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Firearm Injury Hospitalizations and Deaths — Alaska, 2003–2008

Background

Firearm injury hospitalizations and deaths are captured in the Alaska Trauma Registry (ATR) and the Alaska Violent Death Reporting System (AKVDRS), respectively. The ATR contains hospital records information on trauma-related hospitalizations statewide.¹ The AKVDRS contains risk factor data concerning violence-related deaths that meet the National Violent Death Reporting System case definitions.²

Methods

Data on Alaska firearm injury hospitalizations and deaths during 2003–2008 were obtained from the ATR and AKVDRS databases. Rates were calculated using the National Center for Health Statistics Bridged Race Vintage 2009 Postcensal Population estimates.

Results

Of the 1,339 firearm injuries that were identified in the ATR and AKVDRS from 2003–2008, 605 (45.2%) were hospitalizations, and 734 (54.8%) were deaths. Of the 605 hospitalized patients, 92 (15.2%) died while hospitalized and were therefore represented in both registries. Hospitalization and death rates were highest among males, American Indian/Alaska Natives (AI/AN) and Blacks, and people living in the Northern and Southwestern regions of the state (Table).

Table. Demographic Characteristics of Firearm Injury Hospitalizations and Deaths — Alaska, 2003–2008

| | Hospitalizations (N=605) | Deaths (N=734) |
|-----------------------------|--|-------------------|
| <i>Age in years</i> | | |
| Mean (SD) | 28 (14) | 38 (17) |
| Age Range | <1–103 | 10–91 |
| <i>Sex</i> | | |
| Male | 518 (85.6%) | 643 (87.6%) |
| <i>Race/Ethnicity*</i> | <i>Rate (#) per 100,000 population</i> | |
| White | 8.2 (238) | 15.6 (450) |
| Black | 41.6 (73) | 19.9 (35) |
| A/PI | 15.0 (34) | 11.0 (25) |
| AI/AN | 30.6 (217) | 28.3 (201) |
| Hispanic | 9.7 (18) [†] | (3) [†] |
| Other/Unknown | (25) [†] | (20) [†] |
| <i>Region of Occurrence</i> | <i>Rate (#) per 100,000 population</i> | |
| Anchorage/Mat-Su | 13.3 (284) | 15.0 (319) |
| Gulf Coast | 12.6 (57) | 19.5 (88) |
| Interior | 12.9 (79) | 19.1 (117) |
| Northern | 42.8 (61) | 40.0 (57) |
| Southeast | 6.6 (28) | 13.5 (57) |
| Southwest | 34.6 (82) | 37.1 (88) |
| Unknown | (14) [†] | (8) [†] |

*A/PI = Asian/Pacific Islander; AI/AN = American Indian/Alaska Native
[†] = Rates <20 should be interpreted with caution; rates are not calculated for cell sizes <5 and Other/Unknown categories.
 SD = Standard Deviation

With respect to intent, annual firearm injury hospitalization rates from 2003–2008 were highest for unintentional injury and assaults (Figure 1). Firearm injury death rates were consistently highest for intentional self-harm (suicide), ranging from 12.0 to 16.3 per 100,000 persons (Figure 2).

Figure 1. Rates of Firearm Injury Hospitalization, by Intent — Alaska, 2003–2008

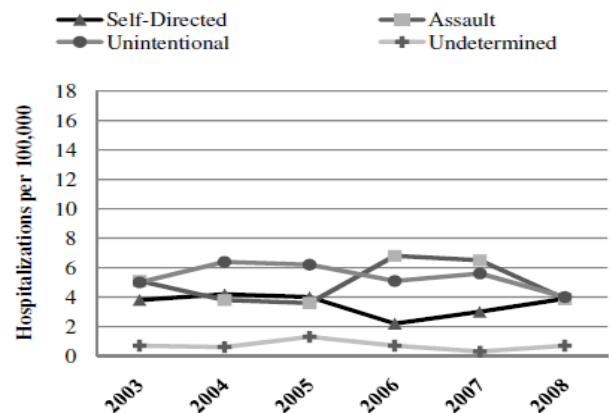
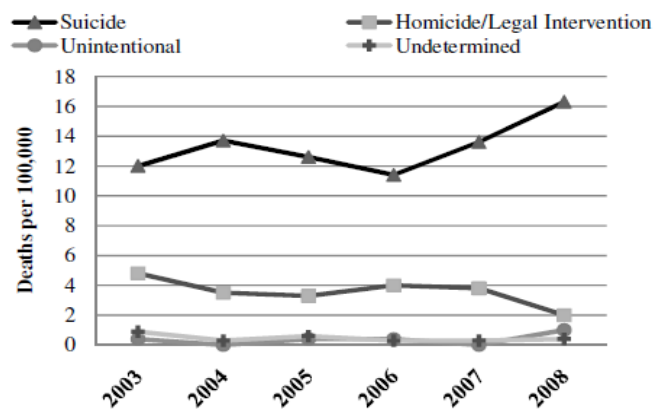


Figure 2. Rates of Fatal Firearm Injury, by Intent — Alaska, 2003–2008



Discussion

From 2003–2008, firearm injury hospitalizations and deaths disproportionately affected males, Blacks, AI/AN people, and people living in the Northern and Southwest regions. Firearm injury death rates by intent were consistently highest for suicide, but this was not the case for hospitalization rates. A plausible explanation for this difference is that suicide attempts with a firearm are almost always fatal.³

The AKVDRS and ATR do not provide data on outpatient clinic and emergency room firearm-related injuries not requiring hospitalization; therefore, the total incidence and prevalence of firearm injuries are underestimated here.

The racial/ethnic and regional disparities in firearm injuries reported here warrant further investigation so that specific interventions can be more appropriately tailored to these high-risk groups.

Reporting

Health care providers are legally required (7 AAC 27.013) to report all firearm (e.g., handgun, rifle, shotgun, BB gun, etc.) injuries to the Alaska Section of Epidemiology.

References

1. Alaska Section of Epidemiology. Evaluation of the Alaska Trauma Registry. *Bulletin* No. 33, December 6, 2010. Available at: http://www.epi.alaska.gov/bulletins/docs/b2010_33.pdf
2. Alaska Section of Epidemiology. Overview of the Alaska Violent Death Reporting System. *Bulletin* No. 21, July 20, 2010. Available at: http://www.epi.alaska.gov/bulletins/docs/b2010_21.pdf
3. Harvard School of Public Health. Means Matter Basics. Available at <http://www.hsph.harvard.edu/means-matter/means-matter/>