



Bulletin No. 28

July 8, 1997

Child Injury Deaths in Alaska, 1993-1995

Of the 50 states, Alaska had the second highest injury death rate among children aged <10 years during 1990-1994. Estimates suggest that 31% of childhood injury deaths in the United States are preventable using available strategies.<sup>1</sup> Vital statistics, medical examiner, Alaska State Trooper, police department, Fire Marshall, and fire department records of injury deaths among children ≤ 6 years during 1993-1995 were reviewed to assess preventability and the role of parent/caretaker supervision in the circumstances of the injury. Ten child safety standards were developed to further characterize deaths.

Of 321 deaths among Alaska children aged ≤ 6 years during this time period, 88 (27%) were due to injury. Of injury deaths, 52 (59%) were male. Forty-one (47%) were Alaska Native, 41 were white, five were black, and one was Asian. There were 83 unintentional injury deaths, four intentional injury deaths, and one death of undetermined intent. The leading category of injury death was fire with 23 (26%) of the deaths (Table 1). The leading category of injury death among whites was asphyxiation (8 deaths, 20%), while the leading cause of injury death among Alaska Natives was fire (16 deaths, 39%). Children who died of homicide, asphyxiation, and occupant-motor vehicle injury were, on average, younger, while those who died of unintentional firearm, bicycle-motor vehicle and pedestrian-motor vehicle injuries were older (Table 1). The annualized injury death rate among children aged ≤ 6 years during 1993-1995 was 36.7/100,000 children. Among racial groups, Alaska Natives had the highest rate (74/100,000), followed by blacks (41/100,000), whites (25/100,000), and Asians (9/100,000).

**Table 1. Leading categories of injury death among children, 0-6 years, Alaska, 1993-1995**

Injury category	# of deaths	(%)	Mean age (yrs)
Fire	23	(26)	3.1
Motor Vehicle	21	(23)	3.3
Occupant	9	(10)	2.4
Pedestrian	9	(10)	3.6
Bicyclist	3	(3)	5.3
Asphyxiation	17	(19)	2.4
Drowning	13	(15)	3.2
Homicide	4	(5)	2.0
Poisoning	3	(3)	3.7
Unintentional firearm	2	(2)	4.5
Other	5	(6)	2.2
<b>TOTAL</b>	<b>88</b>	<b>(100)</b>	<b>3.0</b>

Based on the cause of death and circumstances around the 88 injury events, we examined 10 child safety standards to see if they were related to the death (Table 2). For example, if a motor vehicle injury death occurred and the child was unrestrained, standard 6 was not met. If the child was appropriately restrained and no laws were broken leading to the motor vehicle injury death, then the standards were met. Standard 3 was considered not to have been met if, for example, a child drowned and no caretaker was present. If more than one standard was not met in the death, the standard most specifically associated with the injury was chosen.

Records were available for 87 of the deaths -- 86 (98%) could be classified (Table 2). Only nine deaths did not have a break in any of the 10 standards. The most common standards not met included 3) Children should be supervised by a responsible care provider; 8) Children should be protected by a working smoke detector; 10) Children should have a safe sleeping environment; and 6) Children should be restrained or protected when riding in or on vehicles. None of the 23 children who died in fires in Alaska during this time period were protected by a working smoke detector in their home, and in two incidents which resulted in 5 child deaths, known child pyromaniacs were left alone in the home.

**Table 2. Child safety standards and injury deaths, 0-6 years, Alaska, 1993-1995**

<b>Child safety standards</b>	<b>Deaths where standard not met</b>	<b>(% *)</b>
1) Children should be provided with appropriate food, shelter, and medical care	3	(4)
2) Children should be free from physical abuse	3	(4)
3) Children should be supervised by a responsible care provider	33	(38)
4) Children should not be supervised by persons impaired by alcohol or drugs	3	(4)
5) Children should not be subjected to unlawful behavior	3	(4)
6) Children should be restrained or protected when riding in or on vehicles	5	(6)
7) Firearms, poisons and other hazardous materials should be kept away from children	3	(4)
8) Children should be protected by a working smoke detector	14	(16)
9) Toys, play equipment, appliances and municipal sites should meet accepted safety standards	3	(4)
10) Children should have a safe sleeping environment	7	(8)
All standards met	9	
Unable to classify	1	
No records available	1	
<b>Total</b>	<b>88</b>	
* % of classified deaths (n=86), does not add to 100 because of rounding		

**Discussion**

Alaska continues to have one of the highest child injury death rates in the United States. However, in this study deaths could not be attributed to Alaska-specific hazards such as harsh weather or environment. Rather, these child injury deaths were attributable to largely preventable factors such as inadequate child supervision, absent or non-working smoke detectors, inappropriate sleeping environments such as adult beds for infants, and no occupant restraints or bike helmets. Decreasing the number of child injury deaths in Alaska will depend on increasing utilization of basic safety standards everyday.

**Reference**

1. Rivera FP, Grossman DC. Prevention of traumatic deaths to children in the United States: how far have we come and where do we need to go? *Pediatrics*. 1996;97:791-797.

(Contributed by Michael G. Landen, MD, MPH)