

# INTRODUCTION

This publication by the Arizona Department of Health Services, ***Arizona Health Status and Vital Statistics 2008***, is the annual update of information on vital statistics and the health status of Arizona residents. It provides population-wide data on *pregnancies, births, abortions, stillbirths, reportable diseases, deaths, marriages, divorces, hospital inpatient discharges, emergency department visits* and the *population* of the State.

The year 2008 report consists of 258 tables, 135 graphs, and accompanying text. It highlights both the statewide trends and patterns in the general population, as well as inequalities in the health status among ethnic groups and Arizona's counties. When possible, the data for 2008 are placed in a temporal context by comparison with the data for the preceding years.

The updated *Index to Tables* in this report contains more than 600 entries referring to specific health conditions, risk factors, disease categories, diagnostic groupings, procedures performed on hospital inpatients and causes of death. The year 2008 report for the first time provides the inpatient hospitalization data with the diagnosis of enterocolitis due to *Clostridium difficile*, a disease often acquired in hospitals and other health care institutions with long-term patients and residents.

The information in this volume consists of frequencies and rates of vital events for the State's residents (except as noted). The report contains approximately 4,900 age-adjusted and 6,200 age-specific mortality rates, and more than 15,000 other rates and ratios (fertility rates, pregnancy rates, crude death rates, rates of natural increase, etc.).

Since 1992, the report has been organized into three major parts, reflecting differences in geographic coverage:

*Part I is concerned with statewide statistics, Part II presents county-level information, Part III is focused on community-level data.*

The first two parts are further divided into sections on reproductive and perinatal health, utilization of hospital care, mortality and the status on year 2010 health objectives.

Not all health statistics are available on a sub-county level. Hence, information about pregnancies, stillbirths, induced terminations of pregnancy (abortions), inpatient discharges,

emergency room visits, reportable diseases, marriages and marriage dissolutions is given only for the State and by county.

Part I, ***THE STATE***, of the report has four chapters. The first chapter deals with *reproductive and perinatal health*, i.e., characteristics of women who became pregnant, factors related to the course of their pregnancies and the status of pregnancy outcomes. Much of these data are given for each year from 1998 to 2008. The natality section of this report is concerned with fertility and birth rates, the general health of newborns as indexed by birthweight and prematurity and selected demographic and prenatal care characteristics of the women giving birth.

The second chapter is focused on *trends and patterns in mortality*. It compares the annual age-adjusted profile of leading causes of death by gender from 1998 to 2008. Urban/rural and ethnic differences in cause-specific mortality are also examined for Arizona residents. The five leading causes of death are discussed for infants (<1 year), children (1-14 years), adolescents (15-19 years), young adults (20-44 years), middle-aged adults (45-64 years) and the elderly (65 or more years). For each age group, cause-specific mortality is compared between urban (i.e. Maricopa, Pima, Pinal and Yuma counties) and rural (all other counties) regions and between genders by year from 1998 to 2008. Urban and rural regions are compared in gender-specific total mortality. The chapter on mortality concludes with an examination of patterns of premature mortality by gender and race/ethnicity.

*Morbidity*, levels of disease in the population, is the topic of the third chapter. The presentation is limited to data on diseases reported for the entire population of the State by statutory mandate.

Chapter 4 is focused on *inpatient hospital care*, as well as *emergency room care* in Arizona in 2008. An inpatient discharge occurs when a person who was admitted to a hospital leaves that hospital. A person who has been hospitalized more than once in a given calendar year will be counted multiple times as a discharge and included more than once in the hospital inpatient discharge data set; thus, the statistics in this report are for discharges, not persons.

The available data are for non-Federal short-stay hospitals. Federal, military and the Department of Veteran Affairs hospitals are not included. All discharges are for the residents of Arizona. Discharges of out-of-state residents are not included in this report. Diagnostic groupings and code numbers are based on the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM).

Beginning in 2008, up to twenty-five diagnoses are coded for each discharge. In sections 4A and 7A, discharges are presented by first-listed (or principal) diagnosis, which is the first one listed on the discharge summary of the medical record. The number of first-listed diagnoses is the same as the number of discharges. For comparability with the national data, the discharge rates are presented per 10,000 population.

The data on the number procedures in sections 4B and 7B are for inpatients only. Procedures include surgical and non-surgical operations, diagnostic procedures, and special treatments reported on the medical record. Up to six procedures were included for each discharge. These all-listed procedures include all occurrences of the procedure regardless of the order on the medical record. Procedure groupings and code numbers also are based on the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM).

Preceding the tabulated data in the first four chapters is a narrative description of the findings. This description is not meant to be exhaustive but rather is a presentation of the major highlights to be gleaned from the data.

Part II and Part III contain information with no accompanying narrative.

Part II, **THE COUNTIES**, presents the tabulated data on 1) Trends and patterns in health status and vital statistics by county of residence in Chapter 5, 2) County profiles and statewide trends on indicators for assessing health status and monitoring progress toward Arizona and national year 2010 objectives (Chapter 6). The health indicators are organized around ten subject areas: *maternal, infant and child health, responsible sexual behavior, vaccine preventable diseases, injury and violence, cancer, diabetes, heart disease and stroke, respiratory diseases, human immunodeficiency virus (HIV) disease, and substance abuse*; Hospital inpatient and emergency room statistics by disease category, diagnosis group and all-listed procedures by patient's county of residence in the State (Chapter 7), and 3) Selected historical vital

events (births, deaths, infant deaths, marriages and dissolutions of marriage) by year and county in the State for 1950-1997 (Chapter 8).

Part III, **THE COMMUNITIES**, provides readers with selected community-level data on live births and deaths in Arizona in 2008 (Chapter 9).

Chapter 10 presents population denominators for Arizona by gender, age groups, county of residence and race/ethnicity.

To use **Arizona Health Status and Vital Statistics 2008** effectively, the reader should become familiar with *Technical Notes* at the end of the report. They provide definitions of terms used in the report, as well as information about the sources of data. *Technical Notes* also provide a link to detailed comparability ratios used to make comparisons between cause-of-death data classified by the Ninth and Tenth Revisions of the International Classification of Diseases.

In addition to bound form, the **Arizona Health Status and Vital Statistics 2008** is available online at:

<http://www.azdhs.gov/plan/report/ahs/>

In order to be of maximum usefulness, the public health data must be timely. It is our pleasure to release **Arizona Health Status and Vital Statistics 2008** within nine months after the end of the data calendar year. Below are some highlights from the report.

#### **THE UNPRECEDENTED 2008**

The users of this annually updated publication most likely do not expect to see dramatic changes on a year earlier. The changes tend to be gradual and the rates of vital events are quite predictable over time. The 2008 data calendar year was not only very different from 2007 but, in many ways, unprecedented.

It is important to view the vital events of 2008 within a broader context of economic and legal factors, which were previously absent. The most severe economic depression in 80 years obviously is one of these factors. The high rate of foreclosures, many built but vacant houses, rising unemployment, the collapse of the home construction business, etc. have impacted not only vital events (such as the number of resident births) but also in-and-out migration. Implementation of the employer-sanction law on January 1<sup>st</sup>, 2008 (a penalty on employers hiring illegal immigrants), and a widespread practice of e-verify (checking the legal-residence status of those seeking employment) affected Hispanics or Latinos, the second largest group of State's residents.

## RESIDENT BIRTHS

In 2008, there were 99,215 resident births, 3,472 fewer than the 102,687 in 2007. Hispanics or Latinos, who experienced the largest annual decline in the number of births by 6.8 percent, accounted for 9 out of 10 fewer births in 2008 compared to 2007.

Among women who gave birth in Arizona in 2008:

- 57,530 had no private insurance to pay for birth,
- 44,730 were unmarried (which may signify absence of emotional, social and financial resources)
- 31,840 had a serious medical condition such as hypertension, anemia or diabetes
- 27,173 experienced complications during labor and/or delivery
- 20,480 received late or no prenatal care
- 12,160 were teenagers 19 years old or younger
- 5,200 smoked and/or used alcohol during pregnancy (all numbers are rounded to the nearest ten).

## BIRTHS BY PAYER

The AHCCCS share was essentially unchanged between 2005 and 2008. The share of private health insurance remained stable at 42 percent in 2007 and 2008. The payment source was the mothers themselves and/or their families (i.e., self-pay) in 2.6 percent of the deliveries.

## TEEN PREGNANCIES

In 2008, both the number of teen pregnancies and the pregnancy rate were lower than they were in 2007. From 2007 to 2008 the number of teen pregnancies decreased by 6.6 percent and the pregnancy rate by 8.1 percent.

## TOTAL MORTALITY

During 2008, 44,128 Arizona residents died, 488 more than in 2007. Despite a slight increase in the number of deaths, the 2008 age-adjusted mortality fell to 659.6, hitting a record low. In addition, the average age at death increased to 77 years.

## INFANT MORTALITY

In 2008, 625 infants died before reaching their first birthday, a decrease by 10.8 percent from 2007. The infant mortality rate (IMR) decreased from 6.8 infant deaths per 1,000 live births in 2007 to 6.3/1,000 in 2008.

Birthweight is one of the most important predictors of an infant's survival chances. Together, births of infants weighing less than 1,000 grams accounted for 0.6 percent of births, and 39.0 percent of all infant deaths. Infants weighing less than 500 grams in 2008 had a

very high mortality rate of 82.0 percent.

## CAUSE-SPECIFIC MORTALITY

The number of drug-related deaths declined by an unprecedented 44.4 percent from 940 in 2007 to 523 in 2008. It is unclear whether this decline can be attributed to financial difficulties in a recession combined, perhaps, with a stricter control of the southern border with Mexico, and stricter law enforcement within the State

## MATERNAL MORTALITY

In 2008, eight women were reported to have died from maternal causes, the same number as in 2007. In the eleven-year period from 1998 to 2008, the causes of maternal deaths in the State have included *complications following childbirth* (i.e. complications of the puerperium, 31.3 percent), *complications mainly related to pregnancy* (16.4 percent of all maternal deaths) and complications *occurring in the course of labor and delivery* (11.9 percent). *Ectopic pregnancy* accounted for 7.5 percent of maternal deaths in 1998-2008.

## HOSPITAL CARE

In 2008, there were 664,379 inpatients discharged, excluding newborn infants, from non-Federal short stay hospitals in Arizona. Among those admitted as inpatients, 2,270 Arizonans were hospitalized with the diagnosis of enterocolitis due to *Clostridium difficile*, a bacterial inflammation of the intestines. The disease is of growing public health concern because it is often acquired in hospitals and other health care institutions with long-term patients as residents.

In 2008, 139 Arizonans died from enterocolitis due to *Clostridium difficile*. Elderly 65 years or older accounted for 89.2 percent of these deaths.

## EMERGENCY ROOM CARE

During 2008, more than 1.7 million visits were made by Arizona residents to hospital emergency rooms. In 2008, *abdominal pain, acute upper respiratory infection, contusion with intact skin surface, chest pain, mental disorders, and spinal disorders* were the leading diagnostic categories, accounting for approximately one-fourth (23.6 percent) of all visits.

In 2008 there were 7,444 suicide attempt-related ER visits, 60 percent more than in 2007.

A comparison of some of the basic findings for the State for 1998, 2003, and 2008 is presented on the following page.