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Preface

Since 1955, the Indian Health Service (IHS) has had the responsibility for providing comprehensive health services to American Indian and Alaska Native people in order to elevate their health status to the highest possible level. The mission of the IHS is to provide a comprehensive health services delivery system for American Indians and Alaska Natives with opportunity for maximum Tribal involvement in developing and managing programs to meet their health needs.

This publication presents tables and charts that describe the IHS program and the health status of American Indians and Alaska Natives. Information pertaining to the IHS structure, American Indian and Alaska Native demography, patient care, and community health are included. Current and trend information are presented, and comparisons with other population groups are made, when appropriate.

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Overview of the Indian Health Service Program

The Indian Health Service (IHS), an agency within the Department of Health and Human Services (DHHS), is responsible for providing Federal health services to American Indians and Alaska Natives. The provision of health services to federally recognized Indians grew out of a special relationship between the Federal Government and Indian Tribes. This government-to-government relationship is based on Article I, Section 8, of the United States Constitution, and has been given form and substance by numerous treaties, laws, Supreme Court decisions, and Executive Orders.

The Indian Health program became a primary responsibility of the DHHS under P.L. 83-568, the Transfer Act, on August 5, 1954. This Act provides "that all functions, responsibilities, authorities, and duties . . . relating to the maintenance and operation of hospital and health facilities for Indians, and the conservation of Indian health . . . shall be administered by the Surgeon General of the United States Public Health Service."

The IHS is the principle Federal health care provider and health advocate for Indian people, and its goal is to raise their health status to the highest possible level. The mission is to provide a comprehensive health services delivery system for American Indians and Alaska Natives with opportunity for maximum Tribal involvement in developing and managing programs to meet their needs. It is also the responsibility of the IHS to work with the people involved in the health delivery programs so that they can be cognizant of entitlements of Indian people, as American citizens, to all Federal, State, and local health programs, in addition to IHS and Tribal services. The IHS also acts as the principal Federal health advocate for American Indian and Alaska Native people in the building of health coalitions, networks, and partnerships with Tribal nations and other government agencies as well as with non-Federal organizations, e.g., academic medical centers and private foundations.

The IHS has carried out its responsibilities through developing and operating a health services delivery system designed to provide a broad-spectrum program of preventive, curative, rehabilitative, and environmental services. This system integrates health services delivered directly through IHS facilities, purchased by IHS through contractual arrangements with providers in the private sector, and delivered through Tribally operated programs and urban Indian health programs.

The 1975 Indian Self-Determination Act, P.L. 93-638, as amended, builds upon IHS policy by giving Tribes the option of manning and managing IHS programs in their communities and provides for funding for improvement of Tribal capability to contract under the Act. The 1976 Indian Health Care Improvement Act, P.L. 94-437, as amended, was intended to elevate the health status of American Indians and Alaska Natives to a level equal to that of the general population through a program of authorized higher resource levels in the IHS budget. Appropriated resources were used to expand health services, build and renovate medical facilities, and step up the construction of safe drinking water and sanitary disposal facilities. It also established programs designed to increase the number of Indian health professionals for Indian needs and to improve health care access for Indian people living in urban areas.

The operation of the IHS health services delivery system is managed through local administrative units called service units. A service unit is the basic health organization for a geographic area served by the IHS program, just as a county or city health department is the basic health organization in a State health department.

A few service units cover a number of small reservations; some large reservations are divided into a number of service units. The service units are grouped into larger cultural-demographic-geographic management jurisdictions, which are administered by Area Offices.

Purpose and Description of Trends in Indian Health

The IHS *Trends in Indian Health* attempts to fulfill the basic statistical information requirements of parties interested in the IHS and its relationship with the American Indian and Alaska Native people. The tables and charts contained in the IHS *Trends in Indian Health* describe the IHS program and the health status of American Indians and Alaska Natives residing in the IHS service area. The IHS service area consists of counties on and near Federal Indian reservations. The Indians residing in the service area comprise about 60 percent of all Indians residing in the United States.

Information pertaining to the IHS structure, American Indian and Alaska Native demography, patient care, and community health are included. Historical trends are depicted, and comparisons to other population groups are made, when appropriate. Current regional differences information can be found in the IHS companion publication called *Regional Differences in Indian Health*.

The tables and charts are grouped into six major categories: (1) IHS Structure, (2) Population Statistics, (3) Natality and Infant/Maternal Mortality Statistics, (4) General Mortality Statistics, (5) Patient Care Statistics, and (6) Community Health Statistics. The tables provide detailed data, while the charts show significant relationships. A table and its corresponding chart appear next to each other. However, some charts that are self-explanatory do not have a corresponding table. Also, a few tables have more than one chart associated with them.

Summary of Data Shown

Indian Health Service Structure

The IHS is comprised of 12 regional administrative units called Area Offices. As of October 1, 1996, the Area Offices consisted of 150 basic administrative units called service units. Of the 150 service units, 84 were operated by Tribes.

The IHS operated 37 hospitals, 61 health centers, 4 school health centers, and 48 health stations. Tribes have two different vehicles for exercising their self determination — they can choose to take over the operation of an IHS facility through a P.L. 93-638 self-determination contract (Title I) or a P.L. 93-638 self-governance compact (Title III). A distinction is made in this publication regarding these two Tribal modes of operation, i.e., Title I and Title III. Tribes operated 12 hospitals (Title I, 3 hospitals and Title III, 9 hospitals), 134 health centers (Title I, 90 and Title III, 44), 4 school health centers (Title I, 2 and Title III, 2), 73 health stations (Title I, 60 and Title III, 13), and 168 Alaska village clinics (Title I, 16 and Title III, 152).

There were 34 Urban Projects ranging from information referral and community health services to comprehensive primary health care services.

As of January 1, 1997, all IHS and Tribally-operated hospitals and eligible IHS-operated health centers were accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Since 1990, 6 of 9 (67%) of the Regional Youth Treatment Centers have become accredited by JCAHO or the Commission on Accreditation of Rehabilitation Facilities. The remaining 3 are preparing for accreditation.

IHS proficiency testing rating exceeded the requirements of the Clinical Laboratory Improvement Amendments of 1988 (CLIA '88) for all private and public sector laboratories. Overall proficiency rating for IHS laboratories is 98 percent. CLIA '88 requires 80 percent proficiency on all regulated analytes.

In FY 1995, there were nearly 97 million pharmacy workload units in IHS and Tribal direct facilities. Over 61 percent of these were associated with outpatient care.

Population Statistics

In Fiscal Year 1998 (FY 1998), the IHS service population (count of those American Indians and Alaska Natives who are eligible for IHS services) will be approximately 1.46 million. The IHS service population is increasing at a rate of about 2.0% per year, excluding the impact of new Tribes.

The Indian population residing in the IHS service area is younger than the U.S. All Races population, based on the 1990 Census. For Indians, 33% of the population was younger than 15 years, and 6% was older than 64 years. For the U.S. All Races population, the corresponding values were 22% and 13% respectively. The Indian median age was 24.2 years compared with 32.9 years for U.S. All Races. The service area for Urban Indian Projects overlaps with the traditional IHS service area. According to the 1990 Census, there were over 360,000 Indians residing in the Urban Projects service area. Of these, 37% also were within the IHS service area.

According to the 1990 Census, Indians have lower incomes than the general population. In 1989, Indians residing in the current Reservation States had a median household income of $19,897 compared with $30,056 for the U.S. All Races population. During this time period, 31.6 percent of Indians lived below the poverty level in contrast to 13.1 percent for the U.S. All Races population.

Natality and Infant/Maternal Mortality Statistics

The birth rate for American Indians and Alaska Natives residing in the IHS service area was 25.6 (rate per 1,000 population) in 1992-1994. It is 65 percent greater than the 1993 birth rate of 15.5 for the U.S. All Races population.

The maternal mortality rate for American Indians and Alaska Natives residing in the IHS service area dropped from 27.7 (rate per 100,000 live births) in 1972-1974 to 4.0 in 1992-1994, a decrease of 86 percent. The 1992-1994 rate remains at 4.0 even after adjustment for miscoding of Indian race on death certificates because there were only four maternal deaths, actual and adjusted. If all the past Indian rates were similarly adjusted for miscoding, the actual/unadjusted trend line might rise in value, but the rate of change would probably remain the same.

The infant mortality rate for American Indians and Alaska Natives residing in the IHS service area dropped from 22.2 (rate per 1,000 live births) in 1972-1974 to 8.7 in 1992-1994, a decrease of 61 percent. When the 1992-1994 rate is adjusted for miscoding of Indian race on death certificates, it increases to 10.9. This is 30 percent higher than the U.S. All Races rate of 8.4 for 1993. If all the past Indian rates were similarly adjusted for miscoding, the actual/unadjusted trend line would rise in value, but the rate of change would probably remain the same.

General Mortality Statistics

The leading cause of death for American Indians and Alaska Natives residing in the IHS service area (1992-1994) was diseases of the heart followed by malignant neoplasms (the same as for the total U.S. All Races population in 1993). However, the cause of death rankings differ by sex. For Indian males, the top two causes were diseases of the heart and accidents. For Indian females, the top two causes were diseases of the heart and malignant neoplasms.

In 1992-1994, the Indian (IHS service area) age-adjusted death rates for the following causes were considerably higher than those for the U.S. All Races population in 1993. These Indian rates have been adjusted for
miscoding of Indian race on death certificates.

1) alcoholism - 579 percent greater,
2) tuberculosis - 475 percent greater,
3) diabetes mellitus - 231 percent greater,
4) accidents - 212 percent greater,
5) suicide - 70 percent greater,
6) pneumonia and influenza - 61 percent greater, and
7) homicide - 41 percent greater.

Patient Care Statistics

In FY 1995, there were about 89,000 admissions to IHS and Tribal direct and contract general hospitals. The leading cause of hospitalization was obstetric deliveries and complications of pregnancy and puerperium.

The total number of ambulatory medical visits (IHS and Tribal direct and contract facilities) was over 6.5 million in FY 1995, an increase of over 1,300 percent since FY 1955. The leading cause of ambulatory medical visits in IHS

and Tribal direct and contract facilities was supplementary classification conditions. The supplementary classification category includes such clinical impressions as other preventive health services, well child care, physical examination, tests only (lab, x-ray, screening), and hospital, medical, or surgical follow-up.

The number of direct and contract dental services provided (IHS, Tribal, and Urban) increased over 1,200% (from under 0.2 million in FY 1955 to about 2.4 million in FY 1996).

Community Health Statistics

For people accepted for treatment into the IHS substance abuse treatment program, most initial contacts are for alcohol addiction only. However, the number of initial contacts involving other drugs has been increasing. Also, the age-adjusted drug-related death rate for Indians residing in the IHS service area increased from 3.4 deaths per 100,000 population in 1979-1981 to 5.3 in 1992-1994. When the 1992-1994 rate is adjusted for miscoding of Indian race on death certificates, it increases to 6.0. This is 18 percent higher than the U.S. All Races rate of 5.1 for 1993. If all the past Indian rates were similarly adjusted for miscoding, the actual/ unadjusted trend line would rise in value, but the rate of change would probably remain the same.

The IHS Injury Prevention (IP) program has a wide variety of projects in place in all IHS Areas to address this major health problem. Exemplary projects are: child passenger protection, roadway/roadside hazard identification, safety belt use promotion, deterring drinking and driving, drowning prevention, smoke detector usage, helmet use, and injury prevention campaign. The IHS IP program has contributed to a 29% decline in IHS and Tribal direct and contract hospitalizations for injuries and poisonings since FY 1987.

The nutrition and dietetics program reported over 237,000 patient/client contacts during FY 1996. About two-fifths of the contacts were in the hospital setting (38 %) followed by the contacts for ambulatory clinic (35%) and community (27%). Over two-thirds (68%) of the contacts were for clinical nutrition counseling and nearly one-quarter (23%) were for health promotion. Of the clinical nutrition counseling contacts, the majority were for general nutrition (52%) and diabetes (26%). Due to a change to the IHS Generic Activities Reporting System software in FY 1994, analysis by encounter type is not possible.

The number of patient/client contacts reported by the nutrition and dietetics program decreased 22% since FY 1994. During this time period, program resources remained essentially the same, but there was a decrease in the number of staff using the reporting system due to Self-Governance.

There were nearly 693,000 public health nursing visits recorded in the Headquarters reports for FY 1996. The most frequent program areas dealt with during these visits were health promotion/disease prevention (32% of the visits), morbidity (23%), and child health (9%). The visits were concentrated in two age groups, children under 5 years of age (22%) and adults over the age of 64 (18%). Female visits outnumbered male visits by nearly 61%.

The community health representative (CHR) program reported nearly 3.9 million client contacts in FY 1996. Most of these contacts took place in the community (43%). The two leading detailed activities for CHR contacts in FY 1996 were health education (24%) and case management (19%). The reduction of reported CHR services in FY 1996 (from 4.1 million in FY 1993) reflects the transfer of resources to Tribes as part of the Self-Governance activity. A large number of Self-Governance Tribes elected not to use the national CHR program reporting system.

Since 1960, nearly 209,000 Indian homes were funded by IHS for the provision of sanitation facilities. These services included water and sewerage facilities, solid waste disposal systems, and technical assistance to establish and equip operation and maintenance organizations for new, rehabilitated, and existing homes. Contributions to IHS sanitation facilities projects are received from numerous sources. In FY 1996, the largest source of funds (45% of the total) was attributable to local governments. Tribes contributed 32% and the Department of Housing and Urban Development (HUD) infrastructure 20% of the funds for these cooperative projects.

The FY 1997 sanitation facilities deficiencies to serve existing American Indian and Alaska Native homes and communities totals $716 million. This amount is to provide first service sanitation facilities, to upgrade existing facilities, to provide solid waste facilities, and to provide assistance to operation and maintenance organizations.

Health education providers spent the majority of their time in the office (50% of total provider hours) followed by hospital/clinic (14%) and Tribal worksite (12%). Thirty percent of health education clients were served at a school location and 23% at a Tribal worksite. Health education providers devoted 24% of their time to support services and 22% to design education objectives/materials. Over 80% of health education clients received services in one of two functional areas — implementing/teaching (69%) or design education objectives/materials (13%). These health education percentages are based on reporting from only some of the IHS Areas. See the “Sources and Limitations of Data” section that follows for a more complete discussion of the data qualifications.

Sources and Limitations of Data

Population Statistics

The IHS service population consists of American Indians and Alaska Natives identified to be eligible for IHS services. IHS service population estimates are based on official U.S. Census Bureau county data. The Census Bureau enumerates those individuals who identify themselves as being American Indian, Eskimo, or Aleut. The IHS service population is estimated by counting those American Indians, Eskimos, and Aleuts (as identified during the Census) who reside in the geographic areas in which IHS has responsibilities ("on or near" reservations, i.e., contract health service delivery areas (CHSDAs)). The IHS service population comprises approximately 60% of all Indians residing in the U.S. These people may or may not use IHS services.

The IHS service population estimates, which are shown in this publication, need to be contrasted to the IHS user population estimates that are shown in the *Regional Differences in Indian Health* publication. IHS user population estimates are based on data from the IHS Patient Registration System. Patients who receive direct or contract health services from IHS or Tribally operated programs are registered in the Patient Registration System. Those registered Indian patients that had at least one direct or contract inpatient stay, ambulatory medical visit, or dental visit during the last 3 years are defined as users. IHS user population figures are used for calculating IHS patient care rates. In contrast, IHS service population figures are used in calculating Indian vital event rates since State birth and death certificates do not provide information on use of IHS services.

IHS service populations between Census years (e.g., 1980 and 1990) are estimated by a smoothing technique in order to show a gradual transition between Census years. This normally results in upward revisions to service population figures projected prior to a Census, since each Census tends to do a better job in enumerating American Indians and Alaska Natives. For example, the American Indian and Alaska Native service population enumerated in 1990 was approximately 8% higher than that estimated by IHS for 1989. Therefore, after release of the 1990 enumeration figures, IHS smoothed the service population estimates for 1981-1989. That set of smoothed populations was used in the 1992 edition of this series. Subsequently, the Census Bureau issued revised 1990 Census American Indian and Alaska Native population

counts by age and sex for all U.S. counties. They resulted in a 3.9% increase for the 1990 IHS service population using these "new" 1990 Census counts compared to the "old" 1990 Census counts. In order to adjust for this 1990 increase, IHS again smoothed the service populations for 1981-1989. This second set of smoothed populations was used in the 1993 edition of the series. The Census Bureau then issued revised 1980 Census American Indian and Alaska Native population counts by age and sex for all U.S. counties, as was done for 1990. They resulted in a 2.8% increase for the 1980 IHS service population using these "new" 1980 Census counts compared with the "old" 1980 Census counts. In order to adjust for this 1980 increase, IHS for a third time smoothed the service populations for 1981-1989. This third set of smoothed populations was used for the first time in the 1994 edition of the series.

IHS service populations beyond the latest Census year (1990) are projected through linear regression techniques, using the most current 10 years of Indian birth and death data provided by the National Center for Health Statistics. The natural change (estimated number of births minus estimated number of deaths) is applied to the latest Census enumeration.

The IHS does not currently forecast changes in the service population distribution by age and sex. Rather, appropriate Indian age and sex distributions from Census years are applied to population estimates for non-Census years.

The social and economic data contained in this publication are from the 1990 Census. They reflect the characteristics of persons that self-identified as Indian during the Census.

Vital Event Statistics

American Indian and Alaska Native vital event statistics are derived from data furnished annually to the IHS by the National Center for Health Statistics (NCHS). Vital event statistics for the U.S. population were derived from data appearing in various NCHS publications, as well as from some unpublished data from NCHS. NCHS obtains birth and death records for all U.S. residents from the State departments of health, based on information reported on official State birth and death certificates. The records NCHS provides IHS contain the same basic demographic items as the vital event records maintained by NCHS for all U.S. residents, but with names, addresses, and record identification

numbers deleted. It should be noted that Tribal identity is not recorded on these records. Tabulations of vital events for this publication are by place of residence.

The data are subject to the degree of accuracy of reporting by the States to NCHS. NCHS does perform numerous edit checks and imputes values for non-responses.

It is known that there is miscoding of Indian race on State death certificates, especially in areas distant from traditional Indian reservations. In order to determine the degree and scope of the miscoding, IHS conducted a study utilizing the National Death Index (NDI) maintained by NCHS. The study involved matching IHS patient records of those patients who could have died during 1986 through 1988 with all death records of U.S. residents for 1986 through 1988 as contained on the NDI. The results were published in a document entitled, *Adjusting for Miscoding of Indian Race on State Death Certificates*, November 1996. The study revealed that on 10.9% of the matched IHS-NDI records, the race reported for the decedent was other than American Indian or Alaska Native. The percentage of records with inconsistent classification of race ranged from 1.2% in the Navajo Area to 28.0% and 30.4% in the Oklahoma and California Areas, respectively.

The results of the NDI study provide sufficient numbers to calculate adjustments for each IHS Area, IHS overall, and selected age groups. In addition to these adjustments based on the study findings, IHS assumed the following: a) the results from 1986-1988 apply to years beyond 1988, b) IHS age-group adjustments applied also to each Area, and c) the Area adjustments applied to the causes of death used in this publication (i.e., if an Area's total deaths needed to be increased by 10%, then the deaths for each cause of death would also increase by this same rate). These assumptions cannot be statistically supported by the results of the study. However, IHS felt that it was necessary to adjust all of the death rates in this publication to provide a meaningful and comprehensive look at health status. IHS also believes that they are reasonable adjustments.

These NDI adjustments are used for the first time in this edition. Both unadjusted and adjusted information is shown, as applicable. The adjustments were applied to the results obtained from using an unadjusted death file. In the meantime, an approach that would add records to the unadjusted death file based on the study findings is being investigated. For this edition, only the latest 3 years of death data are being

adjusted based on the study findings. In the next edition, the adjustments will extend back to 1986, the beginning data year of the study.

IHS has more specific adjustment factors for the age group under 1 year. These are derived from the linked birth/infant death data sets produced by NCHS. IHS now has sufficient years of this data set (1983-1991) to calculate adjusted infant mortality rates. Starting with this edition, unadjusted and adjusted infant mortality rates will be shown. IHS is assuming that data years 1992-1994 can be adjusted based on the results from prior years of the linked data sets, which is not statistically sound but reasonable. These adjustments for 1992-1994 take precedent over the NDI adjustments for the under 1 year age group, described above.

The vital event statistics in this publication pertain to only American Indians and Alaska Natives residing in the IHS service area. Editions of this publication before 1992 showed vital event statistics calculated on a Reservation State basis. Therefore, data were included for Indians resid-ing outside the geographic areas for which IHS has responsibility. This was done in order to show trends starting in FY 1955, to correspond with the inception of the Indian Health Service (IHS) program. Prior to 1972, only total Reservation State data are available.

Now that there are sufficient vital event data available for the IHS service area to show meaningful trends, this publication shows vital event statistics for the IHS service population, starting with data for calendar year 1972. IHS service area data are more indicative of the health status of the Indians that IHS serves. Reservation State vital event rates tend to be lower in value (i.e., lower birth rates, lower death rates) than IHS service area rates. However, the vital event tables in this publication will still include the 1955 Reservation State figure as an historical benchmark.

The Indian population is considerably younger than the U.S. All Races population. Therefore, the death rates presented in this publication have been age-adjusted, where applicable, so that appropriate comparisons can be made between these population groups. One exception is the information presented for leading causes of death. In order to determine the leading causes of death for a population group, it is necessary to rank causes of death without any adjustment for age. However, it should be kept in mind that the ranking of causes of death for a population group is affected by its age composition.

Beginning with the 1996 edition, the leading causes of death are shown

for finer age groups in support of the IHS Director's initiatives on youth and elder care. In particular, the 1 to 14 year age group has been split into 1 to 4 and 5 to 14, and the 45 to 64 year age group has been split into 45 to 54 and 55 to 64.

The age-adjusted death rates presented in this publication were computed by the direct method, that is, by applying the age-specific death rate for a given cause of death to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard since this is the standard used by NCHS. The rates for the total population and for each race-sex group were adjusted separately, by using the same standard population. The age-adjusted rates were based on 10-year age groups. It is important not to compare age-adjusted death rates with crude rates.

Prior to the 1993 edition of this publication, alcoholism deaths were defined through the use of three ICD-9 cause of death code groups: 291 — alcoholic psychoses; 303 — alcohol dependence syndrome; and 571.0-571.3 — alcoholic liver disease. Various IHS Area statisticians and epidemiologists believed this definition to be incomplete and suggested that it be expanded to include five additional ICD-9 code categories. These "new" categories were used for the first time in the 1993 edition. They include; 305.0 — alcohol overdose; 425.5 — alcoholic cardiomyopathy; 535.3 — alcoholic gastritis; 790.3 — elevated blood-alcohol level; and E860.0, E860.1 — accidental poisoning by alcohol, not elsewhere classified. This expanded definition results in about a 25% increase in the number of alcoholism deaths identified in comparison to the previous 3-group definition. NCHS is now publishing alcoholism deaths with a definition that includes codes that IHS had not used, i.e., 357.5 — alcoholic polyneuropathy and all of E860 (not just E860.0 and E860.1) — accidental poisoning by alcohol. To be consistent with NCHS, these additional codes are now used by IHS starting with the 1996 edition. The NCHS definition includes all of the code groups previously used by IHS plus these new codes. This NCHS definition of alcoholism deaths is now used in all IHS publications, including *Regional Differences in Indian Health*.

NCHS is also now publishing drug-related deaths with a definition that includes codes that IHS had not used, i.e., 292 — drug psychoses and E962.0 — assaults from poisoning by drugs and medicaments. To be consistent with NCHS, this additional code was used by IHS for the first time in the 1996 edition. The NCHS definition includes all of the code groups previously used by IHS plus these two codes. This NCHS defini-tion of drug-related deaths is now used in all IHS publications, including *Regional Differences in Indian Health*.

Injury and poisoning deaths are shown for various sub-groups in this publication, e.g., accidents, homicides, suicides. A new grouping, "injury by firearms," was added starting with the 1996 edition because of its significance in the Indian community. It includes deaths with the following ICD-9 codes: E922 — accident caused by firearm missile; E955.0-E955.4 — suicide and self-inflicted injury by firearms; E965.0-E965.4 and E970 — assault by firearms and legal intervention; and E985.0-E985.4 — injury by firearms, undetermined whether accidently or purposely inflicted. Injury by firearm causes exclude explosives and other causes indirectly related to firearms.

Patient Care Statistics

Patient care statistics are derived from IHS reporting systems. There are four main patient care reporting systems. The Monthly Inpatient Services Report is a patient census report that is prepared by each IHS hospital. It indicates the number of discharges and days by type of service (e.g., adult, pediatric, obstetric, newborn), and is used for the direct inpatient workload statistics. The Inpatient Care System is the source of IHS hospital inpatient data pertaining to various patient characteristics (age, sex, principal diagnoses, other diagnoses, community of residence, etc.). The data are collected daily, one record per discharge. The Contract Care System is the source of similar contract hospital inpatient data.

The Ambulatory Patient Care System is the source of data pertaining to the number of ambulatory medical visits at IHS facilities by various patient characteristics (age, sex, clinical impression, community of residence, etc.). The data are collected daily, one record per ambulatory medical visit. The Contract Care System is the source of similar contract ambulatory medical visit data.

The data from the automated systems are subject to recording, inputting, and transmitting errors. However, the IHS Program Statistics Team monitors the reporting systems, and each one has a computer edit. In these ways, errors are kept to an acceptable level.

Starting with the 1996 edition, leading causes of hospitalization and ambulatory medical visits are shown for specific age groups. In prior editions, they were only shown for all ages and by sex.

There are seven other information systems that provide data, presented in this report, pertaining to patient care. The Clinical Laboratory Workload Reporting System is the source of laboratory services

data. The Pharmacy System is the source of pharmacy workload data. The Contract Information System and Grants Data System are the sources for Tribal health contract and grant awards information. The Urban Projects Reporting System is the source for workload data for the Urban Projects. The Dental Data System is the source for dental services data. The Fluoridation Data System, managed by the IHS Dental Services Team, is the source for fluoridation systems information. The Pharmacy System and Urban Projects Reporting System are manual systems; the others are automated. The systems are monitored by IHS Headquarters personnel.

Community Health Statistics

The source of alcoholism and substance abuse program data is the Chemical Dependency Management Information System (CDMIS). This is an automated system, with computer edits, that is monitored by IHS Headquarters personnel.

The nutrition and dietetics statistics are derived from the IHS Nutrition and Dietetics Program Activity Reporting System (NDPARS). This is an automated system, with computer edits, that is monitored by IHS Headquarters personnel. Starting with FY 1994, the data reported through NDPARS are incomplete. This is because some Tribes who are participating in the Self-Governance activity have elected not to use this program reporting system.

The public health nursing data are collected through the IHS Community Health Activity Reporting System. This is an automated system, with computer edits, that is monitored by IHS Headquarters personnel.

Data on the IHS Community Health Representatives (CHR) Program were obtained from the IHS Community Health Representative Information System (CHRIS II). CHRIS II is an automated reporting system that is monitored by IHS CHR Program Headquarters personnel. This system was approved by the Office of Management and Budget on March 31, 1989, and has been operational since July 10, 1989. Data are collected during one week randomly selected from each month. At the start of FY 1992, minor changes in the CHRIS II activity code categories were implemented. Primarily, the service codes were simplified by consolidating administrative functions. This change improved the data quality by greatly reducing the incidence of inaccurately reported persons served when administrative functions were performed by CHRs. In addition, the setting category, "radio/telephone," was added to allow the reporting of CHR services provided to individuals via these

media. Health area category names were changed only to add greater specificity and clarity to the activity reporting system and its data (e.g., "substance abuse" was changed to "alcohol/substance abuse"). Data presented encompass 12 sample reporting weeks. These data have been expanded to represent estimated workload for a 12-month period. Starting with FY 1994, the data reported through CHRIS II are incomplete. This is because many Tribes who are participating in the Self-Governance activity have elected not to use the national CHR program reporting system.

The sanitation facilities statistics are derived from IHS reporting systems and financial systems. The IHS reporting systems are the Project Data System and the Sanitation Deficiency System. The Project Data System is the source of detailed data on P.L. 86-121 construction projects that provide water supplies and sewerage and waste disposal facilities to American Indians and Alaska Natives. It includes such data as community name, type and number of homes provided with services, the funds allocated and funds expended, completion dates, and accomplishments. Data are collected quarterly. The Sanitation Deficiency System is the source of additional data on sanitation facilities serving American Indians and Alaska Natives. It includes such data as the number of homes served, water rates, fluoridation information, Safe Drinking Water Act Compliance, system reliability, and the unmet need for new or upgraded facilities. Data are collected annually. The systems are monitored by IHS Headquarters personnel.

The health education data are collected through the IHS Health Education Resource Management System (HERMS). This is an automated system, with computer edits, that is monitored by IHS Headquarters personnel. Currently, only some IHS Areas are reporting data using HERMS. The data have not been extrapolated to represent the totals of all IHS health education programs since the main purpose of the charts and tables is to show the distributions of provider hours and clients served. It is assumed that the distributions calculated from the data of the 5 Areas are similar to the distributions for all 12 Areas. It should be noted that the totals of provider hours and clients served are different for each chart/table due to specific report parameters. That is, different records may be excluded in the generation of the various reports because of screens specific to each report.

Glossary

Age Adjustment — The application of the age-specific rates in a population of interest to a standardized age distribution in order to eliminate the differences in observed rates that result from age differences in population composition. This adjustment is usually done when comparing two or more populations at one point in time or one population at two or more points in time.

Area — A defined geographic region for Indian Health Service (IHS) administrative purposes. Each Area Office administers several service units.

Average Daily Patient Load — The average number of patients occupying beds in a hospital on a daily basis. It is calculated by dividing total inpatient days for the year by 365.

Birthweight — Weight of fetus or infant at time of delivery (recorded in pounds and ounces or grams).

Cause of Death — For the purpose of national death statistics, every death is attributed to one underlying condition, based on information reported on the death certificate and utilizing the international rules for selecting the underlying cause of death from the reported conditions.

Community Health Representative (CHR) — Indians selected, employed, and supervised by their Tribes and trained by IHS to provide specific health care services at the community level.

Contract Care — Services not available directly from IHS or Tribes that are purchased under contract from community hospitals and practitioners.

Health Center — A facility, physically separated from a hospital, with a full range of ambulatory services, including at least primary care physicians, nursing, pharmacy, laboratory, and x-ray, that are available at least 40 hours a week for ambulatory care.

Health Station — A facility, physically separated from a hospital or health center, where primary care physician services are available on a regularly scheduled basis but for less than 40 hours a week.

High Birthweight — Birthweight of 4,000 grams or more.

Infant Mortality — Death of live-born children who have not reached their first birthday expressed as a rate (i.e., the number of infant deaths during a year per 1,000 live births reported in the year).

Life Expectancy — The average number of years of life remaining to a person at a particular age and is based on a given set of age-specific death rates, generally the mortality conditions existing in the period mentioned.

Live Birth — A live birth is the complete expulsion or extraction from its mother of a product of conception irrespective of the duration of pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

Low Birthweight — Birthweight of less than five pounds, eight ounces or 2,500 grams.

Maternal Death — The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Neonatal Mortality Rate — The number of deaths under 28 days of age per 1,000 live births.

Occurrence — Place where the event occurred.

Postneonatal Mortality Rate — The number of deaths that occur from 28 days to 365 days after birth per 1,000 live births.

Race — On death certificates, race is usually recorded by the funeral director who may or may not query the family members of the decedent. The race
of a newborn does not appear on the birth certificate. In this report, if either the mother, the father, or both parents were recorded as American Indian or Alaska Native on the birth certificate, the birth is considered as an American Indian or Alaska Native birth.

Reservation State — A State in which IHS has responsibilities for providing health care to American Indians or Alaska Natives.

Residence — Usual place of residence of person to whom event occurred. For births and deaths, residence is defined as the mother's place of residence.

Service Area — The geographic areas in which IHS has responsibilities—"on or near" reservations, i.e., contract health service delivery areas.

Service Population — American Indians and Alaska Natives identified to be eligible for IHS services.

Service Unit — The local administrative unit of IHS.

User Population — American Indians and Alaska Natives eligible for IHS services who have used those services at least once during the last 3-year period.

Years of Productive Life Lost (YPLL) — A mortality indicator that measures the burden of premature deaths. It is calculated by subtracting the age at death from age 65 and summing the result over all deaths.

Sources of Additional Information

Additional Indian health status information can be obtained from the IHS Program Statistics Team. Specific responsibilities are as follows:

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