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## AKVDRS Summary of Violent Deaths Update — Alaska, 2012–2015

### Background

Alaska is one of 31 states funded by the National Violent Death Reporting System (NVDRS) to collect detailed violent death risk factor information.<sup>1</sup> Established in 2003, the Alaska Violent Death Reporting System (AKVDRS) is an active surveillance system that supports development, implementation, and evaluation of programs and policies designed to reduce and prevent violent deaths and injuries at the national, state, and local levels.<sup>2</sup> This *Bulletin* provides a summary overview of recent AKVDRS violent death data.

### Methods

AKVDRS data were analyzed from 2012–2015. The following Alaska deaths are included in AKVDRS: suicides, homicides, deaths from legal intervention, deaths of undetermined intent, and unintentional firearm fatalities. 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 (i.e., justifiable homicide) data.

### Results

During 2012–2015, 998 violent deaths were identified and recorded in AKVDRS (Table); overall, the average annual violent death rate was 33.9 per 100,000 persons. Suicide accounted for most (707, 71%) of the deaths, followed by homicide/legal intervention deaths (194, 19%). The average annual suicide rate was 3.6 times higher than for homicide/legal intervention (24.0 vs. 6.6 per 100,000 persons, respectively). Combination homicide-suicide incidents accounted for 9 (<1%) deaths.

The highest rates by sex and age were among males aged 20–24 years and females aged 45–49 years (99.3 and 28.3 per 100,000 persons, respectively). The highest rates by race were among American Indian/Alaska Native people (68.3 per 100,000 persons), followed by Blacks, Whites, Asian/Pacific Islanders, and people of two or more races (42.9, 29.1, 13.1, and 20.4 per 100,000 persons, respectively). Rates by region were highest in the Northern and Southwestern regions (66.3 and 65.3 per 100,000 persons, respectively), and lowest in the Southeastern region (20.5 per 100,000 persons).

Of the 998 violent deaths recorded during 2012–2015,

- 611 (61%) involved a firearm, 175 (18%) involved hanging/strangulation/suffocation, 88 (9%) involved poisoning, 46 (5%) involved a sharp instrument, and 78 (8%) involved other weapons;
- 393 (39%) decedents were suspected of using alcohol in the hours preceding the incident;

- 422 (42%) decedents received an autopsy;
- 558 (56%) decedents received drug or alcohol (i.e., toxicology) testing, of which, 359 (64%) received an autopsy and 199 (36%) did not receive an autopsy;
- 543 (54%) decedents were tested for alcohol, of which, 248 (46%) tested positive and 201 (37%) had a blood alcohol concentration  $\geq 0.08$  g/dL;
- 557 (56%) decedents were tested for one or more drugs--marijuana was the most frequently identified drug (138 positives out of 543 tested, 25%), followed by opiates (72/544, 13%), amphetamines (65/544, 12%), benzodiazepines (39/456, 9%), anti-depressants (30/71, 42%), and cocaine (10/542, 2%);
- 542 decedents were tested for *both* alcohol and drugs, of which, 113 (21%) were positive for both;
- 26 (3%) were due to an unintentional firearm injury;
- 175 (18%) decedents were current or former U.S. military personnel; and
- 18 (2%) decedents were children aged 0–4 years, of these deaths, 14/18 (78%) were reported as homicides.

### Discussion

Compared to 2008–2011, the average annual unadjusted rate for violent deaths in Alaska decreased slightly during 2012–2015 (from 34.3 to 33.9 per 100,000 persons); however, the number and rate of suicides and homicides were relatively high in 2015. The rate of death due to undetermined intent decreased by 65% during 2012–2015 compared to 2008–2011; this is likely due to new policies and procedures established in mid-2009 by the State Medical Examiner's Office, combined with more forensic pathologists and staff, which resulted in a higher proportion of decedents undergoing full investigation, including autopsy.

Clinical specimens collected from all suicide decedents dating back from 2015 through the present are now being analyzed for the presence of alcohol and drugs. This information will increase our understanding about how substance misuse contributes to violent injuries in Alaska and help direct future violence prevention efforts.

### References

1. Centers for Disease Control and Prevention, Injury Center, National Violent Death Reporting System. Available at: <http://www.cdc.gov/violenceprevention/nvdrs/>
2. Alaska Epidemiology *Bulletin*. Summary of Violent Deaths — Alaska, 2007–2011. No 2, January 14, 2013. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2013\\_02.pdf](http://www.epi.alaska.gov/bulletins/docs/b2013_02.pdf)
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, 2012–2015**

Assigned Manner of Death	AKVDRS					NVDRS <sup>3</sup>	
	2012	2013	2014	2015	2012–2015	2008–2011	2014
	Number of Deaths by Year (Unadjusted Rate per 100,000 persons)*				Total; Mean (Rate)	Total; Mean (Rate)	Number (Rate)
Intentional Self-harm (suicide)	170 (23.2)	173 (23.5)	161 (21.9)	203 (27.5)	707; 177 (24.0)	626; 157 (22.2)	14,380 (13.5)
Homicide and Legal Intervention <sup>†</sup>	39 (5.3)	43 (5.8)	46 (6.2)	66 (9.0)	194; 49 (6.6)	142; 36 (5.0)	5,159 (4.8)
Accidental Firearm	11 (1.5)	4	3	8 (1.1)	26; 7 (0.9)	16; 4 (0.6)	142 (0.1)
Undetermined Intent	16 (2.2)	7 (1.0)	25 (3.4)	23 (3.1)	71; 17 (2.3)	181; 45 (6.4)	2,161 (2.0)
<b>Total</b>	236 (32.3)	227 (30.8)	235 (31.9)	300 (40.7)	998; 250 (33.9)	965; 242 (34.3)	21,842 (20.5)

\*Rates based on <20 occurrences are statistically unreliable and should be used with caution; rates based on  $\leq 5$  occurrences were not reported (NR). Population estimates used to calculate rates by race are higher than the population because of multi-race individuals with multiple responses.

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