase their chances of delivering a low birth weight infant and increase the possibility that the infant's physical and mental develpment will be retarded. The failure of older people to receive a daily complement of essential nutrients can lead to malnourishment and debilitation. Poor oral health or improperly fitting dentures can contribute to this problem.

Malnutrition exists in the U.S. for reasons that are complex and highly interrelated with other socio-economic problems. Access to an adequate diet of nutritious food is limited by income, knowledge of what nutrients are wholesome and essential, and access to nutrition counseling services.

Consumer awareness of the relation between obesity, food consumption, and the incidence of disease needs to be increased. So should the ability to select (and prepare) more healthful diets. In particular, healthy eating habits need to be established at home and in schools. Educational programs for expectant parents and consultive programs for overweight children and their parents should be available. Weight reduction and weight maintenance programs should include psychological and social supports.

Promoting sound nutritional behavior is in line with the following National Health Priorities:

(8) "The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services."

(10) "The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services."

Goal II. 10. *Smoking*.*

COMMUNITIES, WORKING THROUGH ALL AVAILABLE INSTITUTIONS AND MEDIA, SHOULD STRIVE TO DISCOURAGE THE INITIATION OF THE SMOKING HABIT AMONG YOUNG PEOPLE, AND TO BREAK THE HABIT AMONG THOSE WHO SMOKE.

Cigarette smoking is the largest single preventable cause of illness and premature death in the United States. Smokers have a 70 percent greater rate of death from all causes than do nonsmokers, and tobacco is associated with an estimated 320,000 deaths annually. Among those diseases for which cigarette smoking is a causal or major risk factor are coronary heart disease, chronic bronchitis and other respiratory diseases, cancers of lung, oral cavity, larynx, pharynx, pancreas, kidney, urinary bladder, and peptic ulcers.

Other data also point to the interaction of smoking and various agents in increasing the risk of serious illness. These include oral contraceptives, alcohol, and such occupationally prevalent agents as asbestos. Finally, cigarette smoking has been linked to increased infant mortality, spontaneous abortion, and other complications of pregnancy.

Survey data suggests that the smoking habits of teenage and early-youth are major determinants of lifelong cigarette consumption. Since 1965, there has been a doubling of the rate at which 12- to 18-year-old women smoke. In a 1979 survey, the National Institute of Education reported that for the first time teenage women outnumbered teenage men as smokers. Smoking rates for women aged 17 to 24 also have risen and now exceed those for men. This trend has serious implications since mortality rates from all causes are significantly higher among those who initiate smoking earlier in life. It suggests that the teenage "experimental" phase of cigarette smoking may be the critical point for successful health intervention.

Communities should work together with business, government and voluntary groups on informational campaigns stressing specific health consequences, the effects of "passive smoking" (being in the same room with a person who is smoking), and the immediate benefits of cessation. The most significant benefits are the decline in the risk of lung cancer and heart disease, and the achievement of overall mortality levels comparable to those of people who never smoked. More emphasis also could be placed on enforcing no-smoking rules in public places, such as restaurants, grocery stores, offices, schools, work places, public area, and mass transit.

Campaigns directed at teenage smoking should focus on combating peer pressures, stressing the immediate physical, cosmetic and aesthetic consequences, and making use of research findings that show "significant adults" such as health professionals, coaches, parents and peers are powerful influences on teenage smoking. This could be accomplished via the school system or youth organizations. In particular, specialized programs of women should be introduced via social and health organizations.

The goal is in line with the following National Health Priorities:

(8) "The promotion of activities for the prevention of diseases, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services."

(10) "The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services."

Part III. Institutional and Personnel Resources and Systems of Care

A. Service Delivery.

Goal III.A.1. *Access to Care*.*

EVERY PERSON SHOULD HAVE ACCESS TO THE FULL RANGE OF HEALTH CARE SERVICES. EQUAL ACCESS TO NEEDED HEALTH CARE SERVICES FOR ALL POPULATION SUBGROUPS (INCLUDING RACIAL AND ETHNIC MINORITIES, THE ELDERLY, THE HANDICAPPED, AND LOW INCOME PERSONS) SHOULD BE FOSTERED THROUGH THE ELIMINATION OF FINANCIAL, PHYSICAL, GEOGRAPHIC, ORGANIZATIONAL AND OTHER BARRIERS UNRELATED TO THE NEED FOR CARE. PLANNING AND REVIEW DECISIONS MUST TAKE INTO ACCOUNT THE SPECIFIC HEALTH CARE NEEDS OF THESE GROUPS AND SHOULD GIVE A PRIORITY TO PROJECTS WHICH SEEK TO ADDRESS THESE NEEDS.

Access is the ability of a population or a segment of the population to obtain appropriate health services on the basis of need. The services available should include health promotion and protection, prevention and detection, diagnosis and treatment, habilitation and rehabilitation, and maintenance. The ability to obtain care, however, is often affected by economic and cultural factors, by transportation difficulties, language barriers, a lack of information, and exclusionary referral systems. Moreover, different population groups often confront such barriers as racial discrimination, geography, limitations on admissions, the actual availability of services and the emphasis placed on cost containment.

In directing efforts toward eliminating barriers to access, particular attention should be paid to discrimination against minorities, elderly, and handicapped persons as well as to children and persons living in rural areas. Attention should also be paid to population subgroups who because of cultural differences seek alternate kinds of care, such as traditional medicine congressional interest in assuring access is indicated in setting as a priority in session 1600 of P.L. 93-641:

"The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas."

A. *Discrimination.*

All health services must be provided on a non-discriminatory basis that assures access to quality health care for persons with limited or no ability to pay for services, for minorities and for the handicapped.

The problem of discrimination is compounded by inadequate housing, poor nutrition, high rates of unemployment and other economic and social factors, and contributes to different rates of illness, disability and death for minorities and the handicapped. Given these problems, access to health care is particularly important for disadvantaged populations.

Barriers to access because of race or national origin are not acceptable in the United States. Neglect and insensitivity have established these barriers to access. Proper concern for equal health care can remove them.

The denial of access resulting from historical patterns of discrimination based on race, national origin, and subtle factors

related to socioeconomic status are reflected in many ways, such as the construction of facilities away from public transportation or the relocation of hospital facilities to suburban areas with a corresponding decrease of services to inner city communities. By being alert to these patterns, Health Systems Agencies can act to counter them and thereby avoid their negative consequences.

B. *Geographic Barriers.*

Geographic proximity for minorities, elderly, and handicapped persons should be maintained in hospital site relocation.

Transportation services should exist to assure access to health care facilities, particularly for minorities, elderly and handicapped persons. They should be developed, as necessary, when medical services are relocated.

C. *Admissions Limitations.*

Equal access to appropriate health care shall be available regardless of the patient's method of payment. Preadmission deposits should not prohibit access to health care for minorities, elderly or handicapped persons.

Patient or provider referral systems shall not prohibit access to health care for minorities, elderly or handicapped persons.

Admission to hospitals shall be accessible to all in need of services. Utilization by minorities, elderly, children, and handicapped persons should be proportionate to their identified health needs.

Arrangements for staff privileges shall assure equal access to all community facilities for both physicians and patients while assuring qualified staff selection.

Arrangements shall be made to ensure that there is appropriate access from freestanding and community clinics into secondary and tertiary facilities. This is especially important in rural areas.

The number of minorities, elderly, children, handicapped persons and Medicare/Medicaid recipients served by health care facilities shall be proportionate to the identified health needs of such groups who reside in the facilities, service area.

D. Availability of Services.

Every facility certified as Medicare/Medicaid eligible should provide all services available within the facility to Medicare/Medicaid recipients

Bilingual services (interpretors, dual language notices, etc.) should be provided to assure accessibility of services in those facilities to persons of limited English-speaking ability.

Special assistance should be provided for handicapped individuals to assure availability of services.

Where public and other hospitals close or decrease their services, access to necessary services should be maintained by other facilities within the community. This is particularly important for health care services in rural areas.

E. Cost Containment.

Some efforts at controlling health care costs may pose special adverse consequences for low-income and minority persons. Cutbacks directed toward hospital outpatient clinics and emergency rooms, for example, may deprive them of their only means of obtaining primary care services.

Cost containment efforts should be directed toward services or facilities, which if curtailed or diminished, will not disrupt access to care for medically underserved populations including the poor, minorities, the handicapped, the elderly, or other disadvantaged groups.

GOAL III.A.2. *Primary Care*.*

a. *Supply.*

THE SUPPLY OF PRIMARY CARE PHYSICIANS IN A HEALTH SERVICE AREA SHOULD BE AT LEAST ONE PHYSICIAN PER 2,000 POPULATION. UNDER CENTAIN CIRCUMSTANCES SERVICES SHOULD BE ENHANCED THROUGH MORE EFFECTIVE UTILIZATION OF OTHER HEALTH PERSONNEL, INCLUDING PHYSICIANS' ASSISTANTS AND NURSE PRACTITIONERS

A ratio of at least one primary care physician to 2,000 persons is needed to provide a minimum level of primary care services. A primary care physician has been defined for this purpose to include general and family practitioners, internists, obstetricians-gynecologists, and pediatricians. Deliberate measures should be taken to bring resources up to this goal in medically underserved areas.

The goal of at least one primary care physician per 2,000 population is based upon the analyses of a joint Health Resources Administration—Health Services Administration Task Force reviewing primary health care needs in health manpower shortage areas. The Task Force concluded that a ratio of one primary care physician per 3,500 persons should be used in designating an area as a primary care health manpower shortage area. This ratio represents the lowest quartile of the United States in 1974 in terms of primary care physicians and now is used as a basis for justifying Federal intervention through a placement of National Health Service Corps personnel. Following intervention, efforts are directed toward improving the ratio to a level of one primary care physician per 2,000 population. When the ratio is better than one per 2,000, the physician/population ratio is considered to be adequate.

The ratic was based upon a range of views and practices with regard to the availability of health manpower. In 1974, for example, the median ratio for primary care physician to the population was approximately one to 2,500. On the other hand, large Health Maintenance Organizations reportedly averaged about one primary care physician per 1,500 enrollees and one primary care physician for every 1,200 enrollees who actually use the services. Studies of fee-for-service primary care practices in some rural areas indicated a ratio of one per 2,000 was adequate. Other studies indicated that a greater ratio may be needed when the age and productivity of the physician were considered.

The ration of one primary care physician per 2,000 people thus constitutes a minimum standard and does not necessarily indicate either productivity or the availability of primary care to all population groups on an equivalent basis. Cultural, racial, socioeconomic and geographic barriers may, in fact, leave part of the population without a primary care physician while other segments of the population enjoy a surplus.

Each HSA should be responsible for determining whether the needs of different population groups within its area are being met. Poor health indices could be one indicator of unmet needs. Particular attention should be given to the adequacy of coverage to meet the needs generated by seasonal population shifts with the influx of agricultural workers and tourists into rural areas.

The Graduate Medical Education National Advisory Committee (GMENAC) was established in 1976 to make recommendations to the Secretary on the present and future supply of, and requirements for, physicians; their specialty and geographic distribution; and methods to finance graduate medical education. Part of its work also includes an analysis of primary care physicians. The final report, due in 1980, may be helpful in further refining this goal.

Physicians' assistants and nurse practitioners enhance the range of primary care services offered and can help increase the overall availability of health care services when a shortage is projected, especially in rural areas. The number of graduates of nurse practitioner and physicians' assistant programs has been increasing in recent years, and the use of these graduates should be encouraged. Experience has demonstrated that nonphysicians health care provides have been accepted both by patients and by the physicians who work with them; that nonphysician providers can provide a cost-effective mechanism for expanding services in a number of settings; that the quality of their service is satisfactory; and that there are some services, such as patient education, which may be better carried out by nonphysicians.

Nurse practitioners and physicians' assistants should work within the limits of existing State medical practice laws. However, in some States, overly restrictive laws continue to inhibit the exercise of the full range of capabilities for which these types of personnel are trained. States should review their medical practice laws and make appropriate recommendations.

The concern of the Congress about primary care and the training and employment of nonphysician primary care personnel is expressed in their setting as National Health Priorities:

(1) "The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas."

(4) "The training and increased utilization of physicians' assistants, especially nurse clinicians."

Goal III.A.2. *Primary Care.**

b. *Balance Among Medical Specialties.*

TO THE EXTENT THAT SHORTAGES OR EXCESSES OF PRIMARY CARE PERSONNEL OR MEDICAL SPECIALTIES EXIST AND ARE DOCUMENTED, THESE IMBALANCES SHOULD BE CORRECTED

The problems of rising costs, restricted access, and proliferation of inappropriate services will continue if a balance is not struck between the medical service needs of a health service area and the specialty and geographic distributions of medical service providers. The trend in medicine until very recently has been towards the development of highly trained subspecialists and the subsequent lack of physicians in general practice.

Until the early 1970s, a shortage in the supply of medical manpower was considered to be the major manpower problem. More recently, the problems have shifted to those of specialty and geographic maldistribution. Minorities, the elderly and other underserved groups, such as people in rural areas, face significant problems because of the maldistribution of primary care physicians. Accordingly, Federal policy has shifted its emphasis from increasing the number of physicians to producing a different mix of medical practitioners and encouraging their locations in areas of relative shortages.

Increasing the availability of primary care personnel; decreasing residencies and third party payments in certain specialty areas; and increasing residencies and the availability of third party reimbursement to primary care practitioners are among the measures which should be considered to correct these imbalances.

The 1980 final report of GMENAC mentioned in the discussion of the preceding goal, should be valuable in providing further direction for achieving this goal.

Efforts to assure an appropriate balance among medical specialties are in line with the following National Health Priorities:

(1) "The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas."

(13) "The adoption of policies which will (A) contain the rapidly rising costs of health care delivery, (B) insure more appropriate use of health care services, and (C) promote greater efficiency in the health care delivery system."

Goal III. A. 2. *Primary Care.**

c. *Integration of Mental Health.*

THE INTEGRATION OF MENTAL HEALTH SERVICES IN GENERAL HEALTH CARE DELIVERY PROGRAMS SHOULD BE INCREASED THROUGH IN-SERVICE MENTAL HEALTH TRAINING OF PRIMARY CARE PROVIDERS AND PLACEMENT OF MENTAL HEALTH PROFESSIONALS IN PRIMARY CARE PROGRAMS

Of the total number of people affected by mental disorders only about 20 percent were estimated to be seen in the specialty mental health sector. About 54 percent are seen in the health sector (but not in the specialty mental health sector); and 6 percent are seen in both. The remaining 20 percent are either seen in other human service sectors, or they are not seen at all. It is imperative, therefore, that the need and demand for human resources to treat mental disorders be viewed in the context of the entire health/mental care system.

Mental health training of general health care personnel and the use of mental health personnel in primary health care settings both should be increased to open up opportunities for effective mental health care and treatment. In order to improve mental health, prevent mental illness and insure the provision of appropriate, effective, high-quality treatment and rehabilitative services in the least restrictive setting for persons of all ages and cultural backgrounds, it is important to develop a partnership in the delivery of mental health, health services and other support services. Particular attention should be paid to the development of community-based mental health services in rural areas where the population base is limited and costs may be greater.

Mental illness contributes substantially to disability among adults in this country. Growth of community mental health services in recent decades has made resources for mental health promotion more available in local communities. But close relationships between mental health and other health and support services need to be fostered. The diverse problems of those with mental illness require a broad range of mental health services.

Prevention efforts can be improved by improving the ability of health, social service and other support service personnel to recognize and prevent mental illness. This first contact recognition can take place within the health service system. Chronically mentally ill children and adults need mental health services and support systems to assist them in living productive lives outside traditional institutional settings.

The quality of mental health care depends ultimately on the knowledge, skills and sensitivity of those providing it. Although there has been a marked increase in the number of professional and paraprofessional mental health practitioners, there still is a shortage of trained personnel especially in rural and poor urban areas and for dealing with children, adolesents, the elderly, and minority groups. Efforts should be directed towards assuring that personnel are trained to be culturally sensitive, and that personnel are employed whose own cultural and linguistic backgrounds are appropriate in light of the person to whom services are provided. Curricula and training materials should be developed and information disseminated to all health manpower dealing with mental health. These should be relevant to the group being trained and to the priority area in the community. Substantial increases in the training and retraining of such personnel are necessary for quality mental health care to be delivered throughout the health care system.

The integration of mental health services in general health care delivery programs is in line with the following National Health Priority:

(16) "The promotion of those health services which are provided in a manner cognizant of the emotional and psychological components of the prevention and treatment of illness and maintenance of health."

Goal III. A.3. *Mental Health**.

AN INCREASING PROPORTION OF MENTALLY ILL PATIENTS SHOULD BE RESTORED TO PRODUCTIVE LIVING BY:

a. DEVELOPING COMMUNITY-BASED SERVICES FOR UNSERVED, UNDERSERVED OR INAPPROPRIATELY SERVED POPULATIONS, ESPECIALLY CHILDREN AND YOUTH, THE AGED, THE CHRONICALLY MENTALLY ILL, RACIAL OR ETHNIC MINORITIES, POOR PERSONS, AND PERSONS IN RURAL AREAS,

b. MINIMIZING UNNECESSARY OR INAPPROPRIATE INSTITUTIONALIZATION AND ENSURING THAT PERSONS REQUIRING LONG-TERM RESIDENTIAL CARE DUE TO MENTAL ILLNESS OR DISABILITY RECEIVE SUCH CARE IN THE LEAST RESTRICTIVE SETTING WHICH ASSURE HIGH QUALITY CARE AND SERVICES APPROPRIATE TO THE PATIENT'S NEEDS, AND

c. PROVIDING ECONOMICAL AND HIGH QUALITY HEALTH FACILITIES FOR CHRONIC MENTAL PATIENTS WHO REQUIRE PROLONGED PERIODS OF CARE.

Larger numbers of mentally disabled people are now living outside of mental hospitals. Reliance on hospitals for long-term care of such persons is expected to continue to diminish. These costs of hospitalization are too high and the human and civil rights issues too complex to maintain traditional patterns of institutional care.

For severely emotionally disabled persons to benefit from being released from mental institutions, they must have long-term access to rehabilitative and supportive services in the community, including assistance with living arrangements, jobs, and other problems of everyday life.

In spite of successes with deinstitutionalization programs, there will continue to be a residual population needing protection and residential care for prolonged periods of time. The size of this population is still undetermined, but it will number in the thousands and be housed in State hospitals and nursing homes. The HSA must address the needs of these people and assure that they continue to receive appropriate care and rehabilitative services at a reasonable cost in the least restrictive setting.

In development of standards for long-term care of the mentally ill, it is necessary to make the following assumption: all mentally ill patients requiring long-term care do not need the same level of care nor should all care be provided in the same type of facility.

The goals of providing appropriate care and treatment, rehabilitative and supportive services, and education and re-training should be provided in the least retrictive setting and at a reasonable cost. Selection of the appropriate facility should be based upon an assessment of the individual's short and long-term goals, the type of treatment and other resources required, and the services needed to assist patients in attaining their maximum potential for independent living, whether within or outside the facility setting. The physical well-being and the personal and emotional welfare of the individual should be the prime concern of those who make decisions about the adequacy,

appropriateness and timeliness of the care and treatment being provided.

Estimates are that the chronic care population currently exceeds 1.5 million persons. At present though, thousands of mentally disabled persons remain in State hospitals or continue to enter and reenter them, primarily because few community programs are available. Many thousands more have been and continue to be released with inadequate provision for their care in the community. In other instances, people may return to State hospitals because they are inappropriately treated and/or released to the community too soon.

A variety of community-based living arrangements linked with mental health, health and other human services must be developed on a much broader scale than is presently available. Services must also be available for individuals who require inpatient care.

In line with efforts to assure access to appropriate care for the mentally ill, HSAs should seek to (1) reduce the admission rate to State and county mental hospitals to less than 180/100,000; (2) reduce the average length of stay in State and county mental hospitals to less then 25 days per episode; and (3) reduce the number of resident patients in State and county mental hospitals to less than 70/100,000.

The National Institute of Mental Health developed these targets by using National averages for 1977, the last year for which National data was available. In working toward these targets, HSAs should be aware of any extenuating circumstances which exist in their area and also take note of the fact that most State mental hospitals serve areas that are larger than a single HSA.

The goals are in line with the following National health Priorities:

(14) "The elimination of inappropriate placement in institutions of persons with mental health problems and the improvement of the quality of care provided those with mental health problems for whom institutional care is appropriate."

(15) "Assurance of access to community mental health centers and other mental health care providers for needed mental health services to emphasize the provision of outpatient as a preferable alternative to inpatient mental health services."

(16) "The promotion of those health services are provided in a manner cognizant of the emotional and psychological components of the prevention and treatment of illness and maintenance of health."

GOAL III. A. 4. *Child Mental Health*.*

SERVICES SHOULD BE AVAILABLE TO IMPROVE THE LEVEL OF SOCIAL AND COGNITIVE FUNCTIONING FOR CHILDREN IDENTIFIED AS "MOST IN NEED" OF MENTAL HEALTH SERVICES.

The President's Commission on Mental Health (PCMH) called for an increased commitment of resources to the underserved, a group which includes children, adolescents, and the chronically mentally ill. Within this group, children who have a combination of mental health, developmental and physical problems are among the most neglected of all in the services system, and therefore, qualify as those children "most in need" of mental health services.

Between 1.5 and 2.0 million children suffer from psychotic or affective disorders, or have severe problems adapting to the social environment, or suffer from other conditions that impede growth and development (such as chronic handicapping conditions, poor nutrition and disruptive family structures.) These children also experience serious access problems to services. They comprise 2 to 3 percent of the total child population. While this represents a comparatively small group in terms of the overall number of children and youth who experience all forms of psychiatric disorders, this group requires the most services and resources over time, has serious effects on family members and the community, and experience chronic conditions that can become the precursors to more serious adult mental health disorders.

Providing services to this particular group requires that may different resources be organized and coordinated. Yet at the present time, such basic items as clear entry points into service systems on behalf of children are difficult to identify. Often one is confronted with such a maze of programs and services, which themselves are fragmented and discontinuous, that they constitute the epitome of a "non-system." Coordinated working relationships between service components at any level—community, State, Federal—are as unusual as the cooperative uses of available funds and professional resources. Lack of well-prepared, competent personnel appropriate to a service need is another general barrier to the delivery of services. Sometimes services are simply not available.

The particular target population for this proposal will include children aged 5 to 17 who can not be identified, and whose mental health status can be tracked through the requirements of P.L. 94–142 (Education for all Handicapped Children). Under this legislation, an individual Education Plan will be developed for each handicapped child, including the seriously emotionally disturbed. This will provide baseline data for the "most in need" target group.

Experience with these interventions allows us to anticipate that social and cognitive functions will improve for these children identified as "most in need".

This goal is in line with the following National Priorities:

(14) "The elimination of inappropriate placement in institutions of persons with mental health problems and the improvement of quality of care provided provided those with mental health problems for whom institutional care is appropriate."

(15) "Assurances of access to community mental health centers and other mental health care providers for needed mental health services to emphasize the provision of outpatient as a preferrable alternative to inpatient mental health services."

(16) "The promotion of those health services which are provided in a manner cognizant of the emotional and psychological components of the prevention and treatment of illness and maintenance of health."

Goal III. A. 5. *Alcoholism and Drug Abuse **

ALCOHOLISM AND DRUG ABUSE SERVICES SHOULD BE ORGANIZED IN WAYS THAT FURTHER THE DEVELOPMENT OF COMPREHENSIVE COMMUNITY-BASED PREVENTION AND TREATMENT SERVICES WHICH ARE INTEGRATED INTO THE MAINSTREAM OF HEALTH CARE

The availability of adequate alcoholism treatment resources should be increased, and accessibility to those resources facilitated as a routine part of health care. Efforts are currently under way to expand coverage of alcoholism treatment by third party payors. Insurance generally covers approximately 65 percent of the costs of diseases other than alcoholism. Similar coverage for alcoholism treatment should be provided.

Health care professionals in all treatment settings should be responsible for assuring that alcoholism is treated as a routine part of health care and that there is no discrimination against the alcoholic patient. This requires increased emphasis on integrating alcohol education into the curriculum and training programs for health providers and allied professionals. The trend toward outpatient treatment should be maintained and encouraged.

There is also a need for increased awareness among the health care community of the relation between alcohol consumption and a variety of medical disorders (including cardiovascular problems, malnutrition, cirrhosis, pancreatitis, gastritis, certain cancers, Wernicke-Korsakoff's Syndrome, depression, and fetal defects) in addition to the disease of alcoholism itself. Health care providers should consider the drinking patterns of their patients when diagnosing their presenting complaints and developing treatment plans, so as to ensure that the cause and any complicating factors as well as the symptom are being dealt with. In addition, particular care should be paid when prescribing drugs for individuals who also drink alcoholic beverages. Alcohol is known to interact in an adverse and sometimes life-threatening manner with many of the most frequently prescribed drugs. In addition, the use of alcohol can alter the expected therapeutic and/or adverse medical effects of many commonly prescribed medications.

Of the more than 92 million people in the work force, more than 6 percent are estimated to have problems with alcohol. Occupational programs have proven extremely effective in dealing with this problem.

In occupational programs funded by the National Institute on Alcohol Abuse and Alcoholism, results 180 days after treatment have shown that approximately 70 percent of patients are improved. Measures include 51 percent decrease in "impairment;" an 11 percent decrease in absenteeism; a 73 percent decrease in the number of days when alcohol was consumed; and 16 percent increase in days worked.

In terms of cost savings, the U.S. Postal Service reports saving $1,869 per person per year in sick leave and leave without pay since beginning its occupational program. The Federal Civil Service estimates that an expenditure of $5 per Federal employee or approximately $15 million a year, will result in savings ranging from $135 to $280 million.

There is growing evidence of alcohol associated problems among women and youth. Special attention should be developed to the treatment needs of these population groups.

In the area of drug abuse, treatment and rehabilitation services should be strengthened by also assuring that drug abuse services are routinely available and that an organized program of comprehensive drug abuse services exist for all residents of the health service area. Because of the failure of our traditional systems to provide such care, the drug abuse treatment system has evolved almost entirely during the past decade.

Goal III. A. 6. *Dental Services* *

DENTAL SERVICES SHOULD BE AVAILABLE TO ALL PERSONS WHO WOULD SEEK DENTAL CARE IF IT WERE REASONABLY ACCESSIBLE; AN INCREASING PROPORTION OF PERSONS SHOULD REGULARLY SEEK AND OBTAIN ADEQUATE DENTAL SERVICES

To maintain optimal oral health, every person from about age three throughout life needs to have regular dental checkups and to receive prompt treatment of oral diseases and conditions as they occur. Yet, each year only one half of the population visits a dentist and some of these persons seek less than adequate care. Almost 10 percent of the population has never been to a dentist.

Accordingly, the unmet dental treatment needs of the population are extensive. In the early 1970's, 64 percent of persons 1–74 years of age had unmet dental treatment needs. Among age groups, the percentage of persons needing dental treatment ranged from 73 percent among persons 18–44 years of age to 17 percent among children under age six. About 69 percent of persons whose family incomes were below $10,000 had unmet treatment needs, as compared to 62 percent of persons with family incomes of $10,000–$14,999 and 54 percent among persons with higher family incomes.

There are a variety of reasons why persons do not routinely seek dental care. Many persons cannot affort it. Unlike medical care which is largely financed through private and public third-party payment mechanisms, dental care is a direct out-of-pocket expense for most of the population. Many persons do not comprehend the importance of oral health and the need for regular dental care. Even among high-income persons and persons eligible for dental care under public or private third-party plans, many are not motivated to seek dental care.

In addition, many persons encounter other barriers which prevent or discourage them from seeking dental care. Rural and inner-city residents often find it too time-consuming, expensive or inconvenient to travel to the nearest dental facility. Some parents cannot afford to take time off work to take their children to a dentist or they do not appreciate the importance of doing so. Handicapped persons frequently encounter architectural barriers to entering a dental facility or within the dentist's operatory. Elderly and handicapped persons often have difficulty in locating a dentist who is trained to provide the special patient-management and clinical services they require. Dental services are not available to many persons who reside in institutions or to most who are homebound.

Comprehensive dental care services should be equally available to all persons who would seek care if a dentist was reasonably accessible. All of the barriers to the receipt of dental care can be addressed in the health planning process. Areas with adequate but maldistributed dental manpower resources need to develop community measures to make the existing dental services resources more accessible to and utilized by underserved population groups. For example, school-based programs can be developed to motivate parents to seek dental care for their children and to arrange transportation for children to visit dental offices or clinics. Dentists can be encouraged to work part time in community health facilities that are nearer to underserved population groups and to accept patients covered by third-party plans. In areas where dental services resources are not sufficient to serve the potential demand of the general population, measures are needed to encourage new dentists to locate in the area and dentitsts already there to increase their service load through, for example, more effective utilization of auxiliary personnel. Other measures appropriate to all areas include development of dental health education programs to inform the general public of the importance of dental health and to motivate more persons to seek dental care on a regular basis, and measures to coordinate and facilitate dental services for all persons who are eligible under third-party programs.

Dental treatment services are provided by a dentist or by a dental auxiliary under the supervision of a dentist. Recent data indicate there are an estimated 36,770 dental hygienists, 144,700 dental assistants, and 45,000 dental lab technicians working with the approximately 123,500 dentists. For most areas designated as having a personnel shortage sufficient to justify the placement of National Health Service Corps dentists, a ratio of one dentist to 5,000 persons has been adopted. Nationally, there is one dentist for every 1,912 persons. Most dental services are provided in private dental practices; however, services can be made more accessible to underserved persons by establishing dental programs in hospital out-patient clincis, community health centers, National Health Service Corps sites and other community-based settings.

In determining the need to improve the availability and accessibility of an area's dental services resources, the adequacy of existing dental manpower resources needs to be assessed in light of the requirements of the population and other local considerations. Assessment of an area's dentist resources includes consideration of factors such as the amount of time the dentists devote to their practices, the geographic distribution of the dentists within the area, the dental treatment needs of the population, the potential demand for dental care, and the availability and utilization of dental auxiliary personnel.

Dental treatment needs vary from area to area depending upon factors such as the prevalence of oral diseases (primarily dental caries and periodontal disease), the age and ethnic composition of the population, and the adequancy of care received by the population in the past. The need for dental care in a population can be decreased over time through implementation of appropriate preventive measures and provision of comprehensive care to more persons.

Current potential demand for dental care is greater than utilization because it also reflects the treatment needs of persons who would seek and obtain care if dental services were reasonably accessible. Potential demand can be increased by motivating persons to seek regular dental care, improving the distribution of dentists within an area, and eliminating other barriers to access.

The effective utilization of dental auxiliaries is essential to increasing dentists' productivity and making limited dentist resources available to more people. The appropriate mix of dental auxiliaries in a private practice or a dental clinic creates a dental care team that can increase the quantity and comprehensiveness of services a dentist can provide and has the potential for maintaining or lowering the cost of care. Improving access to dental services is in line with the following National Health Priority:

(1) "The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas."

B. *Systems of Care*

Goal III.B.1. *Regionalization* *.

PROVIDERS OF HEALTH SERVICES SHOULD BE ORGANIZED INTO REGIONALIZED NETWORKS WHICH ASSURE THAT VARIOUS TYPES AND LEVELS OF SERVICES ARE LINKED TOGETHER TO FORM COMPREHENSIVE AND EFFICIENT SYSTEMS OF CARE. THESE NETWORKS SHOULD WORK TO IMPROVE ACCESS TO HEALTH SERVICES, ELIMINATE UNNECESSARY DUPLICATION OF SERVICES, AND IMPROVE QUALITY.

The health care system is a complex arrangement of medical and human services subsystems, personnel, institutions, and organizational arrangements. It includes a great number and variety of individuals and institutions providing primary, secondary, and tertiary care.

"Regionalization" of health services refers to a process which brings providers and consumers together within a defined geographic area by linking functionally-related facilities and services together in a formal, structured and coordinated manner in terms of the complexity of care required. Coordinating all the obstetrical or pediatric care within a given area would be an example of regionalization.

There is a growing consensus that regionalization represents a major step toward improving access, efficiency and quality of care. Regionalization can increase access by pooling resources. Communications links among providers can improve access by making it possible for providers to have more services and information available for individual patients and to better coordinate patient care. Regionalization also provides a greater asset base from which to develop new services and thus can reduce provider risk. Regionalized systems can improve the

quality of care by eliminating low volume services where appropriate or assuring that the individuals who provide a limited amount of special services are qualified to perform this particular work. Improved access to basic levels of care also can be achieved in rural areas through regionalized networks.

When fully developed, a regionalized system of health care should establish minimum standards of care; emphasize decentralized delivery of primary care services; and limit unnecessary inpatient care and the inappropriate duplication of services within an immediate area, thereby releasing resources for other needed health-related uses.

The organizational relationships and the conditions and responsibilities involved in a regionalized network should encompass the services of both public and private institutions.

Regionalization could have the inadvertent effect of decreasing access to care for medically underserved populations. It is important that regionalized systems be carefully planned to increase access to basic levels of care while concentrating complex services in the most appropriate and accessible institutions.

In developing regionalized networks, mechanisms should be developed that assess the health needs of the population within a given area and to organize an appropriate response in terms of personnel, facilities and equipment. Local and State planning agencies should work with local health care institutions to update and develop, in more detail, demographic and epidemiologic information about the population to be served, their health care needs, and the available resources.

Public discussion of health care priorities should be undertaken to gain a clear idea of regional health care needs and to pinpoint major deficiencies in the delivery system. Planning and health care institutions should explore new ways for public and private groups to cooperate in planning and developing regionalized systems and in establishing quality control and accountability systems.

Strong Congressional interest in developing organized systems of care is indicated in the following National Health Priorities:

(2) "The development of multi-institutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric emergency medical, intensive and coronary care and radiation therapy services.)"

(7) "The development by health services institutions of the capacity to provide various levels of care (including intensive care, acute general care, and extended care) on a geographically integrated basis."

(12) "The identification and discontinuance of duplicative or unneeded services and facilities."

(13) "The adoption of policies which will (A) contain the rapidly rising costs of health care delivery, (B) insure more appropriate use of health care services, and (C) promote greater efficiency in the health care delivery system."

Goal III.B.2. *Multi-Institutional Systems and Shared Services*.*

EFFICIENCY AND PRODUCTIVITY OF HEALTH CARE INSTITUTIONS SHOULD BE FURTHERED THROUGH THE DEVELOPMENT OF MULTI-INSTITUTIONAL ARRANGEMENTS FOR THE SHARING OF CLINICAL, ADMINISTRATIVE AND SUPPORT SERVICES.

The continuing escalation in health care costs, and the widespread recognition that unnecessary duplication of facilities and services contributes to this escalation, has led many institutions to take an increased interest in shared services and other cooperative efforts. "Sharing" may include the buying and selling of services; agreements that particular institutions will specialize in particular services; or the joint production of services among health care organizations.

The hospital literature of recent years has reflected a high level of interest in, and experience with, the sharing of both clinical and support services. Support and administrative services, such as laundry and data processing, have been shared by American hospitals for several decades. During the 1970s, sharing has occurred in such clincial areas as emergency medicine, obstetrics, pediatrics, respiratory care, and cardiac intensive care.

Sharing, particularly if implemented through an arrangement involving centralized management of multiple institutions, may offer a number of benefits. These include cost savings through economies of scale as well as improvements in access and/or the quality of services. Multi-institutional systems, which should facilitate shared services, may also provide benefits such as the more efficient use of capital; the ability to afford a range of specialized managers and other professionals whose cost would preclude their frequent use by small hospitals acting alone; the financial ability to sustain hospitals that are needed for reasons of access, but whose income is insufficient to maintain a completely independent institution; more comprehensive, efficient data systems and computer support than many institutions could obtain by themselves; and improved capability to monitor the quality of medical and other key personnel.

Even though these arrangements may or may not involve organizational or staffing changes, any of them, when broadly defined, may be considered a "multi-institutional system." In other words, multi-institutional arrangements can range from a purely informal approach in which a group of hospital administrators meet periodically to discuss issues of mutual interest, to a full merger in which at least one institution changes its legal status.

The following are among the types of sharing arrangements which HSAs should consider:

Association—A group with voluntary membership which meets to discuss mutual concerns, and where the main purpose is broad representation. The metropolitan hospital council is an example.

Consortium—An entity created by a group of hosptials to coordinate institutional planning. An early example was the Capital Area Health Consortium in Hartford, Connecticut.

Affiliation—An arrangement in which two or more institutions agree to share parts of a program, such as student rotations and systems for patient referral.

Multiple Unit System or Multiple Hospital Management—An arrangement in which two or more legally separate hospitals are managed by a single corporate entity.

Contract Services—Arrangements in which an outside organization provides, under contract, a support or administrative service such as laundry, food or plant operations.

Contract Management—An arrangement in which the owner or board of trustees of a health institution contracts with an outside organization to manage the institution on a day-to-day basis, although the manged institution retains its legal responsibility and ownership.

Merger—The legal integration of two or more formerly separate organizations.

Strong Congressional interest in the development of multi-institutional arrangements and the sharing of services in this manner is indicated in the following four National Health Priorities:

(2) "The development of multi-institutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric, emergency medical, intensive and coronary care and radiation therapy services."

(3) "The development of medical group practices (especially those whose services are appropriately coordinated or integrated with institutional health services), health maintenance organizations, and other organized systems for the provision of health care."

(5) "The development of multi-institutional arrangements for the sharing of support services necessary to all health service institutions."

(7) "The development of health service institutions of the capacity to provide various levels of care (including intensive care, acute general care, and extended care) on a geographcially integrated basis."

(12) "The identification and discontinuance of duplicative or unneeded services and facilities."

Goal III.B.3. *Emergency Medical System*.*

NETWORKS OF EMERGENCY MEDICAL SERVICES SYSTEMS SHOULD BE DEVELOPED AND IMPROVED IN ORDER TO EFFECTIVELY COORDINATE THE DELIVERY OF EMERGENCY MEDICAL CARE TO ALL WHO REQUIRE IT

Until a few years ago, those who were critically ill or injured often were beyond emergency medical help. Today many of these lives can be saved if both initial and rehabilitative care are given in time and the patient is moved through an organized system and provided with essential medical care.

The passage of the Emergency Medical Services Systems (EMSS) Act of 1973 (P.L. 93-154), as amended by Congress in 1976 (P.L. 94-573) and again in 1979 (P.L. 96-142), has provided the mechanism and funds for communities to develop regional emergency medical services systems across the country.

The development of an Emergency Medical Services System (EMSS) usually starts with an initial upgrading of existing resources and

then progresses through periods of increasing sophistication. The goal of the system is to meet the needs of all patients requiring urgent care in the system's service area, but particularly to meet the needs of the most critical emergencies. The function of the regional EMS operational and organizing unit is to intergrate EMS services within an entire medical-geographical area in order to provide the best possible emergency care to the people living in that region.

Considerable improvements are now being made in the delivery of emergency medical care through the application of Federal and National consensus standards to EMS systems. Regional EMS programs have begun to categorize hospitals with respect to their capabilities in handling general emergency patients, and with respect to the facilities, equipment, and staff available to meet the needs of the most critical patients in such areas as trauma, spinal cord injury, burn, poisoning, acute cardiac failure, high risk infants, and behavioral emergencies.

This Goal is in line with the following National Health Priority:

(2) "The development of multi-institutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric, emergency medical, intensive and coronary care, and radiation therapy services)."

Goal III.B.4. *Options for Care*.*

EVERY RESIDENT WITHIN THE HEALTH SERVICE AREA SHOULD HAVE AVAILABLE THE WIDEST POSSIBLE RANGE OF OPTIONS FOR HEALTH CARE SERVICES WITH RESPECT TO BOTH THE ORGANIZATIONAL MODEL FOR DELIVERY AND FINANCING MECHANISMS

a. THE OPTION OF JOINING A FEDERALLY-QUALIFIED OR SIMILARY CONSTITUTED HEALTH MAINTENANCE ORGANIZATION, SHOULD BE AVAILABLE TO EVERY RESIDENT.

b. THE NUMBER OF GROUP PRACTICE ARRANGEMENTS FOR THE DELIVERY OF MEDICAL CARE SHOULD BE SUBSTANTIALLY INCREASED.

Residents of any given community should have the option of choosing the type of health care system most sutiable for their individual needs. To make such choices possible, federally-qualified or similary constituted HMOs should be available within each health service area.

The opportunity for consumer choice should cause competing delivery systems to function in a manner that will help achieve goals of the Health Planning Act which are intended to improve the health status of all Americans. HSAs should actively encourage the development of HMOs in a cost-effective manner within their service areas in order to assure the existence of alternatives to the traditional free-for-service delivery system.

HMOs have received extensive public support within the past decade. As of June 1979, 8,226,053 Americans were enrolled in prepaid health plans, with 5,646,554 of them enrolled in federally "qualified" HMOs. These are HMOs which have met all the requirements of Title XIII of the Public Health Service Act. Title XIII of the Public Health Service Act recognizes basically three models of HMOs, the staff, medical group or individual practice association (IPA). Both the staff and medical group or models deliver services at one or more locations through contract with a group of physicians or through its own physicians, who are employees of the HMO. The IPA delivers services through physicians who usually practice in their own offices and see HMO members there.

HMOs are both a financing mechanism and a delivery system. For fixed periodic fee, they provide their enrolled members with the health care services they need, without regard to the cost of the service required. As a delivery system, HMOs assume the responsibility for arranging or directly providing care to a voluntarily enrolled membership.

A variety of incentives exist within the structure to control costs and assure the most appropriate use of health care services. Because the HMO directs and coordinates the health care services received by the enrolled membeship, the HMO is able to determine the most apropriate location of service and the most suitable level of treatment. Unnecessary inpatient care is avoided through the HMO's ability to provide care on an ambulatory basis, usually in its own facilities. Mid-level Practitioners may be employed to assure that needed care is rendered by personnel trained at a level indicated by the patient's particular condition.

HMOs have demonstrated an ability to effect desirable changes in the delivery of health care services as well. They have achieved lower hospitalization and surgery rates for their patients, as compared to patients covered by other health insurance plans. Because services are prepaid, patients are more likely to seek care early in the cycle of illness, when curative measures may be most effective. It is important that all consumer including medically underserved populations have the opportunities to benefit from these comprehensive prepaid services. These programs emphasize preventive health maintenance as well as therapeutic and curative measures. In doing so, they serve to reduce the overall cost of care.

Particular attention should be given to the development of HMOs in rural areas. At a minimum, the feasibility of establishing these alternative systems of health care in rural areas should be explored. So too should the feasibility of developing multi-specialty and multi-disciplinary group practices. At the very least, there is a need for research in developing HMOs and other group practice arrangements for rural areas.

Congressional interest in fostering competition and the development of HMOs, medical group practices organized systems of care is expressed in the following National Health Priorities:

(3) "The development of medical group practices (especially those whose services are appropriately coordinated or integrated with institutional health services), health maintenance organizations, and other organized systems for the provision of health care."

(17) "The strengthening of competitive forces in the health services industry wherever competition and consumer choice can constructively serve . . . to advance the purposes of quality assurance, cost effectiveness, and access."

Goal III. B. 5. *Quality of Health Services*.*

THE QUALITY OF HEALTH SERVICES SHOULD BE IMPROVED BY:

(a) REDUCING INAPPROPRIATE VARIATIONS IN HOSPITAL UTILIZATION;

(b) REDUCING INAPPROPRIATE VARIATIONS IN THE INCIDENCE OF SURGICAL PROCEDURES;

(c) REDUCING INAPPROPRIATE AND MEDICALLY UNNECESSARY UTILIZATION OF ANCILLARY SERVICES:

(d) IDENTIFYING AND ELIMINATING SUBSTANDARD CARE; AND

(e) HEALTH PLANNING AND REVIEW DECISIONS TAKING INTO ACCOUNT THE RESULTS OF QUALITY ASSESSMENT AND UTILIZATION REVIEWS

Health care professionals, public officials and hospitals and other institutional providers have long been interested in monitoring and enhancing the quality of health services. Traditionally, the most common quality control approaches have involved setting standards for health provider education and licensure as well as for facility accreditation, licensure and certification. Utilization reviews, medical audits, tissue specimen reports and other means of assessing quality also have been prominent within the medical care system. In addition, the assurance of ongoing provider competence through continuing education and testing arrangements has received growing attention.

Increasing attention is being devoted to variations in hospital utilization as a common measure of quality of care, although the presence of utilization variations does not necessarily indicate inappropriate utilization.

Another indicator of quality is the incidence of surgical procedures. Surgery of all kinds increased 23 percent between 1970 and 1975. In 1975, 14.2 million or 41.7 percent of all patients discharged from short-stay hospitals underwent surger. Variations in surgical rates have been documented for different parts of the country and for different population groups. These variations have been found to relate closely to the number of available surgeons in the area rather than the apparent need for surgery. While more knowledge is necessary regarding the extent of the problem and its cost implications, it is generally recognized that substantial unnecessary surgery is occurring. Given the apparent extent of the problem of needless surgery, second opinions should be excouraged for all elective surgery, that is, for all surgery which does not involve an emergency or a threat to life and which is subject to the choice or decision of the patient and physician.

There is increasing evidence that ancillary services delivery is a major area of both over-utilization and questionable quality. Recent studies indicate that some services which are provided routinely at admission may be inappropriate and indicate that many ancillaries provided during patient stays are untimely and of questionable value. Areas which do not yet have available data on

ancillaries should strive to develop data in these areas.

Quality of care is directly affected by the quality of the individual providing the care. Continuing education is an important measure in addressing this concern. Although the number of providers and practitioners who deliver sub-standard care is relatively small, the importance of eliminating such care in terms of impact on health and well being of the recipients of such care is substantial.

A major Federal program aimed at promoting the quality of health care is Professional Standards Review Organization (PSROs) developed following the Social Security Amendments of 1972. The law calls for close coordination between planning agencies and PSROs in order to link quality assurance and resource allocation. The importance of improving the quality of health care is recognized in priority 6 of section 1502 which urges:

(6) "The promotion of activities to achieve needed improvements in the quality of health services, including needs identified by the review activities of Professional Standards Review Organization under Part B of Title XI of the Social Security Act."

Guided by this priority, planning agencies and PSROs are to develop Letters of Agreement to specify possible areas and structures for cooperation and for the exchange of vital information. Moreover, section 1532(c)(14) of the 1979 Health Planning Act requires that planning and review decisions take into account the results of quality assessment and utilization review activities. Thus, the development of plans for meeting the area-wide needs of residents, as well as decisions under Certificate of Need and other mandated reviews, should reflect any findings of over-utilization and/or poor quality of care. Further efforts should also be undertaken to improve and/or develop improved quality assessment tools that are applicable to area-wide health planning decisions.

In matters relating to quality of care issues, planning agencies should base their decisions on the findings and results of organizations and groups judged to have expertise in this area. This shall include, in addition to PSROs, professional standards as established by the medical community, and standards developed by the Joint Commission on Accreditation of Hospitals (JCAH).

Goal III.B.6. *Management Procedures*.

EFFICIENCY AND PRODUCTIVITY OF HEALTH CARE INSTITUTIONS SHOULD BE FURTHERED THROUGH THE ADOPTION OF UNIFORM COST REPORTING, EQUITABLE REIMBURSEMENT ARRANGEMENTS, UTILIZATION REPORTING SYSTEMS, AND IMPROVED MANAGEMENT REPORTING PROCEDURES

Important opportunities exist to improve the efficeincy and productivity of health care institutions. Rapidly rising health care costs are focusing new attention on methods of more efficient operations.

The adoption of improved uniform cost reporting and utilization reporting systems will establish a method for obtaining comparable information for health facilities which can be used to: (1) develop a more rational and equitable reimbursement system; (2) enable longitudinal and inter-institutional comparisons of cost and utilization data in order to identify trends and facilitate policy analysis; (3) develop more effective approaches to cost containment; (4) improve the capacity to detect fraud and abuse; and (5) assist local, State and Federal agencies formulate health planning goals and decisions. The adoption of such improved data systems also will aid health facilities in their own planning and management processes.

Health planning agencies should maintain current knowledge of reimbursement issues, including identification of services that are needed but uncovered for some or all of the population. Agencies should seek to increase the awareness of third party payors and the public concerning health costs and methods for improving reimbursement systems.

Congressional interest in this matter is indicated in the following National Priorities:

(9) "The adoption of uniform cost accounting, simplified reimbursement, and utilization reporting systems and improved management procedures for health service institutions and the development and use of cost saving technologies."

(13) "The adoption of policies which will (A) contain the rapidly rising costs of health care delivery, (B) insure more appropriate use of health care services, and (C) promote greater efficiency in the health care delivery system."

Goal III.B.7. *New Technology*.

WHEN FOUND SAFE AND EFFECTIVE, THE INTRODUCTION OF NEW PROCEDURES AND EQUIPMENT SHOULD TAKE PLACE IN WAYS THAT ENHANCE ECONOMY, EQUITY AND QUALITY. REIMBURSEMENT POLICIES SHOULD FOSTER THE APPROPRIATE USE OF ALL TECHNOLOGY

The effectiveness and safety of clinical procedures, the proliferation of new technology, and new medical practices should be monitored at the National level on a continuous basis. New procedures and specialized equipment are being introduced at an increasing rate, and many have the potential for important advances in the prevention and control of disease.

In addition, the rapid growth of new procedures and special equipment has accounted for over one-third of the increase in medical costs in recent years. The introduction of these new practices and procedures often has led to wasteful and expensive duplication of resources and sometimes has exposed consumers to undesirable and unnecessary risks.

Clearly, a coordinated policy to deal with the problems of determining the relative benefit and cost-effectiveness of new technology is needed. The goal of such a policy should be to (1) assure that only appropriate, necessary, and cost-effective technology will be transferred to health practice, (2) set forth the economic, educational and social impacts of those innovations whose effectiveness and safety have been established clinically, and (3) assure that new technology which meets the first two criteria will be placed in those institutions which are accessible to the entire population that would benefit from that new technology.

Rigorous assessments of medical and surgical practices already in widespread use also are essential. Subjecting common practices to such evaluation offers important opportunities to validate the effectiveness of specific forms of clinical interventions, to use this information to eliminate waste, and to achieve cost effective allocations of limited resources.

The National Center for Health Care Technology was established to coordinate the introduction of new methods and the evaluation of established techniques for prevention, diagnosis, and treatment of disease. This agency is responsible for assembling, analyzing, evaluating, and disseminating information with respect to the need for medical technologies and their utilization and costs in the health system. These and other Federal agency efforts at technology assessment must deal with both low and high cost technologies, diagnostic versus curative technologies, the ease of capital formation for the development and purchase of medical technologies, reviews of reimbursement mechanisms governing the market dissemination of medical technologies, and social issues of access and equity.

Capital regulation now provides planning agencies with a mechanism to limit the growth of the cost of medical care through regulation of capital expenditures for new services, equipment, or facilities. This type of regulation discourages the duplication of services and rationalizes the planning for new services. Financing mechanisms should take into account the need to facilitate the introduction and acceptance of clinically necessary and economically efficient medical technology but they should not promote the spread of unnecessary new practices and equipment. Planning agencies, in assessing new technology, should balance the economic and social costs of new procedures against the medical, educational, social, and economic benefits of their development and introduction.

This goal is in line with the following National Health Priorities:

(9) "The adoption of uniform cost accounting, simplified reimbursement, and utilization reporting systems and improved management procedures for health service institutions and the development and use of cost saving technologies."

(13) "The adoption of policies which will (A) contain the rapidly rising costs of health care delivery, (B) insure more appropriate use of health care services, and (C) promote greater efficiency in the health care delivery system."

Goal III.B.8. *Energy Conservation*.*

EFFORTS SHOULD BE MADE TO PROMOTE AN EFFECTIVE ENERGY CONSERVATION AND FUEL CONSERVATION PROGRAM FOR HEALTH SERVICE INSTITUTIONS TO REDUCE THE RATE OF GROWTH OF DEMAND FOR ENERGY

All planning activities should focus attention on the need to prevent fuel shortages from interrupting the delivery of services and the importance of providing health services in the most energy efficient manner possible in order to contain health care costs and decrease the nation's dependence on imported energy. HSAs, SHPDAs and other organizations which play a role in the health planning process should take steps to increase the use of alternate energy forms, such as solar, geothermal and biomass.

Hospitals and other institutions delivering direct patient care should take a leadership role within communities in terms of energy conservation. There should be vigorous demonstration programs to encourage the health sector to adopt new energy saving technologies or renewable energy resources. Reimbursement systems, both Federal and private, should develop incentives to promote energy savings and conservation. In addition, each health facility should have a written energy conservation program. Applications for new construction projects should contain architectural and engineering designs that are energy efficient. A small increase in front end spending in this area can yield large dollar and energy savings during the lifetime of a facility.

Since a cost-effective health delivery system should address the issue of projected energy costs, Health Plans should reflect the projected or future energy supplies of the region. Planning bodies should obtain the assistance of the State energy policy office in monitoring those energy decisions which will impact their region.

Congressional interest in energy conservation in health facilities is expressed in the following National Health Priority:

(11) "The promotion of an effective energy conservation and fuel efficiency program for health service institutions to reduce the rate of growth of demand for energy."

C. *Coordinating Community Resources*

Goal III. C. 1. *Access to Support Services for the Chronically Ill and Handicapped.*

A FULL ARRAY OF SUPPORT SERVICES SHOULD BE ACCESSIBLE TO THOSE WITH CHRONIC OR PROLONGED ILLNESSES AND/OR PHYSICAL OR MENTAL HANDICAPS

A substantial number of persons experience serious handicaps and chronic illnesses. About 14 percent of the noninstitutional population report some limitation of activity, and about 11 percent report being limited in a major activity. These percentages include persons of all ages, children as well as the elderly, who suffer from limitations arising from hereditary and congenital conditions, accidents, illness and other causes. The chronically ill and handicapped also include those who suffer from chronic mental illness, drug addiction, and alcoholism.

Eye and vision problems are the second most prevalent chronic health problem in the United States. Although approximately 50 percent of the population needs some form of eye/vision care, only one-half of those needing care are receiving it from any source. Comprehensive vision screening and follow-up services for all children should be available. This should be part of a larger vision conservation program which has as its aim prevention of vision conditions which may preclude an individual from reaching his full personal or educational potential or performing satisfactorily in his environment. Untreated eye/vision conditions can result in a loss of personal productivity, social maladjustments, and reduced quality of life.

Tuberculosis is a chronic condition which still affects approximately 30,000 Americans and their family members annually. This is a particular problem among adults and older adults, refugee populations, medically underserved, economically depressed, and native American populations.

There are an estimated 1.5 million adults with chronically disabling mental health problems. This estimate does not include those who may have a combination of physical and mental problems such as the frail elderly. It also does not include the mentally retarded, mentally ill children, alcoholics and drug addicts. Thus the 1.5 million figure is a conservative estimate.

Those with chronic illnesses and handicaps have particular needs for support services and assistance. Such services include home health care, homemaker services, day care, special housing and rehabilitation programs. They also include transportation, recreation, therapy, and social and employment services. Dental care is an essential service required by all chronically ill and handicapped persons.

Even when such supportive services are available, many barriers exist which prevent people with chronic or prolonged disabilities and their families from receiving the assistance they need. These barriers include the financial costs of obtaining support services as well as cultural and emotional inhibitions against using available assistance. Frequently, they include architectural and communications barriers as well. Another barrier is the basic lack of knowledge about handicapped and disabled people among those who regularly are in contact with them, such as teachers, employers, and medical care personnel.

Making support services accessible to the chronically ill and handicapped by reducing such barriers allows individuals the opportunity to function in their normal environment, in turn, promote both mental and physical health and help to preserve an individual's dignity. Making support services accessible also helps avoid unnecessary and costly institutionalization.

GOAL III.C.2. *Services Coordination and Case Management.*

THERE SHOULD BE CLOSE COORDINATION AMONG THE VARIOUS HEALTH, SOCIAL, REHABILITATIVE AND OTHER HUMAN SERVICES WHICH THOSE WITH CHRONIC OR PROLONGED DISABILITIES OFTEN REQUIRE. CASE MANAGEMENT SHOULD BE AVAILABLE TO THE CHRONICALLY ILL AND HANDICAPPED TO DIRECT THEM TO NEEDED HEALTH AND SUPPORT SERVICES

The provision of sevices to the chronically ill and handicapped is uncoordinated, fragmented, and generally unresponsive to the total needs of the individual. While a large number of agencies and institutions provide services and funding, comprehensive planning, monitoring and management usually is lacking.

In addition, day-to-day decisions about program operations often are divorced from decisions regarding program funding and policy direction, while some critical services such as dental services often are either neglected or insufficiently developed. The chronically ill or handicapped, or members of their families, often have no place they can turn to in order to obtain information about the kinds of services available in a community and the eligibility requirements for those services.

Case management or referral services for the handicapped and the chronically ill also often are lacking or poorly developed in most communities. As a result, the chronically ill and the handicapped frequently must find their way through the maze of health and social programs provided by different agencies on their own. Not only does this inhibit early detection and prevention; it also means individuals with acute needs frequently remain unaware of important services that are available to them.

Case management should be provided to identify and coordinate all the services a handicapped or chronically ill person needs. Case managers should be knowledgeable about both government and private programs which provide employment, rehabilitation, therapy, health care, social services, housing, transportation, and recreation. Such managers should be familiar with the activities of support networks within a community, such as churches, clubs and self-help groups.

Relationship Between National Health Priorities Sec. 1502 and Draft National Health Planning Goals

National priorities	National goals
"(1) The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas."	II.5. *Immunization.* III.A.1. *Access to Care.* III.A.2.a. *Primary Care—Supply.* III.A.2.b. *Primary Care—Balance Among Medical Specialties.* III.A.6. *Dental Services.*
"(2) The Development of multi-institutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric, emergency medical, intensive and coronary care, and radiation therapy services)."	III.B.1. *Regionalization.* III.B.2. *Multi-Institutional Systems and Shared Services.* III.B.3. *Emergency Medical Systems.*
"(3) The development of medical group practices (especially those whose services are appropriately coordinated or integrated with institutional health services), health maintenance organizations, and other organized systems for the provision of health care."	III.B.2. *Multi-Institutional Systems and Shared Services.* III.B.4. *Options for Care.*
"(4) The training and increased utilization of physicians' assistants, especially nurse clinicians."	III.A.2.a. *Primary Care—Supply.*
"(5) The development of multi-institutional arrangements for the sharing of support services necessary to all health service institutions."	III.B.2. *Multi-Institutional Systems and Shared Services.*
"(6) The promotion of activities to achieve needed improvements in the quality of health services, including needs identified by the review activities of Professional Standards Review Organizations under part B of title XI of the Social Security Act."	III.B.5. *Quality of Health Services.*
"(7) The development of health service institutions of the capacity to provide various levels of care (including intensive care, acute general care, and extended care) on a geographically integrated basis."	III.B.2 *Multi-Institutional Systems and Shared Services.*
"(8) The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services."	II.1. *Extension of Disease Prevention and Health Promotion.* II.3. *Prenatal, Maternal and Perinatal Care.* II.4. *Unintended Pregnancy.* II.5. *Immunization.* II.6. *Environmental and Occupational Health.* II.7. *Accidents.* II.8. *Fluoridation.* II.9. *Nutrition.* II.10 *Smoking.*
"(9) The adoption of uniform cost accounting, simplified reimbursement, and utilization reporting systems and improved management procedures for health service institutions, and the development and use of cost saving technology."	III.B.6 *Management Procedures.* III.B.7. *New Technology.*
"(10) The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services."	II.1. *Extension of Disease Prevention and Health Promotion.* II.2. *Consumer Information.* II.4. *Unintended Pregnancy.* II.7. *Accidents.* II.9. *Nutrition.* II.10 *Smoking.*
"(11) The promotion of an effective energy conservation and fuel efficiency program for health service institutions to reduce the rate of growth of demand for energy."	III.B.8. *Energy Conservation.*
"(12) The identification and discontinuance of duplicative or unneeded services and facilities."	III.B.1. *Regionalization.* III.B.2. *Multi-Institutional Systems and Shared Services.*
"(13) The adoption of policies which will (A) contain the rapidly rising costs of health care delivery, (B) insure more appropriate use of health care services, and (C) promote greater efficiency in the health care delivery system."	II.1. *Extension of Disease Prevention and Health Promotion.* III.A.2.b. *Primary Care—Balance Among Medical Specialties.* III.B.1. *Regionalization.* III.B.6. *Management Procedures.* III.B.7. *New Technology.*
"(14) The elimination of inappropriate placement in institutions of persons with mental health problems and the improvement of the quality of care provided those with mental health problems for whom institutional care is appropriate."	III.A.3. *Mental Health.* III.A.4. *Child Mental Health.* III.A.5. *Alcoholism and Drug Abuse.*
"(15) Assurance of access to community mental health centers and other mental health care providers for needed mental health services to emphasize the provision of outpatient as a preferable alternative to inpatient mental health services."	III.A.3. *Mental Health.* III.A.4. *Child Mental Health.* III.A.5. *Alcoholism and Drug Abuse.*
"(16) The promotion of those health services which are provided in a manner cognizant of the emotional and psychological components of the prevention and treatment of illness and maintenance of health."	III.A.2.c. *Primary Care—Integration of Mental Health.* III.A.3. *Mental Health.* III.A.4. *Child Mental Health.* III.A.5. *Alcoholism and Drug Abuse.*

List of Tables

List of Tables—Continued

Table	Title	Goal
6	*Infant Health*—Infant Mortality Rates, U.S. 1966–79.	I.2.b
7	*Infant Health*—Frequency of Infant Mortality Rates by State, 1978.	I.2.b
8	*Infant Health*—Infant Mortality Rates by State, 1978.	I.2.b
9	*Preventable Communicable Diseases*—Frequency and Percentage Distributions of Mortality Rates for Selected Preventable communicable Diseases by State, 1977.	I.4
10	*Preventable Communicable Diseases*—Number of Deaths and Mortality Rates for Selected Preventable Communicable Diseases by State, 1977.	I.4
11	*Older Adult Health*—Selected Chronic Conditions Causing Limitation of Activity, by Age, U.S. 1976.	I.7
12	*Alcoholism*—Estimated National Health Expenditures as a Result of Alcohol Abuse, by Type of Expenditure, U.S. 1975.	I.8
13	*Drug Abuse*—Percentage of Youth 12–17 Years Reporting Use of Selected Drugs for Preceding 30 Days, 1974–77.	I.9
14	*Drug Abuse*—Percentage of high School Seniors Reporting Use of Selected Drugs for Preceding 30 Days, 1975,–77.	I.9
15	*Drug Abuse*—Number of PCP-Related Emergency Room Cases, 1976–78.	I.9
16	*Drug Abuse*—Number of Drug Related Deaths, U.S. 1974–77.	I.9
17	*Oral health*—Tooth Loss Due to Dental Caries for Persons Aged 17 Years, U.S. 1971–74.	I.10
18	*Oral Health*—Percent of Adults Who Retain at Least Some Natural Teeth, By Age Groups, U.S. 1971–74.	I.10
19	*Heart Disease, Cancer and stroke*—Age-Adjusted Death Rates for the Three Leading Causes of Death, By Color and Sex, U.S. 1977.	I.11
20	*Heart Disease, Cancer and Stroke*—Death Rates for the Three Leading Causes of Death, by Age, Sex, & Color, U.S. 1977.	I.11
21	*Heart Disease, Cancer and Stroke*—Age-Adjusted Death Rates for Hypertensive Disease, By Color & Sex, U.S. 1977.	I.11

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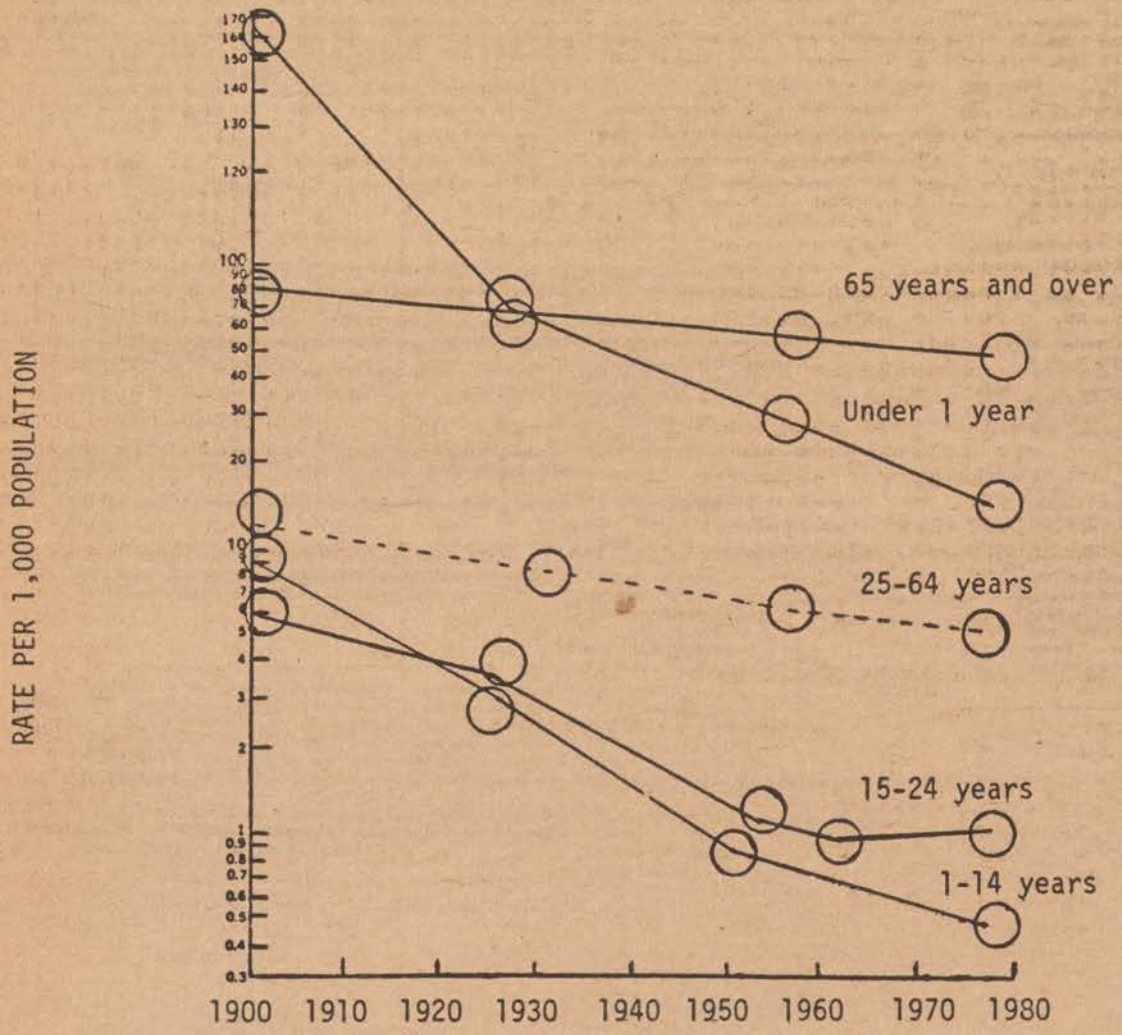
TABLE 1

I: Health Status Outcomes

DEATH RATES BY AGE: UNITED STATES, SELECTED YEARS 1900 - 1977



NOTE: 1977 data are provisional, data for all other years are final. Selected years are 1900, 1925, 1950, 1960 (for age group 15-24 years only), and 1977.

SOURCE: National Center for Health Statistics.

TABLE 2

GOAL I.1. - Health Status Improvements

DEATH RATES FOR 15 LEADING CAUSES OF DEATH: UNITED STATES, 1978

Rank[1]	Cause of death	Death rate (per 100,000 population)	Percent of total deaths
	All causes	882.3	100.0
1	Diseases of heart	333.9	37.8
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	181.6	20.6
3	Cerebrovascular diseases	79.1	9.0
4	Accidents	49.5	5.6
...	Motor vehicle accidents	24.6	2.7
...	All other accidents	24.9	2.8
5	Influenza and pneumonia	26.7	3.0
6	Diabetes mellitus	15.0	1.7
7	Cirrhosis of liver	13.7	1.6
8	Arteriosclerosis	13.4	1.5
9	Suicide	12.6	1.4
10	Certain causes of mortality in early infancy	10.1	1.1
11	Bronchitis, emphysema, and asthma	10.0	1.1
12	Homicide	9.7	1.1
13	Congenital anomalies	5.9	0.7
14	Nephritis and nephrosis	3.7	0.4
15	Septicemia	3.6	0.4
...	All other causes	113.8	12.9

[1] Rank based on number of deaths

Source: National Center for Health Statistics
Division of Vital Statistics, Mortality Statistics Branch,
Provisional 1978 data

TABLE 3

GOAL I.1 - Health Status Improvements

AGE-ADJUSTED DEATH RATES[1] FOR 15 LEADING CAUSES OF DEATH AND PERCENT CHANGE FROM PREVIOUS YEAR: UNITED STATES, 1978

Rank[2]	Cause of death	Age-adjusted death rate (per 100,000 population)	Percent change from 1977 to 1978
	All causes	605.5	-1.1
1	Diseases of heart	207.3	-1.5
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	133.2	0.1
3	Cerebrovascular diseases	44.4	-7.9
4	Accidents	45.3	3.4
...	Motor vehicle accidents	24.0	7.1
...	All other accidents	21.3	-0.4
5	Influenza and pneumonia	15.4	8.5
6	Diabetes mellitus	10.1	-2.9
7	Cirrhosis of liver	12.4	-5.3
8	Arteriosclerosis	6.1	-1.6
9	Suicide	12.2	-5.4
10	Certain causes of mortality of early infancy	n.a.[3]	n.a.[3]
11	Bronchitis, emphysema, and asthma	6.8	-5.6
12	Homicide	9.9	3.1
13	Congenital anomalies	n.a.[3]	n.a.[3]
14	Nephritis and nephrosis	2.5	-7.4
15	Septicemia	2.6	8.3
...	All other causes	80.8	...

[1] Standard to which rates are adjusted is the 1940 U.S. enumerated population.

[2] Rank based on number of deaths

[3] Inasmuch as deaths from these causes occur almost entirely among infants, rates adjusted to the total population of the United States in 1940 are not shown.

Source: National Center for Health Statistics: Division of Vital Statistics, Mortality Statistics Branch, Provisional 1978 data.

TABLE 4

GOAL I.2.a. - Infant Health

LIVE BIRTHS BY BIRTH WEIGHT AND RACE: UNITED STATES, 1977

Birth Weight	Total United States		White		Black	
	Number	Percent	Number	Percent	Number	Percent
TOTAL	3,326,632	100	2,691,070	100	544,221	100
500 grams or less	3,040	0.09	1,884	0.07	1,096	0.2
501-1500 grams	34,562	1.0	21,939	0.8	11,820	2.2
1501-2500* grams	197,282	5.9	135,521	5.0	56,560	10.4
2501 grams or more	3,085,263	92.7	2,526,632	93.9	473,583	87.0
Not stated	6,485	0.2	5,094	0.2	1,162	0.2

*Upper limit for low-birth weight status

Source: National Center for Health Statistics, Division of Vital Statistics, Natality Statistics Branch, 1977 accumulated data.

TABLE 5

GOAL I.2.a. - Infant Health

PERCENT LOW BIRTH WEIGHT* BY EDUCATION ATTAINMENT OF MOTHER, MONTH OF PREGNANCY PRENATAL CARE BEGAN, AND RACE, 1977**

Race and Month of Pregnancy Prenatal Care Began

Years of School Completed	TOTAL			1st - 2nd			3rd			4th - 6th			7th - 9th			No Prenatal care			Not Stated		
	All	W	B	All	W	B	All	W	B	All	W	B	All	W	B	All	W	B	All	W	B
TOTAL	7.2	6.0	12.9	6.2	5.4	11.9	6.7	5.6	12.2	8.6	6.9	12.9	8.5	7.1	11.9	21.1	17.3	27.2	10.5	8.4	15.9
0-8 years	9.6	8.3	14.7	8.8	7.8	13.5	9.0	7.8	13.8	9.9	8.3	14.8	8.4	7.0	13.2	18.8	17.0	25.1	12.2	10.4	18.3
9-11 years	10.2	8.4	14.6	9.2	7.8	14.0	9.6	8.0	14.2	10.2	8.5	13.7	9.8	8.2	13.1	23.8	20.0	28.5	13.7	10.9	18.4
12 years	6.7	5.6	12.0	6.0	5.3	11.4	6.3	5.4	11.4	7.9	6.1	12.2	7.7	6.5	10.5	19.2	15.2	25.1	9.9	8.0	14.6
13-15 years	5.7	4.9	10.9	5.4	4.8	10.6	5.3	4.6	10.0	6.6	5.2	10.8	7.2	5.4	11.3	18.7	14.5	25.2	9.0	7.8	12.4
16 years & over	4.8	4.4	9.0	4.8	4.4	8.8	4.4	4.0	8.2	4.9	4.2	9.3	4.9	4.5	6.9	13.4	11.8	18.1	7.4	6.3	13.5
Not Stated	9.7	7.5	16.2	8.1	6.7	15.7	8.4	6.5	14.4	11.1	8.5	15.3	10.4	9.2	13.1	26.4	18.3	39.4	9.6	7.6	16.1

*Low birth weight defined as 2,500 grams or less.

**Total of 41 reporting States and the District of Columbia

Source: National Center for Health Statistics, Division of Vital Statistics, Mortality Statistics Branch, 1977 data.

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Table 6.—*Goal I.2.b.—Infant Health—Infant Mortality Rates,[1] 1966–1979*

Calendar year	Rate	Percent reduction from previous year
1979[2]	13.1	3.68
1978 (provisional)	13.6	3.55
1977	14.1	7.24
1976	15.2	5.59
1975	16.1	3.59
1974	16.7	5.65
1973	17.7	4.32
1972	18.5	3.14
1971	19.1	4.50
1970	20.0	4.31
1969	20.9	4.13
1968	21.8	2.68
1967	22.4	5.49
1966	23.7	[3]

[1] Per 1,000 live births.
[2] Ten month period ending October 1979.
[3] Not applicable.

Source: National Center for Health Statistics, Division of Vital Statistics, Mortality Statistics Branch, 1979 Data.

Table 7.—*Goal I.2.b.—Infant Health—Frequency of Infant Mortality Rates[1] by State, 1978*

Rate	Number of States	Percent
8.0–10.9	8	15.7
11.0–13.9	23	45.1
14.0–16.9	16	31.4
17.0–19.9	3	5.9
20.0 and above	1	2.0

[1] Rate is per 1,000 live births.

Source: National Center for Health Statistics, Division of Analysis, Accumulated Data.

Table 8.—*Goal I.2.b.—Infant Health—Infant Mortality Rates[1] by State, 1978*

State	Rate
Alabama	16.4
Alaska	16.3
Arizona	15.0
Arkansas	14.3
California	11.6
Colorado	11.9
Connecticut	9.6
Delaware	12.0
District of Columbia	23.1
Florida	14.2
Georgia	14.7
Hawaii	11.8
Idaho	9.7
Illinois	14.7
Indiana	12.2
Iowa	11.8
Kansas	11.5
Kentucky	12.0
Louisiana	17.8
Maine	9.2
Maryland	14.4
Massachusetts	9.7
Michigan	13.4
Minnesota	12.3
Mississippi	17.1
Missouri	16.0
Montana	10.0
Nebraska	13.8
Nevada	11.3
New Hampshire	8.3
New Jersey	11.8
New Mexico	14.5
New York	16.3
North Carolina	16.3
North Dakota	13.1

Table 8.—*Goal I.2.b.—Infant Health—Infant Mortality Rates[1] by State, 1978*—Continued

State	Rate
Ohio	13.0
Oklahoma	13.8
Oregon	13.2
Pennsylvania	14.8
Rhode Island	15.7
South Carolina	18.5
South Dakota	12.0
Tennessee	16.1
Texas	13.8
Utah	12.0
Vermont	11.4
Virginia	13.3
Washington	11.5
West Virginia	15.1
Wisconsin	9.2
Wyoming	9.0

[1] Rate is per 1,000 live births.

Source: National Center for Health Statistics, Division of Analysis, Provisional Data.

Table 9.—*Goal I.4.—Preventable Communicable Diseases—Frequency and Percentage Distributions of Mortality Rates for Selected Preventable Communicable Diseases[1] by State, 1977*

Rate per 100,000	Number of States	Percent
15.2–21.9	4	7.8
22.0[2]–26.9	7	13.7
27.0–31.9	16	31.4
32.0–36.9	18	35.3
37.0 and above	6	11.8

[1] See Eighth Revision International Classification of Diseases, Adopted, 1965: codes 000–136, 466, 470–474, and 480–486. In order, these groupings represent: tuberculosis, poliomyelitis, measles, infectious hepatitis, and other infective and parasitic diseases; acute bronchitis and bronchiolitis; influenza; and pneumonia.
[2] Target for achievement.

Source: National Center for Health Statistics: Division of Vital Statistics, unpublished 1977 data (accumulated).

Table 10.—*Goal I.4.—Preventable Communicable Diseases*

[Number of deaths and mortality rates for selected preventable communicable diseases,[1] by State, 1977]

State	Deaths by disease classification No.				Total	Rate per 100,000
	000–136	466	470–474	480–486		
Alabama	378	16	75	804	1,273	34.5
Alaska	23	2		38	63	15.5
Arizona	217	7	7	518	749	32.6
Arkansas	232	9	27	523	791	36.9
California	1,353	74	88	4,169	5,684	26.0
Colorado	156	3	33	602	794	30.3
Connecticut	219	6	5	633	863	27.8
Delaware	34			93	127	21.8
District of Columbia	119	2		214	335	48.6
Florida	766	38	43	2,112	2,959	35.0
Georgia	523	12	59	1,282	1,876	37.2
Hawaii	69	2	2	150	223	24.9
Idaho	41	4	9	158	212	24.7
Illinois	736	36	52	2,899	3,723	33.1
Indiana	386	20	33	1,101	1,540	28.9
Iowa	168	10	24	799	1,001	34.8
Kansas	168	7	29	547	751	32.3
Kentucky	298	15	22	934	1,269	36.7
Louisiana	473	11	31	815	1,330	33.9
Maine	66	10	8	264	348	32.1
Maryland	366	7	6	652	1,031	24.9
Massachusetts	487	13	10	1,872	2,382	41.2
Michigan	605	23	21	1,636	2,285	25.0
Minnesota	226	13	24	959	1,222	30.7
Mississippi	259	7	20	558	844	35.3
Missouri	434	13	35	1,287	1,769	36.8
Montana	33	5	8	149	195	25.6
Nebraska	94	4	20	427	545	34.9
Nevada	34		1	95	130	20.5
New Hampshire	56	1	4	196	257	30.3
New Jersey	599	28	30	1,617	2,274	31.0
New Mexico	105	5	3	235	348	29.2
New York	1,284	71	43	5,358	6,756	37.7
North Carolina	508	20	77	1,263	1,868	33.8
North Dakota	38	1	4	150	193	29.6
Ohio	723	28	60	2,271	3,082	28.8
Oklahoma	252	10	15	768	1,045	37.2
Oregon	142	9	22	534	707	29.8
Pennsylvania	1,158	35	40	2,731	3,964	33.6
Rhode Island	57	4		144	205	21.9
South Carolina	286	11	52	627	976	33.9
South Dakota	27	4	7	173	211	30.6
Tennessee	386	8	40	1,024	1,458	33.9
Texas	1,126	34	68	2,686	3,914	30.5
Utah	77	2	7	214	300	23.7
Vermont	41	3		128	172	35.6
Virginia	442	14	23	1,096	1,575	30.7
Washington	193	12	39	776	1,020	27.9
West Virginia	163	7	8	524	702	37.8
Wisconsin	283	20	65	997	1,365	29.3
Wyoming	21	1	5	87	114	28.1
Total	16,930	697	1,304	49,889	68,820	31.8

[1] See Eighth Revision International Classification of Diseases, Adapted, 1965: codes 000–136, 466, 470–474, and 480–486. Groupings include a number of nonpreventable communicable diseases. See first footnote, Table 9.

Source: National Center for Health Statistics: Division of Vital Statistics, unpublished 1977 data.

Table 11.—*Goal I.7.—Older Adult Health*

[Selected chronic conditions causing limitation of activity by age: United States, 1976[1]]

	Both sexes, all ages	17–44 yrs	45–64 yrs	65 yrs and over
Number of persons limited in activity	30,175,062	7,512,474	10,504,689	9,891,204
	Percent of persons limited in activity			
Chronic conditions:				
Arthritis and rheumatism	16.8	6.8	19.6	24.9
Heart conditions	15.7	4.8	19.0	23.4
Hypertension without heart involvement	6.9	3.4	9.0	8.9
Diabetes	5.1	2.3	6.8	6.3
Mental and nervous conditions	4.9	5.9	5.7	3.0
Asthma	4.8	5.9	3.4	2.1
Impairments of back and spine	7.5	13.9	7.9	3.3
Impairments of lower extremities and hips	6.1	8.0	5.6	5.0
Visual impairments	5.4	4.2	4.0	8.2
Hearing impairments	2.5	2.7	1.9	2.4

[1] Data are based on household interviews of a sample of the civilian noninstitutionalized population.

Source: Division of Health Interview Statistics, National Center for Health Statistics: Data from the Health Interview Survey.

Table 12.—*Sub-Goal 1 E—Alcoholism*—Estimated National Health Expenditures as a Result of Alcohol Abuse in 1975, According to Type of Expenditure

Type of expenditure	Total adult population expenditures (billion)	Expenditures resulting from alcohol abuse (billion)	Expenditures resulting from alcohol abuse as a percentage of total expenditures
Health Service/Supplies:			
Hospital care	$42.3	$8.40	19.9
Physicians' services	17.9	1.30	7.3
Dentists' services	6.2		
Other prof. services	1.7	0.12	7.3
Drug & Drug sundries	8.9	0.28	3.2
Eyeglasses/ Appliances	2.0		
Nursing home care	8.8	0.19	2.2
Expenses for prepayment & administration	3.9	0.78	19.9
Government public health services	2.5	0.39	13.1
Other health services	3.0	0.33	13.1
Research & medical facilities construction	6.1	0.78	13.1
Training & education	2.3	0.17	7.3
Total	105.6	12.74	12.1

Source: Berry, R. Jr., Boland, J., Smart, C., and Kanak, J., "The Economic Cost of Alcohol Abuse/1975, Report prepared for the National Institute on Alcohol Abuse and Alcoholism, Contract No. ADM 281-76-0016, 1977.

Table 13.—*Goal I.9. Drug Abuse—Percentage of Youth (Ages 12-17) Reporting Use of Selected Drugs During the 30 Days Prior to Interviewing, 1974–1977*

Drug	Percentage reporting use			
	1974	1976	1977	74–77 change
Marijuana and/or hashish	11.6	12.4	16.1	+4.5
Inhalants	.7	.9	.7	0.0
Hallucinogens	1.3	.9	1.6	+0.3
Cocaine	1.0	1.0	.8	−0.2
Nonmedical use of:				
—Stimulants (Rx)	1.0	1.2	1.3	+0.1
—Sedatives (Rx)	1.0	*	.8	−0.2
—Tranquilizers (Rx)	1.0	1.1	.7	−0.3
Alcohol	34.0	32.4	31.2	−2.8
Cigarettes	25.0	23.4	22.3	−2.7

*Less than 0.5%.

Source: Adapted from Abelson, Herbert; Fishburne, Patricia; and Cisin, Ira, *National Survey on Drugs Abuse: 1977*, National Institute on Drug Abuse, Table 10, page 30.

Table 14.—*Goal I.9. Drug Abuse—Percentage of High School Seniors Reporting Use of Selected Drugs During the 30 Days Prior to Interview: 1975–1977*

Drug	Percent reporting use			
	1975	1976	1977	75–77 change
Marijuana and/or Hashish	27.1	32.2	35.4	+8.3
Inhalants	n/a	0.9	1.3	n/a
Hallucinogens	4.7	3.4	4.1	−0.6
Cocaine	1.9	2.0	2.9	+1.0
Nonmedical use of:				
—Stimulants	8.5	7.7	8.8	+0.3
—Sedatives	5.4	4.5	5.1	−0.3
—Tranquilizers	4.1	4.0	4.6	+0.5
Alcohol	68.2	68.3	71.2	+3.0
Cigarettes	36.7	38.8	38.4	+1.7

N/A—Data not available.

Source: Adapted from Johnson, Lloyd; Bachman, J.; and O'Malley, P.M., *Drug Use Among American High School Students: 1975 to 1977*, Table 1-5.

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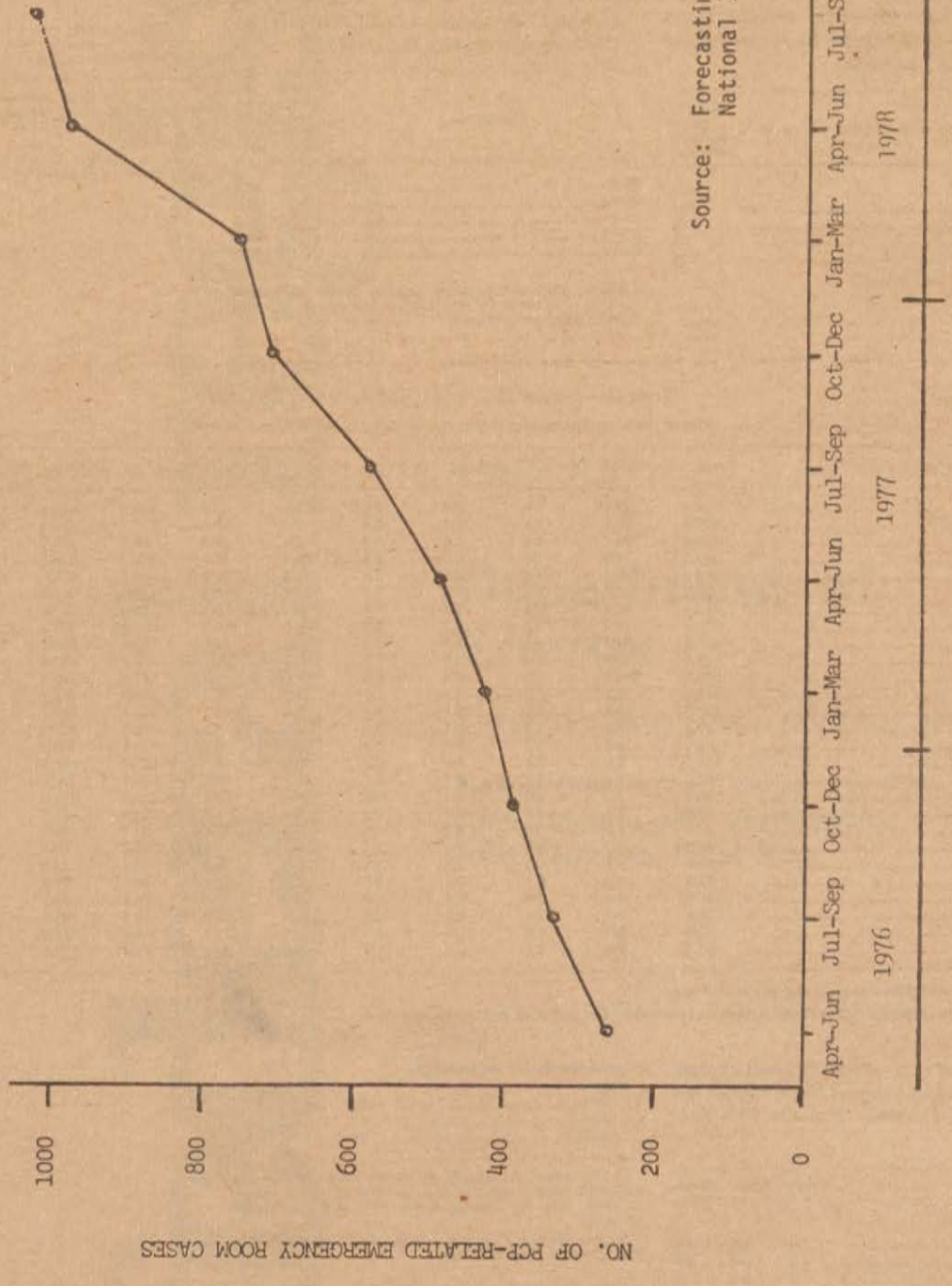
TABLE 15

GOAL I.9. Drug Abuse

NO. OF PCP-RELATED EMERGENCY ROOM CASES REPORTED
BY 677 CONSISTENTLY-REPORTING HOSPITAL EMERGENCY ROOMS
PROJECT DAWN
April 1976 - September 1978



Source: Forecasting Branch
National Institute on Drug Abuse

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Table 16.—*Goal I.9.—Drug Abuse—Number of Drug Related Deaths, U.S., 1974–1977*

Year	1977	1976	1975	1974
Total	6,681	7,908	8,503	7,623
Dependance	551	1,143	1,358	1,174
Accident	2,214	2,839	3,132	2,742
Suicide	3,125	3,002	3,078	2,904
Undeterminable intention [1]	791	924	935	803
Death Rate per 100,000	3.09	3.68	3.99	3.61

[1] Unknown whether accidental, homicidal, or suicide.

Source: Greenberg, National Center for Health statistics: Division of Vital Statistics.

Table 17.—*Goal I.10—Oral Health—Tooth Loss Due to Dental Caries for Persons Aged 17 Years, U.S., 1971–74*

Number of permanent teeth lost due to caries	Percent of persons examined
No Mission Teeth	61.6
With Missing Teeth	38.4
1 Tooth	11.4
2 Teeth	6.3
3 Teeth	6.9

Table 17.—*Goal I.10—Oral Health—Tooth Loss Due to Dental Caries for Persons Aged 17 Years, U.S., 1971–74* —Continued

Number of permanent teeth lost due to caries	Percent of persons examined
4 or More Teeth	13.8

Source: National Center for Health Statistics: Division of Health Interview Statistics, Health and Nutrition Examination Survey.

Table 18.—*Goal I.10—Oral Health—Percent of Adults Who Retain at Least Some Natural Teeth, by Age Groups, U.S., 1971–74*

Age group	Percent of persons who retain at least some natural teeth
25–34	96.3
35–44	90.0
45–54	82.8
55–64	66.4
65–74	52.8

Source: Data derived from National Center for Health Statistics: Division of Health Interview Statistics, Health and Nutrition Examination Survey.

Table 19.—*Goal I.11—Heart Disease, Cancer and Stroke—Age Adjusted Death Rates [1] for the Three Leading Causes of Death, by Color and Sex, U.S., 1977*

	Total	White	Other
Diseases of the Heart:			
Both	210.4	206.8	237.9
Male	294.7	294.0	297.8
Female	142.9	137.2	188.7
Cancer:			
Both	133.0	130.0	159.3
Male	164.5	160.0	205.4
Female	110.0	108.3	122.4
Stroke:			
Both	48.2	45.3	73.4
Male	53.5	50.4	79.8
Female	44.2	41.5	68.0

[1] Rates based on age-specific death rates per 100,000 estimated mid-year population in specified group. Standard to which rates are adjusted is the 1940 U.S. enumerated population.

Source: National Center for Health Statistics, Division of Vital Statistics, Final 1977.

Table 20.—*Subgoal 1D—Health Disease, Cancer, and Stroke*

[Death rates [1] for the three leading causes of death, by age, sex, and color, 1976]

Cause of death, color, and sex	Total	Under 1 yr	1–4 yrs	5–14 yrs	15–24 yrs	25–34 yrs	35–44 yrs	45–54 yrs	55–64 yrs	65–74 yrs	75–84 yrs	85 plus yrs
Heart disease:	337.2	23.1	1.8	0.9	2.6	8.5	50.8	199.8	552.4	1,286.9	3,263.7	7,384.3
Male	383.5	26.1	2.1	0.9	3.4	12.0	80.1	317.7	840.6	1,847.6	4,136.7	8,274.9
Female	293.4	20.1	1.6	0.9	1.9	5.1	22.9	89.5	293.9	856.2	2,731.1	6,965.4
White	351.3	19.0	1.6	0.8	2.1	6.9	45.7	188.4	534.5	1,272.0	3,295.2	7,701.7
Male	399.4	22.4	1.8	0.8	2.8	10.0	74.2	307.7	829.6	1,857.6	4,221.0	8,692.9
Female	305.5	15.5	1.4	0.8	1.4	3.8	18.1	75.7	268.6	824.0	2,738.7	7,244.5
All Other	244.8	43.6	2.8	1.4	5.6	19.4	85.7	290.9	720.8	1,428.2	2,912.7	4,400.0
Male	276.5	44.6	3.5	1.5	6.9	26.6	124.9	401.3	948.5	1,755.1	3,289.7	4,826.5
Female	215.9	42.6	2.2	1.3	4.4	13.2	53.5	195.0	526.2	1,166.6	2,640.4	4,160.3
Cancer	175.8	3.2	5.3	5.0	6.5	14.5	51.5	182.0	438.4	786.3	1,248.6	1,441.5
Male	196.6	3.4	5.6	5.8	8.0	14.0	46.6	187.9	520.4	1,060.1	1,782.1	2,042.0
Female	156.0	3.1	5.0	4.1	5.1	15.0	56.2	176.5	364.9	576.0	922.9	1,159.0
White	180.2	3.3	5.6	5.1	6.6	14.4	49.1	173.4	424.7	776.9	1,248.0	1,482.7
Male	199.2	3.1	5.9	6.1	8.0	14.0	43.8	175.5	496.6	1,042.8	1,784.4	2,110.9
Female	162.0	3.6	5.3	4.1	5.2	14.8	54.3	171.4	360.0	573.4	925.7	1,192.8
All other	147.1	2.8	4.1	4.3	6.2	15.4	68.2	251.3	566.8	875.6	1,254.7	1,054.5
Male	179.2	4.7	4.2	4.7	7.7	13.7	67.4	292.0	750.1	1,219.0	1,759.0	1,473.5
Female	117.8	0.8	4.0	3.9	4.8	16.9	68.9	215.8	410.2	600.7	890.4	819.0
Stroke	87.9	4.4	0.7	0.6	1.2	3.4	11.5	31.4	85.8	280.1	1,014.0	2,586.8
Male	77.1	4.5	0.8	0.6	1.4	3.5	11.3	33.3	99.0	334.7	1,098.9	2,574.4
Female	98.0	4.3	0.7	0.5	1.1	3.3	11.6	29.6	73.9	238.1	962.1	2,592.6
White	88.9	3.9	0.7	0.6	1.1	2.8	8.9	25.4	74.5	259.1	1,006.5	2,684.0
Male	76.8	4.3	0.7	0.6	1.2	2.8	8.6	26.7	87.0	313.3	1,094.4	2,678.6
Female	100.5	3.4	0.6	0.5	1.0	2.8	9.1	24.2	63.2	217.6	953.6	2,686.4
All other	80.9	6.7	1.1	0.5	2.2	7.9	29.6	79.4	191.9	478.1	1,097.3	1,673.0
Male	79.3	5.0	1.2	0.6	2.5	9.2	31.7	88.4	214.9	531.3	1,144.0	1,714.7
Female	82.3	8.4	1.0	0.5	1.9	6.8	27.9	71.6	172.4	435.6	1,063.6	1,645.8

[1] Rates per 100,000 estimated population in specified group.

Source: National Center for Health Statistics; Division of Vital Statistics, published and unpublished data.

Table 21.—*Goal I. 11—Heart Disease, Cancer and Stroke—Age-Adjusted Death Rates [1] for Hypertensive Disease, by Color and Sex, U.S., 1977*

	Total	White	Other
Hypertension:			
Both	1.6	1.3	4.1
Male	1.9	1.6	4.6
Female	1.4	1.1	3.6
Hypertensive Heart Disease:			
Both	2.1	1.7	5.6
Male	2.1	1.7	5.4
Female	2.0	1.6	5.4
Hypertensive Heart and Renal Disease:			
Both	0.9	0.8	1.8
Male	1.1	0.9	2.0
Female	0.7	0.7	1.6

[1] Rates based on age-specific death rates per 100,000 estimated mid-year population in specified groups. Standard to which rates are adjusted is the 1940 U.S. enumerated population.

Source: National Center for Health Statistics, Division of Vital Statistics, Final 1977 data.

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