



**Department of Health and Social Services**

Valerie J. Davidson, Commissioner

3601 C Street, Suite 540

Anchorage, Alaska 99503

<http://dhss.alaska.gov/dph/Epi>

**Division of Public Health**

Jay C. Butler, MD, MPH, Chief Medical Officer and Director

Local (907) 269-8000

24 Hour Emergency (800) 478-0084

**Editors:**

Joe McLaughlin, MD, MPH

Louisa Castrodale, DVM, MPH

Bulletin No. 13 May 5, 2016

## Drowning Deaths — Alaska, 2013–2015

### Background

During 2000–2012, the overall average annual drowning rate in Alaska decreased by 20% (from 8.9 per 100,000 persons during 2000–2006 to 7.1 per 100,000 persons during 2007–2012),<sup>1</sup> and the average annual drowning rate among children aged 0–9 years decreased by 45% (from 4.7 to 2.6 per 100,000 persons, respectively). Nonetheless, drowning remained one of the top five causes of unintentional injury death in Alaska for persons aged 1–74 years in 2014 and was the leading cause of unintentional injury death among children aged 0–9 years.<sup>2</sup> This *Bulletin* provides an update on Alaska's drowning deaths.

### Methods

Reports from the Alaska Drowning Surveillance System (AKDSS) were used to identify all drowning deaths in Alaska during 2013–2015. These reports were cross-referenced with the Alaska Violent Death Reporting System and the Alaska Occupational Injury databases. Population estimates from the Alaska Department of Labor and Workforce Development, Research and Analysis Section were used for denominators to calculate unadjusted rates. Rates by race were calculated using 2013–2015 population estimates. The 2000 U.S. Census data were used to calculate age-adjusted rates.

### Results

During 2013–2015, 143 drowning deaths were recorded in AKDSS; the average annual number of victims was 48 (range: 43–50). The average annual age-adjusted drowning rate was 6.3 per 100,000 persons (Table 1). Most (121, 85%) decedents were male; the median age was 41 years (range: 0–82). Ten (7%) drowning deaths were due to either intentional self-harm or undetermined intent.

Unadjusted rates by race were highest among American Indian/Alaska Natives (AI/AN), followed by Whites, and other races combined (17.9, 2.9, and 2.6 per 100,000 persons, respectively; Table 1). Rates by region were highest in the Southwest, followed the Gulf Coast, Southeast, Northern, Interior, and Anchorage/Mat-Su (26.6, 12.1, 10.9, 5.1, 4.2, and 2.6 per 100,000 persons, respectively).

**Table 1. Drowning Rates per 100,000 Persons in 2010–2012 Compared to 2013–2015, Alaska**

	2010–2012	2013–2015
Average Number per Year	46	48
Average Annual Age-Adjusted Rate	6.5	6.3
Average Annual Unadjusted Rates		
Persons aged 0–9	2.5	3.4
Persons aged 0–14	2.5	2.9
Persons aged 15–24	6.9	6.2
Persons aged 25–44	8.0	8.6
Persons aged 45–64	6.5	7.4
Persons aged 65+	9.6	5.6
American Indian/Alaska Native	15.8	17.9
White	4.8	2.9
All other races	4.5	2.6

Of the 143 drownings, 125 (87%) were non-occupational, and 18 (13%) were occupational. Of the 18 occupational drownings, the most common contributing factors were having used either alcohol or drugs prior to the incident (13, 72%) and falling from a vessel or dock (7, 39%).

Of the 125 non-occupational drowning victims,

- 35 (28%) were involved in boating activities (Table 2), of which, 22/35 (63%) were known not to have worn a personal flotation device (PFD) at the time of the incident,

and 19/35 (54%) were suspected or confirmed to have either used alcohol or drugs prior to the incident;

- 45 (36%) died in a river or creek, 25 (20%) died in the ocean or harbor, 19 (15%) died in a lake or slough, and 13 (10%) died in a hot tub or a bath tub; and
- 11 (9%) were children aged 0–9 years, of which, 10/11 (91%) were unattended just prior to the incident.

**Table 2. Comparison of Non-Occupational Drowning Circumstances — Alaska, 2010–2012 and 2013–2015**

Circumstance	2010–2012 N=114	2013–2015 N=125
Boating	40 (35%)	35 (28%)
Swimming in/playing around water	12 (11%)	23 (19%)
Riding ATV/snow machine	17 (15%)	10 (8%)
Walking near water	5 (4%)	17 (14%)
Bathing	12 (11%)	13 (10%)
Automobile/aircraft-related	6 (5%)	3 (2%)
Fishing/diving	2 (2%)	3 (2%)
Other	1 (1%)	8 (6%)
Unknown/undetermined	19 (17%)	13 (10%)

\*Total does not equal 100% due to rounding

### Discussion

The average annual age-adjusted drowning death rate decreased slightly during 2013–2015 compared to 2010–2012 (Table 1); however, the death rate among children aged 0–9 years increased by 36%. Drowning rates were particularly high among Alaska Native people and people living in the Southwest and Gulf Coast regions, indicating that more prevention efforts are warranted for these populations.

During 2013–2015, 91% of the children aged 0–9 who drowned were left unattended by an adult. Health care providers should remind parents that young children should not be left unsupervised around large containers filled with water (e.g., buckets, toilets) that can entrap children, tubs and sinks, or larger bodies of water (e.g., pools, ponds, lakes, creeks). Adults should instruct children by demonstrating appropriate water safety practices and behaviors. In addition, children need to wear correctly sized PFDs and should be taught how to swim or to float by flipping to their backs.<sup>4</sup>

Rates of drowning during boating activities significantly improved, having attained a 55% reduction in annual recreational boating fatalities (from an annual average of 33.1 fatalities during 1985–1999 to 14.8 fatalities during 2000–2015).<sup>3</sup> While hunting activities involving the use of boats increases during the spring and fall months, year-round efforts should be made to address safe boating practices that include: 1) wearing a correctly sized and rated PFD, 2) avoiding alcohol use, 3) paying close attention to weather forecasts, and 4) filing a written float plan. For more information, see:

Kids Don't Float Program <a href="http://kidsdontfloat.alaska.gov">http://kidsdontfloat.alaska.gov</a>	AK Marine Safety Education Assn. <a href="http://www.amsea.org">http://www.amsea.org</a>
USCG Auxiliary <a href="http://floatplancentral.cgaux.org">http://floatplancentral.cgaux.org</a>	Alaska Office of Boating Safety <a href="http://dnr.alaska.gov/parks/boating">http://dnr.alaska.gov/parks/boating</a>

### References

1. Alaska Epidemiology Bulletin. Drowning Deaths in Alaska. No. 8, June 3, 2014. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2014\\_08.pdf](http://www.epi.alaska.gov/bulletins/docs/b2014_08.pdf)
2. CDC. Web-based Injury Statistics Query and Reporting System. Available at: <http://www.cdc.gov/injury/wisqars/> Accessed April 18, 2016.
3. Alaska Office of Safe Boating. Fatal Boating Accident database.
4. Safe Kids Worldwide. Accessed April 18, 2016. Available at: <http://www.safekids.org/>