Alaska Statewide Violence and Injury Prevention Partnership

ALASKA STATEWIDE VIOLENCE AND INJURY PREVENTION PLAN

2018-2022

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Introduction

What are injuries? Injuries result from an energy exchange that is transferred between an agent to a host resulting in tissue damage, functional impairment, or death. The intensity, distribution, and prolonged duration of the force of the energy exchange (which may be kinetic, chemical, thermal, radiatory, electrical, and emotional) contribute to the severity of the resulting bodily harm. [1] It wasn't until the mid-twentieth century that advances in injury prevention were observed.

Researchers during this period identified that, unlike the conventional belief that injuries resulted from random events or accidents, they actually had clear causal etiologies, were predictable, and followed specific patterns.[2] Like infectious and chronic disease, for an injury (aka energy transfer) to occur a susceptible host, agent, and conducive environment is required, where the agent is energy.[3]

Injuries resulting from the force of energy exchange are traditionally characterized as either unintentional or intentional (violence). The environments of energy transfer for unintentional injury include mechanisms such as motor vehicle crashes, falls, sports, occupational, and fires, while intentional injuries include mechanisms such as assault, suicide, and child maltreatment. The health and societal consequences of injury are not just physical. Many people who experience a traumatic injury may face behavioral health disparities, learning difficulties and economic challenges that can last a lifetime. In addition to the immediate physical consequence, injuries impact health by contributing to:

- premature death,
- disability,
- poor mental health,
- high medical costs, and
- lost productivity.[4]

There are many factors that can affect the risk of and protection from unintentional injury and violence, such as:

- individual characteristics (e.g. education, age, and sex),
- individual behaviors (e.g. alcohol use or risk-taking),
- physical environment (e.g. safe homes and roadways),
- social environment (e.g. relationships and community cohesion), and
- societal factors (e.g. equity and access, cultural beliefs, laws, and regulations).

The good news is that many injuries, like disease, are preventable as they follow predictable patterns such as seasonal variation, demographic distributions, and outbreaks (episodic clusters). Based on the foundational epidemiologic data, interventions can be designed to disrupt the causal chain between the host, agent, and environment by preventing, mitigating, or diverting energy exchange. Prevention may utilize engineering designs (e.g. seat belts), education (e.g. violence prevention programs), policies (e.g. laws requiring use of seat belts), and enforcement (e.g. speeding citations) to reduce health consequences and saves lives.

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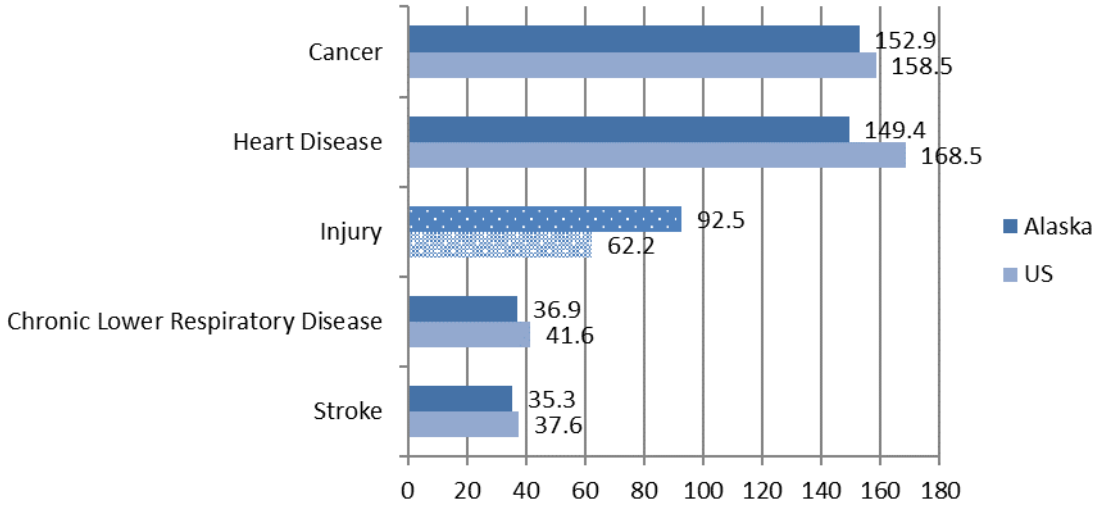
[1] De Haven H. Mechanical analysis of survival in falls from heights of fifty to one hundred and fifty feet. War Med 1942;2:586--96.
[2] Gibson JJ. The contribution of experimental psychology to the formulation of the problem of safety: a brief for basic research. In: Behavioral approaches to accident research. New York, NY: Association for the Aid of Crippled Children; 1961:77--89.
[3] Gordon JE. The epidemiology of accidents. Am J Public Health 1949;39:504--15.
[4] Finkelstein EA, Corso PS, Miller TR. Incidence and economic burden on injuries in the United States. New York: Oxford University Press, 2006.

How Big is the Problem?

Alaska experiences one of the highest injury rates in the nation.[5] The State of Alaska is ranked 8th among states with the highest rates of unintentional injury[6] in the U.S. and has the 2nd highest rate of suicide.[5] Injury is the third leading cause of death in Alaska, behind only cancer and heart disease (Figure 1). It is also among the leading causes of hospitalization (Figure 3).

Figure 1: Five Most Common Causes of Death in Alaska Compared with the United States



Age-Adjusted Deaths per 100,000 (2015)

Data Sources: Alaska Bureau of Vital Statistics (AK): National Center for Health Statistics (US)
Injury: Includes unintentional injuries, intentional self-harm (suicide) and assault (homicide).

Years of Life Lost

Injuries disproportionately affect the younger population and are a leading cause of death among children and young adults. In order to fully understand the burden of injury on Alaskans, the years of potential life lost (YPLL)—a measure of the number of the years of potential life lost due to premature death—is assessed alongside the crude number of deaths or the rates of injury death per 100,000 people. YPLL is an estimate of the average number of years a person would have lived had they not died prematurely (before 75 years of age). YPLL quantifies the potential social and economic loss and gives more weight to deaths that occur among younger people. In Alaska, unintentional injury is the leading cause of YPLL and intentional self-harm/suicide is the fourth leading cause of YPLL (Table 1). In order to better understand the specific causes of many of these preventable deaths, we can look across categories to see that alcohol, firearms, and drugs are the agents taking a heavy toll across the categories of unintentional and intentional injury (Table 2).

[5] U.S. Centers for Disease Control and Prevention (CDC). National Center for Health Statistics. Accident Mortality by State: 2014. http://www.cdc.gov/nchs/pressroom/sosmap/Accident.htm. Updated June 14, 2016. Accessed May 22, 2017.

Table 1: Leading Causes of Death, Rates and Years of Potential Life Lost (2016)

			Rates		Years of Potential Life Lost (YPLL)		
Rank	**Leading Cause of Death**	**Deaths**	**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 Disease (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

Source: Alaska Vital Statistics 2016 Annual Report

Table 2: Select Causes of Death, Rates, and Years of Potential Life Lost

		Rates		Years of Potential Life Lost (YPLL)	
Select Cause of Death	**Deaths**	**Crude Rate**	**Age Rate Adjusted**	**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

Source: Alaska Vital Statistics 2016 Annual Report

Leading Causes of Injury Mortality

Unintentional injuries claimed the lives of 429 Alaskans in 2016 (Table 1). That year, more Alaskans died from accidental poisoning—which includes substance-related overdoses—and exposure to noxious substances than any other single type of unintentional injury (125 people, or 29.1% of all unintentional injury deaths).[7] Since 2007, the rate for unintentional injuries has increased 9.4%.[7] Intentional self-harm, or suicide, claimed the lives of 186 Alaskans in 2016 (142 males and 44 females).[7] More Alaskans died from discharge of firearms than any other mechanism in 2016 (110 people, or 59.1% of all suicides).[7] American Indian/Alaska Native people were 2.1 times as likely to commit suicide than white people in 2016.[7]

[7] Alaska Bureau of Vital Statistics 2015 Annual Report.
http://dhss.alaska.gov/dph/VitalStats/Documents/PDFs/VitalStatistics_AnnualReport_2016.pdf. Accessed August 29, 2018.

Leading Causes of Injury Hospitalizations

Between 2011 and 2015, there were more than 18,000 injury-related hospitalizations in Alaska. During this time period, the top five leading causes of injury-related hospitalizations included falls (46%), assaults (8%), motor vehicles crashes (8%), attempted suicide (5%) and ATV crashes (4%).[8] Falls were the leading cause of hospitalizations for almost all age ranges except for ages 15-19 (suicides) and ages 20-24 (assaults). See Figure 3 for age breakouts for the leading causes of injury-related hospitalizations.

[8] Alaska Bureau of Vital Statistics. Last updated November 11, 2016 http://dhss.alaska.gov/dph/Emergency/Documents/trauma/Non-Fatal%20Alaska%20Residents%20Injuries%2011-15%20Chart.pdf Accessed August 19, 2018.

Figure 2: Leading causes of injury related death by age (years), Alaska, 2011-2015

10 Leading Causes of Fatal Injuries in Alaska by Age Group, 2011-2015

	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	TOTAL
1	Suffocation, 24	Assault, 13	Drowning, 6	Intentional Self-Harm, 6	Intentional Self-Harm, 210	Intentional Self-Harm, 198	Poisoning, 155	Poisoning, 161	Poisoning, 100	Intentional Self-Harm, 33	Falls (excludes playground equipment), 30	Falls (excludes playground equipment), 44	Intentional Self-Harm, 848
2		Drowning, 7	Motor Vehicle Traffic, 5	Motor Vehicle Traffic, 5	Poisoning, 68	Poisoning, 166	Intentional Self-Harm, 130	Intentional Self-Harm, 148	Intentional Self-Harm, 96	Motor Vehicle Traffic, 20	Intentional Self-Harm, 19	Suffocation, 14	Poisoning, 671
3		Pedestrian, 5			Motor Vehicle Traffic, 63	Motor Vehicle Traffic, 65	Motor Vehicle Traffic, 37	Motor Vehicle Traffic, 48	Motor Vehicle Traffic, 46	Falls (excludes playground equipment), 19	Suffocation, 15	Intentional Self-Harm, 7	Motor Vehicle Traffic, 313
4					Assault, 41	Assault, 51	Drowning, 29	Assault, 30	Assault, 32	Poisoning, 13	Motor Vehicle Traffic, 13	Motor Vehicle Traffic, 6	Assault, 216
5					Drowning, 27	Drowning, 30	Assault, 25	Drowning, 26	Drowning, 26	Assault, 12	Fire, 10	Poisoning, 5	Falls (excludes playground equipment), 169
6					ATV, 11	ATV, 13	Falls (excludes playground equipment), 14	Falls (excludes playground equipment), 22	Falls (excludes playground equipment), 24	Aircraft, 10 Frostbite/Hypothermia, 10			Drowning, 167
7					Snow machine, 10	Frostbite/Hypothermia, 12 Snow machine, 12	Pedestrian, 11 Snow machine, 11	Aircraft, 14 Frostbite/Hypothermia, 14	Frostbite/Hypothermia, 16	Drowning, 9 Fire, 9			Suffocation, 91
8					Falls (excludes playground equipment), 9	Pedestrian, 9	Aircraft, 8 Suffocation, 8	Pedestrian, 13	Aircraft, 10 Fire, 10 Suffocation, 10	Suffocation, 6			Frostbite/Hypothermia, 65
9					Pedestrian, 6	Aircraft, 7 Falls (excludes playground equipment), 7	Fire, 5	Fire, 11	Pedestrian, 9				Pedestrian, 61
10					Frostbite/Hypothermia, 5			Snow machine, 8	ATV, 7				Aircraft, 60

Footnotes *Causes with less than 5 deaths are not shown. Source: Alaska Bureau of Vital Statistics Last updated on 11/08/2016

Created by Ambrosia Romig 11/8/2016 and Rebecca Topol, 8/21/17

Figure 3

Figure 3: Leading causes of injury-related hospitalizations by age (years), Alaska 2011-2015

10 Leading Causes of Non-Fatal Hospitalized Injuries Alaska Residents 2011 - 2015

	Age Groups in Years													
Rank	*<1*	*1-4*	*5-9*	*10-14*	*15-19*	*20-24*	*25-34*	*35-44*	*45-54*	*55-64*	*65-74*	*75-84*	*85+*	*Total Overall Injury Rank (All Ages)*
1	FALLS (76)	FALLS (221)	FALLS (161)	FALLS (183)	SUICIDE AND SELF INFLICTED (307)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (219)	FALLS (475)	FALLS (515)	FALLS (910)	FALLS (1429)	FALLS (1242)	FALLS (1202)	FALLS (954)	FALLS (8451)
2	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (40)	POISONING (118)	PLAYGROUND (88)	SUICIDE AND SELF INFLICTED (88)	FALLS (136)	FALLS (201)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (372)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (241)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (221)	MOTOR VEHICLE - TRAFFIC (148)	MOTOR VEHICLE - TRAFFIC (86)	MOTOR VEHICLE - TRAFFIC (53)	MOTOR VEHICLE - TRAFFIC (20)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (1436)
3	HOT SUBSTANCE OR OBJECT (13) POISONING (13) SUFFOCATION (13)	FOREIGN BODIES/ORIFICE (51)	BICYCLE (45)	ATV (68)	MOTOR VEHICLE - TRAFFIC (130)	MOTOR VEHICLE - TRAFFIC (197)	MOTOR VEHICLE - TRAFFIC (221)	MOTOR VEHICLE - TRAFFIC (130)	MOTOR VEHICLE - TRAFFIC (164)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (112)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (36)	MOTOR VEHICLE - NON TRAFFIC (15)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (11)	MOTOR VEHICLE - TRAFFIC (1355)
4	FOREIGN BODIES/ORIFICE (12)	HOT SUBSTANCE OR OBJECT (44)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (34)	BICYCLE (59)	ATV (93)	SUICIDE AND SELF INFLICTED (109)	SUICIDE AND SELF INFLICTED (150)	SUICIDE AND SELF INFLICTED (94)	ATV (70)	BICYCLE (74)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (31)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (14)	MOTOR VEHICLE - NON TRAFFIC (10)	SUICIDE AND SELF INFLICTED (914)
5	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (7)	PLAYGROUND (23)	MOTOR VEHICLE - TRAFFIC (29)	SPORTS (56)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (77)	ATV (92)	ATV (134)	ATV (66)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (67)	ATV (59)	PEDESTRIAN (24)	OVEREXERTION /STRAIN (11)		ATV (693)
6	UNDETERMINED INTENT(5)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (21)	ATV (28)	MOTOR VEHICLE - TRAFFIC (27)	SPORTS (53)	SNOWMACHINE (49)	SNOWMACHINE (99)	SNOWMACHINE (63)	PEDESTRIAN (57)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (44)	MOTORCYCLE (23)	FIRE & FLAMES (10)		ACCIDENTALLY STRUCK BY PERSON OR OBJECT (468)
7		ACCIDENTALLY STRUCK BY PERSON OR OBJECT(19) DOG(19)	DOG (17)	PLAYGROUND (20) SNOWMACHINE (20)	BICYCLE (37) POISONING (37)	MOTORCYCLE (35) PEDESTRIAN (35)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (72)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (46)	BICYCLE (56)	PEDESTRIAN (41)	ATV (19) MOTOR VEHICLE - NON TRAFFIC (19)	ATV (9)		BICYCLE (455)
8		SUFFOCATION(16)	PEDESTRIAN (15)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (17)	SNOWMACHINE (32)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT (33)	MOTORCYCLE (60)	BICYCLE (40)	MOTORCYCLE (52)	SNOWMACHINE(38)	FIRE & FLAMES (17)	ASSAULT/HOMICIDE/PURPOSELY INFLICTED (8) PEDESTRIAN (8)		SNOWMACHINE (383)
9		MOTOR VEHICLE - TRAFFIC(12) PEDESTRIAN(12)	CUTTING OR PIERCING (13)	PEDESTRIAN (16)	ACCIDENTALLY STRUCK BY PERSON OR OBJECT(27)	BICYCLE (32)	CUTTING OR PIERCING (52)	CUTTING OR PIERCING (38) MOTORCYCLE (38)	SUICIDE AND SELF INFLICTED (43)	MOTORCYCLE (37)	CUTTING OR PIERCING (16)	BICYCLE (6) HYPOTHERMIA/ FROSTBITE (6) MACHINERY (6)		MOTORCYCLE (343)
10		CUTTING OR PIERCING(11)	FOREIGN BODIES/ORIFICE (11) POISONING (11)	POISONING (14)	PEDESTRIAN (26)	CUTTING OR PIERCING (31)	PEDESTRIAN (47)	HYPOTHERMIA/ FROSTBITE (36)	SNOWMACHINE (40)	CUTTING OR PIERCING (32)	BICYCLE (15) SNOWMACHINE (15)	CUTTING OR PIERCING (5)		PEDESTRIAN (339)
Total Overall by Age Group	214	683	548	723	1199	1398	2307	1788	2258	2604	1949	1574	1149	18425

Source: DHSS, DPH, Section of Emergency Programs, Alaska Trauma Registry: Admitted to the hospital for 24 hours or greater. Occurrences less than 5 not listed. Created by Ambrosia Romig, September 19, 2017

Injury Prevention: A Public Health Approach[9]

Public health operates to benefit the largest number of people possible within a defined population through prevention measures. Therefore, the public health approach to injury prevention is a systematic process to improve the health and safety of a population by addressing the multiple determinants of health, which include reducing risk factors and strengthening protective factors. The approach involves four steps that build upon each other:

1. Identifying and defining the problem.
2. Identifying risk and protective factors.
3. Developing and testing prevention strategies.
4. Assuring widespread adoption of effective strategies.

Rather than address injuries that occur among individuals in isolation, broad causes and prevention solutions are the focus of injury prevention in public health. As first described by William Haddon, Jr in the 1960's, prevention of injuries relies on controlling the agent (energy transfer). The approach known as the Haddon Matrix implements a two-dimensional matrix with the first dimension being the host, agent, and environment (broken into the physical environment and social environment), and second dimension being the pre-event, event, and post-event. Applying this matrix to the population using the four-step process described above can result in a variety of intervention and prevention efforts that may be targeted at individuals or communities (Table 3).

Table 3: Example Haddon Matrix applied to Motor Vehicle Crashes[10]

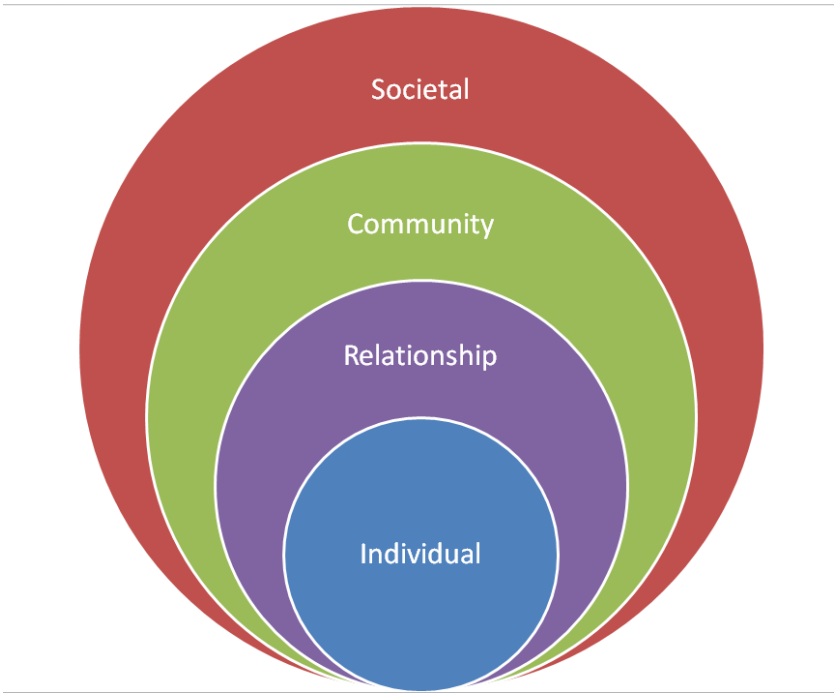
	FACTORS			
PHASES	Host/Drive or Passenger	Agent/Vehicle	Physical Environment	Social Environment
Pre-Event (before crash)	-Driver vision -ETOH impairment -Driver experience -Driver knowledge -Restraint use -Driver distractions	-Maintenance of breaks and tires -Speed -Load of vehicle -ABS -Electronic stability	-Adequate roadway markings -Divided highways -Roadway lighting -Intersection design -Shoulders/rumble strips	-Community attitudes on drunk driving -Impaired driver laws -Graduated driver licensing laws -Speed limits -Support for injury prevention programs
Event (during crash)	-Spread out energy in time and space with seat belt/airbag -Child restraint use	-Vehicle size -Crash safety of vehicle	-Guard rails, barriers -Fixed objects near road -Embankments	-Adequate seat belt and child seat laws -Helmet use laws
Post-Event (after crash)	-Victims overall health -Age of victim	-Gas tank design -On-Star, GPS locator	-Emergency Medical Services (EMS) availability -Incident site management -Distance to quality care	-Policies funding EMS -Public support for trauma care -EMS training

[9] Oregon Public Health Division, Oregon Health Authority, Oregon Injury Community Planning Group. *Oregon Injury and Violence Prevention Plan (2016-2020)*

[10] Adapted from: Injury Prevention: Meeting the challenge. *AJPM*, 1989; Christoffel T. Galagher S. Prevention and Public Health, Gaithersburg, MD. 1999. https://www.iowadot.gov/traffic/shsp/pdf/2013workshop/Haddon%20Matrix%20MV%20crash%20example%20final.pdf Accessed July 2017.

The most effective means of reducing the burden of injury relies on levels of action from the individual all the way up to the public policies implemented as a society. This is sometimes called the **social ecological model** of prevention (Figure 4). Although individuals are at the heart of the model, the other levels of the model—relationships, community, and societal context all influence the choices made by individuals, as well as interact with other levels in the model. Special considerations also include cultural variables and history as equally influential and should be taken into account at every level of the model. It takes efforts and actions at all levels to really have an impact on the burden of injury.

Figure 4: The Social Ecological Model of Injury Prevention



Plan development

Development of this plan was carried out by the Alaska Statewide Violence and Injury Prevention Partnership (ASVIPP), which consists of violence and injury prevention professionals who represent broad expertise and active participation across violence and injury prevention efforts in Alaska. This group was supported by staff from the State of Alaska Injury Prevention Programs and the ANTHC Injury Prevention Program, and used the following working assumptions:

- Injuries, violence, poisoning and overdose are not accidents; they are preventable.
- Collaboration, within and across injury and violence prevention sectors, is effective in addressing injury and violence.
- Planning should build on previous work: ANTHC Injury Prevention 2013-2020 plan, Healthy Alaskans 2020, and previous statewide plans.
- Improved statewide coordination of violence and injury prevention increases Alaskan programs' ability to successfully seek funding, leverage existing work, and communicate the need.
- Initiatives should be data-driven and maximize best practices.

Alaska's Injury Prevention Priorities

It is important that data inform injury prevention priorities, which is why public health surveillance is the foundation of the public health approach and so vital to injury prevention efforts. Without data to inform how prevention efforts are prioritized, the effectiveness of the limited resources for injury prevention will be mitigated due to the multiple competing needs. Although improved data sources are needed to fully understand the context, distribution, and factors contributing to injury in Alaska, the most current and reliable data available was utilized to direct priority selection.

The ASVIPP team used the following guiding factors as they prioritized their injury-related health topics of focus:

1. Healthy Alaskans 2020 (HA 2020) Priority Topics
2. Economic Burden of Injury Data
3. Prevalence/ Incidence/ Trends Data
4. Shared Risks and Protective Factors

Based on review of these criteria, the six injury-related priorities that this planning team selected to focus on include:

- Child Maltreatment
- Domestic Violence & Sexual Assault (DVSA)
- Suicide
- Falls
- Poisonings
- Transportation

Shared Risk & Protective Factors

Many injuries share risk and protective factors. Risk factors are those that increase the probability of injury. Protective factors are those that decrease the likelihood of injury. Substance use is an example of a risk factor that is shared by all the prioritized injury areas. Safe supportive communities are examples of a protective factor associated with all prioritized injury areas. Multiple other risk and protective factors are shared across injury areas. Focusing prevention efforts on shared risk and protective factors as opposed to individual injury outcomes is gaining traction in public and behavioral health initiatives. This shift in focus may encourage and allow prevention efforts to have greater reach across multiple areas of concern and facilitate opportunities to leverage limited resources.

To illustrate the utility of shifting focus, the table in Appendix A provides an in-depth look at factors shared by the prioritized injury areas. The table includes factors noted in this plan as well as those recognized by the Centers for Disease Control, World Health Organization, National Institute of Health as well as Alaska's Division of Behavioral Health and others. Citations for each factor are included in the table.

This table can best serve as the beginning step of establishing the underlying risk and protective factors for this plan's priority injury areas. Next steps include developing shared definitions of the factors and then investigating best and promising practices which could be implemented in Alaska. The Center for Safe Alaskans has convened a workgroup to investigate this work. ASVIPP members support this effort to develop a better understanding of critical common risk and protective factors which will inform cross-cutting prevention interventions and encourage cross-pollination of resources across various injury and violence topics.

ASVIPP Objective:

Develop a honed list of major risk and protective factors and recommend a short list of high priority related interventions.

ASVIPP Strategies:

- Support further development of critical common risk and protective factors to inform cross-cutting interventions.
- Create short list of recommended high priority interventions.
- Encourage cross-pollination of resources and successful strategies for interventions across various injury and violence topics.

ASVIPP Indicators:

- Adhoc workgroup formed around goal.
- Honed list of risk and protective factors created.
- Honed list of priority interventions.
- Agreed upon process for collaboratively seeking funding.
- Programs are complementary to each other and fill gaps of service.

Injury Disparities

Throughout this plan, data is regularly categorized into indicators for all Alaskans statewide and Alaska Native people. The reason for this categorization is that Alaska Native people comprise the largest minority in Alaska with 18% of the state's population, and they experience disproportionately high rates of injury. By understanding the disparity between these populations, we obtain a better view of the problem of injury across the state. This information helps drive the quest to find risk and protective factors unique to Alaska Native people, evidence-based interventions that are tailored to the Alaska Native population, and channel resources accordingly. Other vulnerable and at-risk populations are referenced throughout the document.

Data Coordination

At the foundation of the public health approach is quality data that can be used to identify and target populations at greatest risk and to evaluate the impact and effectiveness of programs and policy. Due to the fragmented data collection systems, adequate and comprehensive data is often unavailable or has limited availability. Each priority area has needs for data improvements which can largely be accomplished through improved coordination of data stewards and integration of these public health data. With consistent, comprehensive data our statewide prevention/intervention efforts will be optimized and resources will be more efficiently used, resulting in more lives saved and quality of health improved over a lifetime.

For these reasons, ASVIPP recommends the following general improvements to existing data systems to improve prevention and intervention efforts and ensure the most efficient use of the limited resources addressing these priority areas.

ASVIPP Objective:

Provide easily accessible and coordinated injury data to all partner agencies.

ASVIPP Strategies:

- Increased integration of the multiple data sources maintained within the Alaska Department of Health and Social Services is needed. This integration (not necessarily centralized) would allow for improved accessibility and, in turn, increased ability to conduct comprehensive analyses using pre-existing public health data to inform program and policy. Specific integrations should include inpatient/outpatient discharges with vital records, Medicaid, Emergency Medical Services (EMS), trauma registry, violent death reporting system, and the drowning and fatal firearm databases. Improve ability to analyze data across these systems can help de-silo specific injury efforts and develop shared risk and protective "up-stream" prevention approaches that are unified and coordinated across injury topics.
    - Projects such as the Alaska Longitudinal Child Abuse and Neglect Linkage project (ALCANLink) should be expanded.
- Develop a statewide injury data workgroup that systematically identifies data needs/deficiencies and sets a plan to overcome or solve these data issues as they relate to the identified ASVIPP priorities and shared risk/protective factors.
- Identify mechanisms to allow for/improve data sharing between the education system and public health.
- Develop a centralized webpage for injury related data that links to the various indicator reports, score cards, fact sheets, and publications.

ASVIPP Indicators:

- One stop shop for user-friendly data related to priority areas of injury.
- Data workgroup formed.
- Mechanisms in place for data sharing between education system and public health.
- ALCANLink expanded.

The Purpose of This Plan

- To strengthen and sustain effective violence and injury prevention and control measures.
- To outline goals and objectives that reflect current state and partner priorities, including violence and injury leading health indicators from Healthy Alaskans 2020 (HA2020), for the next five years (2018-2022); and to unify prevention/intervention efforts.
- To highlight risk and protective factors for each prioritized health topic area and summarize shared risk and protective factors for prioritized health topic areas.
- To identify strategies and/or recommendations missing from existing HA2020 and other strategic plans (if applicable) that may help guide the work of Alaskan violence and injury prevention stakeholders.

To accomplish these ends, this plan adapts the following framework to strategies for each area of focus:

- Support implementation of HA2020 strategies.
- Improve the availability and accessibility of Alaska violence and injury data.
- Encourage coordination of violence and injury prevention efforts at statewide, regional, and local levels to improve progress towards goals and maximize the use of resources.

Target Audience

Alaskan Violence & Injury Prevention Stakeholders: Those working on the violence and injury prevention activities currently or in the future looking for information about (a) what violence and injury prevention activities are already going on in the state (or have gone on in the past) and, (b) recommendations for where to focus their violence and injury prevention work (via partnership with existing efforts or selecting missing pieces/gaps in strategies to focus on) when developing future work plans and/or strategic plans of their own.

Priority Topic Areas

Child Maltreatment

The Center for Disease Control and Prevention (CDC) defines child maltreatment as any act or series of acts of commission or omission by a parent or caregiver resulting in harm, potential for harm, or threat of harm to a child and includes: physical, sexual, and psychological abuse; physical, emotional, medical/dental, and educational neglect; inadequate supervision; and exposure to violent environments.

ASVIPP Goal:

Reduce the number of Alaskan children who experience child maltreatment during their lifetime.

HA2020 Target:

Indicator 11: Reduce the rate of unique substantiated child maltreatment victims (age 0-17 years) in Alaska to 14.4 per 1,000 by 2020.

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Current Data (2014)
Statewide	15.3	14.4	13.3
Alaska Native*			

* Data for the Alaska Native population are not available for this HA2020 indicator.

Data sources: Alaska Department of Health and Social Services, Office of Children's Services and U.S. Department of Health and Human Services, Administration for Children and Families.

HA2020 Strategies:

1) Promote screening and monitoring for child abuse in primary care offices and public health clinics.
2) Expand home visiting programs.
3) Expand and strengthen quality early childhood programs.
4) Train providers on brain development, adverse childhood experiences (ACES) as described on the CDC website (https://www.cdc.gov/violenceprevention/acestudy/index.html) and resiliency.

Other HA2020 suggested strategies: Use the Strengthening Families Protective Factors Framework in family programs.

Problem Statement:

New research indicates that approximately 1 out of every 3 children born in Alaska will experience at least one report of harm, and 1 out of every 10 will have a report substantiated before their 7th birthday. This indicates that, over a lifespan, many more children likely experience some form of maltreatment then annual estimates suggest (Figure 5).[11,12,13] Neglect is the most common form of child maltreatment, and children ages 0-4 years old are the most likely to be reported and substantiated for maltreatment.[14]

[11] Unpublished data, DPH/WCFH/Alaska Longitudinal Child Abuse and Neglect Linkage Project (ALCANLink).

[12] Wildeman C, Emanuel N, Leventhal JM, Putnam-Hornstein E, Waldfogel J, Lee H. The Prevalence of Confirmed Maltreatment Among US Children, 2004 to 2011. JAMA Pediatr 2014 Aug 1;168(8):706-713.

[13] Putnam-Hornstein E, Needell B, Rhodes AE. Understanding risk and protective factors for child maltreatment: The value of integrated, population-based data. Child Abuse Negl 2013;37(2):116-119.

[14] US Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. Child Maltreatment 2014. 2016.

Figure 5: Annual Prevalence and Cumulative Risk of Maltreatment, Alaska, ALCANLink

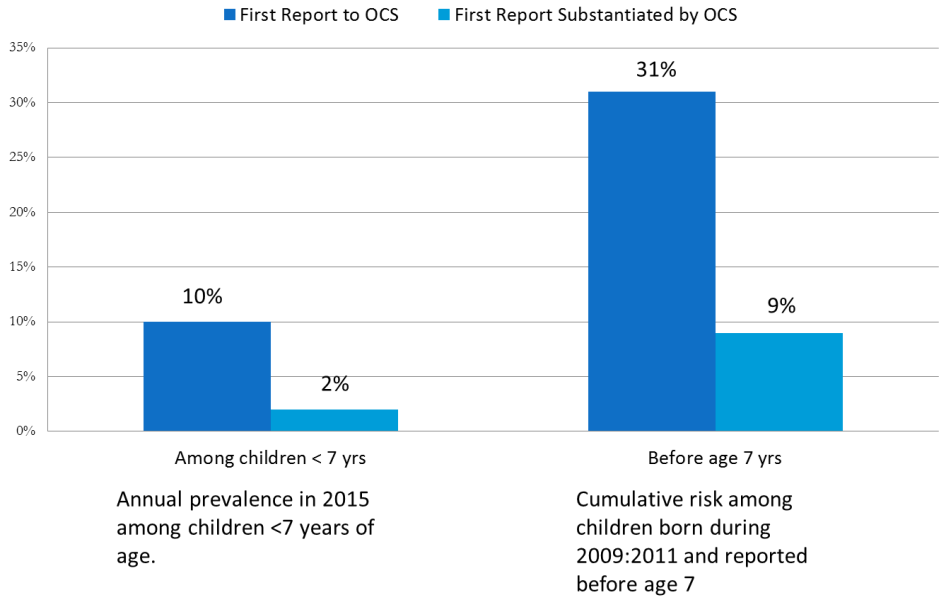


Figure 5 Note: The annual prevalence estimate (two bars on the left) present the proportion of Alaska children ages 0-6 years that experienced a report to OCS during 2015. The cumulative risk estimate (two bars on the right) present the proportion of children born during 2009-2011 that experienced a report to OCS before age 7. The former estimate is a annual "snap-shot" in time, while the later is the lifetime burden. This figure demonstrates that the lifetime risk is much greater than the annual prevalence indicates.

A child can be exposed to many ACEs that increase the risk of both acute and chronic health and behavior outcomes. [15,16,17] Children that experience 4 or more adverse childhood experiences are more likely to attempt suicide; use illicit drugs;

[15] Dube SR, Miller JW, Brown DW, Giles WH, Felitti VJ, Dong M, et al. Adverse childhood experiences and the association with ever using alcohol and initiating alcohol use during adolescence. Journal of Adolescent Health 2006;38(4):444. e1-444. e10.

[16] Felitti M, Vincent J, Anda M, Robert F, Nordenberg M, Williamson M, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The ACEs Study. Am J Prev Med 1998;14(4):245-258.

[17] Anda RF, Felitti VJ, Bremner JD, Walker JD, Whitfield C, Perry BD, et al. The enduring effects of abuse and related adverse experiences in childhood. Eur Arch Psychiatry Clin Neurosci 2006;256(3):174-186.

become substance dependent; have poorer economic progress; drop out of school; and experience heart disease, stroke, cancer, and early death. [14,18,19,20,21,22,23]

Substantial fiscal and educational costs accompany the physical, mental, and social costs associated with maltreatment.[24,25] Some research suggests that the direct lifetime cost of child maltreatment per individual in Alaska is $228,000 and increases to $1.4 million when medical and productivity losses are included.[26] These health costs are directly related to substance use disorder, use of mental and physical medical services, poor health, use of public assistance, and behavior decisions (e.g. smoking, poor diet) resulting in adverse health conditions, such as lung cancer and diabetes, that involve high cost medical care.

Risk & Protective Factors:

The causes of an episode of maltreatment are determined by a complex combination of assets and deficits within a child, family, and/or community. Factors that contribute to—or protect a child from—maltreatment to any degree which are typically modifiable are called "risk" and "protective" factors, respectively. Some populations are also at increased risk of maltreatment; for example, children less than 4 years of age, those with special health care needs, and children of some minority populations. Often, disparities between populations are related to the differential distribution of risk and protective factors that are experienced at the individual, family, community, and cultural contexts. By understanding population disparities, the modifiable factors that influence the causal mechanism can be addressed in an equitable manner.

National research suggests that familial violence; caregiver substance use; poor mental health; low income/economic stress; poor family cohesion; and living in communities with a high density of violence, crime, and unemployment are some of the many factors that contribute to child maltreatment. Emerging national research suggests that having supportive families, caring adult mentors, and parents with parenting and coping skills are some factors that may protect against maltreatment. For a more expansive discussion of risk and protective factors please visit the CDC at: https://www.cdc.gov/violenceprevention/childabuseandneglect/riskprotectivefactors.html.

[18] Brown DW, Anda RF, Felitti VJ, Edwards VJ, Malarcher AM, Croft JB, et al. Adverse childhood experiences are associated with the risk of lung cancer: a prospective cohort study. BMC Public Health 2010 Jan 19;10:20-2458-10-20.
[19] Kaess M, Parzer P, Mattern M, Plener PL, Bifulco A, Resch F, et al. Adverse childhood experiences and their impact on frequency, severity, and the individual function of nonsuicidal self-injury in youth. Psychiatry Res 2012 Nov 15.
[20] Anda RF, Brown DW, Dube SR, Bremner JD, Felitti VJ, Giles WH. Adverse childhood experiences and chronic obstructive pulmonary disease in adults. Am J Prev Med 2008;34(5):396-403.
[21] Dube SR, Anda RF, Felitti VJ, Chapman DP, Williamson DF, Giles WH. Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span: findings from the Adverse Childhood Experiences Study. JAMA 2001;286(24):3089-3096.
[22] Dube SR, Anda RF, Whitfield CL, Brown DW, Felitti VJ, Dong M, et al. Long-term consequences of childhood sexual abuse by gender of victim. Am J Prev Med 2005;28(5):430-438.
[23] (12) Danese A, McEwen BS. ACEs, allostasis, allostatic load, and age-related disease. Physiol Behav 2012;106(1):29-39.
[24] Fang X, Brown DS, Florence CS, Mercy JA. The economic burden of child maltreatment in the United States and implications for prevention. Child Abuse Negl 2012 Feb;36(2):156-165.
[25] Brown DS, Fang X, Florence CS. Medical costs attributable to child maltreatment a systematic review of short- and long-term effects. Am J Prev Med 2011 Dec;41(6):627-635.
[26] Sidmore, Pat. Adverse Chilhood Experiences in Alaska. http://dhss.alaska.gov/abada/ace-ak/Documents/ACEsEconomicCosts-AK.pdf

Emerging research in Alaska has documented that some sub-populations have differential patterns of child maltreatment and a number of related risk and protective factors. [27,28,29] This indicates that prevention approaches need to be tailored to meet the needs of these populations to increase effectiveness and receptiveness. Specific populations and factors that indicate a need for increased attention include Alaska's military population, families on public assistance, mothers that use substances during pregnancy, and mothers reporting 6 or more of the 13 identified life stressors at birth.[30] The Alaska Native population also has an increased risk of an infant/child being reported to child welfare before age 7 compared to white mothers; however, after accounting for multiple known risk factors (e.g. substance use, low SES, isolation, trauma/stressors, low education, and limited social supports) this disparity weakens substantially.[31]

Regional differences have also been noted in the incidence of maltreatment in Alaska indicating the need for targeted prevention efforts that are culturally appropriate and allow for a wide degree of adaptability (Figure 6).

[27] Parrish JW, Young MB, Perham-Hester KA, Gessner BD. Identifying risk factors for child maltreatment in Alaska: a population-based approach. Am J Prev Med 2011 Jun;40(6):666-673.

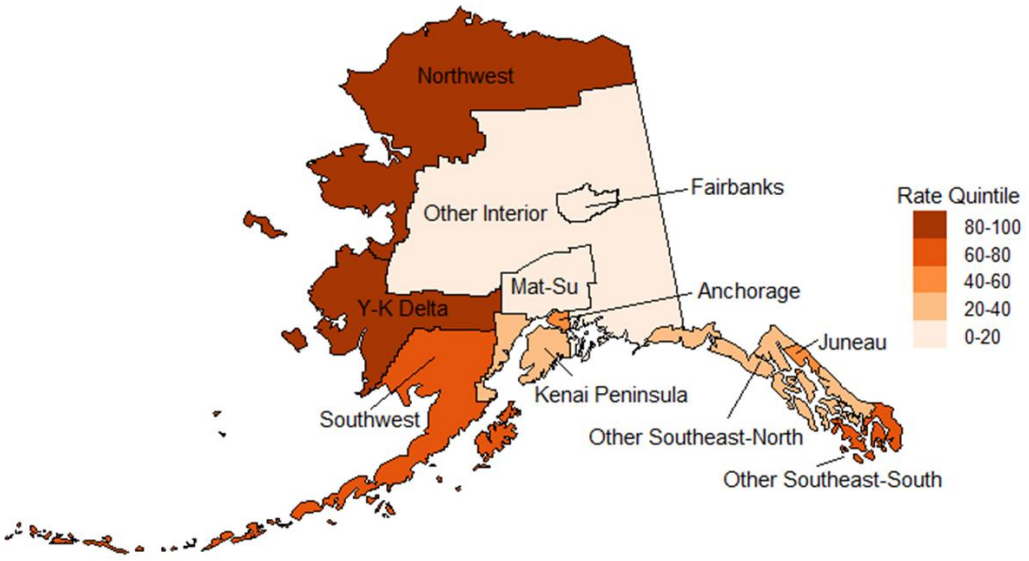
[28] Parrish JW, Lanier P, Newby-Kew A, Arvidson J, Shanahan M. Maternal Intimate Partner Violence Victimization Before and During Pregnancy and Postbirth Child Welfare Contact: A Population-Based Assessment. Child Maltreat 2016 Feb;21(1):26-36.

[29] (18) Evans WD, Abroms LC, Poropatich R, Nielsen PE, Wallace JL. Mobile health evaluation methods: the Text4baby case study. J Health Commun 2012;17 Suppl 1:22-29.

[30] Austin A, Parrish JW, Shanahan M. Using time-to-event analysis to identify preconception and prental predictors of child protective services contact. Child Abuse Negl 2018;82:83-91

[31] Evans WD, Abroms LC, Poropatich R, Nielsen PE, Wallace JL. Mobile health evaluation methods: the Text4baby case study. J Health Commun 2012;17 Suppl 1:22-29.

Figure 6: Risk of First Maltreatment Report Before Age 7 Years among children born during 2009:2011, Alaska Behavioral Health Regions



Source: ALCANLink

What Works: Evidence-Based Strategies

Prevention of child maltreatment has drastically shifted over the past decade from a risk-reduction to strength-building approach. Although both strategies are needed (reduce risks and build strengths), for programs to be most effective, they need to be a part of a comprehensive approach that aims to address all socioecological levels. Multiple evidence-based strategies are available but likely have not been evaluated within the context of a state like Alaska with large geographic distances, limited infrastructure, and broad diversity in cultural practices. Therefore, evidence-based strategies promoted by the CDC and other organizations should undergo additional scrutiny at the state and local levels when considering implementation to determine feasibility, cost, relevance, and cultural adaptability. For current evidence-based strategies that are promoted by the CDC please visit https://www.cdc.gov/violenceprevention/pdf/CAN-Prevention-Technical-Package.pdf to download a technical maltreatment prevention package. This package applies the most current scientific evidence to identify areas and strategies that should be considered to create comprehensive conditions within communities and families to promote healthy relationships and reduce child maltreatment.

Current Strategies:

While several agencies in Alaska are currently engaged in child maltreatment prevention (Table 4), prevention of child maltreatment in Alaska is fragmented and limited in both breadth and scope. A few existing strategies include:

- **Early Childhood Home Visiting:** This approach is primarily an urban prevention model due to the infrastructure needed to adhere to model fidelity and is localized to Anchorage and the Mat-Su. Additional home visiting models and methods are occurring across the state with varying evidence for effectiveness in maltreatment prevention. Primary care provider toolkits are also increasing.
- **Strengthening Families:** This model is research-informed and is aimed at enhancing parents', providers', and communities' protective factors in order to help families succeed and thrive even when face with risk and challenge. This model is being delivered by various primary care and other health care professionals across the state. For more information about this national model please visit http://www.cssp.org/ and locally http://dhss.alaska.gov/ocs/Pages/families/default.aspx.

- **Trauma-Informed Practices and Early Education:** These approaches aim to improve the response providers and educators use to support children in need. These efforts are occurring sporadically throughout the state but also require a great deal of infrastructure to accommodate. Combined, these efforts can be powerful. For example, children enrolled in school who are experiencing or living in environments that may result in maltreatment are often the most likely to be expelled, but also the most likely to need these services. Trauma-informed educators and school administrators can develop alternate strategies and responses to support children who are experiencing trauma-related reactions or challenges, thereby reducing re-traumatization through expulsion and other punitive responses, and promoting their success in learning environments.
- **Alaska Resilience Initiative (ARI):** The backbone agency for a growing network of nonprofit, tribal and state government organizations, schools, businesses and community coalitions working to promote a healthy, just and resilient Alaska, focusing on ending child maltreatment, intergenerational and systemic trauma. Using a collective impact approach, ARI works as a connector and amplifier of existing trauma and resilience work, an advocate for policy and systems change to support trauma-informed approaches, and a think tank to create needed solutions, including professional training curriculum: www.akresilience.org.
- **Early Childhood Comprehensive Systems (ECCS):** The ECCS is focused on building comprehensive systems of care that support family and community approaches to foster healthy early development in children. The ECCS focuses on five components, which include: 1) collective impact models to reduce maltreatment and promote health and development through a common agenda and shared measurements, 2) continuous quality improvements (COIIN) to use data to inform action and target efforts, 3) Help Me Grow—a system to connect at-risk children with the services they need, 4) Strengthening Families initiative supports building protective factors, and 5) technical assistance for screening and care coordination.
- **Parents as Teachers:** This program is an early childhood parent education and family support program designed to empower parents to give their children the best possible start in life. This program provides parent education and family support through home visits, screenings, a resource network, and group connections: https://ruralcap.com/early-childhood-education/parents-as-teachers/.
- **Regional Resilience Coalitions:** Local/regional based effort to reduce maltreatment through strengthening families, community supports, and unified and collective efforts. Current efforts include:
    - R.O.C.K. Mat-Su: http://www.healthymatsu.org/focus-areas/rock
    - R.O.C.K. Juneau: https://www.rockjuneau.org/
    - Southern Kenai Peninsula Resilience Coalition: http://www.skp-resilience.mappofskp.net/
    - Revilla Island Resilience Initiative: https://www.facebook.com/Revilla-Island-Resilience-Initiative-355035401628838/
- **Indigenous/Tribal Initiatives:** Tribal run efforts that often integrate traditional values with comprehensive systems of care. Some examples of these efforts include:
    - Calricaraq/Healthy Families program: https://aktclms.org/Training/Class/102435?bbid=4
    - Kwillingok: https://www.alaskapublic.org/2016/04/22/ak-protecting-a-village/
    - Family Wellness Warriors Initiative: https://www.southcentralfoundation.com/services/family-wellness-warriors-initiative-2/
    - Pathway to Hope: https://www.tandfonline.com/doi/full/10.3402/ijch.v72i0.21067

Table 4: Current Agencies with Strategic Plans Addressing Child Maltreatment Prevention

Agency	Weblink or other resource to agency
Alaska Department of Health and Social Services	http://dhss.alaska.gov/Documents/Publications/priorities.PDF
Alaska Division of Public Health	http://dhss.alaska.gov/dph/Director/Documents/DPH_StrategicPlan_1pager.pdf
Alaska Early Childhood Council	http://dhss.alaska.gov/Commissioner/Pages/aeccc/documents.aspx
Council on Domestic Violence and Sexual Assault	http://dps.alaska.gov/cdvsa/docs/CDVSAStrategicPlan.pdf
Alaska Network on Domestic Violence and Sexual Assault (Pathways to Prevention)	http://www.andvsa.org/wp-content/uploads/2013/05/Pathways141.pdf
Mental Health Trust Authority	http://mhtrust.org/
Alaska Statewide Suicide Prevention Council	http://dhss.alaska.gov/suicideprevention/Pages/default.aspx
Alaska Division of Behavioral Health	http://dhss.alaska.gov/dbh/Pages/default.aspx
Alaska Children's Trust	http://www.alaskachildrenstrust.org/
Alaska Resilience Initiative	www.akresilience.org
Office of Children's Services	http://dhss.alaska.gov/ocs/Pages/default.aspx
Child Welfare Academy	https://www.uaa.alaska.edu/academics/college-of-health/departments/school-of-social-work/child-welfare-academy/
Alaska Early Childhood Comprehensive Systems Plan	http://dhss.alaska.gov/dph/wcfh/Pages/eccs/plan.aspx
Section of Women's, Children's, and Family Health	http://dhss.alaska.gov/dph/wcfh/Pages/default.aspx

If your agency currently has a strategic plan that includes child maltreatment prevention activities but is not listed here, please contact the State of Alaska Injury Prevention Programs at injuryprevention@alaska.gov or 907-269-2020 to get connected to the appropriate partners.

ASVIPP Objective:

Unify prevention/intervention efforts aimed at reducing child maltreatment in Alaska.

ASVIPP Strategies:

1) Support and enhance HA2020 identified strategies and action items.
2) Unite and influence systems through the creation of a statewide maltreatment prevention network and clearinghouse (example: http://www.cebc4cw.org/).
3) Support the development of more comprehensive data collection regarding maltreatment.

ASVIPP Key Indicators:

1) Development of a statewide resource network
   a. Number of unique users of the resource
2) Increase number of people trained on providing trauma-informed services
3) Increase the number of people trained on Strengthening Families 5 Protective factors
4) Increase number of participants completing an evidence-based home visiting program
5) Increase the number of comprehensive data reports on maltreatment
   a. Increase the number of data reports available on IBIS

Domestic Violence & Sexual Assault (DVSA)

Alaska continues to have the unfortunate distinction of having some of the highest rates of domestic violence in the Nation. In 2010, the Council on Domestic Violence and Sexual Assault (CDVSA), in partnership with the University of Alaska Justice Center, developed the Alaska Victimization Survey (AVS) to provide comprehensive statewide and regional data to guide planning and policy development and to evaluate the impact of prevention and intervention services. Results from the initial 2010 statewide survey estimated that 59% of adult women in Alaska (women 18 years of age and older) have experienced domestic violence, sexual violence or both in their lifetime and nearly 12% of the respondents had experienced domestic violence, sexual violence or both in the past year. In addition to the statewide survey, 11 regional surveys were conducted, and their results reported similar incidents rates as those gathered in the statewide study. In 2015, the statewide survey was conducted again and findings estimated that 6,556 fewer women experienced domestic violence and 3,072 fewer women experienced sexual violence in 2015 than 2010. While these findings provide Alaskan's with hope that our efforts are making an impact, the rates of violence against women in the State of Alaska remain unacceptably high with an estimated 50% reporting that they had experienced domestic violence, sexual assault or both by the time that they were 18 years of age.

ASVIPP Goal:

Reduce the number of Alaskans experiencing domestic violence and sexual assault.

HA2020 Target:

Indicator 12: Reduce the rate of rape in Alaska to 67.5/ 100,000 population by 2020.

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Current Data (2014)
All Alaskans	125.4	113.0	104.7
Alaska Native People*	n/a	113.0	n/a

**Data for the Alaska Native population are not available for this HA2020 indicator*

Data source: Uniform Crime Reporting Online Data Tool, Federal Bureau of Investigation, U.S. Department of Justice

Indicator 13: Reduce the percentage of adolescents (high school students in grades 9-12) who were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months from 9.1% (2010) to 8% (2020).

Population	2013 Baseline (%)	HA2020 Target (%)	Current Data (2015)
All Alaskans	9.1	8.0	9.5
Alaska Native People	10.3	8.0	9.8

Data source: Alaska Youth Risk Behavioral Survey (YRBS)

HA2020 Strategies:

- HA2020 Teen Dating Violence Prevention Strategies:
  - Strengthen the abilities and skills of communities to prevent violence.
  - Promote values and beliefs that reinforce safe and healthy relationships.
  - Implement evidence-based school violence prevention programs.
  - Implement social and emotional learning programs in pre-k and elementary schools.

- HA2020 Sexual Assault Prevention Strategies:
    - Strengthen the abilities and skills of communities to prevent violence.
    - Promote values and beliefs that reinforce safe and healthy relationships.
    - Update Alaska school health education standards to include social and emotional learning and sexual assault prevention.
    - Promote health among teens to:
        - Increase knowledge about prevention of HIV, STDs, and pregnancy.
        - Develop more positive attitudes and beliefs about abstinence and condom use.
        - Improve condom-use skills.
        - Gain confidence in ability to negotiate abstinence and safer sex.
        - Foster a stronger sense of pride and responsibility in making a difference in their lives.
    - Encourage local or regional groups to host community conversations that will identify gaps and propose solutions at the local level to inform statewide groups. Develop relationship between statewide group and National Adolescent Perpetration Network to bring knowledge and resources to practitioners, advocacy groups, policy makers, and community members.

Problem Statement:

The impact of domestic violence and sexual assault can be compared to that of an earthquake, where the core damage is done within the family of origin with the aftershock impacting generation after generation.[32] For example, beyond the immediate impact of the violence, there are long term effects including developmental delays, child abuse, substance use disorder, self-harm, poor health, psychological problems and negative community impacts. Children growing up in violent homes are at a greater risk for recreating the violence and abuse patterns within their own dating and adult relationships. The causal factors for domestic violence and sexual assault are complex and, therefore, our interventions and primary prevention strategies must also be complex and coordinated within communities and across the state.

Risk & Protective Factors:

Violent behavior is complex. Many factors increase or decrease the likelihood of experiencing or perpetrating violence of various forms, including domestic violence and sexual assault. However, as Dr. Howard Spivak, Director CDC Division of Violence Prevention explains, "There are experiences, particularly early in childhood that make it extremely predictable that individuals are at substantially higher risk for involvement with violence, be it interpersonal, youth violence, intimate partner violence, dating violence, or child abuse." In July 2014, the CDC published *Connecting the Dots: An Overview of the Links Among Multiple Forms of Violence.* The report summarizes the research on the connections between different forms of violence and describes how these connections affect communities. The aims of the report are to "Prevent all types of violence from occurring in the first place", and to ". . . coordinate and integrate responses to violence in a way that recognizes these connections and considers the individual in the context of their home environment, neighborhood, and larger community." The *Connecting the Dots* report can be found here: https://www.cdc.gov/violenceprevention/pdf/connecting_the_dots-a.pdf.

What Works: Evidence-Based Strategies

DVSA is a problem that we all have a role in preventing. In Alaska, we are building prevention programming in communities that is comprehensive and consistent. This means that prevention activities take place in many different settings of a person's life, so that people receive similar messages wherever they go. Prevention is not just a one-time

[32] The Big Picture-About Relationships. Copyright 1998, AWARE Inc. (updated 2005)

event in a classroom, or a one-time community awareness event. As mentioned earlier, domestic violence and sexual assault are complex social and criminal issues, and in order to address them, prevention activities must be recurring and pervasive across community settings. In Alaska, we've noticed that it takes a community 3-5 years of dedicated staff development, coalition building and funding to plan for and implement prevention efforts that are comprehensive. Alaska uses a combination of evidence-based and practice-informed strategies to address and prevent domestic violence, teen dating violence and sexual assault. Alaska also works closely with information provided through the CDC and the World Health Organization to identify the links among multiple forms of violence in order to coordinate and integrate responses across the social ecological model.

Current Strategies:

See HA2020 DVSA Strategies section. Also, see other agency strategic plans (Table 5).

Table 5: Current Agencies With Strategic Plans Addressing DVSA Prevention

Agency	Weblink or other resource to agency
Alaska Department of Health and Social Services	http://dhss.alaska.gov/Documents/Publications/priorities.PDF
Alaska Early Childhood Coordinating Council	http://dhss.alaska.gov/Commissioner/Pages/aeccc/documents.aspx
Council on Domestic Violence and Sexual Assault	https://dps.alaska.gov/CDVSA/Resources
Alaska Network on Domestic Violence and Sexual Assault (Pathways to Prevention)	http://www.andvsa.org/wp-content/uploads/2013/05/Pathways141.pdf
Alaska Mental Health Trust Authority	http://mhtrust.org/
Alaska Statewide Suicide Prevention Council	http://dhss.alaska.gov/suicideprevention/Pages/default.aspx
Alaska Division of Behavioral Health	http://dhss.alaska.gov/dbh/Pages/default.aspx
Alaska Children's Trust	http://www.alaskachildrenstrust.org/
Office of Children's Services	http://dhss.alaska.gov/ocs/Pages/default.aspx
Section of Women's, Children's and Family Health	http://dhss.alaska.gov/dph/wcfh/Pages/default.aspx
Alaska Native Women's Resource Center	http://www.aknwrc.org/

If your agency currently has a strategic plan that includes DVSA prevention activities but is not listed here, please contact the State of Alaska Injury Prevention Programs at injuryprevention@alaska.gov or 907-269-2020 to get connected to the appropriate partners.

ASVIPP Objectives:

- Organize and consolidate existing data and research on injury and violence prevention.
- Link existing networks to other injury and violence prevention efforts in ways that enhance DVSA prevention efforts.

ASVIPP Strategies:

- Support and enhance HA2020 identified strategies and action items.
- Improve access to existing data and research to support other forms of injury and violence prevention.
- Encourage community groups to coordinate and align their efforts among various injury and violence prevention plans/activities.

ASVIPP Key Indicators:

- Development of the one-stop-shop data and research website.
    - Increase number of users of data site annually.
- Increase number of local coalitions that address prevention of multiple violence and injury topics.
- Increase number of trainings for local coalitions that address prevention of multiple violence and injury topics.

Fall Injuries

Falls—unintentional events where a person comes to rest on the ground or a level below their starting point—are the leading cause of injury-related hospitalization and death for older adults over age 65.[33,34,35] Even falls that do not require medical attention can have a dramatic effect on an older Alaskan's life, causing them to lose confidence and dramatically change their daily activities. [36] The goal of fall prevention efforts is to reduce injury for older Alaskans, keep them in their home communities, and improve their quality of life.

ASVIPP Goal:

Reduce the number of Alaskan older adults who are injured or killed from a fall.

HA2020 Target:

Reduce Alaskan deaths from unintentional injury.

Indicator 16: Reduce unintentional injury mortality rate of Alaskans from 58.3 to 54.8 per 100,000 by 2020.*

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Most Recent Data (2014)
Statewide Unintentional Injury Mortality	58.3	54.8	54.6
Alaska Native Unintentional Injury Mortality	100.4	54.8	110.8
Statewide Fall-Related Injury Mortality[37]	7.0	6.7 (5% reduction)*	5.5 (2013)

Data Sources: Health Analytics and Vital Records Section (HAVRS) and National Center for Injury Prevention and Control's Web-based Injury Statistics Query and Reporting System (WISQARS)

[33] Kellogg International Work Group on the Prevention of Falls by the Elderly Alaskan. The prevention of falls in later life. Danish Medical Bulletin 1987 Apr;34(4):1-24.
[34] State of Alaska Division of Health and Social Services Injury Prevention Program. 2009-2013 *Alaska Falls Fact Sheet*. Available at http://dhss.alaska.gov/dph/Chronic/Pages/InjuryPrevention/Falls/default.aspx. Accessed August 19, 2018.
[35] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web–based Injury Statistics Query and Reporting System (WISQARS). Accessed February 21, 2017 at https://www.cdc.gov/injury/wisqars/. Accessed August 19, 2018.
[36] Kronfol N. Biological, Medical and Behavioral Risk Factors on Falls. 2005. Available at http://www.who.int/ageing/projects/2.Biological,%20medical%20and%20behavioural%20risk%20factors%20on%20falls.pdf. Accessed August 19, 2018.
[37] Alaska Bureau of Health Analytics and Vital Records. Unintentional Injury Deaths for Alaska. (2013) http://dhss.alaska.gov/dph/VitalStats/Documents/stats/death_statistics/unintentional_injury_census/frame.html. Accessed August 19, 2018.

Indicator 22: Reduce the rate of preventable hospitalizations (hospitalizations that could have been prevented with high quality primary and preventive care) to 6.7 per 1,000 adults based on the Agency for Healthcare Research and Quality definition.*

Population	2010 Baseline (per 1,000)	HA2020 Target (per 1,000)	Most Recent Data (2015)
Statewide Unintentional Injury Hospitalization in Adults*	7.1	6.7	7.3
Alaska Native Unintentional Injury Hospitalization in Adults*	18.8	6.7	18.2 (2011)
Statewide Fall-Related Injury Hospitalization in Adults**	2.4 (2011)	2.3*	2.3

* The HA2020 indicator focused on unintentional injury mortality and preventable hospitalizations is derived from Health Facilities Data Reporting (HFDR) data in Health Analytics.

** Fall-related hospitalization indicators are not included in the HA2020 plan. Fall-related hospitalization data is from the Alaska Trauma Registry.

Data Sources: Health Planning and Systems Development and Alaska Trauma Registry

HA2020 Strategies:

Indicator 16: Increase access to high quality primary care. Bring partners together and use multiple approaches to reducing deaths from falls by older Alaskans.

Indicator 22: Increase access to high quality primary care. Improve care coordination, community care transitions, and complex case management. Strengthen community-based and clinical prevention to improve population health.

Other HA2020 suggested strategies:

1) Develop programs using the CDC *Compendium of Effective Fall Interventions*, designed for public health practitioners and community-based organizations, to help them address the problem of falls among older adults.[38] There are 22 scientifically tested and proven interventions described in this compendium: https://www.cdc.gov/homeandrecreationalsafety/falls/compendium.html.
2) Provide onsite assistance to help senior citizens (and other Medicare beneficiaries) remain in their homes as they age. An example of this strategy is seen in the work of Cathedral Square Support and Services with more information at: https://cathedralsquare.org/programs-services/sash-model/**.**

Problem Statement:

Injuries from falls are the leading cause of injury in Alaska and deaths from injury for Alaskans aged 65 and older.[39,40] In 2015, 36 older adults died from injuries caused by a fall and 1,600 were hospitalized. The rate of fall hospitalization injuries in Alaska for older Alaskans has not shown a significant decrease over time, indicating that fall prevention efforts have not yet had a substantial impact (Figure 7). National studies have shown that only 8-10% of falls for older Alaskans are serious

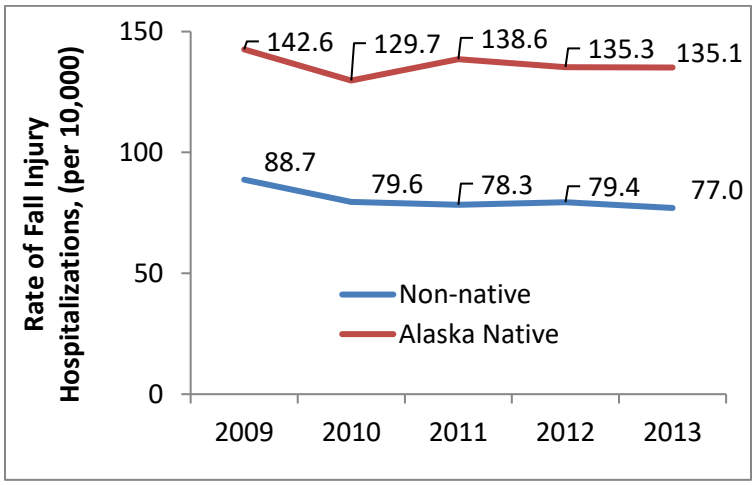
[38] Ziere G, Dieleman JP, Hofman A, et al. Polypharmacy and falls in the middle age and older population. British Journal of Clinical Pharmacology 2006 Feb;61(2):218–223.

[39] Kellogg International Work Group on the Prevention of Falls by the Elderly. The prevention of falls in later life. Danish Medical Bulletin 1987 Apr;34(4):1-24.

[40] State of Alaska Division of Health and Social Services Commission on Aging. Alaska Senior Fall Prevention: Your choices make a difference. Available at http://dhss.alaska.gov/acoa/Pages/falls/default.aspx. Accessed August 19, 2018

enough to require medical care, so the mortality and morbidity data only report a small proportion of falls that older Alaskans experience that may alter their lives dramatically.[41] Older Alaskan adults who fall may respond by restricting their activities out of fear of falling or because of a resulting injury, which may modify their physical capabilities. This, in turn, can increase their risk for falls due to reduced muscle tone and mobility.[42]

Figure 7: Annual Rate of Fall Hospitalizations (per 10,000), Alaska Native and Non-Native People age 60 and older, Alaska



Source: Alaska Trauma Registry, 2009-2013

Alaska Trauma Registry data indicate that the average direct cost of hospital care for Alaskans age 60 and older increased from $42,000 in 2009 to $56,000 in 2013. These do not reflect indirect costs, such as nursing home, rehabilitation or therapeutic care the patient may require after the injury is treated. With improved medical care extending the average life expectancy and the increase in the older Alaskan adult population anticipated with the "baby boomer" generation, the U.S. Census Bureau estimates that the United States population aged 65 and older will increase by 35% between 2015 and 2030.[43] The resources for hospital care, rehabilitation and long-term care will need to be increased to match patient needs if the rate of falls is not lowered.

Risk & Protective Factors:

Factors that affect risks of falls can be categorized in three areas: medical, behavioral, and environmental. Older Alaskans that experience a fall are likely affected by more than one of these factors, increasing their fall risk.

Medical Factors: Medical, or intrinsic, risk factors for falls include many different aspects of a person's health. Vestibular and other balance disorders, stroke, impaired or distorted vision, slowed reflexes, weak muscles or sarcopenia (loss of muscle mass) can all affect how well someone recovers their postural stability when

[41] Institute of Medicine (US), Berg RL, Cassells JS. The Second Fifty Years: Promoting Health and Preventing Disability. Falls in Older Persons: Risk Factors and Prevention. 1992. Available at: https://www.ncbi.nlm.nih.gov/books/NBK235613. Accessed August 19, 2018

[42] Kronfol N. Biological, Medical and Behavioral Risk Factors on Falls. 2005. Available at http://www.who.int/ageing/projects/2.Biological,%20medical%20and%20behavioural%20risk%20factors%20on%20falls.pdf. Accessed Augsut 19, 2018

[43] United States Census Bureau. 2014 National Population Projections: Summary Tables. Available at https://www.census.gov/data/tables/2014/demo/popproj/2014-summary-tables.html. Accessed August 19, 2018.

challenged.[44,45] Foot disorders and arthritis in the lower limbs can alter motility and reactions to uneven surfaces, leading to falls. Incontinence (the frequent need to urinate) can cause rushed activities resulting in falls. Polypharmacy (taking four or more medications) can cause postural hypotension from a combination of side effects or an interaction between the drugs.[46] Many types of medications can individually increase dizziness, fatigue and postural hypotension, and if one is a component of polypharmacy, the risk of falling is still greater.[47] Dementia, Alzheimer's, and other cognitive impairments can lead to tripping over forgotten items or panicked, sudden reactions to confusing or alarming stimuli.

Behavioral Factors: As people age, their ability to compensate for balance during normal activities may diminish. Reaching too far/high, wearing loose or thickly-soled shoes, poor diet and lack of exercise, and alcohol use are behavioral factors that can increase the risk of falls as a person ages.[48] Not adjusting for the changes in physical ability during routine or recreational activities is a behavior that makes a previously safe activity a fall risk.

Fear of falling, which studies have been shown contributes to fall risks, may stem from concerns about being hurt, not being able to raise oneself from the floor after a fall, public embarrassment, loss of independence, and being relocated away from their home community.[43] This fear can stimulate an Alaskan older adult to increase their strength and balance training to improve their mobility. But more frequently it reduces their quality of life through reduction in confidence and exercise, leading to poor mobility.

Environmental Factors: For healthy, active Alaskan older adults, environmental factors may be the most common source of fall risks.[49] Other Alaskan older adults may be increasingly challenged by activities in an environment that they had no earlier difficulties with, such as getting out of bed or going up and down steps. Environmental factors contribute to one-third to nearly one-half of falls.[50,51] The most commonly cited factors are slippery surfaces (indoor and out), stairs and steps (especially if uneven or lacking sturdy handrails), floor clutter or throw rugs, poor lighting, and hard to reach items.

Environmental hazards that increase fall risks for older adults can also occur from a community level. If the community does not have safe public access laws, requiring ramps with railings for public buildings, or stop lights timed to allow a slower pedestrian enough time to get across the intersection, older pedestrians may either risk falling or limit their circulation in the community to avoid these challenges. Other community practices, such as not developing clear walkways or poor sidewalk maintenance, would provide similar challenges to older Alaskans.

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[44] Kronfol N. Biological, Medical and Behavioral Risk Factors on Falls. 2005. Available at http://www.who.int/ageing/projects/2.Biological,%20medical%20and%20behavioural%20risk%20factors%20on%20falls.pdf. Accessed August 19, 2018.

[45] Institute of Medicine (US), Berg RL, Cassells JS. The Second Fifty Years: Promoting Health and Preventing Disability. Falls in Older Persons: Risk Factors and Prevention. 1992. Available at: https://www.ncbi.nlm.nih.gov/books/NBK235613. Accessed August 19, 2018.

[46] Kojima T, Akishita M, Nakamura T, et al. Polypharmacy as a risk for fall occurrence in geriatric outpatients. Geriatrics & Gerontology International 2012:12(3):725-30.

[47] Ziere G, Dieleman JP, Hofman A, et al. Polypharmacy and falls in the middle age and older population. British Journal of Clinical Pharmacology 2006 Feb;61(2):218–223.

[48] Kronfol N. Biological, Medical and Behavioral Risk Factors on Falls. 2005. Available at http://www.who.int/ageing/projects/2.Biological,%20medical%20and%20behavioural%20risk%20factors%20on%20falls.pdf. Accessed August 19, 2018.

[49] Institute of Medicine (US), Berg RL, Cassells JS. The Second Fifty Years: Promoting Health and Preventing Disability. Falls in Older Persons: Risk Factors and Prevention. 1992. Available at: https://www.ncbi.nlm.nih.gov/books/NBK235613. Accessed August 19, 2018.

[50] Kellogg International Work Group on the Prevention of Falls by the Older. The prevention of falls in later life. Danish Medical Bulletin 1987 Apr;34(4):1-24.

[51] Josephson KR, Fabacher DA, Rubenstein LZ. Home safety and fall prevention. Clin Geriatr Med 1991; 7:707–731.

The risk factors described above affect the likelihood of someone falling. It is improbable that all falls can be prevented, so another aspect of risk needs to be monitored: the risk of injury from the fall and potential associated reduction in functional ability. Weakened lower body muscles and frail bones (osteoporosis) can increase the likelihood of injury when a fall occurs. Some environmental factors, such as furniture/counters with sharp edges and hard surfaces, can also increase the risk of injury if a fall occurs.

What Works: Evidence-Based Strategies

Because the causes of a fall can involve multiple and varied factors, effective prevention requires efforts at multiple levels, tailored to the physical condition and living environment of the individual at risk. The CDC provides a listing of prevention efforts that include published evidence that the intervention is effective in reducing fall occurrence or fall-related injuries in older adults.[52] It is unlikely that these interventions have been evaluated in Alaska, or in all community types in Alaska (city, hub, village) so cultural and resource context must be considered when applying them in this state.

The evidence-based intervention strategies are separated into four categories: exercise, home modification, clinical, and multifaceted:

Exercise programs involve activities focusing on muscle strength, endurance, flexibility, balance, and motor coordination appropriate for the ability level of the patient. Some of the specific activities recommended are Tai Chi, Otago, group walking (with winter traction gear when appropriate), and aerobic dance and floor exercises.

Most evidence-based **home modification** interventions describe the involvement of an occupational therapist, not commonly available in Alaska, so a qualified surrogate would need to be identified. These interventions involve home assessment, patient performance assessment, home modification and equipment recommendations (sometimes with supplemental funding provided), and training/education of the participant to raise their awareness of the most common home hazards associated with falls.

Clinical interventions focus on individual intrinsic fall risks: medical assessments of Alaskan older adults for fall risks, provision of vitamin D and calcium supplements (to improve bone strength), medication review and reduction of psychotropic drug medication where appropriate, eye exams to determine if updated glasses or cataract surgery are necessary, and examination of the patient's feet by a podiatrist, who provides recommendations on footwear and foot exercise appropriate for each patient.

The fourth strategy type, **multifaceted**, incorporates varying groups of exercise, home modification, and clinical intervention. Evidence-based interventions are described in detail on the National Council on Aging and CDC websites:
https://www.ncoa.org/resources/select-evidence-based-falls-prevention-programs/ and
https://www.cdc.gov/homeandrecreationalsafety/pdf/falls/CDC_Falls_Compendium-2015-a.pdf#nameddest=appendixc.[47,53]

Current Strategies:

In Alaska, several organizations have some level of fall prevention programming, but it is not a consistent or concerted effort. The State of Alaska Department of Health and Social Services Injury Prevention Program and Commission on Aging both provide informational resources on occurrence, risks, and prevention. These agencies work together to organize and

[52] Stevens JA, Burns E. A CDC Compendium of Effective Fall Interventions: What Works for Community-Dwelling Older Adults, 3rd Edition. 2015. Available at https://www.cdc.gov/homeandrecreationalsafety/falls/compendium.html. Accessed August 19, 2018.
[53] National Council on Aging. Select Evidence-Based Falls Prevention Programs. 2017. Available at https://www.ncoa.org/resources/select-evidence-based-falls-prevention-programs/. Accessed August 19, 2018.

promote the annual Fall Prevention Week in Alaska. In a few areas of the state, staffing is available to send public health nurses or other caregivers to visit all older Alaskans in rural communities to do both a health assessment and a home safety check. The less populated regions of the state may have one or two physical therapists available to work with older Alaskans and other patients via telemedicine. Few areas have occupational therapists.

The Alaska Community Health Aide Program, which provides medical staff to rural areas served by the tribal health system, includes many sections on fall prevention in its reference manuals, including a home safety checklist and a patient assessment for falls. On-line and in-person trainings have been developed to encourage Community Health Aides/Practitioners (CHA/Ps) to use these materials to promote fall prevention behaviors.

When funding is available, CHA/Ps and Injury Prevention Programs provide ice cleats, mobility devices, and home fall prevention equipment to the older Alaskans in their communities, but the funding is sporadic. Many communities and local senior centers around the state provide meal and exercise programs for older adults in their area. And several agencies provide a variety of fall prevention resources around the state (Table 6).

Table 6: Current Agencies with Strategic Plans Addressing Older Adult Fall Prevention

Agency	**Weblink or other resource to agency**
Alaska Division of Public Health	http://dhss.alaska.gov/dph/Director/Documents/DPH_StrategicPlan_1pager.pdf
Section of Chronic Disease Prevention and Health Promotion	http://dhss.alaska.gov/dph/Chronic/Documents/CDPHP_2012StrategicPlan.pdf
Alaska Department of Health and Social Services	http://dhss.alaska.gov/Documents/Publications/priorities.PDF
Alaska Commission on Aging	http://dhss.alaska.gov/acoa/Pages/falls/default.aspx
Injury Prevention Programs	http://dhss.alaska.gov/dph/Chronic/Pages/InjuryPrevention/Falls/default.aspx
Alaska Native Tribal Health Consortium	https://anthc.org/what-we-do/wellness/injuryprevention/ or call 907-729-3799 or 907-729-3513

If your agency currently has a strategic plan that includes fall prevention activities but is not listed here, please contact the State of Alaska Injury Prevention Programs at injuryprevention@alaska.gov or 907-269-2020 to get connected to the appropriate partners.

ASVIPP Objective:

Align fall prevention and intervention efforts aimed at reducing fall related injury death and preventable hospitalizations for older adults.

ASVIPP Strategies:

- Support HA2020 identified strategies and action items.
- Unite systems by restarting and maintaining Alaska statewide fall prevention network.
    - Create falls subcommittee to lead network (state, ANTHC, regional tribal, non-profits).
- Support the monitoring of a comprehensive data collection system for falls.
- Encourage cross-pollination of resources and successful strategies across various injury and violence topics.

ASVIPP Key Indicators:

- Lead quarterly (at least) fall prevention network calls (e.g. along with existing quarterly IP call).
- Developing one-stop website for fall-related data and other resources.
- Increase the number of reports on fall-related data.

Suicide

The CDC provides the following definitions for suicide, suicide attempts, and suicidal ideation:

> **Suicide**
> Death caused by self-directed injurious behavior with an intent to die as a result of the behavior.
>
> **Suicide attempt**
> A non-fatal, self-directed, potentially injurious behavior with an intent to die as a result of the behavior; might not result in injury.
>
> **Suicidal ideation**
> Thinking about, considering, or planning suicide.[54]

Consistent definitions allow consistent classification of data to better gauge the scope of the problem over time, identify high-risk groups, and monitor the effects of prevention programs and policies.

ASVIPP Goal:

Reduce Alaskan deaths from suicide.

HA2020 Target:

Indicator 7a: Reduce the suicide mortality rate of 15 – 24 year olds to 43.2 per 100,000 by 2020.

Indicator 7b: Reduce the suicide mortality rate of adults 25 years and older to 23.5 per 100,000 by 2020.

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Current Data (2014)
Statewide suicides--25 years and older	25.0	23.5	27.0
Alaska Native adults--25 years and older	36.4	23.5	35.7
Statewide--15-24 year olds	46.0	43.2	37.9
Alaska Native--15-24 year olds	117.0	43.2	67.8

Data Sources: Alaska Health Analytics and Vital Records and National Center for Injury Prevention and Control's Web-based Injury Statistics Query and Reporting System (WISQARS).

HA2020 Strategies:

1) Create supportive environments that promote resilient, healthy, and empowered individuals, families, schools, and communities.
2) Enhance clinical and community preventive services to ensure timely treatment and support.
3) Fund proven and effective suicide prevention efforts.

[54] Center for Disease Contorl and Prevention. Violence Prevention – Suicide Definisions. Updated 2017. Available at https://www.cdc.gov/violenceprevention/suicide/definitions.html. Accessed August 19, 2018.

Other HA2020 suggested strategies: Kognito Family of Heroes, The QPR (Question, Persuade, and Refer) Gatekeeper Training for Suicide Prevention.

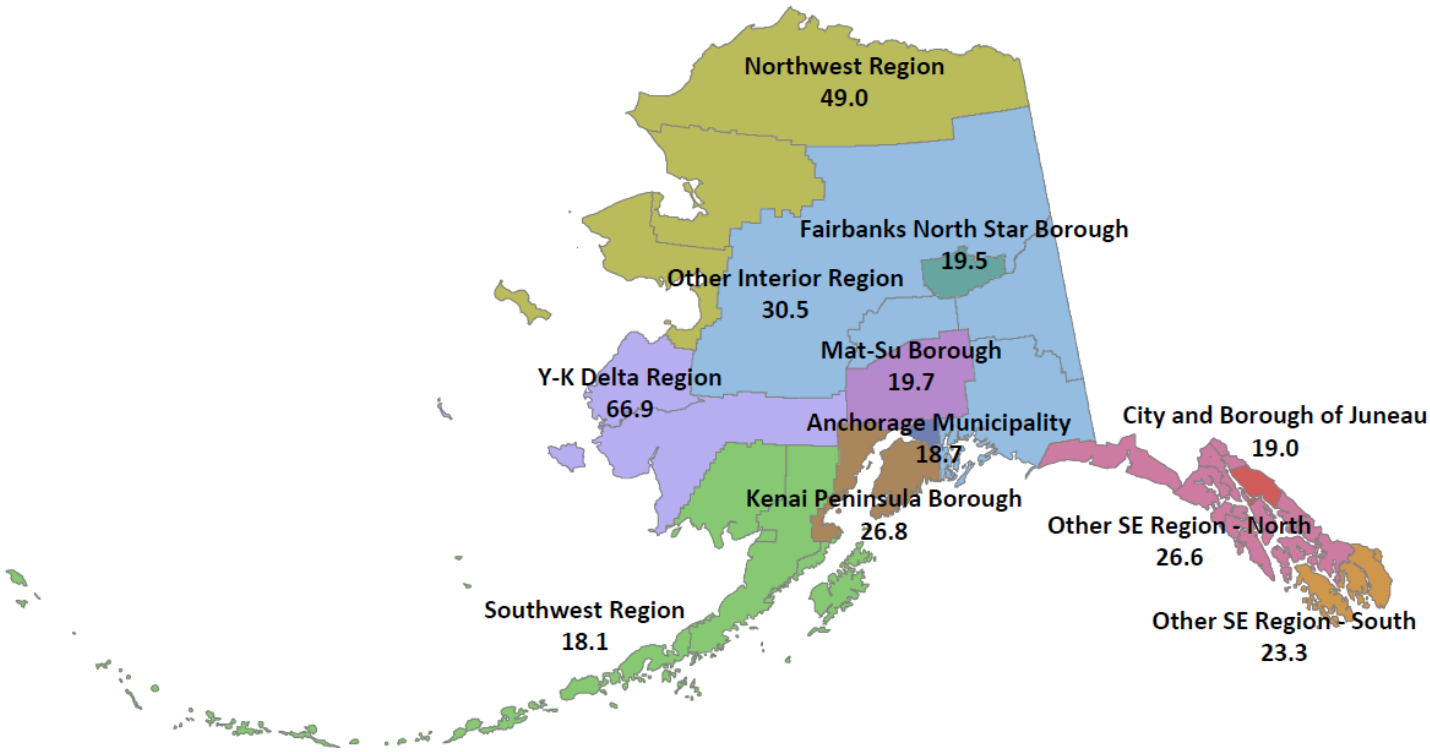
Problem Statement:

Alaska had the second highest age-adjusted suicide rate in the nation in 2014 at 22.3 per 100,000.[55] In 2015, the rate was 27.1 per 100,000. Intentional self-harm, or suicide, is the fifth leading cause of death in Alaska. In 2015, suicide claimed the lives of 200 Alaskans. Firearms were the leading mechanism of death by suicide, making up 61% of all suicide deaths (98 males and 24 females). Among the leading causes of death in Alaska in 2015, suicide ranked third in total years of potential life lost with 7,510 years lost. On average 37.5 years of life were lost prematurely for each suicide death.[56] From 2006 to 2015, the age-adjusted rate has increased 38.3%. On average, one person dies of suicide every two days in the state. In 2015, suicide was the leading cause of death for 10-24 year olds and the 2nd leading cause of death for Alaskans ages 25-44.[57] Alaska's suicide rates continue to be the highest among males, young adults (18-24 year olds), American Indian/Alaska Native people and persons living in rural regions of the state. Residents in Northern and Southwest Alaska are at significantly higher risk for suicide (Figure 8). There is extreme annual variability in the suicide mortality rate for Alaska Native people; since 2000, the annual suicide mortality rate has fluctuated between extremes of 50.4 per 100,000 in 2015 to the recent low of 29.5 per 100,000 in 2014.

A more complete picture of the risks of suicide in the state would be achieved with comprehensive data on suicide attempts. For the Alaska Native population, suicide attempts were the cause of 18% of all injury hospitalizations (2002-2010). Poisoning is the means of more than three-quarters of suicide attempts (76% for AN/AI 2002-2010), but the data for every adult poisoning resulting in hospitalization has not been available in a statewide database since 2010: only select categories of poisoning are currently reported. Currently, hospital discharge data from the Health Facilities Data Reporting Program (Section of Health Analytics and Vital Records, Division of Public Health, DHSS), initially collected statewide in 2015, are being investigated as a possible source for this information.

[55] U.S. Centers for Disease Control and Prevention (CDC). Suicide mortality by state: 2014. http://www.cdc.gov/nchs/pressroom/sosmap/suicide-mortality/suicide.htm. Accessed August 19, 2018.
[56] Alaska Department of Health and Social Services, Division of Public Health, Health Analytics and Vital Records Section. Alaska Vital Statistics 2015 Annual Report. [http://dhss.alaska.gov/dph/VitalStats/Documents/PDFs/VitalStatistics_Annualreport_2015.pdf]. Accessed February 7, 2017.
[57] American Foundation for Suicide Prevention. State fact sheets: suicide: Alaska 2016 facts & figures. https://afsp.org/aboutsuicide/state-fact-sheets/#Alaska. Accessed August 19, 2018.

Figure 8: Age-adjusted suicide mortality rate per 100,000 population, all ages, by behavioral health region, Alaska residents 2007-2016 (10-year average) map



Data Source: Department of Health and Social Services, Health Analytics and Vital Records.
(See Appendix C for description of behavioral health regions.)

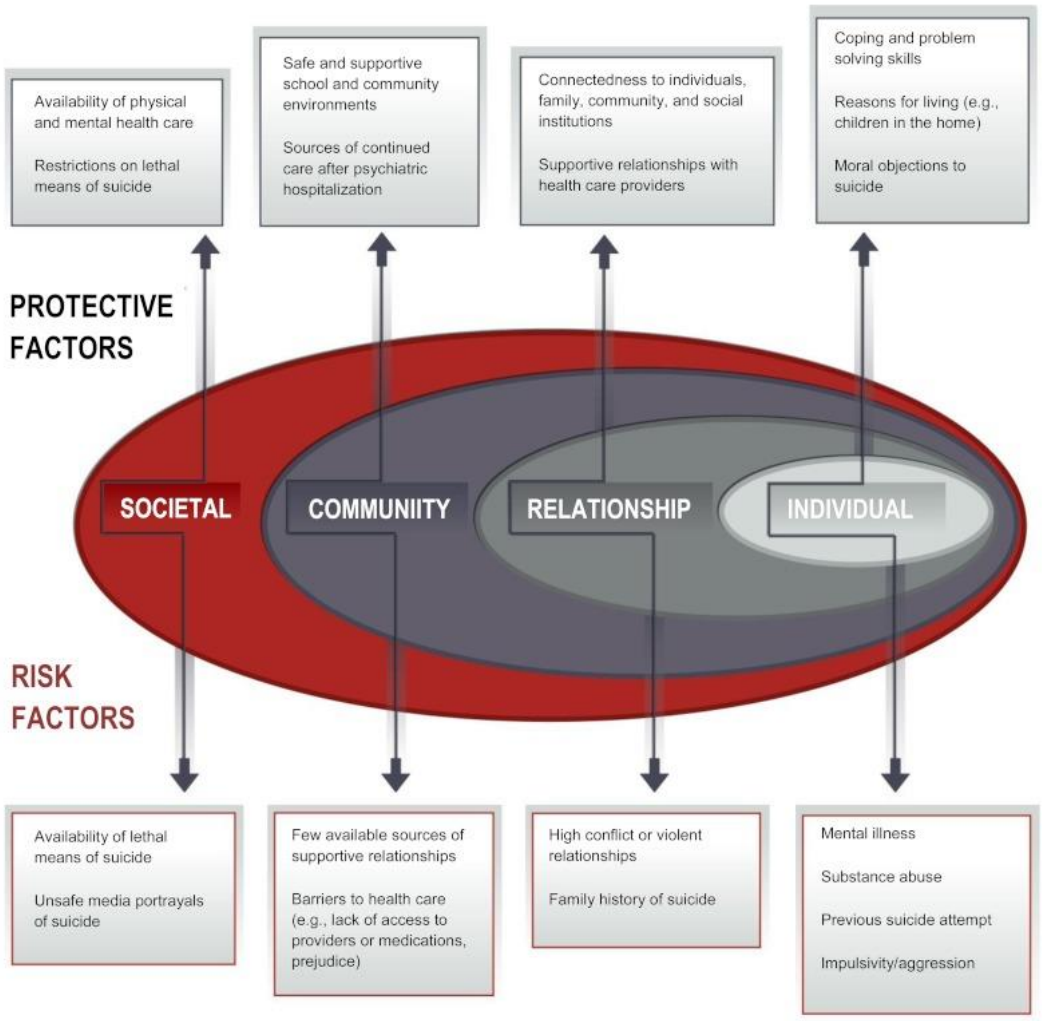
The economic and human cost of suicidal behavior to individuals, families, communities, and society makes suicide a serious public health problem. Suicide deaths cost Alaska a total of $226,875,000 of combined lifetime medical and work lost cost in 2010, averaging of $1,383,382 per suicide death.[58]

Risk & Protective Factors:

Suicide shares risk and protective factors with other types of health behaviors, including substance use, violence, and early sexual activity for adolescents.[59] Because of these links, efforts to reduce risk factors and strengthen protective factors for suicide are likely to have a positive impact on other public health issues. Figure 9 illustrates how major risk and protective factors for suicide exist at four levels of influence (individual, relationship, community, and societal), with special considerations accounting for cultural variables and history.

[58] American Foundation for Suicide Prevention. State fact sheets: suicide: Alaska 2016 facts & figures. https://afsp.org/about-suicide/state-fact-sheets/#Alaska. Accessed August 19, 2018.
[59] Alaska Division of Behavioral Health. Risk and Protective Factors for Adolescent Substance Use (2011). http://dhss.alaska.gov/dbh/Documents/Prevention/programs/spfsig/pdfs/Risk_Protective_Factors.pdf. Accessed August 19, 2018.

Figure 9: Examples of Risk and Protective Factors in a Social Ecological Model [58]



The *Alaska Statewide Suicide Prevention Plan* also mentions shame, guilt, hopelessness, and purposelessness as risk factors,[60] discusses bullying as being associated with increased depression and risk of suicide,[61] describes links between experienced and/or perceived racial discrimination and negative mental health consequences, [62] and that lack of acceptance, bullying, discrimination and exclusion from familial and community relationships have been cited as contributing factors to higher rates[63] of suicide among lesbian, gay, bisexual, transgender, and questioning (LGBTQ) individuals.[64]

[60] Casting the Net Upstream: Promoting Wellness to Prevent Suicide. Alaska Statue Suicide Prevention Plan FY2012-2017. http://dhss.alaska.gov/SuicidePrevention/Documents/pdfs_sspc/SSPC_2012-2017.pdf. Accessed August 19, 2018.

[61] G. Gini & T. Pozzoli, *Pediatrics*, 123(3), 1059–1065 (2009); "Bullying and Suicide: A Review," Y. Kim & B. Leventhal, *International Journal of Adolescent Medicine and Health*, 20(2), 133–154 (2008); "Cyber and Traditional Bullying: Differential Association with Depression," J. Wang, T. Nansel, & R. Iannotti, *Journal of Adolescent Health*, 48(4), 415–417 (2010).

[62] Y. C. Paradies and J. Cunningham. Development and Validation of the Measure of Indigenous Racism Experiences (MIRE). *International Journal for Equity in Health* (2008). http://www.equityhealthj.com/content/pdf/1475-9276-7-9.pdf. Accessed August 19, 2018.

[63] Haas et al. Suicide and Suicide Risk in Lesbian, Gay, Bisexual, and Transgender Populations: Review and Recommendations. A. P. *Journal of Homosexuality* (Jan. 2011)

[64] Cochran, Mays & Sullivan (2003); de Graaf at al. (2006); King et al. (2008); Mays & Cochran (2001); McCabe, Bostwick, Hughes, West, & Boyd, (2010).

What Works: Evidence-Based Strategies

The Statewide Suicide Prevention Council's *Alaska State Suicide Prevention Plan* envisions suicide prevention to include wellness promotion, suicide prevention, crisis intervention, and postvention.[65]

- **Wellness Promotion:** the overall health and environmental conditions that can increase or decrease the risk of suicide.
- **Suicide Prevention:** universal efforts to improve awareness and understanding about suicide among all Alaskans.
- **Crisis Intervention:** services and supports provided to a person who is experiencing a mental or emotional crisis that creates a serious risk of suicide.
- **Postvention:** responses after a suicide occurs to prevent further loss and support survivors of a loss to suicide.

The World Health Organization holds that "a supportive environment is of paramount importance for health. The two are interdependent and inseparable."[66] Supportive environments can help protect people from risk factors for poor health, encourage participation in health care and health promotion, expand individuals' health competencies and self-reliance, and support person-centered health care. Stigma and attitudes about help-seeking (specifically seeking treatment or services for mental health conditions) are key barriers to promoting mental and emotional health and preventing mental illness. Creating communities that de-stigmatize depression and mental illness and encourage people to seek mental health services when needed can increase the number of people accessing services.[67]

Timely access to appropriate mental health and substance use disorder treatment services as close to home as possible is essential to preventing suicide. Not all behavioral health professions provide or require suicide-specific education for licensure. Yet outpatient and community behavioral health providers often provide services to individuals at risk of suicide and so are in a position to help prevent suicide attempts and deaths. Evidence-based training that strengthens clinical competencies to address suicide risk and ideation can reduce suicide among people receiving behavioral health services. Primary and specialty health care providers also have a role to play in suicide prevention. Appropriate assessment and referral for services are needed in a variety of health care settings. Integrating behavioral health care with primary care can help ensure timely access to appropriate services, especially for patients experiencing mental health disorders. For example, the Community Preventive Services Task Force recommends collaborative care for the management of depressive disorders.[68] Several agencies in Alaska include suicide prevention in their strategic plans (Table 7).

Prioritizing funding for evidence-based suicide prevention practices helps ensure that limited public resources are used to the maximum benefit of communities.

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[65] Casting the Net Upstream: Promoting Wellness to Prevent Suicide. *Alaska Statue Suicide Prevention Plan* FY2012-2017. http://dhss.alaska.gov/SuicidePrevention/Documents/pdfs_sspc/SSPC_2012-2017.pdf Accessed August 19, 2018.

[66] Sundsvall Statement on Supportive Environments for Health. Third International Conference on Health Promotion, Sundsvall, Sweden, 1991. Available at http://www.who.int/healthpromotion/conferences/previous/sundsvall/en/. Accessed August 19, 2018.

[67] Healthy Alaskans 2020. Evidence based strategies: Indicator 7. Reduce Alaskan deaths from suicide. http://hss.state.ak.us/ha2020/assets/EBS/HA2020_EBS7_SuicideDeaths.pdf. Accessed August 19, 2018.

[68] Community Preventive Services Task Force for Use of Collaborative Care for the Management of Depressive Disorders. http://www.thecommunityguide.org/mentalhealth/CollabCare_Recommendation.pdf.

Table 7: Current Agencies With Strategic Plans Addressing Suicide

Agency	Weblink or other resource to agency
Alaska Division of Behavioral Health	http://dhss.alaska.gov/dbh/Pages/default.aspx
Alaska Department of Health and Social Services (Healthy Alaskans 2020)	http://hss.state.ak.us/ha2020/
Alaska Health Care Commission	http://dhss.alaska.gov/ahcc/Pages/default.aspx
Alaska Mental Health Trust Authority	http://mhtrust.org/
Alaska Statewide Suicide Prevention Council (SSPC)	http://dhss.alaska.gov/suicideprevention/Pages/default.aspx

If your agency currently has a strategic plan that includes suicide prevention activities but is not listed here, please contact the State of Alaska Injury Prevention Programs at injuryprevention@alaska.gov or 907-269-2020 to get connected to the appropriate partners.

Current Strategies:

- State, Tribal , and local agencies provide trainings oriented toward suicide prevention (Gatekeeper Training, Applied Suicide Intervention Skills Training (ASIST), SafeTALK, Survivor Voices, Mental Health First Aid, QPR) throughout the state.
    - Recently passed Alaska legislation requires staff and faculty at schools to have two hours of suicide prevention training per year.
    - Since 2010, the University of Alaska's Rural Human Services Program has incorporated the two-day ASIST training as a required part of their curriculum for all participants.
- Collaborative media campaign efforts involving multiple agencies working on suicide prevention to create culturally-appropriate messaging, PSAs and videos about resiliency and suicide prevention.
- Promotion of and advocating for suicide prevention and resiliency needs and efforts at local state and national events, meetings and conferences.
    - Wellness events, community and cultural gatherings.
    - Promotion of crisis and help lines at all events and through paraphernalia distribution.
    - Engaging youth statewide in activities to promote resilience, such as photo contests on reasons for living and community strengths.
    - Designating September as Suicide Prevention Month with weekly activities to be hosted on the Alaska Native Tribal Health Consortium campus.
- Increasing Behavioral Health services around the state.
    - Staffing of social workers at the Alaska Psychiatric Institute and hospitals to work in collaboration with facility staff to identify patients at risk of suicide and provide several months of follow-up care.
    - Adding new facilities allowing patients to receive behavioral health care and counseling in privacy.
    - Increasing the number of trained Behavioral Health staff around the state (Behavioral Health Aides, licensed practitioners).
- Supporting efforts restricting lethal means of suicide.
    - Funding for locking gun safes and medicine cabinets.
    - Training for families with youth on what items should be stored safely, and how to store them.
- Periodically analyzing available suicide data to inform stakeholders on any changes in at-risk population, suicide statistics, and discernable risk factors.

- Implementing the Suicide Prevention Resource Council (SPRC) Zero Suicide Initiative at the Alaska Native Medical Center with monthly leadership meetings to review organizational needs and gaps in services.
- Supporting and implementing the SAMHSA Native Connections grant in seven communities to address communities' needs and project implementation around suicide and substance use prevention for rural youth up to 25 years old.

ASVIPP Objective:

Unify prevention/intervention efforts aimed at reducing suicide in Alaska.

ASVIPP Strategies:

1) Support and enhance HA2020 and *Alaska State Suicide Prevention Plan* identified strategies and action items. http://dhss.alaska.gov/SuicidePrevention/Documents/pdfs_sspc/SSPC_2012-2017.pdf
2) Improve access to existing data and research that support all aspects of injury and violence prevention.
3) Link existing networks and coalitions to other injury and violence efforts in ways that enhance suicide prevention efforts.
4) Educate state and tribal leaders on policies that would support suicide prevention.

ASVIPP Key Indicators:

1) Creation of a data library for suicide surveillance.
2) Development of a suicide surveillance model.
3) Increased number of people trained and available to provide aftercare/postvention best-practices training.
4) Increased number of suicide prevention trainings for frontline staff (e.g. law enforcement, medical staff).

Poisonings

The Centers for Disease Control and Prevention define a poison as any substance, including medication, that is harmful to one's body if too much is eaten, inhaled, injected, or absorbed through the skin. An unintentional poisoning occurs when a person taking or giving too much of a substance did not mean to cause harm.

ASVIPP Goal:

Reduce the number of poisoning hospitalizations and deaths across Alaska.

HA2020 Target:

Indicator 14: Reduce the alcohol-induced mortality rate per 100,000 population.

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Current Data (2014)
Statewide	16.3	15.3	17.8
Alaska Native	61.2	15.3	60.9

Sources: Alaska Health Analytics and Vital Records

Indicator 15a: Reduce the percentage of adults (age 18 years and older) who report binge drinking in the past 30 days based on the following criteria: 5 or more alcoholic drinks for men; 4 or more alcoholic drinks for women on one occasion.

Population	2010 Baseline (per cent)	HA2020 Target (per cent)	Current Data (2014)
Statewide	21.8%	20%	20.2%
Alaska Native	21.8%	20%	21.5%

Data Source: Alaska Behavioral Risk Factor Surveillance System (BRFSS)

Indicator 15b: Reduce the percentage of adolescents (high school students in grades 9-12) who report binge drinking in the past 30 days based on the following criteria: 5 or more alcoholic drinks in a row within a couple of hours, at least once in the past 30 days.

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Current Data (2014)
Statewide	21.7%	17%	12.5%
Alaska Native	19.0	17	11.6

Source: Alaska Youth Risk Behavior Survey (YRBS)

Indicator 16: Reduce unintentional injury* mortality rate of Alaskans from 58.3 to 54.8 per 100,000 by 2020.

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Current Data (2014)
Statewide	58.3	54.8	54.6
Alaska Native	100.4	54.8	110.8

*Poisoning injuries are a subset of unintentional injuries included in HA2020.

Sources: Health Analytics and Vital Records Section (HAVRS)

HA2020 Strategies:

- Form a task force to determine effective approaches to decreasing poisoning deaths and improve data collection.
- Ensure access to a seamless system of care throughout Alaska for assessment, treatment, and aftercare for people with mental health and substance use disorders.
- Promote environmental strategies that change community conditions to reduce problematic alcohol and other drug consumption.

Problem Statement:

Unintentional poisoning deaths are increasing each year in Alaska and throughout the country. Child poisonings from household chemicals and carbon monoxide are among the leading causes of non-fatal injuries requiring hospitalization among 1-4 year olds in Alaska. Prescription opioid- and heroin-related poisonings make up the majority of drug poisoning deaths in the state. Sadly, these opioid-related poisonings are increasing. From 2002 to 2011, illicit or prescription drugs were the cause of 78.2% of poisoning deaths among non-Native residents of Alaska, and 51.4 % among the Alaska Native population. Alcohol was a substantial contributor to poisoning deaths; among Alaska Native people, 41.3% of poisoning fatalities from 2002 to 2011 involved alcohol, compared to less than 7% for the nation as a whole.[69]

Risk & Protective Factors:

To effectively prevent substance misuse and subsequent poisoning, it is important to understand the nature of the problem. Assessing the risk and protective factors that contribute to substance misuse and poisonings helps practitioners select appropriate interventions. Many factors influence a person's chance of experiencing a poisoning. Effective prevention focuses on reducing those risk factors and strengthening protective factors that are most closely related to substance misuse and poisoning.

Social availability of substances,[70,71] retail access to substances,[72,73] and peer approval of substance use are common risk factors that contribute to substance misuse and poisonings.[74,75] Perception of harm,[63,76,77,78] access to evidence-based substance use disorder treatment, first responder and layperson access to Narcan (naloxone), mandatory use of

[69] CDC's Web-based Injury Statistics Query and Reporting System (WISQARS). (2017). https://www.cdc.gov/injury/wisqars/index.html. Accessed August 19, 2018.
[70] Collins, Abadi, Johnson, Shamblen, & Thompson. (2011). Non-medical use of prescription drugs among youth in an Appalachian population: Prevalence, predictors, and implications for prevention. Journal of Drug Education, 41(3), 309– 326.
[71] McCabe, S. E., Cranford, J. A., Boyd, C. J., & Teter, C. J. (2007). Motives, diversion and routes of administration associated with nonmedical use of prescription opioids. Addictive Behaviors, 32(3), 562–575.
[72] Garg, R. K., Fulton-Kehoe, D., Turner, J. A., Bauer, A. M., Wickizer, T., Sullivan, M. D., & Franklin, G. M. (2013). Changes in opioid prescribing for Washington workers' compensation claimants after implementation of an opioid dosing guideline for chronic noncancer pain: 2004 to 2010. The Journal of Pain, 14 (12), 1620-1628.
[73] Cochella, S., & Bateman, K. (2011). Provider detailing: An intervention to decrease prescription opioid deaths in Utah. Pain Medicine, 12(Suppl 2), S73–S76.
[74] Sung, H.-E., Richter, L., Vaughan, R., Johnson, P. B., & Thom, B. (2005). Nonmedical use of prescription opioids among teenagers in the United States: Trends and correlates. The Journal Of Adolescent Health: Official Publication Of The Society For Adolescent Medicine, 37(1), 44-51.
[75] Ford, J. A. (2009). Nonmedical prescription drug use among adolescents. Youth & Society, 40(3), 336–352.
[76] Ford, J. A., & Rigg, K. K. (2015). Racial/ethnic differences in factors that place adolescents at risk for prescription opioid misuse. Prevention Science: The Official Journal of the Society for Prevention Research, 16(5), 633–641.
[77] Cochella, S., & Bateman, K. (2011). Provider detailing: An intervention to decrease prescription opioid deaths in Utah. Pain Medicine, 12(Suppl 2), S73–S76.
[78] Henry, K. L., Slater, M. D., & Oetting, E. R. (2005). Alcohol use in early adolescence: The effect of changes in risk taking, perceived harm and friends' alcohol use. Journal of Studies on Alcohol, 66(2), 275-283.

Prescription Drug Monitoring Programs,[79,80,81,82] and having robust Narcan access laws and Good Samaritan laws[83] are key protective factors that reduce substance misuse and poisonings. Exposure to carbon monoxide in an enclosed building puts occupants at risk of poisoning from this noxious gas. In households with small children, access to household cleaners increases the risk of poisoning through ingestion.

[79] Wang, J. and Christo, P.J., The influence of prescription monitoring programs on chronic pain management. *Pain Physician*. (2009) 12:507-515.
[80] Morgan, L., Weaver, M., Sayeed, Z., Orr, R. The use of prescription monitoring programs to reduce opioid diversion and improve patient safety. *Journal of Pain & Palliative Care Pharmacology*, 2012, doi:10.3109/15360288.2012.738288 http://informahealthcare.com/doi/abs/10.3109/15360288.2012.738288. Accessed August 19, 2018.
[81] Worley, J. Prescription drug monitoring programs, a response to doctor shopping: purpose, effectiveness, and directions for future research. Issues in *Mental Health Nursing*, 2012, 33:319-328. http://www.ncbi.nlm.nih.gov/pubmed/22545639. Accessed August 19, 2018.
[82] Clark, T., Eadie, J., Knue, P., Kreiner, P., Strickler, G. Prescription drug monitoring programs: an assessment of the evidence for best practices. *PDMP Center of Excellence*. (2012)
[83] Rees DI, Sabia JJ, Argys LM, Latshaw J, Dave D. With a Little Help from My Friends: The Effects of Naloxone Access and Good Samaritan Laws on Opioid-Related Deaths. National Bureau of Economic Research 2017 Feb; Working Paper No. 23171. DOI: 10.3386/w23171.

Table 8: Current Agencies With Strategic Plans Addressing Poisoning

Agency	Weblink or other resource to agency
Alaska Division of Behavioral Health	http://dhss.alaska.gov/dbh/Pages/Prevention/programs/asap/default.aspx
Alaska Department of Heath & Social Services Office of Substance Misuse and Addiction Prevention (OSMAP)	http://www.dhss.alaska.gov/osmap/Pages/default.aspx
Alaska Division of Public Health	http://dhss.alaska.gov/dph/Director/Documents/DPH_StrategicPlan_1pager.pdf http://dhss.alaska.gov/dph/wcfh/Pages/titlev/NeedsAssessment.aspx http://dhss.alaska.gov/dph/Epi/Documents/01-Internal/injury/sa/SubstanceAbuseEpiProfile_2013.pdf
Alaska Early Childhood Coordinating Council	http://dhss.alaska.gov/Commissioner/Pages/aeccc/default.aspx
Alaska Highway Safety Office	http://dot.alaska.gov/stwdplng/hwysafety/index.shtml
Alaska Mental Health Trust Authority	http://mhtrust.org/focus/substance-abuse-prevention-treatment/
Alaska Native Tribal Health Consortium Injury Prevention	https://anthc.org/what-we-do/wellness/injuryprevention/
Alaska Opioid Policy Task Force	http://dhss.alaska.gov/AKOpioidTaskForce/Pages/default.aspx
Alaska Statewide Suicide Prevention Council	http://dhss.alaska.gov/suicideprevention/Pages/default.aspx

If your agency currently has a strategic plan that includes poisoning prevention activities but is not listed here, please contact the State of Alaska Injury Prevention Programs at injuryprevention@alaska.gov or 907-269-2020 to get connected to the appropriate partners.

What Works: Evidence-Based Strategies:

Poisoning prevention strategies vary by type of poisoning, age group, evidence base, and intent. For these reasons, an all-inclusive package of effective, evidence-based interventions to prevent poisonings does not exist. For some types of emerging poisonings, such as opioids, the evidence base is growing but is not yet robust. Generally, reducing access to potentially poisonous substances, raising awareness about their potential harm, and increasing access to reversal medications are effective strategies to prevent or reduce poisonings. For some poisons, proper and prompt disposal of expired or unnecessary poisonous substances, especially medications, is an effective component of a poisoning prevention program.

Current Strategies:

Currently, the State of Alaska has several resources to address poisonings in the state. The State manages the Alaska Poison Control System (APCS), which uses the Oregon Poison Control Center to provide 24-hour health care information and treatment resources related to poisonings. Additionally, the State has increased its resources for preventing and reducing opioid poisonings and continues to seek other opportunities.

The CDC-funded Data-Driven Prevention Initiative is working to advance state-level prevention for opioid misuse, abuse, and overdose by improving surveillance, creating a statewide opioids strategic plan, enhancing the Alaska Prescription Drug Monitoring Program (PDMP), conducting a policy analysis, and building public education campaigns to improve public and provider knowledge, attitudes, and beliefs. A new requirement of the PDMP in Alaska is instructing prescribing doctors and pharmacies to track and report which patients are prescribed opioids, how many pills are prescribed, and how often

those prescriptions are filled. Each prescribing doctor is required to look up each patient in the PDMP database to determine if that patient has similar current prescriptions from other doctors ("doctor shopping") and is provided a report that shows how many opioid prescriptions that doctor generates compared to others in the same area.

The SAMHSA-funded Partnerships for Success (PFS) grant is partnering with community coalitions to reduce the social availability of prescription opioids, promote judicious prescribing and dispensing of controlled substances, and increasing the perception of harm for misusing prescription opioids and using heroin.

The SAMHSA-funded Project HOPE grant allows for the State to purchase and distribute Narcan, the opioid overdose reversal drug, to first responders and laypersons alike, as well as to distribute drug disposal bags in Alaska communities.

Additionally, the SAMHSA-funded Medication-Assisted Treatment (MAT) Expansion grant provides much-needed funding to expand substance use disorder treatment services for persons with opioid use disorder.

Collaborative media campaign efforts involving multiple agencies have focused on poisoning prevention to create culturally-appropriate messaging, PSAs and videos about different types of poisons, risks, and resources. Efforts to restrict access to poisons have included safe storage programs (providing locking medicine cabinets and training families with youth on what other items are poisons and should be stored safely, and how to store them) and proper disposal. Agencies around the state promote proper disposal of unused medications. Behavioral health programs provide mail-in envelopes for discarding medication to clinics in remote communities to simplify disposal where there are limited trash collection facilities. Turn-in locations are widely advertised by public health agencies in the state during National Drug Take-Back events.

Public health epidemiologists in Alaska periodically analyze available poisoning data to identify at-risk populations, types of poisons used, and discernable risk factors. These data are used to inform stakeholders of changes in the characteristics of poisoning injuries, to provide a possible evaluation of prevention efforts, and to provide information for those seeking grants for poisoning prevention.

ASVIPP Objective:

Unify prevention/intervention efforts aimed at unintentional poisoning in Alaska.

ASVIPP Strategies:

- Support and enhance HA2020 identified strategies and action items.
- Enhance poisoning surveillance, data use, and coordination in Alaska.
- Encourage statewide/regional/local groups to coordinate and align their efforts among various poisoning prevention plans/activities.
- Create helpful resources/clearinghouse for information.

ASVIPP Key Indicators:

- Create toolkit addressing FACQs (Frequently Asked Community Questions).
- Development of the Statewide Opioid Misuse, Addiction and Overdose Prevention Strategic Plan with participation of ASVIPP members.
- Improve statewide poisoning/overdose prevention data collection/surveillance by adding additional or improving substance-related questions to existing surveillance systems (e.g. BRFSS, YRBS).
- Improve accessibility of data and information related to poisoning/overdose to the general public.

Transportation

Transportation is a leading cause of injury and death both in Alaska and nationally. It encompasses the act of getting from one location to another. Transportation-related injuries include those suffered on and off roadways and with motorized and non-motorized modes of transportation. Motorized transportation includes not only cars and trucks, but also all-terrain vehicles (ATVs), snow machines, and boats. Non-motorized transportation includes pedestrians, bicyclists and skateboarders. In Alaska, there are special considerations for transportation-related injuries.

ASVIPP Goal:

Reduce the number of injuries and fatalities from transportation-related incidents in Alaska.

HA2020 Target:

Reduce Alaskan deaths from unintentional injury.

Indicator 16: Reduce the unintentional injury* mortality rate to 54.8 per 100,000 population.

Population	2010 Baseline (per 100,000)	HA2020 Target (per 100,000)	Current Data (2014)
Statewide	58.3	54.8	54.6
Alaska Native	100.4	54.8	110.8

*Transportation injuries are a subset of unintentional injuries included in HA 2020.

Data Sources: Alaka Health Analytics and Vital Records Section (HAVRS)

HA2020 Strategies:

Indicator 16 Strategy: Implement innovative and existing strategies to reduce deaths related to transportation and improve data collection, which will promote better-informed practices and measures of success. Transportation deaths include those involving traditional motor vehicles (e.g. cars, trucks, SUVs) as well as boat, planes, pedestrians, bicyclists, motorcyclists, ATVs, and snow machines.

- HA2020 Indicator Action Steps:
    a. Conduct studies to gather baseline data to determine whether interventions are successful, including helmet use for bicycles, ATV's and snow machines; and PFD use on boats. Also work to gather exposure data (e.g., weather and water) as well as incidence data.
    b. Implement strategies in the *Strategic Highway Safety Plan* to reduce deaths associated with motor vehicles, pedestrians, bicyclists, motorcyclists and ATVs and snow machines used on roads: http://www.dot.alaska.gov/stwdplng/shsp/shsp_plan.shtml.
    c. Implement strategies in the *Alaska Marine Safety Education Association's AMSEA's Strategic Plan* to reduce water-related fatalities and injuries.

Other HA2020 suggested strategies:

- Link Alaska Trauma Registry with Alaska Department of Transportation crash data.
- Develop and implement methods to gather all rural transportation crash and injury data.
- Establish surveillance for safety gear use to use as baseline and to establish performance measures post intervention.

- Improve counts of user population for bicyclists and off highway vehicles, including ATV and snow machines, to better approximate risk associated with exposure.
- Analyze data and use findings to allocate resources, prioritize implementation efforts, and evaluate success.

Problem Statement:

Transportation-related injuries and deaths are a significant health problem in Alaska. In Alaska, transportation-related injuries and deaths have long been ranked the 2nd and 3rd leading cause of injury fatalities[84] and nonfatal injuries.[85] From 2011-2015, there were 4,692 people hospitalized in Alaska for transportation-related injuries.[86] Of those, 10%[87] involved a snow machines[88] and 18%[89] involved off-road vehicles.[90] Additionally, 12%[91] involved bicyclists.[92] During that time frame, 8%[93] of those injured were pedestrians.[94]

As reported in the Fatality Analysis Reporting System (FARS), in 2015 the rate of roadway transportation-related fatalities in Alaska was 8.8 per 100,000.[95] From 2011- 2015, there were 294 roadway fatal crashes, for an average of 58.8 per year.[92] In 2016, there were 84 roadway traffic crash fatalities.[96] The Alaska Department of Transportation (DOT) also tracks serious injuries resulting from traffic crashes. From 2009-2013 there were 2,044 serious injuries, counted by police crash reports, for an average of 408 per year.[97] The determination of whether an injury is "serious" is made at the discretion of the police officer.

In more rural parts of Alaska many communities have little or no built roads, and ATVs and snow machines are the dominant modes of transportation. Travel between communities is done over trails, some well-defined and marked, others less established, or in the winter on ice roads over frozen rivers. Changes in climate have increased risks of falling through rivers and lake ice roads, especially in early and late winter. Incomplete or deteriorating trail markings can lead to a lost traveler experiencing hypothermia or frostbite.

[84] Romig, A. (2016). 10 leading causes of fatal injuries in Alaska by age group 2011-2015. DHSS, DPH, Section of Emergency Programs, Alaska Trauma Registry, Alaska Bureau of Vital Statistics.
[85] Romig, A. (2016). 10 leading causes of non-fatal hospitalized injuries Alaska residents 2011-2015. State of Alaska, DHSS, DPH, Section of Emergency Programs, Alaska Trauma Registry.
[86] ICD E Codes 800-829.
[87] n=479
[88] ICD Code 820
[89] n=866
[90] ICD E Code 821
[91] n=553
[92] ICD E Codes 826, 812.6, 813.6, 814.6, 816.6, 818.6, 821.6, 822.6, 824.6, and 825.6
[93] n=384
[94] ICD Codes 812.7, 813.7, 814.7, 816.7, 818.7, 819.7, 821.7, 822.7, 823.7, and 825.7.
[95] Alaska Highway Safety Office. (2016, December 19). Fatality Analysis Reporting System. Retrieved April 21, 2017, from Alaska Department of Transportation and Public Facilities, Alaska Highway Safety Office: http://dot.alaska.gov/stwdplng/hwysafety/assets/pdf/2016_All_Fatals_by_Roadway.pdf. Accesed August 19, 2018.
[96] Alaska Highway Safety Office. (2016, September 9). Fatal Crash Data. Retrieved April 21, 2017, from Alaska Department of Transportation and Public Facilities: Alaska Highway Safety Office: http://dot.alaska.gov/stwdplng/hwysafety/data.shtml
[97] The Department of Transportation and Public Facilities, Alaska Highway Safety Office. (2016, July 1). Alaska Highway Safety Plan, Federal Fiscal Year 2017. Retrieved April 21, 2017, from National Highway Transportation Safety Administration: https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ak_fy17hsp.pdf. Accessed August 19, 2018.

Risk Factors & Protective Factors:

Risk Factors

- Driving under the influence[98]
- Inexperienced drivers[99]
- Extreme weather: ice, ice highways, climate change
- Poor lighting or marking on motorways and trails
- Driver behavior: aggressive, distracted, speeding[100]
- Exceeding maximum passenger capacity
- Fatigued drivers[101]
- Not using safety gear[102]
- Feelings of invincibility[103]

Protective Factors

- Good behavioral norms: seat belt use, non-distracted driving, sober driving, norms for safety gear use[104]
- No cellphone use while driving[105]
- Community connectedness: Communities adopting *Complete Streets*[106] policies
- Safe environment: transportation facilities designed and maintained for the safety of all users and vehicle types
- Graduated Driver's Licensing Laws[107]
- Restrictions on cellphone use while driving[108]
- Resiliency
- Pro-social peers[109]
- Low propensity for risk-taking[110]
- Mental wellbeing[111]
- Well-lit motorways and trails
- Self control/ self regulation[112]
- Experiencing a real life crash or exposure to well crafted video depicting crash consequences[113]

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[98] Savage, S. (2015). Alaska young driver safety: Distracted driving, seatbelt use and drinking and driving. (Master's Thesis UAA).
[99] Savage, S. (2015). Alaska young driver safety: Distracted driving, seatbelt use and drinking and driving. (Master's Thesis UAA).
[100] Savage, S. (2015). Alaska young driver safety: Distracted driving, seatbelt use and drinking and driving. (Master's Thesis UAA).
[101] Cummings, P., Koepsell, T., (2001). Drowsiness, countermeasures to drowsiness, and the risk of a motor vehicle crash. *Injury Prevention.* 7:194-9.
[102] Reisner, S.L., Van Wagenen, A., Gordon, A., & Calzo, J. P., (2013). Disparities in safety belt use by sexual orientation identity among US high school students. *American Journal of Public Health.* 104(2).
[103] Adeola, R. Gibbons, M. (2013). Get the message: Distracted driving and teens. *Journal of Trauma Nursing: The Official Journal of the Society of Trauma Nurses,* 20(3), 146.
[104] Juarez, P., Schlundt, D., Goldzweig, I., Stinson, N., (2006). *Injury Prevention*. 12(suppl1): i49-i55
[105] Distraction.gov. (2012, June). Blueprint for ending distracted driving. Washington, DC: National Highway Traffic Safety Administration.
[106] Smart Growth America. Complete Streets Program. https://smartgrowthamerica.org/program/national-complete-streets-coalition/what-are-complete-streets/. Accessed August 19, 2018.
[107] Simons-Morton, B., Ehasni, J., Gershon, P., Klauer, S., Dingus, T. (2017) Teen driving risk and prevention: Naturalistic driving research contributions and challenges. *Safety.* 3, 29.
[108] www.distraction.gov
[109] Juarez, P., Schlundt, D., Goldzweig, I., Stinson, N., (2006). *Injury Prevention*. 12(suppl1): i49-i55
[110] Juarez, P., Schlundt, D., Goldzweig, I., Stinson, N., (2006). *Injury Prevention*. 12(suppl1): i49-i55
[111] Dula, C., Geller, E., (2003). Risky, aggressive, or emotional driving: addressing the need for consistent communication in research. *Journal of Safety Research*. 34:559-66.
[112] Berg, H-Y. (2006). Reducing crashes among young drivers: what kind of prevention should we be focusing on? *Injury Prevention*. June, 12(Suppl 1): i15-i18.
[113] Howell, M., Ekman, D., Almond, A. Bolls, P. (2018). Switched on: How the timing of aversive content in traffic safety videos impacts psychophysiological indicators of message processing. *Health Communication*, DOI 10.1080/10410236.2018.1517706.

Table 9: Current Agencies With Strategic Plans Addressing Transportation Safety

Agency	Weblink or other resource to agency
Alaska Highway Safety Office/Alaska Department of Transportation	http://dot.alaska.gov/stwdplng/hwysafety/index.shtml
Alaska Highway Safety Office/National Highway Traffic Safety Administration	https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/ak_fy16hsp.pdf
Alaska State Troopers/Alaska Department of Public Safety	http://www.dps.state.ak.us/Ast/ABHP/Default.aspx
Center for Safe Alaskans	https://safealaskans.org/
Alaska Division of Motor Vehicles	http://doa.alaska.gov/dmv/
Alaska State Trails Program	http://dnr.alaska.gov/parks/aktrails/
National Park Service Alaska	https://www.nps.gov/kefj/planyourvisit/snowmachine-safety.htm
Alaska Department of Public Safety	http://www.dps.state.ak.us/pio/releases/resources/Brochures/ATV%20Driver%27s%20Guide.pdf
Alaska Division of Public Health	http://dhss.alaska.gov/dph/Chronic/Pages/InjuryPrevention/HelmetSafety/atv/default.aspx

If your agency currently has a strategic plan that includes transportation prevention activities but is not listed here, please contact the State of Alaska Injury Prevention Programs at injuryprevention@alaska.gov or 907-269-2020 to get connected to the appropriate partners.

What Works: Evidence-Based Strategies:

- Best Practices for Teen Safe Driving in Alaska: http://alaskainjurypreventioncenter.org/wp-content/uploads/2016/10/Teen-Driving-Resource.Guide_v2.pdf
- CDC's Community Guide: https://www.thecommunityguide.org/search/transportation#topic=7615&page=1Lists
- National Highway Transportation Safety Administration's Countermeasures that Work: https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/812202-countermeasuresthatwork8th.pdf
- Strategies to Support Safe Teen Driving in Alaska: https://safealaskans.org/wp-content/uploads/2018/05/Teen-Driving-Resource-Guide.pdf

Current Strategies:

Transportation strategies primarily revolve around data linkage (to create detailed descriptions of how transportation injuries occur), decreasing impaired driving and improving occupant protection behaviors. Below are examples of currently funded initiatives through the Alaska Highway Safety Office. In addition to the strategies below, there are efforts to improve pedestrian and bicyclist safety on the local level in many communities, both urban and rural. There are also rural transportation safety initiatives involving safe trails between communities, landfilling to improve roadways, dust control on rural roadways to improve visibility, and helmet use campaigns, among other efforts.

Traffic Records and Trauma Registry data linkage

- Develop a Data Integration Master Plan as a component of the Alaska Traffic Records Strategic Plan
  - Identify and prioritize data integration opportunities for the State
  - Identify stakeholders and custodians for proposed linked datasets

- Identify key date fields which should exist to facilitate linking traffic records information
- Review and adopt state and national standards, best practices, and technologies that support seamless, secure, and efficient linkage of traffic records data between Alaska's traffic records data systems
- Support traffic records projects that implement state and national standards to improve interoperability, reusability, consistency, and other efficiencies in the sharing of traffic record data http://www.dot.state.ak.us/highwaysafety/trafficrecords_comm.shtml.

Impaired Driving Prevention

- **Strategy 1**: Strengthen leadership and participation to enhance impaired driving improvements.
  - Build partnerships designed to reduce impaired driving. Enhance enforcement in safety corridors.
  - Effectively integrate traffic enforcement with other enforcement activities at agencies, i.e., Data Driven Approaches to Crime and Traffic Safety.
- **Strategy 2**: Prevent excessive drinking, underage drinking, and impaired driving.
  - Continue mandatory alcohol server training.
  - Conduct well publicized compliance checks of alcohol retailers to reduce sales to underage persons. Improve understanding of impaired driving among youth and implement outreach programs.
  - Improve and enhance the effectiveness of Alaska's Ignition Interlock (IID) program through an effective and consistent policy and oversight.
- **Strategy 3**: Enhance law enforcement training in alcohol and drug detection.
  - Increase the number of officers trained in standardized DUI/drugged driving detection and apprehension, i.e., Standard Field Sobriety Test (SFST), Drug Recognition Evaluation (DRE), and Advanced Roadside Impaired Driving Enforcement (ARIDE).
  - Develop a Statewide Law Enforcement Liaison (LEL) program.
- **Strategy 4**: Enforce and publicize DUI laws.
  - Continue statewide, high-visibility saturation enforcement and media campaigns to reduce impaired driving.
- **Strategy 5**: Encourage consistent and vigorous DUI prosecution.
  - Educate prosecutors and court system on traffic safety issues specifically impaired driving.
- **Strategy 6**: Use licensing sanctions shown to be effective at reducing recidivism and protecting the public.
  - Suspend driver license administratively upon arrest.
  - Increase penalties for repeat offenders.
- **Strategy 7**: Support impaired driving priority policies and program efforts.
  - Establish a comprehensive communications plan that includes impaired driving initiatives.
- **Strategy 8**: Establish programs to facilitate close monitoring of impaired drivers.
  - Develop a program to increase enforcement of drug impaired driving.
  - Develop and implement a screening, treatment, and rehabilitation program.
- **Strategy 9**: Provide timely, accurate, integrated, and accessible traffic records data.
  - Explore the feasibility of allowing crash and Trauma Registry data to be linked.
- **Strategy 10**: Access to forensic drug toxicology services.
  - Improve toxicology services for impaired driving cases.

Occupant Protection

- **Strategy 1**: Continue high-visibility enforcement (Click It or Ticket) programs and stress occupant protection in all standard enforcement activities.
- **Strategy 2**: Conduct education and awareness efforts to promote the importance and need for occupant protection.
- **Strategy 3**: Continue and expand child passenger safety programs.

- Work with the Injury Prevention Program from the Alaska Native Tribe Health Consortium (ANTHC) to encourage people to use child safety seats and emphasize occupant protection education to families traveling to regional and state hubs.
- Partner and share data from the Trauma Registry on child incidents involving off-highway vehicles operating on public roads with agencies servicing rural Alaska.
- Increase booster seat use through seat checks, consultations and outreach opportunities with special emphasis on Stage 3 use.
- Determine the need for additional child passenger safety technicians or for law enforcement training on child passenger safety.

- **Strategy 4**: Provide data on occupant protection.
  - Identify sources of occupant protection data and make it accessible to stakeholders, i.e., Trauma Registry, crash data, etc.
  - Determine the cost of occupant protection crashes and promote the information through education and outreach efforts.
- **Strategy 5**: Pursue statutory or regulatory changes which encourage occupant restraint use.
  - Explore options to reduce fines or other punishments for child passenger safety violators who take action to properly restrain their children (i.e., receive a certificate for attending a class).
  - Investigate ways to overturn the law that allows passengers to ride on the floorboards of vehicles. https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ak_fy17hsp.pdf

Other Transportation Safety Initiatives:

The Center for Safe Alaskans is involved in teen driving safety and bicycle and pedestrian safety projects. This project uses hands-on and classroom safety skills training, bicycle helmets, technical assistance to community safety events, and broadcasting educational messages to reduce bicycle and pedestrian fatalities and serious injuries. Center for Safe Alaskans develops projects to educate teens about critical safe driving practices, including: seat belt use, the importance of refraining from drinking and driving, inattentive/distracted driving, aggressive driving, and sharing the road with pedestrians and cyclists.

Center for Safe Alaskans also conducts various teen peer-to-peer projects in high schools which promote safe driving. The peer-to- peer intervention is designed to educate teens about the lifesaving importance of seat belts by rewarding drivers and passengers “caught” buckling up. Since its introduction in 2006, teen belt use at participating high schools has increased from 70% to 91%; the highest observed use at one high school was 94%.

Center for Safe Alaskans uses evidence-based communication strategies for reaching teen drivers with safe driving messages focusing on speed, impairment, distraction, and seat belt use. Parents, who have tremendous influence over their teen drivers, are also the focus of this outreach. Ensuring that parents are fully informed about the crash risk for their teen drivers, and how Alaska’s graduated driver licensing program works to address that risk, is essential. Key themes that Center for Safe Alaskans seeks to convey to parents include the importance of significant practice during the learner’s phase, the use of a parent-teen driving agreement, and controlling the keys and staying involved after licensure.

ASVIPP Objective:

Unify efforts aimed at preventing transportation related injuries and promoting transportation safety in Alaska.

ASVIPP Strategies:

- Support and enhance HA2020 identified strategies and action items.
- Link trauma and/or Emergency Medical Services (EMS) data with DOT traffic crash data. http://www.dot.state.ak.us/highwaysafety/trafficrecords_comm.shtml
- Collaboratively seek funding from untapped resources for transportation safety initiatives in Alaska.

ASVIPP Key Indicators:

- Development of the Alaska Highway Safety Office/Department of Transportation's updated *Alaska Highway Safety Plan* with participation of ASVIPP members.
- Development of a plan for rural transportation stakeholders for data collection, analysis of the data, and to design, implement, and evaluate rural transportation safety initiatives.
- Increased leadership readiness to support linking trauma and/or EMS data with traffic crash data.
- Increased funding for transportation safety initiatives.

Appendix A: Shared Protective and Risk Factors for Six ASVIPP Priority Areas

Socio-Ecological Level	Protective Factor	Suicide	Poisoning	Falls	Child Maltreatment	Domestic Violence Sexual Assault	Transportation
Societal	Poison prevention laws and policies: such as good samaritan law, mandatory prescription drug monitoring program, or access to Naloxone	4, 7, 8	7, 4	4	4	4, 7, 8	4
	Strong community infrastructure such as: access to health care, counseling and evidence-based treatment, Home visiting, suicide prevention training, or talking openly about suicide	7, 8	7, 8		8	8	
	Adoption of safe driving policies including Complete Streets and graduated drivers licensing						8, 12
	Positive/healthy social behavioral norms		8				12, 13, 18
		Suicide	**Poisoning**	**Falls**	**CM**	**DV/SA**	**Transportation**
Community/School	Accessible and available mental health and substance use disorder or health care services	1, 4, 7, 8	4, 7	4, 6	1, 4	1, 7, 4	4
	Coordination of resources and services among community agencies, including exercise programs and prescription drug monitoring programs, etc.	1, 7	4, 7, 8	6	1	1	
	Safe supportive connected community	1, 7, 8	7	6	1		13
	Caring school climate	7	7			7	7, 8
	Student participation in extracurricular activities	7					7, 8
		Suicide	**Poisoning**	**Falls**	**CM**	**DV/SA**	**Transportation**
Family/Interpersonal	Family support/connectedness (e.g. caring adult mentors/ connection to a caring adult)	1, 7	7	6	1, 8	1, 7	3, 13
	Positive parenting style	8	7, 8		8	7, 8	3
	Connected/committed to school or community	1, 2, 7	2, 7	6		1, 7, 8	2
	Economic stability			6	4, 8	4	
	Higher parental expectations about school	7	7			7	
	Connection to a caring adult	1				1	
	Association with pro-social peers					1	8, 12, 13

Family/Interpersonal	Parents who use communication and anger management skills with teens	2					2, 14
	Home safety practices: Proper storage and disposal of poisons (including medications) and other lethal means of suicide	8	8				
	Home safety practices: handrails, ramp, no loose rugs, adequate lighting, carbon monoxide detector		8	8			
	Higher parent education		7			7	
		Suicide	**Poisoning**	**Falls**	**CM**	**DV/SA**	**Transportation**
Individual	Resilience	4, 7	4, 7	4, 7	4, 7	4	4, 8
	Social competencies and life skills	7			7		7, 8, 13, 18
	Skills in solving problems nonviolently	1			1	1	
	School achievement	1, 7	7			1, 7	
	Engagement in positive activities		7			7	
	Cultural identity and connection	7	7				
	Positive self-concept	7	7				13
	Positive peer role models		7				7, 8, 13
	Physical strength/ regular activity	8		5, 6			
	Feeling like you matter to community	7		6			
	Religious or spiritual beliefs	7	7				
	Positive personal qualities		7				

Socio-Ecological Level	**Risk Factors**	**Suicide**	**Poisoning**	**Falls**	**Child Maltreatment**	**Domestic Violence/ Sexual Assault**	**Transportation**
Societal	Weak health, educational, economic and social policy laws including mandatory use of safety devices	1			1	1	8
	Harmful norms around masculinity and femininity/gender identity	8			1	1	
	Unsafe media portrayal of violence and suicide	1, 8	7			1, 7	
	Cultural norms that support aggression towards others				1	1	
	Societal income inequity				1	1	

		Suicide	Poisoning	Falls	CM	DV/SA	Transportation
Community/School	Poor neighborhood support and cohesion	1	7	6	1	1, 7	
	High alcohol outlet density/social-retail availability of substances	1	8		1	1	
	Diminished economic opportunities/high unemployment	1	7		1	1, 7	
	Neighborhood poverty	1			1	1	
	Icy roads and sidewalks			8			8, 13
	High density of violence and crime in community				1,8	1	
	Lack of transportation safety factors such as marked trails, roadway lighting, etc.						8, 13
	[Home Environment] Slippery surfaces (indoor and out), stairs and steps (especially if uneven or lacking sturdy handrails), floor clutter or throw rugs, poor lighting, and hard to reach items			11, 12			
		Suicide	**Poisoning**	**Falls**	**CM**	**DV/SA**	**Transportation**
Family/Interpersonal	Economic stress/low socioeconomic status/unemployment	1	7	6	1	1, 7	
	Social isolation/ lack of support	1		6	1	1	
	Poor parent-child relationships	1, 7	7		1	1, 7	
	Associating with high risk taking/delinquent peers, especially those who approve of substance use		7			1	8, 13
	Familial violence including history of suicide	8			1		
	Family conflict/poor family cohesion/poor parent-child relationships				1	1	
		Suicide	**Poisoning**	**Falls**	**CM**	**DV/SA**	**Transportation**
Individual	Substance use/misuse (by caregiver in CM)	1, 8	7, 8	5, 6	1,8	1, 8	8, 13, 14
	Depression/poor mental health	1, 8		5	1, 8	1, 8	17
	Low educational achievement	1			1	1	
	Lack of nonviolent social and problem-solving skills	1			1	1	
	Poor behavioral control/impulsiveness	1			1	1	13, 14, 17
	History of violent victimization	1			1	1	
	Witnessing violence	1, 8			1,8	1, 8	
	Psychological/mental health problems including feelings of hopelessness and purposeless	1, 8			1	1	17
	Early sexual activity	8	7				

	Gang involvement		7			7, 8	
	Low perception of risk of harm and peer approval (substance use)		7, 8				8, 15
	Impaired Vision/ Balance/ Hearing			5			8
	Having been bullied and/or engaging in bullying	1, 8					
	Prior falls			8			
	Changes in memory and mental status (e.g. dementia, Alzheimer's, and other cognitive impairments)			8			
	Poor nutrition and/or medication factors: polypharmacy, dosage			8			
	Unsafe driving including cellphone use, and inexperience						8, 13, 14
	Slowed reflexes, weak muscles or sarcopenia (loss of muscle mass)			9,10			
	Lack of exercise and sleep			9			16

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Appendix B: Alaska Statewide Violence and Injury Prevention Plan Summary

	Healthy Alaskans 2020 Indicator	ASVIPP Objective	ASVIPP Strategies	ASVIPP Indicators
Shared risk and protective factors		Develop a honed list of major risk and protective factors and recommend a short list of high priority related interventions.	1) Support further development of critical common risk and protective factors to inform cross-cutting interventions. 2) Create short list of recommended high priority interventions. 3) Encourage cross-pollination of resources and successful strategies for interventions across various injury and violence topics.	1) Adhoc workgroup formed around goal. 2) Honed list of risk and protective factors created. 3) Honed list of priority interventions. 4) Agreed upon process for collaboratively seeking funding. Programs are complementary to each other and fill gaps of service.
Injury-Related Data		1) Provide easily accessible and coordinated injury data to all partner agencies.	1) Increased integration of the multiple data sources a.) Projects such as the Alaska Longitudinal Child Abuse and Neglect Linkage project (ALCANLink) should be expanded. 2) Develop a Statewide injury data workgroup that systematically identifies data needs/deficiencies and sets a plan to overcome or solve these data issues. 3) Identify mechanisms to allow for/ improve data sharing between the education system and public health. 4) Develop a centralized webpage for injury related data that links to the various indicator reports, score cards, fact sheets, and publications.	1) One stop shop for user friendly data related to priority areas of injury. 2) Data workgroup formed. 3) Mechanisms in place for data sharing between education system and public health. 4) ALCANLink expanded.

Child Maltreatment	1) Reduce the rate of unique substantiated child maltreatment victims (age 0-17 years) in Alaska to 14.4 per 1,000 by 2020.	1) Unify prevention/ intervention efforts aimed at reducing child maltreatment in Alaska.	1) Support and enhance HA2020 identified strategies and action items. 1) Unite and influence systems through the creation of a statewide maltreatment prevention network (example: http://www.cebc4cw.org/). 3) Support the development of more comprehensive data collection regarding maltreatment.	1) Development of a statewide resource network a. Number of unique users of the resource. 2) Increase number of people trained on providing trauma informed services. 3) Increase number of participants completing an evidence-based home visiting program. 4) Increase the number of people trained on Strengthening Families 5 Protective factors 5) Increase the number of comprehensive data reports on maltreatment. a. Increase the number of data reports available on AK-IBIS.
Domestic Violence & Sexual Assault	1) Reduce the rate of rape in Alaska to 67.5 per 100,000 population by 2020. 2) Reduce the percentage of adolescents who were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months from 9.1% (2010) to 8% (2020).	1) Organize and consolidate existing data and research on injury and violence prevention. 2) Link existing networks to other injury and violence prevention efforts in ways that enhance DVSA prevention efforts.	1) Support and enhance HA2020 identified strategies and action items. 2) Improve access to existing data and research to support other forms of injury and violence prevention. 3) Encouraging community groups to coordinate and align their efforts among various injury and violence prevention plans/activities.	1) Development of the one-stop-shop data and research website. a. Increase number of users of data site annually. 2) Increase number of local coalitions that address prevention of multiple violence and injury topics. 3) Increase number of trainings for local coalitions that address prevention of multiple violence and injury topics.
Falls	1) Reduce unintentional injury mortality rate of Alaskans from 58.3 to 54.8 per 100,000 by 2020. 2) Reduce the rate of preventable hospitalizations (hospitalizations that could have been prevented with high quality primary and preventive care) based on the Agency for Healthcare Research and Quality definition to 6.7 per 1,000 by 2020.	1) Align fall prevention and intervention efforts aimed at reducing fall related injury death and preventable hospitalizations for older adults.	1) Support HA2020 identified strategies and action items. 2) Unite systems by restarting and maintaining Alaska statewide fall prevention network. Create falls subcommittee to lead network (state, ANTHC, regional tribal, non-profits). 3) Support the monitoring of a comprehensive data collection system for falls. 4) Encourage cross-pollination of resources and successful strategies across various injury and violence topics.	1) Lead quarterly (at least) fall prevention network calls (e.g. along with existing quarterly IP call). 2) Develop one-stop website for fall-related data and other resources (e.g. state Injury Prevention Program webpage, ANTHC website, etc.). 3) Increase the number of reports on fall-related data.

Suicide	1) Reduce the suicide mortality rate of 15 – 24 year olds to 43.2 per 100,000 by 2020. 2) Reduce the suicide mortality rate of adults 25 years and older to 23.5 per 100,000 by 2020.	1) Unify prevention/ intervention efforts aimed at reducing suicide in Alaska.	1) Support and enhance HA2020 and *Alaska State Suicide Prevention Plan* identified strategies and action items. 2) Improve access to existing data and research that support all aspects of injury and violence prevention. 3) Link existing networks and coalitions to other injury and violence efforts in ways that enhance suicide prevention efforts. 4) Educate state and tribal leaders on policies that would support suicide prevention.	1) Creation of a data library for suicide surveillance. 2) Development of a suicide surveillance model. 3) Increased number of people trained and available to provide aftercare/postvention best-practices training. 4) Increased number of suicide prevention trainings for frontline staff (e.g. law enforcement, medical staff).
Poisonings	**1)** Reduce the alcohol-induced mortality rate per 100,000 population. **2)** Reduce the percentage of adults (age 18 years and older) who report binge drinking in the past 30 days based on the following criteria: 5 or more alcoholic drinks for men; 4 or more alcoholic drinks for women on one occasion. **3)** Reduce the percentage of adolescents (high school students in grades 9-12) who report binge drinking in the past 30 days based on the following criteria: 5 or more alcoholic drinks in a row within a couple of hours, at least once in the past 30 days. **4)** Reduce unintentional injury mortality rate of Alaskans from 58.3 to 54.8 per 100,000 by 2020.	1) Unify prevention/intervention efforts aimed at unintentional poisoning in Alaska.	1) Support and enhance HA2020 identified strategies and action items. 2) Enhance poisoning surveillance, data use, and coordination in Alaska. 3) Encourage statewide/regional/local groups to coordinate and align their efforts among various poisoning prevention plans/activities. 4) Create helpful resources/ clearinghouse for information.	1) Create toolkit addressing FACQs (Frequently Asked Community Questions). 2) Development of the Statewide Opioid Misuse, Addiction and Overdose Prevention Strategic Plan with participation of ASVIPP members. 3) Improve statewide poisoning/overdose prevention data collection/surveillance by adding additional or improving substance-related questions to existing surveillance systems (e.g. BRFSS, YRBS). 4) Improve accessibility of data and information related to poisoning/overdose to the general public.

Transportation	1) Reduce unintentional injury mortality rate of Alaskans from 58.3 to 54.8 per 100,000 by 2020.	1) Unify efforts aimed at preventing transportation related injuries and promoting transportation safety in Alaska.	**1)** Support and enhance HA2020 identified strategies and action items. **2)** Link trauma and/or EMS data with DOT traffic crash data. **3)** Collaboratively seek funding from untapped resources for transportation safety initiatives in Alaska.	1) Development of the Alaska Highway Safety Office/Department of Transportation's updated Alaska Highway Safety Plan with participation of ASVIPP members. 2) Development of a plan for rural transportation stakeholders for data collection, analysis of the data, and to design, implement and evaluate rural transportation safety initiatives. 3) Increased leadership readiness to support linking trauma and/or EMS data with traffic crash data. 4) Increased funding for transportation safety initiatives.

Appendix C: Description of Behavioral Health Regions

Alaska BRFSS Health Profiles Geography: Behavioral Health Systems Regions

In order to facilitate a behavioral health systems assessment, Alaska is divided into 11 reporting regions. Each of the regions contains at least 20,000 individuals and is in compliance with HIPAA Privacy Rule for public dissemination of number of individuals who received behavioral health services.

Behavioral Health Systems Regions
Census Areas/Boroughs included in Region

Anchorage Municipality
- Anchorage Municipality (02020)

Fairbanks North Star Borough
- Fairbanks North Star Borough (02090)

City and Borough of Juneau
- City and Borough of Juneau (02110)

Kenai Peninsula Borough
- Kenai Peninsula Borough (02122)

Matanuska-Susitna Borough
- Matanuska-Susitna Borough (02170)

Northwest Region
- Nome Census Area (02180)
- North Slope Borough (02185)
- Northwest Arctic Borough (02188)

Other Interior Region
- Denali Borough (02068)
- Southeast Fairbanks Census Area (02240)
- Valdez-Cordova Census Area (02261)
- Yukon-Koyukuk Census Area (02290)

Other Southeast Region - Northern
- Haines Borough (02100)
- Hoonah-Angoon Census Area (02105)
- Petersburg Borough (02195)
- Sitka City and Borough (02220)
- Skagway Municipality (02230)
- Wrangell City and Borough (02275)
- Yakutat City and Borough (02282)

Other Southeast Region - Southern
- Ketchikan Gateway Borough (02130)
- Prince of Wales-Hyder Census Area (02198)

Y-K Delta Region
- Bethel Census Area (02050)
- Kusilvak Census Area (02158)

Southwest Region
- Aleutians East Borough (02013)
- Aleutians West Census Area (02016)
- Bristol Bay Borough (02060)
- Dillingham Census Area (02070)
- Kodiak Island Borough (02150)
- Lake and Peninsula Borough (02164)

DHSS Division of Public Health, Informed Alaskans, 2017: http://dhss.alaska.gov/dph/InfoCenter/Pages/ia/brfss/geo_bhs.aspx