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## AKVDRS Summary of Violent Deaths Update — Alaska, 2007–2011

### Background

Alaska is one of 18 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 2007–2011. Deaths were counted if the decedent was fatally injured in Alaska. Crude rates were calculated using the Alaska Department of Labor's population estimates data. Homicide rates were calculated using combined homicide and legal intervention (i.e., justifiable homicide) data.

### Results

During 2007–2011, 1,237 violent deaths were identified and recorded in AKVDRS (Table); overall, the average annual crude rate was 35.4 per 100,000 persons. Suicide accounted for most (771, 62%) of the deaths, followed by homicides (191, 15%). The average annual crude rate for suicides was 4 times higher than for homicides (22.0 vs. 5.5 per 100,000 persons, respectively). Combination homicide-suicide incidents accounted for 31 (3%) deaths.

The highest crude rates by sex and age were among males aged 20–24 years and females aged 0–4 years (104 and 28 per 100,000 persons, respectively). Rates by race were highest among American Indian/Alaska Native persons, followed by Whites, Blacks, and Asian/Pacific Islanders (67.1, 28.7, 24.0, and 15.7 per 100,000 persons, respectively). Rates by region were highest in the Northern and Southwestern regions (76.5 and 70.3 per 100,000 persons, respectively), and lowest in the Anchorage/Mat-Su region (28.8 per 100,000 persons).

Of the 1,237 violent deaths recorded during 2007–2011,

- 635 (51%) involved a firearm, 204 (16%) involved hanging/strangulation/suffocation, and 126 (10%) involved poisoning;
- 235 (19%) decedents were current or former U.S. military personnel;
- 546 (44%) decedents were proven or suspected of using alcohol in the hours preceding the incident;
- 447 (36%) decedents had an autopsy and toxicology testing, and 291 (24%) had toxicology testing alone;
- 709 (57%) decedents were tested for alcohol, of which

331/709 (47%) tested positive; 271/709 (38%) had blood alcohol concentrations that were  $\geq 0.08$  g/dL;

- 658 (53%) decedents were tested for one or more drugs (specific drug testing is determined on a case-by-case basis by the medical examiner) -- 140/632 (22%) were positive for marijuana, 95/639 (15%) were positive for opiates, 64/415 (15%) were positive for anti-depressants, 43/644 (7%) were positive for cocaine, 38/639 (6%) were positive for amphetamines, and 280/665 (42%) were positive for "other" drugs;
- 739 (60%) decedents were tested for alcohol or drugs; of those, 573 (78%) decedents were positive;
- 80 (6%) decedents were children aged 0–4 years; and
- 67 (5%) decedents were infants (aged <1 year); of these, 54 (75%) were reported as undetermined intent/mechanism (e.g., sudden unexplained infant death).

### Discussion

Compared to 2004–2008, the average annual crude rate for violent deaths in Alaska increased by 5% during 2007–2011 (from 33.8 to 35.4 per 100,000 persons).<sup>2</sup> This increase was primarily attributable to increased incidents of undetermined intent (from 4.7 to 7.3 per 100,000 persons), such as sudden unexplained infant death or other circumstances under which the medical examiner could not say for sure what caused a person's death.

Substance use is a known risk factor for violent behavior, and this report indicates that of the decedents who were tested for alcohol or drugs, 78% were positive -- this underscores the importance of ongoing work to decrease Alaska's substance use/abuse rates. These data also show that while infants represent only 1.5% of the Alaska population, 5% of violent deaths occurred among infants, indicating that infants are at disproportionately higher risk for violent death. Further, infant deaths of an undetermined intent/mechanism have been associated with alcohol and drug use by caretakers, and with unsafe sleeping environments.<sup>3</sup> More research is needed to better understand risk factors for violent deaths among infants.

### References

1. CDC, Injury Center, National Violent Death Reporting System. Available at: <http://www.cdc.gov/violenceprevention/nvdrs/>
2. Section of Epidemiology. Summary of Violent Deaths — Alaska, 2004–2008. *Bulletin* No 22, July 20, 2010. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2010\\_22.pdf](http://www.epi.alaska.gov/bulletins/docs/b2010_22.pdf)
3. American Academy of Pediatrics. SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics* 2011;128:e1341–67. Available at: <http://pediatrics.aappublications.org/content/128/5/e1341.full.pdf+html?sid=40ec04f3-3fe3-4655-870f-a8b1255ff527>

**Table. Violent Deaths by Assigned Manner of Death and Year — Alaska, 2007–2011**

Assigned Manner of Death	AKVDRS							NVDRS
	2007	2008	2009	2010	2011	2007–2011	2004–2008 <sup>2</sup>	2009 <sup>4</sup>
	Number of Deaths by Year (Crude Rate per 100,000 persons)*					Total; Mean (Rate)	Total; Mean (Rate)	Number (Rate)
Intentional self harm (suicide)	148 (21.8)	168 (24.5)	142 (20.3)	169 (23.8)	144 (19.9)	771; 154 (22.0)	740; 148 (21.9)	9,949 (12.2)
Homicide and legal intervention <sup>†</sup>	52 (7.6)	36 (5.2)	27 (3.9)	41 (5.8)	35 (4.8)	191; 38 (5.5)	212; 42 (6.2)	4,057 (5.0)
Accidental firearm	4	5	3	6 (0.8)	2	20; 4	29; 6 (0.8)	87 (0.1)
Undetermined intent	32 (4.7)	69 (10.0)	74 (10.6)	44 (6.2)	36 (5.0)	255; 51 (7.3)	158; 32 (4.7)	2,325 (2.8)
<b>Total</b>	236 (34.7)	278 (40.5)	246 (35.3)	260 (36.6)	217 (30.0)	1,237; 247 (35.4)	1,139; 228 (33.8)	16,418 (20.1)

\* Rates not reported if  $\leq 5$  observations were available.

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