

# INTRODUCTION

## ABOUT ALASKA

Alaska is the largest of the 50 states and contains approximately 16 percent of the country's landmass. Because of its size, Alaska has widely diverse geographic, climatic, and demographic characteristics, all of which affect public health.

Alaska contains roughly 586,412 square miles of land. Alaska's population in 2002 was 640,841, or slightly more than one person per square mile. Alaska also claims the most northern, western and eastern points of land in the United States, more miles of coastline than all of the contiguous 48 states combined (6,640 miles not including islands), over 5,000 glaciers, over 3 million fresh water lakes (one of which, Iliamna, is the second largest lake entirely within the U.S.), and 3,000 rivers, of which the Yukon is the third longest river in the United States. Much of the coastline and fresh water areas are used as transportation corridors, as well as fishing grounds. Remote lands are used for hunting and recreational activities.

Unique climatic conditions affect Alaska's people. Temperatures can range from as high as 100°F to lows that approach -80°F. Alaska experiences extremes in precipitation as well. Some areas of the state may receive up to 200 inches of precipitation annually, while other areas receive as little as 12 inches.

With diverse cultures, sparse population, severe temperatures, vast coastline, and outdoor lifestyles, the state experiences many unique health care challenges. One such challenge is assisting residents who live in remote areas of the state. The Native Health Corporations, the Alaska Compact between the Indian Health Service and individual tribes, the State of Alaska, and private entities provide health care in these areas through funding for public health nurses and other health care workers.

The Bureau of Vital Statistics 2002 Annual Report focuses on health status indicators in Alaska. Some comparisons between Alaska health status indicators and national indicators are made. Although some similarities exist between Alaska and the rest of the United States, there is

much dissimilarity. By reporting these indicators, our hope is to assist other professionals to evaluate the status of health in Alaska. The events and vital statistics discussed throughout this report can be useful tools for health care planners, providers, and professionals, but do not provide answers in themselves.

## HOW VITAL STATISTICS ARE COLLECTED

Section 18.50.010 of the Alaska Statutes establishes the Bureau of Vital Statistics to install, maintain, and operate a system of vital records. These records contain birth, death, fetal death, divorce, marriage, and adoption information.

When a birth occurs in Alaska, there is a legal process for recording that birth (AS 18.50.160). Generally, a physician, midwife, and/or hospital medical records staff person prepares a birth certificate from information provided by the birth parent(s) and the delivery attendant. Death certificates are usually completed by a funeral home staff member or a local magistrate, and then certified by the attending physician or medical examiner.

Death certificates should be filed with the local recording district office within three days of the date of death (AS 18.50.230). After the certificate has been recorded at the local district office, it is then forwarded to the Bureau of Vital Statistics in Juneau for registration.

When a birth or death occurs in Alaska to a resident of another state, the Bureau sends the respective state's registrar a copy of the certificate. Similarly, when a birth or death occurs to an Alaskan resident in another state, that state's registrar, by formal agreement, sends a copy of the certificate to the Alaska Bureau of Vital Statistics. This cooperative arrangement allows us to include all births and deaths involving Alaskan residents wherever they occur within the country.

In the past, the Alaska Court System issued a license and filed a certificate for each marriage performed in the state. The certificate was filed with the local recording office of the Court System within seven days of the marriage (AS 18.50.270). The local recording office then forwarded the certificate to the Bureau for registration and permanent retention. In 1997 the Bureau of Vital Statistics began

issuing marriage licenses in Juneau, Anchorage, and Fairbanks, as well as registering and providing permanent retention of documents. Marriage licenses in other parts of the state continue to be issued by the Court System under the Bureau's oversight.

Divorce, dissolution, and annulment certificates are prepared by a clerk of the court from information provided by the petitioner, plaintiff, and (possibly) court documents. The completed certificate is then forwarded to the Bureau for final registration (AS 18.50.280).

For each adoption granted by the court, a report of adoption is prepared and registered with the Bureau (AS 18.50.210). In the event that a child was born in Alaska and adopted in another state, the Bureau receives and acts on that state's report of adoption.

## POPULATION ESTIMATES

Population estimates used in this report were obtained from the State of Alaska, Department of Labor (DOL), Research and Analysis Section (R&A), Demographics Unit. Totals are made by race, age, and geographic area. The 2002 Alaskan census population was 640,841 persons, with 330,099 males and 310,742 females. During 2002 there were 106.2 males for every 100 females in Alaska.

The Alaska Department of Labor updates its population estimates annually. The estimate of total population is revised each year to correspond to the U.S. Census Bureau state total. Using the decennial census as a base, birth, death, IRS, Alaska Permanent Fund and education statistics are used to produce annual population estimates for geographic areas.

Residents of the Anchorage census area comprised 41.9 percent of the state's population during 2002. About 80.0 percent of Alaska's population was concentrated in six census areas: Anchorage, Fairbanks, Juneau, Kenai, Ketchikan, and Matanuska-Susitna.

The age of a population is important when interpreting vital statistics, because behaviors and health risks of younger populations differ from those exhibited by older populations. Age, race, and sex distributions within a population are also important. The median age for Alaskan males during 2002 was 32.9 years; for females it was 32.8 years; and for all Alaskans it was 32.9 years. The median

age for males in the United States was 34.7 years and for females it was 37.0 years<sup>1</sup>. For an example of the disparity of the age distribution of Alaska versus that of the United States, please refer to Figure I.1 in Appendix I. For further information about interpretation of vital statistics, refer to "How to Use Vital Statistics" in Appendix B.

## HOW CERTIFICATES ARE PROCESSED

In 1994, the Bureau instituted an Electronic Birth Certificate (EBC) system. This system enables hospital and clinic staff to record all birth certificate information by computer. As information is entered for each individual certificate, the computer checks for invalid or improbable data. When the certificate has been entered on the EBC system, the data is certified, recorded, and filed by the Bureau. Each certificate is then examined electronically for missing or out-of-range information and returned to the facility or birth attendant for verification and/or correction. During 2002, almost 97 percent of all births occurring in Alaska were recorded using the EBC.

Other vital records received by the Bureau go through a different verification process. First, a trained documents processor reviews the certificate for completeness. If the certificate is incomplete it is returned to the appropriate office for completion. Once a document has been received and accepted, two different employees enter information into the database. This double-entry verification process reduces data entry errors.

A physician or medical examiner determines causes of death and narrative descriptions are entered on the death certificate. The narrative causes of death are typed into a computer file by Bureau staff. SuperMICAR, a program produced, maintained, and provided by the National Center for Health Statistics (NCHS), codes 85–90 percent of causes of death according to ICD-10 standards. (See Appendix C for groupings of ICD-10 causes of death). The Bureau transmits the computer file by diskette or e-mail to NCHS. NCHS completes coding for the remainder of the records. This coding is then returned to the Bureau and uploaded into its database.

## HOW THIS REPORT WAS PREPARED

After documents have been entered into the Bureau's database, research staff performs computer checks to test for missing, out-of-range, and duplicate data. Because

<sup>1</sup> Census 2002, US Census Bureau, Washington DC

this report is based not only on events that occur in Alaska, but also events that occur in other states to Alaska residents, there may be a significant lag time before data is received.

Waiting for all data to arrive and eliminating duplicate entries are both important steps for ensuring the most accurate report possible. Once we believe the data is both accurate and complete, data programs can be run to generate information from which the tables, charts, and narrative analyses can be written for this report.

There are a number of ways to report vital events including numbers of events, rates based on total populations, or rates based on specific populations. For a discussion of the use of vital statistics and a comparison of different populations, see Appendix B.

## **DETERMINATION OF RACE**

The National Center for Health Statistics (NCHS) issues guidelines for determining the race of a child at birth. With few exceptions, the child's race on the birth certificate is the same as the mother's stated race. These guidelines became effective in 1989. Appendix E provides more details on how the race of the child is determined.

Sometimes race will be recorded differently on death certificates. This can distort death rates, particularly in the case of infant mortality, where a child's race may be reported as white on the birth certificate because the mother is white, and Native on the death certificate because the father is Native. To ensure consistent reporting and calculation of rates, all death certificates for decedents who were born in Alaska in 1989 or later are matched with the birth certificate and the child's race at birth is used for calculating deaths and death rates by race.