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AKVDRS Summary of Violent Deaths Update — Alaska, 2016–2019

Background

Established in 2003, the Alaska Violent Death Reporting System (AKVDRS) is part of the National Violent Death Reporting System (NVDRS) designed to collect and analyze violent deaths and injuries.¹ The NVDRS includes more than 600 unique data elements and violent death risk factors.^{2,3} This *Bulletin* summarizes AKVDRS data from 2016–2019.

Methods

Deaths were counted in AKVDRS if the decedent was fatally injured in Alaska from 2016–2019. Unadjusted rates were calculated using the Alaska Department of Labor’s population estimates for age, sex, race, and region. Homicide rates were calculated using combined homicide and legal intervention (LI) data. The medical examiner determines the appropriateness of toxicological studies based on the case and specimen integrity.

Results

During 2016–2019, 1,223 violent deaths were recorded in AKVDRS (Table). Overall, the average annual violent death rate was 41.6 per 100,000 persons. Suicide accounted for most (796, 65%) of the deaths, followed by homicide/legal intervention deaths (297, 24%). The average annual suicide rate was 2.7 times higher than for homicide/legal intervention (27.1 vs. 10.1 per 100,000 persons, respectively). Combination homicide-suicide incidents accounted for 26 (2%) deaths.

The highest overall death rates by sex and age were among males aged 20–24 and 25–29 years (122.7 and 107.0 per 100,000 persons, respectively) and females aged 20–24 and 25–29 years (39.5 and 39.6 per 100,000 persons, respectively). The highest rates by race were among American Indian/Alaska Native people (85.1 per 100,000 persons), followed by Blacks, Whites, Asian/Pacific Islanders, and people of two or more races (54.2, 32.7, 20.3, and 37.1 per 100,000 persons, respectively). Rates by region were highest in the Southwest region, followed by the Northern, Interior, Gulf Coast, Anchorage, Mat-Su, and Southeast regions (80.5, 73.3, 46.9, 37.4, 36.9, 34.6, and 31.2 per 100,000 persons, respectively).

The most frequent primary weapon used or method was a firearm (700; 57%), followed by hanging/strangulation/suffocation (246; 20%), poisoning (96, 8%), and a sharp instrument (50, 4%). Of the firearm deaths, 455/700 (65%) involved a handgun, followed by a rifle or shotgun (179, 26%).

Toxicology test results for alcohol and/or drugs were available for 1,168 (96%) decedents, as follows:

- 458/1,164 (39%) decedents were positive for alcohol, of these, 347/458 (76%) had a blood alcohol concentration ≥ 0.08 g/dL;
- 871/1,162 (75%) decedents were positive for ≥ 1 drug;
- 244/1,162 (21%) tested positive for ≥ 2 drugs;
- marijuana was the most frequently identified drug (407/1,162, 35%), followed by amphetamines (195/1,160, 17%), opiates (183/1,163, 16%), benzodiazepines (92/1,161, 8%), cocaine (45/1,159, 4%) and barbiturates (9/1,160, 1%); and
- 542/1,162 (47%) decedents were positive for both alcohol and drugs.

Other notable circumstances included:

- 151/1,223 (12%) deaths were among children ≤ 19 years; of these, 90/151 (60%) were suicides and 36/151 (24%) were homicides/LI;
- 17/151 (11%) deaths were among children aged 0–4 years; of these, 9/17 (53%) were reported as homicides;
- 8/20 (40%) unintentional firearm deaths were among children aged ≤ 17 years; and
- 10/20 (50%) unintentional firearm deaths among adults aged ≥ 18 years were due to improper gun handling; of which, four occurred while hunting and target shooting.

Discussion

During 2016–2019, the rate of homicides and suicides increased 53% and 13%, respectively. The rate of deaths due to undetermined intent also increased slightly. Accidental (unintentional) firearm deaths had the lowest rates, with no significant change. Compared to 2012–2015, the average annual unadjusted rate for violent deaths in Alaska increased 22% during 2016–2019 (from 33.9 to 41.4 per 100,000 persons). Although the suicide-homicide/LI rate ratio declined 8% during the most recent four years, homicide, and suicide rates have trended upward since 2012; 2019 saw the highest rates for both suicide and homicide/LI since 2012.

References

1. Alaska Epidemiology *Bulletin*. Overview of the Alaska Violent Death Reporting System. No. 21, July 20, 2010. Available at: http://www.epi.alaska.gov/bulletins/docs/b2010_21.pdf
2. Centers for Disease Control and Prevention, Injury Center, National Violent Death Reporting System. Available at: <https://www.cdc.gov/violenceprevention/datasources/nvdrs/index.html>
3. CDC. Web-based Injury Statistics Query and Reporting System. Available at: <https://www.cdc.gov/injury/wisqars/nvdrs.html>

Table. Violent Deaths by Assigned Manner of Death and Year — Alaska, 2016–2019

Assigned Manner of Death	AKVDRS						NVDRS ³
	2016	2017	2018	2019	2016–2019	2012–2015	2017
	Number of Deaths by Year (Unadjusted Rate per 100,000 persons)*				Total; Mean (Rate)	Total; Mean (Rate)	Number (Rate)
Intentional self-harm (suicide)	193 (26.1)	205 (27.8)	183 (25.2)	215 (29.1)	796; 199 (27.0)	707; 177 (24.0)	27,999 (13.1)
Homicide and LI†	67 (9.1)	80 (10.8)	64 (8.7)	86 (11.8)	297; 74 (10.1)	194; 49 (6.6)	11,570 (5.6)
Accidental firearm	5* (0.8)	6 (0.8)	3* (0.8)	6 (0.8)	20; 5 (0.7)	26; 7 (0.9)	239 (0.1)
Undetermined intent	24 (3.4)	23 (3.1)	32 (4.4)	29 (4.1)	108; 27 (3.7)	71; 17 (2.3)	4,213 (2.0)
Total	290 (39.2)	314 (42.6)	283 (38.4)	336 (45.6)	1,223; 306 (41.6)	998; 250 (33.9)	44,439 (21.5)

*Rates based on <20 occurrences are statistically unreliable and should be used with caution; rates based on ≤ 5 occurrences were not reported.

†Deaths caused by police and other persons with legal authority to use deadly force, excluding legal executions.