

Poisonings Among Arizona Residents, 2007

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Prepared by: Alana Shacter, MPH
150 North 18th Avenue, Suite 320
Phoenix, AZ 85007
Injury Prevention Program
Bureau of Women's and Children's Health
Arizona Department of Health Services
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Executive Summary

Poisonings were the underlying cause of death for 966 Arizona residents in 2007. Males ages 45 through 54 years had the highest rate of poisoning-related deaths with 45.5 deaths per 100,000 residents. Poisoning mortality rates were highest among Non-Hispanic Whites (19.1 deaths per 100,000 residents) and African Americans (18.3 deaths per 100,000 residents). Seventy-one percent of the poisoning-related deaths in 2007 were due to unintentional injuries (n=689); 22 percent were due to suicide (n=212); and seven percent were of an undetermined manner of death (n=64). The poisons most commonly specified on death certificates in 2007 were cocaine (13 percent, n=125), Oxycodone or Hydrocodone (12 percent, n=118), and alcohol in conjunction with other substances (12 percent, n=115). Among counties with at least 20 poisoning-related deaths in 2007, Yavapai County had the highest fatality rate (17.3 deaths per 100,000 residents).

In 2007, there were 5,148 non-fatal inpatient hospitalizations due to poisonings. Adult females had the highest rates of non-fatal poisoning-related inpatient hospitalizations. Females 45 through 54 years of age had a rate of 139.8 cases per 100,000 residents, and females 35 through 44 years of age had a rate of 128.2 cases per 100,000 residents. Non-fatal poisoning-related inpatient hospitalization rates were highest among Non-Hispanic Whites (98.4 cases per 100,000 residents) and African Americans (88.3 cases per 100,000 residents). Self-inflicted poisonings accounted for 52 percent of non-fatal inpatient hospitalizations (n=2,654), and unintentional poisonings comprised an additional 39 percent (n=2,008). Hospital charges for non-fatal poisoning-related inpatient hospitalizations totaled \$106.5 million in 2007, and Arizona residents spent a total of 14,538 days hospitalized for these injuries.

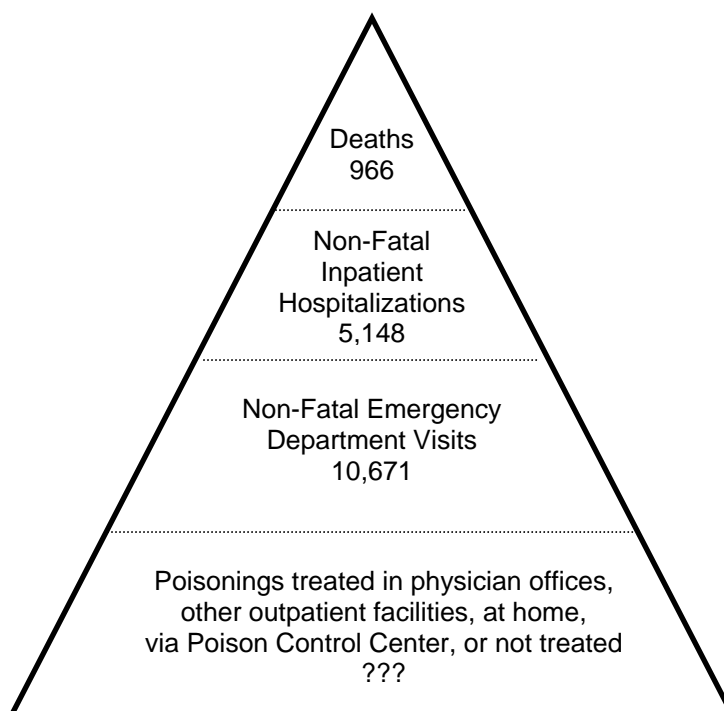
In 2007, there were 10,671 non-fatal poisoning-related emergency department visits among Arizona residents. Twenty-one percent of the visits were among children ages 14 years and younger (n=2,198), and 25 percent of the visits were among residents ages 15 through 24 years (n=2,731). The highest age-specific rate of non-fatal poisoning-related emergency department visits among males was in the one through four year age group (375.6 visits per 100,000 residents), and the highest rate among females was in the 15 through 24 year age group (369.3 visits per 100,000 residents). Forty-nine percent of the non-fatal poisoning-related emergency department visits were the result of unintentional poisonings (n=5,204), and 37 percent of the visits resulted from self-inflicted injuries (n=3,988). Hospital charges for non-fatal poisoning-related emergency department visits totaled \$29.9 million in 2007.

The data presented in this report show that poisoning is a public health problem that impacts the lives of thousands of Arizona residents each year. These injuries can occur throughout the life span, and like so many injuries, poisonings are predictable and preventable. Understanding the circumstances of poisonings is an important step towards educating and empowering communities and implementing prevention strategies.

Overview of Poisonings Among Arizona Residents

Fatalities and injuries resulting from poisonings are significant problems in Arizona. In 2007, poisoning-related deaths surpassed motor-vehicle crashes as the leading injury-related cause of death among Arizonans.¹ Additionally, preventable poisoning-related deaths among Arizona children have increased in recent years,² prompting a closer look at this multifaceted problem. Figure 1 presents an overview of the number of poisoning-related events by outcome and illustrates the limitations of currently available data sources and our inability to enumerate the true number of poisonings.

Figure 1. Poisoning Outcomes Pyramid, Arizona 2007



This report presents a comprehensive picture of poisoning-related injuries among Arizona residents in 2007. To help better understand the data, information about poison control centers and poisoning events over several years' time are also presented. For additional information about data sources and methods used, please refer to the Methodology section of this report. ***To learn about preventing poisonings, please refer to the Prevention Tips and Resources section of this report.***

¹ Please refer to the Methodology Section for a description of the types of poisonings included in this report; these numbers may not match other publications.

² Arizona Department of Health Services. Arizona Child Fatality Review Program Fifteenth Annual Report. January, 2009.

Poison Control Centers Serving Arizona

Poison Control Centers (PCCs) are widely considered to be a cost-effective tool for reducing healthcare costs resulting from poisoning events. It has been estimated that for every dollar invested in a PCC, seven dollars of medical care can be avoided.³ Because of the clear benefit to citizens, the state of Arizona has mandated the existence of a PCC since 1980. Per Arizona Revised Statutes 36-1161 through 36-1163, the Arizona Department of Health Services is responsible for establishing a poison and drug information center in conjunction with the university of Arizona. While the poison control center is charged with serving as a resource for poison identification and treatment, it is also tasked with educating the public about poisoning prevention.

As of January 2009, two of the nation's 61 nationally recognized PCCs were located in Arizona. The Arizona Poison and Drug Information Center (APDIC) is affiliated with the University of Arizona College of Pharmacy located in Tucson. The Banner Poison Control Center (BPCC) is affiliated with Banner Good Samaritan Medical Center located in Phoenix. The BPCC serves Maricopa County, including the metropolitan Phoenix area. The APDIC serves the remainder of the state. While the BPCC serves a smaller geographic area, it covers about 60 percent of the state's residents.

Similar to other nationally recognized PCCs, both Arizona centers are accessed by calling the National Poison Control Center toll-free telephone number: 1-800-222-1222. Calls to this number are routed to the appropriate PCC based on geography. Because calls are routed based on the telephone number from which the call is placed, individuals with an Arizona telephone area code will speak to either BPCC or APDIC, even if they are calling from outside Arizona.

Individuals are encouraged to call PCCs with any concerns, whether or not an incident has occurred. While providing information and medical advice about poisonings, both of Arizona's centers provide additional services to residents, including drug information and identification, medical consultation with clinicians, and poisoning prevention education and outreach.

In 2007, the APDIC documented 27,005 calls for human exposures to toxins and poisons, out of 70,698 total calls (38.2 percent). When calls regarding beverage alcohol and bites or envenomations are excluded, as they been with other data in this report, there were 27,139 calls for human exposures in the APDIC service area in 2008. 12 of these cases resulted in death and 28 percent (m=8,477) of the calls were managed in a healthcare facility.

In 2007, the BPCC documented 54,000 calls for human exposures to toxins and poisons, out of 105,000 total calls (51 percent). Excluding calls regarding beverage alcohol and bites or envenomations, there were 64,597 calls for human exposures in

³ Miller TR, Lestina DC. Costs of poisoning in the United States and savings from poison control centers: A benefit-cost analysis. *Ann Emerg Med* February 1997; 29:239-245.

the metropolitan Phoenix area in 2008. 81 of these cases resulted in death and 26 percent (n=16,664) of the calls were managed in a healthcare facility.

The availability of a 24-hour poison control center allows many people who may have sought emergency care to be treated in their own homes, resulting in financial savings for themselves and the healthcare facilities they may have otherwise visited. APDIC and BPCC estimate that 41,200 people may have sought medical treatment at an emergency department in 2007 if they had not been able to consult with the poison control center and care for themselves at home.⁴

A survey of patients who called a PCC found that 79 percent of the patients surveyed would have used the local emergency medical services in the absence of a poison control hotline, at an estimated cost of more than five times the operating costs of the PCC.⁵

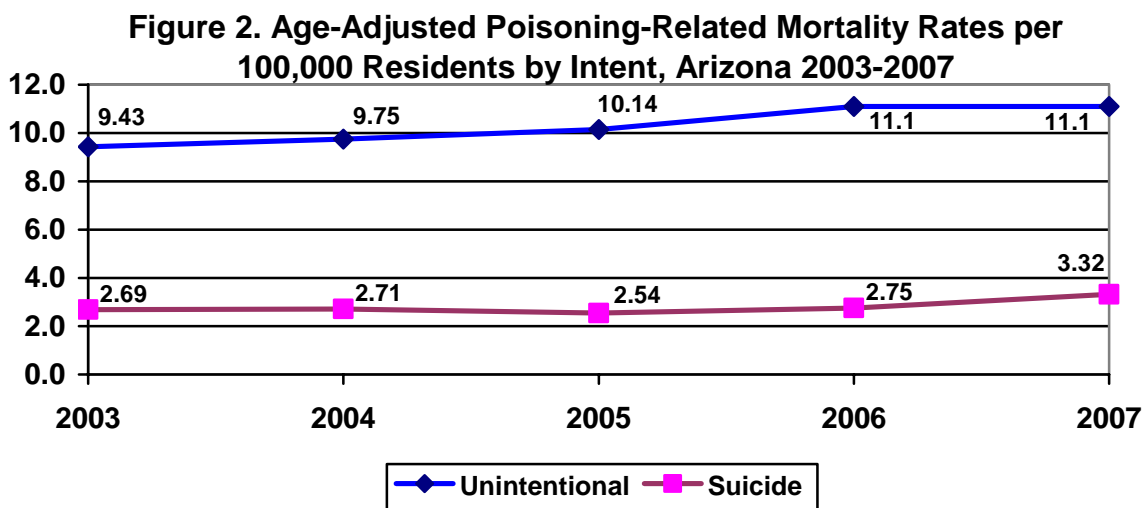
⁴ Banner Poison Control Center 2007 Summary, accessed Feb. 5th, 2009 at www.bannerhealth.com/NR/rdonlyres/F8A1416B-OBC5-4AA7-980B-9F4A6404B9FC/33046/poisoncontrol2.pdf

⁵ Kearney TE, Olson KR, Bero LA, Heard SE, Blanc PD. Health Care Cost Effects of Public Use of a Regional Poison Control Center. *West J Med* 1995; 162:499-504.

Five-Year Trends in Poisonings Among Arizona Residents, 2003-2007

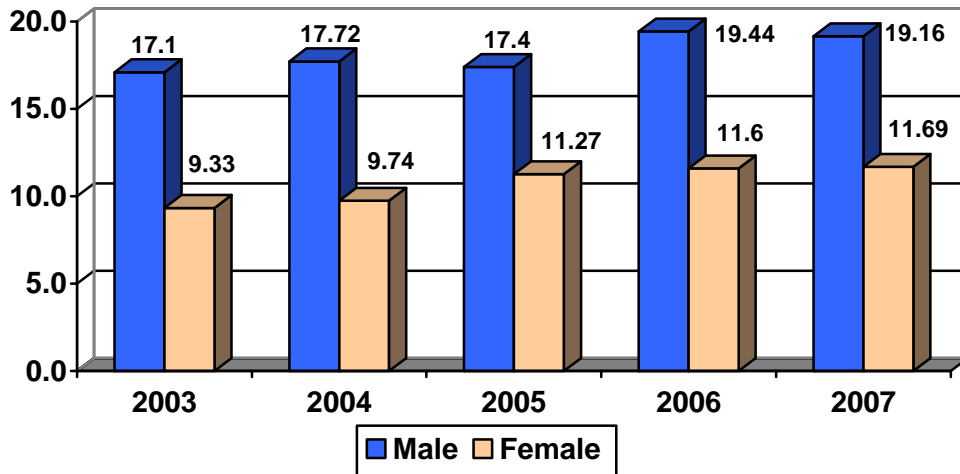
Mortality

Between 2003 and 2007, the age-adjusted poisoning-related mortality rate increased 17 percent for Arizona residents. In the same time period, the rate of suicides increased by a larger percentage than that of unintentional poisoning deaths. There was an 18 percent increase of unintentional poisoning-related fatalities, but a 23 percent increase for suicides. Figure 2 shows the age-adjusted poisoning-related mortality rates by manner of death for Arizona residents from 2003 to 2007.



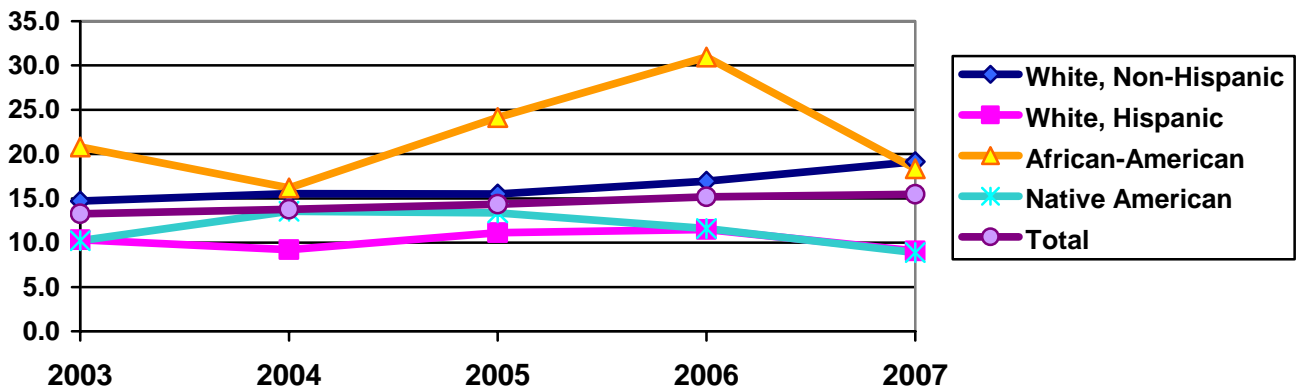
Between 2003 and 2007, the age-adjusted poisoning-related mortality rates increased for both males and females, though the rates for males were consistently higher than those for females. Figure 3 shows the age-adjusted poisoning-related mortality rates by sex for Arizona residents from 2003 to 2007.

Figure 3. Age-Adjusted Poisoning-Related Mortality Rates per 100,000 Residents by Sex, Arizona 2003-2007



While rates decreased slightly for Native American (by 13 percent), African American (by 12 percent), and Hispanic residents (by 12 percent), a rate increase of 30 percent for poisoning-related fatalities among White, Non-Hispanic residents supported the increase shown among the total population. Figure 4 shows the age-adjusted poisoning-related mortality rates by race/ethnicity for Arizona residents from 2003 to 2007.

Figure 4. Age-Adjusted Poisoning-Related Mortality Rates per 100,000 Residents, by Race/Ethnicity, Arizona 2003-2007



While the trend is not supported in all counties, the crude rate of poisoning-related fatalities in Arizona increased between 2003 and 2007. Table 1 shows the crude fatality rate per 100,000 residents for poisoning-related deaths by county of residence from 2003 to 2007. Ten of the state's 15 counties had at least one year in which there were fewer than 15 deaths, making those counties' rates unstable over time.

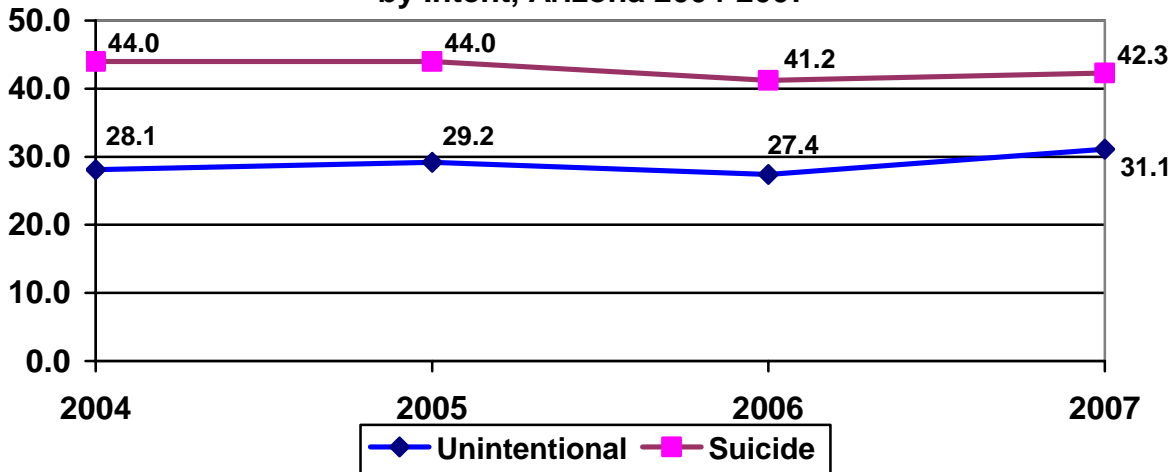
	2003	2004	2005	2006	2007
Apache*	1.4	14.0	17.6	8.0	9.3
Cochise*	12.7	10.0	11.4	14.8	15.3
Coconino*	10.9	7.7	10.7	5.3	8.1
Gila*	16.8	9.3	9.2	18.2	17.9
Graham*	14.5	5.6	5.6	8.4	19.3
Greenlee*	23.3	0	0	12.1	12.1
La Paz*	9.7	23.7	18.9	23.3	9.2
Maricopa	11.6	12.0	13.3	14.6	15.3
Mohave	9.4	12.2	16.5	11.3	12.9
Navajo*	12.5	14.9	5.5	16.0	13.0
Pima	19.5	18.3	19.4	19.9	16.2
Pinal	13.4	13.3	9.3	10.4	15.0
Santa Cruz*	7.3	14.3	0	6.6	4.3
Yavapai	17.1	25.4	15.6	11.8	17.3
Yuma*	2.9	4.4	8.4	7.2	11.9
Statewide Total	12.7	13.2	13.8	14.5	15.0

*Rates are unstable for counties indicated, as they had fewer than 15 deaths in at least one year.

Non-Fatal Inpatient Hospitalizations

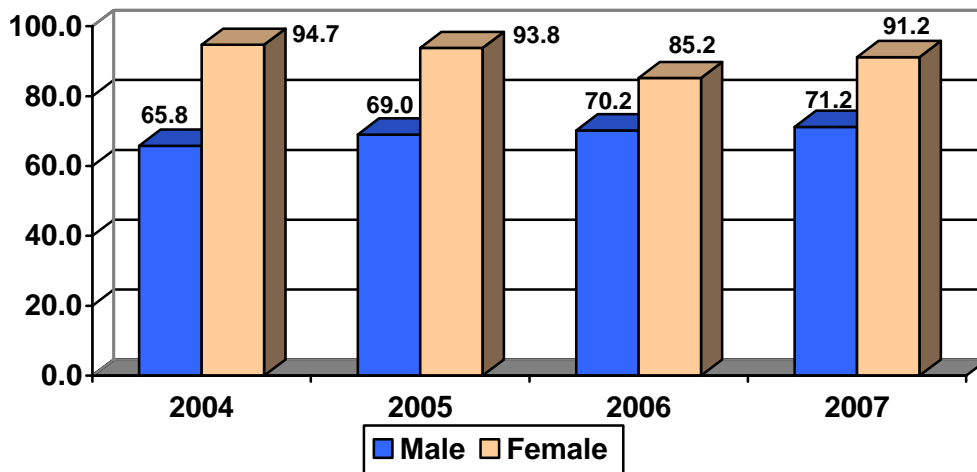
Between 2004 and 2007, the age-adjusted rate of total non-fatal inpatient hospitalizations increased one percent for Arizona residents. Figure 5 shows the age-adjusted poisoning-related rates for non-fatal inpatient hospitalizations by injury intent for Arizona residents from 2004 to 2007.

Figure 5. Age-Adjusted Non-Fatal Poisoning-Related Inpatient Hospitalization Rates per 100,000 Residents by Intent, Arizona 2004-2007



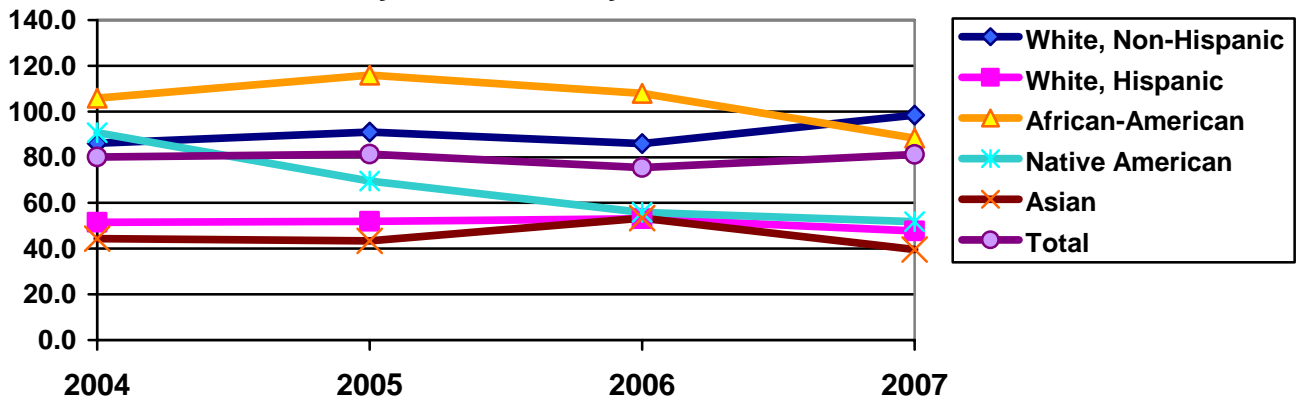
While age-adjusted poisoning-related mortality rates were consistently higher among males, similar rates for non-fatal poisoning-related inpatient hospitalizations were higher for females than for males. Figure 6 shows the age-adjusted rates by sex for non-fatal poisoning-related inpatient hospitalizations.

Figure 6. Age-Adjusted Non-Fatal Poisoning-Related Inpatient Hospitalization Rates per 100,000 Residents by Sex, Arizona 2004-2007



While rates decreased for Native American (by 43 percent), African American (by 17 percent), Asian (by 11 percent), and Hispanic residents (by seven percent), a rate increase of 14 percent for non-fatal poisoning-related inpatient hospitalizations among White, Non-Hispanic residents supported the slight increase shown among the total population. Figure 7 shows the age-adjusted non-fatal poisoning-related inpatient hospitalization rates by race/ethnicity for Arizona residents from 2004 to 2007.

Figure 7. Age-Adjusted Non-Fatal Poisoning-Related Inpatient Hospitalization Rates per 100,000 Residents, by Race/Ethnicity, Arizona 2004-2007



While the trend is not supported in all counties, the crude rate of non-fatal poisoning-related inpatient hospitalizations in Arizona increased between 2004 and 2007. Table 2 shows the crude fatality rate per 100,000 residents for non-fatal poisoning-related inpatient hospitalizations by county of residence from 2004 to 2007. Four of the state's 15 counties had at least one year in which there were fewer than 20 events, making the rate for that county unstable over time.

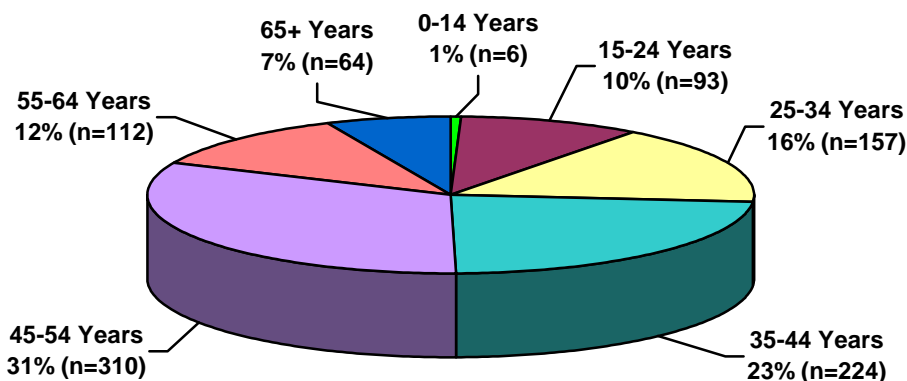
Table 2. Crude Fatality Rate per 100,000 residents for Non-Fatal Poisoning-Related Inpatient Hospitalizations by County of Residence, Arizona 2004-2007				
	2004	2005	2006	2007
Apache*	33.7	33.9	28.1	23.8
Cochise	53.8	57.7	51.9	35.6
Coconino	48.6	51.3	55.0	54.0
Gila	68.4	93.7	88.9	80.7
Graham	80.5	64.9	92.0	113.0
Greenlee*	47.9	72.3	36.2	48.4
La Paz*	89.9	75.5	51.2	41.3
Maricopa	77.2	80.0	73.8	82.9
Mohave	95.4	87.2	99.0	97.7
Navajo	113.6	74.6	62.1	52.0
Pima	96.5	92.8	83.2	91.6
Pinal	88.4	91.6	86.7	80.1
Santa Cruz*	40.5	49.9	37.5	30.1
Yavapai	70.2	67.8	64.9	74.5
Yuma	57.9	64.4	48.6	49.6
Statewide Total	79.2	80.1	73.9	80.0

*Rates are unstable for counties indicated, as they had fewer than 20 events in at least one year.

Poisoning-Related Mortality, 2007

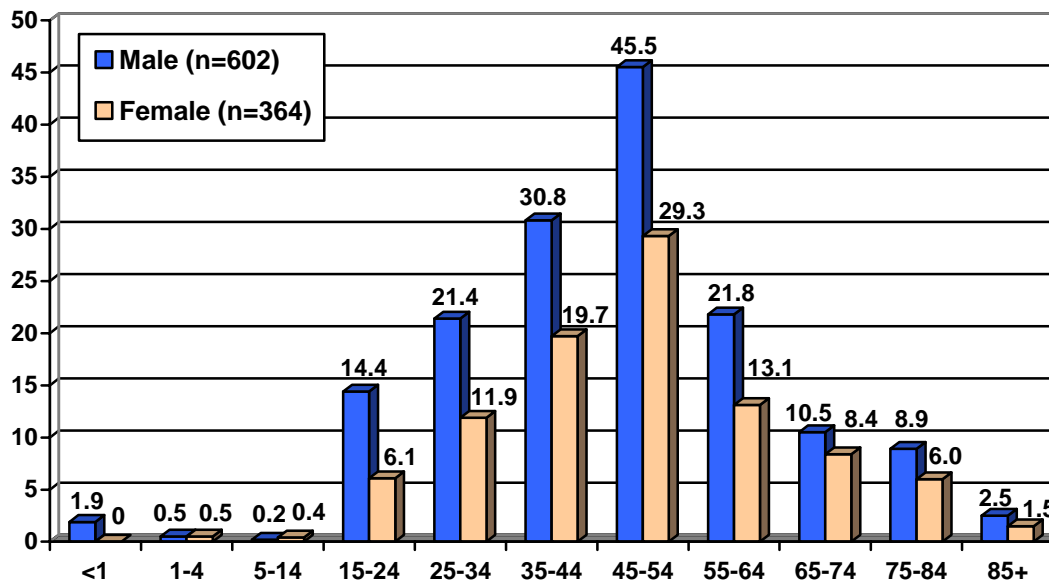
There were 966 deaths among Arizona residents attributed to poisoning in 2007. Sixty-two percent of the deaths were among males, and 38 percent were among females. Residents ages 45 through 54 years had the highest number of deaths of any age group, and accounted for 31 percent of the poisoning fatalities in 2007 (n=310). Residents ages 35 through 44 years accounted for 23 percent of the deaths (n=224); residents ages 25 through 34 years accounted for 16 percent of the deaths (n=157); and residents ages 55 through 64 years made up 12 percent of the fatalities (n=112). Though they accounted for only 27 percent of the general population, residents ages 35 through 54 years comprised 54 percent of the poisoning-related deaths in 2007. Figure 8 shows the number and percentage of fatalities by age group.

Figure 8. Poisoning Mortality by Age Group, Arizona 2007 (n=966)



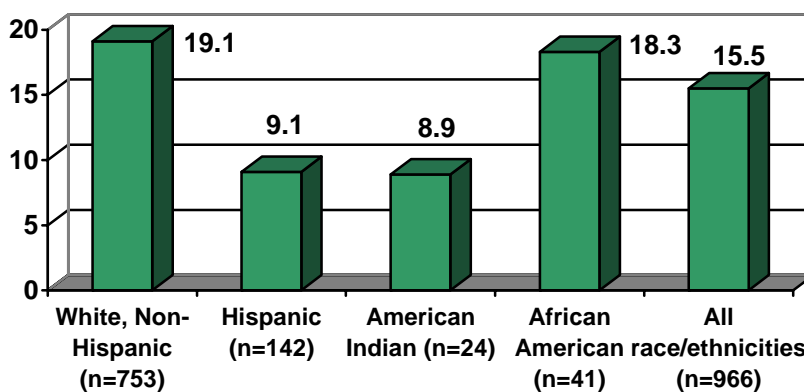
Except for children ages one through 14 years, males had higher rates of mortality than females. The 45 through 54 year age group had the highest rate of fatalities among both males and females. Figure 9 shows the poisoning-related mortality rates per 100,000 Arizona residents by age group and sex.

Figure 9. Poisoning Mortality Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



White, Non-Hispanic Arizona residents had the highest age-adjusted poisoning-related mortality rate in 2007 (19.1 deaths per 100,000 residents), followed closely by African American residents (18.3 deaths per 100,000 residents). American Indians had the lowest poisoning-related mortality rate in 2007 with 8.9 deaths per 100,000 residents. Figure 10 shows the age-adjusted poisoning-related mortality rates by race/ethnicity for Arizona residents in 2007.

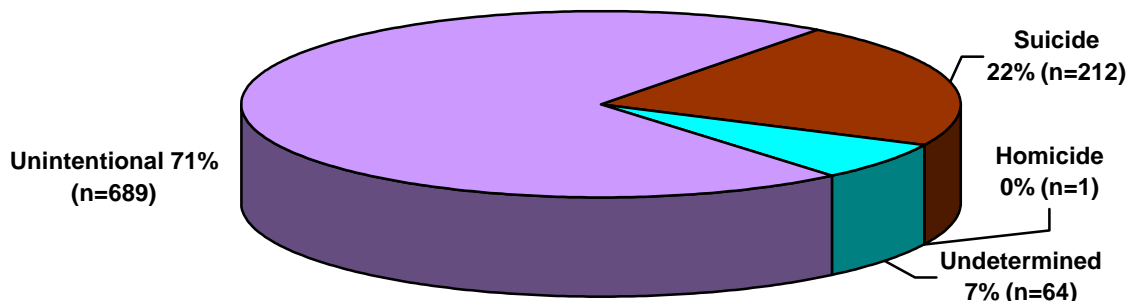
Figure 10. Age-Adjusted Poisoning Mortality Rate per 100,000 Residents by Race/Ethnicity, Arizona 2007



Excludes 6 individuals of other or unknown race/ethnicity.

Figure 11 shows the distribution of poisoning-related mortality by manner among Arizona residents in 2007.

Figure 11. Poisoning-Related Fatalities by Intent, Arizona 2007
(n=966)



Every poisoning-related fatality has its own circumstances and type of poison. Multiple drugs may be listed as contributing to a death. Table 3 lists the poisons most commonly specified on the 2007 death certificates. Because some death certificates may simply state that the cause of death was a “drug overdose” or “combined drug intoxication”, the figures listed below may be an underestimate of the number of deaths involving a particular substance.

Poisons*	Number	Percent
Cocaine	125	13%
Oxycodone/Hydrocodone	118	12%
Alcohol**	115	12%
Methamphetamine	106	11%
Methadone	79	8%
Heroin	56	6%
Benzodiazepines	50	5%
Carbon Monoxide	36	4%
Diphenhydramine	22	2%
Fentanyl	22	2%

*More than one poison may have been identified for each death
 **While deaths attributed solely to alcohol have been excluded from this report, deaths involving alcohol in combination with other agents are counted.

Poisoning fatalities were distributed among residents of Arizona’s counties as shown in Table 4. While this report does not examine the distribution of mortality across counties by type of substance, results of such an analysis from New Mexico suggest that unintentional deaths resulting from illegal drugs were more prevalent in urbanized areas, and deaths from prescription drugs were more common in suburban or rural settings.⁶

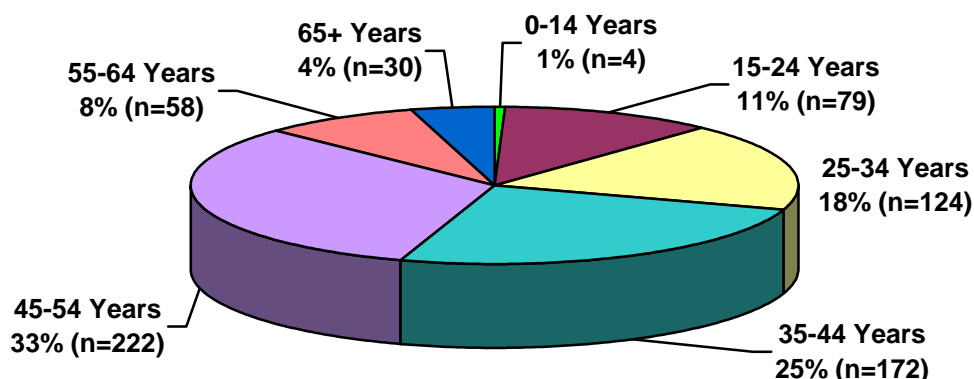
⁶ CDC. Unintentional Deaths from Drug Poisoning by Urbanization of Area – New Mexico, 1994-2003. MMWR 2005; 54(35):870-873.

Table 4. Number and Crude Rate per 100,000 Residents of Poisoning Fatalities by County of Residence, Arizona 2007		
County of Residence	Number of Deaths	Crude Fatality Rate per 100,000 Residents
Apache*	7	9.3
Cochise	21	15.3
Coconino*	11	8.1
Gila*	10	17.9
Graham*	7	19.3
Greenlee*	1	12.1
La Paz*	2	9.2
Maricopa	594	15.3
Mohave	26	12.9
Navajo*	15	13.0
Pima	163	16.2
Pinal	44	15.0
Santa Cruz*	2	4.3
Yavapai	38	17.3
Yuma	24	11.9
Unknown County**	1	-
Statewide Total	966	15.0
*Rates are unstable for counties with fewer than 20 deaths per year.		
**Rates could not be calculated because the denominator could not be characterized.		

Unintentional Poisoning Fatalities

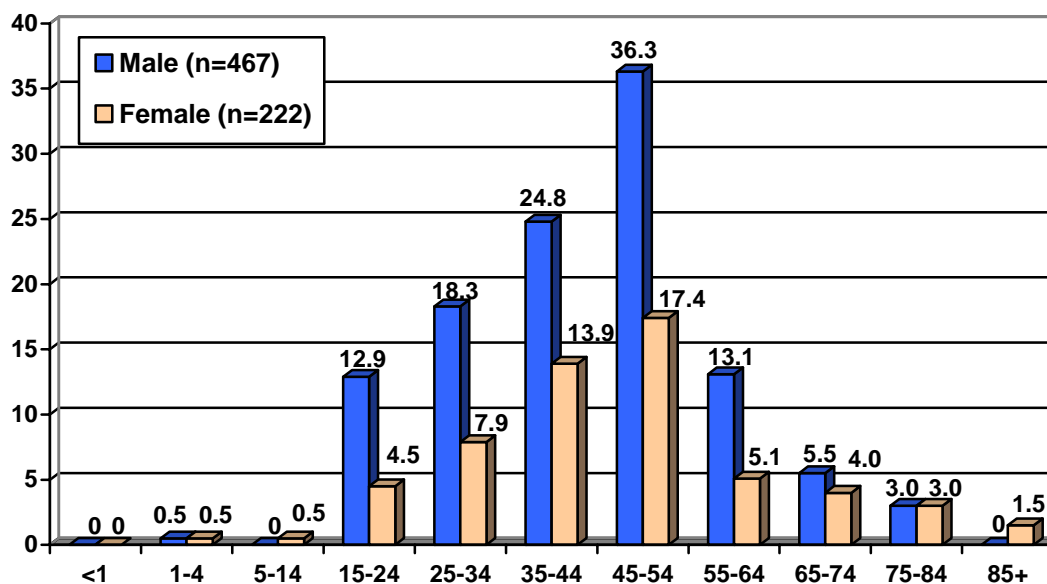
There were 689 deaths among Arizona residents attributed to poisoning in 2007. Sixty-eight percent of the deaths were among males, and 32 percent were among females. Residents ages 45 through 54 years had the highest number of deaths of any age group, and accounted for 33 percent of the unintentional poisoning fatalities in 2007 (n=222). Residents ages 35 through 44 years accounted for 25 percent of the deaths (n=172); and residents ages 25 through 34 years accounted for 18 percent of the deaths (n=124). Though they accounted for only 27 percent of the general population, residents ages 35 through 54 years comprised 58 percent of the unintentional poisoning-related deaths in 2007. Figure 12 shows the number and percentage of fatalities by age group.

Figure 12. Unintentional Poisoning Mortality by Age Group, Arizona 2007 (n=689)



Except for adults over 85 years of age and children ages five through 14 years, males had higher rates of mortality than females. The 45 through 54 year age group had the highest rate of fatalities among both males and females. Figure 13 shows the unintentional poisoning-related mortality rates per 100,000 Arizona residents by age group and sex.

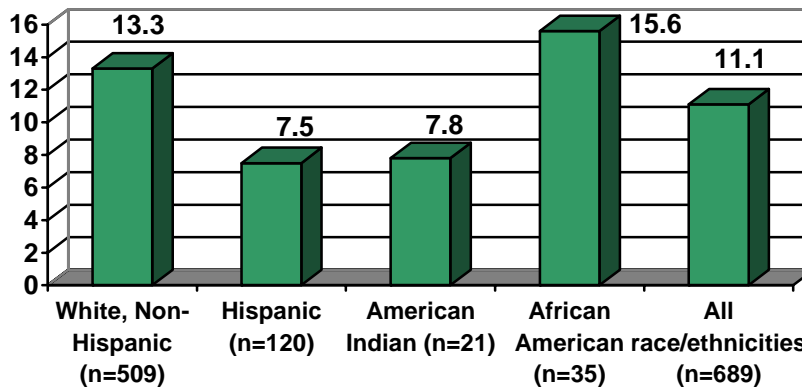
Figure 13. Unintentional Poisoning Mortality Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



African-American Arizona residents had the highest age-adjusted unintentional poisoning-related mortality rate in 2007 (15.6 deaths per 100,000 residents), followed by White, Non-Hispanic residents (13.3 deaths per 100,000 residents). Hispanic residents had the lowest age-adjusted mortality rate due to unintentional poisonings in 2007 with

7.5 deaths per 100,000 residents. Figure 14 shows the age-adjusted unintentional poisoning-related mortality rates by race/ethnicity for Arizona residents in 2007.

Figure 14. Age-Adjusted Unintentional Poisoning Mortality Rate per 100,000 Residents by Race/Ethnicity, Arizona 2007



Excludes 4 individuals of other or unknown race/ethnicity.

Table 5 lists the poisons most commonly specified on the 2007 death certificates for unintentional poisoning-related fatalities. Because some death certificates may simply state that the cause of death was a “drug overdose” or “combined drug intoxication”, the figures listed below may be an underestimate of the number of deaths involving a particular substance.

Table 5. Poisons Commonly Listed on Death Certificates for Unintentional Poisoning Fatalities, Arizona 2007		
Poisons*	Number	Percent
Cocaine	118	17%
Methamphetamine	101	15%
Alcohol**	91	13%
Oxycodone/Hydrocodone	79	11%
Methadone	67	10%
Heroin	54	8%
Benzodiazepines	31	4%
Fentanyl	14	2%
Diphenhydramine	8	1%
Carbon Monoxide	6	1%

*More than one poison may have been identified for each death
 **While deaths attributed solely to alcohol have been excluded from this report, deaths involving alcohol in combination with other agents are counted.

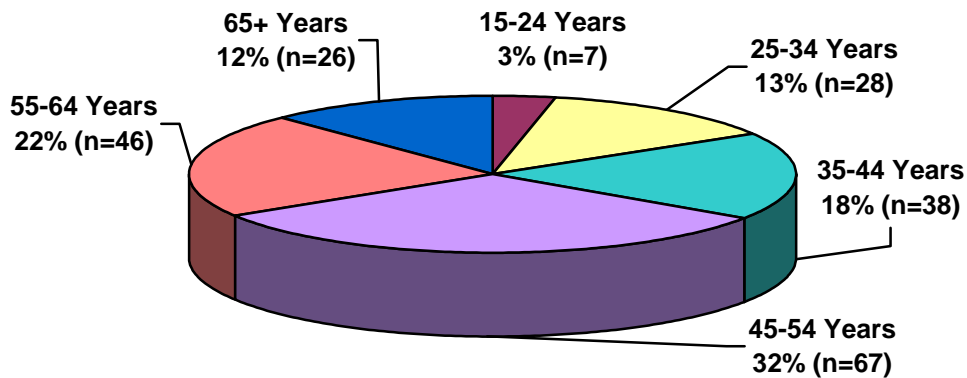
Unintentional poisoning fatalities were distributed among residents of Arizona’s counties as shown in Table 6.

Table 6. Number and Crude Rate per 100,000 Residents of Unintentional Poisoning Fatalities by County of Residence, Arizona 2007		
County of Residence	Number of Deaths	Crude Fatality Rate per 100,000 Residents
Apache*	6	7.9
Cochise*	13	9.4
Coconino*	7	5.2
Gila*	9	16.1
Graham*	6	16.5
Greenlee*	0	0
La Paz*	2	9.2
Maricopa	406	10.5
Mohave*	17	8.4
Navajo*	14	12.1
Pima	135	13.5
Pinal	36	12.3
Santa Cruz*	2	4.3
Yavapai*	18	8.2
Yuma*	17	8.4
Unknown County**	1	-
Statewide Total	689	10.7
*Rates are unstable for counties with fewer than 20 deaths per year.		
**Rates could not be calculated because the denominator could not be characterized.		

Poisoning-Related Suicides

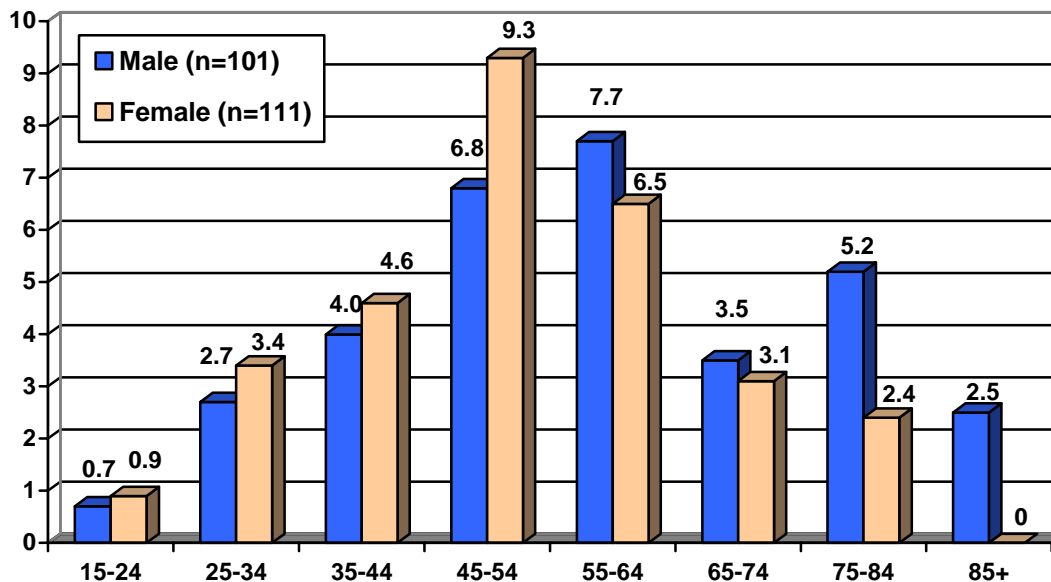
There were 212 deaths among Arizona residents attributed to poisoning in 2007. Forty-eight percent of the deaths were among males, and 52 percent were among females. Residents ages 45 through 54 years had the highest number of deaths of any age group, and accounted for 32 percent of the poisoning-related suicides in 2007 (n=67). Residents ages 55 through 64 years accounted for 22 percent of the deaths (n=46); and residents ages 35 through 44 years accounted for 18 percent of the deaths (n=38). Though they accounted for only 27 percent of the general population, residents ages 35 through 54 years comprised 50 percent of the poisoning-related suicides in 2007. Figure 15 shows the number and percentage of fatalities by age group.

Figure 15. Poisoning-Related Suicides by Age Group, Arizona 2007 (n=212)



Except for adults over 85 years of age and children ages five through 14 years, males had higher rates of mortality than females. The 45 through 54 year age group had the highest rate of fatalities among females, and the 55 through 64 year age group had the highest rate of poisoning-related suicides among males. Figure 16 shows the poisoning-related suicide rates per 100,000 Arizona residents by age group and sex.

Figure 16. Poisoning-Related Suicide Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



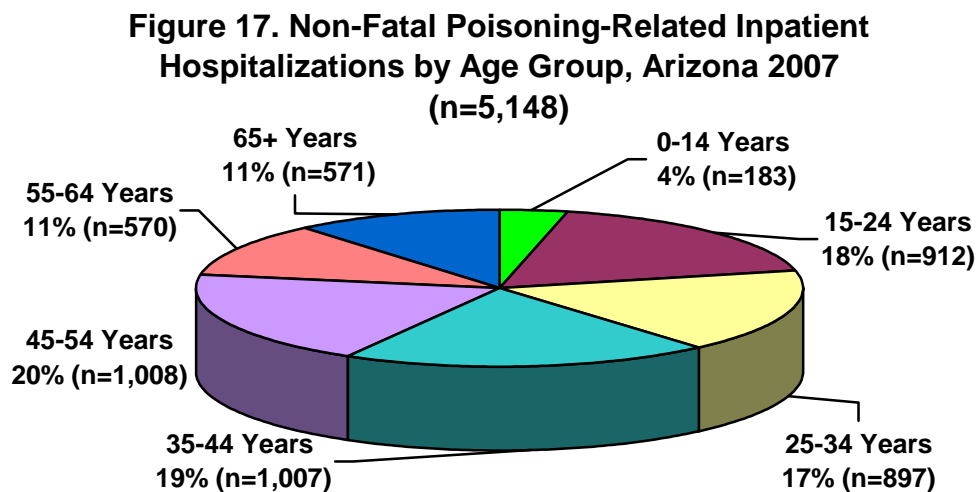
White, Non-Hispanic Arizona residents had the highest age-adjusted poisoning-related suicide rate in 2007 (4.5 deaths per 100,000 residents), followed by Hispanic residents (1.3 deaths per 100,000 residents). Among all race/ethnicities, the age-adjusted poisoning-related suicide rate was 3.3 deaths per 100,000 Arizona residents.

Table 7 lists the poisons most commonly specified on the 2007 death certificates for poisoning-related suicides. Because some death certificates may simply state that the cause of death was a “drug overdose” or “combined drug intoxication”, the figures listed below may be an underestimate of the number of deaths involving a particular substance.

Table 7. Poisons Commonly Listed on Death Certificates for Poisoning-Related Suicides, Arizona 2007		
Poisons*	Number	Percent
Carbon Monoxide	30	14%
Oxycodone/Hydrocodone	28	13%
Alcohol**	18	8%
Diphenhydramine	11	5%
Benzodiazepines	14	7%
Methadone	7	3%
Fentanyl	3	1%
Methamphetamine	3	1%
Cocaine	2	1%
*More than one poison may have been identified for each death		
**While deaths attributed solely to alcohol have been excluded from this report, deaths involving alcohol in combination with other agents are counted.		

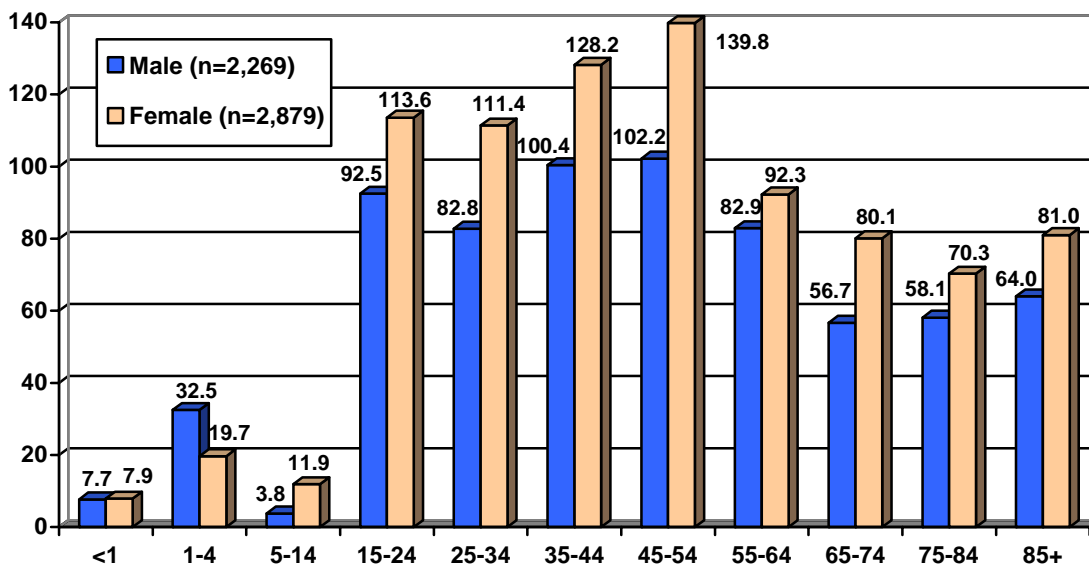
Non-Fatal Poisoning-Related Inpatient Hospitalizations, 2007

There were 5,148 non-fatal inpatient hospitalizations among Arizona residents attributed to poisoning in 2007. Forty-four percent of the events were among males (n=2,269), and 56 percent were among females (n=2,879). Residents ages 45 through 54 years had the highest number of non-fatal inpatient hospitalizations of any age group, and accounted for 20 percent of the non-fatal poisoning-related inpatient hospitalizations in 2007 (n=1,008). Residents ages 35 through 44 years accounted for 19 percent of the non-fatal inpatient hospitalizations (n=1,007); residents ages 15 through 24 years accounted for 18 percent of the cases (n=912); and residents ages 25 through 34 years made up 17 percent of the cases (n=897). Though they accounted for only 27 percent of the general population, residents ages 35 through 54 years comprised 39 percent of non-fatal poisoning-related inpatient hospitalizations in 2007. Figure 17 shows the number and percentage of non-fatal inpatient hospitalizations by age group.



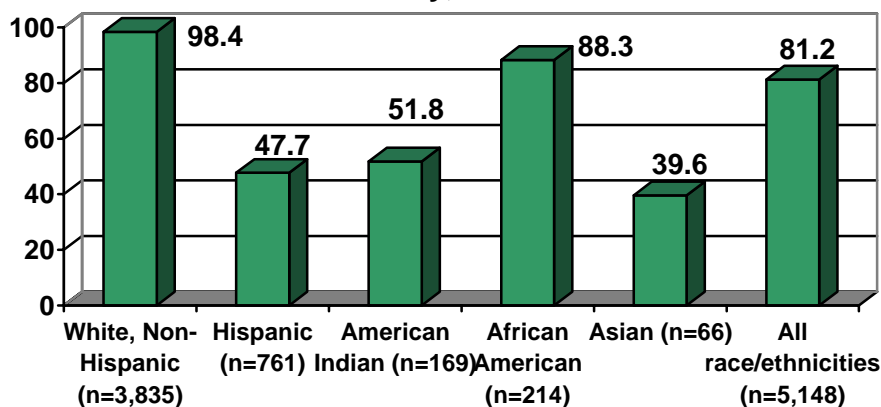
Except for children ages one through four years, females had higher rates of non-fatal inpatient hospitalizations than males. The 45 through 54 year age group had the highest rate among both males and females. Figure 18 shows the non-fatal poisoning-related inpatient hospitalization rates per 100,000 Arizona residents by age group and sex.

Figure 18. Non-Fatal Poisoning-Related Inpatient Hospitalization Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



White, Non-Hispanic Arizona residents had the highest age-adjusted poisoning-related rate of non-fatal inpatient hospitalizations in 2007 (98.4 cases per 100,000 residents), followed by African American residents (88.3 deaths per 100,000 residents). Asian residents had the lowest poisoning-related rate of non-fatal inpatient hospitalizations in 2007 with 39.6 cases per 100,000 residents. Figure 19 shows the age-adjusted non-fatal poisoning-related inpatient hospitalization rates by race/ethnicity for Arizona residents in 2007.

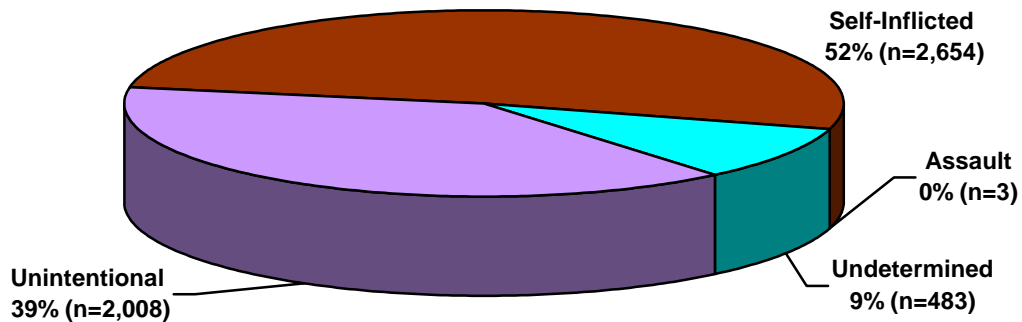
Figure 19. Age-Adjusted Non-Fatal Poisoning-Related Inpatient Hospitalization Rate per 100,000 Residents by Race/Ethnicity, Arizona 2007



Excludes 103 individuals of other or unknown race/ethnicity.

Figure 20 shows the distribution of non-fatal poisoning-related inpatient hospitalizations by manner among Arizona residents in 2007.

Figure 20. Non-Fatal Poisoning-Related Inpatient Hospitalizations by Intent, Arizona 2007 (n=5,148)



Non-fatal poisoning-related inpatient hospitalizations were distributed among residents of Arizona's counties as shown in Table 8.

Table 8. Number and Crude Rate per 100,000 Residents of Non-Fatal Poisoning-Related Inpatient Hospitalizations by County of Residence, Arizona 2007		
County of Residence	Number of Hospitalizations	Crude Fatality Rate per 100,000 Residents
Apache*	18	23.8
Cochise	49	35.6
Coconino	73	54.0
Gila	45	80.7
Graham	41	113.0
Greenlee*	4	48.4
La Paz*	9	41.3
Maricopa	3,215	82.9
Mohave	197	97.7
Navajo	60	52.0
Pima	920	91.6
Pinal	235	80.1
Santa Cruz*	14	30.1
Yavapai	164	74.5
Yuma	100	49.6
Unknown County**	4	-
Statewide Total	5,148	80.0

*Rates are unstable for counties with fewer than 20 cases per year.
 **Rates could not be calculated because the denominator could not be characterized.

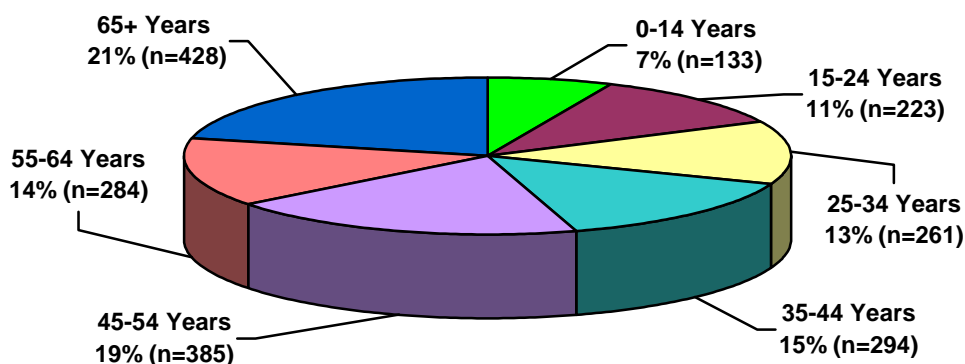
In 2007, the average non-fatal poisoning-related inpatient hospitalization totaled \$20,701 in hospital charges and lasted for 2.8 days. Arizona residents spent a total of

14,538 days in the hospital for non-fatal poisoning-related events. The longest hospital stay for a non-fatal case was 54 days. Hospital charges for non-fatal inpatient hospitalizations due to poisonings totaled \$106.5 million for Arizona residents in 2007. Sixty percent of those hospital fees were reportedly paid by Medicare, Medicaid, or the Arizona Health Care Cost Containment System (AHCCCS). The single most costly hospitalization totaled \$794,472 in hospital charges.

Non-Fatal Unintentional Poisoning-Related Inpatient Hospitalizations

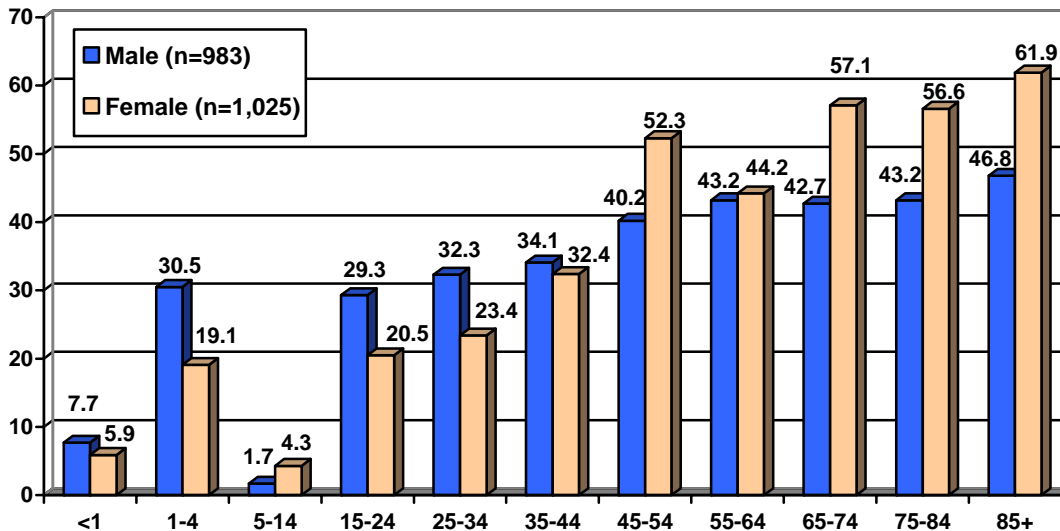
There were 2,008 deaths among Arizona residents attributed to poisoning in 2007. Forty-nine percent of the deaths were among males (n=983), and 51 percent were among females (n=1,025). Residents age 65 years and older had the highest number of non-fatal inpatient hospitalizations of any age group, and accounted for 21 percent of the non-fatal unintentional poisoning cases in 2007 (n=428). Residents ages 45 through 54 years accounted for 19 percent of the cases (n=385); and residents ages 35 through 44 years accounted for 15 percent of the cases (n=294). Though they accounted for only 13 percent of the general population, residents age 65 years and older had 21 percent of the non-fatal unintentional poisoning-related inpatient hospitalizations in 2007. Figure 21 shows the number and percentage of cases by age group.

Figure 21. Unintentional Poisoning-Related Non-Fatal Inpatient Hospitalizations by Age Group, Arizona 2007 (n=2,008)



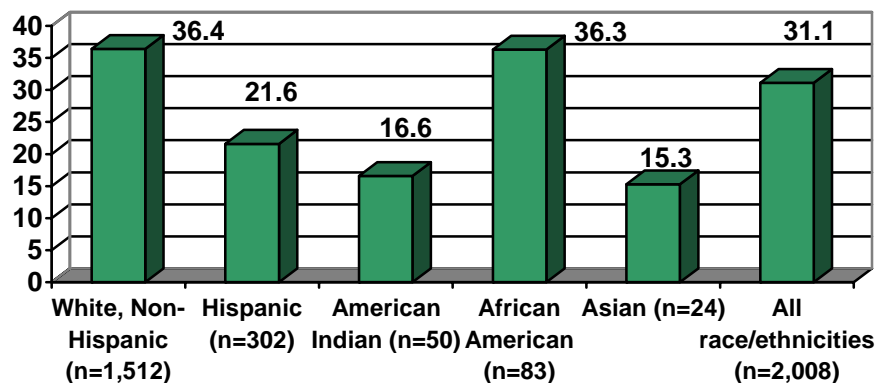
The 85 years and older age group had the highest rate of non-fatal inpatient hospitalizations related to unintentional poisonings among both males and females. Males age 85 years and older had a rate of 46.8 non-fatal inpatient hospitalizations per 100,000 residents, and females age 85 years and older had a rate of 61.9 non-fatal inpatient hospitalizations per 100,000 residents. Figure 22 shows the non-fatal unintentional poisoning-related inpatient hospitalization rates per 100,000 Arizona residents by age group and sex.

Figure 22. Non-Fatal Unintentional Poisoning-Related Inpatient Hospitalization Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



White, Non-Hispanic Arizona residents had the highest age-adjusted non-fatal unintentional poisoning-related inpatient hospitalization rate in 2007 (36.4 cases per 100,000 residents), followed by African American residents (36.3 cases per 100,000 residents). Asian residents had the lowest age-adjusted non-fatal inpatient hospitalization rate due to unintentional poisonings in 2007 with 15.3 cases per 100,000 residents. Figure 23 shows the age-adjusted non-fatal unintentional poisoning-related inpatient hospitalization rates by race/ethnicity for Arizona residents in 2007.

Figure 23. Age-Adjusted Non-Fatal Unintentional Poisoning-Related Inpatient Hospitalization Rate per 100,000 Residents by Race/Ethnicity, Arizona 2007



Excludes 37 individuals of other or unknown race/ethnicity.

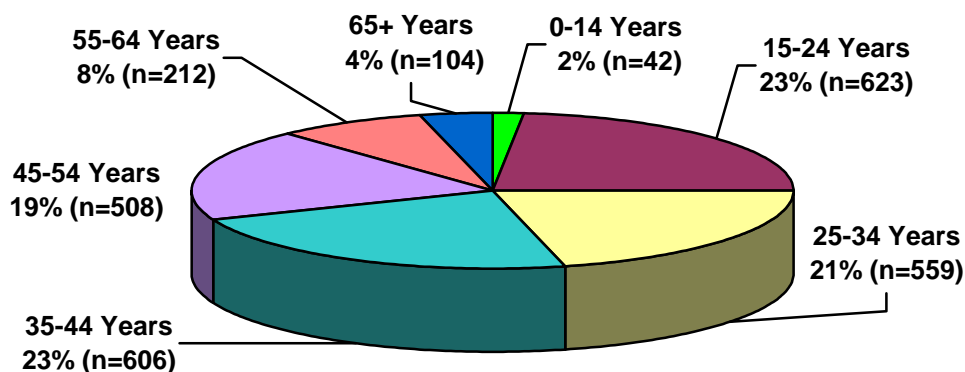
Unintentional non-fatal poisoning-related inpatient hospitalizations were distributed among residents of Arizona's counties as shown in Table 9.

Table 9. Number and Crude Rate per 100,000 Residents of Non-Fatal Inpatient Hospitalizations due to Unintentional Poisoning by County of Residence, Arizona 2007		
County of Residence	Number of Cases	Crude Rate per 100,000 Residents
Apache*	8	10.6
Cochise*	16	11.6
Coconino	26	19.2
Gila*	16	28.7
Graham*	9	24.8
Greenlee*	1	12.1
La Paz*	7	32.1
Maricopa	1,239	31.9
Mohave	68	33.7
Navajo	21	18.2
Pima	384	38.3
Pinal	96	32.7
Santa Cruz*	7	15.0
Yavapai	70	31.8
Yuma	38	18.9
Unknown County**	2	-
Statewide Total	2,008	31.2
*Rates are unstable for counties with fewer than 20 deaths per year.		
**Rates could not be calculated because the denominator could not be characterized.		

Non-Fatal Self-Inflicted Poisoning-Related Inpatient Hospitalizations

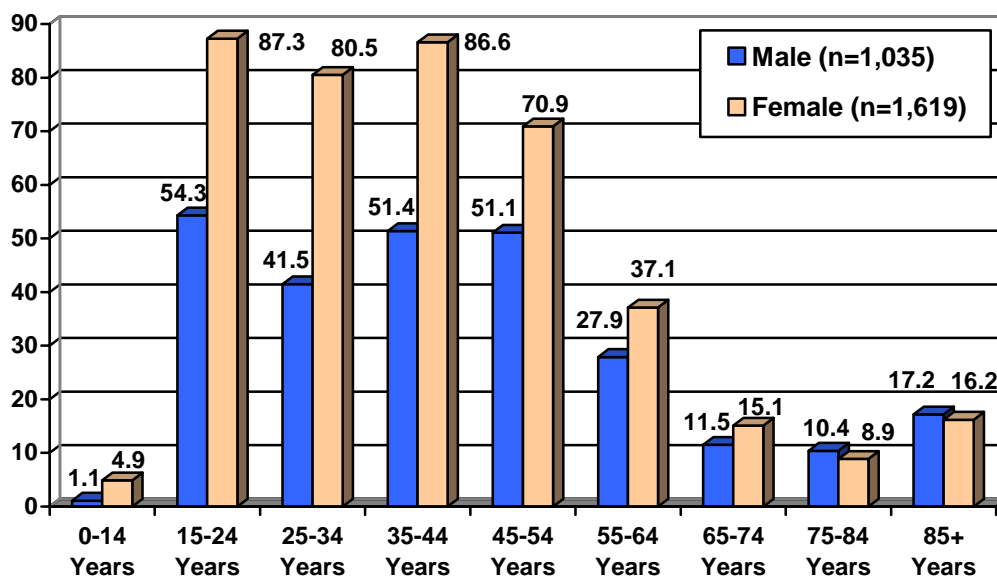
There were 2,654 non-fatal self-inflicted poisoning-related inpatient hospitalizations among Arizona residents in 2007. Thirty-nine percent of the hospitalizations were among males (n=1,035), and 61 percent were among females (n=1,619). Residents ages 15 through 24 years had the highest number of non-fatal self-inflicted poisoning-related inpatient hospitalizations of any age group, and accounted for 23 percent of these hospitalizations in 2007 (n=623). Residents ages 35 through 44 years accounted for 23 percent of the events (n=606); and residents ages 25 through 34 years accounted for 21 percent of the events (n=559). Though they accounted for only 42 percent of the general population, residents ages 15 through 44 years were responsible for 67 percent of the non-fatal self-inflicted poisoning-related inpatient hospitalizations in 2007. Figure 24 shows the number and percentage of non-fatal inpatient hospitalizations by age group.

Figure 24. Non-Fatal Self-Inflicted Poisoning-Related Inpatient Hospitalizations by Age Group, Arizona 2007 (n=2,654)



Except for adults over 75 years of age, females had higher rates of non-fatal inpatient hospitalizations than males. The 15 through 24 year age group had the highest rate of events among females, and the 85 years and older age group had the highest rate of non-fatal self-inflicted poisoning-related inpatient hospitalizations among males. Figure 25 shows the non-fatal self-inflicted poisoning-related inpatient hospitalization rates per 100,000 Arizona residents by age group and sex.

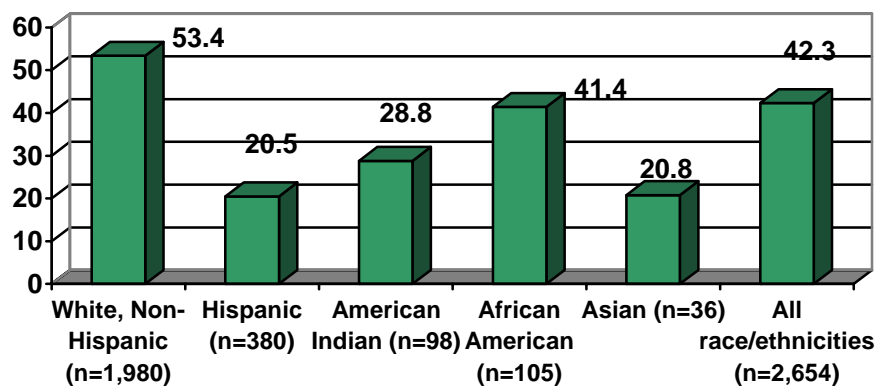
Figure 25. Non-Fatal Self-Inflicted Poisoning-Related Inpatient Hospitalization Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



White, Non-Hispanic Arizona residents had the highest age-adjusted rate of non-fatal self-inflicted poisoning-related inpatient hospitalizations in 2007 (53.4 events per

100,000 residents), followed by African American residents (41.4 events per 100,000 residents). Among all race/ethnicities, the age-adjusted rate of non-fatal self-inflicted poisoning-related inpatient hospitalizations was 42.3 events per 100,000 Arizona residents. Figure 26 shows the age-adjusted rate of non-fatal self-inflicted poisoning-related inpatient hospitalizations by race/ethnicity for Arizona residents in 2007.

Figure 26. Age-Adjusted Non-Fatal Self-Inflicted Poisoning-Related Inpatient Hospitalization Rate per 100,000 Residents by Race/Ethnicity, Arizona 2007



Excludes 55 individuals of other or unknown race/ethnicity.

Self-inflicted non-fatal poisoning-related inpatient hospitalizations were distributed among residents of Arizona's counties as shown in Table 10.

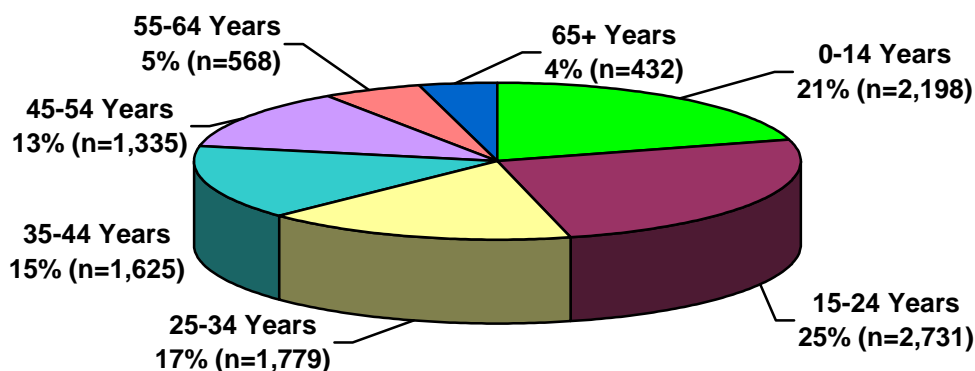
Table 10. Number and Crude Rate per 100,000 Residents of Non-Fatal Inpatient Hospitalizations due to Self-Inflicted Poisoning by County of Residence, Arizona 2007		
County of Residence	Number of Cases	Crude Rate per 100,000 Residents
Apache*	8	10.6
Cochise	29	21.1
Coconino	42	31.1
Gila	24	43.0
Graham	26	71.7
Greenlee*	3	36.3
La Paz*	1	4.6
Maricopa	1,676	43.2
Mohave	115	57.0
Navajo	32	27.7
Pima	438	43.6
Pinal	121	41.3
Santa Cruz*	6	12.9
Yavapai	75	34.1
Yuma	56	27.8
Unknown County**	2	-
Statewide Total	2,654	41.3

*Rates are unstable for counties with fewer than 20 events per year.
 **Rates could not be calculated because the denominator could not be characterized.

Non-Fatal Poisoning-Related Emergency Department Visits, 2007

There were 10,671 non-fatal emergency department visits among Arizona residents attributed to poisoning in 2007. Forty-three percent of the visits were among males (n=4,572), and 57 percent were among females (n=6,098). Residents ages 15 through 24 years had the highest number of non-fatal emergency department visits of any age group, and accounted for 26 percent of the non-fatal poisoning-related emergency department visits in 2007 (n=2,731). Children ages birth through 14 years accounted for 21 percent of the non-fatal emergency department visits (n=2,198); residents ages 25 through 34 years accounted for 17 percent of the cases (n=1,779); and residents ages 35 through 44 years made up 15 percent of the cases (n=1,625). Though they accounted for only 14 percent of the general population, residents ages 15 through 24 years comprised 26 percent of the non-fatal poisoning-related emergency department visits in 2007. Figure 27 shows the number and percentage of non-fatal emergency department visits by age group.

Figure 27. Non-Fatal Poisoning-Related Emergency Department Visits by Age Group, Arizona 2007 (n=10,671)



Excludes 3 individuals of unknown age.

Except for children ages one through four years, females had higher rates of non-fatal emergency department visits than males. The one through four year age group had the highest rate of cases among males and the 15 to 24 year age group had the highest rate among females. One study has shown that a substantial proportion of young children brought to an urban tertiary-care emergency department with apparent life-threatening events had positive toxicology screenings, even when parents denied medicating the child.⁷ Though the rate of non-fatal poisoning events among Arizona's young children is very high, the results of that study suggest that the rate may be higher still if all young children presenting in the emergency department with an apparent life-threat were screened for potential poisons. Figure 28 shows the non-fatal poisoning-related emergency department visits rates per 100,000 Arizona residents by age group and sex.

⁷ Pitetti RD, Whitman E, Zaylor A. Accidental and Nonaccidental Poisonings As A Cause of Apparent Life-Threatening Events in Infants. *Pediatrics* 2008; 122:e539-e362.

Figure 28. Non-Fatal Poisoning-Related Emergency Department Visits Rates per 100,000 Residents by Age Group and Sex, Arizona 2007

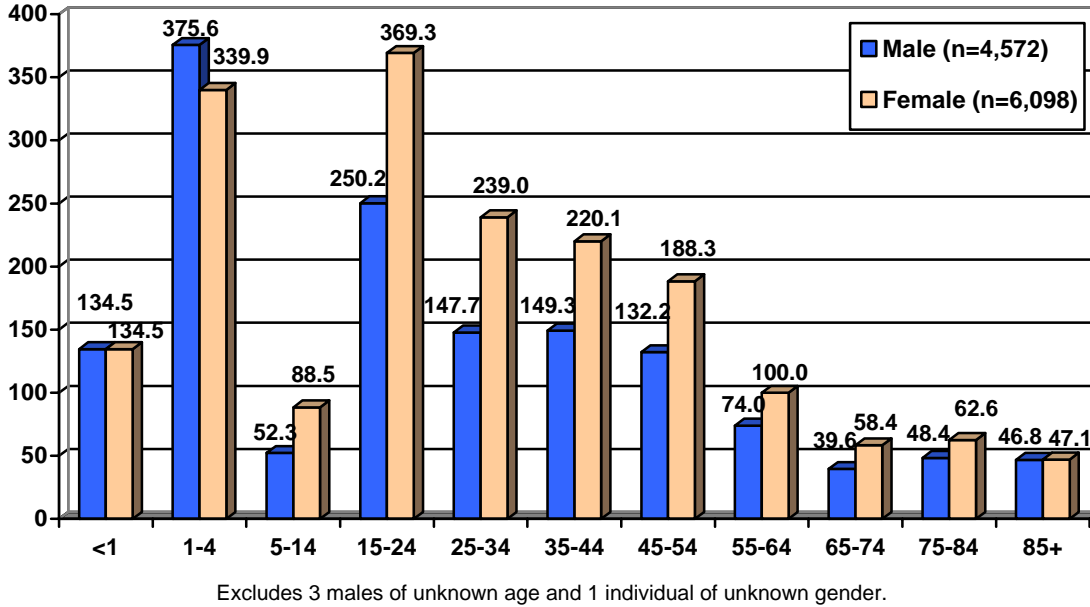
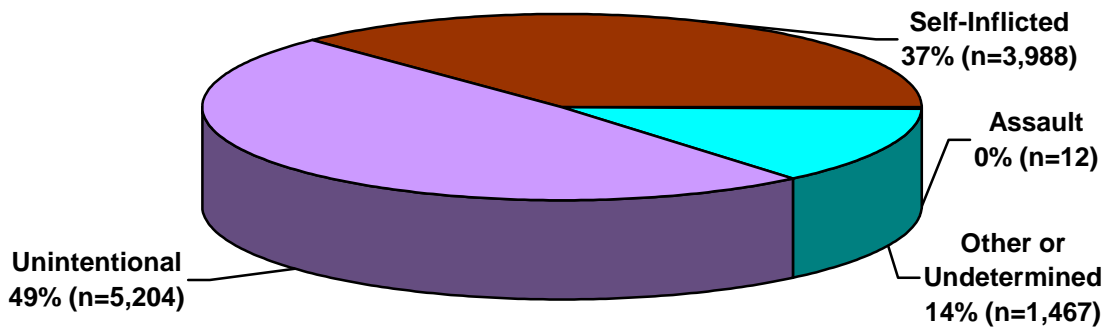


Figure 29 shows the distribution of non-fatal poisoning-related emergency department visits by manner among Arizona residents in 2007.

Figure 29. Non-Fatal Poisoning-Related Emergency Department Visits by Intent, Arizona 2007 (n=10,671)



Non-fatal poisoning-related emergency department visits were distributed among residents of Arizona's counties as shown in Table 11.

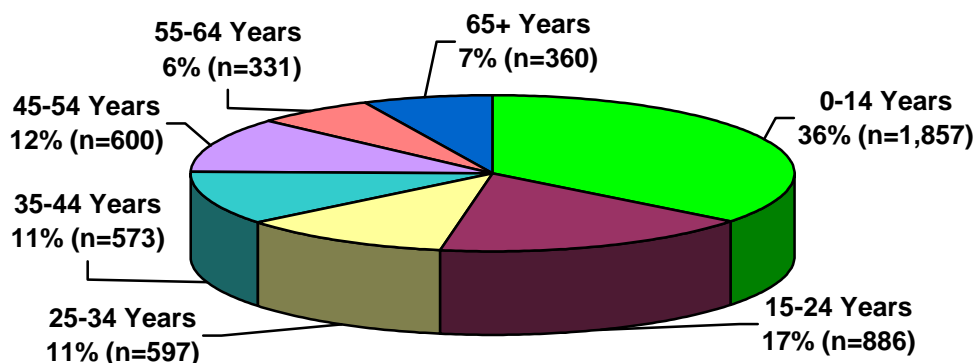
Table 11. Number and Crude Rate per 100,000 Residents of Non-Fatal Poisoning-Related Emergency Department Visits by County of Residence, Arizona 2007		
County of Residence	Number of Hospitalizations	Crude Fatality Rate per 100,000 Residents
Apache	89	117.7
Cochise	311	225.8
Coconino	270	199.9
Gila	88	157.8
Graham	134	369.4
Greenlee*	16	193.7
La Paz	46	211.2
Maricopa	6,170	159.1
Mohave	381	188.9
Navajo	200	173.4
Pima	1,595	158.9
Pinal	543	185.1
Santa Cruz	101	217.0
Yavapai	442	200.8
Yuma	275	136.5
Unknown County**	10	-
Statewide Total	10,671	165.9
*Rates are unstable for counties with fewer than 20 cases per year.		
**Rates could not be calculated because the denominator could not be characterized.		

In 2007, the average non-fatal poisoning-related emergency department visit totaled \$2,801 in hospital charges. Hospital charges for non-fatal emergency department visits due to poisonings totaled \$29.9 million for Arizona residents in 2007. Forty-three percent of those hospital fees were reportedly paid by Medicare, Medicaid, or the Arizona Health Care Cost Containment System (AHCCCS). The single most costly emergency department visit totaled \$69,374 in hospital charges.

Non-Fatal Unintentional Poisoning-Related Emergency Department Visits

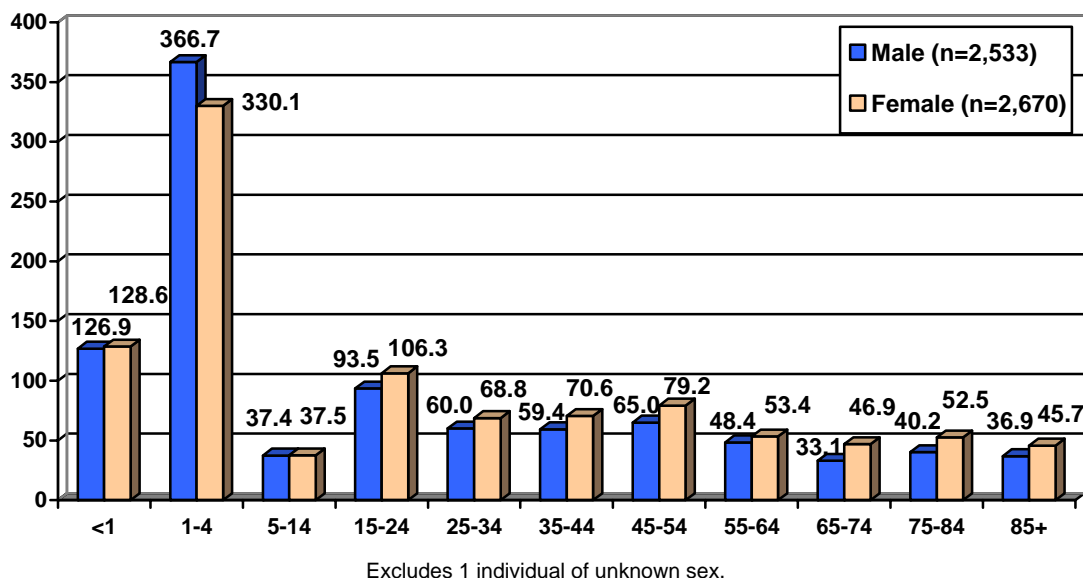
There were 5,204 emergency department visits among Arizona residents attributed to non-fatal poisonings in 2007. Forty-nine percent of the events were among males (n=2,533), and 51 percent were among females (n=2,670). Children ages birth through 14 years had the highest number of non-fatal emergency department visits of any age group, and accounted for 36 percent of the non-fatal unintentional poisoning-related emergency department visits in 2007 (n=1,857). Residents ages 15 through 24 years accounted for 17 percent of the visits (n=886); and residents ages 45 through 54 years accounted for 12 percent of the visits (n=600). Though they account for only 22 percent of the general population, children ages birth through 14 years had 36 percent of the non-fatal unintentional poisoning-related emergency department visits in 2007. Figure 30 shows the number and percentage of cases by age group.

Figure 30. Unintentional Poisoning-Related Non-Fatal Emergency Department Visits by Age Group, Arizona 2007 (n=5,204)



The one to four year age group had the highest rate of non-fatal emergency department visits related to unintentional poisonings among both males and females. Females had higher rates of non-fatal, unintentional poisoning-related emergency department visits in every age group except ages one to four years. Figure 31 shows the non-fatal unintentional poisoning-related emergency department visit rates per 100,000 Arizona residents by age group and sex.

Figure 31. Non-Fatal Unintentional Poisoning-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



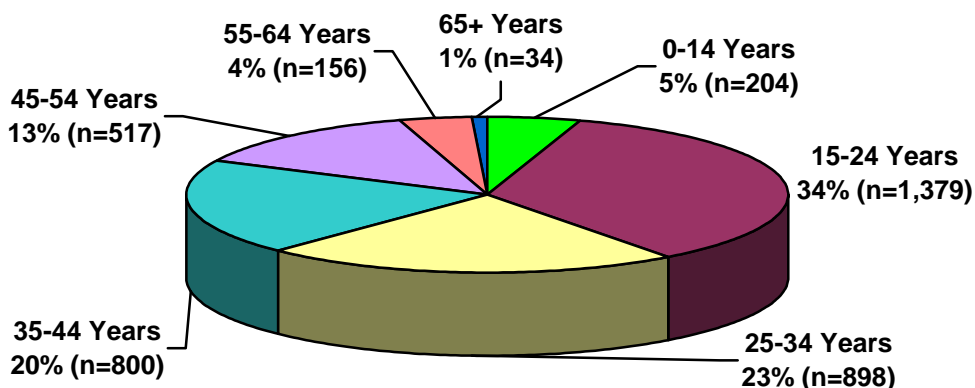
Unintentional non-fatal poisoning-related emergency department visits were distributed among residents of Arizona's counties as shown in Table 12.

Table 12. Number and Crude Rate per 100,000 Residents of Non-Fatal Emergency Department Visits due to Unintentional Poisoning by County of Residence, Arizona 2007		
County of Residence	Number of Cases	Crude Rate per 100,000 Residents
Apache	44	58.2
Cochise	171	124.2
Coconino	129	95.5
Gila	42	75.3
Graham	63	173.7
Greenlee*	7	84.8
La Paz	24	110.2
Maricopa	2,843	73.3
Mohave	237	117.5
Navajo	93	80.6
Pima	859	85.6
Pinal	270	92.1
Santa Cruz	52	111.7
Yavapai	219	99.5
Yuma	148	73.5
Unknown County**	3	-
Statewide Total	5,204	80.9
*Rates are unstable for counties with fewer than 20 deaths per year.		
**Rates could not be calculated because the denominator could not be characterized.		

Non-Fatal Self-Inflicted Poisoning-Related Emergency Department Visits

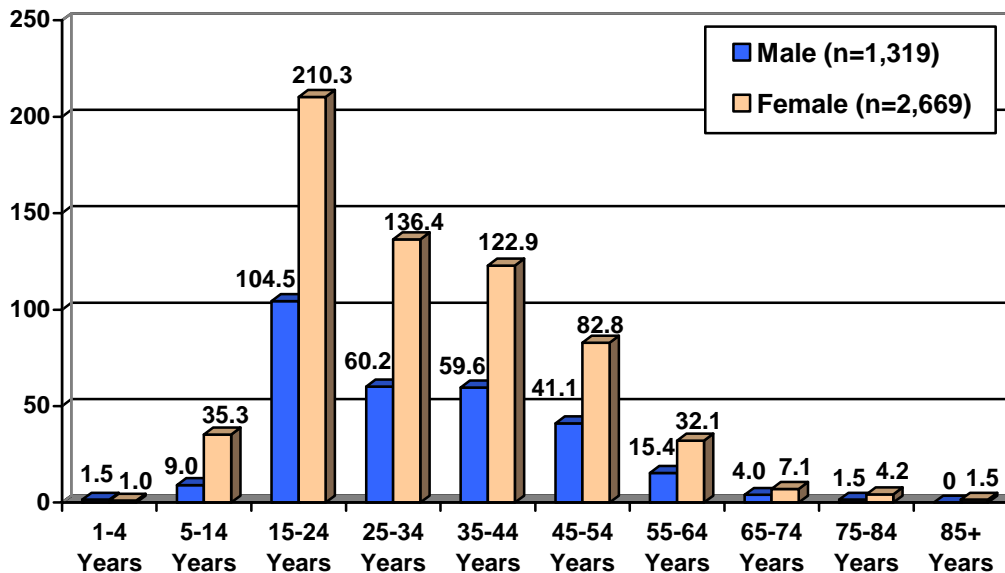
There were 3,988 non-fatal self-inflicted poisoning-related emergency department visits among Arizona residents in 2007. Thirty-three percent of the visits were among males (n=1,319), and 67 percent were among females (n=2,669). Residents ages 15 through 24 years had the highest number of non-fatal self-inflicted poisoning-related emergency department visits of any age group, and accounted for 35 percent of these events in 2007 (n=1,379). Residents ages 25 through 34 years accounted for 23 percent of the events (n=898); and residents ages 35 through 44 years accounted for 20 percent of the events (n=800). Though they account for only 42 percent of the general population, residents ages 15 through 44 years were responsible for 77 percent of the non-fatal self-inflicted poisoning-related emergency department visits in 2007. Figure 32 shows the number and percentage of non-fatal emergency department visits by age group.

Figure 32. Non-Fatal Self-Inflicted Poisoning-Related Emergency Department Visits by Age Group, Arizona 2007 (n=3,988)



Except for children under five years of age, females had higher rates of non-fatal emergency department visits than males. The 15 through 24 year age group had the highest rate of events among both males and females. Figure 33 shows the non-fatal self-inflicted poisoning-related emergency department visits rates per 100,000 Arizona residents by age group and sex.

Figure 33. Non-Fatal Self-Inflicted Poisoning-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2007



Self-inflicted non-fatal poisoning-related emergency department visits were distributed among residents of Arizona's counties as shown in Table 13.

**Table 13. Number and Crude Rate per 100,000 Residents of
Non-Fatal Emergency Department Visits due to Self-Inflicted Poisoning
by County of Residence, Arizona 2007**

County of Residence	Number of Cases	Crude Rate per 100,000 Residents
Apache	29	38.4
Cochise	111	80.6
Coconino	78	57.7
Gila	27	48.4
Graham	56	154.4
Greenlee*	7	84.8
La Paz*	15	68.9
Maricopa	2,473	63.8
Mohave	102	50.6
Navajo	66	57.2
Pima	510	50.8
Pinal	220	75.0
Santa Cruz	37	79.5
Yavapai	163	74.0
Yuma	90	44.7
Unknown County**	4	-
Statewide Total	3,988	62.0

*Rates are unstable for counties with fewer than 20 events per year.

**Rates could not be calculated because the denominator could not be characterized.

Poisoning Prevention Tips and Resources

Nationally, call **1-800-222-1222** to be connected to a local Poison Control Center.

You can prevent poisonings!

- Store household cleaners in their original containers, away from children
 - Pills, vitamins, antifreeze, nail polish remover, or insecticide may look similar to children's candy or beverages. Teach children not to eat or drink something without first asking an adult.
 - Teach children to identify medication, and don't refer to pills as 'candy'
- Identify poisonous plants around your home and remove from children's reach
 - Visit the Cornell University Department of Animal Science website on poisonous plants at <http://www.ansci.cornell.edu/plants> or contact your local PCC to learn about poisonous plants
- Read the label and follow directions for using household products or medications
- Check with your doctor or pharmacist to prevent dangerous interactions between medications
- Discard unused, unneeded, or expired medication
 - Look for drug disposal events in your community. These provide a safe, easy way to responsibly get rid of unneeded medication. Such events may be sponsored by local hospitals, pharmacies, police or fire departments.
 - Only flush drugs down the toilet if the label specifically says to do so
 - Ask your pharmacist if you're unsure about proper disposal
 - To dispose of all other medications:
 - Remove the medication from the original packaging
 - Crush the pills and mix them with kitty litter, coffee grounds, or sand
 - Seal the mixture in a plastic bag and dispose of it with your household trash
- Properly discard unused or unneeded household poisons and their containers
 - Check with your city or county for hazardous waste collection events and locations.
 - Household poisons can include paints and solvents, auto fluids, household cleaners, pesticide, and pool chemicals
- National Poison Prevention Week is held annually during the 3rd week of March.
 - The federal Health Resources and Services Administration (HRSA) provides an Event Planner Kit if your agency or business wants to get involved. Visit www.poisonprevention.org for more information.

To learn more about Arizona's Poison Control Centers, visit them on the internet at:

Arizona Poison and Drug Information Center, Tucson, Arizona

<http://www.pharmacy.arizona.edu/outreach/poison/index.php>

Banner Poison Control Center, Phoenix, Arizona

http://www.bannerhealth.com/Locations/Arizona/Banner+Poison+Control+Center/_Banner+Poison+Control+Center.htm

Methodology

Mortality data for 2003 through 2007 were compiled from the death certificates registered with the Arizona Department of Health Services Office of Vital Registration. Any death record for an Arizona resident assigned an International Classification of Diseases, 10th Revision (ICD-10) code for poisoning as the underlying cause of death was included in the count. Poisonings due to alcohol meant for ingestion (X45, X65, Y15) or envenomations by animals, plants, or insects (X20 – X29) were excluded from this report. Table 14 shows the ICD-10 codes included in this report.

ICD-10 Code	ICD-10 Code Description
X40	Unintentional poisoning by non-opioid analgesics, including aspirin and ibuprofen
X41	Unintentional poisoning by sedative or hypnotic drugs, including antidepressants and barbiturates
X42	Unintentional poisoning by narcotic or hallucinogenic drugs, including marijuana, heroin, and methadone
X43	Unintentional poisoning by drugs acting on the autonomic nervous system
X44	Unintentional poisoning by other and unspecified drugs
X46	Unintentional poisoning by organic solvents
X47	Unintentional poisoning by other gases, including carbon monoxide and motor vehicle exhaust
X48	Unintentional poisoning by pesticides or herbicides
X49	Unintentional poisoning by other and unspecified chemicals
X60	Suicide by poisoning using non-opioid analgesics, including aspirin and ibuprofen
X61	Suicide by poisoning using sedative or hypnotic drugs, including antidepressants and barbiturates
X62	Suicide by poisoning using narcotic or hallucinogenic drugs, including marijuana, heroin, and methadone
X63	Suicide by poisoning using drugs acting on the autonomic nervous system
X64	Suicide by poisoning using other and unspecified drugs
X66	Suicide by poisoning using organic solvents
X67	Suicide by poisoning using other gases, including carbon monoxide and motor vehicle exhaust
X68	Suicide by poisoning using pesticides or herbicides
X69	Suicide by poisoning using other and unspecified chemicals
X85	Homicide by poisoning using drugs or a biological substance
X86	Homicide by poisoning using corrosive gas
X87	Homicide by poisoning using pesticide
X88	Homicide by poisoning using gas or vapors
X89	Homicide by poisoning using other specified chemicals
X90	Homicide by poisoning using unspecified chemicals
Y10	Poisoning by non-opioid analgesics, including aspirin and ibuprofen, undetermined intent
Y11	Poisoning by sedative or hypnotic drugs, including antidepressants and barbiturates, undetermined intent
Y12	Poisoning by narcotic or hallucinogenic drugs, including marijuana, heroin, and methadone, undetermined intent
Y13	Poisoning by drugs acting on the autonomic nervous system, undetermined intent
Y14	Poisoning by other and unspecified drugs, undetermined intent

Y16	Poisoning by organic solvents, undetermined intent
Y17	Poisoning by other gases, including carbon monoxide or motor vehicle exhaust, undetermined intent
Y18	Poisoning by pesticides or herbicides, undetermined intent
Y19	Poisoning by other and unspecified chemicals, undetermined intent

Inpatient hospitalization discharge data and emergency department discharge data from 2004 through 2007 were compiled from the Arizona Hospital Discharge Database at the Arizona Department of Health Services. The discharge database contains information from private, acute-care facilities in the state of Arizona, and do not include visits to federal facilities, such as Veterans' Affairs Hospitals or Indian Health Services facilities. The discharge databases do not contain data from urgent care facilities, private physician practices, or medical clinics.

Records for Arizona residents assigned an International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) External Cause of Injury Code (E-Code) for poisoning as the primary cause of injury were included in this report. The following E-Code ranges were included: E850 – E858, E860 – E869, E950 – E952, E962, E972, E980 – E982. Table 15 lists the general categories of poisonings included in these ICD-9-CM E-Codes. Poisonings due to alcohol meant for ingestion (ICD-9-CM code E860.0) or envenomations by animals, plants, or insects (E905.0 – E905.9) were excluded from this report, as were cases in which medications caused an adverse reaction after therapeutic use (E930 – E949). Medications were counted as poisoning events only if they were administered incorrectly or with the intent to harm. This could include the administration of the wrong drug, or an incorrect dose of a prescribed medication.

Table 15. International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) Codes Used in This Report	
ICD-9-CM Codes	ICD-9-CM Category Description
E850 – E858	Unintentional poisoning by drugs, medicinal substances, and biologicals
E860 – E869	Unintentional poisoning by other solid and liquid substances, gases, and vapors
E950 – E952	Suicide and self-inflicted poisoning by solid or liquid substances, gases in domestic use, and other gases or vapors
E962	Assault by poisoning
E972	Injury due to legal intervention by gas, including poisoning by gas
E980 – E982	Poisoning by solid or liquid substances, gases in domestic use, and other gases, undetermined whether unintentionally or purposely inflicted

To help compare groups over time, some rates have been age-adjusted. Age-adjusting is a statistical procedure used to remove the effect of age differences between populations. All age-adjusted rates in this report were computed using the 'direct' method in which the age-specific rates for a given year are weighted by the age distribution of the 2000 standard population. For information on how to calculate an age-adjusted rate, or to see the 2000 standard age distribution, visit the National Cancer Institute Surveillance Epidemiology and End Results (SEER) program at <http://seer.cancer.gov/seerstat/tutorials/aarates/definition.html>