

Injuries Due to Venomous Insects and Plants in Arizona, 2008

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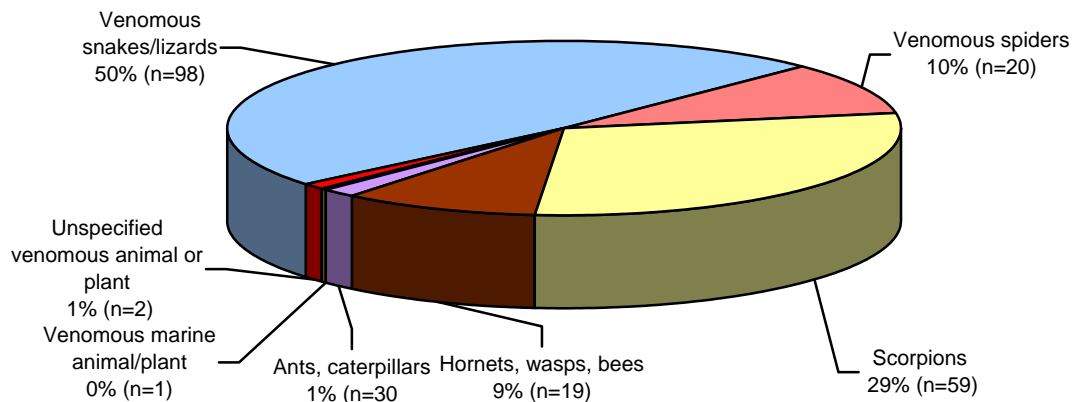
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This fact sheet includes mortality data with an underlying cause of death coded to ICD-10 codes X20-X29, and hospital discharge data coded to ICD-9 codes 905.0-905.9. The hospital discharge data only include information from private, acute-care facilities. Data from rehabilitation hospitals, urgent care centers, or federal facilities, including Indian Health Services or Veteran's Administration facilities, are not available.

In 2008, there were no fatalities among Arizona residents due to envenomations by insects or reptiles. This is in contrast to 2007, in which 4 Arizonans died from such injuries, and 2006, in which 2 Arizonans died from insect or reptile envenomations.

In 2008, there were 202 non-fatal inpatient hospitalizations among Arizona residents for treatment of insect or reptile envenomations. Scorpion stings accounted for 29 percent of non-fatal inpatient hospitalizations (n=59). Bites by venomous snakes and lizards accounted for the highest percentage of non-fatal inpatient hospitalizations (50 percent, n=98). Figure 1 shows non-fatal inpatient hospitalizations by type of bite/sting.

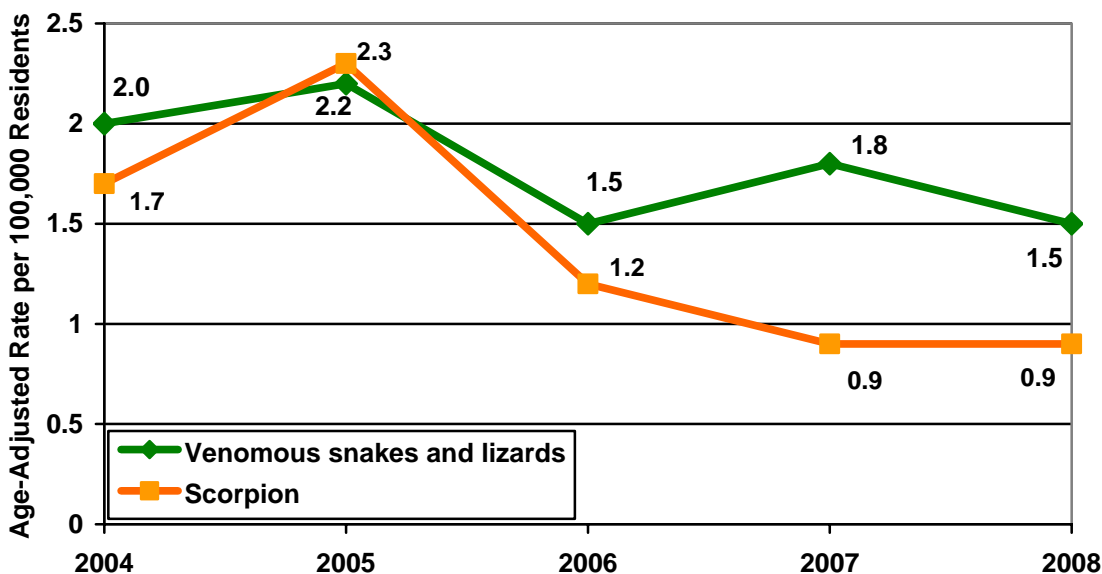
Figure 1. Non-Fatal Inpatient Hospitalizations due to Venomous Animals or Plants, Arizona 2008 (n=202)



Hospital charges for non-fatal inpatient hospitalizations due to venomous animals or plants totaled \$8.1 million, with an average hospital stay lasting 2 days and costing \$39,968. Arizona residents spent a total of 444 days hospitalized, with the longest stay lasting 25 days. While scorpion stings resulted in 29 percent of inpatient hospitalizations, they only accounted for 15 percent of the hospital days, and 8 percent of the total charges.

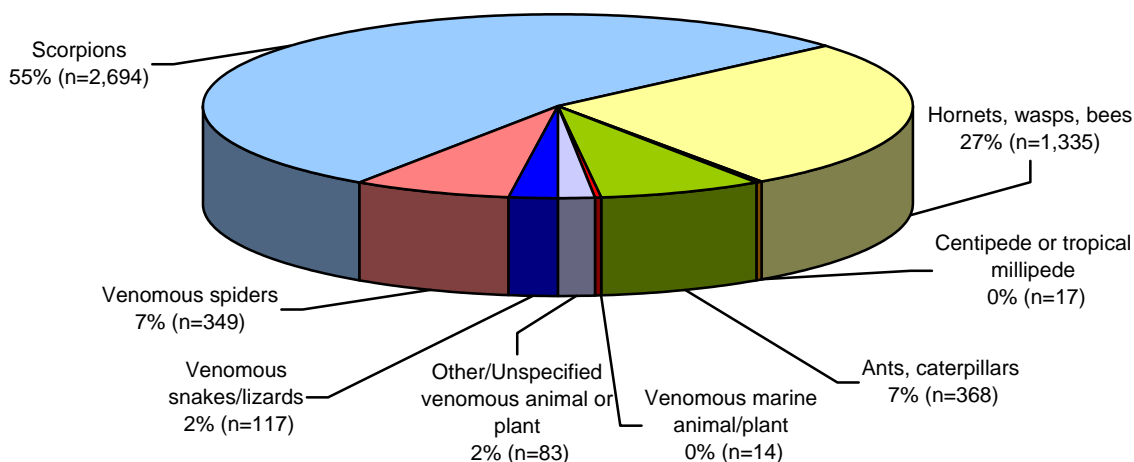
Between 2004 and 2008, the age-adjusted rates of non-fatal inpatient hospitalizations decreased 23 percent from 1.96 to 1.51 hospitalizations per 100,000 residents for injuries from venomous snakes and lizards. The rate of hospitalizations due to scorpions decreased 49 percent from 1.66 to 0.85 hospitalizations per 100,000 residents. Figure 2 shows the age-adjusted rates of non-fatal inpatient hospitalizations due to venomous reptiles and scorpions between 2004 and 2008.

Figure 2. Age-Adjusted Rate of Non-Fatal Inpatient Hospitalizations Due to Selected Venomous Creatures by Year, Arizona, 2004-2008



In 2008, there were 4,977 non-fatal emergency department visits by Arizona residents for treatment of insect or reptile envenomations. Scorpion stings accounted for a majority of these visits (55 percent, n=2,694). The second highest number of visits resulted from stings by hornets, bees, and wasps (27 percent, n=1,335). Figure 3 shows non-fatal emergency department visits by type of bite/sting.

Figure 3. Non-Fatal Emergency Department Visits due to Venomous Animals or Plants, Arizona 2008 (n=4,977)



Among the 2,694 non-fatal emergency department visits due to scorpion stings in 2008, the highest rate of events was among children ages 1 to 4 (94.9 ED visits per 100,000)

residents). Children ages 1 to 4 also had the highest age-specific rate of emergency department visits due to hornet, wasp, and bee stings, the second leading cause of emergency department visits due to venomous creatures (30.1 ED visits per 100,000 residents). Figure 4 shows the rate of non-fatal emergency department visits due to scorpion stings by age group, and Figure 5 shows the rate of non-fatal emergency department visits due to hornets, wasps, and bee stings by age group.

Figure 4. Rate of Non-Fatal Emergency Department Visits due to Scorpion Stings per 100,000 Residents, Arizona 2008 (n=2,694)

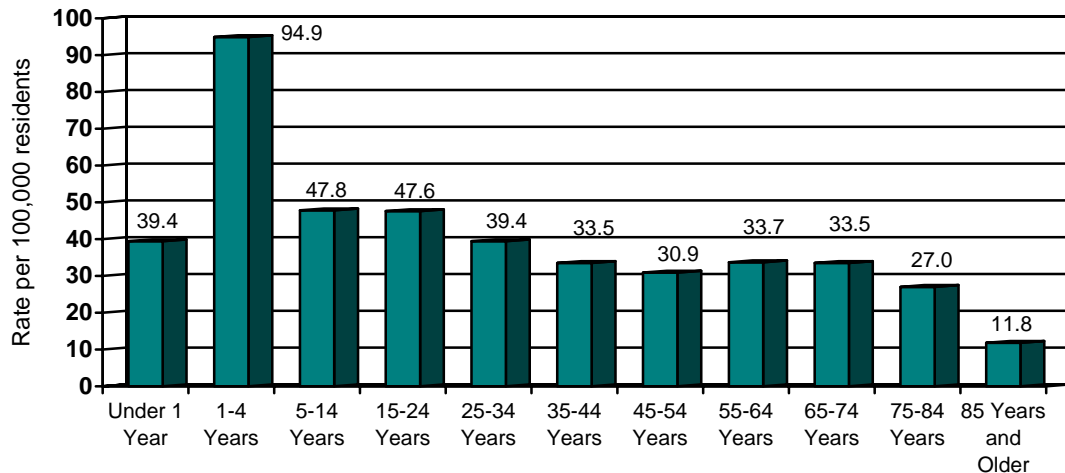
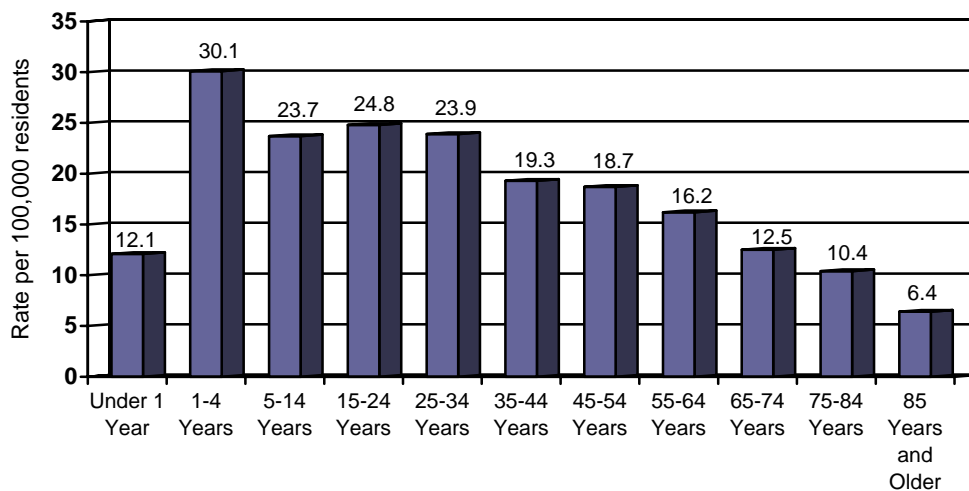


Figure 5. Rate of Non-Fatal Emergency Department Visits due to Hornet, Wasp, or Bee Stings per 100,000 Residents, Arizona 2008 (n=1,335)



Hospital charges for non-fatal emergency department visits due to venomous animals or plants totaled \$5.4 million. Visits to treat scorpion stings totaled \$2.3 million in hospital charges. While scorpion stings resulted in 55 percent of the total non-fatal emergency department visits for venomous animals or plants, they only accounted for 43 percent of the total hospital charges.

While the age-adjusted rate of non-fatal emergency department visits declined between 2004 and 2008 for bites from venomous spiders and venomous reptiles (46 percent and 27 percent, respectively), the age-adjusted rates increased for stings from scorpions and flying insects (29 percent and 18 percent, respectively). Figure 6 shows the age-adjusted rates of non-fatal emergency department visits due to selected venomous creatures between 2004 and 2008 by year.

Figure 6. Age-Adjusted Rate of Non-Fatal Emergency Department Visits Due to Selected Venomous Creatures by Year, Arizona, 2004-2008

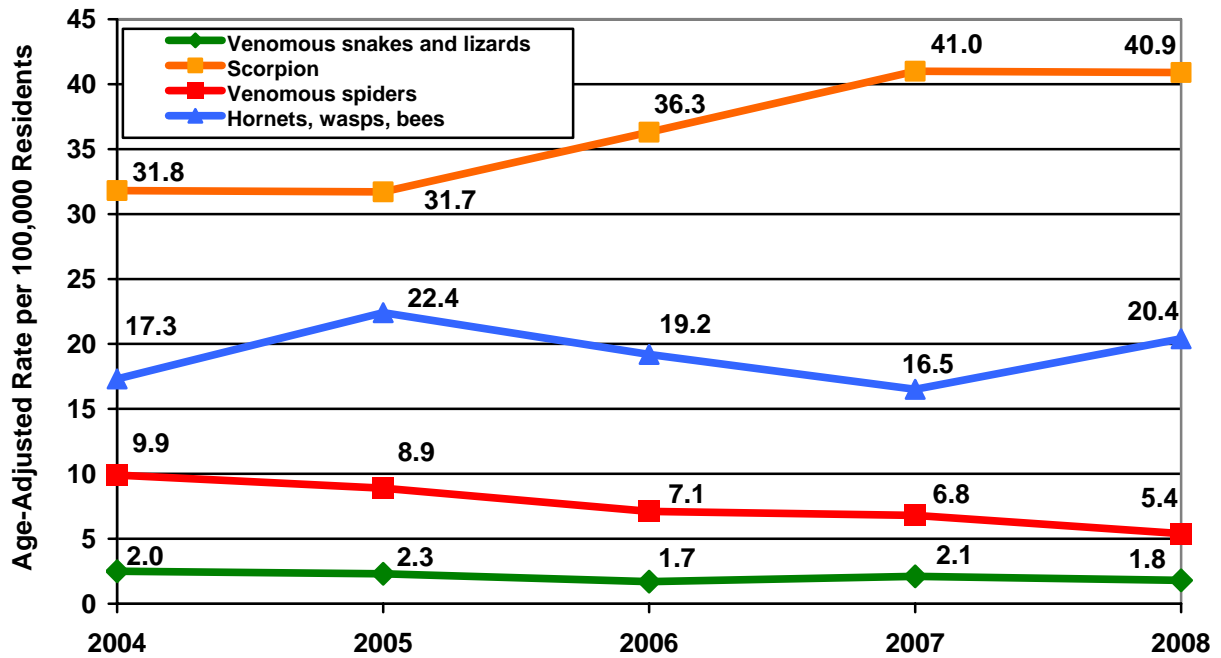




Figure 7: An Arizona Bark Scorpion.

Source: <http://phoenix.about.com/od/arizonapicturesandphotos/ig/Arizona-Bark-Scorpions/Scorpion-01.htm>

Hospital discharge data do not specify the species of scorpion, so it is not possible to further classify injuries. Bark scorpions, as shown in Figure 7, are the most venomous scorpions in North America, and extreme reactions to their stings can cause paralysis and convulsions, though fatalities are rare. Medical attention is recommended for stings to pets, young children, older adults, and people with compromised immune systems.



Figure 8: A Striped Scorpion.

Source: <http://phoenix.about.com/od/arizonapicturesandphotos/ig/Arizona-Bark-Scorpions/Scorpion-06.htm>

Visit the following websites for more information on scorpions and other venomous creatures in Arizona:

The University of Arizona's Cooperative Extension website:

<http://ag.arizona.edu/pubs/insects/az1223/>

The University of Arizona College of Pharmacy Poison and Drug Information Center:

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