

Alaska Health Analytics and Vital Records: Data Resources

October 12, 2017

Juneau, Alaska

Southeast Population and Economic Data Conference



Rebecca Topol, SM
Health Analytics and Vital Records Section
Division of Public Health
Department of Health and Social Services

Topics

- 1. Background: About the Section**
- 2. Data Sources**
- 3. Reports**
- 4. Questions/Comments**

Background

HAVRS Section

Four distinct units:

1. Registration

- Register (record & certify) vital events and issue Medical Marijuana Cards within legal timeframes and in accordance with the Alaska Vital Statistics Act & Medical Uses of Marijuana laws.

2. Special Services

- Modify vital records after registration in accordance with statutory and regulatory mandates.

3. Issuance

- Issue certified copies of original vital records to entitled parties within reasonable timeframes

4. Health Analytics

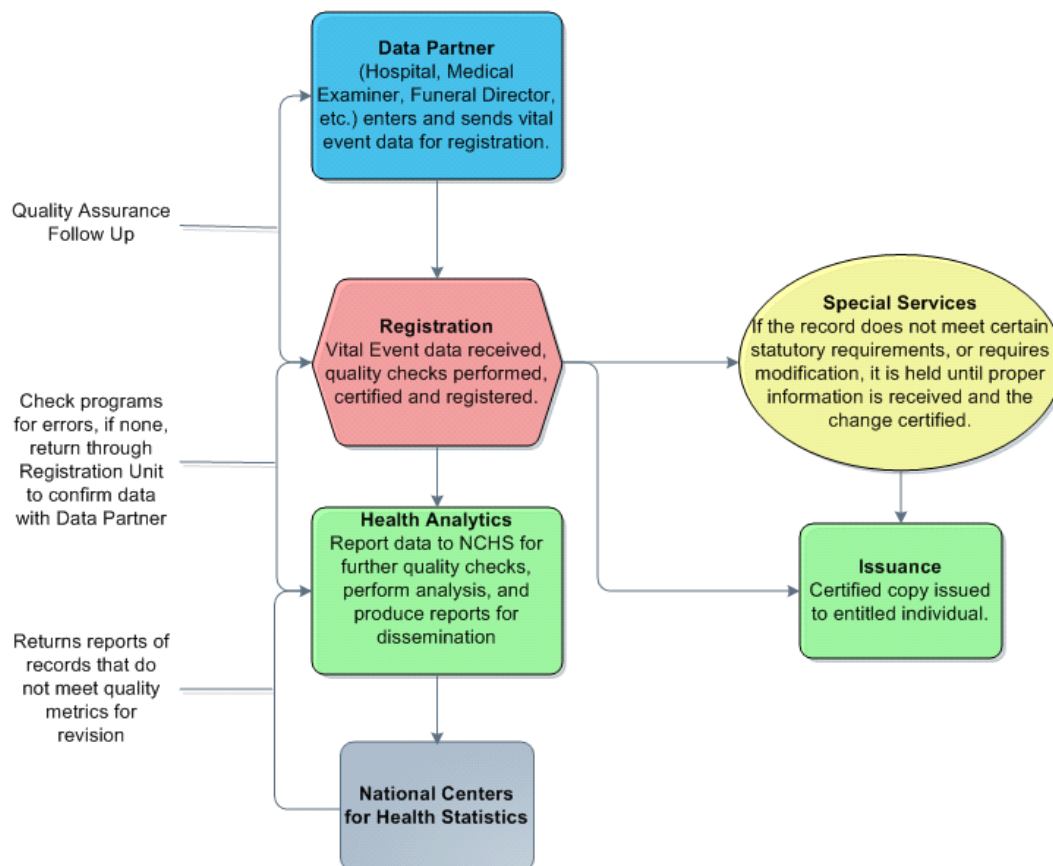
Background

HAVRS Section

- All activities in the section are directed and governed by the following Alaska Statutes and Regulations
 - AS 18.50 & 7 AAC 05 *Alaska Vital Statistics Act*
 - AS 17.37 & 7 AAC 34, *Medical Uses of Marijuana*
 - AS 25.05 *Alaska Marriage Code*
 - AS 09.55 *Declaration of Death (presumptive)*
 - AS 25.20.045-.050 *Legitimation*
 - AS 25.23 *Adoption*
 - AS 18.05 *Administration of Public Health and Related Laws*
 - AS 18.15.360 & 7 AAC 27.660 *Data Collection*

Background

Lifecycle of a Vital Record



Background

Health Analytics Unit

Provide public health statistics to support policy and program development and ensure confidentiality of subjects.

- Regular/Standing Requests
- Ad-hoc Requests
- Regular reports
- Special Topic Reports

Data Sources

- Birth/Natality
- Death/Mortality
- Adoptions
- Fetal Death
- Marriage
- Divorce
- Induced Termination of Pregnancy (ITOP)
- Medical Marijuana Registry
- Health Facilities Data Reporting (HFDR)

Hospital Discharge Data Set

2001-2012

- Voluntary reporting agreement
- DHSS grant to ASHNHA for management
- Added outpatient (including emergency department) data beginning in 2008
- Participation was inconsistent, ranging between 11 and 14 hospitals (out of 27), accounting for around $\frac{3}{4}$ of inpatient discharges— mostly larger and Anchorage hospitals
- Not a representative sample, limited ability to draw conclusions about the population

Hospital Discharge Data Set

2013-2014

- Voluntary reporting participation ceased among larger hospitals in anticipation of mandate
- Data not currently in use by state due to low numbers

Health Facilities Data Reporting Program (HFDR)



2015 +

- Mandated reporting for hospitals, ASCs, nursing facilities, IDTFs began with CY2015 data (7 AAC 27.660)
- Managed by DHSS – Division of Public Health
- Improvements:
 - A comprehensive data set: including smaller Tribal facilities, ASCs
 - More predictability in reporting rates
 - Structure for healthcare operations data sharing
 - Fee process

HFDR

Facilities

- Provide complete and timely data
- Review error rates and make corrections if indicated

Data Clearinghouse: Hospital Industry Data Institute, Missouri Hospital Association (HIDI)

- Receive data, check validity, encrypt
- Provide summary reports to facilities
- Maintain communication with State on participation and other issues
- Provide data set to State

State of Alaska: DHSS – DPH – Health Analytics and Vital Records

- Keeping reporting entities and data users informed
- Data stewardship
- Managing data requests
- Data analysis and dissemination of summary reports and public health research

State of Alaska: DHSS – DPH – Other Sections

- Utilizing data for research and public health
- Contribute to program sustainability through fees

Website Resources

Health Analytics and Vital Records

Homepage URL:

<http://dhss.alaska.gov/dph/VitalStats/Pages/default.aspx>

- Vital Records and how to obtain
- HFDR
 - Program Guidelines
- Data and Statistics
 - Reports
 - Data release timelines
 - Special reports
 - Links to EpiBulletin and other related documents

Website Resources

Coming soon...2016 Annual Reports!

State of Alaska
Department of Health
and Social Services



Alaska Vital Statistics 2016 Annual Report

Alaska Vital Statistics 2016 Annual Report

Deaths

Leading and Select Causes of Death Summary

In 2016, the top ten leading causes of death claimed the lives of 3,246 Alaskans, making up 71.8% of all deaths. Cancer was the most common cause of death, followed by heart disease, and unintentional injuries. The top ten leading causes of death were responsible for a total 42,204 YPLL.

In addition to the top ten leading causes of death, trends in three select causes of death are also presented. Select causes are special categories of interest. Because these categories can contain deaths that may also include one more leading cause categories, they are discussed separately.

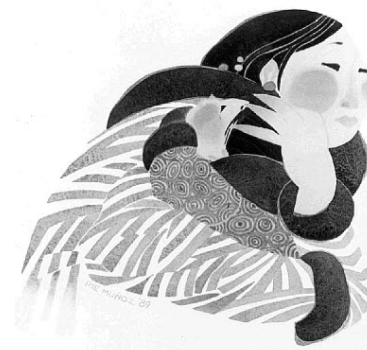
Table 30: Leading Causes of Death (2016)

Rank	Leading Cause of Death	Deaths	Rates		Years of Potential Life Lost (YPLL)		
			Crude Rate	Age Adjusted Rate	YPLL	YPLL Rank	YPLL Average
1	Malignant Neoplasms (Cancer)	974	131.7	152.5	8,892	2	9.1
2	Heart Disease	814	110.0	136.3	7,257	3	8.9
3	Unintentional Injuries	429	58.0	61.9	12,195	1	28.4
4	Chronic Lower Respiratory Diseases	236	31.9	40.4	1,333	9	5.6
5	Cerebrovascular Diseases (Stroke)	193	26.1	38.2	942	11	4.9
6	Intentional Self-harm (Suicide)	186	25.1	25.3	7,242	4	38.9
7	Chronic Liver Disease & Cirrhosis	123	16.6	15.9	2,743	5	22.3
8	Diabetes	122	16.5	18.6	1,148	10	9.4
9	Alzheimer's Disease	109	14.7	25.4	55	30	0.5
10	Influenza and Pneumonia	60	8.1	12.4	397	13	6.6

Table 31: Select Causes of Death (2016)

Select Cause of Death	Deaths	Rates		Years of Potential Life Lost (YPLL)	
		Crude Rate	Age Adjusted Rate	YPLL	YPLL Average
Alcohol-Induced	182	24.6	22.9	4,202	23.1
Firearm-Related	174	23.5	23.4	7,056	40.6
Drug-Induced	131	17.7	17.4	4,499	34.3

BIRTHS



"The Embrace"
Copyright Rie Munoz, Ltd.

In 2016...

Alaska mothers gave birth to 11,213 babies.

The month of June had the most births (982), while February had the fewest births (840).

The median age of mothers was 28 years and the median age of fathers was 30 years.

The youngest mother was 13 years old, and the youngest father was 14 years old.

The oldest mother was 51 years old and the oldest father was 73 years old.

Emma was the most popular girl's name and William was the most popular boy's name.

Website Resources

Coming soon...2016 Annual Reports!



Health Facilities Data Reporting Program

2016 Annual Report

August 30, 2017

Bill Walker, Governor
State of Alaska

Valerie Davidson, Commissioner
Department of Health and Social Services

Jay C. Butler, MD, Chief Medical Officer and Director
Division of Public Health

Website Resources

Special Topic Reports



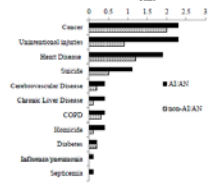
Patterns in Life Expectancy — Alaska, 1990–2015

Background
Over the past 25 years, life expectancy (LE) in the United States has been increasing across all racial categories. Despite this positive, important disparities exist between different racial/ethnic groups. For example, in 2014, U.S. non-Hispanic Whites had considerably higher LE than U.S. non-Hispanic Blacks (78.9 years and 75.2 years, respectively). This Bulletin examines racial disparities in LE and contrasting causes of death in Alaska from 1990 to 2015 to determine if Alaska Native (AN) people and non-AN people.

Methods
We calculated life tables using standard age groups to examine LE at birth for AN and non-AN Alaska residents from 1990–2015 and 5-year rolling average (i.e., 1990–1992, 1993–1995, 1996–1998, etc.) for Alaska's larger population sizes and more stable estimates. We used the period life table method, which assumes people have during a given period had the same rate of death at each age throughout the life in the rate during the time in which they were born.

Results
We then examined the effect of removing each of the top 15 leading causes of death among all Alaska residents on LE during 2010–2015. This was done by counting people who died of each cause.

Figure 2. Change in Life Expectancy (in Years) after Removal of Selected Cause of Death, by Race — Alaska, 2010–2015



Alaska Facts and Figures

Firearm Mortality, Alaska Residents, 2011–2015

Number and Rate of Deaths by Year

Cause of Death ¹	2011			2012			2013			2014			2015		
	Number	Adjusted Rate ²	Crude Rate ³	Number	Adjusted Rate ²	Crude Rate ³	Number	Adjusted Rate ²	Crude Rate ³	Number	Adjusted Rate ²	Crude Rate ³	Number	Adjusted Rate ²	Crude Rate ³
Firearms deaths	126	17.5	17.4	132	17.8	18.0	144	19.9	19.5	144	19.1	19.5	176	23.6	23.8
Firearms, accidental	1**	**	**	6	0.8*	0.8*	2	**	**	3	**	**	5	**	**
Firearms, homicide	20	2.5	2.7	17	2.2*	2.3*	19	2.4*	2.5*	20	2.4	2.7	42	5.4	5.6
Firearms, suicide	99	13.9	13.6	98	13.3	13.3	120	16.9	16.2	115	15.4	15.5	122	16.4	16.5

Footnotes:
1. ICD-10 Codes (as coded in the International Classification of Diseases, 10th Revision)
2. All rates are per 100,000. Age-adjusted rates are per 100,000 adjusted to U.S. year 2000 standard population. When comparing rates for different populations, age-adjusted rates should be used.

Source: Alaska Health Analytics & Vital Records
Last Updated: Jan 2017

Health Analytics & Vital Records

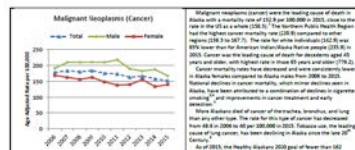
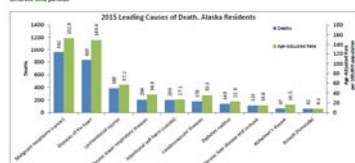
Division of Public Health
Department of Health and Social Services
E-mail: HealthAnalytics@alaska.gov



Alaska Facts and Figures

Leading Causes of Death in Alaska, 2015

In 2015, the top ten leading causes of death claimed the lives of 5,146 Alaska residents, accounting for 17% of all deaths. The document presents the findings of an analysis of the 2015 leading causes of death by age, sex, and group of Alaska residents. The 10 leading causes are the same as in 2014, with the exception of the fourth leading cause. In 2014, influenza and pneumonia were the fourth leading cause of death, but in 2015, it was replaced by heart disease. The fourth leading cause of death is ranked by the number of deaths rather than rate to be consistent with national rankings. All rates in this document, aside from age group specific rates, are age-adjusted (per 100,000) of the 2010 U.S. standard population. Rates are presented along with number of deaths to allow comparison between populations from different areas, different demographic groups (e.g. race, sex, etc.) or different time periods.



Alaska Health Analytics & Vital Records Division



Health Analytics and Vital Records

Division of Public Health

Department of Health and Social Services

HealthAnalytics@alaska.gov



Alaska Facts and Figures

2016 Emergency Department Super-utilizer Facts

At least 110,040 unique patients visited the Emergency Department (ED) in 2016, or about one in seven Alaskans.¹ This accounts for a total of 204,860 visits and total billed charges of \$821,676,863. Hospitals report data on emergency department and other hospitalizations to the Division of Public Health through the Health Facilities Data Reporting program.²

Most patients (84.6%) only visited the ED one time during the year, and 94% of patients visited four or fewer times. Patients who visited the ED five or more times in a calendar year, sometimes referred to as "super-utilizers," made up 1% (8,461) of patients. The top 1% (12,170) most frequent ED users each visited the ED at least 10 times in 2016. Eight individual patients each had over 50 visits during the year, and 95 patients had at least 25 visits.

Individuals who use the ED frequently contribute disproportionately to total charges. The top 1% of users account for 8.8% of charges (\$63 million), and the top 0.1% of users account for 23.6% of charges (\$143 million).



Mean charges per visit were \$3,225 for patients who went to the ED only one time in the year. For patients with two or more ED visits in the year, mean charges per visit were \$2,381.

The most common principal diagnoses among the top 1% of patients were alcohol-related disorders, abdominal and pelvic pain, pain in throat and chest, damage (back pain), pain not elsewhere classified, other joint disorder, trauma and poisoning, and anxiety disorders.

The following comparisons are between the general ED population (all patients, all visits) and the 1.2% of patients who each visited the ED 10 or more times during the year.

The overall ED patient population was 54% female and 46% male, while the top 1% of ED patients was 58.1% female and 41.9% male.

In both the overall ED population and the top 1% of users, the most common times of day were between 2 p.m. and 8 a.m., with visits peaking at 6 p.m. The least frequent times of day among both groups were between 2 a.m. and 7 a.m., dipping to the lowest at 6 a.m. Neither group shows much day variation between days of the week.

¹ Hospitals reported a total of 241,430 ED visits in 2016. Patients are given a unique patient identifier in place of ZIP, or about 26,000 records. The 1% of super-utilizers are not able to report their visits among these records. Among the 12,170 records with a patient identifier, we can identify 10,342 unique patients.
² Data are provided by the Health Facilities Data Reporting Program. Data are not reported from Alaska Hospital Medical Center, Presbyterian Hospital, and St. Mary's Hospital.



Health Analytics and Vital Records

Division of Public Health

Department of Health and Social Services

E-mail: HealthAnalytics@alaska.gov



Alaska Facts and Figures

Leading Causes of Hospitalization, 2015

Number and Rate of Hospitalizations by Major Diagnostic Category

Rank	Cause of Hospitalization	Number of Hospitalizations	Age-adjusted Rate ¹ (per 10,000)	Crude Rate ² (per 10,000)
1	Pregnancy, Childbirth, and the Puerperium	9,750	132.1	136.3
2	Neonborn and Other Neonates with Conditions Originating in the Perinatal Period	9,164	122.8	127.2
3	Diseases and Disorders of the Musculoskeletal System and Connective Tissue	6,245	92.1	87.3
4	Diseases and Disorders of the Circulatory System	4,597	75.0	64.2
5	Diseases and Disorders of the Respiratory System	4,536	70.8	63.4
6	Diseases and Disorders of the Digestive System	4,418	61.7	62.6
7	Mental Diseases and Disorders	4,268	61.3	59.7
8	Diseases and Disorders of the Nervous System	2,369	46.7	41.4
9	Infections and Parasitic Diseases, Systemic or Unspecified Sites	2,726	42.8	38.1
10	Diseases and Disorders of the Kidney and Urinary Tract	1,630	26.0	22.8

¹ Age-adjusted rates per 10,000 U.S. 2000 standard population.
Source: Health Analytics and Vital Records: Health Facilities Data Reporting Program, Alaska Inpatient Database
Updated 01/01/17

Includes discharges for all patients and hospitals, except Presbyterian Hospital Medical Center, Maternal Association, and both military hospitals. Rates calculated using adjusted population.

² Major Diagnostic Category³ represent groupings of principal diagnosis codes generally related to a single organ system and/or medical specialty for administrative and claims purposes.

State of Alaska Epidemiology Bulletin



State of Alaska Epidemiology Bulletin

Department of Health and Social Services
Vital Statistics Division, Commissioner

3401 C Street, Suite 540
Anchorage, Alaska 99503 <http://denali.alaska.gov/epi/bulletin>

Division of Public Health
Dr. C. Brink, MD, Chief Medical Officer
and Director

Editor: Dr. M. Lashin, MD, MPH
Laurie C. Brink, MD, MPH

Local (907) 269-8000
24-Hour Emergency (800) 478-0084
Bulletin No. 11 April 20, 2017

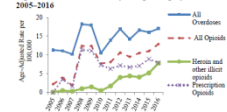
Update on Drug Overdose Deaths — Alaska, 2016

Background
The national drug overdose death rate has risen considerably in recent years due to the opioid epidemic. In 2015, Alaska's opioid overdose death rate was higher than the national rate (11.6 vs. 10.4 per 100,000 population, respectively).¹ The purpose of this Bulletin is to provide a 2016 update on drug overdose deaths in Alaska.²

Methods
Alaska mortality data were queried to characterize deaths due to drug overdose as defined by the International Classification of Diseases, 10th Revision (ICD-10) Codes. This analysis only included in-state Alaska overdose deaths, regardless of the decedent's residence. Age-adjusted rates were calculated using 2016 Alaska population estimates; population data by race were not available for 2016, so 2015 estimates were used for these calculations. All 2016 numbers and rates are preliminary.

Results
During 2016, 128 drug overdose deaths occurred in Alaska; of these, 95 (74%) involved any type of opioid (including

Figure. Overdose Deaths by Drug Category — Alaska, 2004–2016



Discussion
Driven primarily by heroin and other illicit drugs, Alaska's drug overdose death rate increased in 2016. Notable demographic changes in 2016 included higher death rates among a younger age group (15–34 year-olds) and among Gulf Coast residents.

The rate of overdose deaths has steadily increased in Alaska and

2016 Data Snapshot

- 2016 most recent year of complete data for all HAVRS datasets.
- 2017 data is preliminary and subject to change.
 - Data will be ready around mid-year 2018

2016 Data Snapshot*

- 11,213 Births to Alaska residents
 - Birth Rate 15.2 per 1,000
- 4,250 Deaths
 - Crude Death Rate 611 per 100,000
 - Age-Adjusted Rate 742.5 per 100,000
- 5,272 Marriages
- 2,942 Divorces, dissolutions or annulments

*Alaska Residents

2016 Data

HFDR Record Counts - 2016	
Inpatient	63,341
Emergency Department	302,145
Other Outpatient	1,031,408
Total	1,396,894

2016 Data

Facility Type	Total	Reporting	Percentage
Hospitals by license type:			
General Acute Care	11	10	91%
Long Term Acute Care	1	1	100%
Rural Primary Care Hospital	2	2	100%
Critical Access Hospital (Licensed as CAH)	2	2	100%
Specialized Hospital (Psychiatric)	2	2	100%
Alaska Native Tribal Hospital	7	6	100%
Military Hospitals	2	0	0%
Total – Hospitals	27	23	85.2%
Ambulatory Surgery Centers	18	16	88.9%
Nursing Facilities	20	10	50.0%
IDTF	*	1	*

Contacts and Links

Health Analytics & Vital Records

<http://dhss.alaska.gov/dph/VitalStats/Pages/default.aspx>

Health Facilities Data Reporting

<http://dhss.alaska.gov/dph/VitalStats/Pages/HFDR/default.aspx>

Data and Statistics

<http://dhss.alaska.gov/dph/VitalStats/Pages/data/default.aspx>

Rebecca Topol, Research Analyst IV

(907) 465-8604

healthanalytics@alaska.gov

Questions/Comments

