HB

138

<TARGET><BILL>HB 138</BILL><SUBJECT>HB
138</SUBJECT><COMM>SHSS30</COMM></TARGET>

Representative Ivy Spohnholz

House Health & Social Services Committee Chair
House District 16: College Gate, Russian Jack, Nunaka Valley, Reflection Lake & Wonder Park
Committee Member: Education, Energy, Military & Veterans Affairs, Legislative Budget & Audit

Sponsor Statement

House Bill 138

"An act establishing the month of March as Sobriety Awareness Month."

HB 138 recognizes March as Sobriety Awareness Month in the State of Alaska. Sobriety Awareness Month celebrates the many Alaskans who practice a lifestyle without the use of mood or mind-altering substances. It also acts as an opportunity for schools, community groups, public and private agencies, and individuals to commemorate those who live a sober lifestyle and to raise awareness for the treatment and prevention of alcoholism, drug abuse, and misuse of other substances.

Sobriety is a hard but positive choice that deserves to be celebrated around the state. HB 138 gives Alaskans the opportunity to gather and celebrate those who lead a healthy, positive and sober lifestyle.

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Representative Dean Westlake

Alaska State Legislature | District 40

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· Resources Committee, Vice Chair
· Community and Regional Affairs Committee
· Special Committee on Energy

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Alakaket · Alatna · Bettles · Deering · Evansville · Coldfoot · Hughes · Wiseman

Sponsor Statement

HB 138 March: Sobriety Awareness Month

House Bill 138 seeks to have the State of Alaska recognize March as Sobriety Awareness Month. The purpose of Sobriety Awareness Month is to call attention to Alaska's aggregate population of citizens, who practice a positive and healthy non-consumer lifestyle of any mood/mind altering substances. Sobriety Awareness Month is an opportunity for schools, community groups, and other public and private agencies and individuals to recognize, appreciate, and celebrate the existence of all Alaska's citizenry, who by virtue of their freely chosen lifestyle, serve as Living-Examples-To-The-Truth (LETTT) that life can be lived and enjoyed without having to consume mood/mind altering substances.

Individuals that lead a sober life are an asset to Alaska in that they can help reduce the incidence of alcohol or drug related social ills such as crime, domestic violence, and child abuse & neglect.

Please join me in support of recognizing this valuable group of Alaskans and their lifestyle.

For any questions on HB 138, please contact my staff Forrest Wolfe at 465.6835 or forrest.wolfe@akleg.gov

Representative Ivy Spohnholz

House Health & Social Services Committee Chair

House District 16: College Gate, Russian Jack, Nunaka Valley, Reflection Lake & Wonder Park
Committee Member: Education, Energy, Military & Veterans Affairs, Legislative Budget & Audit

HB 138: Sobriety Awareness Month
Invited Testifiers

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HB 138: Sobriety Awareness Month

What does HB 138 do?

- HB 138 permanently designates March as Sobriety Awareness Month in Alaska, providing the opportunity for Alaskans to celebrate and promote sobriety through related activities and celebrations.

What's the history behind Sobriety Awareness Month?

- Sobriety Awareness Month started with the Alaska Federation of Natives (AFN) Sobriety Movement, and in 1995 the Alaska Legislature designated the first Sobriety Awareness Month by passing a resolution that year. Sobriety Awareness Month continued from 1995 until 2006 with separate Governor's proclamations.
- In 1996, the Alaska Legislature unanimously passed HB 523 to amend the Uniform Alcoholism & Treatment Act (A.S. 47.37.010) to say that "it is the policy of the state to recognize, appreciate and reinforce the example set by its citizens who lead, believe in, and support a life of sobriety." Sobriety Awareness Month fulfilled the purpose of this amendment while focusing on sobriety as a positive "solution" to the "problem" of substance abuse in Alaska.
- In 1992, Aniak musher and sobriety activist Mike Williams carried the signatures of individuals who pledged a life of sobriety while in the Iditarod Trail Sled Dog Race. The event, now known as the "Iditapledge for Sobriety", took place in March and is why March was designated Sobriety Awareness Month.

Why is Sobriety important to Alaska?

- Alcohol and substance abuse has negative impacts on Alaskans every year:
  - According to a McDowell report, the estimated cost of alcohol and drug abuse to the Alaska economy totaled over $3 billion in 2015.

How can Sobriety Awareness Month help?

- Sobriety Awareness Month gives Alaskans the opportunity to recognize and promote sobriety. By focusing on the "solution" of sobriety, HB 138 gives Alaskans the opportunity to celebrate the change sobriety has had on their lives.

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Representative Ivy Spohnholz

House Health & Social Services Committee Chair
Serving District 16: College Gate, Russian Jack, Nunaka Valley, Reflection Lake & Wonder Park
Committee Member: Education, Energy, Military & Veterans Affairs, Legislative Budget & Audit

Sectional Analysis

House Bill 138
Sobriety Awareness Month

"An Act establishing the month of March as Sobriety Awareness Month."

Section 1. Uncodified Law. states that the State of Alaska recognizes the importance of sobriety in Alaskan lives.

Section 2. AS 44.12.150. adds a new section of statute designating March of every year as Sobriety Awareness Month, where schools, community groups, public and private agencies, and individuals can celebrate with activities related to sobriety.

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Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: HB 138
Fiscal Note Number:
() Publish Date:

Identifier: HB138-DHSS-BHA-3-3-17
Title: MARCH: SOBRIETY AWARENESS MONTH
Sponsor: WESTLAKE
Requester: (H) Health and Social Services

Department: Department of Health and Social Services
Appropriation: Behavioral Health
Allocation: Behavioral Health Administration
OMB Component Number: 2665

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? No
If yes, by what date are the regulations to be adopted, amended or repealed? N/A

Why this fiscal note differs from previous version:

Not applicable; initial version.

Prepared By: Randall Burns, Director — Phone: (907)269-5948
Division: Behavioral Health — Date: 03/03/2017 12:00 PM
Approved By: Shawnda O'Brien, Asst. Commissioner — Date: 03/03/17
Agency: Health and Social Services

FISCAL NOTE ANALYSIS

STATE OF ALASKA **BILL NO.** HB 138
2017 LEGISLATIVE SESSION

Analysis

HB 138, Version D, establishes the month of March as Sobriety Awareness Month in AS. 44.12 by adding a new section, that being AS 44.12.150. Establishing the month in statute allows for permanency of the designation, providing opportunities for the public and private sectors to reliably engage in activities to raise citizen awareness of the importance of sobriety and the sobriety movement.

The bill does not impact the department's programs or budget, therefore a zero fiscal note is submitted.

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: HJR 19
Fiscal Note Number:
() Publish Date:

Identifier: HJR19-LEG-SESS-04-10-17
Title: ARCTIC MARINE SAFETY AGREEMENTS
Sponsor: WESTLAKE
Requester: HSE ARCTIC POLICY, ECON DEVELOP & TOURISM

Department:
Appropriation:
Allocation:
OMB Component Number: 0

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency?
If yes, by what date are the regulations to be adopted, amended or repealed?

Why this fiscal note differs from previous version:

N/A INITIAL VERSION. ONE PAGE. ZERO NOTE.

Prepared By: JESSICA GEARY, FINANCE MANAGER Phone: (907)465-6626
Division: LEGISLATIVE AFFAIRS AGENCY Date: 04/10/2017 11:41 AM
Approved By: PAM VARNI, EXECUTIVE DIRECTOR Date: 04/10/2017
Agency: LEGISLATIVE AFFAIRS AGENCY

Chapter 47.37 UNIFORM ALCOHOLISM AND INTOXICATION TREATMENT ACT

Sec. 47.37.010. Declaration of policy.

It is the policy of the state to recognize, appreciate, and reinforce the example set by its citizens who lead, believe in, and support a life of sobriety. It is also the policy of the state that alcoholics and intoxicated persons should not be criminally prosecuted for their consumption of alcoholic beverages and that they should be afforded a continuum of treatment that can introduce them to, and help them learn, new life skills and social skills that would be useful to them in attaining and maintaining normal lives as productive members of society.

LEGISLATIVE RESEARCH SERVICES

30th Alaska Legislature
LRS Report 18.154
March 2, 2018

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History of Sobriety Awareness Month in Alaska

Susan Haymes, Manager

What is the origin of Sobriety Awareness Month in Alaska? What are some recent statistics for alcohol and drug use in Alaska?

Beginning in 1995 through 2006, the Alaska Legislature designated March as Sobriety Awareness Month. Additionally, in each of those years the respective governor of Alaska issued a proclamation recognizing March as Sobriety Awareness Month.

Origins of Sobriety Awareness Month

In recognition of the growing grass roots Native sobriety movement, the Alaska Federation of Natives (AFN) in 1989 passed a resolution at its annual meeting to create the AFN Sobriety Movement. The goals of the Movement included encouraging and supporting alcohol-free and drug-free Native families, practicing traditional Native values and activities, and working with existing groups and individuals to promote sobriety among Alaska Natives. The Movement supported numerous activities throughout rural Alaska in support of sobriety, including the "Iditapledge for Sobriety." The Iditapledge was spearheaded by Aniak musher and sobriety activist Mike Williams, who first ran the Iditarod Trail Sled Dog Race in 1992 carrying signatures of Alaskans who had pledged sobriety.[1] By the 1994 race, Mr. Williams was carrying 10,000 signatures pledging sobriety.[2] The Iditapledge proved to be a successful means of bringing attention to the sobriety movement and raising funds to allow sobriety activists to travel throughout rural Alaska to advocate and support sobriety.

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[1] Pledged signatures were transferred to microfilm, which the musher, in ceremonial fashion, carried in the race. Symbolically, the sobriety pledge signatures represented a "serum of commitment" needed to cure the devastating effects of alcohol and drugs. The Center for Alcohol and Addiction Studies and Institute for Circumpolar Health Studies, "Alaska Natives Combating Substance Abuse and Related Violence Through Self-Healing: A Report for the People," June 1999, at *https://www.uaa.alaska.edu/academics/college-of-health/departments/ACRHHW/dataandreportspages/1999afn.cshtml.*

[2] Lew Freedman, "Williams' Sled Carries Iditarod's Baggage," *Anchorage Daily News*, March 20, 1994; Mike Williams, Sr. and Lew Freedman, *Racing Toward Recovery: The Extraordinary Story of Alaska Musher Mike Williams, Sr.*, Graphic Arts Books, 2015.

(footnote continued)

As the Iditarod Trail Race typically occurs in March of each year, the AFN selected March as Sobriety Awareness Month to coincide with the Iditapledge. In 1995, Representative Irene Nicholia introduced HCR 11, which designated the first Sobriety Awareness Month as March 1995. The resolution endorsed "sobriety as a solution to the substance abuse problem in the state" and paid tribute to those individuals who have pledged themselves to sobriety.[3] The AFN noted that rather than primarily focusing on the "problem" of substance abuse, sobriety embraced a positive "solution" to the abuse of alcohol and drugs.[4] The AFN further testified that Sobriety Awareness Month set a precedent not only in Alaska history, but U.S. history. This resolution made Alaska the first state to recognize sobriety as a lifestyle.[5]

In 1996, the AFN encouraged Alaska lawmakers to further recognize and support Alaskans who choose sobriety by adding language to the state's policy in the Uniform Alcoholism and Treatment Act at AS 47.37.010. In 1996, the House Judiciary Committee introduced HB 523, which added the following language to the policy:

> It is the policy of the state to recognize, appreciate, and reinforce the example set by its citizens who lead, believe in, and support a life of sobriety.

During committee hearing on HB 523, Daniella Loper, aide to Representative Brian Porter, testified that the Division of Alcoholism and Drug Abuse had placed the definition of sobriety in their strategic plan, "Meeting the Challenge," which had been adopted by the division and the Governor. Greg Nothstine, Coordinator, AFN Sobriety Movement, testified in support of HB 523, because "it represents a positive paradigm shift in the state's policy for preventing alcohol and drug abuse in Alaska." He added that sobriety not only improves the quality of life and health but helps reduce the incidence of alcohol- and drug-related crime and reduces the burden of government to pay for consequences and problems caused by drug and alcohol abuse.[6]

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[3] A copy of HCR 11 is available at *http://www.akleg.gov/basis/Bill/Detail/19?Root=hcr%2011*.

[4] Committee Minutes from the House State Affairs Committee, February 28, 1995, and Senate State Affairs Committee, March 2, 1995, at *http://www.akleg.gov/basis/Bill/Detail/19?Root=hcr%2011#tab4_4*.

[5] House Health, Education and Social Services Committee, February 29, 1996, at *http://www.akleg.gov/basis/Meeting/Detail?Meeting=HHES%201996-02-29%2015:26:00*.

[6] House Health, Education and Social Services Committee, February 29, 1996, at *http://www.akleg.gov/basis/Meeting/Detail?Meeting=HHES%201996-02-29%2015:26:00*.

(footnote continued)

In a House Judiciary Committee hearing, Representative Brian Porter stated that, "The sobriety movement of the native community in the AFN is probably the best program the state has seen in a long time."[7] The House passed HB 523 by a vote of 38-0 and the Senate by a vote of 20-0.

The Legislature continued to support Sobriety Awareness Month by passing resolutions in each year through 2006, designating March as Sobriety Awareness Month.[8]

We did not identify any other state that has formally designated a Sobriety Awareness Month; however, the Substance Abuse and Mental Health Services Administration (SAMHSA) sponsors a National Recovery Month every September, since 1999.[9] According to SAMHSA, National Recovery Month celebrates the gains made by those in recovery and reinforces the positive message that prevention works, treatment is effective, and people can and do recover. In related efforts, the National Council on Alcoholism and Drug Dependence (NCADD) has sponsored April as Alcohol Awareness Month since 1987. The NCADD created Alcohol Awareness Month to help reduce the stigma so often associated with alcoholism and to increase awareness and understanding of alcoholism, its causes, effective treatment options, and recovery.[10] Additionally, the federal Office of National Drug Control Policy established October as National Substance Abuse Prevention Month, which focuses on raising public awareness and encourages communities to take action to prevent substance abuse.[11]

Alcohol and Drug Use Data for Alaska

Alcohol abuse in Alaska remains a persistent and challenging problem. Alaskans surveyed for the Healthy Alaskans 2020 project indicated that alcohol use was one of the leading two health concerns among all health topics.[12]

The Alaska Scorecard for 2016, which is produced by the Alaska Department of Health and Social Services, in conjunction with the Mental Health Trust Authority, reported the following regarding alcohol and drug use in the state:

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[7] House Judiciary Committee, March 4, 1996, at *http://www.akleg.gov/basis/Meeting/Detail?Meeting=HJUD%201996-03-04%2013:04:00.*

[8] SCR 4 (1997), SCR 21 (1998), SR1 (1998), SCR 12 (2000), SCR 2 (2001), SCR 22 (2002), SCR 5 (2003), SCR 21 (2004), HCR 1 (2005), and HCR 33 (2006).

[9] More information on National Recovery Month can be accessed at *https://recoverymonth.gov/about*.

[10] More information on Alcohol Awareness Month is viewable at *https://www.ncadd.org/about-ncadd/events-awards/alcohol-awareness-month*.

[11] The Office of National Drug Policy was created in 1988 as a component of the Executive Office of the President to coordinate drug control efforts and funding and to advise the president on drug control issues.

[12] Healthy Alaskans 2020 Health Assessment: Understanding the Health of Alaskans at *http://hss.state.ak.us/ha2020/assets/HA2020_HealthAssessment.pdf.*

- The 2015 rate of Alaskans that identify as "heavy drinkers" is 36 percent higher than the U.S. rate.

- The 2015 Alaska rate for binge drinking among adults is 26 percent higher than the U.S. rate.

- The 2015 alcohol-induced mortality rate for Alaska is 140 percent higher than the 2014 U.S. rate (the most recent year for which data are available).

- For illicit drug use, the 2013-2014 Alaska rate is 35 percent higher than the U.S. rate.[13]

According to a report produced by the McDowell Group, in 2015, alcohol abuse cost the state's economy an estimated $1.84 billion dollars. These costs include increased health care costs, increased criminal justice system costs, lost or reduced workplace productivity, greater spending on public assistance and social services, and a range of other impacts. Thus, the state and local governments, employers, and residents of Alaska all bear the costs.[14]

We hope this is helpful. If you have questions or need additional information, please let us know.

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[13] The Alaska Scorecard 2016 can be accessed at *http://dhss.alaska.gov/dph/HealthPlanning/Documents/scorecard/2016%20Trust%20Scorecard_final_2-16-2017.pdf.*

[14] "The Economic Costs of Alcohol Abuse in Alaska, 2016 Update," prepared by the McDowell Group for the Alaska Mental Health Trust Authority, March 2017, at *https://www.mcdowellgroup.net/wp-content/uploads/2017/03/mcdowell-group-economic-impacts-of-alcohol-abuse-final-3.22.17.pdf.*

Prepared for:

Alaska Mental Health Trust Authority

March 2017

The Economic Costs of Alcohol Abuse in Alaska, 2016 Update

Prepared for:

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March 2017

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Executive Summary

The economic costs of alcohol abuse in Alaska total billions of dollars each year. Costs to society include increased health care costs, increased criminal justice system costs, lost or reduced workplace productivity, greater spending on public assistance and social services, and a range of other impacts. This study measures these and other tangible economic costs associated with alcohol abuse.

The misuse of alcohol also has a wide range of intangible costs, in terms of diminished quality of life, pain and suffering of crime victims and others, and a spectrum of additional qualitative costs. While several measures of these types of costs are described in this report, calculating the full extent of intangible human costs resulting from alcohol abuse (such as pain, suffering, and bereavement) is beyond the scope of this study.

The Alaska Mental Health Trust Authority contracted with McDowell Group to update its series of prior studies on the economic costs of alcohol abuse in Alaska. A variety of methodologies, data sources, and modeling assumptions were required for this analysis. While some trend analysis may be possible for specific measures of economic impact, the quality of data and modeling techniques have improved in recent years. As a result, caution is warranted in making detailed comparison of this study with previous efforts to quantify the economic costs of alcohol abuse in Alaska.

Alcohol Use

Alcohol Consumption

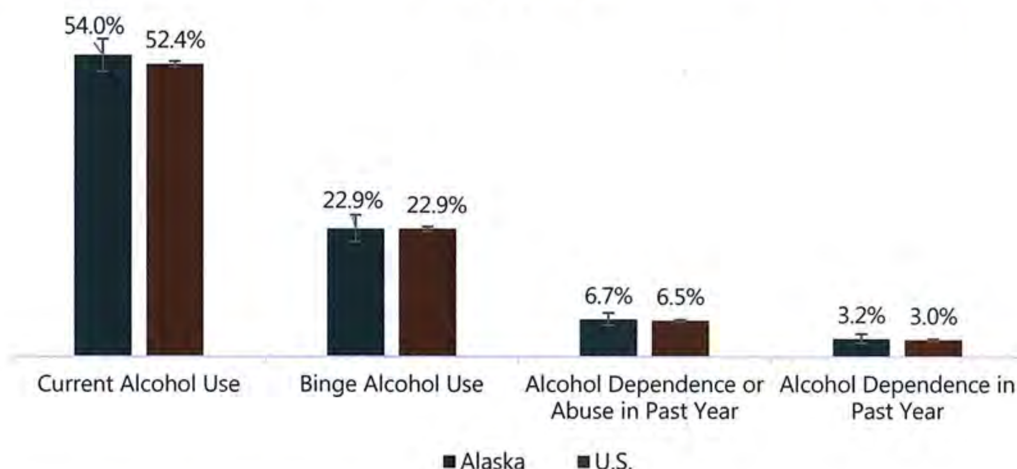
Based on research conducted during the period 2013-2014, an estimated 54 percent of Alaskans age 12 or older (313,000 individuals) drank alcohol within the past 30 days, while an estimated 23 percent (133,000 individuals) binge drank within the past 30 days. An estimated 7 percent (39,000 individuals) experienced alcohol dependence or abuse in the past year and an estimated 3 percent (19,000 individuals) experienced alcohol dependency in the past year.[1] Consumption patterns reported by Alaskans are similar to those in the U.S overall.

Alaska and U.S. current alcohol use and binge alcohol use remained stable during the 2010-2011 to 2013-2014 period, and Alaska trends did not differ statistically from U.S. trends during this period.

In 2013-2014, Alaska ranked 26th nationally for current alcohol use, 31st for binge drinking, 20th for alcohol dependence or abuse, and 21st for alcohol dependence alone.

[1] Current Alcohol Use — Any alcohol use in the 30 days before the survey by people age 12 or older. Binge Alcohol Use — Five or more drinks (male consumers) or four or more drinks (female consumers) on the same occasion on at least one day in the past 30 days. Alcohol Dependence — Applies to respondents who reported "current alcohol use" during the previous 12 months and who meet at least three clinical criteria used to diagnose dependency (Diagnostic code 303.9) (such as tolerance, withdrawal, persistent desire, loss of social, occupational or recreational activity, and recurrent physical or psychological problems). Alcohol Abuse — Applies to respondents who reported "current alcohol use" during the previous 12 months and meet at least one clinical criteria used to diagnose abuse (Diagnostic code 305.0) (such as failure to fulfill major role obligations at work, school, or home, using alcohol in situations where they could cause harm [such as driving], recurrent alcohol-related legal problems, persistent social or interpersonal problems caused by alcohol use).

Figure 1. Alcohol Consumption Patterns and Prevalence Estimates (%), Alaska and U.S., Ages 12+, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

In 2013, 1.6 million gallons of ethanol were consumed in Alaska (including consumption by residents and non-resident visitors). Per capita (age 14+) consumption in 2013 was 1.06 gallons of ethanol contained in beer, 0.52 gallons contained in wine, and 1.16 gallons contained in liquor, for a total of 2.73 gallons. Average U.S. ethanol consumption was 2.34 gallons per person in 2013. Alaska consumption increased slightly in 2014, to 2.79 gallons per capita.

Economic Costs of Alcohol Abuse in Alaska

In 2015, the estimated cost of alcohol abuse to the Alaska economy was $1.84 billion. These costs are borne by the state and local governments, employers, and residents of Alaska. A recent national study estimated that government (local, state, and federal) paid approximately 42.9 percent of the total costs of excessive alcohol consumption in Alaska (2006).[2] Of the cost categories in the table below, most costs associated with criminal justice and protective services, and public assistance and social services are borne by the public sector. A portion of the health care costs, largely due to associated costs of Medicaid and Medicare, is also a public expense.

Of the total annual costs, productivity losses are the largest component (42 percent or $775 million).

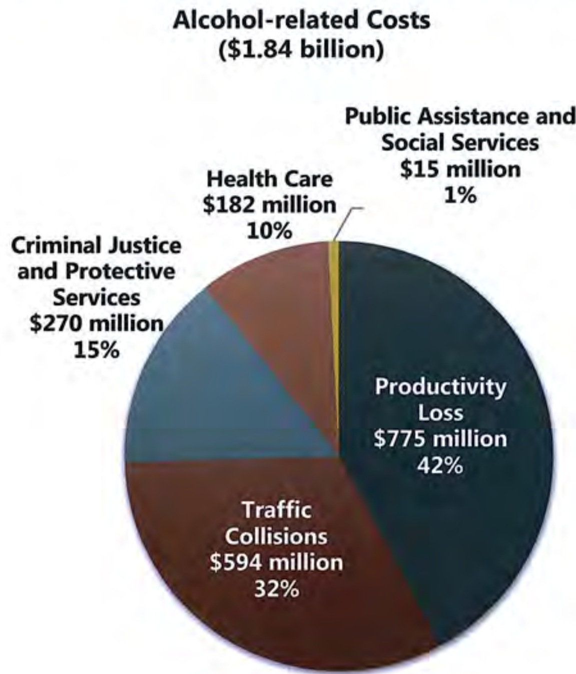
Table 1. Estimated Annual Alcohol-related Economic Costs to Alaska, 2015

Cost Category	Alcohol-related Costs	% of Total
Productivity loss	$775 million	42%
Traffic collisions	$594 million	32
Criminal justice and protective services	$270 million	15
Health care	$182 million	10
Public assistance and social services	$15 million	1
Total	**$1,836 million**	**100%**

Note: Due to rounding, some columns may not sum to the total.
Source: McDowell Group calculations. Criminal justice and protective services estimate does not include intangible costs related to victimization, an estimated $605 million in additional costs.

[2] Sacks, Jeffrey J., Jim Roeber, Ellen E. Bouchery, Katherine Gonzales, Frank Chaloupka, and Robert D. Brewer. "State Costs of Excessive Alcohol Consumption, 2006." Am J Prev Med 2013;45(4):474-485.

Figure 2. Estimated Economic Costs of Alcohol Abuse, by Category, 2015



Source: McDowell Group calculations. Criminal justice and protective services estimate does not include intangible costs related to victimization, an estimated $605 million in additional costs.

Categories of Economic Costs

Productivity Losses

Alcohol abuse results in lost productivity when it prevents people from being employed or performing household services such as child care. Lost productivity occurs as a result of premature death, reduced efficiency through physical and/or mental impairment, employee absenteeism, incarceration for criminal offenses, and medical treatment or hospitalization.

In 2015, alcohol abuse resulted in $775.1 million in lost productivity in Alaska.

Table 2. Estimated Annual Alcohol-related Productivity Losses, Alaska, 2015

Productivity Category	Alcohol-related Costs	% of Total
Premature death (primary diagnosis)	$581.5 million	75%
Incarceration	$ 41.5 million	5
Diminished productivity	$145.6 million	19
Substance abuse treatment	$1.5 million	0.2
Medical conditions	$5.0 million	1
Total	**$775.1 million**	**100%**

Due to rounding, some columns may not sum to total.

TRAFFIC COLLISIONS

Substance abuse plays a major role in vehicle traffic collisions in Alaska, approximately 5.6 percent of all traffic collisions in the state in 2011. As such, in 2011, it is estimated that 1,680 occupants were involved in 704 impairment-related collisions. Of the 1,680 occupants involved in impaired collisions, 32 people died, 299 had major injuries, and 64 had minor injuries. Of the 704 impairment-related collisions, 54 percent had property damage only. Direct costs of impairment-related traffic collisions were $172.5 million. However, there was another $818.0 million in costs for lost life and reduced quality of life, resulting in total traffic crash costs related to substance abuse of approximately $990.5 million. Based on a conservative estimate, approximately 60 percent (or $594.3 million) of all substance impairment-caused traffic collision costs is related to alcohol abuse.

Table 3. Estimated Annual Impairment-caused Traffic Collision Costs, Alaska, 2011

Cost Category	Impairment-Caused Traffic Collision Costs	% of Total, Excluding Quality-Adjusted Life Years	% of Total, Including Quality-Adjusted Life Years
Medical	$38.5 million	22.3%	3.9%
Emergency services	$0.02 million	0.1	0.02
Market productivity	$81.4 million	47.2	8.2
Household productivity	$22.6 million	13.1	2.3
Insurance administration	$9.3 million	5.4	0.9
Workplace costs	$1.6 million	1.0	0.2
Legal costs	$12.8 million	7.4	1.3
Congestion costs	$1.3 million	0.8	0.1
Property damage	$4.9 million	2.8	0.5
Direct Costs	**$172.5 million**	**100.0%**	-
Quality-adjusted life years	$818.0 million	-	82.6
Total, including quality-adjusted life years	**$990.5 million**		**100.0%**
Estimated portion attributed to alcohol (60 percent of total)	**$594.3 million**		

Note: Due to rounding, some columns may not sum to total.
Source: McDowell Group calculations.

CRIMINAL JUSTICE AND PROTECTIVE SERVICES

A significant number of crimes can be directly attributed to alcohol abuse, for example driving under the influence, sale of illegal substances, and many cases of assault, theft, and other violent and nonviolent crimes. The cost of these crimes includes criminal justice system costs (police protection and law enforcement, legal and adjudication, and incarceration) and the costs to crime victims (both tangible and intangible). Additionally, a portion of child protective services are associated with substance abuse.

In 2014, there were 9,438 arrests/offenses and 7,313 crime victims attributed to alcohol abuse in Alaska. These arrests/offenses represented 25 percent of all offenses in Alaska and affected 17 percent of all crime victims. The estimated cost of alcohol abuse to the criminal justice system, including tangible costs (such as medical care costs, lost earnings, and property loss/damage to victims and Child Protective Services in Alaska), is $194.4 million. Victim intangible costs (such as pain and suffering, decreased quality of life, and psychological distress) adds another $604.9 million for a total of just under $874.7 million.

Table 4. Summary of Estimated Annual Alcohol-related Criminal Justice and Protective Services Costs, Alaska, 2015

Cost Category	Alcohol-related Costs	% of Total
Criminal justice system	$136.2 million	50%
Crime victim tangible costs	$58.2 million	22
Child protective services	$75.4 million	28
Total	**$269.8 million**	**100%**
Crime victim intangible costs	$604.9 million	
Total, incl. intangible costs	**$874.7 million**	

Source: McDowell Group calculations.

HEALTH CARE

A wide variety of health care costs are associated with alcohol abuse, including hospitalization from injuries and illness, residential and outpatient treatments costs, pharmaceutical costs, nursing home and long-term-care-facility costs, and the costs of treating fetal alcohol spectrum disorders (FASD). Annual alcohol-abuse-related health care costs totaled $181.8 million in 2015.

Table 5. Summary of Estimated Annual Alcohol-related Health Care Costs, Alaska, 2015

Cost Category	Alcohol Related Costs	% of Total
Medical inpatient	$85.4 million	48%
Medical ED	$32.7 million	18
Medical outpatient	$22.6 million	12
Alcohol/Drug treatment	$25.9 million	14
Prescription drug	$10.7 million	6
Nursing Home/LTC	$1.5 million	1
FASD	$3.0 million	2
Total	**$181.8 million**	**100.0%**

Note: Due to rounding, some columns may not total.
Source: McDowell Group calculations.

PUBLIC ASSISTANCE AND SOCIAL SERVICES

Alcohol abuse can result in greater demand for public and social services. For example, problems with alcohol can reduce personal income due to mental and physical impairment or inability to hold a job. Alcohol abuse may also lead to disability. Some or all these conditions may qualify individuals for publicly funded social programs like food stamps, public assistance, and vocational rehabilitation. Based on prevalence rates, federal and state social welfare costs paid to support people impacted by alcohol abuse totaled $14.5 million annually.

Table 6. Estimated Annual Alcohol-related Social Welfare Costs, Alaska, 2015

Cost Category	Alcohol-related Costs	% of Total
Federal social welfare	$9.4 million	65%
State social welfare	$5.1 million	35
Total	**$14.5 million**	**100.0%**

Source: McDowell Group calculations.

Cost of Underage Drinking in Alaska

Underage drinking imposes costs in the form of health, social, and economic problems and is a causal factor in many serious problems, including homicide, suicide, traumatic injury, drowning, burns, violent and property crime, high risk sex, fetal alcohol syndrome, alcohol poisoning, and the need for treatment for alcohol abuse and dependence. In 2013-2014,

- 9 percent of Alaskan youths age 12-17 and 22 percent of Alaskan youths age 12-20 were underage drinkers.
- 5 percent of Alaskans age 12-17 and 13 percent of Alaskans age 12-20 were binge drinkers.[3]

In 2010, Pacific Institute for Research and Evaluation estimated the costs of mental distress associated with physical or emotional injury as a result of Alaskan youth alcohol consumption at approximately $350 million (expressed in 2016 dollars). Costs associated with youth violence represent 48 percent of underage drinking costs in Alaska, followed by youth traffic accidents (28 percent).

Impacts of Alcohol Sales

The primary focus of this study is the cost of substance abuse in Alaska. However, it should be noted that alcohol sales contribute to the economy through jobs, earnings, and tax revenues.

In 2014, there were 2,887 private sector jobs in Alaska's beverage manufacturing, wholesale and retail sale of alcohol products, and at alcoholic drinking places. Workers in these jobs earned $66.4 million in wages (2014). There are other jobs in Alaska related to alcohol sales, but published data are not available.

In State Fiscal Year (SFY) 2015, $38 million, or $24.80 per Alaskan, in Alcoholic Beverages Tax was paid to the Alaska Department of Revenue; $20 million was deposited in the Alcohol (and Other Drug) Abuse Treatment and Prevention Fund, and $18 million was General Fund receipts.

[3] Binge Alcohol Use — Five or more drinks on the same occasion (by males) or four+ drinks (by females) on at least one day in the past 30 days.

Introduction and Methodology

Introduction

The Alaska Mental Health Trust Authority contracted with McDowell Group to update prior studies on the economic costs of alcohol abuse in Alaska. Alcohol abuse impacts Alaska's economy in a variety of ways. It can lead to greater health risks and death, impaired physical and mental abilities, crime and incarceration, greater reliance on public assistance, and several other adverse effects. This study addresses tangible economic costs of alcohol abuse, such as lost earnings among the affected population and costs of government programs. Quality of life and other qualitative impacts of alcohol abuse, while substantial, are not included in this report.

Report Organization

This report contains:

- *Chapter 1: Alcohol Consumption in Alaska*, including state comparisons and co-occurrence of substance abuse disorders and mental illness.
- *Chapter 2: Productivity Losses*, including productivity losses due to death, diminished productivity, incarcerations, and inpatient treatment or hospitalization because of alcohol abuse.
- *Chapter 3: Traffic Collisions,* including number of, and estimated costs due to, substance abuse-related traffic collisions.
- *Chapter 4: Criminal Justice and Protective Services*, including law enforcement, legal and adjudication, incarceration, and victimization costs.
- *Chapter 5: Health Care*, including hospital, residential and outpatient alcohol treatment, medical outpatient, prescription drugs, nursing home/long-term care, and fetal alcohol spectrum disorders costs.
- *Chapter 6: Public Assistance and Social Services*, including public assistance in the form of cash, food stamps, child care assistance, or other social services provided by the state and federal government.
- *Chapter 7: Underage Drinking Costs,* including a summary of 2010 research conducted on underage drinking in Alaska.
- *Chapter 8: Employment and Income from Alcoholic Beverage Manufacturing and Sales in Alaska,* including data on employment in Alaska's alcohol-related businesses in beverage manufacturing, alcohol wholesale and retail distribution, and alcoholic drinking places.
- *Chapter 9: Taxes Generated from Alcohol Use*, including Alaska's Alcoholic Beverages Tax.
- *Chapter 10: Implications for Alcohol Abuse Impacts on the State General Fund Budget*, including health-care, criminal justice, corrections, and other related costs.
- *References*

Methodology, Definitions, and Data Sources

A variety of methodologies, data sources, and modeling techniques were required for this analysis. Methods and sources relevant to each chapter of the study are described below.

Chapter 1: Alcohol Consumption in Alaska

Data were analyzed from two primary sources:

1. **National Survey of Drug Use and Health (NSDUH):** This data set includes national and state-level data on substance use and mental health within the U.S., including prevalence estimates, trends in alcohol consumption, levels of consumption, demographic characteristics of alcohol consumers, and national and state consumption comparisons. For an adequate sample, Alaska results were pooled from surveys conducted in 2013 and 2014. Some definitions used in NSDUH analysis include:
    a. **Current Alcohol Use** — Any alcohol use in the 30 days before the survey by people age 12 or older.
    b. **Binge Alcohol Use** — Five or more drinks (by males) or 4 or more drinks (by females) on the same occasion on at least one day in the past 30 days.
    c. **Alcohol Dependence** — Applies to respondents who reported "current alcohol use" during the previous 12 months and who meet at least three clinical criteria used to diagnose dependency (Diagnostic code 303.9) (such as tolerance, withdrawal, persistent desire, loss of social, occupational or recreational activity, and recurrent physical or psychological problems).
    d. **Alcohol Abuse** — Applies to respondents who reported "current alcohol use" during the previous 12 months and meet at least one clinical criteria used to diagnose abuse (Diagnostic code 305.0) (such as failure to fulfill major role obligations at work, school, or home, using alcohol in situations where they could cause harm [such as driving], recurrent alcohol-related legal problems, persistent social or interpersonal problems caused by alcohol use).
2. **National Institute on Alcohol Abuse and Alcoholism (NIAAA):** This organization conducts research on the impact of alcohol use on human health and well-being, including longer-term consumption trends, types of alcohol consumed, and national and state comparisons. Data from NIAAA included per capita alcohol consumption in Alaska and comparative data for other states and the U.S.

To obtain data on co-occurring disorders, McDowell Group compiled data from the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration's (SAMHSA) annual National Survey on Drug Use and Health (NSDUH). This report includes national data on substance abuse and mental illness in the U.S. as well as estimates of the rate of co-occurrence of mental health issues [any mental health illness (AMI), serious mental health illness (SMI), and major depressive episodes (MDE)] and substance use disorders among adults age 18+ in the United States. A special request was made to SAMHSA for Alaska's NSDUH data from April 2014, which provided some Alaska-specific counts on co-occurrence.

Additionally, in 2016, a report titled "*Alaska Behavioral Health Systems Assessment Final Report*" was prepared for the Alaska Mental Health Trust Authority. The report analyzed the "behavioral health system in Alaska and the barriers and opportunities to meeting the behavioral health needs of Alaskans" to "describe the system,

assess the need for services and capacity to meet the need, develop a framework for regular monitoring of the system, and identify barriers, opportunities, and recommendations for system improvement."

Chapter 2: Productivity Losses

Several methods were used to estimate the economic impact of different causes of productivity loss.

MORTALITY CAUSES

A special data request for death counts was made to the DHSS, Division of Public Health, Health Analytics & Vital Records (formerly the Bureau of Vital Statistics (BVS)). Due to small numbers for some causes, a multi-year time period (2010-2014) was used to estimate the number of deaths statewide. BVS provided two datasets: 1) counts where alcohol-related causes of death were the underlying (primary) cause of death; and 2) counts where a 100 percent attributable alcohol-related cause of death was listed as any reason other than the primary cause for the death in the record. These two different death counts demonstrate the various degrees of alcohol abuse impacts.

Deaths attributable to alcohol were estimated using methods from the Centers for Disease Control and Prevention (CDC) Alcohol-Related Disease Impact (ARDI) online application. ARDI provides a list of alcohol-attributable causes and the fractions of those causes applicable to specific age groups. In this report, the alcohol-attributable fractions (AAF) (the percent of cases attributable to alcohol abuse) for Alaska from 2006-2010 were used. Where ARDI's methods listed a low, medium and high attributable fraction, the medium was used. A list of the specific ICD-10 codes used to count the number of alcohol-related deaths by cause in this report are in the appendix, along with the AAFs and age groups for each.

Potential Years of Life Lost Due to Death from Alcohol

BVS provided the potential years of life lost (PYLL) for each death using the ICD-10 codes by age and gender. These calculations assume a 75-year lifespan. Using the appropriate AAFs for each cause of death, an estimate of the number of PYLL attributable to alcohol was calculated. No economic costs were applied to these calculations because the complex modeling required was outside the scope of this analysis.

INCARCERATION CAUSES

The primary method for estimating lost productivity due to incarceration involved applying potential earnings to the number of inmates absent from the workforce due to alcohol-related incarcerations. Statewide incarceration counts by gender and offense were gathered from the Alaska Department of Corrections (DOC)'s *Alaska Offender Profile, 2014* — an annual report that examines the total inmate population by offense category and calendar year.

Alcohol attributable rates were obtained from The Lewin Group's 2010 report, *Economic Cost of Excessive Alcohol Consumption in the United States, 2006*. These attribution rates estimate the number of inmates incarcerated due to alcohol abuse. Alcohol-related crimes, including driving under the influence of alcohol and liquor law violations, were fully attributed to alcohol. For other offenses, the alcohol attributable rate is defined as the percentage of offenders intoxicated at the time of their offense, a methodology consistent with other literature.

DIMINISHED PRODUCTIVITY CAUSES

Alcohol Consumption

This report calculates the economic impact of impaired work productivity from alcohol consumption in two ways: traditional earnings and absenteeism. The former identifies losses among individuals who have a history of alcohol dependence or alcohol dependence or abuse, while the latter identifies losses associated with individuals who binge drink but have no history of alcohol dependence and/or abuse. Definitions of alcohol abuse or alcohol dependence or abuse are taken from *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) (http://www.alcoholcostcalculator.org/business/about/dsm.html).

Both economic measures were modeled from The Lewin Group's 2010 report, "*Economic Cost of Excessive Alcohol Consumption in the United States, 2006,*" and adjusted for Alaska's demographics. Population estimates are from the Alaska Department of Labor and Workforce Development (DOLWD) for 2014. Alaska's median individual annual average earnings by gender were gathered from the American Community Survey's (ACS) 2010-2014 Five-Year Data. SAMHSA *2013-2014 NSDUH* data were used for Alaska's incidence estimates for past-year alcohol dependence and dependence or abuse.

To estimate productivity loss from traditional earnings due to alcohol, an estimate of the number of Alaska's population age 18 or older who are alcohol dependent or dependent/abusing from SAMHSA's incidence rates of past year abuse and dependence, or abuse was cross referenced with the Lewin Group's estimates of loss in productivity. The Lewin report's economic model estimated the difference in earnings of people with or without a history of alcohol dependence by gender: a 12 percent decrease in productivity for men and a 5.6 percent decrease for women. The estimated loss in traditional earnings productivity was calculated by multiplying the median annual average individual earnings by gender by the estimated number of Alaskans dependent or dependent/abusing and the percentage in decrease productivity.

The Lewin Group also estimated losses related to absenteeism. The traditional-earnings model does not consider increased absenteeism among individuals who binge drink but have no lifetime history of dependence. Since the report assumes these work absences are by individuals who work full-time, year-round, the estimated number of Alaskans who have increased absenteeism was calculated by multiplying the 2014 Alaska population in specified age groups (DOLWD) by the gender-specific percentage of full-time, year-round civilian employed population 16 or older in Alaska (ACS) and the percentage of Alaskans in the past month who reported binge drinking (calculated by excluding those who reported a history alcohol dependence) (SAMHSA). The Lewin Group calculated the mean excess days lost per year by age group from the findings of the *National Epidemiologic Survey on Alcohol and Related Conditions,* a nationally-represented survey of the non-institutionalized population conducted from 2001-2002 by National Institute of Health (NIH)/NIDAA.

HOSPITALIZATION AND TREATMENT CAUSES

To estimate lost earnings due to hospitalization and medical treatment, the total length of stay for all alcohol-attributable inpatient hospital and emergency department (ED) visits was multiplied by the statewide average daily work-place earnings.

A study commissioned in 1998 by the National Institute of Drug Abuse, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992*, compiled the diagnoses and conditions attributable to alcohol abuse.

For each diagnosis and condition, the study reported the percent of cases attributable to alcohol abuse. The percentages are called alcohol-attributable fractions. This report draws from that compilation.

The total length of stay for all alcohol-attributable inpatient and ED visits was obtained through the Alaska Hospital Facilities Data Reporting Program (HFRP), which collects discharge data from inpatient, ED, and other outpatient facilities throughout the state. The most recent data available was from 2012. Without more recent data, this 2012 data serves as a proxy for 2015 hospital information. Additionally, Department of Health and Social Services (DHSS) estimates that approximately 70 percent of the state's hospital facilities reported to HFRP in 2012. Admissions and length of stay were adjusted by this factor to arrive at an estimate for the entire state.

Alcohol-attributable fractions from the 1998 study were applied to Alaska HFRP totals to determine the length of stay attributable to alcohol abuse. Length of stay was measured in days for both inpatient admissions and ED visits. To estimate days of lost work, it was assumed that a visit to the ED consumed an entire day. If an ED visit occurred over the course of multiple days – a patient was admitted to the ED on one day and discharged on a different day – all days are considered lost-work days.

The Alaska Department of Labor and Workforce Development (DOLWD) publishes annual average wage data for Alaska workers. The 2015 annual average wage of $50,150 was converted to average earnings per work day of $192 (based on 261 work days per year).

Income-related data, including employment status and annual household income ranges, was provided by DBH for clients in 24-hour detoxification and residential treatment services. DBH also provided the total number of bed days at 24-hour detoxification and at residential services in 2015.

The number of bed days were separated alcohol only and combined alcohol and drugs treatment.

It was assumed that patients under age 18 were in school rather than in the labor force and, therefore, did not forfeit direct earnings while admitted. Annual incomes were converted to earnings per day (based on 261 work days per year) using the midpoint of each income range provided in the data. Total incomes were reduced by a factor of .746, the average proportion of total personal income attributable to personal earnings (wages and salaries) for Alaskans in 2015 according to the Bureau of Economic Analysis.

The total number of bed days was distributed according to the proportions of clients in each income range. Then, the number of bed days associated with each income range was multiplied by earnings per day of that range to arrive at an estimate for lost earnings.

Chapter 3: Vehicle Traffic Collisions

This chapter examines nine categories of costs incurred from vehicle traffic accidents, plus a quality-adjusted life-years (QALY) cost. The National Highway Traffic Safety Administration (NHSTA), which estimates the costs, provides the following definitions for the nine categories:

1. **Medical:** The cost of all medical treatment associated with motor vehicle injuries, including treatment given during ambulance transport. Medical costs include ED and inpatient hospitalization costs, follow-up visits, physical therapy, rehabilitation, prescriptions, prosthetic devices, and home modifications.
2. **Emergency services:** Police and fire department response costs.

3. **Market productivity:** The net present value of the lost wages and benefits over the victim's remaining life span.
4. **Household productivity:** The net present value of lost productive household activity, valued at the market price for hiring a person to accomplish the same tasks.
5. **Insurance administration:** The administrative costs associated with processing insurance claims resulting from motor vehicle collisions and defense attorney costs.
6. **Workplace costs:** The costs of workplace disruption due to the loss or absence of an employee. This includes the cost of retraining new employees, overtime required to accomplish work of the injured employee, and the administrative costs of processing personnel changes.
7. **Legal costs:** The legal fees and court costs associated with civil litigation resulting from traffic collisions.
8. **Congestion costs:** The value of travel delay, added fuel usage, greenhouse gas and criteria pollutants that result from congestion that results from motor vehicle collisions.
9. **Property damage:** The value of vehicles, cargo, roadways, and other items damaged in traffic collisions.

In May 2015, NHSTA published updates to its 2010 estimates of the costs per alcohol-related traffic accident. The figures in NHSTA's report were grouped by injury severity, including fatal, property damage only (no physical injury), and the five levels of injury severity in the Maximum Abbreviated Injury Scale (MAIS). These costs were adjusted for inflation and for Alaska's cost-of-living differential.

The number of vehicle traffic collisions in Alaska was obtained from DOTPF's most recent report available, *2011 Crash Data*. In addition to reporting all traffic collisions, the report gives the number of impaired (alcohol and/or drug) collisions. Due to differences in reporting injury levels between NHSTA and DOTPF, NHSTA's MAIS Level 1 was matched to DOTPF's "minor injury" category, and MAIS Level 5 was matched to DOTPF's "major injury" category. Both sources report "fatal" and "property damage only" incidences.

No data are available to separate costs related to alcohol abuse from those related to drug abuse. In the absence of data, the study team assumed the split of drug- and alcohol-related collusions would be similar to all other components of costs measured in this study, which is approximately 60 percent alcohol-related and 40 drug-related.

Chapter 4: Criminal Justice and Protective Services

Offenses and Arrests

Costs related to the criminal justice system were estimated based on arrest and offense data from the Alaska Department of Public Safety (DPS) Uniform Crime Reporting document, *Crime in Alaska, 2014*, and the FBI's annual *Uniform Crimes Report* (UCR). As part of the nationwide Unified Crime Reporting system, DPS reports known offenses annually. In 2014, law enforcement agencies reporting to DPS had jurisdiction over 99.4 percent of Alaska's population. The data shows all known offenses regardless of whether an arrest was made. They include the categories of criminal homicide (murder and manslaughter), rape (rape and attempts to commit rape), aggravated assault, other assault, robbery, burglary, larceny/theft, and auto theft. Data for the remaining categories of driving while intoxicated, other sex offenses (including prostitution and commercialized vice), and liquor laws are from the FBI's UCR alone.

Alcohol attributable rates from The Lewin Group's 2010 report, *Economic Cost of Excessive Alcohol Consumption in the United States 2006,* were used to determine the number of offenses/arrests attributable to alcohol abuse. Alcohol-related crimes, including driving under the influence of alcohol and liquor-law offenses, were attributed in full to alcohol. For other offenses, the alcohol attributable rate was the percentage of offenders intoxicated at the time of their offense.

Criminal Justice System

Two sources were used to estimate criminal justice system costs for specified crimes. The first is the 2010 NIH report, *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation.* The second is the Lewin Group's 2010 report, "*Economic Cost of Excessive Alcohol Consumption in the United States, 2006.*"

Costs for the criminal justice system addressed in the NIH report include "local, state, and federal government funds spent on police protection; legal and adjudication services; and correction programs, including incarceration." This study was used to estimate the cost for criminal homicide, rape and other sexual offenses, assaults, robbery, burglary, larceny-theft, and motor vehicle theft.

The 2010 Lewin Group study addresses the costs of driving under the influence and liquor law violations. The study's criminal justice cost definition includes costs related to police protection, legal and adjudication, corrections, and private legal defense. For both studies, costs were adjusted for inflation and Alaska's cost-of-living differential.

Crime Victimization

Bureau of Justice Statistics (BJS) publishes national data on victimization rates per 1,000 people age 12+ or per 1,000 households. These rates are published in the annual *National Criminal Victimization Survey* (NCVS) report. The NCVS collects information on nonfatal crimes reported and not reported to police from a nationally representative sample of U.S. households. The 2014 victimization rates were applied to Alaska's 2014 population age 12 and older (published by DOLWD) or to ACS 2010-2014 Five-Year Data count of Alaska households to find the number of victims for specified crimes for the state. The Lewin Group's alcohol attribution rates were then applied to estimate the number of crime victimizations attributed to alcohol in Alaska.

The 2010 NIH report was also used to estimate tangible costs for crime victims, defined as the cost of "direct economic losses suffered by crime victims, including medical care costs, lost earnings, and property loss/damage." Tangible victim costs were estimated for homicide, assaults, rape/sexual assault, robbery, burglary, theft, and motor vehicle theft. These were adjusted for inflation and Alaska's cost-of-living differential.

Data from the 2010 NIH report were also used to estimate intangible costs, which include "indirect losses suffered by crime victims, including pain and suffering, decreased quality of life, and psychological distress." These intangible costs include pain and suffering, and the probability of being killed while a crime is occurring (corrected risk-of-homicide costs). Intangible victim costs were estimated for homicide, assaults, rape/sexual assault, robbery, burglary, theft, and motor vehicle theft. The costs were adjusted for inflation and Alaska's cost-of-living differential.

To find the number of Alaska crime victims, the BJS's annual national data on victimization rates was used. The 2014 victimization rates were applied to Alaska's 2014 population (DOWLD) or to ACS's 2010-2014 Five-Year Data of Alaska households count to find the number of victims for specified crimes.

PROTECTIVE SYSTEMS

The National Survey of Children and Adolescent Well-Being estimates that 61 percent of infants and 41 percent of older children in out-of-home care are from families with active alcohol or drug abuse (Wulczyn, Ernst, & Fisher, 2011). For almost 31 percent of all children placed in foster care in 2012, parental alcohol or drug abuse was the documented reason for removal and in several states that percentage surpassed 60 percent (National Data Archive on Child Abuse and Neglect, 2012)

While there is no accurate data available, according to the Alaska Office of Children's Services (OCS), approximately 75 percent of its cases may result from or involve alcohol or drug abuse. To estimate the total costs of child abuse and neglect attributable to alcohol or drug abuse, this percentage was applied to OCS actual expenditures for State Fiscal Year (SFY) 2015. This estimate assumes the workload for all OCS functions, not just case work but administrative and support services as well, is proportional to the number of cases involving alcohol and drug abuse. To separate costs attributable to alcohol from costs attributable to drugs, it was estimated that alcohol accounts for two-thirds of the total and drugs one-third. This estimate is drawn from the 1998 National Institute on Drug Abuse (NIDA) study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992.*

An estimate of the percent of cases related to alcohol abuse was not available from the Division of Disability and Senior Services. Therefore, costs for adult protective services are not estimated in this report.

Chapter 5: Health Care

Tables 7 below lists the alcohol-related diagnoses used to estimate inpatient, ED, and outpatient costs. More detailed tables of ICD-10 codes and attributable fractions used in this health care chapter can found in Tables 62 (inpatient) and 64 (ED).

INPATIENT COSTS

Alaska Hospital Facilities Data Reporting Program (HFDR) collects discharge data for inpatient, ED, and other outpatient settings from health care facilities in Alaska. At the time of this report, the HFDR 2012 dataset was the most recent year of data available.

NIDA's *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992* compiled the diagnoses and conditions attributable to alcohol abuse. For each diagnosis and condition, the study reported the percent of cases attributable to alcohol abuse (referred to as AAFs).

The Alaska HFDR 2012 dataset provided the number of admissions, length of stay, and hospital charges for each alcohol-attributable diagnosis or condition. Alcohol-attributable fractions were applied to those totals to determine the amounts attributable to alcohol abuse. Charges presented by HFDR represent the amount charged by a facility for services, not the final amount paid.

In 2012, not all hospital facilities in Alaska reported to the HFDR. DHSS estimates that the HFDR 2012 dataset represents 70 percent of the state's total inpatient, ED, and other outpatient hospital visits or admissions. For inpatient data, the total number of admissions, length of stay, and hospital charges attributable to alcohol abuse were divided by 0.7 to estimate statewide totals.

EMERGENCY DEPARTMENT COSTS

The methodology for ED data mirrors that for inpatient data. ED visits for the same diagnoses and conditions used for hospital admissions were pulled from the HFDR 2012 dataset. Totals were adjusted by the 70 percent to estimate statewide totals.

OUTPATIENT COSTS

Estimates of outpatient costs attributable to alcohol abuse rely on a 2006 report by The Lewin Group prepared for the Centers for Disease Control and Prevention titled, *Economic Costs of Excessive Alcohol Consumption in the United States, 2006*. For expenditures attributable to alcohol abuse at the national level, The Lewin Group's study found $0.69 in outpatient expenditures for every dollar in ED expenditures. This proportion, applied to ED charges as reported by the Alaska HFDR 2012 dataset, yields an estimate for outpatient charges attributable to alcohol abuse.

Table 7. Alcohol-related Diagnosis and Corresponding ICD-9 Code

Diagnosis	ICD-9 Code
Alcoholic mental disorders & psychoses	291.xx
Alcohol dependence syndrome	303.xx
Non-dependent abuse of alcohol	305.0x
Alcoholic polyneuropathy	357.5
Alcoholic gastritis	535.3x
Alcoholic fatty liver	571
Acute Alcoholic hepatitis	571.1
Alcoholic cirrhosis of the liver	571.2
Alcoholic liver damage, unspecified	571.3
Chronic hepatitis	571.4
Fetal Alcohol Syndrome	760.71
Toxic effect of alcohol	980
Cancer of the lip, tongue, oral cavity, pharynx	140.xx, 141.xx, 142.xx, 143.xx, 144.xx, 145.xx, 146.xx, 147.xx, 148.xx, 149.xx
Cancer of the esophagus	150.xx
Cancer of the stomach	151.xx
Cancer of the liver and intrahepatic bile ducts	155.0, 155.1, 155.2
Cancer of the larynx	161.xx
Essential hypertension	401.xx
Cerebrovascular disease	430.xx, 431.xx, 432.xx, 433.xx, 434.xx, 435.xx, 436.xx, 437.xx, 438.xx
Respiratory tuberculosis	011.xx-012.xx
Diabetes Mellitus	250.xx
Pneumonia and influenza	480.xx, 481.xx, 482.xx, 483.xx, 484.xx, 485.xx, 486.xx, 487.xx
Diseases of the esophagus, stomach, duodenum	530.xx, 531.xx, 532.xx, 533.xx, 534.xx, 535.xx (except for 535.5x), 536.xx, 537.xx
Cirrhosis without mention of alcohol	571.5
Other chronic nonalcoholic liver damage/disease	571.8
Portal hypertension	572.3
Acute pancreatitis	577
Chronic pancreatitis	577.1
Injuries and poisoning	800.xx-968.xx, 980.xx-995.xx (excluding 965.0x, 967.xx, 968.0, 980.0)
Accidental poisoning by alcohol	E860.0, E860.1
Motor Vehicle traffic/Non-traffic accidents	E810.xx-E825.xx
Pedal cycle and other road vehicle accidents	E826.xx-E829.xx
Water transport accidents	E830.xx-E838.xx
Air and space transport accidents	E840.xx-E845.xx
Accidental falls	E880.xx-E888.xx
Accidents caused by fires and flames	E890.xx-E899.xx
Accidental drowning and submersion	E910.xx
Suicide and self-inflicted injury	E950.xx-E959.xx
Homicide and injury purposely inflected by other persons	E960.xx-E969.xx
Other injuries and adverse effects	E901.xx, E911.xx, E917.xx, E918.xx, E919.xx, E920.xx, E922.xx, E980.xx

Treatment for Alcohol Abuse

Data are compiled for costs incurred and number of admissions for four alcohol abuse disorder services: 24-hour detoxification, residential, and outpatient. The analysis includes funding from two sources: Behavioral Health Treatment and Recovery grants awarded to agencies by the Alaska Division of Behavioral Health (DBH) and Medicaid payments for services provided by those agencies to Medicaid beneficiaries. The analysis does

not include payments from other sources such as Medicare, Indian/Native Health Services, other public funding sources, or private insurance. Additionally, the number of bed days are presented for two service types: 24-hour detoxification and residential treatment.

For agencies receiving treatment and recovery grants, DBH provided SFY 2015 data on the number of statewide admissions by service type (24-hour detoxification, residential, outpatient) and by abuse of alcohol only, or alcohol and drugs. DBH also provided the treatment and recovery grant award amounts and Medicaid payments to grantee agencies by service type. The grant and Medicaid payment totals did not distinguish the amount for treating alcohol dependence/abuse from the amount for treating drug dependence/abuse. This allocation was estimated by applying to the grant and Medicaid payment totals the proportions of enrollment associated with admissions for each substance of abuse (alcohol only, drugs only, or alcohol and drugs). Enrollments and admissions differ in that a single admission could be associated with enrollment into multiple service types. For enrollments treating both alcohol and drug dependence/abuse, it was estimated that half were for alcohol dependence/abuse and half for drug dependence/abuse. These amounts were added to totals for alcohol only and drug only, respectively.

DBH also provided the SFY 2015 number of bed days for 24-hour detoxification and residential treatment. The number of bed days was not initially separated by substance of abuse (alcohol only, drugs only, or alcohol and drugs). This separation was estimated with the same methodology used for grant totals and Medicaid payments described above.

Skilled Nursing Facility and Long Term Care Costs

The NIDA report, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992*, estimates that abuse of alcohol accounts for 1 percent of total nursing home costs.

The Alaska Division of Senior and Disability Services (DSDS) provided the number of skilled nursing and long term care bed days at facilities statewide and the Medicaid payment rates for each facility. Medicaid served as the payer for 78 percent of the bed days. Lacking rates from other payers, the Medicaid payment rates served as a proxy for the cost of the other bed days.

The Alaska DSDS receives information from facilities on a fiscal year basis, and facilities use different fiscal years. As a result, data from all facilities do not fit evenly into a single fiscal year. This report uses the most recent single year of data from each facility, all of which occurred in the 2014 - 2015 period.

Fetal Alcohol Syndrome and Fetal Alcohol Spectrum Disorder Costs

McDowell Group's previous reports addressed only the costs of Fetal Alcohol Syndrome (FAS). This report includes the costs of Fetal Alcohol Spectrum Disorder (FASD), covering a broader range of the impacts of maternal drinking during pregnancy.

The 2012 *Alaska Maternal and Child Health Data Book, Birth Defects Edition*, reports the most recent prevalence estimates of FAS and FASD in Alaska. The data book estimates FAS and FASD prevalence rates as 15.1 and 112.9 per 10,000 live births, respectively. BVS reports 11,398 births to Alaska residents in 2014. Based on these figures, in 2014, approximately 129 babies were born with FASD, and approximately 17 of those babies had FAS.

This methodology only takes into about babies diagnosed at birth, and does not include the additional cases of FAS/FASD that are determined once a child enters school. Special education data from Alaska Department of Education and Early Development for students with FAS/FASD was requested but not provided.

A 2009 Canadian study, *The Burden of Prenatal Exposure to Alcohol: Revised Measurement of Costs*, Stade et al, estimated annual costs associated with these FASD cases. The study calculated annual costs for individuals with FASD at an average of $21,642 (in Canadian dollars) in 2007. These costs include medical care, education, social services, transportation, and parent productivity losses. The costs do not include future lost productivity and earnings for the individual affected by FASD. Converted to U.S. dollars and adjusted for inflation, this average comes to $23,115 in 2014 dollars. This average cost per individual with FASD was then multiplied by the estimated number of 2014 Alaska FASD births.

PREVENTION SERVICES

DBH prevention grants target mental health and substance abuse (including alcohol and drug abuse). Some target only mental health or only substance abuse, while others target both. This study separates out the grants for mental health and reports only the grants directed towards substance abuse. For grants that target both substance abuse and mental health, DBH assisted in estimating what proportion went towards substance abuse prevention. The total amount directed towards substance abuse prevention was then further separated to identify totals for alcohol abuse prevention and drug abuse prevention. If grant recipient programs used funds to prevent both alcohol and drug abuse, it is estimated that half went to the prevention of alcohol abuse and half to the prevention of drug abuse, unless otherwise informed by DBH.

It is important to note that only grants with funding for substance abuse prevention are reported. There are prevention grants directed solely towards mental health prevention that are not included.

Chapter 6: Public Assistance and Social Services

FEDERAL GOVERNMENT COSTS

This report captures federal funding from federal FY 2014, the most recent available published data, for the following programs: Old Age, Survivors, and Disabilities Insurance (OASDI); Supplemental Security Income (SSI); Temporary Assistance for Needy Families (TANF); and Supplemental Nutrition Assistance Program (SNAP).

The NIDA study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992*, compiled the national prevalence of alcohol and drug abuse among beneficiaries of different social welfare programs. This study applied those prevalence rates to the federal funding allocated to Alaska through the programs listed above. The NIDA study estimated that two-thirds of total funding attributable to alcohol and drug abuse is associated with alcohol and one-third from drugs. This report adopts that estimate.

STATE GOVERNMENT COSTS

The State of Alaska Office of Management and Budget published actual expenditures for SFY 2015 for individual programs operated by the Division of Public Assistance (DPA). Prevalence rates for alcohol abuse among social welfare beneficiaries – taken from the 1998 NIDA study – were applied to state funding for welfare programs to determine the portion attributable to alcohol abuse.

Chapter 7: Underage Drinking

In the 2012 Update report of *The Economic Costs of Alcohol and Other Drug Abuse in Alaska*, 2010, data on underage drinking costs developed by the Pacific Institute for Research and Evaluation were presented. No new data has been developed since that work by PIRE. For purposes of this report, 2010 economic impacts were restated and adjusted for inflation (2016 dollars).

Chapter 8: Employment and Income from Alcoholic Beverage Manufacturing and Sales in Alaska

Employment and wage data from DOLWD were used to highlight the economic impacts of the private sector involved with manufacturing and selling alcohol in Alaska.

Chapter 9: Taxes Generated from Alcohol Use

Data on the revenues generated from the Alaska Alcoholic Beverages Tax were provided by Alaska Department of Revenue. Historical revenue was adjusted to 2016 dollars.

Chapter 10: Implications for Alcohol Abuse Impacts on the State General Fund Budget

General Fund (GF) spending is based on the SFY 2015 actual budget.

PREVENTION GRANTS

DBH provided SFY 2015 data on prevention grants, also used under the health care costs section. This report separated from the total grant values the amounts directed towards substance abuse. For grant recipient programs that prevent both substance abuse and other mental health issues, DBH assisted in estimating what proportion went towards substance abuse prevention. The grant value allocated to substance abuse prevention was then further separated to identify totals for alcohol abuse prevention and drug abuse prevention. If grant recipient programs used funds to prevent both alcohol and drug abuse, this report estimated that half went to the prevention of alcohol abuse.

JUSTICE SYSTEM

Justice system governmental finances and employment data were compiled from U.S. Census Bureau information. The justice data include the expenditures and employment of the federal government, state governments, and a sample of county, municipal, and township governments. Unless otherwise noted, data for total governmental expenditures, including justice and non-justice governmental functions, also include the expenditures of special districts and school districts, which generally do not have justice functions. The 2012 survey sample was selected from the *2007 Census of Local Governments* and consists of large units of government (including all 50 state governments) sampled with certainty and smaller units selected with a probability proportional to the unit's expenditure. It was designed to produce data by type of government estimate with a relative standard error of 3 percent or less for total expenditure and state estimates with a relative standard error of 5 percent or less on total expenditure, criminal justice, and other government functions. All other government units were selected into the sample with a probability proportional to their size.

Abbreviations

AAF	Alcohol-attributable Fractions
ACS	American Community Survey
AMI	Any Mental Health Illness
ARBD	Alcohol-related Birth Defects
ARDI	Alcohol-related Disease Impact
ARND	Alcohol-related Neurodevelopmental Disorder
ART	Antiretroviral Treatment
BJS	Bureau of Justice Statistics
BVS	Bureau of Vital Statistics
CDC	Centers for Disease Control and Prevention
DBH	Division of Behavioral Health
DHSS	Alaska Department of Health and Social Services
DOC	Alaska Department of Corrections
DOLWD	Alaska Department of Labor and Workforce Development
DOTPF	Alaska Department of Transportation and Public Facilities
DPA	Division of Public Assistance
DPS	Alaska Department of Public Safety
DSDA	Alaska Division of Senior and Disability Services
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders
ED	Emergency Department
ESRI	Environmental Systems Research Institute
FAE	Fetal Alcohol Effects
FAS	Fetal Alcohol Syndrome
FASD	Fetal Alcohol Spectrum Disorders
GF	General Fund
HFRP	Alaska Hospital Facilities Data Reporting Program
LTC	Long Term Care
MDE	Major Depressive Episodes
NAMI	National Alliance on Mental Illness
NCVS	National Criminal Victimization Survey

NHSTA	National Highway Traffic Safety Administration
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIH	National Institute of Health
OASDI	Old Age, Survivors, and Disabilities Insurance
OSC	Office of Children Services
PFAS	Partial FAS
PYLL	Potential Years of Life Lost
QALY	Quality-adjusted Life Years
QCEW	Quarterly Census of Employment and Wages
SAMHSA	Substance Abuse and Mental Health Services Administration
SFY	State Fiscal Year
SMI	Serious Mental Health Illness
SNAP	Supplemental Nutrition Assistance Program
SNF	Skilled Nursing Facility
SSI	Supplemental Security Income
SUD	Substance Use Disorder
TANF	Temporary Assistance for Needy Families
UCR	Uniform Crime Report

Chapter 1: Alcohol Consumption and Prevalence in Alaska

Summary

Alcohol Abuse

- Based on research conducted during 2013-2014, an estimated 54 percent of Alaskans age 12 or older (313,000 individuals) drank alcohol within the past 30 days, while an estimated 23 percent (133,000 individuals) binge drank within the past 30 days. An estimated 7 percent (39,000 individuals) experienced alcohol dependence or abuse in the past year, and an estimated 3 percent (19,000 individuals) experienced alcohol dependency in the past year.

- In 2013-2014, underage drinkers included 9 percent of Alaskan youths age 12-17 and 22 percent of Alaskan youth age 12-20. Binge drinkers included 5 percent of Alaskans age 12-17 and 13 percent of Alaskans age 12-20.

- Average annual alcohol consumption in Alaska (age 14+) was 1.1 gallons of ethanol contained in beer, 0.5 gallons contained in wine, and 1.2 gallons contained in liquor.

- Alcohol consumption has trended down in Alaska from its peak in 1981. Between 2010-2011 and 2013-2014), alcohol use and binge alcohol use remained stable.

- In 2013, 1.6 million gallons of ethanol was consumed in Alaska (including consumption by residents and non-resident visitors), placing Alaska within the top 30 percent of U.S. states' consumption rates. Consumption patterns reported by Alaskans are similar to those in the U.S overall.

- Alaskans spend approximately $182 million annually on alcoholic beverages, $319 for each Alaskan age 14 or older and $670 per Alaskan household.

- In 2013-2014, Alaska ranked 26th nationally for current alcohol use, 31st for binge drinking, 20th for alcohol dependence or abuse, and 21st for alcohol dependence alone.

Co-Occurrence of Mental Health and Substance Abuse

- In 2013, there were approximately 62,815 adults in Alaska who needed treatment for a substance use disorder (SUD), including both alcohol and drug abuse.

- Of those who needed treatment, approximately 37 percent (22,990 people or 3 percent of Alaska's population) also have a mental illness.

Alcohol Consumption in Alaska

Current Consumption Rates and Binge Alcohol Use (2013-2014)

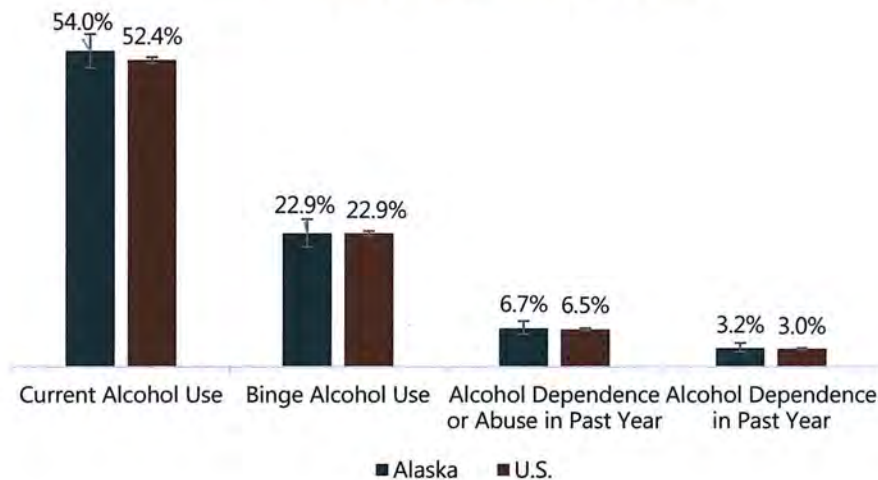
Based on research conducted during the period 2013-2014, it is estimated that just over half (54.0 percent) of Alaskans age 12 or older were alcohol drinkers. More than one in five (22.9 percent) Alaskans were binge drinkers. Binge drinking is defined as a female consuming four or more drinks or a male consuming 5 or more drinks on a single occasion on at least one day in the past 30 days. A total of 6.7 percent of Alaskans reported alcohol dependence or abuse, and 3.2 percent reported alcohol dependence. Alaskans reported consumption patterns similar to those of the nation.

Table 8. Alcohol Consumption Patterns Prevalence Estimates, Alaska and U.S., Ages 12+, 2013-2014

	Alaska		United States	
Alcohol Indicator, Ages 12+	Percent	95% Confidence Interval	Percent	95% Confidence Interval
Current Alcohol Use	54.0%	51.1 - 56.9%	52.4%	51.9 – 52.9%
Binge Alcohol Use	22.9%	20.6 - 25.4%	22.9%	22.5 – 23.3%
Alcohol Dependence or Abuse in Past Year	6.7%	5.7 - 7.9%	6.5%	6.3 – 6.7%
Alcohol Dependence in Past Year	3.2%	2.5 - 4.1%	3.0%	2.9 – 3.2%

Source: National Survey of Drug Use and Health, SAMHSA and Alaska Department of Labor and Workforce Development July 2014 Population Estimates.

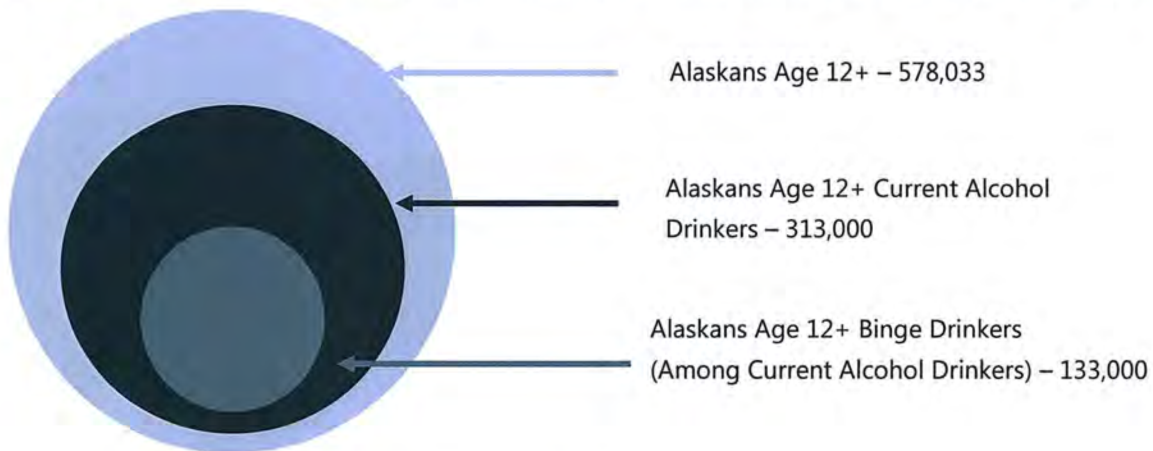
Figure 3. Alcohol Consumption Patterns Prevalence Estimates (%), Alaska and U.S., Ages 12+, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

- In 2013-2014, 313,000 Alaskans (ages 12 or older) were "current" alcohol drinkers. Among current alcohol drinkers, 133,000 binge drank. An estimated 39,000 Alaskans were alcohol dependent or had abused alcohol in the past year. Of that total, 19,000 were alcohol dependent.

Figure 4. Current and Binge Alcohol Use, Prevalence Estimates, Alaska and U.S., Ages 12+, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Table 9. Alcohol Consumption Prevalence Estimates with Alaska Model-Based Population Estimates, Ages 12+, 2013-2014

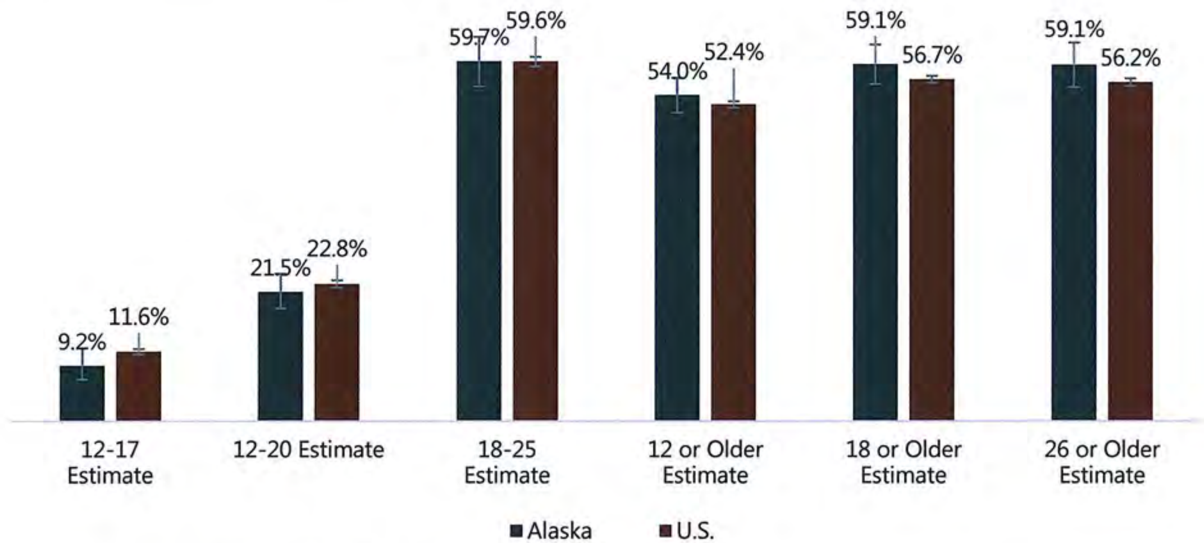
Alcohol Indicator, Ages 12+	% of Alaskans	95% Confidence Interval	# of Alaskans	95% Confidence Intervals
Current Alcohol Use	54.0%	51.1 - 56.9%	313,000	296,000 – 329,000
Binge Alcohol Use	22.9%	20.6 - 25.4%	133,000	120,000 – 147,000
Alcohol Dependence or Abuse in Past Year	6.7%	5.7 - 7.9%	39,000	33,000 – 46,000
Alcohol Dependence in Past Year	3.2%	2.5 - 4.1%	19,000	15,000 – 23,000

Source: National Survey of Drug Use and Health, SAMHSA.

Current and Binge Alcohol Use by Age Group

Nearly one in ten (9.2 percent) Alaskan youth age 12-17 reported current alcohol use. Expanding the age group to 12-20 more than doubles the percentage of Alaska youth consuming alcohol (21.5 percent). Among those ages 18-25, six out of ten (59.7 percent) reported current alcohol use, similar to the percentage of all Alaskans age 18 or older (59.1 percent). Alaskan current alcohol use rates were similar to national rates.

Figure 5. Prevalence of Current Alcohol Use, by Age Group, Alaska and U.S. Comparisons, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

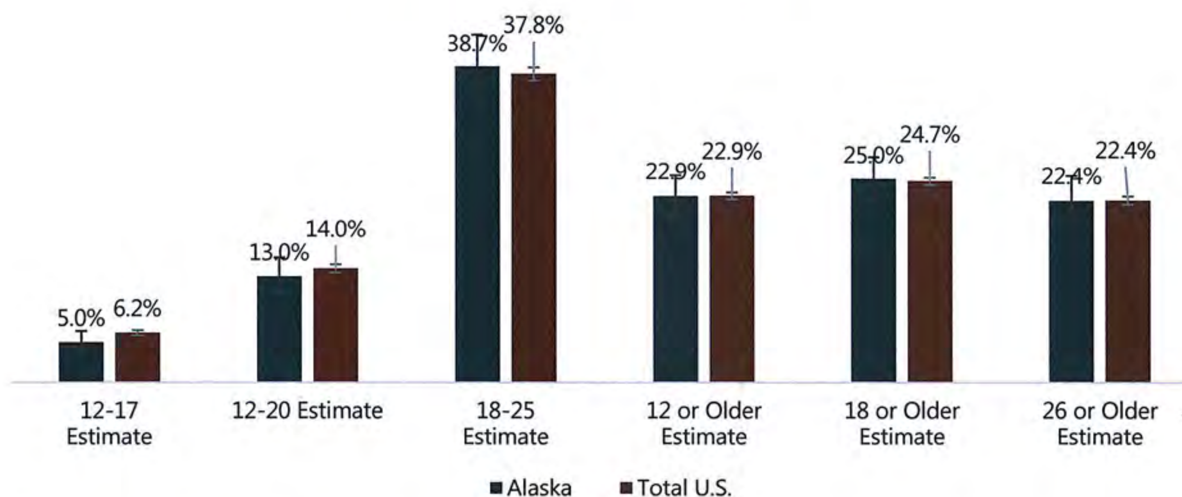
Table 10. Current Alcohol Use Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
12-17 years	9.2%	7.0 – 12.1%	11.6%	11.1 – 12.0%
12-20 years	21.5%	18.8 – 24.5%	22.8%	22.2 – 23.4%
18-25 years	59.7%	55.5 – 63.7%	59.6%	58.8 – 60.4%
12+ years	54.0%	51.1 – 56.9%	52.4%	51.9 – 52.9%
18+ years	59.1%	55.9 – 62.3%	56.7%	56.1 – 57.2%
26+ years	59.1%	55.3 – 62.7%	56.2%	55.6 – 56.8%

Source: National Survey of Drug Use and Health, SAMHSA.

In 2013-2014, 5 percent of Alaskans age 12-17 reported binge drinking. Among those ages 12-20 the percentage rises to 13 percent, and 38.7 percent in the age group 18-25. Binge drinking was reported by 22.9 percent of all Alaskans 12 or older, 25.0 percent of those 18 or older, and 22.4 percent of those 26 or older. Alaska's binge drinking percentages were similar to national rates.

Figure 6. Prevalence of Binge Alcohol Drinking in the Past Month, by Age Group, Alaska and U.S. Comparisons, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Table 11. Prevalence of Binge Alcohol Drinking in the Past Month, by Age Group, Alaska and U.S., 2013-2014

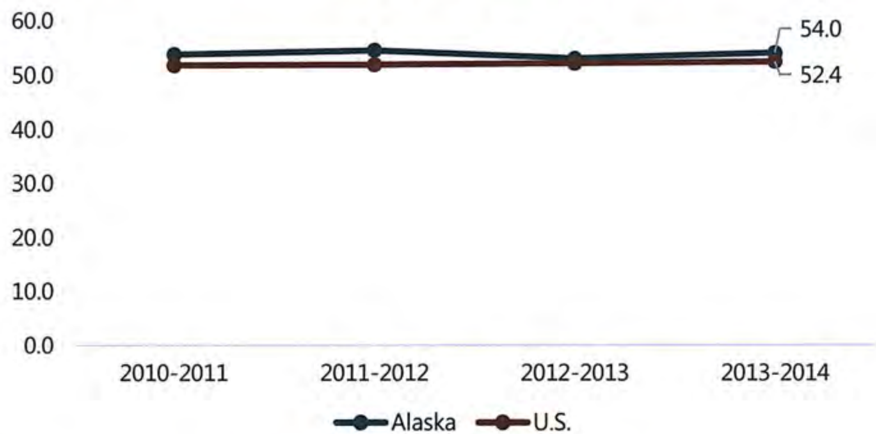
	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
Underage				
12-17 years	5.0%	3.9 – 6.4%	6.2%	5.9 – 6.5%
12-20 years	13.0%	11.0 – 15.4%	14.0%	13.5 – 14.5%
18-25 years	38.7%	34.8 – 42.7%	37.8%	37.1 – 38.6%
12+ years	22.9%	20.6 – 25.4%	22.9%	22.5 – 23.3%
18+ years	25.0%	22.5 – 27.7%	24.7%	24.3 – 25.1%
26+ years	22.4%	19.7 – 25.4%	22.4%	22.0 – 22.9%

Source: National Survey of Drug Use and Health, SAMHSA.

Alaska and National Prevalence Trends in Current and Binge Alcohol Use

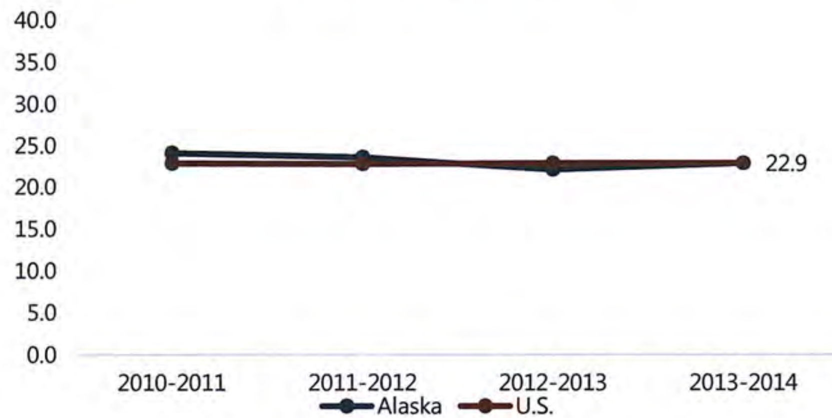
Alaska and U.S. current alcohol use and binge alcohol use remained stable during the 2010-2011 to 2013-2014 period, and Alaska trends did not differ statistically from U.S. trends during this period.

Figure 7. Current Alcohol Use Prevalence Trend, Alaska and U.S, Ages 12+. 2010-2011 to 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Figure 8. Binge Alcohol Use Prevalence Trend, Alaska and U.S., Ages 12+ 2010-2011 to 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Table 12. Current and Binge Alcohol Prevalence Trends, Alaska and U.S., Ages 12+, 2010-2011 to 2013-2014

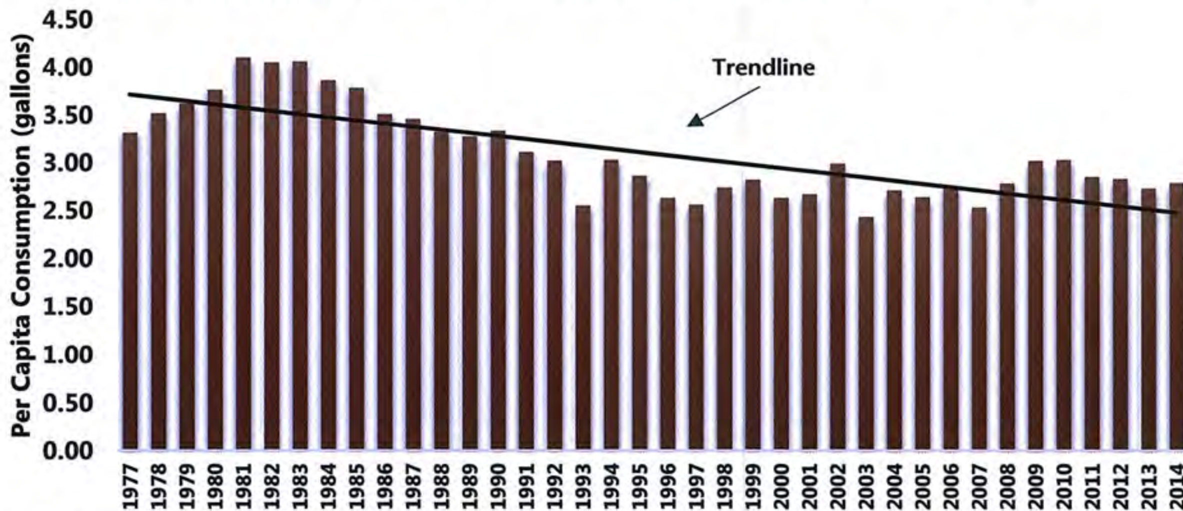
	Alaska		United States	
Alcohol Indicator	**Percent**	**95% Confidence Interval**	**Percent**	**95% Confidence Interval**
Current Alcohol Use				
2010-2011	53.8%	50.3 – 57.2%	51.8%	51.2 – 52.3%
2011-2012	54.5%	51.2 – 57.6%	51.9%	51.4 – 52.5%
2012-2013	53.0%	49.8 – 56.2%	52.1%	51.6 – 52.7%
2013-2014	54.0%	51.1 - 56.9%	52.4%	51.9 – 52.9%
Binge Alcohol Use				
2010-2011	24.1%	21.6 – 26.7%	22.9%	22.5 – 23.3%
2011-2012	23.6%	21.3 – 26.1%	22.8%	22.4 – 23.2%
2012-2013	22.1%	19.7 – 24.7%	22.9%	22.5 – 23.4%
2013-2014	22.9%	20.6 - 25.4%	22.9%	22.5 – 23.3%

Source: National Survey of Drug Use and Health, SAMHSA and Alaska Department of Labor and Workforce Development July 2014 Population Estimates.

Alcohol Consumption Trends

Long term alcohol consumption is trending down in Alaska from its peak in 1981. Between 2001 and 2002, there was a notable spike in alcohol consumption in Alaska, followed by a sharp drop between 2002 and 2003. This spike and the sudden drop may have been in response to the Alcoholic Beverages Tax increase in October 2002 on liquor from $5.60 per gallon to $12.80 per gallon; liquor may have been hoarded in anticipation of the 2002 tax change followed by a short-term drop in alcohol purchases post-tax change. By 2009, liquor consumption resumed to pre-2003 levels.

Figure 9. All Beverages Per Capita Alcohol Consumption, Gallons, Alaska, 1977-2014



Source: National Institute on Alcohol Abuse and Alcoholism.

Types of Alcohol Consumed

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) reported that in 2014 consumption of alcohol in Alaska totaled 14.6 million gallons of beer, 2.4 million gallons of wine, and 1.7 million gallons of spirits (these data are derived from Alaska Department of Revenue Alcoholic Beverage tax data). NIAAA calculates and publishes per capita consumption, in terms of gallons of ethanol (pure alcohol) consumed.

Based on Alaska's population age 14 and over, per capita consumption totaled 2.8 gallons of ethanol contained in beer, wine, and spirits. That ethanol was contained in:

- 24.8 gallons of beer (containing 1.1 gallons of ethanol)
- 4.0 gallons of wine (containing 0.5 gallons of ethanol)
- 2.8 gallons of spirits (containing 1.2 gallons of ethanol)[4]

In per capita terms, alcohol consumption has been trending down in Alaska over the long term, but is variable year-to-year. Over the past 20 years, consumption has essentially been flat.

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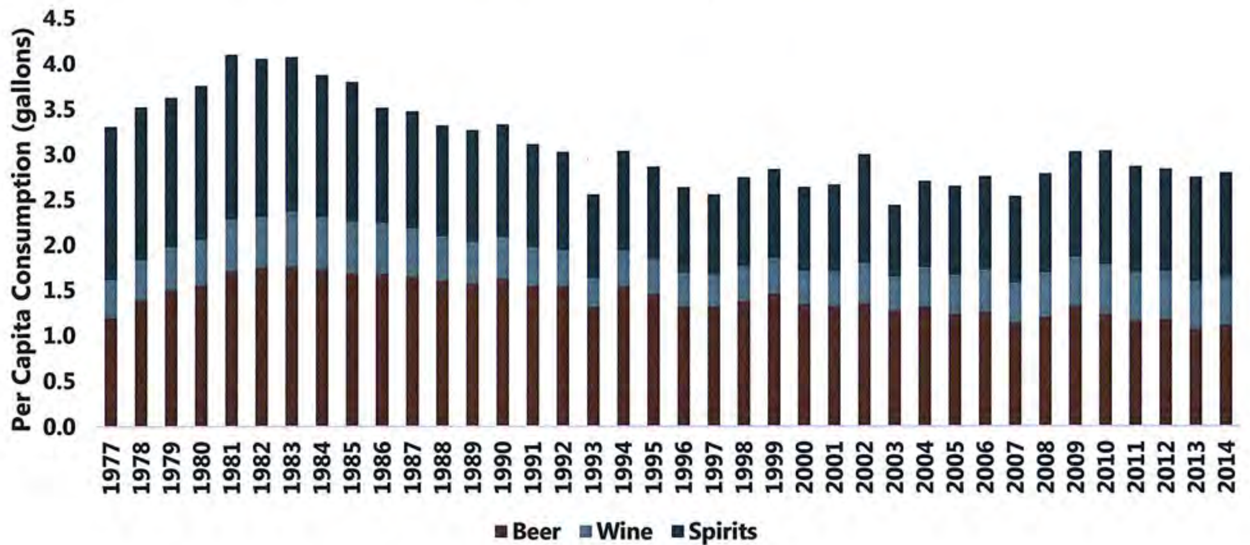
[4] Averages include non-drinkers.

Figure 10. Per Capita Equivalent Alcohol Consumption in Alaska, Gallons of Ethanol, 1977-2014



Source: National Institute on Alcohol Abuse and Alcoholism.

The overall U.S. average was 2.34 gallons for a total of 1.6 million gallons consumed in Alaska (by both residents and non-resident visitors) in 2013. Alaska's consumption was in the top 30 percent of U.S. states' consumption rates.

Consumer Spending

Though no definitive data is available, an estimated $450 million to $500 million is spent annually in Alaska on alcoholic beverages. This estimate includes spending on alcoholic beverages at liquor stores, bars, and restaurants, and includes resident and non-resident spending.

Alcohol Consumption Comparisons with Other States

Current and Binge Alcohol Use

In 2013-2014, Alaska ranked 26th in the country for the number of people reporting current alcohol use and 31st for binge drinking. In terms of alcohol dependence or abuse, Alaska's ranking for alcohol dependence or abuse was 20th and for dependence alone 21st.

(See figure next page.)

Table 13. Alcohol Consumption Patterns, National and State Model-Based Prevalence Estimates sorted by Alcohol Use in the Past Month, Age 12+, Percent, 2013-2014

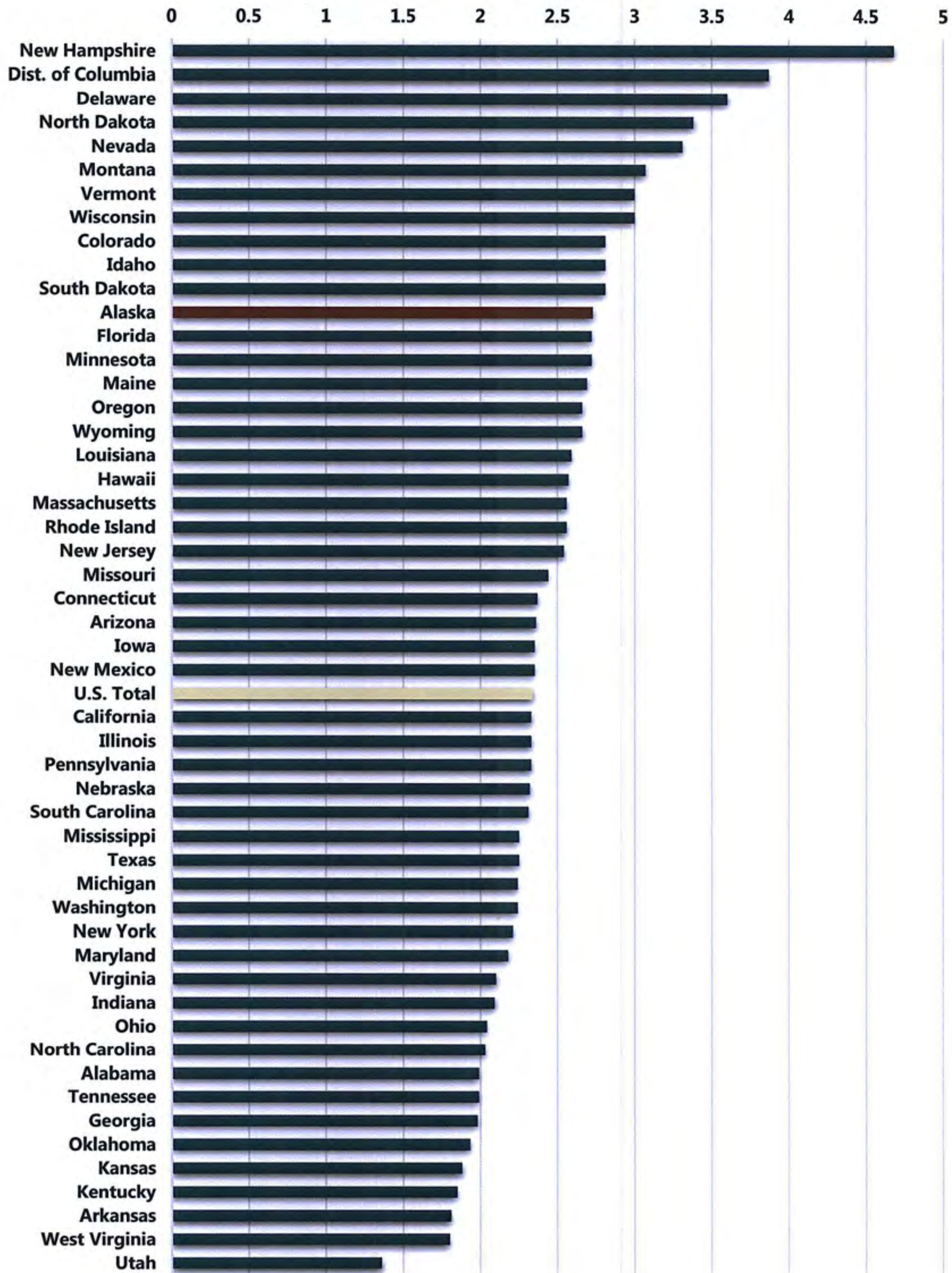
State	Current Alcohol Use		Binge Alcohol Use		Alcohol Dependence or Abuse in Past Year		Alcohol Dependence in Past Year	
Order of Rank	Mid-Point %	95% Conf. Interval	Mid-Point %	95% Conf. Interval	Mid-Point %	95% Conf. Interval	Mid-Point %	95% Conf. Interval
D.C.	68.0	65.2-70.7	34.0	31.3-36.7	9.8	8.4-11.4	4.3	3.4-5.5
New Hampshire	64.4	61.4-67.2	24.7	22.4-27.1	7.6	6.5-8.9	3.5	2.8-4.4
Wisconsin	62.6	59.7-65.4	29.9	27.1-32.8	7.8	6.6-9.1	3.4	2.7-4.2
Massachusetts	62.1	59.2-64.9	24.2	21.9-26.6	6.7	5.7-7.8	2.8	2.2-3.6
Colorado	61.6	58.7-64.3	25.6	23.2-28.1	7.5	6.4-8.8	3.2	2.6-4.0
Vermont	61.2	58.1-64.2	23.4	21.0-25.8	7.2	6.1-8.4	3.4	2.7-4.3
Connecticut	59.9	56.9-62.9	23.5	21.3-26.0	6.8	5.7-7.9	2.9	2.3-3.7
Maine	59.1	56.0-62.1	22.7	20.5-25.2	5.7	4.7-6.8	2.7	2.1-3.4
North Dakota	58.8	56.0-61.5	28.1	25.8-30.4	7.8	6.7-9.0	3.6	2.9-4.4
Minnesota	58.8	55.7-61.7	24.1	21.8-26.5	6.3	5.3-7.5	2.7	2.1-3.4
Montana	58.4	55.2-61.5	24.3	22.0-26.7	7.6	6.5-8.9	3.5	2.8-4.4
Maryland	58.0	55.0-61.0	22.6	20.3-25.1	6.7	5.6-7.9	3.0	2.4-3.9
Rhode Island	57.8	54.7-60.8	25.1	22.7-27.7	7.7	6.5-9.1	3.6	2.9-4.6
Nebraska	57.2	54.3-60.1	24.1	21.8-26.5	7.5	6.4-8.8	3.4	2.8-4.3
Oregon	57.2	54.0-60.2	22.1	19.9-24.5	7.0	5.9-8.2	3.2	2.5-4.0
Pennsylvania	57.1	55.4-58.8	24.4	23.0-25.9	6.6	5.9-7.4	2.8	2.4-3.3
New Jersey	57.0	54.1-59.8	22.6	20.3-24.9	6.5	5.5-7.6	2.8	2.2-3.6
Delaware	56.6	53.5-59.6	23.0	20.7-25.5	6.2	5.2-7.3	2.8	2.2-3.5
Iowa	56.1	53.2-59.1	25.4	23.1-27.8	6.2	5.3-7.4	2.9	2.3-3.6
New York	56.1	54.5-57.7	23.8	22.5-25.2	6.6	5.9-7.4	3.3	2.8-3.8
Illinois	55.6	53.9-57.2	26.4	24.9-27.9	6.2	5.5-6.9	3.0	2.5-3.5
Wyoming	55.4	52.3-58.5	25.1	22.8-27.5	7.5	6.4-8.9	3.6	2.9-4.5
South Dakota	55.2	52.3-58.1	25.6	23.3-28.0	7.6	6.5-8.9	3.4	2.7-4.3
Nevada	54.6	51.5-57.7	24.4	21.9-27.1	6.8	5.7-8.0	3.3	2.6-4.1
Michigan	54.5	52.9-56.2	24.6	23.2-26.0	6.1	5.5-6.8	3.0	2.6-3.5
Alaska	54.0	51.1-56.9	22.9	20.6-25.4	6.7	5.7-7.9	3.2	2.5-4.1
Ohio	53.8	52.1-55.5	25.2	23.8-26.7	6.7	5.9-7.5	3.1	2.7-3.6
Kansas	53.8	50.8-56.7	23.8	21.5-26.3	7.4	6.3-8.7	3.3	2.7-4.2
Washington	53.7	50.8-56.6	20.3	18.3-22.5	6.6	5.5-7.8	2.8	2.3-3.6
Florida	53.2	51.5-54.9	20.9	19.6-22.3	6.0	5.4-6.7	2.8	2.3-3.3
Virginia	52.8	49.9-55.6	23.1	21.0-25.3	7.1	6.1-8.2	3.3	2.7-4.0
Arizona	51.8	48.7-54.9	23.3	21.0-25.9	7.6	6.4-9.0	3.4	2.7-4.4
Indiana	51.1	48.0-54.2	21.7	19.6-24.0	6.7	5.7-7.8	3.3	2.6-4.1
Missouri	50.8	47.8-53.9	25.1	22.8-27.5	6.4	5.4-7.5	2.8	2.2-3.6
California	50.7	49.3-52.1	22.4	21.3-23.7	6.7	6.0-7.3	3.3	2.9-3.8
Hawaii	49.6	46.5-52.7	24.4	22.0-27.0	6.8	5.6-8.2	3.5	2.7-4.4
Louisiana	49.1	46.2-52.1	23.8	21.5-26.4	6.0	5.1-7.2	3.2	2.5-4.0
Oklahoma	48.9	45.8-52.0	23.9	21.5-26.5	6.4	5.3-7.7	2.9	2.2-3.7
Georgia	48.6	45.7-51.6	20.9	18.7-23.2	6.2	5.2-7.3	3.1	2.5-3.8
New Mexico	48.5	45.3-51.8	24.4	22.0-26.9	6.9	5.8-8.2	3.4	2.7-4.4
S. Carolina	48.0	45.2-50.9	21.9	19.8-24.2	5.9	5.0-7.0	2.9	2.3-3.7
Texas	47.3	45.7-48.8	22.3	21.0-23.6	6.5	5.9-7.2	2.9	2.5-3.4
Idaho	47.1	44.2-50.5	20.0	18.0-22.2	6.7	5.7-7.8	3.2	2.5-3.9
N. Carolina	47.0	44.1-49.9	20.3	18.2-22.6	6.1	5.2-7.3	2.9	2.3-3.7
Alabama	44.7	41.6-47.9	21.6	19.3-24.1	5.8	4.8-6.8	3.0	2.4-3.8
Tennessee	43.0	39.9-46.1	17.9	15.9-20.2	5.4	4.5-6.4	2.5	1.9-3.2
Kentucky	42.5	39.5-45.5	19.6	17.5-22.0	5.5	4.6-6.7	2.6	2.0-3.3
Arkansas	42.4	39.6-45.4	20.8	18.7-23.0	5.2	4.4-6.3	2.7	2.1-3.5
Mississippi	42.1	39.1-45.1	19.8	17.6-22.2	5.8	4.8-6.9	3.1	2.4-3.8
West Virginia	38.6	35.7-41.5	19.5	17.5-21.7	6.3	5.3-7.5	3.1	2.4-3.9
Utah	31.9	29.1-34.8	15.9	14.0-18.0	5.4	4.5-6.5	2.7	2.1-3.5
U.S.	52.4	51.9-52.9	22.9	22.6-23.3	6.5	6.3-6.7	3.0	2.9-3.2

Source: National Survey of Drug Use and Health, SAMHSA.

The following diagram shows Alaska ranking 12th in terms of per capita consumption. Caution is urged in interpreting this data, as the estimates include non-resident purchases that occur within each state. As a result, New Hampshire is the top ranked state likely because residents of neighboring states travel there to purchase tax-free alcohol. Similarly, Alaska's large number of visitors each year (approximately 2 million), inflates statewide consumption.

(See figure on next page.)

Figure 11. Apparent Alcohol Consumption (All beverages combined), Alaska, All Other States, and U.S., Gallons of Ethanol, 2013



Source: National Institute on Alcohol Abuse and Alcoholism.

Table 14. Apparent Alcohol Consumption, Alaska, All Other States, and U.S., Gallons of Ethanol, 2013

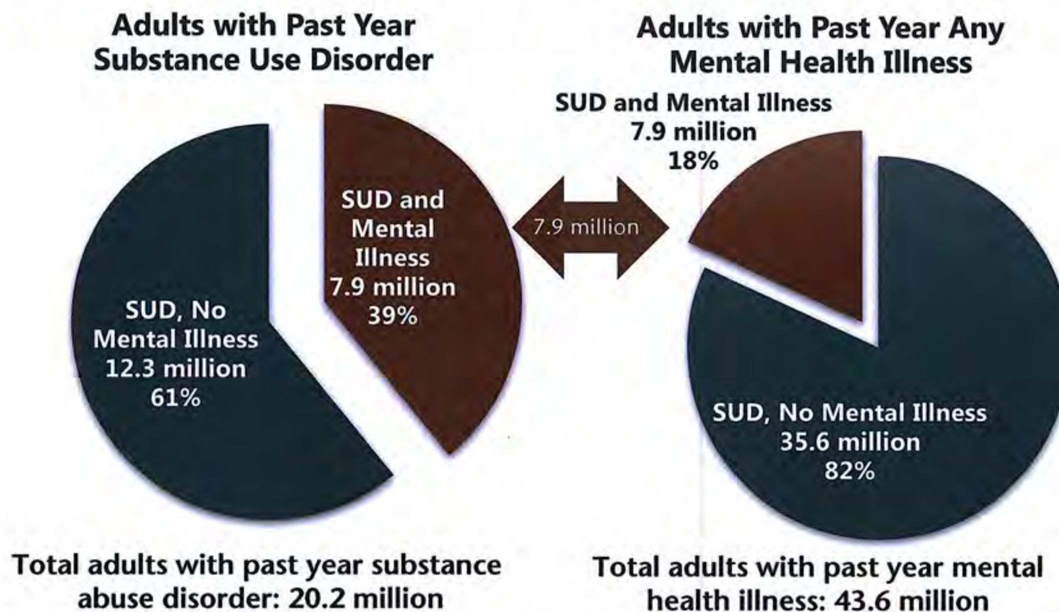
State	Beer Per Capita (gallons)	Wine Per Capita (gallons)	Spirits Per Capita (gallons)	All Beverages Per Capita (gallons)	U.S. Decile
New Hampshire	1.86	0.89	1.93	4.68	1
Dist. of Columbia	1.17	1.02	1.68	3.87	1
Delaware	1.25	0.72	1.63	3.60	1
North Dakota	1.68	0.32	1.37	3.38	1
Nevada	1.40	0.63	1.28	3.31	1
Montana	1.63	0.49	0.95	3.07	2
Vermont	1.54	0.74	0.72	3.00	2
Wisconsin	1.45	0.38	1.18	3.00	2
Colorado	1.20	0.50	1.11	2.81	3
Idaho	0.96	1.08	0.77	2.81	2
South Dakota	1.52	0.28	1.01	2.81	2
Alaska	**1.06**	**0.52**	**1.16**	**2.73**	**3**
Florida	1.28	0.49	0.96	2.72	3
Minnesota	1.13	0.43	1.16	2.72	3
Maine	1.36	0.42	0.91	2.69	3
Oregon	1.20	0.57	0.89	2.66	4
Wyoming	1.24	0.29	1.13	2.66	4
Louisiana	1.34	0.32	0.93	2.59	4
Hawaii	1.26	0.54	0.78	2.57	4
Massachusetts	1.01	0.66	0.90	2.56	5
Rhode Island	1.00	0.58	0.98	2.56	4
New Jersey	0.90	0.62	1.03	2.54	5
Missouri	1.19	0.36	0.89	2.44	5
Connecticut	0.85	0.61	0.91	2.37	5
Arizona	1.13	0.42	0.81	2.36	5
Iowa	1.33	0.22	0.80	2.35	6
New Mexico	1.17	0.34	0.85	2.35	6
California	0.98	0.60	0.75	2.33	6
Illinois	1.13	0.42	0.78	2.33	6
Pennsylvania	1.34	0.31	0.68	2.33	6
Nebraska	1.39	0.21	0.72	2.32	6
South Carolina	1.25	0.25	0.81	2.31	7
Mississippi	1.35	0.16	0.73	2.25	7
Texas	1.30	0.32	0.63	2.25	7
Michigan	1.02	0.37	0.85	2.24	7
Washington	0.95	0.53	0.76	2.24	7
New York	0.93	0.51	0.77	2.21	8
Maryland	0.89	0.39	0.90	2.18	8
Virginia	1.02	0.46	0.62	2.10	8
Indiana	1.00	0.28	0.81	2.09	8
Ohio	1.22	0.30	0.53	2.04	8
North Carolina	1.04	0.39	0.60	2.03	9
Alabama	1.14	0.25	0.60	1.99	9
Tennessee	1.05	0.25	0.69	1.99	9
Georgia	1.03	0.25	0.69	1.98	9
Oklahoma	1.11	0.19	0.63	1.93	9
Kansas	0.99	0.14	0.76	1.88	10
Kentucky	0.95	0.20	0.70	1.85	10
Arkansas	1.00	0.20	0.60	1.81	10
West Virginia	1.24	0.10	0.46	1.80	10
Utah	0.67	0.19	0.51	1.36	10
U.S. Total	**1.12**	**0.42**	**0.80**	**2.34**	

Source: National Institute on Alcohol Abuse and Alcoholism.

Co-Occurring Disorders in the U.S.

According to NSDUH data from *"Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health,"* in 2014, there were 20.2 million adults (age 18 or older) with a past year SUD, and an additional 43.6 million adults who had any mental illness (AMI). Among these two groups, there were 7.9 million adults who had both an SUD and AMI (39 percent of the 20.2 million who have an SUD plus 18 percent of the 43.6 million who have AMI). The 7.9 million adults with co-occurring disorders represent 3.3 percent of the total U.S. population, with 2.3 million experiencing the co-occurrence of an SUD and a serious mental health illness (SMI) (1.0 percent of the total U.S. population).

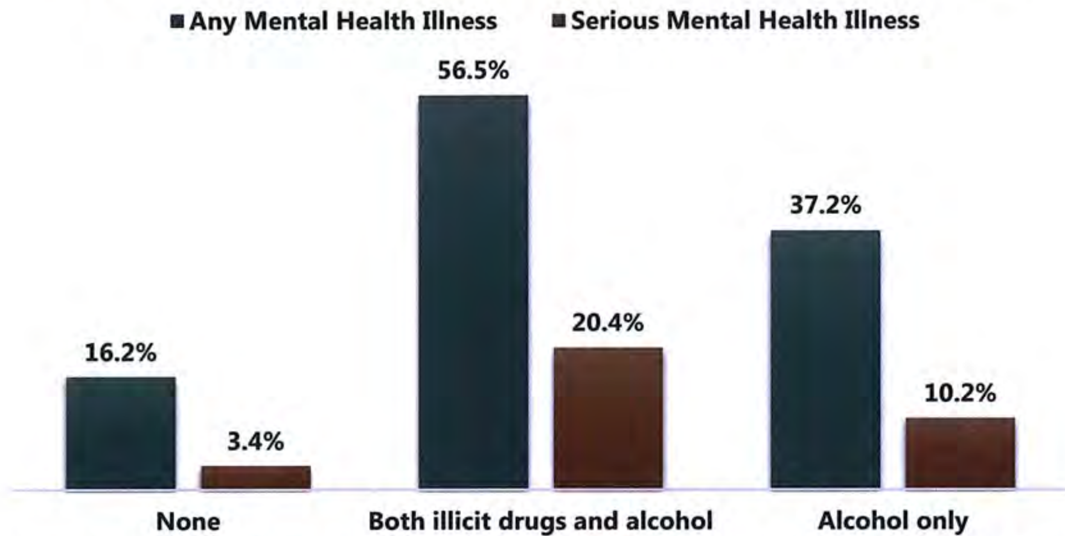
Figure 12. Past Year Co-Occurring Mental Health and Substance Use Disorders, Adults Age 18+, 2014



Source: U.S. Department of Health and Human Services, SAMHSA NSDUH, *"Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health"* (2015).

In 2014, among adults with AMI, only 16 percent had no substance dependence or abuse. However, 57 percent were dependent on or abusing both illicit drugs and alcohol, and 37 percent were dependent on or abusing alcohol only. Among adults with serious mental illness, only 3 percent had no substance dependence or abuse. However, 20 percent were dependent on or abusing both illicit drugs and alcohol, and 10 percent were dependent or abusing alcohol only.

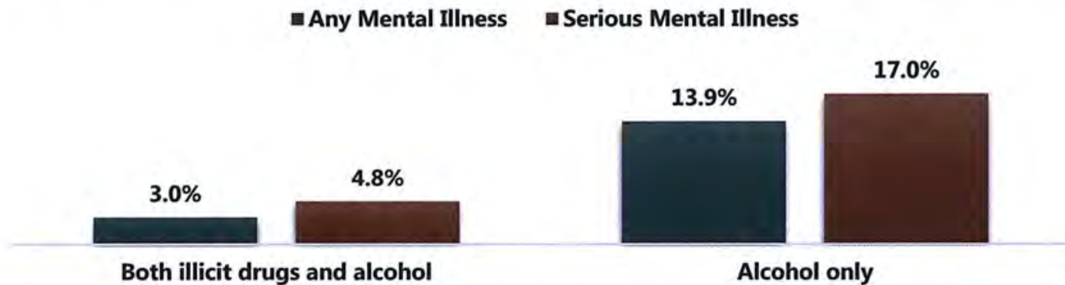
Figure 13. Percentage of Adults (18+ Years) with Mental Illness in the Past Year, by Past Year Alcohol Only or Both Alcohol and Drug Dependence or Abuse, 2014



Source: SAMHSA's NSDUH, *"Results from the 2014 National Survey on Drug Use and Health: Mental Health Detailed Tables"* (2015).

In 2014, among adults with SUDs, 3 percent of those with AMI were dependent on or abusing both illicit drugs and alcohol and 14 percent were dependent on or abusing alcohol only. For those with past year SMI, 5 percent were dependent on or abusing both illicit drugs and alcohol, and 17 percent were dependent on or abusing alcohol only.

Figure 14. Percentage of Adults (18+ Years) with Alcohol Only or Both Alcohol and Drug Dependence or Abuse in the Past Year, by Past Year Mental Illness, 2014



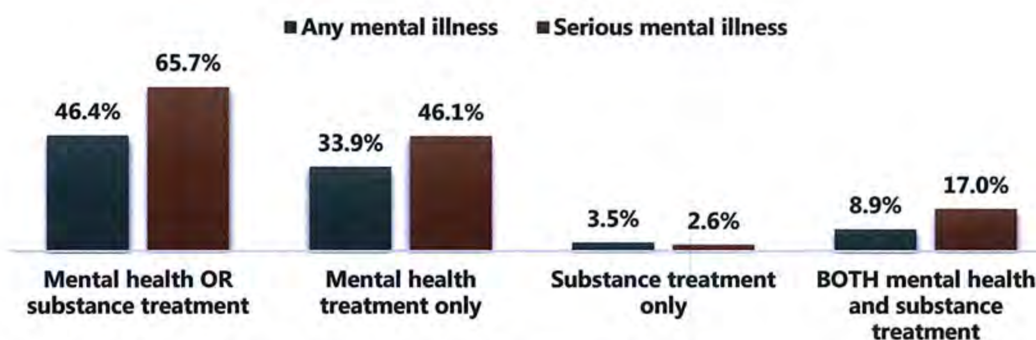
Source: SAMHSA's NSDUH, *"Results from the 2014 National Survey on Drug Use and Health: Mental Health Detailed Tables"* (2015).

Mental health and substance use co-occurring disorders are not limited to adults. While NSDUH does not estimate overall mental health among adolescents age 12-17, it does provide estimates of adolescents having a past year major depressive episode (MDE). MDE is defined as a period of two or more weeks in the past year when an individual experiences a depressed mood or loss of interest or pleasure in daily activities, with at least four out of seven qualifying symptoms (i.e. problems with sleep, eating, energy, concentration, and self-worth). In 2014, there were an estimated 271,000 adolescents in the U.S. who had an SUD and an MDE, approximately 1.1 percent of all U.S. adolescents.

TREATMENT

In 2014, among adults who had substance abuse or dependence in the past year and received some form of treatment, 46 percent with AMI received mental health or substance treatment, 34 percent with AMI received mental health treatment only, 4 percent with AMI received substance treatment only, and 9 percent with AMI received both mental health and substance treatment. Of adults who had a past year substance abuse or dependence and received some form of treatment, 66 percent of those with SMI received mental health or substance treatment, 46 percent of those with SMI received mental health treatment only, 3 percent of those with SMI received substance treatment only, and 17 percent of those with SMI received both mental health and substance treatment.

Figure 15. Percentage of Substance Abuse or Dependence in the Past Year Who Received Mental Health Treatment/Counseling and/or Illicit Drug or Alcohol Treatment in the Past Year, Adults Age 18+, 2014

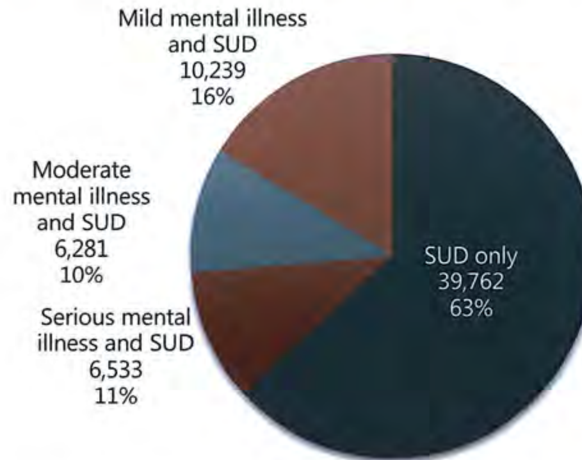


Source: SAMHSA's NSDUH, *"Results from the 2014 National Survey on Drug Use and Health: Mental Health Detailed Tables"* (2015).

Co-Occurring Disorders in Alaska

According to the report *"Alaska Behavioral Health Systems Assessment Final Report,"* in 2013, there were approximately 62,815 adults in Alaska who needed treatment for an SUD. Of those who needed treatment, 22,990 were estimated to have AMI (37 percent of those needing SUD treatment), approximately 3.1 percent of the total Alaska population. Of those with AMI and an SUD, 16 percent had SUD and mild mental illness, 10 percent had moderate mental illness and SUD, and 11 percent had an SMI and SUD.

Figure 16. Alaska Adult Past Year Mental Health Prevalence Among Persons Needing Treatment for Illicit Drug or Alcohol Use, 2013



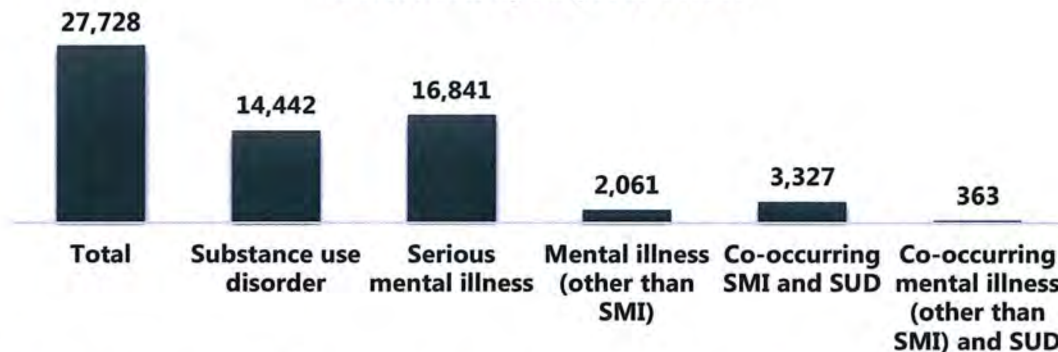
Source: Alaska Mental Health Trust Authority, *"Alaska Behavioral Health Systems Assessment Final Report"* (2016).

TREATMENT

According to SAMHSA's National Survey of Substance Abuse Treatment Services (N-SSATS), in 2013, Alaska had 91 treatment facilities, of which 83 offered treatment services for co-occurring disorders.[5]

Per a report produced for the Alaska Mental Health Trust Authority, in SFY 2013, Alaska behavioral health services served 27,728 unique adult clients with support from State Medicaid and/or behavioral health funds. There were 14,442 individuals with SUD, 16,641 with SMI, 2,061 with mental illness other than SMI, 3,327 with co-occurring SMI and SUD, and 363 with co-occurring SUD and mental illness other than SMI. Adults with SUD or SMI make up 61 percent of the total, and co-occurring disorders comprise 13 percent of the 27,728 Alaska adults.

Figure 17. Total Number of Alaska Adults Served with Support from State Medicaid and Behavioral Health Funds by Diagnosis, FY2013



Notes: Alcohol and/or Related Deaths, as defined, with 100 percent alcohol or drug-attributable ICD-10 codes listed in at least one contributing cause of death, as coded in the International Classification of Diseases, 10th Revision.
Source: Alaska Mental Health Trust Authority, *"Alaska Behavioral Health Systems Assessment Final Report"* (2016).

[5] http://www.samhsa.gov/data/sites/default/files/2013_N-SSATS/2013_NSSATS_National_Survey_of_Substance_Abuse_Treatment_Services.pdf

Chapter 2: Productivity Losses

Summary

- From 2010 to 2014, there were 7,120 deaths in Alaska that had an ICD-10 code potentially linked to alcohol. By applying the attributable fractions, 1,426 of the deaths were attributable to alcohol. Between 2010 and 2014, there was an annual average of 285 alcohol-related deaths.
- There are two ways to measure productivity loss due to alcohol-related deaths: 1) deaths where the primary (or underlying) causes of death are linked to alcohol or 2) deaths where alcohol were not linked to the primary cause but were a subsequent cause with an attributable fraction assigned to that cause of 100 percent due to alcohol (see Tables 62-64 in the appendix for details on which causes are 100 percent attributable). These two measures cannot be combined because there will be overlap between deaths where both primary and subsequent causes were attributable to alcohol abuse. However, both measures are useful as indicators of the productivity loss associated with alcohol abuse.
- Productivity loss due to deaths where alcohol is the primary cause of death totaled approximately $582 million in Alaska in 2014.
    - An average of 94 women and 191 men died per year from alcohol abuse.
    - Female deaths attributed to alcohol caused a productivity loss of $138.3 million (23 percent of total), while male deaths caused the remaining $443.2 million productivity loss.
    - The age group with the highest productivity loss was ages 45-54, followed by ages 55-64 and ages 35-44.
- Productivity loss due to deaths where alcohol was listed in a subsequent cause of death and the attribution fraction was 100 percent for that cause totaled $709 million.
    - An average of 152 women and 242 men died per year.
    - Productivity loss for female deaths was $211 million (30 percent of the total), and the remaining $497 million for men.
    - The age group with the highest productivity loss was ages 45-54, followed by ages 55-64, and 35-44.
- The estimated cost of lost productivity due to alcohol abuse-related incarceration in Alaska in 2014 was about $41.5 million, including $3.2 million for women (8 percent) and $38.3 million for men (92 percent).
- In 2014, productivity losses due to alcohol dependence were an estimated $73.4 million.
    - Individuals who were assessed as alcohol dependent in Alaska lost an estimated $67 million in traditional (workplace) earnings. Men represented $51 million (77 percent of the total) while women had a productivity loss of $16 million.

- Individuals who were assessed as alcohol dependent or abusive, there was an estimated loss of $139.1 million in traditional earnings in 2014. The total for men was $106.4 million (77 percent) while the balance of the loss, $32.6 million, was incurred by women.
- The productivity loss due to absenteeism from alcohol dependence or abuse was estimated to be $6 million in 2014. Men were estimated to have a loss of $4.5 million (72 percent) while women incurred a loss of $1.7 million (28 percent).

- In SFY 2015, admission to 24-hour alcohol detoxification and residential treatment services resulted in an estimated loss of $1.5 million in potential earnings. These lost earnings were associated with approximately 46,661 bed days for alcohol treatment.
- In SFY 2015, 26,289 lost days of work for medical treatment of diseases and conditions attributable to alcohol abuse resulted in an estimated $5.0 million in lost earnings.
- In 2015, in total, alcohol abuse resulted in $775 million in lost productivity in Alaska.

Lost Productivity Due to Mortality

One of the largest economic costs to Alaska due to alcohol abuse results from premature death. Various causes of death can be attributed to alcohol abuse either directly or indirectly, such as alcohol poisoning, cirrhosis of the liver, motor vehicle collisions, diabetes, or homicide. In all such cases, premature death results in the loss of the person's potential productivity. Total lost productivity because of death makes up the largest alcohol-attributable cost to the Alaska economy.

Since each individual has the potential to join the workforce and contribute to the economy, premature death costs the economy in the form of lost production of goods and services as well as the circulation of earned wages back into the local economy. While some individuals may not join the workforce, they nevertheless have the potential to create societal value by performing household services, such as raising children and maintaining the household.

According to DHSS' BVS, 7,120 deaths occurred in Alaska from 2010 to 2014 that included an ICD-10 code that could be linked to alcohol. By applying the attributable fractions, it was estimated 1,426 of these deaths (20 percent) were attributable to alcohol. There was an annual average of 285 alcohol-related deaths between 2010 and 2014.

Table 15. Alaska Alcohol-Related Deaths, 2010-2014

	Deaths Caused by Selected ICD-10 Diagnoses 2010-2014	Estimated Alcohol Attributable Deaths 2010-2014	Annual Average Alcohol Attributable Deaths Per Year
Directly attributable (100 percent)	620	620	124
Partially attributable <100 percent	6,501	807	161
Total	**7,120**	**1,426**	**285**

Notes: Due to rounding columns may not add to totals. See the Appendix for ICD-10 codes used and specific alcohol attribution rates by gender and age groups, along with estimations by cause of death.
Source: Death counts provided by DHSS' Division of Public Health Bureau of Vital Statistics' (BVS) unpublished data and McDowell Group calculations. Alcohol attribution rates from CDC, Alcohol and Public Health, Alcohol-Related Disease Impacts (ARDI).

Estimated Productivity Losses for Primary (Underlying) Cause of Death

The table below shows the annual average number of alcohol-attributable deaths by age and gender from 2010 to 2014 where alcohol was the primary cause of death. The table includes estimates of the inflation-adjusted future earnings for each age group and gender and the estimated economic loss by age group and gender.[6] The primary (underlying) causes of alcohol-related death with the highest annual costs were alcoholic liver disease (56 deaths per year), suicide (37 deaths per year), poisoning by substances other than alcohol (29 deaths per year), and alcohol poisoning (28 deaths per year). Total productivity loss due to alcohol-attributable deaths is estimated at $581.5 million. Almost one quarter of the productivity loss attributed to alcohol ($138.3 million) is associated with female deaths. The remaining $443.2 million is associated with male deaths.

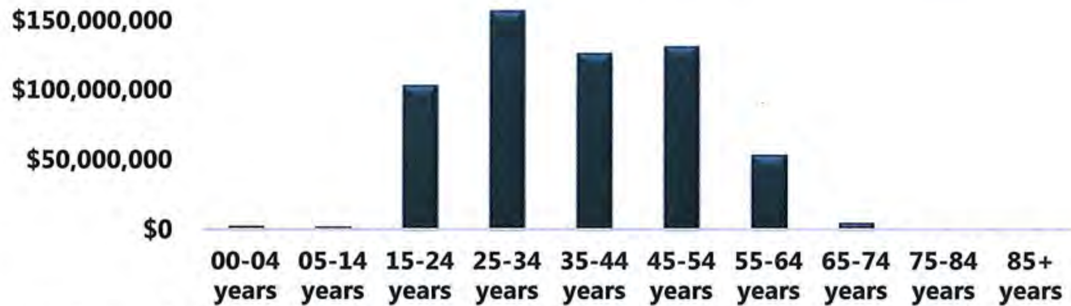
Table 16. Estimated Productivity Loss in Alaska, Primary Cause Alcohol-Attributable Mortality, by Age and Gender, Annual Average Deaths 2010-2014, $2014

	Annual Ave. Alcohol Attributable Deaths	Net Present Value of Future Earnings (3% Discount Rate)	Estimated Loss Due to Alcohol ($)
Females			
0-4 years	0.4	$2,240,253	$931,945
5-14 years	0.3	$2,641,089	$697,247
15-24 years	7.3	$3,056,355	$22,183,025
25-34 years	12.6	$2,847,565	$35,850,843
35-44 years	14.6	$2,185,690	$32,015,987
45-54 years	25.8	$1,343,687	$34,626,814
55-64 years	21.0	$532,092	$11,190,959
65-74 years	5.6	$122,750	$689,364
75-84 years	3.5	$22,338	$78,183
85+ years	2.8	$1,113	$3,087
Females Total	**94**	**-**	**$138,267,455**
Males			
0-4 years	0.5	$3,028,719	$1,641,566
5-14 years	0.4	$3,572,336	$1,350,343
15-24 years	19.2	$4,225,625	$80,988,329
25-34 years	29.0	$4,185,264	$121,565,178
35-44 years	27.8	$3,390,101	$94,122,764
45-54 years	43.6	$2,214,940	$96,584,674
55-64 years	43.9	$960,192	$42,196,598
65-74 years	17.6	$250,985	$4,416,332
75-84 years	6.5	$48,252	$313,831
85+ years	2.8	$4,054	$11,189
Males Total	**191**	**-**	**$443,190,803**
Overall Total	**285**	**-**	**$581,458,258**

Note: Due to rounding columns may not add to totals. The term, "primary" is substituted for the official term, "underlying."
Source: Death counts provided by DHSS' BVS' unpublished data, and McDowell Group calculations. Alcohol attribution rates from CDC's ARDI. Net present value of future earnings from Wendy Max, Dorothy Rice, Hai-Yen Sung, Martha Michel, *"Valuing Human Life: Estimating the Present Value of Lifetime Earnings, 2000"* (2004). Values have been adjusted for inflation from ADOLWD Research and Analysis, http://laborstats.alaska.gov/cpi/cpi.htm.

[6] The totals in this section may differ slightly from totals in other sections in this chapter due to the removal of deaths where the age of the person is unknown.

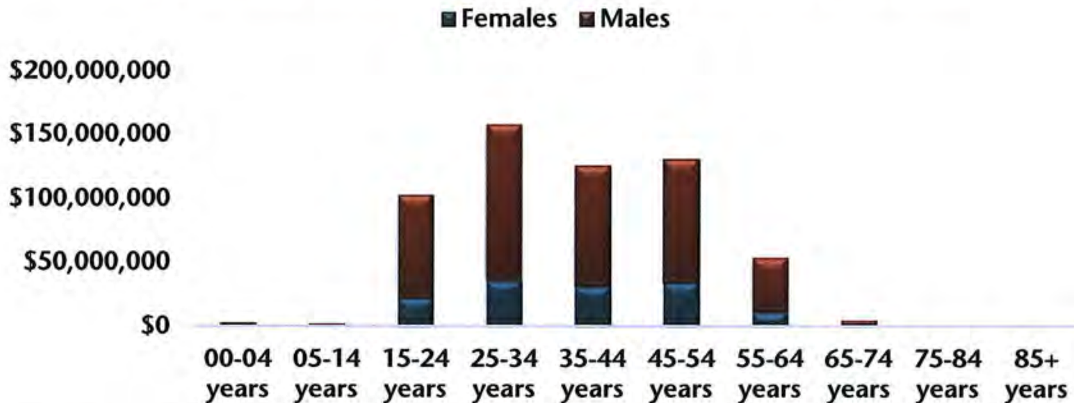
Figure 18. Estimated Productivity Loss in Alaska, Primary Cause Alcohol-Attributable Mortality, by Age Group and Gender, Annual Average Deaths 2010-2014, $2014



Note: The term, "primary" is substituted for the official term, "underlying" because it is more commonly understood.
Source: DHSS' BVS' unpublished data, McDowell Group calculations, CDC's ARDI, CDC's Vital Statistics, Patra et al., Rogers et al., Max et al., and ADOLWD.

In 2014 dollars, the largest losses of deaths attributable to alcohol were in age 25-34 group, followed by ages 45-54 and 35-44.

Figure 19. Estimated Productivity Loss in Alaska, Primary Cause Alcohol-Attributable Mortality, by Age Group and Gender, Annual Average Deaths 2010-2014, $2014



Note: The term, "primary" is substituted for the official term, "underlying" because it is more commonly understood.
Source: DHSS' BVS' unpublished data, McDowell Group calculations, CDC's ARDI, Max et al. and ADOLWD.

Estimated Productivity Losses for Contributing (Not Primary) Cause of Death

Another way to estimate productivity loss is to consider alcohol-related deaths when the primary cause of death was not alcohol-attributable, but rather a contributing cause and the attributable fraction assigned to that cause is 100 percent (see Tables 62-64 in the appendix for details on which causes of death are 100 percent attributable).

Based on this methodology, the number of alcohol-attributable deaths between 2010 and 2014 is 1,970, for an annual average of 394 alcohol-related deaths per year from 2010-2014.

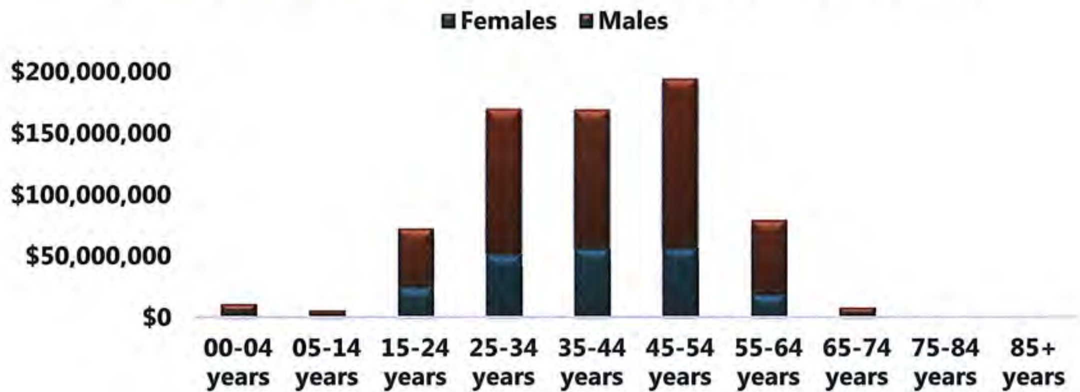
For all deaths where alcohol was a contributing cause and where the attribution rate assigned to the cause was 100 percent due to alcohol, there was an estimated productivity loss of $708.9 million. Females had an annual average of 152 deaths per year for a productivity loss of $211.5 million (30 percent of total), while males averaged 242 deaths per year for a productivity loss of $497.4 million (70 percent of total). The age group with the highest productivity loss was ages 45-54, followed by ages 25-34, and 35-44.

Table 17. Estimated Productivity Loss in Alaska, Contributing Cause Alcohol-Attributable Mortality Deaths, by Age and Gender, Annual Average Deaths 2010-2014, $2014

	Annual Average Deaths Per Year 2010-2014	Net Present Value of Future Earnings	Estimated Loss ($)
Females			
0-04	1.2	$2,240,253	$2,688,304
5-14	0.6	$2,641,089	$1,584,653
15-24	8.0	$3,056,355	$24,450,841
25-34	17.8	$2,847,565	$50,686,654
35-44	25.4	$2,185,690	$55,516,524
45-54	41.8	$1,343,687	$56,166,124
55-64	35.4	$532,092	$18,836,043
65-74	11.0	$122,750	$1,350,250
75-84	7.8	$22,338	$174,240
85+	3.0	$1,113	$3,338
Females Total	**152**	-	**$211,456,971**
Males			
0-04	2.8	$3,028,719	$8,480,415
5-14	1.0	$3,572,336	$3,572,336
15-24	11.4	$4,225,625	$48,172,124
25-34	28.4	$4,185,264	$118,861,501
35-44	33.4	$3,390,101	$113,229,361
45-54	62.2	$2,214,940	$137,769,277
55-64	63.0	$960,192	$60,492,102
65-74	25.4	$250,985	$6,375,006
75-84	9.8	$48,252	$472,872
85+	4.2	$4,054	$17,028
Males Total	**242**	-	**$497,442,023**
Overall Total	**394**	-	**$708,898,993**

Notes: Alcohol Related Deaths, as defined, with 100 percent alcohol-attributable ICD-10 codes listed in at least one contributing cause of death, as coded in the International Classification of Diseases, 10th Revision. Due to rounding, some columns may not sum to total.
Source: Death counts provided by DHSS' BVS' unpublished data and McDowell Group calculations. Net present value of future earnings from Wendy et al., *"Valuing Human Life: Estimating the Present Value of Lifetime Earnings, 2000"* (2004). Values have been adjusted for inflation from ADOLWD Research and Analysis, http://laborstats.alaska.gov/cpi/cpi.htm.

Figure 20. Estimated Productivity Loss in Alaska, Contributing Cause Alcohol-Attributable Mortality Deaths, by Age and Gender, Annual Average Deaths 2010-2014, $2014



Notes: Alcohol Related Deaths, as defined, with 100 percent alcohol-attributable ICD-10 codes listed in at least one contributing cause of death, as coded in the International Classification of Diseases, 10th Revision.
Source: DHSS' BVS' unpublished data, McDowell Group calculations, CDC's ARDI, CDC's Vital Statistics, Patra et al., Rogers et al., Max et al., and ADOLWD.

Estimated Value of Potential Years of Life Lost (PYLL)

Yet another way to see the impact of mortality due to alcohol is by calculating the potential years of life lost (PYLL). These estimates are based on an average 75-year lifespan for both males and females, a person's age at the time of their death, and how many years they would have been expected to live if alcohol had not been a factor in their deaths.

Using the PYLL method, between 2010 and 2014, there were 1,349 deaths attributable to alcohol for a total of 38,429 PYLL, and an annual average of 7,684 PYLL per year. No attempt was made to calculate a monetary value for PYLL.

Table 18. Estimated PYLL (Potential Years of Life Lost) Due to Alcohol-attributable Causes in Alaska, 2010-2014

Cause	Total Number of Alcohol-attributable Deaths	PYLL Attributable to Alcohol	Average PYLL Per Year
Directly attributable (100 percent)	620	14,927	2,985
Partially attributable <100 percent	729	23,502	4,699
Total	**1,349**	**38,429**	**7,684**

Note: Due to rounding columns may not add to totals.
Source: Death counts provided by DHSS' BVS' unpublished data, and McDowell Group calculations. Alcohol attribution rates from CDC's ARDI.

Lost Productivity Due to Incarceration

Alaska also experiences lost productivity from people incarcerated because of alcohol. Incarcerated individuals may commit a crime directly related to alcohol use, such as driving while intoxicated. They may also commit crimes when they are under the influence of alcohol or to obtain more alcohol. It is assumed incarcerated adults could otherwise be productive members of the workforce or in households. Therefore, their absence from society due to incarceration is an economic loss for Alaska.

The table below shows the number of inmates in Alaska by offense category, the percentages of crimes attributable to alcohol and the estimated numbers of inmates attributed to alcohol. In 2014, there were 3,302 inmates incarcerated in Alaska for the specified offenses. Of those inmates incarcerated due to substance abuse, 998 were attributed to alcohol (30 percent of all inmates).

Table 19. Incarcerations Attributed to Alcohol Abuse by Offense in Alaska, 2014

Type of Offense	2014 Alaska Inmates by offense category [1]	Percent Attributed to Alcohol [2]	Estimated Number Attributed to Alcohol
Alcohol offenses	340	100%	340
Assault	749	23%	225
Burglary	108	22%	4
Drug offenses	433	0%	0
Homicide/murder/manslaughter	429	47%	202
Larceny-theft	286	16%	46
Motor vehicle theft	49	23%	11
Prostitution	2	1%	0
Robbery	130	27%	24
Sexual offenses	776	22%	146
Total	**3,302**		**998**

[1] Alaska Department of Corrections (DOC), *"Alaska Offender Profile, 2014"* (2015). http://www.correct.state.ak.us/admin/docs/Final_2014_Profile.pdf
[2] The Lewin Group, *"Economic Cost of Excessive Alcohol Consumption in the United States, 2006"* (2010).

To estimate the cost of lost productivity, the study team obtained median individual annual average earnings for Alaska's population 16 or older by gender from the ACS 2010-2014 Five-Year Data. These earnings (adjusted for inflation to 2014 dollars) were $42,923 (+/-$800) for males and $30,441 (+/-$400) for females. The estimated cost of lost productivity due to incarceration in Alaska in 2014 was $51.5 million; $3.2 million from women (8 percent) and $38.3 million from men (92 percent).[7]

Table 20. Cost of Lost Productivity Attributed to Alcohol in Alaska, by Gender, 2014

Estimated Number	Attributed to Alcohol[1]	Total[1]	Median Earnings[2]	Earnings Lost Due to Incarceration Due to Alcohol
Females incarcerated	106	249	$30,441	$3,226,746
Males incarcerated	892	1,483	$42,923	$38,287,316
Total	**998**	**1,732**		**$41,514,062**

Source: [1] McDowell Group calculations based on DOC, and the Lewin Group alcohol attribution rates. [2] American Community Survey (ACS) 2010-2014 Five-Year Data.

Losses Due to Diminished Productivity

Alcohol abuse can impair an individual's productivity in employment (physical and/or mental impairment, ability, willingness, or motivation to work or find a job, etc.) and non-employment activities (household chores, parenting, etc.).

[7] The large differential between men and women is partly because of men's higher earnings but mainly because men are a much larger proportion of the prison population than women.

Overall, in 2014, economic productivity losses due to alcohol dependence were estimated to be $73.4 million, while losses due to alcohol dependence or abuse were estimated at $145.6 million. These estimates address only workplace earnings. While non-employment impacts are important, there is no generally accepted method to compute monetary values for household activities.

Table 21. Alaska Diminished Productivity Losses Due to Alcohol Dependence or Abuse, 2014

	Dependent	Dependent or Abusing
Traditional earnings	$66,978,525	$139,138,770
Absenteeism	$6,468,016	$6,468,016
Total	**$73,446,541**	**$145,606,786**

Source: McDowell Group calculations.

Alcohol Dependence and Abuse

LOSSES RELATED TO TRADITIONAL EARNINGS

Two estimates of impaired productivity losses in traditional earnings are shown below. The first is for individuals who reported alcohol dependence in the past year, while the second is for individuals who reported alcohol dependence or abuse in the past year. The estimates cannot be added together as there is overlap.

In 2014, there was an estimated loss of $67.0 million in traditional earnings by individuals who reported past year alcohol dependence in Alaska. Males lost approximately $51.2 million (77 percent), while females lost 15.7 million (24 percent).

Table 22. Alaska Labor Force Earnings Losses, Workers with a History of Alcohol Dependence, by Gender, 2014

	Male	Female	Total
2014 Alaska population 18+ years [1]	284,570	263,915	**548,485**
2013-2014 Annual average percentage of population 18+ years reporting past year alcohol dependence [3]	3.5%	3.5%	--
Estimated number of Alaskans 18+ years alcohol dependent	9,931	9,211	**19,142**
2010-2014 Median Alaska individual annual average earnings [4]	$42,923	$30,441	-
Loss in productivity from alcohol dependence [2]	12.0%	5.6%	-
Estimated productivity loss due to alcohol dependence	**$51,243,257**	**$15,735,268**	**$66,978,525**

Columns may not add due to rounding.
[1] Alaska Department of Labor and Workforce Development's 2014 population estimates.
[2] The Lewin Group, *"Economic Cost of Excessive Alcohol Consumption in the United States, 2006"* (2010).
[3] SAMHSA's *"National Survey on Drug Use and Health, 2013 and 2014 – Alaska"* (2014).
[4] American Community Survey (ACS) 2010-2014 Five-Year Data.

Individuals who reported past year alcohol dependence or abuse experienced an estimated loss of $139.1 million in traditional earnings in 2014. Males were estimated to have lost $106.5 million (77 percent) and females $32.7 million (24 percent) in earnings.

Table 23. Alaska Labor Force Earnings Losses, Workers with a History of Alcohol Dependence or Abuse, by Gender, 2014

	Male	Female	Total
2014 Alaska population 18+ years [1]	284,570	263,915	**548,485**
2013-2014 Annual average percentage of population 18+ years reporting past year alcohol dependence or abuse [3]	7.3%	7.3%	-
Estimated number of Alaskans 18+ years alcohol dependent or abusing	9,931	9,211	**39,765**
2010-2014 Median Alaska individual annual average earnings [4]	$42,923	$30,441	-
Loss in productivity from alcohol dependence [2]	12.0%	5.6%	-
Estimated productivity loss due to alcohol dependence or abuse	**$106,450,893**	**$32,687,877**	**$139,138,770**

Columns may not add due to rounding.
[1] Alaska Department of Labor and Workforce Development's 2014 population estimates.
[2] The Lewin Group, *"Economic Cost of Excessive Alcohol Consumption in the United States, 2006"* (2010).
[3] SAMHSA's *"National Survey on Drug Use and Health, 2013 and 2014 – Alaska"* (2014).
[4] American Community Survey (ACS) 2010-2014 Five-Year Data.

LOSSES RELATED TO ABSENTEEISM

The productivity loss due to absenteeism was estimated to be $6.3 million in 2014; males were estimated to have lost $4.5 million (72 percent) and females $1.7 million (28 percent).

Table 24. Alaska Productivity Losses Due to Alcohol-related Absenteeism, by Gender and Age Groups, 2014

	2014 Alaska Population 18+ Years [1]	% Alaska Civilian Population Employed Full-Time, Year-Round (16+ years) [2]	% Alaska Nondependent Binge Alcohol Use [3]	Mean Excess Days Lost Per Year [4]	Median Daily Earnings for Full-Time, Year-Round Civilian Employees [2]	Estimated Productivity Loss ($)
Females	**263,915**	**43%**	-	-	**$121.97**	**$1,740,880**
18-25 years	39,129	43%	33%	0.778	$121.97	$522,516
26+ years	224,786	43%	19%	0.529	$121.97	$1,218,363
Males	**284,570**	**57%**			**$160.45**	**$4,549,660**
18-25 years	45,556	57%	33%	1.114	$160.45	$1,500,772
26+ years	239,014	57%	19%	0.723	$160.45	$3,048,888
Total	**548,485**	-	-	-	-	**$6,290,540**

Note: Percentage of nondependent binge drinking was calculated by excluding individuals who have been alcohol dependent within the last 12 months. Columns may not add due to rounding. Columns may not add due to rounding.
[1] Alaska Department of Labor and Workforce Development's 2014 population estimates.
[2] U.S. Census Bureau's American Community Survey (ACS) 2010-2014 Five-Year Estimates.
[3] SAMHSA's *"National Survey on Drug Use and Health, 2013 and 2014 – Alaska"* (2014).
[4] The Lewin Group, *"Economic Cost of Excessive Alcohol Consumption in the United States, 2006"* (2010).

Lost Productivity Due to Alcohol Treatments

When individuals are admitted to a medical facility for treatment of alcohol dependence or abuse, they may lose time that would otherwise be spent in the workforce. This results in economic loss due to reduced employment, production, and services. To estimate that loss, this report quantifies potential earnings forfeited by clients admitted to DBH Treatment and Recovery grantee agencies for 24-hour detoxification or residential services.

In SFY 2015, admission to 24-hour detoxification and residential treatment services resulted in an estimated loss of potential earnings of $1.5 million associated with alcohol abuse/dependence. These lost earnings were associated with 46,661 bed days for alcohol treatment.

Table 25. Number of 24-Hour Detoxification and Residential Bed Days and Estimated Lost Earnings from Alcohol-related Admissions, SFY 2015

	Number/$ Amount
Number of Bed Days	46,661
Estimated Lost Earning	$1,494,051

Source: Total number of bed days estimates calculated from data provided by the State of Alaska Division of Behavioral Health.

Incomes varied widely for clients receiving services at residential treatment and detoxification facilities. More than half (56 percent) reported annual incomes of $0 or less than $5,000. Estimates of lost earnings per day ranged from $0 to $143.

Table 26. Number of Clients Who Received 24-Hour Detoxification or Residential Treatment Services, Number of Bed Days for Those Clients, and Estimated Lost Earnings, Attributable to Alcohol, by Client Income Range, SFY 2015

Income Range	# of Clients	% of Clients	Estimated # of Alcohol Bed Days	Estimated Earnings per Day	Estimated Lost Earnings due to Alcohol Abuse
<18 years	110	5.20%	2,440	$0	$0
$0-4,999	1,176	55.9	26,080	7	186,857
$5,000-9,999	147	7.0	3,260	21	70,071
$10,000-$19,999	257	12.2	5,700	43	245,034
$20,000-29,999	151	7.2	3,349	72	239,948
$30,000-39,999	70	3.3	1,552	100	155,676
$40,000-49,000	53	2.5	1,175	129	151,534
$50,000+	140	6.7	3,105	143	444,931
Total	**2,104**	**100%**	**46,661**		**$1,494,051**

Source: Estimates calculated from data provided by the State of Alaska Division of Behavioral Health.

Lost Productivity Due to Alcohol-Related Medical Conditions

In SFY 2015, 26,289 lost days of work for medical treatment of diseases and conditions attributable to alcohol abuse resulted in an estimated $5.0 million in lost earnings.

Table 27. Total Length of Stay for Inpatient and ED Treatment of Diseases and Conditions Attributable to Alcohol Abuse, and Subsequent Lost Potential Earnings, SFY 2015

Total Inpatient Length of Stay (days)*	Total ED Length of Stay (days)*	Total Length of Stay (days)	Average Earnings per Day**	Estimated Lost Potential Earnings
10,294	15,995	26,289	$192	$5,047,488

Source: *Alaska Hospital Facilities Data Reporting Program (HRFP); **Based on DOLWD wage data.

Chapter 3: Vehicle Traffic Collisions

Summary

- In 2011, 704 vehicle traffic collisions in Alaska were attributed to impaired (alcohol and/or drug) drivers, costing approximately $991 million.
- Impaired traffic collisions represented about 6 percent of all traffic collisions (a total of 12,576 collisions) in Alaska.
- Of the impaired collisions, 54 percent involved property damage only, 33 percent resulted in minor injuries, 9 percent resulted in major injuries, and 4 percent caused a fatality.
- 1,680 persons were involved in the 704 impaired-related collisions; 229 people had minor injuries, 64 had major injuries, and there were 32 fatalities.
- Nationally, over the past twenty years, approximately 40 percent of all motor vehicle fatalities occurred in collisions in which a driver or non-occupant consumed a measurable level of alcohol prior to the collision.
- Of the $990.5 million in estimated costs due to substance abuse-related traffic collisions, approximately 60 percent (or $594.3 million) are related to alcohol abuse.

Impaired Traffic Collisions

The Alaska Department of Transportation and Public Facilities (DOTPF) determines a crash is due to alcohol impairment if one or more of the following criteria are present: 1) the blood alcohol test given to the driver, pedestrian, pedal cyclists, or recreational vehicle operator was positive; 2) a police investigation indicated alcohol consumption was a contributing factor; 3) a citation was issued for driving while under the influence of alcohol, driving with an open container of alcohol, or public drunkenness. While DOTPF maintains records of off-road vehicle collisions such as ATVs and snowmachines that occur on roadways, no record is kept of those incidences that occur off-road.

DOTPF maintains records of all traffic collisions in Alaska by injury severity, including impaired (alcohol and/or drug) collisions. DOTPF data does not distinguish between alcohol and drug-related collisions. National Highway Traffic Safety Administration (NHSTA) estimates of the average costs per crash were used to develop the following table of unit costs of impaired traffic collisions in Alaska for 2011.

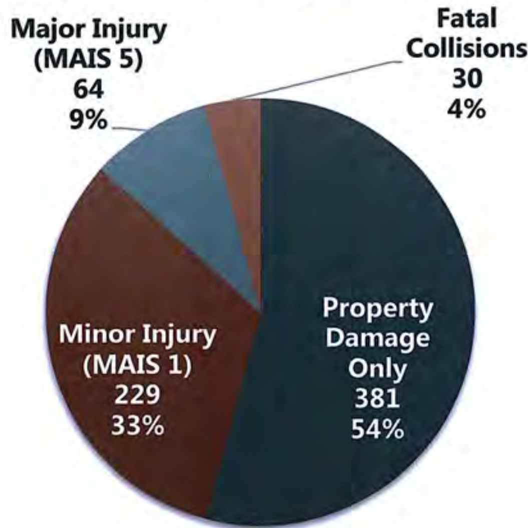
Table 28. Unit Costs of Impaired (Alcohol and/or Drugs) Traffic Collisions in Alaska, 2011

	Property Damage Only	Minor Injury	Major Injury	Fatal
Type of Cost				
Medical	$0	$4,425	$578,183	$16,704
Emergency services	$40	$126	$1,209	$1,275
Market productivity	$0	$4,158	$489,605	$1,635,627
Household productivity	$85	$1,330	$138,874	$445,824
Insurance administration	$270	$5,436	$104,769	$40,043
Workplace costs	$88	$482	$15,681	$16,659
Legal costs	$0	$1,996	$121,803	$150,558
Congestion costs	$1,523	$1,568	$2,162	$8,087
Property damage	$3,455	$7,640	$21,338	$15,852
Quality-adjusted life years (QALYs)	$0	$34,473	$7,028,039	$12,010,805
Total	**$5,460**	**$61,635**	**$8,501,664**	**$14,341,436**

Source: U.S. Department of Transportation National Highway Traffic Safety Administration (NHSTA) "*The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised)*" (2015). http://www-nrd.nhtsa.dot.gov/pubs/812013.pdf.

In 2011, there were 704 impairment-caused traffic collisions reported in Alaska, 6 percent of the 12,576 total traffic collisions in the state. Of the impaired collisions, those with property damage only totaled 381 (54 percent of impaired collisions), 229 collisions (33 percent) resulted in minor injuries, 64 (9 percent) resulted in major injuries, and 30 collisions (4 percent) had a fatality. The figure below shows impaired-related traffic collisions by injury severity.

Figure 21. Impairment-caused (Alcohol and/or Drug) Traffic Collisions, by Type, in Alaska, 2011



Source: Alaska Department of Transportation and Public Facilities (DOTPF), "2011 Alaska Traffic Crashes" (2015). http://www.dot.alaska.gov/stwdplng/transdata/pub/accidents/2011_AK_CrashData.pdf.

The table below shows the 704 Alaska impairment-caused collisions by type and by injury, including property damage only, minor and major injuries, fatalities, and the total cost. Total cost of the impairment-caused collisions in Alaska in 2011 was $990.5 million. The highest costs resulted from fatal collisions which totaled $430.2 million. In all, it is estimated that approximately 60 percent (or $594.3 million) of the impairment-related collisions in Alaska are related to alcohol abuse.

Table 29. Number of Impairment-caused Traffic Collisions and Cost of Collisions in Alaska, 2011

	Property Damage Only	Minor Injury	Major Injury	Fatal	Total
Number of Alaska Impaired Collisions[1]	**381**	**229**	**64**	**30**	**704**
Type of Costs [2]					
Medical	$0	$1,013,364	$37,003,719	$501,131	$38,518,214
Emergency services	$15,082	$28,816	$77,366	$38,259	$159,523
Market productivity	$0	$952,213	$31,334,749	$49,068,804	$81,355,767
Household productivity	$32,321	$304,669	$8,887,945	$13,374,724	$22,599,660
Insurance administration	$102,887	$1,244,903	$6,705,230	$1,201,293	$9,254,314
Workplace costs	$33,398	$110,406	$1,003,586	$499,782	$1,647,172
Legal costs	$0	$457,166	$7,795,412	$4,516,746	$12,769,324
Congestion costs	$580,156	$359,063	$138,354	$242,617	$1,320,189
Property damage	$1,316,528	$1,749,664	$1,365,622	$475,563	$4,907,377
Quality-adjusted life years (QALYs)	$0	$7,894,209	$449,794,521	$360,324,164	$818,012,894
Total	**$2.1 million**	**$14.1 million**	**$544.1 million**	**$430.2 million**	**$990.5 million**
Estimated portion attributed to alcohol abuse (60 percent)					**$594.3 million**

Note: Due to rounding, some columns may not sum to total.
[1] DOTPF, "2011 Alaska Traffic Crashes" (2015). http://www.dot.alaska.gov/stwdplng/transdata/pub/accidents/2011_AK_CrashData.pdf.
[2] NHSTA, "*The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised)*" (2015). http://www-nrd.nhtsa.dot.gov/pubs/812013.pdf.

Lastly, while there are no cost estimates available, DOTPF also reports the number of persons who were involved in impaired (alcohol and/or drug-related) collisions. People involved include occupants of the impaired driver's car, occupants of other cars, or pedestrians. In 2011, there were 1,680 persons involved in impairment-caused collisions; 229 had minor injuries, 64 had major injuries, and 32 were fatalities.

In the U.S., alcohol consumption is a major cause of motor vehicle fatalities. Over the past two decades, about 40 percent of all motor vehicle fatalities occur in collisions in which a driver or nonoccupant consumed a measurable level of alcohol prior to the collision. Additionally, an estimated 7.5 percent of drivers in nonfatal collisions and 12.9 percent of all nonfatal collision incidences were alcohol-involved. These figures should not be directly compared to Alaska percentages, as the report estimated the percentages based on reported and unreported crashes from multiple data sources. [8] Alaska estimates do not consider unreported collisions.

[8] Blincoe, Lawrence J., Ted R. Miller, Eduard Zaloshnja, Bruce A. Lawrence. Prepared for U.S. Department of Transportation National Highway Traffic Safety Administration. "The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised)." May 2015. http://www-nrd.nhtsa.dot.gov/pubs/812013.pdf. Accessed March 2016.

Chapter 4: Criminal Justice and Protective Services

Summary

- In 2014, there were 9,438 alcohol-related offenses and arrests, representing 25 percent of all offenses. These offenses affected 7,313 victims and resulted in $799 million in criminal justice system and crime victim costs.

Table 30. Summary of Criminal Justice Costs Attributable to Alcohol Abuse in Alaska, 2014

	Alcohol-Related
Counts	
Offenses and arrests	9,438
Percentage offenses-arrests	25%
Crime victims	7,313
Percentage crime victims	17%
Costs	
Criminal justice system	$136.2 million
Crime victim – tangible costs	$58.2 million
Crime victim – intangible costs	$604.9 million
Alcohol Abuse Criminal Justice Costs	**$799.4 million**

Note: Due to rounding, some columns may not sum to total.
Source: McDowell Group calculations.

- In SFY 2015, Office of Children Services (OCS) expenditures for child abuse and neglect attributable to alcohol abuse totaled an estimated $73 million.

Criminal Justice

Alaskans dependent on or abusing alcohol play a role in crimes. Alcohol abuse can be directly attributed to crimes such as driving under the influence and other violent and nonviolent crimes. Many costs accompany these crimes including the costs of the criminal justice system (police protection and law enforcement, legal and adjudication, and incarceration) and costs to crime victims (both tangible and intangible). Productivity loss due to incarceration is covered in Chapter 2.

Offenses and Arrests

In 2014, there were an estimated 37,470 known offenses or arrests in various categories of crimes. Of these, 9,438 were attributable to alcohol abuse. The offenses with the highest counts attributable to alcohol were larceny-theft (2,471), driving while intoxicated (2,336), and other assaults – simple (1,214).

Table 31. Offenses and/or Arrests Attributable to Alcohol in Alaska, 2014

Type of Offense	2014 Alaska Number of Known Offenses or Arrests	Percent Attributable to Alcohol Abuse [3]	Estimated Offenses/Arrests Attributable to Alcohol Abuse
Criminal homicide [1]	47	47%	22
Rape (rape and attempted) [1]	764	31%	238
Other sex offenses (includes prostitution/commercialized vice) [2]	286	19%	54
Aggravated assault [1]	3,224	23%	729
Other assaults – simple [1]	8,799	14%	1,214
Robbery [1]	627	19%	117
Burglary [1]	3,136	22%	687
Larceny-theft [1]	15,350	16%	2,471
Motor vehicle theft [1]	1,730	23%	400
Driving under the influence [2]	2,336	100%	2,336
Liquor laws [2]	1,171	100%	1,171
Total	**37,470**		**9,438**

[1] Alaska Department of Public Safety, *Crime in Alaska, 2014* (2015). http://www.dps.alaska.gov/statewide/docs/UCR/UCR_2014.pdf.
[2] FBI Uniform Crime Report (2015). https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/tables/table-69.
[3] The Lewin Group, *Economic Cost of Excessive Alcohol Consumption in the United States, 2006* (2010).

Criminal Justice System Costs

Criminal justice system costs for Alaska in 2014 are estimated at $136.2 million. Driving under the influence offense incurred the largest costs at $42.6 million, followed by liquor laws ($21.4 million), and other assaults-simple ($16.4 million).

(See table next page.)

Table 32. Criminal Justice System Costs Attributable to Alcohol Abuse by Offense in Alaska, 2014

Type of Offense	Estimated Alaska Offenses/Arrests Attributable to Alcohol Abuse	Criminal Justice System Cost per Arrest/Offense	Estimated Alaska Alcohol-Related Costs
Criminal homicide [1]	22	$612,035	$13,519,856
Rape (rape and attempted) [1]	238	$41,305	$9,814,220
Other sex offenses (includes prostitution/commercialized vice) [2]	54	$41,305	$2,220,884
Aggravated assault [1]	729	$13,479	$9,821,277
Other assaults – simple [1]	1,214	$13,479	$16,367,294
Robbery [1]	117	$21,569	$2,528,935
Burglary [1]	687	$6,438	$4,421,352
Larceny-theft [1]	2,471	$4,491	$11,098,809
Motor vehicle theft [1]	400	$6,032	$2,410,642
Driving under the influence [2]	2,336	$18,237	$42,601,897
Liquor laws [2]	1,171	$18,237	$21,355,660
Total	**9,438**		**$136.2 million**

[1] NIH, *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation* (2010). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835847/pdf/nihms170575.pdf
[2] The Lewin Group, *Economic Cost of Excessive Alcohol Consumption in the United States, 2006* (2010).

Crime Victimization

There were approximately 41,992 victims of specified offenses in Alaska in 2014; 7,313 victims were attributable to alcohol abuse, or approximately 17 percent of victims.

Table 33. Victimizations Attributable to Alcohol Abuse in Alaska, 2014

Type of Crime	2014 U.S. Victimization Rate per 1,000 persons 12 years or older or per 1,000 households [1]	Estimated Number of Alaska Victims [4, 5]	Percent Alcohol Related [5]	Estimated Number of Victims Attributable to Alcohol Abuse
Homicide	-	47 [2]	47%	22
Rape/sexual assault	1.1	670	31%	208
Robbery	2.5	1,523	19%	285
Aggravated assault	4.1	2,498	23%	565
Other assault	12.4	7,555	14%	1,043
Theft	90.8	22,852	16%	3,679
Burglary	23.1	5,814	22%	1,273
Motor vehicle theft	4.1	1,032	23%	238
Total		**41,992**		**7,313**

[1] Bureau of Justice Statistics, *Criminal Victimization, 2014* (2015). http://www.bjs.gov/content/pub/pdf/cv14.pdf.
[2] DPS, *Crime in Alaska, 2014* (2015). http://www.dps.alaska.gov/statewide/docs/UCR/UCR_2014.pdf.
[3] 2014 population data from DOLWD.
[4] 2014 household data from ACS 2010-2014 Five-Year Data.
[5] The Lewin Group, *Economic Cost of Excessive Alcohol Consumption in the United States, 2006* (2010).

Crime Victim Tangible Costs

Tangible crime victim costs are defined as the "direct economic losses suffered by crime victims, including medical care costs, lost earnings, and property loss/damage." The estimated crime victim tangible cost attributable to alcohol abuse for Alaska in 2014 was $58.2 million. Homicide was the costliest ($25.4 million), followed by other assaults ($14.1 million), and aggravated assaults ($7.7 million).

Table 34. Crime Victim Tangible Costs Attributable to Alcohol Abuse in Alaska, 2014

Type of Offense	Estimated Number of Victims Attributed to Alcohol Abuse	Crime Victim Tangible Cost Per Offense [1]	Estimated Alaska Alcohol-Related Tangible Costs
Homicide	22	$1,150,463 [2]	$25,413,719
Rape/sexual assault	208	$8,667	$1,806,537
Robbery	285	$5,146	$1,465,870
Aggravated assault	565	$13,571	$7,662,019
Other assault	1,043	$13,571	$14,149,845
Theft	3,679	$749	$2,754,855
Burglary	1,273	$2,125	$2,705,073
Motor vehicle theft	238	$9,537	$2,273,354
Total	**7,313**		**$58.2 million**

[1] NIH, *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation* (2010). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835847/pdf/nihms170575.pdf
[2] Crime victim cost for murder was calculated as the mean present value of lifetime earnings for a homicide victim.

Crime Victim Intangible Costs

Intangible costs include "indirect losses suffered by crime victims, including pain and suffering, decreased quality of life, and psychological distress." The estimated crime victim intangible cost attributable to alcohol abuse for Alaska in 2014 was $604.9 million. Again, homicide was the costliest ($290.1 million), followed by other assaults ($154.5 million), and aggravated assaults ($83.7 million).

Table 35. Crime Victim Intangible Costs Attributable to Alcohol Abuse in Alaska, 2014

Type of Offense	Estimated Number of Victims Attributable to Alcohol Abuse	Crime Victim Intangible Cost Per Offense [1]	Estimated Alaska Alcohol-Related Intangible Costs
Homicide	22	$13,168,788 [2]	$290,898,537
Rape/sexual assault	208	$311,424	$64,913,741
Robbery	285	$35,215	$10,030,926
Aggravated assault	565	$148,228	$83,685,976
Other assault	1,043	$148,228	$154,547,207
Theft	3,679	$16	$57,393
Burglary	1,273	$501	$637,539
Motor vehicle theft	238	$409	$97,419
Total	**7,313**		**$604.9 million**

[1] NIH, *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation* (2010). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835847/pdf/nihms170575.pdf
[2] Intangible cost for murder was calculated as the mean value of a statistical life.

Underage Drinking Costs

Underage drinking imposes costs in the form of health, social, and economic problems. It is a causal factor for homicide, suicide, traumatic injury, drowning, burns, violent and property crime, high risk sex, fetal alcohol syndrome, and alcohol poisoning. It also contributes to the need for alcohol abuse and dependency treatment programs. In 2010, the total cost of underage drinking in Alaska was estimated to be $321.4 million, including mental distress associated with physical or emotional injury as a result of youth alcohol consumption (equivalent to approximately $350 million in 2016 dollars). Nearly half (48 percent) of costs associated with underage drinking in Alaska are attributable to youth violence, followed by youth traffic accidents (28 percent).

Table 36. Costs of Underage Drinking in Alaska, by Problem, 2010, Adjusted for Inflation ($2016)

Category	Total Alaska Alcohol-Related Costs	Percentage of Alaska Alcohol-Related Costs
Youth violence	168.2 million	48%
Youth traffic collisions	99.0 million	28
Youth alcohol treatment	27.4 million	8
Youth injury	23.4 million	7
Youth property crime	12.4 million	4
Fetal Alcohol Syndrome among mothers (ages 15-20)	5.3 million	2
High-risk sex (ages 14-20)	12.0 million	3
Poisonings and psychoses	1.9 million	1
Total Underage Drinking Costs	**$349.6 million**	**100%**

Source: Pacific Institute for Research and Evaluation. Underage Drinking Enforcement Training Center, *Underage Drinking in Alaska: The Facts.* (2010). Inflation-adjustments to 2016$ calculated by McDowell Group.

Protective Services

Substance abuse is a risk factor for abuse and neglect of children and adults. A 1999 study by the National Center on Addiction and Substance Abuse at Columbia University found that substance-abusing parents were three times more likely to abuse and four times more likely to neglect their children. Likewise, an adult caregiver who struggles with substance use is more likely to abuse his or her charge. As a result of alcohol and drug abuse, agencies that assist victims of abuse and neglect see more cases and incur greater costs.

The National Survey of Children and Adolescent Well-Being estimates that 61 percent of infants and 41 percent of older children in out-of-home care are from families with active alcohol or drug abuse (Wulczyn, Ernst, & Fisher, 2011). For almost 31 percent of all children placed in foster care in 2012, parental alcohol or drug abuse was the documented reason for removal and in several states that percentage surpassed 60 percent (National Data Archive on Child Abuse and Neglect, 2012)

Child Protective Services

Office of Children Services (OCS) expenditures for child abuse and neglect attributable to alcohol abuse are estimated at $73 million in SFY2014.

Table 37. Summary of OCS Expenditures Attributable to Alcohol, SFY 2015

State Spending	Federal Spending	Total
$50,278,250	$22,987,700	$73,265,950

Source: State of Alaska 2014 Actual Expenditures.

Title 47 Protective Custody

The Title 47 Protective Custody Statute allows the State of Alaska to take people who are incapacitated by alcohol or otherwise at-risk to a hospital for treatment, place them in the custody of a family member, or commit them to a detention center for up to 12 hours. In 2010, DOC personnel estimated that up to 99 percent of protective holds were alcohol-related. However, it is not possible to estimate a cost per hold due to the number of variables involved in each case. In SFY2013, there were a total of 3,726 protective holds.

Chapter 5: Health Care

Summary

- Hospital-related medical costs to treat conditions and diseases attributable to alcohol abuse totaled $140.8 million in 2012, including $85.4 million in inpatient charges, $32.7 million in ED charges, and $22.6 million in outpatient (delivered in a hospital setting) charges. Adjusted for inflation, in 2015, these costs would be $90.0 million in inpatient charges, $34.4 million in ED charges, and $23.8 million in outpatient charges, for a combined total of $148.3 million.

Table 38. Summary of Alaska Medical Charges Attributable to Alcohol Abuse, 2012 and Adjusted 2015$

	Inpatient Charges	Emergency Department Charges	Outpatient Charges	Total Medical Charges
Total (2012)	$85,449,565	$32,703,355	$22,627,516	$140,780,437
Total (2015$)	**$90,014,622**	**$34,450,499**	**$23,836,368**	**$148,301,490**

- In SFY 2015, Division of Behavior Health funding for alcohol dependence/abuse to treatment and recovery grantee agencies accounted for an estimated $25.9 million.
- The cost of legal prescription drugs to treat alcohol abuse is estimated to represent 2.2 percent of Alaska's total prescription drug sales, or $11 million.
- Of the total estimated costs for skilled nursing facilities and long term care, alcohol abuse accounted for an estimated 1 percent or $1.5 million.
- In 2014, medical costs associated with 129 babies born with FASD were an estimated $3 million.
- In total, annual alcohol-abuse-related health care costs totaled $189.7 million in 2015.

Medical Costs

Alcohol abuse leads to medical conditions and diseases that require treatment in medical settings. This section covers the costs to treat diseases and conditions that arise from the abuse of alcohol. Medical costs are presented for three hospital setting types: inpatient, ED, and outpatient. Costs for treating addiction may be found in the *Costs of Treating Alcohol Dependence* section below.

Inpatient

Some of the health problems caused by alcohol abuse require admission to a hospital. In 2012, inpatient charges in Alaska attributable to alcohol abuse totaled $85.4 million. Adjusted to 2015 dollars, the total inpatient charges for substance abuse would be $90.0 million. The number of admissions attributable to alcohol abuse totaled 2,222. The total length of hospital stays resulting from those admissions was 10,294 days.

Table 39. Summary of Alaska Inpatient Hospital Admissions, Length of Stay, and Total Charges Attributable to Alcohol Abuse, 2012 and Adjusted 2015$

	Number of Admissions	Length of Stay (days)	Total Charges
Total (2012)	2,222	10,294	$85,449,565
Total (2015$)			**$90,014,622**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Emergency Department (ED) Costs

Some patients with health problems caused by alcohol abuse receive treatment in the ED. In 2012, statewide ED charges attributable to alcohol abuse totaled $32.7 million. Adjusted to 2015 dollars, the total attributable to alcohol abuse would be $34.4 million. The number of ED visits attributable to alcohol abuse totaled 15,841 visits. The number of days patients spent in the ED as a result of those visits totaled 15,995 days.

Table 40. Summary of Alaska ED Visits, Length of Stay, and Total Charges Attributable to Alcohol Abuse, Alaska, 2012 and Adjusted 2015$

	Number of Visits	Length of Stay (days)	Total Charges ($)
Total (2012)	15,841	15,995	$32,703,355
Total (2015$)			**$34,450,499**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Outpatient In-Hospital Costs (Excluding ED Costs)

Outpatient refers to visits to a physician office, outpatient surgery, and other outpatient settings in the hospital (excluding the ED). In 2012, estimates for outpatient costs attributable to alcohol abuse totaled $22.6 million. Adjusted to 2015 dollars, the total attributable to alcohol abuse would be $23.8 million.

Table 41. Summary of Alaska Outpatient Charges Attributable to Alcohol Abuse, Alaska, 2012 and Adjusted 2015$

	Estimated Total Charges
Total (2012)	$22,627,516
Total (2015$)	**$23,836,368**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 42. Inpatient Hospital Admissions, Length of Stay, and Charges, HFDR Total and Attributable to Alcohol Abuse, Alaska, 2012

		Total Inpatient Stays				Attributable to Alcohol		
Diagnosis or Condition	Age	# of Discharges	Length of Stay (days)	Charges	Attributable Fraction (%)	# of Discharges	Length of Stay (days)	Charges
Alcoholic mental disorders & psychoses	All	341	1,391	$7,437,731	100%	341	1,391	$7,437,731
Alcohol dependence syndrome	All	69	231	1,207,994	100	69	231	1,207,994
Non-dependent abuse of alcohol	All	22	39	271,056	100	22	39	271,056
Alcoholic polyneuropathy	All	2	20	75,769	100	2	20	75,769
Alcoholic gastritis	All	30	88	610,726	100	30	88	610,726
Alcoholic fatty liver	All	-	-	-	100	-	-	-
Acute Alcoholic hepatitis	All	48	294	1,874,755	100	48	294	1,874,755
Alcoholic cirrhosis of the liver	All	79	506	4,841,967	100	79	506	4,841,967
Alcoholic liver damage, unspecified	All	4	30	169,135	100	4	30	169,135
Chronic hepatitis	All	-	-	-	50	-	-	-
Fetal Alcohol Syndrome	All	-	-	-	0	-	-	-
Toxic effect of alcohol	All	6	16	189,261	100	6	16	189,261
Cancer of the lip, tongue, oral cavity, pharynx	35+	19	111	848,995	50	10	56	424,497
Cancer of the esophagus	35+	9	101	957,147	75	7	76	717,860
Cancer of the stomach	35+	10	68	700,837	20	2	14	140,167
Cancer of the liver and intrahepatic bile ducts	35+	29	113	1,306,318	15	4	17	195,948
Cancer of the larynx	35+	11	120	1,030,058	49	5	59	504,728
Essential hypertension	35+	39	78	822,465	8	3	6	65,797
Cerebrovascular disease	35+	922	4,560	42,890,781	7	65	319	3,002,355
Respiratory tuberculosis	35+	11	248	822,417	25	3	62	205,604
Diabetes Mellitus	35+	377	2,042	16,902,076	5	19	102	845,104
Pneumonia and influenza	35+	858	4,240	30,600,285	5	43	212	1,530,014
Diseases of the esophagus, stomach, duodenum	35+	508	2,125	20,747,697	10	51	213	2,074,770
Cirrhosis without mention of alcohol	35+	14	54	479,495	50	7	27	239,748

Diagnosis or Condition	Age	Total Inpatient Stays: # of Discharges	Total Inpatient Stays: Length of Stay (days)	Total Inpatient Stays: Charges	Attributable Fraction (%)	Attributable to Alcohol or Drugs: # of Discharges	Attributable to Alcohol or Drugs: Length of Stay (days)	Attributable to Alcohol or Drugs: Charges
Other chronic nonalcoholic liver damage/disease	35+	3	6	43,518	50	2	3	21,759
Portal hypertension	35+	9	38	604,815	50	5	19	302,408
Acute pancreatitis	35+	293	1,329	9,381,406	42	123	558	3,940,190
Chronic pancreatitis	35+	15	88	575,744	60	9	53	345,446
Injuries and poisoning	15+	1,125	6,933	71,904,690	10	113	693	7,190,469
Accidental poisoning by alcohol	All	6	9	181,310	100	6	9	181,310
Motor Vehicle traffic/nontraffic accidents	15+	369	1,559	20,649,773	23	85	359	4,749,448
Pedal cycle and other road vehicle accidents	15+	47	182	2,003,248	20	9	36	400,650
Water transport accidents	15+	15	56	451,393	20	3	11	90,279
Air and space transport accidents	15+	7	43	512,936	16	1	7	82,070
Accidental falls	15+	745	3,367	35,560,783	35	261	1,178	12,446,274
Accidents caused by fires and flames	15+	14	88	721,142	45	6	40	324,514
Accidental drowning and submersion	15+	-	-	-	38	-	-	-
Suicide and self-inflicted injury	15+	408	1,653	11,124,620	28	114	463	3,114,893
Homicide and injury purposely inflected by other persons	15+	-	-	-	46	-	-	-
Other injuries and adverse effects	15+	-	-	-	25	-	-	-
Alcohol Abuse Total		**6,464**	**31,826**	**$288,502,341**		**1,555**	**7,206**	**$59,814,696**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 43. Inpatient Hospital Admissions, Length of Stay, and Charges, Total and Attributable to Alcohol Abuse, Alaska, 2012

HFDR Attributable to Alcohol Total				Statewide Estimate		
# of Admissions	Length of Stay (days)	Charges	Estimation Factor	# of Admissions	Length of Stay (days)	Charges
1,555	7,206	$59,814,696	÷ 0.7	2,222	10,294	$85,449,565

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 44. Emergency Department Visits, Length of Stay, and Charges, Total and Attributable to Alcohol Abuse, Alaska, 2012

		Total Inpatient Stays				Attributable to Alcohol		
Diagnosis or Condition	Age	# of Discharges	Length of Stay (days)	Charges	Attributable Fraction (%)	# of Discharges	Length of Stay (days)	Charges
Alcoholic mental disorders & psychoses	All	1,413	1,413	3,782,869	100%	1,413	1,413	3,782,869
Alcohol dependence syndrome	All	1,893	1,893	3,294,338	100	1,893	1,893	3,294,338
Non-dependent abuse of alcohol	All	2,946	2,947	3,659,124	100	2,946	2,947	3,659,124
Alcoholic polyneuropathy	All	-	-	-	100	-	-	-
Alcoholic gastritis	All	122	122	383,513	100	122	122	383,513
Alcoholic fatty liver	All	-	-	-	100	-	-	-
Acute Alcoholic hepatitis	All	25	25	72,671	100	25	25	72,671
Alcoholic cirrhosis of the liver	All	17	17	78,032	100	17	17	78,032
Alcoholic liver damage, unspecified	All	13	13	40,606	100	13	13	40,606
Chronic hepatitis	All	-	-	-	50	-	-	-
Fetal Alcohol Syndrome	All	2	2	5,957	0	-	-	-
Toxic effect of alcohol	All	24	24	110,825	100	24	24	110,825
Cancer of the lip, tongue, oral cavity, pharynx	35+	1	1	1,521	50	1	1	760
Cancer of the esophagus	35+	2	2	9,318	75	2	2	6,989
Cancer of the stomach	35+	6	6	31,064	20	1	1	6,213
Cancer of the liver and intrahepatic bile ducts	35+	3	29	13,127	15	0	4	1,969
Cancer of the larynx	35+	-	-	-	49	-	-	-
Essential hypertension	35+	804	893	1,763,439	8	64	71	141,075
Cerebrovascular disease	35+	296	326	2,021,578	7	21	23	141,510
Respiratory tuberculosis	35+	1	1	1,294	25	0	0	324
Diabetes Mellitus	35+	588	1,922	1,645,096	5	29	96	82,255
Pneumonia and influenza	35+	1,309	1,390	4,194,458	5	65	70	209,723
Diseases of the esophagus, stomach, duodenum	35+	559	559	1,841,835	10	56	56	184,184
Cirrhosis without mention of alcohol	35+	17	17	68,867	50	9	9	34,434

Diagnosis or Condition	Age	Total Inpatient Stays: # of Discharges	Length of Stay (days)	Charges	Attributable Fraction (%)	Attributable to Alcohol: # of Discharges	Length of Stay (days)	Charges
Other chronic nonalcoholic liver damage/disease	35+	3	3	17,740	50	2	2	8,870
Portal hypertension	35+	-	-	-	50	-	-	-
Acute pancreatitis	35+	211	211	907,509	42	89	89	381,154
Chronic pancreatitis	35+	24	53	108,725	60	14	32	65,235
Injuries and poisoning	15+	7,239	7,237	14,214,249	10	724	724	1,421,425
Accidental poisoning by alcohol	All	13	13	53,820	100	13	13	53,820
Motor Vehicle traffic/nontraffic accidents	15+	4,028	4,034	11,021,416	23	926	928	2,534,926
Pedal cycle and other road vehicle accidents	15+	524	524	1,232,800	20	105	105	246,560
Water transport accidents	15+	38	38	116,252	20	8	8	23,250
Air and space transport accidents	15+	33	33	110,688	16	5	5	17,710
Accidental falls	15+	6,623	6,635	15,400,083	35	2,318	2,322	5,390,029
Accidents caused by fires and flames	15+	131	131	254,067	45	59	59	114,330
Accidental drowning and submersion	15+	-	-	-	38	-	-	-
Suicide and self-inflicted injury	15+	446	446	1,441,523	28	125	125	403,626
Homicide and injury purposely inflected by other persons	15+	-	-	-	46	-	-	-
Other injuries and adverse effects	15+	-	-	-	25	-	-	-
Alcohol Abuse Total		**29,354**	**30,960**	**67,898,404**		**11,089**	**11,196**	**$22,892,348**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 45. ED Visits, Length of Stay, and Charges, Total and Attributable to Alcohol Abuse, Alaska, 2012

HFDR Attributable to Alcohol Total: # of Visits	Length of Stay (days)	Charges	Estimation Factor	Statewide Estimate: # of Visits	Length of Stay (days)	Charges
11,089	**11,196**	**$22,892,348**	÷ 0.7	**15,841**	**15,995**	**$32,703,355**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Costs of Treating Alcohol and/or Drug Dependence or Addiction

Some individuals who are alcohol and/or drug dependent need detoxification, treatment, and/or support services. In SFY 2015, agencies receiving DBH treatment and recovery grants logged 5,004 admissions for alcohol only or both alcohol and drug abuse disorders, including 40 percent for alcohol only and 60 percent for both alcohol and drug abuse.

Table 46. Number and Percent of Admissions for Alcohol Only and Both Alcohol and Drug Treatment, by Treatment Type, SFY 2015

Substance of Abuse	# of Admissions	% of Total
Alcohol Only	2,027	40%
Alcohol and Drug	2,977	60%
Total	**5,004**	**100%**

Source: State of Alaska Division of Behavioral Health.

Each admission could include enrollment in more than one service type. Of the 5,004 admissions, 574 admissions included enrollment into multiple service types, for an annual total of 5,578 enrollments. Approximately 41 percent of enrollments were associated with alcohol only and 59 percent were associated with alcohol and drugs.

Table 47. Number of Enrollments for Alcohol Only and Both Alcohol and Drug Treatment, by Service Type, SFY 2015

Service Type	# of Enrollments for Alcohol Only	% of Total	# of Enrollments for Alcohol and Drug Abuse	% of Total	Total Enrollments
24-Hr Detoxification	897	61%	576	39%	1,473
Residential	363	33	728*	67	1,091
Outpatient	1,007	33	2,002*	67	3,009
Outpatient-Opioid	0	0	5	100	5
Total	**2,267**	**41%**	**3,311**	**59%**	**5,578**

Note: Residential and outpatient treatment settings included 2 and 20 admissions, respectively, without information on the substance of abuse. These admissions have been added to the "Alcohol and Drug Abuse" category.
Source: State of Alaska Division of Behavioral Health.

In SFY 2015, admissions to 24-hour detoxification and residential services resulted in 46,661 bed days, of which 89 percent of these bed days were through residential services.

Table 48. Bed Days for Alcohol Abuse Treatment, by Treatment Setting, SFY 2015

Service Type	Estimated # Bed Days for Alcohol Abuse
24-Hr Detoxification	5,139
Residential	41,522
Total	**46,661**

*Note: As described in methodology, percentages are from admissions data.
Source: Estimates calculated from data provided by the State of Alaska Division of Behavioral Health.

In SFY 2015, DBH funding for alcohol dependence/abuse to treatment and recovery grantee agencies (including grant awards and Medicaid payments for services received in state FY2015) totaled $25.9 million, with $13.3 million from DBH grants and $12.6 million from Medicaid.

Table 49. DBH Grants and Medicaid Funding for Alcohol Abuse Treatment, by Service Type, SFY 2015

Treatment Setting	Treatment Costs for Alcohol Abuse
DBH Grants	
24-Hr Detoxification	$2,514,933
Residential	5,673,003
Outpatient	5,120,424
Outpatient-Opioid	34,006
DBH Grants Total	**$13,342,367**
Medicaid	
24-Hr Detoxification	$105,485
Residential	3,926,374
Outpatient	8,529,039
Outpatient-Opioid	8,536
Medicaid Total	**$12,569,435**
DBH Grant and Medicaid Total	**$25,911,802**

*Note: As described in methodology, percentages are from admissions data.
Source: State of Alaska Division of Behavioral Health.

Nursing Home/Long-Term Care Costs

Alcohol abuse among residents of skilled nursing facilities (SNF) and long term care (LTC) facilities increases the cost of care and may even cause declines in function that result in a move to these types of facilities.

Between 2014 and 2015, the annual number of SNF and LTC bed days totaled 227,008, with 177,258 paid for by Medicaid. Of the total estimated costs for SNF and LTC bed days of $151 million, alcohol abuse is estimated to account for 1 percent or $1.5 million.

Table 50. Summary of Annual SNF/LTC Bed Days and Estimated Alcohol-attributable Costs, 2014-2015

	Total
Medicaid SNF/LTC bed days	177,258
Total # SNF/LTC bed days	227,008
Medicaid SNF/LTC costs	$118,657,744
Estimated total SNF/LTC costs	$151,149,142
Estimated Total SNF/LTC costs attributable to alcohol abuse	**$1,511,491**

Source: Alaska Division of Senior and Disability Services. Estimates by McDowell Group.

Fetal Alcohol Spectrum Disorders (FASD)

Exposure to alcohol during pregnancy can cause a variety of birth defects, known as fetal alcohol spectrum disorders (FASD). Although most are familiar with Fetal Alcohol Syndrome (FAS), less commonly known are the multiplicity of other disorders that can stem from prenatal alcohol exposure, which include:

- Partial FAS (PFAS)
- Fetal alcohol effects (FAE)
- Alcohol-related neurodevelopmental disorder (ARND)
- Other alcohol-related birth defects (ARBD)

Often, children with fetal alcohol disorders are not identified until they reach school age or later, as symptoms do not become apparent until later childhood developmental stages. As a result, prevalence rates of FASD are often underreported. FASD symptoms can include difficulties with attention, memory, and problem solving. Heart, liver, and kidney disease, as well as vision and hearing problems are also common among children with FASD.[9]

People affected by FASD experience lifetime effects, and the costs of caring for these individuals can be significant. Needs can range from neonatal care for low birth weight to special speech therapy, behavioral management, or residential care for adults with FASD. Costs addressed in this report include those for medical treatment, education, social services, transportation, and parent-productivity losses.

In 2014, 129 babies born with FASD were associated with an estimated cost of almost $3 million. No data was available for additional children diagnosed with FASD after birth. As such, the annual costs found in the table below are likely underestimated for all children with FASD.

Table 51. FASD Incidence and Estimated Annual Costs in 2014

Alaska births in 2014	11,398
FASD prevalence per 1,000 live births	11.3
FASD births	129
Cost per person with FASD	$23,115
Estimated Annual FAS cost	**$2,974,548**

Source: Birth data from the Alaska Bureau of Vital Statistics. FASD prevalence from Alaska Maternal and Child Health Data Book 2012, Birth Defects Edition. Cost per patient from *The burden of prenatal exposure to alcohol: revised measurement of costs*, Stade et al (2009).

[9] National Organization on Fetal Alcohol Syndrome, *What is FAS/FASD?*, www.nofas.org/faqs.aspx?id=9

Chapter 6: Public Assistance and Social Services

Summary

- In federal fiscal year 2014, the federal government provided $9 million in social welfare support for people who were alcohol abusers.
- The State of Alaska also contributes funding to social welfare programs, such as SNAP, Adult Public Assistance, Alaska Temporary Assistance, Tribal Assistance Services, and Child Care Benefits. In SFY 2015, alcohol abuse accounted for $5 million of State funded social welfare.

Social Welfare Funding

Alcohol abuse can result in greater demand for social welfare services. For example, problems with alcohol can reduce personal income or lead to disability, qualifying individuals for publicly funded social programs like food stamps, public assistance, and vocational rehabilitation. The following section addresses the portion of social welfare funding from federal and state sources that is attributable to alcohol abuse.

Social welfare spending includes two broad categories: administrative expenses and benefits paid to beneficiaries. This distinction is noted because benefit payments are transfer payments, representing a redistribution of money rather than an actual cost and net loss. This report presents aggregate totals including both administrative costs and benefit payments.

Federal

The federal government funds numerous social welfare benefits in Alaska. Federal programs transfer money to the State of Alaska, which then allocates funding to an array of state-run programs. *(For sources of attribution rates, please refer to the Methodology section.)* In federal fiscal year (FFY) 2014, $9.4 million (or 2.8 percent of all federal funds) were designated for alcohol abuse-related social welfare in Alaska.

Table 52. Federal Social Welfare Spending in Alaska Attributable to Alcohol Abuse, FFY 2014

Social Welfare Program	Federal Funding Total	% Attributable to Alcohol Abuse[4]	Alcohol Abuse[4]
OASDI	$103,133,000[1]	1.1%	$1,174,685
SSI	6,366,000[1]	2.0	127,957
TANF	49,361,402[2]	3.5	1,719,751
SNAP	184,438,186[3]	3.4	6,425,826
Total	**$343,298,588**	**2.8%**	**$9,448,219**

Source: [1]Social Security Administration; [2]USDHHS Office of Family Assistance; [3]Supplemental Nutrition Assistance Program State Activity Report Fiscal Year 2014; [4]1998 NIDA study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992.*

State

The State of Alaska also contributes funding to social welfare programs. In SFY 2015, $5.1 million (or 2.9 percent of all State funds) were designated for alcohol abuse-related social welfare.

Table 53. State Social Welfare Program Spending Attributable to Alcohol Abuse, Alaska, SFY 2015

Social Welfare Program	State Funding Total[1]	% Attributable to Alcohol Abuse[3]	Alcohol Abuse[3]
SNAP Administrative Costs	$10,674,523[2]	3.5%	$370,050
Adult Public Assistance	59,419,200	2.9	1,624,125
Public Assistance Field Services	14,799,800	3.5	513,060
Public Assistance Admin	1,256,200	3.5	43,548
Alaska Temporary Assistance Program	15,164,300	3.5	525,696
Work Services	3,750,000	2.7	102,500
Tribal Assistance Services	10,084,200	2.7	275,635
Women, Infants, and Children	10,574,400	2.2	232,637
Energy Assistance	23,729,400	2.7	648,604
Child Care Benefits	2,728,200	2.7	74,571
General Relief Assistance	3,135,200	2.7	85,695
Senior Benefits Payment Program	22,665,400	2.7	619,521
Total	**$177,980,823**	**2.9%**	**$5,115,641**

Source: [1]Division of Public Assistance Actual Expenditures, SFY 2015, State of Alaska Office of Management and Budget; [2]Supplemental Nutrition Assistance Program State Activity Report Fiscal Year 2014; [3]1998 NIDA study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992.*

Chapter 7: Underage Drinking

Underage drinking imposes costs in the form of health, social, and economic problems and is a causal factor serious problems such as homicide, suicide, traumatic injury, drowning, burns, violent and property crime, high risk sex, fetal alcohol syndrome, alcohol poisoning, and the need for treatment for alcohol abuse and dependence.

In 2013-2014, 9 percent of Alaskan youths age 12-17 and 22 percent of Alaskan youth age 12-20 were underage drinkers. Five percent of Alaskans age 12-17 and 13 percent of Alaskans age 12-20 were binge drinkers. Binge drinking is defined as a female consuming four or more drinks or a male consuming 5 or more drinks on a single occasion on at least one day in the past 30 days.

In 2010, it was estimated that the total costs of underage drinking in Alaska were $321.4 million (approximately $350 million in 2016 dollars). These costs considered mental distress associated with physical or emotional injury as a result of youth alcohol consumption. Costs associated with youth violence represent almost half (48 percent) of underage drinking costs in Alaska, followed by youth traffic accidents (28 percent).

Table 54. Costs of Underage Drinking in Alaska, by Problem, 2010, Adjusted for Inflation ($2016)

Category	Total Alaska Alcohol-Related Costs	Percentage of Alaska Alcohol-Related Costs
Youth violence	168.2 million	48%
Youth traffic collisions	99.0 million	28
Youth alcohol treatment	27.4 million	8
Youth injury	23.4 million	7
Youth property crime	12.4 million	4
Fetal Alcohol Syndrome among mothers (ages 15-20)	5.3 million	2
High-risk sex (ages 14-20)	12.0 million	3
Poisonings and psychoses	1.9 million	1
Total Underage Drinking Costs	**$349.6 million**	**100%**

Source: Pacific Institute for Research and Evaluation. Underage Drinking Enforcement Training Center, *Underage Drinking in Alaska: The Facts.* (2010). Inflation-adjustments to 2016$ calculated by McDowell Group.

Chapter 8: Employment and Income from Alcoholic Beverage Manufacturing and Sales in Alaska

Summary

- In 2014, there were 2,887 private sector jobs in Alaska's beverage manufacturing, wholesale and retail sale of alcohol products, and at alcoholic drinking places. Workers in these jobs earned $66.4 million in wages (2014). There are other jobs in Alaska related to alcohol sales, but published data are not available.
- Employment in most alcohol-related categories has been trending down over the past decade. However, beverage manufacturing employment has tripled.

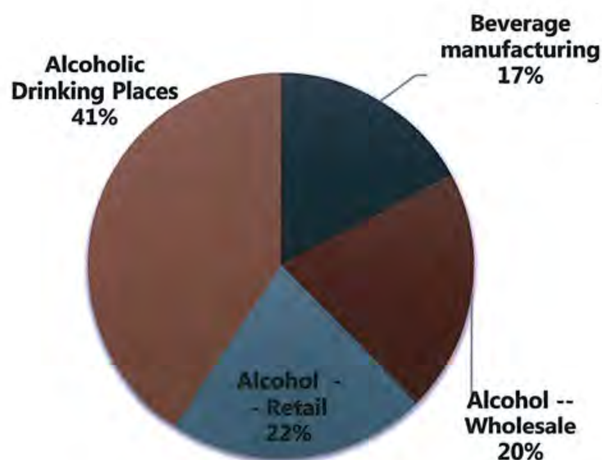
Employment in Alaska's Alcoholic Beverage Industry

In 2014, there were 2,887 jobs in alcohol-related businesses in beverage manufacturing, alcohol wholesale and retail distribution, and alcoholic drinking places (representing 0.9 percent of all jobs in Alaska). These workers earned $66.4 million in wages (representing 0.4 percent of all wages in Alaska).

Alcohol drinking establishments account for 55 percent of alcohol-related employment, alcohol wholesale and retail trade 33 percent, and beverage manufacturing 12 percent of total.

Figure 22. Alcohol-related Jobs in Alaska, By Sector, 2014

Figure 23. Alcohol-related Wages in Alaska, By Sector, 2014



Source: Alaska Department of Labor and Workforce Development.

Employment in three of the four categories (wholesale, retail, and alcoholic drinking places) has gradually declined since 2002. Only the manufacturing sector (which includes breweries, distilleries, wineries, and non-alcoholic beverages) has increased – from 86 employees (2002) to 356 employees (2014).

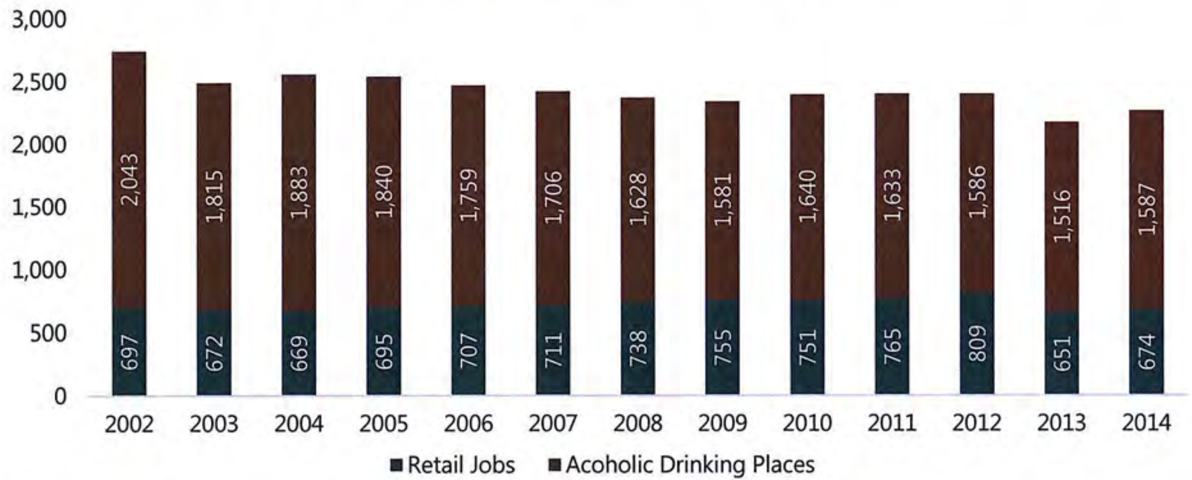
A decline of about 200 alcohol-related jobs (mainly in drinking places) in Alaska in 2003 may be related to the State alcoholic beverage tax increase in October 2002. Further analysis is required to identify other potential contributing factors.

Table 55. Annual Average Jobs, by Alcohol-Related Private Sector Categories, Alaska, 1997-2014

Year	Beverage manufacturing	Beer, wine, distilled beverage Wholesale	Beer, wine, liquor stores – Retail	Alcoholic Drinking places	Total Alcohol-related Jobs	Total Alaska Jobs	Alcohol-related Jobs as a % of Total Alaska Jobs
1997	56	278	595	*	*	266,112	
1998	61	273	621	*	*	271,907	
1999	88	300	586	*	*	274,570	
2000	99	546	519	*	*	280,664	
2001	96	541	528	*	*	287,941	
2002	86	398	697	2,043	3,224	292,286	1.1%
2003	99	413	672	1,815	2,999	296,876	1.0%
2004	119	423	669	1,883	3,094	301,385	1.0%
2005	123	428	695	1,840	3,086	307,757	1.0%
2006	108	447	707	1,759	3,021	314,139	1.0%
2007	156	435	711	1,706	3,008	317,188	0.9%
2008	186	438	738	1,628	2,990	321,724	0.9%
2009	182	**	755	1,581	**	320,265	**
2010	219	**	751	1,640	**	323,410	**
2011	236	**	765	1,633	**	328,566	**
2012	275	**	809	1,586	**	333,952	**
2013	343	269	651	1,516	2,779	335,366	0.8%
2014	356	270	674	1,587	2,887	336,764	0.9%

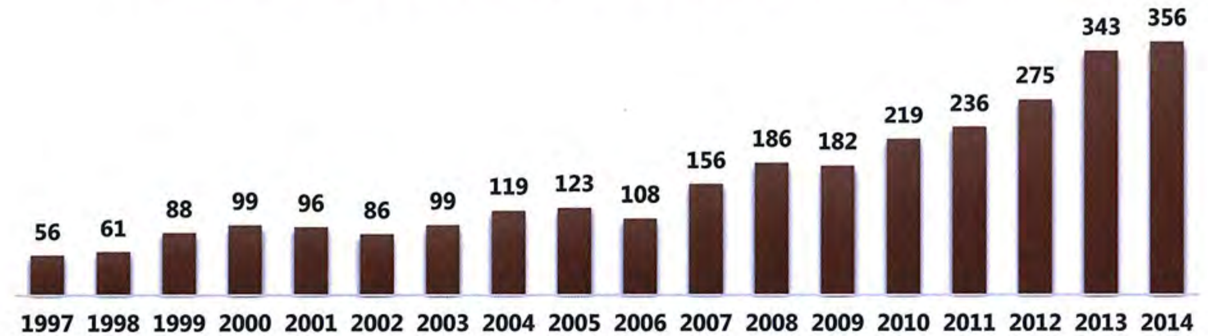
Notes: *Drinking Places and Alcoholic – Leisure and Hospitality is a sub-category of Food Services and Drinking Places. The category was first reported in the QCEW data in 2002.
**Jobs cannot be totaled for all alcohol-related categories as wholesale employment data (2009-2012) is confidential.
Source: ADOLWD, QCEW data.

Figure 24. Annual Average Employment in Alcohol Retail and Drinking Places in Alaska, 2002 2014



Note: Does not include wholesale job data (not available for 2009-2012) or manufacturing-related jobs.
Source: DOLWD QCEW.

Figure 25. Beverage Manufacturing Annual Average Employment, 1997-2014



Source: DOLWD QCEW.

Chapter 9: Taxes Generated from Alcohol Use

Summary

- Currently, a gallon of alcoholic beverage is taxed as follows: $12.80 for liquor, $2.50 for wine, $1.07 for beer (malt beverages), and $0.35 for beer (small breweries).
- In SFY 2015, $38 million, or $24.80 per capita, in Alcoholic Beverages Tax was paid to the Alaska Department of Revenue, of which $20 million was deposited in the Alcohol and Other Drug Abuse Treatment and Prevention Fund, and $18 million was General Fund receipts.

History of Alaska State Taxes on Alcoholic Beverages

Alaska's first tax on alcoholic beverages was enacted in 1933, when beer and wine were taxed at a rate of five cents a gallon.[10] Alaska's current alcoholic beverage tax rates have been in place since 2002. At that time, the liquor tax increased from $5.60 per gallon to $12.80 per gallon, wine from $0.85 to $2.50 per gallon, beer (malt beverages) from $0.35 to $1.07, and a tax on small breweries was initiated at $0.35 per gallon.

Table 56. History of Alaska Alcoholic Beverages Tax Rates
(nominal unadjusted dollars per gallon)

Fiscal Year	Liquor	Wine	Beer (Malt Beverages)	Beer (Small Breweries)
1933	-	$0.05	$0.05	-
1937	$0.50	$0.15	-	-
1941	$1.00	-	-	-
1945	$1.60	-	-	-
1946	$2.00	-	-	-
1947	$3.00	$0.25	$0.10	-
1957	$3.50	$0.50	$0.25	-
1961	$4.00	$0.60	-	-
1983	$5.60	$0.85	$0.35	-
2002	$12.80	$2.50	$1.07	$0.35

Source: Alaska Department of Revenue.

Alaska's Current Alcoholic Beverage Tax

The State of Alaska levies an excise tax on all alcoholic beverages sold in Alaska. The tax is collected primarily from wholesalers and distributors.[11] Alaska alcoholic beverage tax is described in AS 43.60.010, as follows:[12]

> **(a)** Except as provided in (c) of this section, every brewer, distiller, bottler, jobber, retailer, wholesaler, or manufacturer who sells alcoholic beverages in the state or who consigns shipments of alcoholic

[10] http://www.tax.alaska.gov/programs/programs/reports/AnnualReport.aspx?Year=2015#program60165
[11] http://www.tax.alaska.gov/programs/programs/reports/AnnualReport.aspx?Year=2015#program60165
[12] Current tax rates are the equivalent of 10 cents per drink.

beverages into the state, whether or not the alcoholic beverages are brewed, distilled, bottled, or manufactured in the state, shall pay on all malt beverages (alcoholic content of one percent or more by volume), wines, and hard or distilled alcoholic beverages, the following taxes:

(1) malt beverages at the rate of $1.07 a gallon or fraction of a gallon;

(2) cider with at least 0.5 percent alcohol by volume but not more than seven percent alcohol by volume, at the rate of $1.07 a gallon or fraction of a gallon;

(3) wine or other beverages, other than beverages described in (1) or (2) of this subsection, of 21 percent alcohol by volume or less, at the rate of $2.50 a gallon or fraction of a gallon; and

(4) other beverages having a content of more than 21 percent alcohol by volume at the rate of $12.80 a gallon.

(b) [Repealed, Sec. 3 ch. 235 SLA 1976].

(c) A brewer shall pay a tax at the rate of 35 cents a gallon on sales of the first 60,000 barrels of beer sold in the state each fiscal year beginning July 1, 2001, for beer produced in the United States if the producing brewery meets the qualifications of 26 U.S.C. 5051(a)(2). To qualify for the tax rate under this subsection, the brewer must file with the department a copy of a Bureau of Alcohol, Tobacco and Firearms acknowledged copy of the brewer's notice of intent to pay reduced rate of tax required under 27 C.F.R. 25.167 for the calendar year in which the fiscal year begins for which the partial exemption is sought. If proof of eligibility is not received by the department before June 1, the tax rate under this subsection does not apply until the first day of the second month after the month the notice is received by the department. For purposes of applying this subsection, a barrel of beer may contain no more than 31 gallons.

Tax revenue deposits are split evenly between the State's General Fund and the Alcohol and Other Drug Abuse Treatment and Prevention Fund.

Alaska Alcoholic Beverage Tax Revenue

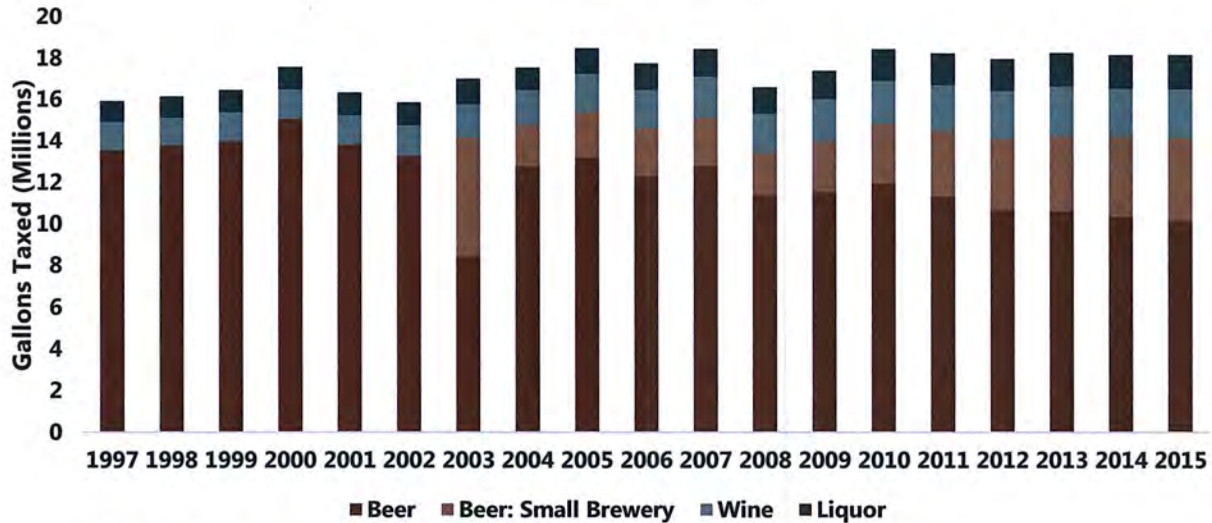
In 2015, 18.2 million gallons of beer, wine, and spirits (liquor) were consumed in Alaska, based on total volume taxed under Alaska's Alcoholic Beverage Tax (AS 43.60.010). This included 14.1 million gallons of beer, 2.4 million gallons of wine, and 1.7 million gallons of spirits.

The total volume of alcohol taxed in Alaska has changed very little over the past decade, at around 18 million gallons annually. However, this includes a slight decline in the volume of beer sold and increases in wine and liquor sales. Beer typically accounts for about 80 percent of alcoholic beverage sales in Alaska, in terms of volume of product.

As noted in AS 43.60.010 (c), the first 60,000 gallons of domestically-produced beer is taxed at a different rate than other beer in general. The amount of beer taxed in the domestically-produced category has steadily increased, and in FY2015 totaled approximately 4 million gallons. Total beer consumption has been reasonably

steady over the past five years at around 14 million gallons. Over the same period, liquor and wine sales have trended up.

Figure 26. Total Volume of Alcoholic Beverages Taxed in Alaska by Type, Millions of Gallons, FY1997-FY2015



Note: The *Beer: Small Brewery* category was added in 2003.
Source: Alaska Department of Revenue.

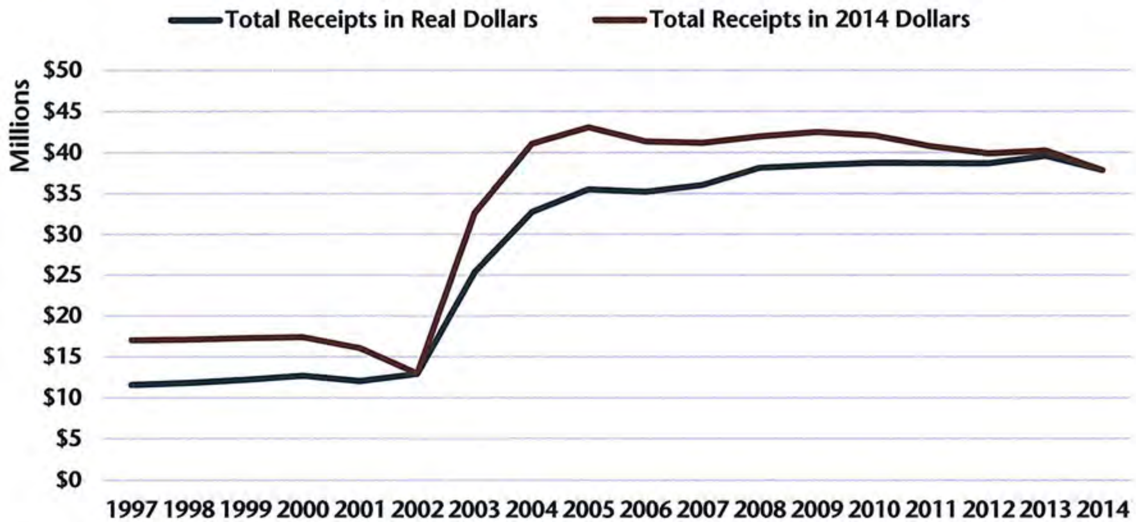
Table 57. Gallons of Alcoholic Beverages Taxed Annually in Alaska, FY1997-FY2015

Fiscal Year	Liquor	Beer, Malt Beverage & Cider	Wine	Beer: Small Brewery	Total
1997	1,011,890	13,547,146	1,345,494	-	**15,904,530**
1998	1,036,869	13,770,475	1,321,855	-	**16,129,199**
1999	1,087,720	13,979,490	1,380,535	-	**16,447,745**
2000	1,103,291	15,052,093	1,425,875	-	**17,581,259**
2001	1,109,366	13,806,196	1408500	-	**16,324,062**
2002	1,119,095	13,245,648	1,484,995	-	**15,849,738**
2003	1,240,655	8,429,532	1,596,571	5,722,807	**16,989,565**
2004	1,104,542	12,760,851	1,703,182	1,974,809	**17,543,384**
2005	1,252,685	13,192,217	1,837,946	2,202,163	**18,485,011**
2006	1,300,178	12,294,881	1,846,617	2,314,514	**17,756,190**
2007	1,354,265	12,776,638	1,998,980	2,317,485	**18,447,368**
2008	1,291,438	11,379,512	1,877,200	2,047,460	**16,595,610**
2009	1,369,196	11,528,129	2,067,291	2,424,106	**17,388,722**
2010	1,526,682	11,963,326	2,122,254	2,840,476	**18,452,738**
2011	1,558,166	11,308,097	2,225,911	3,165,185	**18,257,359**
2012	1,572,282	10,687,432	2,314,903	3,405,102	**17,979,719**
2013	1,640,194	10,632,745	2,382,470	3,615,276	**18,270,685**
2014	1,640,739	10,364,001	2,310,985	3,856,606	**18,172,331**
2015	1,676,579	10,184,405	2,376,214	3,947,554	**18,184,752**

Note: The *Beer: Small Brewery* category was added in 2003.
Source: Alaska Department of Revenue.

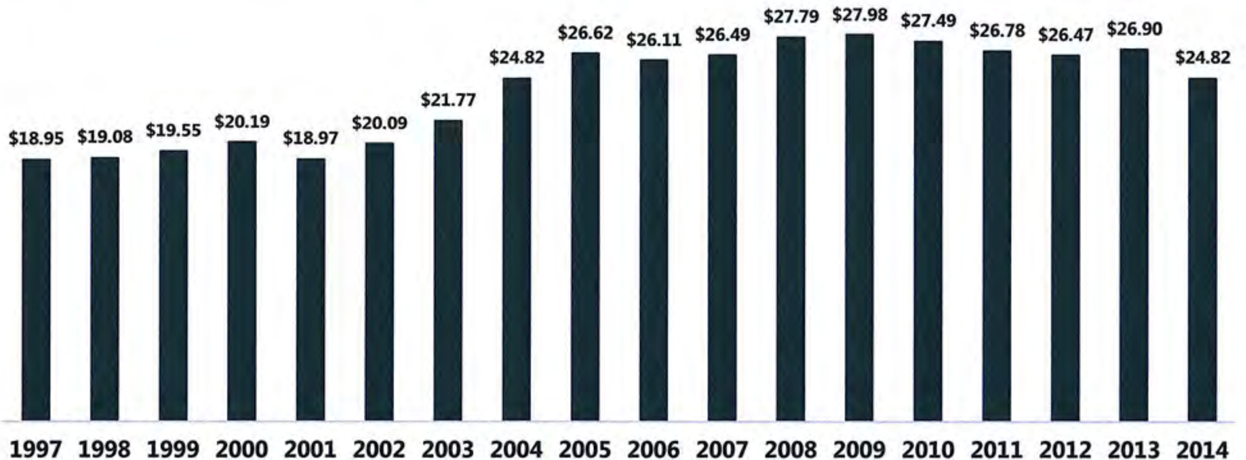
With taxes based on volume of sales rather than value of sales, trends in alcoholic beverage tax revenue match volume trends. In FY2015, the State of Alaska took in $37.6 million in Alcoholic Beverage Tax revenue. During the period examined in this study, total annual Alcoholic Beverage Tax revenues peaked at $39.6 million in FY2013. When Alaska's Alcoholic Beverage Tax increased in October 2002, there was a substantial increase in tax revenue between 2002 and 2003.

Figure 27. Total Alcoholic Beverages Tax Receipts, Alaska, $Millions (Real and 2014 Dollars) 1997-2014



Source: Alaska Department of Revenue, inflation-adjusted calculations by McDowell Group.

Figure 28. Alcoholic Beverage Taxes Retained in General Funds, $ Per Capita, Alaska, 1997-2014



Source: Alaska Department of Revenue.

Federal Government Alcoholic Beverage Taxes

Alcoholic beverages sold in Alaska are also subject to federal taxes. The tax structure includes:

- Distilled Spirits: $13.50/proof gallon ($2.14 on a 750 ml bottle (80 proof))
- Wines not more than 14 percent alcohol: $1.07/wine gallon ($0.21/750 ml)
  - 14 to 21 percent alcohol: $1.57/wine gallon ($0.31/750 ml)
  - 21 to 24 percent alcohol: $3.15/ wine gallon ($0.62/750 ml)
  - Over 24 percent alcohol: taxed as distilled spirits
  - Champagne (sparkling wines): $3.40/wine gallon ($0.67/750 ml)
  - Artificially carbonated: $3.30/wine gallon ($0.65/750 ml)
- Hard cider 0.5 to 7 percent alcohol: $0.226/wine gallon ($0.04/750 ml)
- Beer: $18/31-gallon barrel ($0.05/12 oz.) ($7 for certain small brewers on the first 60,000 barrels.)[13]

Data on total federal alcohol taxes paid in Alaska are not readily available. However, based on federal tax rates, an estimated $25 million is paid each year.

Local Government Alcohol Sales Taxes

Some local governments in Alaska collect taxes specifically on alcoholic beverage sales. In 2015, 14 local jurisdictions reported collection of taxes on alcohol sales, totaling approximately $4.9 million.

Table 58. Local Alcoholic Beverage Tax Rates and Revenues, 2015

Alaska Communities	Sales Tax Rate (%)	Total Revenue
City of Fairbanks	5	**$2,239,679**
Fairbanks North Star Borough	5	**$998,195**
City and Borough of Juneau	3	**$760,910**
Dillingham	10	**$297,325**
North Pole	5	**$211,997**
Kotzebue	6	**$183,967**
Craig	6	**$121,554**
Galena	3	**$46,629**
Barrow	3	**$31,013**
Whittier	3	**$6,450**
Unalakleet	5	**$4,291**
St. Mary's	3	**$2,059**
Total		**$4,904,069**

Source: Alaska Taxable 2015.

[13] https://ttb.gov/tax_audit/atftaxes.shtml

Chapter 10: Alcohol Abuse Impacts on the State General Fund Budget

A recent national study estimated that government (local, state, and federal) paid approximately 42.9 percent of the total costs of excessive alcohol consumption in Alaska (2006).[14] The purpose of this chapter is to highlight the impacts of alcohol abuse on the State of Alaska's General Fund budget.

Summary

- In SFY 2015, the Division of Behavioral Health funded approximately $5.6 million in alcohol abuse prevention.
- Of the $5.6 million allocated toward the prevention of alcohol abuse, $3.8 million (or 68 percent) was funded through Undesignated General Funds (UDF).
- In SFY 2015, $178 million supported 12 different social welfare programs administered by DHSS. Of these programs, approximately 2.9 percent (or approximately $5.1 million) funded social welfare for alcohol abusers, of which $3.4 million was supported with UGF.
- Using national proportions, the State of Alaska Justice System's total spending in SFY 2015 of $655.1 million would represent approximately 33 percent of the total justice systems budgets in Alaska (including federal and local government systems) totaling about $1.99 billion. If an estimated $136.2 million is attributed to alcohol abuse arrests and offenses in Alaska, then this would represent about 7 percent of total justice systems costs in Alaska. The portion of those costs impacting the state budget is approximately $44.9 million (33 percent of $136.2 million). The estimated UGF portion of the state budget would be $39.9 million (using the proportion of 89 percent of the total budget). Therefore, of the total UGF funding of $580.9 million in the state's justice system, approximately 7 percent is directly attributed to alcohol abuse-related costs.

Healthcare Related Costs

Prevention Grants

The State of Alaska Division of Behavioral Health (DBH) allocates grant funding to programs that prevent mental health problems and alcohol abuse. Some of these programs operate at the systems level, guiding governments and communities to implement and organize services. Other programs work directly with individuals suffering from poor mental health or addiction and their families. This section of the report presents the total amount of DBH grants directed towards alcohol abuse.

In SFY 2015, DBH allocated an estimated total of $5.6 million towards the prevention of alcohol abuse.

[14] Sacks, Jeffrey J., Jim Roeber, Ellen E. Bouchery, Katherine Gonzales, Frank Chaloupka, and Robert D. Brewer. "State Costs of Excessive Alcohol Consumption, 2006." Am J Prev Med 2013;45(4):474-485.

Table 59. Summary of State of Alaska DBH Prevention Grant Funding for the Prevention of Alcohol Abuse, SFY 2015

Grant Recipient	Total Grant Value	% for Alcohol Abuse	Grant Total for Alcohol Abuse
Alcohol Safety Action Program	$1,281,500	100%	$1,281,500
Fetal Alcohol Diagnostic Services	264,458	100	264,458
Reentry Program	600,000	25	150,000
Rural Human Services System	1,991,565	25	497,891
Strategic Prevention Framework	1,941,716	100	1,941,716
Therapeutic Court	265,000	50	132,500
Comprehensive Prevention	3,814,074	35	1,334,926
Total	**$10,158,313**	**55%**	**$5,602,991**

Source: DHSS, Division of Behavioral Health.

Of the $5.6 million allocated toward the prevention of alcohol abuse, $3.8 million was funded through Undesignated General Funds (UDF).

Table 60. Undesignated General Fund Portion of DBH Prevention Grant Funding, ('000$) FY 2015

Grant Recipient	Total State Budget	UGF Portion	% UGF of Total	Grant Total for Alcohol Abuse	UGF Portion of Alcohol Abuse Grants
Alcohol Safety Action Program	$4,574.7	$2,061.5	45%	$1,281.5	$576.7
Fetal Alcohol Diagnostic Services	$1,473.1	$1,473.1	100%	$264.5	$264.5
Reentry Program	$600.0	$600.0	100%	$150.0	$150.0
Rural Human Services System	$3,468.3	$869.4	25%	$497.9	$124.5
Strategic Prevention Framework	$1,941.7	$1,941.7	100%	$1,941.7	$1,941.7
Therapeutic Court	$5,565.2	4,565.9	82%	$132.5	$108.7
Comprehensive Prevention	$3,814.1	$2874.2	49%	$1,334.9	$654.1
Total	**$21,437.4**	**$14,385.8**	**67%**	**$5,603.0**	**3,820.2**

Source: DHSS, Division of Behavioral Health.

Social Welfare Related Costs

There are 12 different social welfare programs administered by DHSS. Funding for these programs in SFY 2015 was $178.0 million. Among the programs are Adult Public Assistance, Energy Assistance, Senior Benefits Payment Programs, and Alaska Temporary Assistance Program. Approximately $5.1 million funded social welfare for alcohol abusers, of which $3.4 million was supported with UGF.

Table 61. Undesignated General Fund Portion of State of Alaska Social Welfare Program Spending Attributable to Alcohol Abuse, SFY 2015

Social Welfare Program	State Funding Total[1]	% UGF Funding	Alcohol Abuse Spending	Portion UGF Funding
SNAP Administrative Costs	$10,674,523[2]	43.9	$370,050	$162,452
Adult Public Assistance	$59,419,200	90.2	$1,624,125	$1,464,961
Public Assistance Field Services	$14,799,800	45.7	$513,060	$234,468
Public Assistance Admin	$1,256,200	32.0	$43,548	$13,935
Alaska Temporary Assistance Program	$15,164,300	43.9	$525,696	$230,781
Work Services	$3,750,000	17.5	$102,500	$17,938
Tribal Assistance Services	$10,084,200	93.7	$275,635	$258,270
Women, Infants, and Children	$10,574,400	1.5	$232,637	$3,490
Energy Assistance	$23,729,400	47.2	$648,604	$306,141
Child Care Benefits	$2,728,200	19.5	$74,571	$14,541
General Relief Assistance	$3,135,200	100	$85,695	$85,695
Senior Benefits Payment Program	$22,665,400	100	$619,521	$619,521
Total	**$177,980,823**	**67%**	**$5,115,641**	**$3,412,193**

Source: [1]Division of Public Assistance Actual Expenditures, SFY 2015, State of Alaska Office of Management and Budget; [2]Supplemental Nutrition Assistance Program State Activity Report Fiscal Year 2014.

Criminal Justice/Corrections Related Costs

Based on analysis of Criminal Justice impacts presented in Chapter 4, there were 9,438 offenses/arrests related to alcohol abuse in 2014, representing about 25 percent of total offenses/arrests. The total criminal justice systems costs associated with these offenses and arrests is estimated at $136.2 million. These costs include local, state, and federal government funds spent on police protection, legal and adjudication services, and corrections programs occurring in Alaska.

Table 62. Summary of Criminal Justice Costs Attributed to Alcohol Abuse in Alaska, 2014

	Alcohol-Related
Substance-Related Counts	
Offenses and arrests	9,438
Percentage offenses-arrests	25%
Costs	
Criminal justice system	$136.2 million

Note: Columns may not add due to rounding.
Source: McDowell Group calculations.

Based on a 2012 Survey, the Bureau of Justice Statistics provides a national breakout of federal, state, and local government expenditures on justice systems for police protection, judicial and legal services, and corrections. When combined, on a national basis, state government expenditures for justice systems are about 33 percent of total expenditures ($86 billion out of total national justice system spending of $265 billion).

Table 63. National Justice System Expenditures by Type of Government, Percent and in $Thousands, Federal FY2012

Category	Percent	$Thousands
Police Protection		
Federal	25%	$31,395,000
State	12%	$14,815,502
Local	66%	$84,053,185
Total		**$126,434,125**
Judicial and Legal Services		
Federal	27%	$15,894,000
State	39%	$22,770,081
Local	38%	$22,049,483
Total		**$57,935,169**
Corrections		
Federal	11%	$8,978,000
State	60%	$48,680,649
Local	33%	$26,397,777
Total		**$80,791,046**
Total Justice System		
Federal	21%	$56,267,000
State	33%	$86,266,232
Local	50%	$132,500,445
Total		**$265,160,340**

Note: Totals will not sum due to the removal of any fund duplications.
Source: Bureau of Justice Statistics (BJS) Justice Expenditure and Employment Extracts Program (JEE).

In SFY 2015, $111.9 million out of $115.7 million (or 97 percent) of the Alaska Court System was funded with Undesignated General Funds (UGF). A total of 83 percent (or $171.3 million) of the Alaska Department of Public Safety's budget was from UGF. The Department of Correction's budget was 89 percent funded with UGF (or $297.7 million). Combined, $580.9 million in UGF supported 89 percent of the combined budgets for the Alaska Court System, Department of Public Safety, and Department of Corrections.

Table 64. State of Alaska Justice System Budgets, SFY 2015

	Undesignated General Funds	Total State Budget	% UGF of Total Budget
Alaska Court System	$111.9 million	$115.7 million	96.7%
Dept. of Public Safety	$171.3 million	$206.3 million	83.0%
Dept. of Corrections	$297.7 million	$333.0 million	89.4%
Total	**$580.9 million**	**$655.1 million**	**88.7%**

Note: Columns may not add due to rounding.
Source: State of Alaska, Office of Management and Budget, McDowell Group calculations.

Using national proportions, the State of Alaska Justice System's total spending in SFY 2015 of $655.1 million would represent approximately 33 percent of the total justice system's budgets in Alaska (including federal and local government systems) totaling about $1.99 billion.

If an estimated $136.2 million is attributed to alcohol abuse arrests and offenses in Alaska, then this would represent about 7 percent of total justice systems costs in Alaska. The portion of those costs impacting the state budget is approximately $44.9 million (33 percent of $136.2 million). The estimated UGF portion of the state budget would be $39.9 million (using the proportion of 89 percent of the total budget). Therefore, of the total UGF funding of $580.9 million in the state's justice system, approximately 7 percent is directly attributed to alcohol abuse-related costs. This is likely a conservative estimate. State of Alaska spending on criminal justice probably accounts for a higher percentage (than the national average) of total criminal justice spending in Alaska. For example, in Alaska there are no federal penitentiaries or correctional institutions.

Summary of General Fund Impacts

There is a nexus between alcohol abuse and the State's General Fund. Many public costs specifically attributable to alcohol abuse are borne by the General Fund. For example, law enforcement, incarceration, and other criminal justice system costs account for half ($136 million) of the $270 million in criminal justice and protective services costs noted above. It is reasonable to assume that if alcohol abuse could be reduced, through prevention or treatment programs, demands on Alaska's correctional centers could be reduced, as would the $174 million in State General Funds (in FY2015) required to support those institutions. Similarly, the $104 million in FY2015 General Funds used to support Alaska State Trooper Detachments, the Village Public Safety Offices Program, the Council on Domestic Violence and Sexual Assault, and the Statewide Drug and Alcohol Enforcement Unit could be reduced with progress in treatment and prevention programs.

Other substantial alcohol abuse related costs have a nexus with the Alaska Department of Health and Social Services, including $148 million in in-patient, out-patient, and emergency department hospital costs related to alcohol abuse. Many of these costs are tied to the $338 million in FY2015 General Funds budgeted for Medicaid Services.

In summary, while difficult to measure costs and benefits with certainty, investment in alcohol treatment and prevention programs can reduce demands placed on the State General Fund to address the wide range of adverse impacts of alcohol abuse in Alaska.

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Table 65. ICD-10 Codes and Alcohol Attributable Fractions by Cause of Death, Gender, and Age Group

Cause	ICD-10	Sex	Age Group	AAF
Alcoholic psychosis	F10.3-F10.9	Both	20-85+	100%
Alcohol abuse	F10.0, F10.1	Both	20-85+	100%
Alcohol dependence syndrome	F10.2	Both	20-85+	100%
Alcohol polyneuropathy	G62.1	Both	20-85+	100%
Degeneration of nervous system due to alcohol	G31.2	Both	20-85+	100%
Alcoholic myopathy	G72.1	Both	20-85+	100%
Alcohol cardiomyopathy	I42.6	Both	20-85+	100%
Alcoholic gastritis	K29.2	Both	20-85+	100%
Alcoholic liver disease	K70-K70.4, K70.9	Both	20-85+	100%
Fetal alcohol syndrome	Q86.0	Both	0-85+	100%
Fetus and newborn affected by maternal use of alcohol	P04.3, O35.4	Both	0-85+	100%
Alcohol-induced chronic pancreatitis	K86.0	Both	20-85+	100%
Acute pancreatitis	K85	Both	20-85+	24%
Chronic pancreatitis	K86.1	Both	20-85+	84%
Epilepsy	G40, G41	Both	20-85+	15%
Esophageal varices	I85, I98.2	Both	20-85+	40%
Gastroesophageal hemorrhage	K22.6	Both	20-85+	47%
Liver cirrhosis, unspecified	K74.3-K74.6, K76.0, K76.9	Both	20-85+	40%
Portal hypertension	K76.6	Both	20-85+	40%
Spontaneous abortion	O03	F	20-85+	4%
Spontaneous abortion	O03	M	20-85+	0%
Breast cancer, females	C50	F	20-85+	1%
Breast cancer, females	C50	M	20-85+	0%
Cholelithiases	K80	Both	20-85+	-1%
Chronic hepatitis	K73	Both	20-85+	1%
Esophageal cancer	C15	Both	20-85+	1%
Hypertension	I10-I15	Both	20-85+	2%
Ischemic heart disease	I20-I25	Both	20-85+	0%
Laryngeal cancer	C32	Both	20-85+	4%
Liver cancer	C22	Both	20-85+	4%
Low birth weight, prematurity, intrauterine growth retardation or death	O36.5, O36.4, P05, P07	Both	0-85+	3%
Oropharyngeal cancer	C01-C06, C09-C10, C12-C14	Both	20-85+	1%
Psoriasis	L40.0-L40.4, L40.8, L40.9	Both	20-85+	0%
Superventricular cardiac dysrhythmia	I47.1, I47.9, I48	Both	20-85+	2%
Stroke, ischemic	G45, I63, I65-I67, I69.3	F	20-85+	1%
Stroke, ischemic	G45, I63, I65-I67, I69.3	M	20-85+	4%
Stroke, hemorrhagic	I60-I62, I69.0-I69.2	F	20-85+	1%
Stroke, hemorrhagic	I60-I62, I69.0-I69.2	M	20-85+	3%
Prostate cancer	C61	Both	20-85+	0%
Alcohol poisoning	X45, Y15, T51.0, T51.1, T51.9	Both	15-85+	100%
Suicide by and exposure to alcohol	X65	Both	20-85+	100%

Cause	ICD-10	Sex	Age Group	AAF
Excessive blood level of alcohol	R78.0	Both	15-85+	100%
Air-space transport	V95-V97	Both	15-85+	18%
Aspiration	W78-W79	Both	15-85+	18%
Homicide	X85-Y09, Y87.1	Both	15-85+	47%
Child Maltreatment	X85-Y09, Y87.1	Both	0-15	16%
Drowning injuries	W65-W74	Both	15-85+	34%
Fall injuries	W00-W19	Both	15-85+	32%
Fire injuries	X00-X09	Both	15-85+	42%
Firearms	W32-W34	Both	15-85+	18%
Hypothermia	X31	Both	15-85+	42%
Motor-vehicle nontraffic collisions	V02.0, V03.0, V04.0, V09.0, V12-V14(.0-.2), V19.0-V19.3, V20-V28(.0-.2), V29.0-V29.3, V30-V39(.0-.3),V40-V49(.0-.3), V50-V59(.0-.3), V60-V69(.0-.3), V70-V79(.0-.3), V81.0, V82.0, V83-V86(.4-.9), V88.0-V88.8, V89.0	Both	15-85+	18%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	0-14	15%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	15-19	20%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	20-24	36%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	25-34	37%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	35-44	34%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	45-54	28%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	55-64	16%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	F	65+	8%

Cause	ICD-10	Sex	Age Group	AAF
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	0-14	15%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	15-19	26%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	20-24	46%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	25-34	49%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	35-44	47%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	45-54	41%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	55-64	28%
Motor-vehicle traffic collisions	V02(.1, .9), V03(.1, .9), V04(.1, .9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28(.3-.9), V29.4-V29.9, V30-V39(.4-.9), V40-V49(.4-.9), V50-V59(.4-.9), V60-V69(.4-.9), V70-V79(.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86(.0-.3), V87.0-V87.8, V89.2	M	65+	12%
Occupational and machine injuries	W24-W31, W45	Both	15-85+	18%
Other road vehicle collisions	V01, V05-V06, V09.1, V09.3, V09.9, V10-V11, V15-V18, V19.3, V19.8- V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9	Both	15-85+	18%
Poisoning (not alcohol)	X40-X49 (except X45)	Both	15-85+	29%
Suicide	X60-X84, (except X65) Y87.0	Both	15-85+	23%
Water Transport	V90-V94	Both	15-85+	18%

Notes: The ARDI Tool provides low, medium, and high estimates. For purposes of this report, the medium attributable estimate was used.
Source: Centers for Disease Control and Prevention (CDC), Alcohol and Public Health, Alcohol-Related Disease Impacts (ARDI).

Table 66. Alaska Alcohol-Related Deaths, by Cause, 2010-2014

	Total Deaths 2010-2014	Alcohol Attributable Deaths 2010-2014	Annual Average Alcohol Attributable Deaths Per Year
Causes of Death 100 Percent Attributable to Alcohol	**620**	**620**	**124**
Alcohol abuse	43	43	8.6
Alcohol cardiomyopathy	34	34	6.8
Alcohol dependence syndrome	99	99	19.7
Alcohol poisoning	142	142	28.4
Alcohol polyneuropathy	0	0	0.0
Alcoholic gastritis	1	1	0.2
Alcoholic liver disease	282	282	56.4
Alcoholic myopathy	0	0	0.0
Alcoholic psychosis	18	18	3.6
Alcohol-induced chronic pancreatitis	0	0	0.0
Degeneration of nervous system due to alcohol	0	0	0.0
Excessive blood level of alcohol	0	0	0.1
Fetal alcohol syndrome	1	1	0.2
Fetus and newborn affected by maternal use of alcohol	0	0	0.0
Suicide by and exposure to alcohol	0	0	0.0
Causes of Death Partially Attributable to Alcohol	**6,501**	**807**	**161**
Acute pancreatitis	20	5	1.0
Air-space transport	74	13	2.7
Aspiration	10	2	0.4
Breast cancer, females	313	3	0.6
Child Maltreatment	21	3	0.7
Cholelithiases	6	0	0.0
Chronic hepatitis	0	0	0.0
Chronic pancreatitis	0	0	0.0
Drowning injuries	114	39	7.8
Epilepsy	24	4	0.7
Esophageal cancer	138	1	0.3
Esophageal varices	2	1	0.2
Fall injuries	150	48	9.6
Fire injuries	50	21	4.2
Firearms	8	1	0.3
Gastroesophageal hemorrhage	2	1	0.2
Homicide	177	83	16.6
Hypertension	348	7	1.4
Hypothermia	57	24	4.8
Ischemic heart disease	2062	0	0.0
Laryngeal cancer	23	1	0.2
Liver cancer	215	9	1.7
Liver cirrhosis, unspecified	192	77	15.4
Low birth weight, prematurity, intrauterine growth retardation or death	9	0	0.1
Motor-vehicle nontraffic collisions	71	13	2.6
Motor-vehicle traffic collisions	293	95	19.0
Occupational and machine injuries	19	3	0.7

	Total Deaths 2010-2014	Alcohol Attributable Deaths 2010-2014	Annual Average Alcohol Attributable Deaths Per Year
Causes of Death Partially Attributable to Alcohol (cont'd)			
Oropharyngeal cancer	54	0	0.0
Other road vehicle collisions	7	1	0.3
Poisoning (not alcohol)	505	146	29.3
Portal hypertension	4	2	0.3
Prostate cancer	210	0	0.0
Psoriasis	0	0	0.0
Spontaneous abortion	0	0	0.0
Stroke, hemorrhagic	251	5	1.0
Stroke, ischemic	79	2	0.4
Suicide	806	185	37.1
Superventricular cardiac dysrhythmia	142	3	0.6
Water Transport	46	8	1.7
Total	**7,120**	**1,426**	**285**

Notes: Due to rounding columns may not add to totals. See Appendix for ICD-10 codes used and specific alcohol attribution rates by gender and age groups.
Source: Death counts from DHSS' Bureau of Vital Statistics' (BVS) unpublished data, and McDowell Group calculations. Attribution rates from Centers for Disease Control and Prevention (CDC), Alcohol and Public Health, Alcohol-Related Disease Impacts (ARDI).

Table 67. Estimated Potential Years of Life Lost (PYLL) Due to Causes of Death Attributable to Alcohol in Alaska, 2010-2014

	Total Number of Alcohol Attributable Deaths	PYLL Attributable to Alcohol	Estimated Average PYLL Per Year
Causes of Death 100 Percent Attributable to Alcohol	**620**	**14,927**	**2,985**
Alcoholic psychosis	18	306	61
Alcohol abuse	43	849	170
Alcohol dependence syndrome	99	2,192	438
Alcohol polyneuropathy	0	0	0
Degeneration of nervous system due to alcohol	0	0	0
Alcoholic myopathy	0	0	0
Alcohol cardiomyopathy	34	730	146
Alcoholic gastritis	1	12	2
Alcoholic liver disease	282	6,083	1,217
Fetal alcohol syndrome	1	75	15
Fetus and newborn affected by maternal use of alcohol	0	0	0
Alcohol-induced chronic pancreatitis	0	0	0
Alcohol poisoning	142	4,680	936
Suicide by and exposure to alcohol	0	0	0
Causes of Death Partially Attributable to Alcohol	**729**	**23,502**	**4,699**
Acute pancreatitis	4.1	87	17
Chronic pancreatitis	0.0	0	0
Epilepsy	3.0	65	13
Esophageal varices	0.8	18	4
Gastroesophageal hemorrhage	0.9	31	6
Liver cirrhosis, unspecified	66.4	1,212	242
Portal hypertension	1.6	24	5
Spontaneous abortion	0.0	0	0

	Total Number of Alcohol Attributable Deaths	PYLL Attributable to Alcohol	Estimated Average PYLL Per Year
Causes of Death Partially Attributable to Alcohol (cont'd)			
Breast cancer, females	2.3	36	7
Cholelithiases	0.0	0	0
Chronic hepatitis	0.0	0	0
Esophageal cancer	1.0	12	2
Hypertension	4.4	86	17
Ischemic heart disease	0.0	0	0
Laryngeal cancer	0.6	11	2
Liver cancer	7.2	100	20
Low birth weight, prematurity, intrauterine growth retardation or death	0.3	20	4
Oropharyngeal cancer	0.5	6	1
Psoriasis	0.0	0	0
Superventricular cardiac dysrhythmia	0.7	7	1
Stroke, ischemic	0.9	13	3
Stroke, hemorrhagic	3.1	53	11
Prostate cancer	0.0	0	0
Air-space transport	12.6	366	73
Aspiration	1.1	35	7
Homicide	82.3	2,941	588
Child Maltreatment	0.0	0	0
Drowning injuries	38.1	1,195	239
Fall injuries	28.8	714	143
Fire injuries	16.4	396	79
Firearms	1.4	52	10
Hypothermia	22.7	613	123
Motor-vehicle nontraffic collisions	11.7	470	94
Motor-vehicle traffic collisions	79.6	2,860	572
Occupational and machine injuries	3.2	100	20
Other road vehicle collisions	1.3	39	8
Poisoning (not alcohol)	145.3	4,922	984
Suicide	178.7	6,700	1,340
Water Transport	8.3	318	64
Total	**1,349**	**38,429**	**7,684**

Note: Due to rounding columns may not add to totals.
Source: DHSS' BVS' unpublished data, and McDowell Group calculations. Attribution rates from CDC's ARDI.

The Economic Costs of Alcohol Abuse in Alaska

Prepared for:
Alaska Mental Health Trust Authority

March 2017

Purpose

- *The Economic Costs of Alcohol Abuse in Alaska, 2016 Update.* Fourth edition (2001, 2005, 2012)
- Alcohol abuse has many adverse health and social consequences:
  - Increased health care costs – injuries and chronic health conditions
  - Property damage – fire and motor vehicle collisions
  - Increased crime and criminal justice system costs
  - Lost or reduced worker productivity – absenteeism, diminished output while at work, and reduced earnings potential
  - Increased public assistance and social services – social welfare support
  - Increased public sector costs – alcohol-attributable expenditures
- Costs can be <u>tangible</u> (healthcare, criminal justice system, etc.) and <u>intangible</u> (diminished quality of life, pain & suffering, etc.)

Why Understanding the Economic Costs Matters

- Assessment of the extent of the problem
- Valuable insights into factors that may influence alcohol abuse and its adverse effects
- Inform planning and implementation of prevention strategies
- Assessment of the cost of prevention strategies relative to the cost of alcohol-attributable harms
- Builds awareness of the public/private sector costs

Methodology

- Alcohol Consumption
  - *National Survey of Drug Use and Health (NSDUH), National Institute of Alcohol Abuse and Alcoholism (NIAAA)*
- Productivity Losses
  - Mortality Causes and Potential Years of Life Lost (PYLL) – Health Analytics and Vital Reports and Alcohol-Attributable Fractions (AAF)
  - Incarceration – DOC data and Alcohol attributable rates (Lewin Group's 2010 report, *Economic Cost of Excessive Alcohol Consumption in the United States, 2006*)
  - Diminished Productive Causes – Lewin report adjusted for Alaska's demographics (DOLWD, ACS, NSDUH)
  - Hospitalization and Treatment Causes – Alaska Hospital Facilities Data Reporting Program (HFRP), DOLWD, and AAF
- Vehicle Traffic Collisions
  - 9 categories (medical, emergency services, market productivity, household productivity, insurance administration, workplace and legal costs, congestion costs, & property damage)

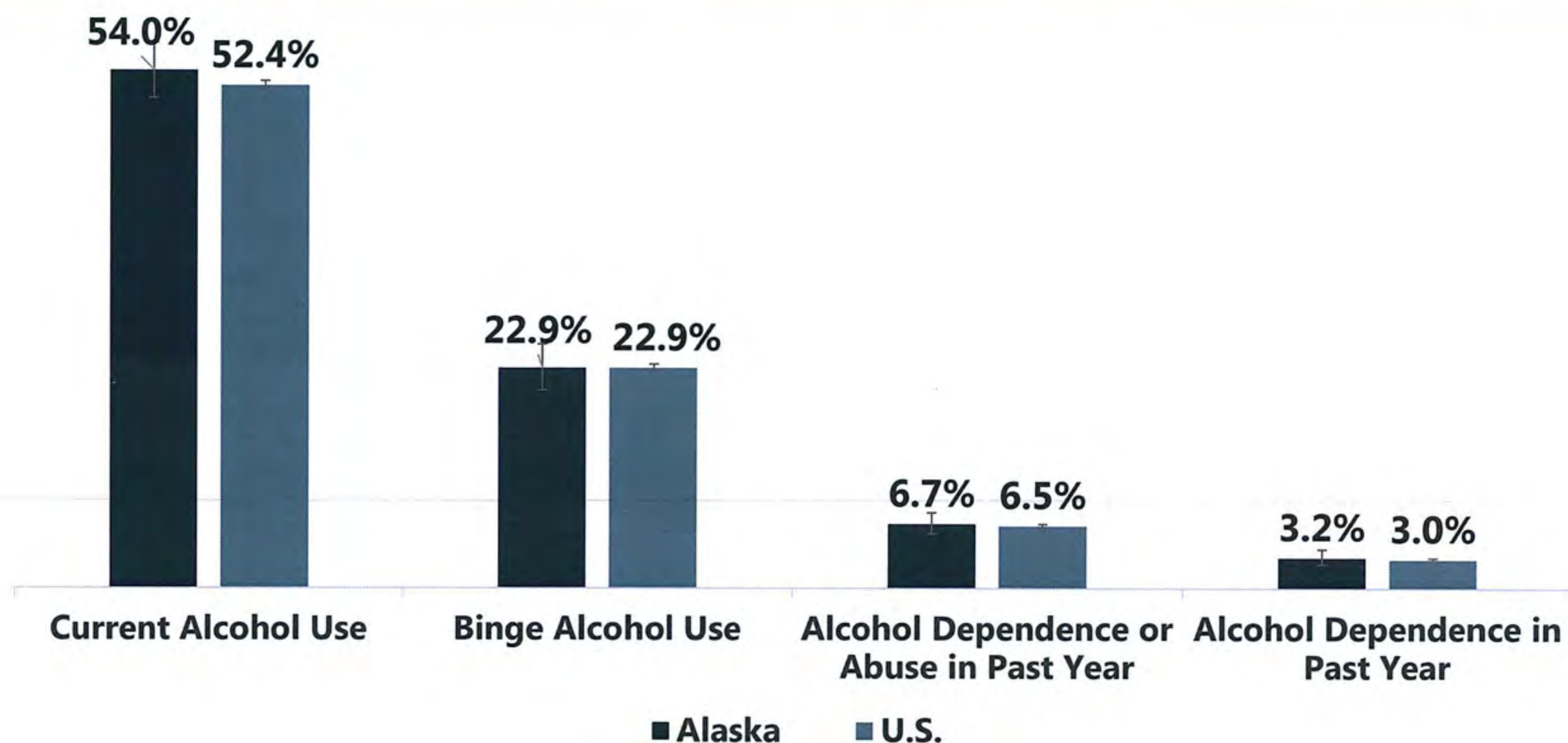
Methodology (continued)

- Criminal Justice and Protective Services
  - Offenses and Arrests – DPS, FBI, and Lewin Group's alcohol attributable rates
  - Criminal Justice System – NIH report, *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation*, and Lewin Group's report
  - Criminal Victimization – Bureau of Justice Statistics, DOLWD/ACS, and Lewin Group's alcohol attributable rates
  - Protective Systems – *National Survey of Children and Adolescent Well-Being*, National Data Archive on Child Abuse and Neglect, OSC, National Institute on Drug Abuse (NIDA)
- Health Care
  - Inpatient, ED, and Outpatient Costs – HFDR, NIDA, and Lewin Group's AAF
  - Treatment for Alcohol Abuse – DBH and Medicaid
  - Skilled Nursing and Long Term Care – NIDA and DSDS
  - FAS/FASD – BVS and Health Analytics, Vital Reports, and Canadian study, *The Burden of Prenatal Exposure to Alcohol: Revised Measurement of Costs*
  - Prevention Services – DBH

Methodology (continued)

- Public Assistance and Social Services
  - Federal Government Costs – NIDA and OASDI, SSI, TANF, and SNAP
  - State Government Costs – NIDA and DPA
- Underage Drinking
  - PIRE 2010 study on Underage Drinking in Alaska adjusted to 2016$
- Jobs/Income in Alaska's Alcoholic Beverage Manufacturing and Sales
  - DOLWD
- Alcoholic Beverage Tax
  - DOR
- Implications for Alcohol Abuse Impacts on State GF Budget
  - Prevention Grants (DHB), Justice System (Court System)

Alcohol Consumption Patterns (2013-2014)

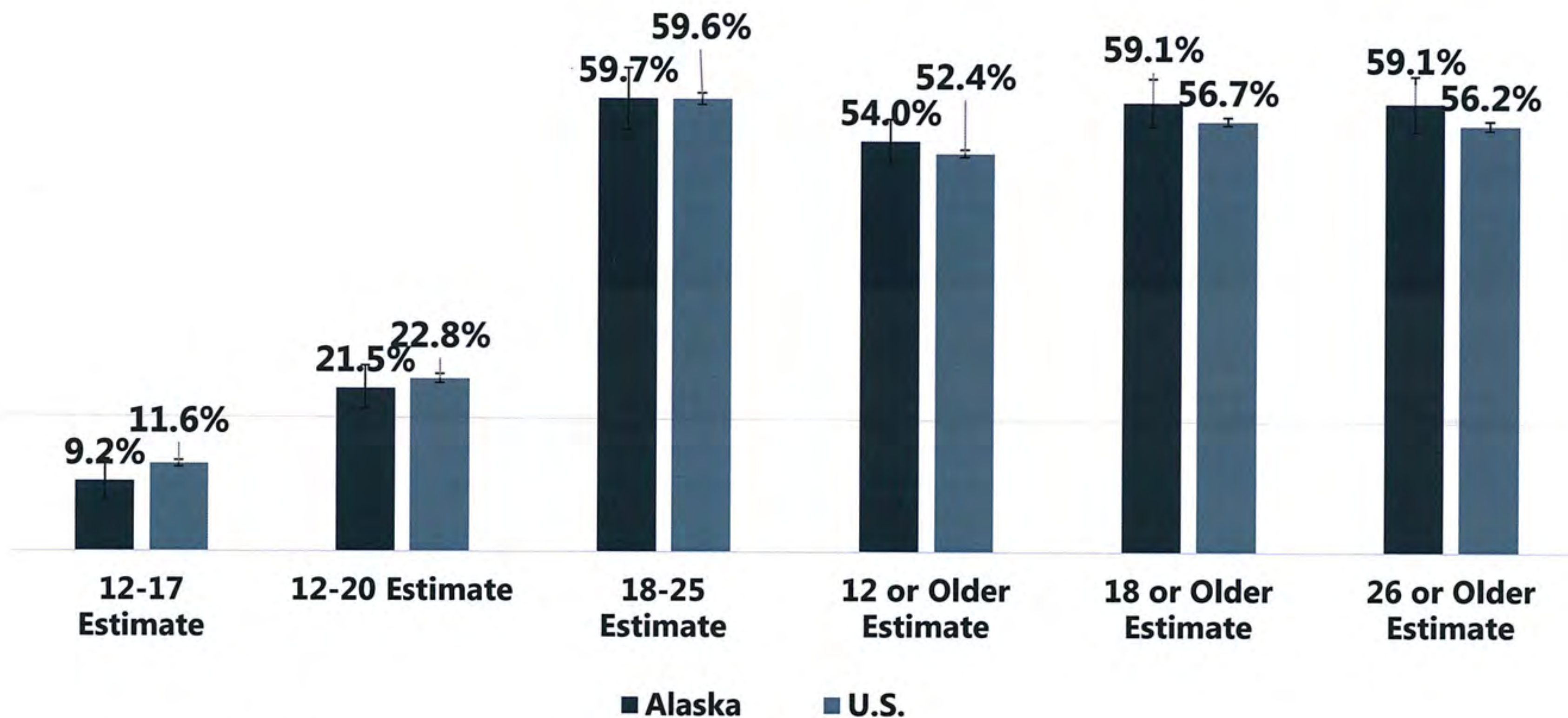


Source: National Survey of Drug Use and Health, SAMHSA

Alaskan Alcohol Consumption (2013-2014)

- **313,000** drank alcohol within past 30 days
- **39,000** experienced alcohol dependence or abuse in past year
- **19,000** experienced alcohol dependency in past year
- Nationally, Alaska ranked:
  - 31st for binge drinking
  - 26th for current alcohol use
  - 21st for alcohol dependence alone
  - 20th for alcohol dependence or abuse

Current Alcohol Use (age 12+), by Age Group

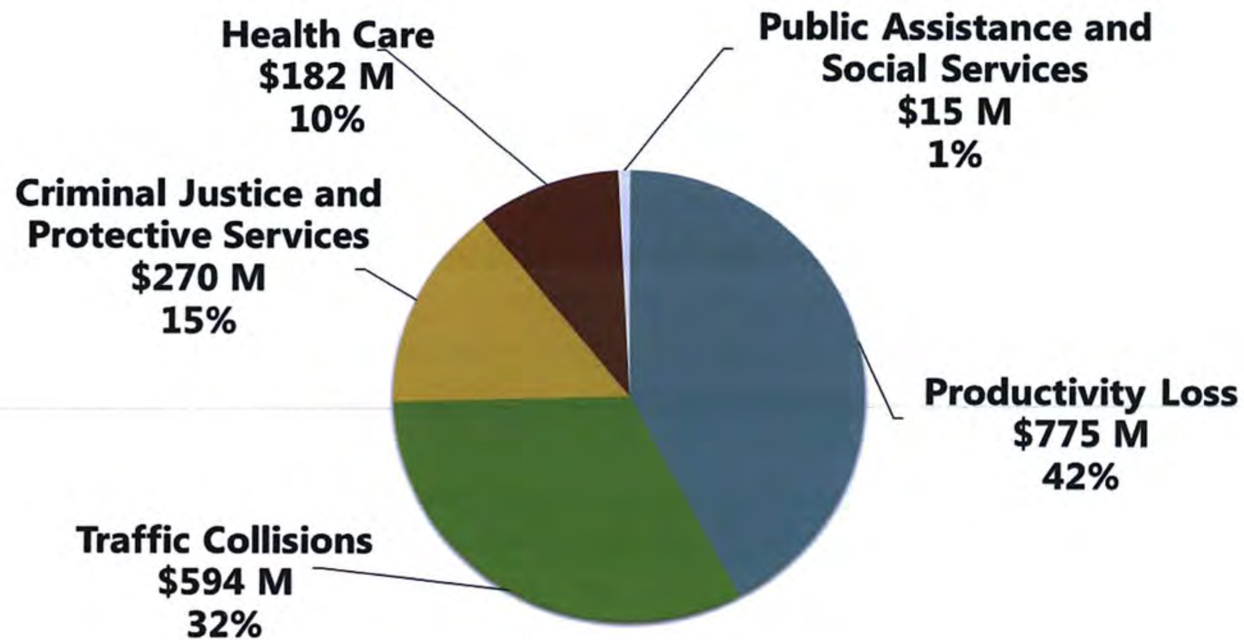


Source: National Survey of Drug Use and Health, SAMHSA

Per Capita (age 14+) Consumption (2013)

- **1.6 M gallons of ethanol** consumed in Alaska (including consumption by residents and non-resident visitors)
- Alaska per capita consumption (**2.73 gallons**):
  - Beer – 1.06 gallons of ethanol
  - Wine – 0.52 gallons
  - Liquor – 1.16 gallons
- Average U.S. ethanol consumption – 2.34 gallons per capita (2013)
- Alaska consumption increased slightly in 2014, to 2.79 gallons per capita

Total Economic Costs of Alcohol Abuse – $1.84 B



Source: McDowell Group calculations. Criminal justice and protective services estimate does not include intangible costs related to victimization, an estimated $605 million in additional costs.

Criminal Justice and Protective Services – $269.8 M

Cost Category	Alcohol-related Costs	% of Total
Criminal justice system	$136.2 M	50%
Crime victim tangible costs	$58.2 M	22
Child protective services	$75.4 M	28
Total	**$269.8 M**	**100%**
Crime victim intangible costs	$604.9 M	
Total, incl. intangible costs	**$874.7 M**	

Source: McDowell Group calculations.

Health Care – $181.8 M

Cost Category	Alcohol-related Costs	% of Total
Medical inpatient	$85.4 M	48%
Medical ED	$32.7 M	18
Medical outpatient	$22.6 M	12
Alcohol/Drug treatment	$25.9 M	14
Prescription drug	$10.7 M	6
Nursing Home/LTC	$1.5 M	1
FASD	$3.0 M	2
Total	**$181.8 M**	**100.0%**

Source: McDowell Group calculations.

Public Assistance and Social Services – $14.5 M

Cost Category	Alcohol-related Costs	% of Total
Federal social welfare	$9.4 M	65%
State social welfare	$5.1 M	35
Total	**$14.5 M**	**100.0%**

Source: McDowell Group calculations.

Underage Drinking – $350 M

- In 2013-2014:
  - **Underage Drinkers: 9%** of Alaskans age 12-17 and **22%** of Alaskans age 12-20
  - **Underage Binge Drinkers: 5%** of Alaskans age 12-17 and **13%** of Alaskans age 12-20
- In 2010, PIRE estimated costs from underage Alaskan drinkers at **~$350 million** (2016$)
  - Youth violence represent **48%** of underage drinking costs, followed by youth traffic accidents (28%)

Traffic Collisions – $594.3 million

Cost Category	Impairment-Caused Traffic Collision Costs
Medical	$38.5 M
Emergency services	$0.02 M
Market productivity	$81.4 M
Household productivity	$22.6 M
Insurance administration	$9.3 M
Workplace costs	$1.6 M
Legal costs	$12.8 M
Congestion costs	$1.3 M
Property damage	$4.9 M
Direct Costs	**$172.5 M**
Quality-adjusted life years	$818.0 M
Total, including quality-adjusted life years	**$990.5 M**
Estimated portion attributed to alcohol (60%)	**$594.3 M**

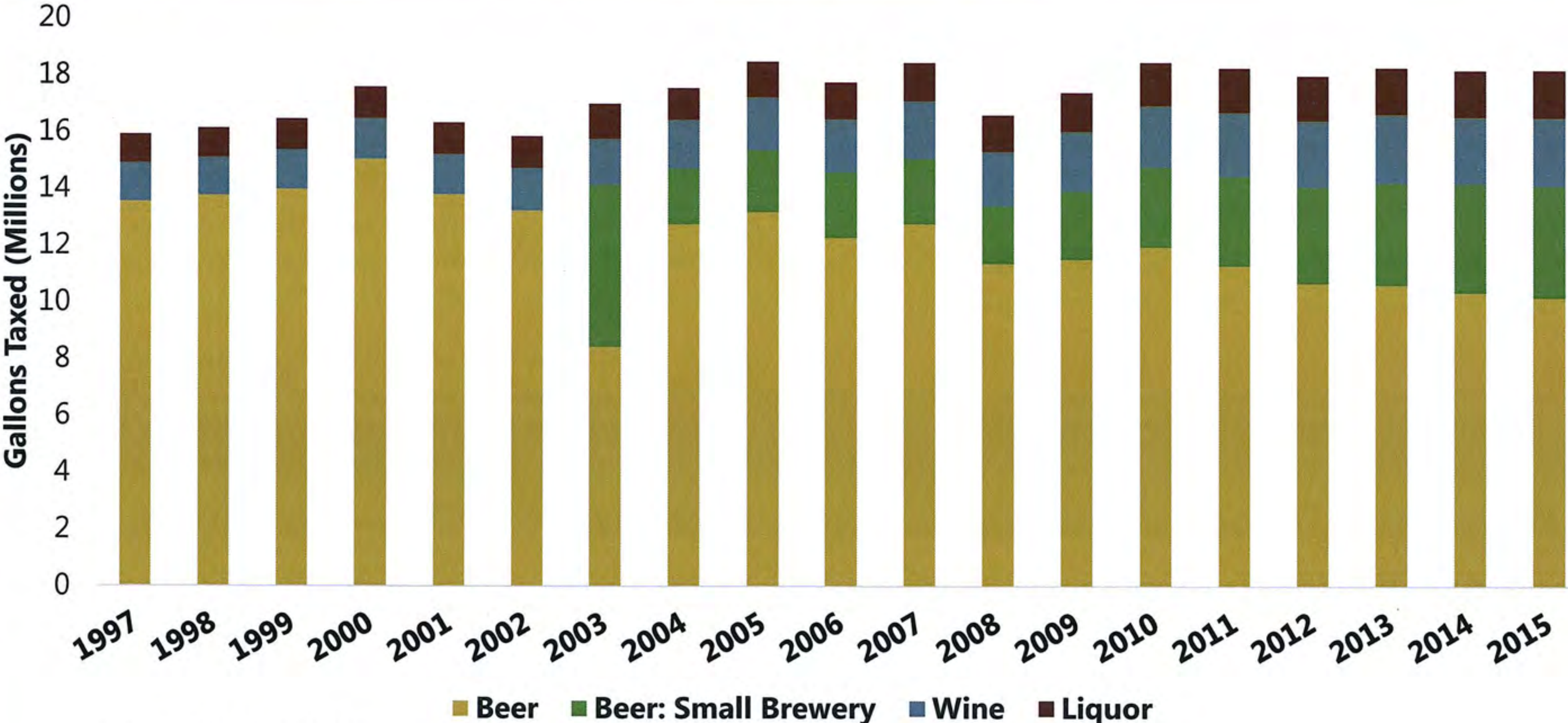
Source: McDowell Group calculations.

Productivity Losses – $775.1 M

Productivity Category	Alcohol-related Costs	% of Total
Premature death (primary diagnosis)	$581.5 M	75%
Incarceration	$ 41.5 M	5
Diminished productivity	$145.6 M	19
Substance abuse treatment	$1.5 M	0.2
Medical conditions	$5.0 M	1
Total	**$775.1 M**	**100%**

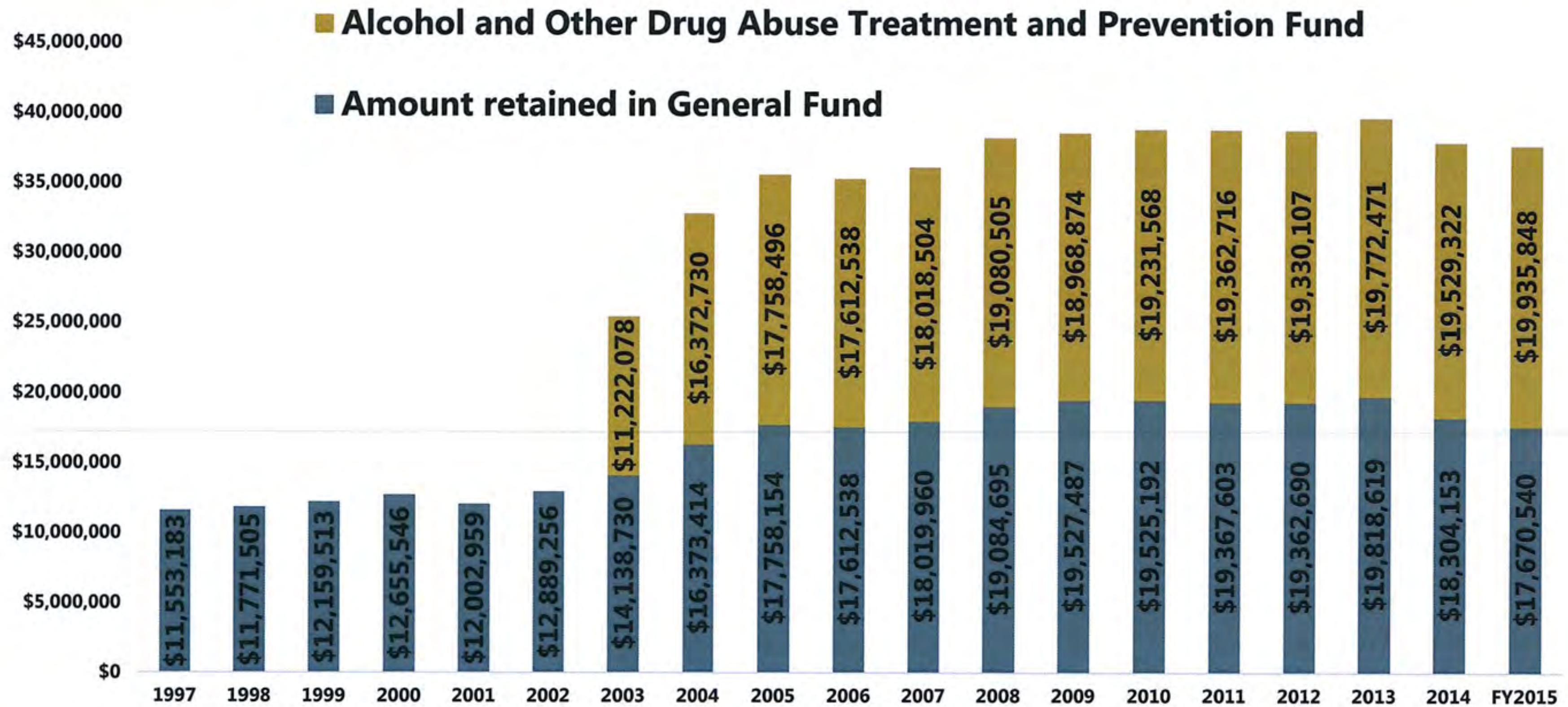
Due to rounding, some columns may not sum to total.

State Alcoholic Beverages Tax – Volume



Source: Alaska Department of Revenue

State Alcohol Beverage Tax Revenue (FY1997-2015)



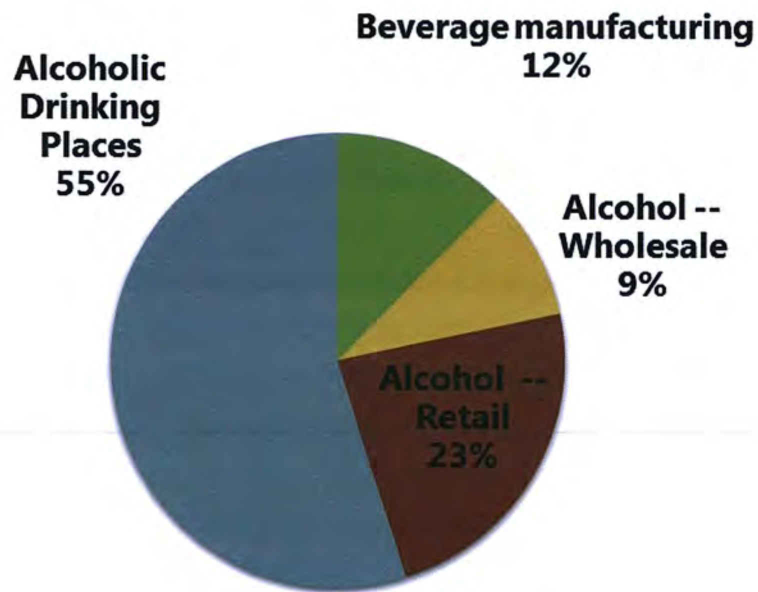
Source: Alaska Department of Revenue

Local Government Alcohol Tax Sales, 2015

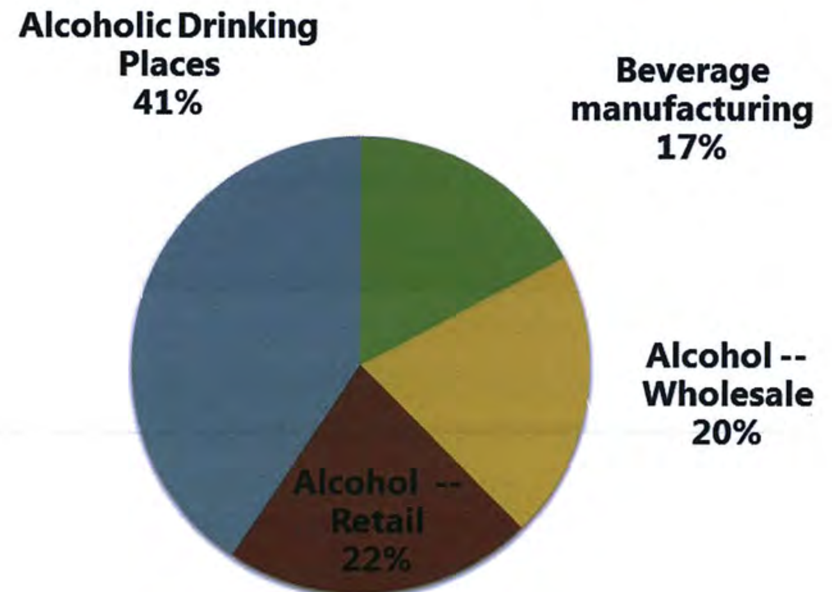
Alaska Communities	Sales Tax Rate (%)	Total Revenue
City of Fairbanks	5	$2,239,679
Fairbanks North Star Borough	5	$998,195
City and Borough of Juneau	3	$760,910
Dillingham	10	$297,325
North Pole	5	$211,997
Kotzebue	6	$183,967
Craig	6	$121,554
Galena	3	$46,629
Barrow	3	$31,013
Whittier	3	$6,450
Unalakleet	5	$4,291
St. Mary's	3	$2,059
Total		**$4,904,069**

Source: Alaska Taxable 2015

Jobs and Wages – Alcoholic Beverage Sector, 2014



Total Jobs: 2,887



Total Wages: $66.4M

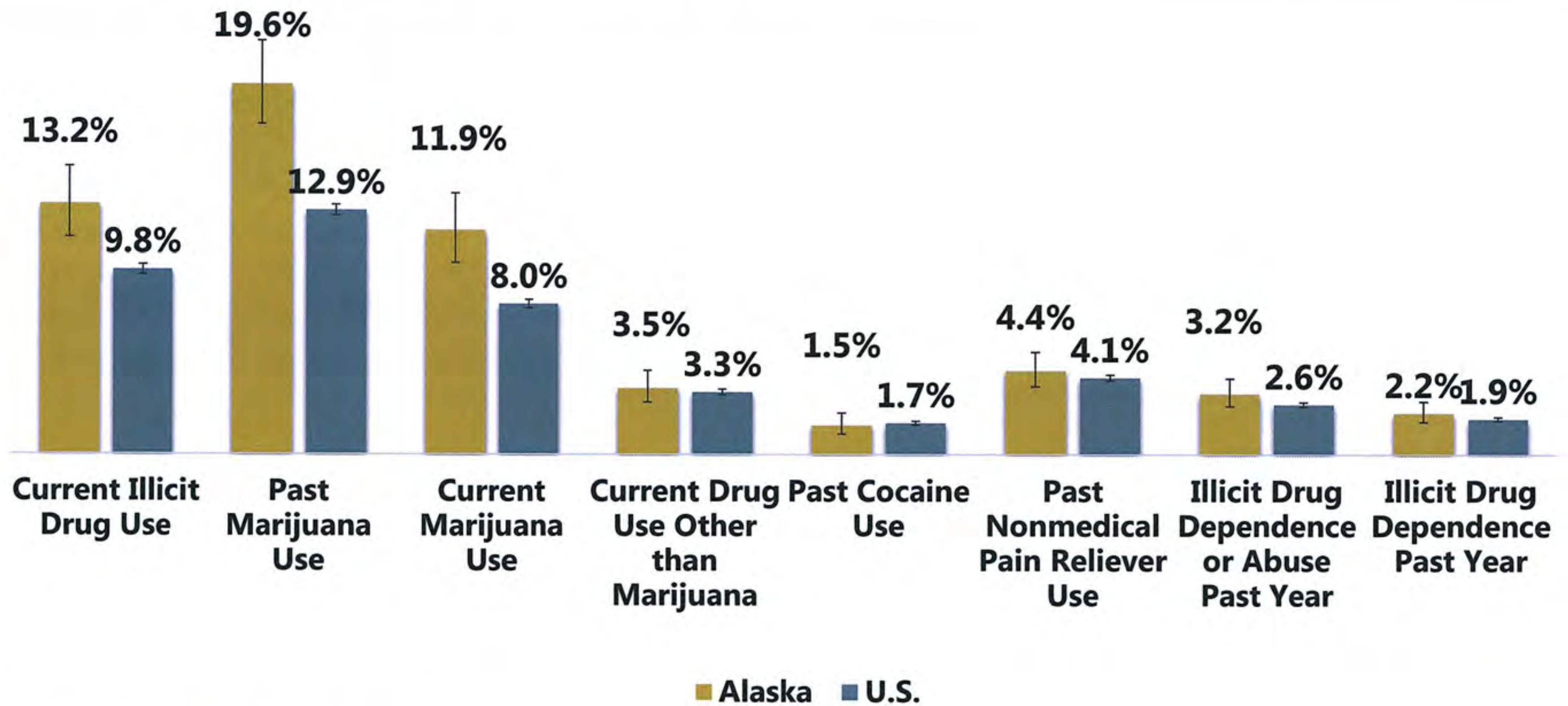
Source: Alaska Department of Workforce and Labor Development.

In Summary

- **$1,840.0 M** – Total Economic Costs of Alcohol Abuse (2016)
- **$66.4 M** – Total Alaska's Alcoholic Beverage Sector Payroll (2014)
- **$37.6 M** – Total Alaska Alcohol Beverage Tax Revenue (FY2015)
- **$4.9 M** – Local Government Alcohol Sales Tax Revenue (2015)

The Economic Costs of Drug Abuse in Alaska, 2016

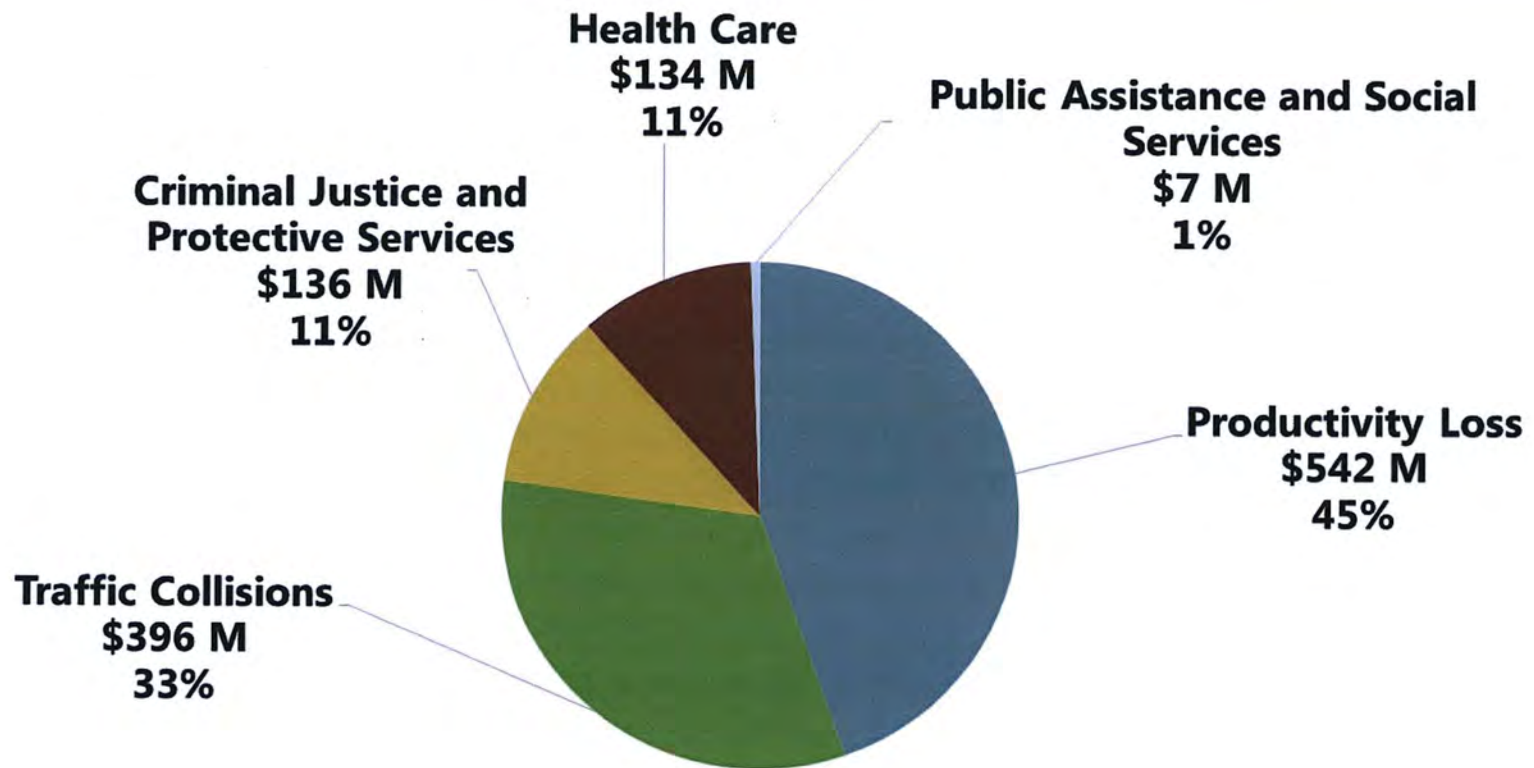
Illicit Drug Use, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA

- **77,000** Alaskans used illicit drugs within the past 30 days
  - 69,000 consumed marijuana
  - 20,000 used other illicit drugs
- **26,000** Alaskans used pain relievers for non-medical purposes in the past year
- **13,000** Alaskans are dependent on illicit drugs
- Marijuana consumption is the only drug in Alaska statistically different than U.S.
  - **12%** Alaskans used marijuana in past 30 days – 8% in U.S.
  - **20%** Alaskans used marijuana in past year – 13% in U.S.

Total Economic Costs of Drug Abuse – $1.22 B



Source: McDowell Group calculations.

In Conclusion

- **$1,840.0 M**– Total Economic Costs of Alcohol Abuse (2016)
- **$1,220.0 M**– Total Economic Costs of Drug Abuse (2016)

- **$3,100.0 M** – Total Combined Economic Costs of Alcohol and Drug Abuse in Alaska (2016)

Questions?

The Economic Costs of Drug Abuse in Alaska, 2016 Update

Prepared for:

Alaska Mental Health Trust Authority

March 2017

The Economic Costs of Drug Abuse in Alaska, 2016 Update

Prepared for:

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March 2017

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Executive Summary

The economic costs of drug abuse in Alaska total billions of dollars each year. Costs to society include increased health care costs, increased criminal justice system costs, lost or reduced workplace productivity, greater spending on public assistance and social services, and a range of other impacts. This study measures these and other tangible economic costs associated with drug abuse.

The misuse of drugs also has a wide range of intangible costs, in terms of diminished quality of life, pain and suffering of crime victims and others, and a spectrum of additional qualitative costs. While several measures of these types of costs are described in this report, calculating the full extent of intangible human costs resulting from drug abuse is beyond the scope of this study.

The Alaska Mental Health Trust Authority contracted with McDowell Group to update its series of prior studies on the economic costs of drug abuse in Alaska. A variety of methodologies, data sources, and modeling assumptions were required for this analysis. While some trend analysis may be possible for specific measures of economic impact, the quality of data and modeling techniques have improved in recent years. As a result, caution is warranted in making detailed comparison between this study and previous efforts to quantify the economic costs of drug abuse in Alaska.

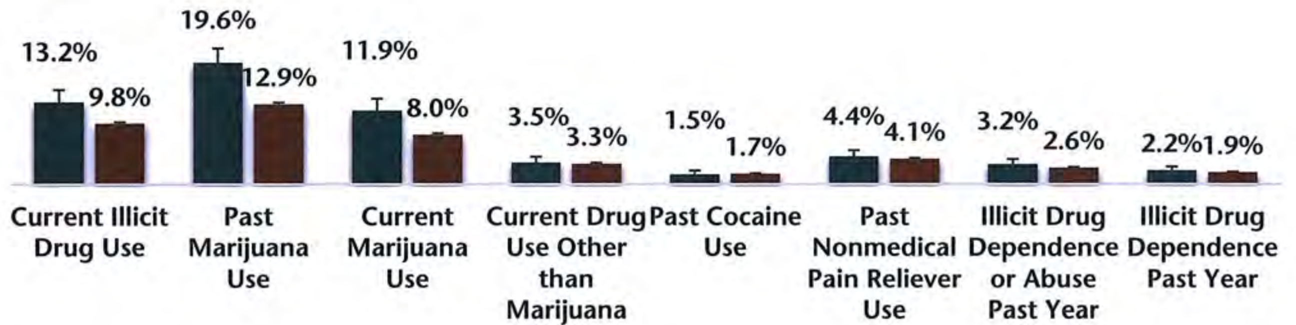
Illicit Drug Use

In 2013-2014, approximately 77,000 Alaskans (13 percent of those 12 or older) had used illicit drugs in the past month, including 69,000 who consumed marijuana and 20,000 who used other illicit drugs (such as cocaine). Further, 26,000 Alaskans (4 percent of those 12 or older) used pain relievers for non-medical purposes in the previous year. Two percent of all Alaskans 12 or older (13,000) were dependent on illicit drugs. One in five Alaskans age 12 and older consumed marijuana in the previous year.

Marijuana consumption was the only drug use in Alaska that was statistically different from the country in 2013-2014. Twelve percent of Alaskans used marijuana in the *past month* compared to 8 percent nationally, and 20 percent of Alaskans used marijuana in the *past year* compared to 13 percent nationwide.

(See figure next page.)

Figure 1. Drug Consumption Patterns Prevalence Estimate Percentages, Alaska and U.S., Age 12+, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Economic Costs of Drug Abuse in Alaska

In 2015, the estimated cost of drug abuse to the Alaska economy totaled just under $1.22 billion. These costs are borne by state and local governments, employers, and residents of Alaska.

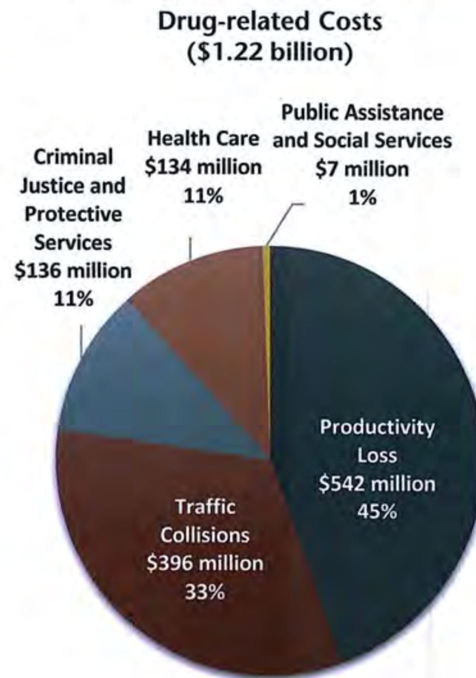
Productivity losses are the largest component of these annual economic costs (45 percent or $542 million).

Table 1. Estimated Annual Drug-related Economic Costs to Alaska, 2015

Cost Category	Drug-related Costs	% of Total
Productivity Loss	$542 million	45%
Traffic Collisions	$396 million	33
Criminal Justice and Protective Services	$136 million	11
Health Care	$134 million	11
Public Assistance and Social Services	$7 million	1
Total	**$1,215 million**	**100%**

Note: Due to rounding, some columns may not sum to the total.
Source: McDowell Group calculations.

Figure 2. Estimated Economic Costs of Drug Abuse, by Category, 2015



Source: McDowell Group calculations.

Categories of Economic Costs

PRODUCTIVITY LOSSES

Drug abuse results in lost productivity when it prevents people from being employed or performing household services such as child care. Lost productivity occurs because of premature death, reduced efficiency through physical and/or mental impairment, employee absenteeism, incarceration for criminal offenses, and medical treatment or hospitalization.

In 2015, drug abuse resulted in $542 million in lost productivity in Alaska.

Table 2. Estimated Annual Drug-related Productivity Losses, Alaska, 2015

Productivity Category	Drug-related Costs	% of Total
Premature death (primary diagnosis)	$391.4 million	72%
Incarceration	$29.7 million	5
Diminished productivity	$119.3 million	22
Drug abuse treatment	$1.4 million	0.3
Medical conditions	$0.6 million	0.1
Total	**$542.4 million**	**100%**

Due to rounding, some columns may not sum to total.
Source: McDowell Group calculations.

TRAFFIC COLLISIONS

Substance abuse plays a major role in vehicle traffic collisions in Alaska. In 2011 (most recent available data), 1,680 people were involved in 704 impairment-related collisions in Alaska. Of these, 32 people died, 299 had major injuries, and 63 had minor injuries. Of the 704 impairment-related collisions, 54 percent had property damage only. Direct costs of impairment-related traffic collisions were $172.5 million. However, there was another $818.0 million in costs for lost life and reduced quality of life, resulting in total traffic crash costs related to substance abuse of approximately $990.5 million. Approximately 40 percent of the traffic collisions (or $396.2 million in costs) were related to drug abuse.

Table 3. Estimated Annual Impairment-caused Traffic Collision Costs, Alaska, 2011

Cost Category	Impairment-Caused Traffic Collision Costs	% of Total, Excluding Quality-Adjusted Life Years	% of Total, Including Quality-Adjusted Life Years
Medical	$38.5 million	22.3%	3.9%
Emergency services	$0.02 million	0.1	0.02
Market productivity	$81.4 million	47.2	8.2
Household productivity	$22.6 million	13.1	2.3
Insurance administration	$9.3 million	5.4	0.9
Workplace costs	$1.6 million	1.0	0.2
Legal costs	$12.8 million	7.4	1.3
Congestion costs	$1.3 million	0.8	0.1
Property damage	$4.9 million	2.8	0.5
Direct Costs	**$172.5 million**	**100.0%**	**-**
Quality-adjusted life years	$818.0 million	-	82.6
Total, including quality-adjusted life years	**$990.5 million**		**100.0%**
Estimated portion attributed to drugs (40 percent of total)	**$396.2 million**		

Note: Due to rounding, some columns may not sum to total.
Source: McDowell Group calculations.

CRIMINAL JUSTICE AND PROTECTIVE SERVICES

A significant number of crimes can be directly attributed to drug abuse, for example driving under the influence, sale of illegal drugs, and many cases of assault, theft, and other violent and nonviolent crimes. The cost of these crimes includes criminal justice system costs (police protection and law enforcement, legal and adjudication, and incarceration), and the costs to crime victims (both tangible and intangible). Additionally, a portion of child protective services are associated with drug abuse.

In 2014, there were 9,572 arrests/offenses and 12,237 crime victims attributed to drug abuse in Alaska. These arrests/offenses represented 27 percent of all offenses in Alaska, and affected 29 percent of all crime victims. The estimated cost of drug abuse to the criminal justice system, including tangible costs (such as medical care costs, lost earnings, and property loss/damage to victims and Child Protective Services in Alaska) was $136.4 million. Victim intangible costs (such as pain and suffering, decreased quality of life, and psychological distress), added another $175.4 million for a total of just under $311.8 million.

Table 4. Summary of Estimated Annual Drug-related Criminal Justice and Protective Services Costs, Alaska, 2015

Cost Category	Drug-related Costs	% of Total
Criminal justice system	$73.4 million	54%
Crime victim tangible costs	$28.5 million	21
Child protective services	$34.5 million	25
Total	**$136.4 million**	**100%**
Crime victim intangible costs	$175.4 million	
Total, incl. intangible costs	**$311.8 million**	

Source: McDowell Group calculations.

HEALTH CARE

A wide variety of health care costs are associated with drug abuse, including hospitalization from injuries and illness, residential and outpatient treatments costs, and the cost of treating human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS), and hepatitis C. Annual drug-abuse-related health care costs totaled $133.7 million in 2015.

Table 5. Summary of Estimated Annual Drug-related Health Care Costs, Alaska, 2015

Cost Category	Drug Related Costs	% of Total
Medical inpatient	$14.6 million	11%
Medical ED	$3.1 million	2
Alcohol/Drug treatment	$23.5 million	18
HIV/AIDS	$2.5 million	2
Hepatitis C	$90.1 million	67
Total	**$133.7 million**	**100.0%**

Note: Due to rounding, some columns may not total.
Source: McDowell Group calculations.

PUBLIC ASSISTANCE AND SOCIAL SERVICES

Drug abuse can result in greater demand for public and social services. For example, problems with drugs can reduce personal income due to mental and physical impairment or inability to hold a job. Drug abuse may also lead to disability. Some or all these conditions may qualify individuals for publicly funded social programs like food stamps, public assistance, and vocational rehabilitation. Based on prevalence rates, federal and state social welfare costs paid to support people impacted by drug abuse totaled $7.3 million annually.

Table 6. Estimated Annual Drug-related Social Welfare Costs, Alaska, 2015

Cost Category	Drug Related Costs	% of Total
Federal social welfare	$4.7 million	64%
State social welfare	$2.6 million	36
Total	**$7.3 million**	**100.0%**

Source: McDowell Group calculations.

Introduction and Methodology

Introduction

The Alaska Mental Health Trust Authority contracted with McDowell Group to update prior studies on the economic costs of drug abuse in Alaska. Drug abuse impacts Alaska's economy in a variety of ways. It can lead to greater health risks and death, impaired physical and mental abilities, crime and incarceration, greater reliance on public assistance, and several other adverse effects. This study addresses tangible economic costs of drug abuse, such as lost earnings among the affected population and costs of government programs. Quality of life and other qualitative impacts of drug abuse, while substantial, are not included in this report.

Report Organization

This report contains:

- *Chapter 1: Drug Consumption in Alaska*, including state comparisons and co-occurrence of drug abuse disorders and mental illness.
- *Chapter 2: Productivity Losses*, including productivity loses due to death, diminished productivity, incarcerations, and impatient treatment or hospitalization as a result of drug abuse.
- *Chapter 3: Traffic Collisions,* including number of, and estimated costs due to, substance abuse-related traffic collisions
- *Chapter 4: Criminal Justice and Protective Services*, including law enforcement, legal and adjudication, incarceration, and victimization costs.
- *Chapter 5: Health Care*, including hospital, residential and outpatient drug treatment, AIDS and HIV, and Hepatitis B and C costs.
- *Chapter 6: Public Assistance and Social Services*, including public assistance in the form of cash, food stamps, child care assistance, or other social services provided by the state and federal government.
- *Chapter 7: Implications for Drug Abuse Impacts on the State General Fund Budget*, including health-care, criminal justice, corrections, and other related costs.
- References

Methodology, Definitions, and Data Sources

A variety of methodologies, data sources, and modeling techniques were required for this analysis. Methods and sources relevant to each chapter of the study are described below.

Chapter 1: Drug Consumption in Alaska

Data were analyzed from one primary source:

1. **National Survey of Drug Use and Health (NSDUH):** This dataset includes national and state-level data on drug use and mental health within the U.S., including prevalence estimates, trends in illicit drug consumption, levels of consumption, demographic characteristics of illicit drug consumers, and national

and state consumption comparisons. For an adequate sample, Alaska results were pooled from surveys conducted in 2013 and 2014. Some definitions used in NSDUH analysis include:

a. **Illicit Drugs** — Marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type drugs (i.e., pain relievers, tranquilizers, stimulants, or sedatives) that were nonmedical.
b. **Nonmedical Use** — Use of prescription-type drugs that were not prescribed for the respondent or were used only for the experience or feeling they caused. Nonmedical use of prescription-type drugs does not include over-the-counter drugs. Nonmedical use of stimulants and of any prescription-type drug includes methamphetamine use.
c. **Drug Dependence or Abuse** — Based on criteria in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), including such symptoms as withdrawal, tolerance, use in dangerous situations, trouble with the law, and interference with major obligations at work, school, or home during the past year.[1]

To obtain data on those with co-occurring disorders, McDowell Group compiled data from the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration's (SAMHSA) annual National Survey on Drug Use and Health (NSDUH). This report includes national data on substance abuse and mental illness in the U.S. as well as estimates of the rate of co-occurrence of mental health issues [any mental health illness (AMI), serious mental health illness (SMI), and major depressive episodes (MDE)] and substance use disorders among adults age 18+ in the United States. A special request was made to SAMHSA for Alaska's NSDUH data from April 2014, which provided some Alaska-specific counts on co-occurrence.

Additionally, in 2016, a report titled "*Alaska Behavioral Health Systems Assessment Final Report*" was prepared for the Alaska Mental Health Trust Authority. The purpose of the report was to analyze the "behavioral health system in Alaska and the barriers and opportunities to meeting the behavioral health needs of Alaskans" with the goal to "describe the system, assess the need for services and capacity to meet the need, develop a framework for regular monitoring of the system, and identify barriers, opportunities, and recommendations for system improvement."

Chapter 2: Productivity Losses

Several methods were used to estimate the economic impact of different causes of productivity loss.

Mortality Causes

A special data request for death counts was made to the DHSS, Division of Public Health, Health Analytics & Vital Records (formerly the Bureau of Vital Statistics (BVS)). Due to small numbers for some causes, a multi-year period (2010-2014) was used to estimate the number of deaths statewide. BVS provided two datasets: 1) counts where drug-related causes of death were the underlying (primary) cause of death; and 2) counts where a 100 percent attributable alcohol or drug-related cause of death was listed as any reason other than the primary cause for the death in the record. These two different death counts demonstrate the various degrees of drug abuse impacts; they were not combined as there is overlap in the counts.

[1] For details, see American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Drug-Attributable Fractions

Drug-attributable fractions (DAF) were gathered from three sources: (1) the CDC's Vital Statistics section; (2) the article *"Substance-attributable morbidity and mortality changes to Canada's epidemiological profile: Measurable differences over a ten-year period"* by Jayadeep Patra and Benjamin Taylor, et al. and published in the Canadian Journal of Public Health; and (3) *"The Costs of Alcohol and Drug Abuse in Maine" by* Anne L. Rogers, Marcella H. Sorg, et al. prepared for the Maine Office of Substance Abuse and Mental Health Services Department of Health and Human Services (with DAFs pulled from the National Institute of Health (NIH) National Institute on Drug Abuse (NIDA) "*The Economic Costs of Alcohol and Drug Abuse in the United States 1992*"). NIDA compiled the diagnoses and conditions attributable to drug abuse. For each diagnosis and condition, the study reported the percent of cases attributable to drug abuse. The percentages are called DAFs. The DAFs and ICD-10 codes used in this report may be found in the appendix. DAFs are based on national data.

Potential Years of Life Lost Due to Death from Drugs

BVS provided the potential years of life lost (PYLL) for each death using the ICD-10 codes by age and gender. These calculations assume a 75-year lifespan. Using the appropriate DAFs for each cause of death, an estimate of the number of PYLL attributable to drugs was calculated. No economic costs were applied to these calculations because the complex modeling required was outside the scope of this analysis.

INCARCERATION CAUSES

The primary method for estimating lost productivity due to incarceration involved applying potential earnings to the number of inmates absent from the workforce due to drug-abuse-related incarcerations. Statewide incarceration counts by gender and offense were gathered from the Alaska Department of Corrections (DOC)'s *Alaska Offender Profile, 2014* — an annual report that examines the total inmate population by offense category and calendar year.

Drug attributable rates were drawn from the U.S. Department of Justice's National Drug Intelligence Center (NDIC) report, *The Economic Impact of Illicit Drug use on American Society 2011.* Drug-related offenses were fully attributed to drugs. For other offenses, the NDIC's drug-attributable rates were based on the Bureau of Justice Statistics' (BJS) S*urvey of Inmates in Local Jails, Survey of Inmates in State Correctional Facilities,* and the *Survey of Inmates in Federal Correctional Facilities.*

DIMINISHED PRODUCTIVITY CAUSES

To estimate economic productivity losses by gender, the NDIC report, "*The Economic Impact of Illicit Drug Use on American Society 2011*" was used: a 17 percent decrease attributable to drug use in productivity for males and an 18 percent decrease for females. Other sources include DOLWD's population estimates, ACS's estimates for median individual annual average earnings by gender, and SAMHSA's 2013-2014 Alaska NSDUH incidence estimates for past year drug dependence and drug dependence or abuse.

This report provides two different estimates of impaired productivity losses for drug use. The first is for individuals who reported drug dependence in the past year. The second is for individuals who reported either drug dependence or abuse in the past year. The estimates should not be added together as there is overlap. Definitions of abuse or dependence or abuse were taken from DSM-IV.

Hospitalization and Treatment Causes

To estimate lost earnings, the total length of stay for drug-attributable inpatient hospital and emergency department (ED) visits was multiplied by the statewide average daily work-place earnings.

A study commissioned in 1998 by the National Institute of Drug Abuse, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992*, compiled the diagnoses and conditions attributable to drug abuse. For each diagnosis and condition, the study reported the percent of cases attributable to drug abuse. The percentages are called drug-attributable fractions. This report draws from that compilation.

The total length of stay for drug-attributable inpatient and ED visits was obtained through the Alaska Hospital Facilities Data Reporting Program (HFRP), which collects discharge data from inpatient, ED, and other outpatient facilities throughout the state. The most recent data available was from 2012. Without more recent data, this 2012 data serves as a proxy for 2015 hospital information. Additionally, Department of Health and Social Services (DHSS) estimates that approximately 70 percent of the state's hospital facilities reported to HFRP in 2012. Admissions and length of stay were adjusted by this factor to arrive at an estimate for the entire state.

Drug-attributable fractions from the 1998 study were applied to Alaska HFRP totals to determine the length of stay attributable to drug abuse. Length of stay was measured in days for both inpatient admissions and ED visits. To estimate days of lost work, it was assumed that a visit to the ED consumed an entire day. If an ED visit occurred over the course of multiple days – a patient was admitted to the ED on one day and discharged on a different day – all days are considered lost-work days.

The Alaska Department of Labor and Workforce Development (DOLWD) publishes annual average wage data for Alaska workers. The 2015 annual average wage of $50,150 was converted to average earnings per work day of $192 (based on 261 work days per year).

Income-related data, including employment status and annual household income ranges, was provided by DBH for clients in 24-hour detoxification and residential treatment services. DBH also provided the total number of bed days at 24-hour detoxification and at residential services in 2015.

The number of bed days were separated into those associated with drug treatment based on the proportions of admissions associated with drugs only, and both alcohol and drugs.

It was assumed that patients under age 18 were in school rather than in the labor force and, therefore, did not forfeit direct earnings while admitted. Annual incomes were converted to earnings per day (based on 261 work days per year) using the midpoint of each income range provided in the data. Total incomes were reduced by a factor of .746, the average proportion of total personal income attributable to personal earnings (wages and salaries) for Alaskans in 2015 per the Bureau of Economic Analysis.

The total number of bed days was distributed according to the proportions of clients in each income range. Then, the number of bed days associated with each income range was multiplied by earnings per day of that range to arrive at an estimate for lost earnings.

Chapter 3: Vehicle Traffic Collisions

This chapter examines nine categories of costs incurred from vehicle traffic accidents, plus a quality-adjusted life-years (QALY) cost. The National Highway Traffic Safety Administration (NHSTA), which estimates the costs, provides the following definitions for the nine categories:

1. **Medical:** The cost of all medical treatment associated with motor vehicle injuries, including treatment given during ambulance transport. Medical costs include ED and inpatient hospitalization costs, follow-up visits, physical therapy, rehabilitation, prescriptions, prosthetic devices, and home modifications.
2. **Emergency services:** Police and fire department response costs.
3. **Market productivity:** The net present value of the lost wages and benefits over the victim's remaining life span.
4. **Household productivity:** The net present value of lost productive household activity, valued at the market price for hiring a person to accomplish the same tasks.
5. **Insurance administration:** The administrative costs associated with processing insurance claims resulting from motor vehicle collisions and defense attorney costs.
6. **Workplace costs:** The costs of workplace disruption due to the loss or absence of an employee. This includes the cost of retraining new employees, overtime required to accomplish work of the injured employee, and the administrative costs of processing personnel changes.
7. **Legal costs:** The legal fees and court costs associated with civil litigation resulting from traffic collisions.
8. **Congestion costs:** The value of travel delay, added fuel usage, greenhouse gas and criteria pollutants that result from congestion that results from motor vehicle collisions.
9. **Property damage:** The value of vehicles, cargo, roadways, and other items damaged in traffic collisions.

The number of vehicle traffic collisions in Alaska was obtained from DOTPF's most recent report available, *2011 Crash Data*. In addition to reporting all traffic collisions, the report gives the number of impaired (alcohol and/or drug) collisions. Due to differences in reporting injury levels between NHSTA and DOTPF, NHSTA's MAIS Level 1 was matched to DOTPF's "minor injury" category and MAIS Level 5 was matched to DOTPF's "major injury" category. Both sources report "fatal" and "property damage only" incidences.

No data were available to separate costs related to drug abuse from those related to alcohol abuse. In the absence of data, the study team assumed the split of drug- and alcohol-related collusions would be like all other components of costs measured in this study, which is approximately 40 percent drug-related and 60 percent alcohol-related.

Chapter 4: Criminal Justice and Protective Services

Offenses and Arrests

Costs related to the criminal justice system were estimated based on arrest and offense data from the Alaska Department of Public Safety (DPS) Uniform Crime Reporting document, *Crime in Alaska, 2014*, and the FBI's annual *Uniform Crimes Report* (UCR). As part of the nationwide Unified Crime Reporting system, DPS reports known offenses annually. In 2014, law enforcement agencies reporting to DPS had jurisdiction over 99.4 percent of Alaska's population. The data show all known offenses regardless of whether an arrest was made. They include the categories of criminal homicide (murder and manslaughter), rape (rape and attempts to commit rape),

aggravated assault, other assault, robbery, burglary, larceny/theft, and auto theft. Data for the remaining categories of driving while intoxicated, other sex offenses (including prostitution and commercialized vice), and liquor laws represent are from the FBI's UCR alone.

Drug attribution rates were gathered from the NDIC report, *The Economic Impact of Illicit Drug use on American Society 2011.* Drug-law offenses were attributed in full to drugs. For other offenses, the NDIC's drug attributable rates were based on the BJS's *Survey of Inmates in Local Jails, Survey of Inmates in State Correctional Facilities,* and the *Survey of Inmates in Federal Correctional Facilities.*

CRIMINAL JUSTICE SYSTEM

The primary source used to estimate criminal justice system costs for specified crimes as the 2010 NIH report, *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation.*

Costs for the criminal justice system addressed in the NIH report include "local, state, and federal government funds spent on police protection; legal and adjudication services; and correction programs, including incarceration." This study was used to estimate the cost for criminal homicide, rape and other sexual offenses, assaults, robbery, burglary, larceny-theft, and motor vehicle theft.

CRIME VICTIMIZATION

Bureau of Justice Statistics (BJS) publishes national data on victimization rates per 1,000 people age 12+ or per 1,000 households. These rates are published in the annual *National Criminal Victimization Survey* (NCVS) report. The NCVS collects information on nonfatal crimes reported and not reported to police from a nationally representative sample of U.S. households. The 2014 victimization rates were applied to Alaska's 2014 population age 12 and older (published by DOLWD) or to ACS 2010-2014 Five-Year Data count of Alaska households to find the number of victims for specified crimes for the state.

The 2010 NIH report was also used to estimate tangible costs for crime victim, defined as the cost of "direct economic losses suffered by crime victims, including medical care costs, lost earnings, and property loss/damage." Tangible victim costs were estimated for homicide, assaults, rape/sexual assault, robbery, burglary, theft, and motor vehicle theft. These were adjusted for inflation and Alaska's cost-of-living differential.

Data from the 2010 NIH report were also used to estimate intangible costs, which include "indirect losses suffered by crime victims, including pain and suffering, decreased quality of life, and psychological distress." These intangible costs include pain and suffering, and the probability of being killed while a crime is occurring (corrected risk-of-homicide costs). Intangible victim costs were estimated for homicide, assaults, rape/sexual assault, robbery, burglary, theft, and motor vehicle theft. The costs were adjusted for inflation and Alaska's cost-of-living differential.

To find the number of Alaska crime victims, the BJS's annual national data on victimization rates were used. The 2014 victimization rates were applied to Alaska's 2014 population (DOWLD) or to ACS's 2010-2014 Five-Year Data of Alaska households count to find the number of victims for specified crimes. Drug attribution rates from the NDIC were then applied to estimate the number of crime victimizations attributed to drugs in Alaska.

PROTECTIVE SYSTEMS

The National Survey of Children and Adolescent Well-Being estimates that 61 percent of infants and 41 percent of older children in out-of-home care are from families with active alcohol or drug abuse (Wulczyn, Ernst, & Fisher, 2011). For almost 31 percent of all children placed in foster care in 2012, parental alcohol or drug abuse was the documented reason for removal and in several states that percentage surpassed 60 percent (National Data Archive on Child Abuse and Neglect, 2012).

While there are no accurate data available, according to the Alaska Office of Children's Services (OCS), approximately 75 percent of its cases may result from or involve alcohol or drug abuse. To estimate the total costs of child abuse and neglect attributable to alcohol or drug abuse, this percentage was applied to OCS actual expenditures for State Fiscal Year (SFY) 2015. This estimate assumes the workload for all OCS functions, not just case work but administrative and support services as well, is proportional to the number of cases involving alcohol and drug abuse. To separate costs attributable to alcohol from costs attributable to drugs, it was estimated that alcohol accounts for two-thirds of the total and drugs one-third. This estimate is drawn from the 1998 National Institute on Drug Abuse study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992*.

An estimate of the percent of cases related to drug abuse was not available from the Division of Senior and Disability Services. Therefore, costs for adult protective services are not estimated in this report.

Chapter 5: Health Care

Table 7 below lists the drug-related diagnoses used to estimate inpatient and ED costs. More detailed tables of ICD-10 codes and attributable fractions used in this health care chapter can found in Tables 40 (inpatient) and 42 (Emergency Department).

INPATIENT COSTS

Alaska Hospital Facilities Data Reporting Program (HFDR) collects discharge data for inpatient, ED, and other outpatient settings from health care facilities in Alaska. At the time of this report, the HFDR 2012 dataset was the most recent year of data available.

NIDA's *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992* compiled the diagnoses and conditions attributable to drug abuse. For each diagnosis and condition, the study reported the percent of cases attributable to drug abuse (also known as DAFs).

The Alaska HFDR 2012 dataset provided the number of admissions, length of stay, and hospital charges for each drug attributable diagnosis or condition. DAFs were applied to those totals to determine the amounts attributable to drug abuse. Charges presented by HFDR represent the amount charged by a facility for services, not the final amount paid.

In 2012, not all hospital facilities in Alaska reported to the HFDR. DHSS estimates that the HFDR 2012 dataset represents 70 percent of the state's total inpatient, ED, and other outpatient hospital visits or admissions. For inpatient data, the total number of admissions, length of stay, and hospital charges attributable to drug abuse were divided by 0.7 to estimate statewide totals.

EMERGENCY DEPARTMENT COSTS

The methodology for ED data mirrors that for inpatient data. ED visits for the same diagnoses and conditions used for hospital admissions were pulled from the HFDR 2012 dataset. Totals were adjusted by the 70 percent to estimate statewide totals.

Table 7. Drug-related Diagnosis and Corresponding ICD-9 Code

Diagnosis	ICD-9 Code
Drug mental disorders and psychoses	292.xx
Drug dependence	304.xx
Non-dependent abuse of drugs	305.2x, 305.3x, 305.4x, 305.5x, 305.6x, 305.7x, 305.8x, 305.9x
Polyneuropathy due to drugs	357.6
Drug dependence complicating pregnancy, childbirth, or puerperium	648.3x
Drugs affecting fetus or newborn via placenta or breast	760.72, 760.73, 760.75
Drug withdrawal syndrome in newborn	779.5
Fetal damage due to drugs	655.5x
Poisoning by opiates and related narcotics	965.0x
Poisoning by sedatives and hypnotics	967.xx
Poisoning by CNS muscle tone depressants	968
Poisoning by psychotropic agents	969.xx
Poisoning by CNS stimulants	970.xx

TREATMENT FOR DRUG ABUSE

Data were compiled for costs incurred and number of admissions for four drug use disorder services: 24-hour detoxification, residential, outpatient (non-opioid), and outpatient-opioid. The analysis includes funding from two sources: Behavioral Health Treatment and Recovery grants awarded to agencies by the Alaska Division of Behavioral Health (DBH) and Medicaid payments for services provided by those agencies to Medicaid beneficiaries. The analysis does not include payments from other sources such as Medicare, Indian/Native Health Services, other public funding sources, or private insurance. Additionally, the number of bed days are presented for two service types: 24-hour detoxification and residential treatment.

For agencies receiving treatment and recovery grants, DBH provided SFY 2015 data on the number of statewide admissions by service type (24-hour detoxification, residential, outpatient (non-opioid), and outpatient-opioid) and by substance of abuse (drugs only, or alcohol and drugs). DBH also provided the treatment and recovery grant award amounts and Medicaid payments to grantee agencies by service type. The grant and Medicaid payment totals did not distinguish the amount for treating alcohol dependence/abuse from the amount for treating drug dependence/abuse. This allocation was estimated by applying to the grant and Medicaid payment totals the proportions of enrollment associated with admissions for each substance of abuse (drugs only, or alcohol and drugs). Enrollments and admissions differ in that a single admission could be associated with enrollment into multiple service types. For enrollments treating both alcohol and drug dependence/abuse, it was estimated that half were for alcohol dependence/abuse and half for drug dependence/abuse. These amounts were added to totals for drug only, respectively.

DBH also provided the SFY 2015 number of bed days for 24-hour detoxification and residential treatment. The number of bed days was not initially separated by substance of abuse. This separation was estimated with the same methodology used for grant totals and Medicaid payments described above.

Hepatitis C Costs

Significant changes to hepatitis C virus (HCV) treatment have occurred in recent years. Due to the complexity of quantifying the costs to treat HCV, these estimates have some limitations. The number of new HCV cases in Alaska, available through the state's Infectious Disease Program, serves as a proxy for the number of patients treated each year. Data compiled by the CDC in 2013 suggest injection drug use (IDU) as a risk factor for 61.6 percent of new HCV cases.[2]. This percent was applied to the number of new cases to estimate the number of annual treatments attributable to IDU. It is important to note that years when new cases are reported are not necessarily the years when HCV was contracted.

Two common HCV medications are Harvoni and Viekira Pak. A 12-week course of the medications has a wholesale acquisition cost (the price set by manufacturers) of $94,500 and $84,000, respectively. The number of new cases of HCV in Alaska in 2015 attributable to IDU was multiplied by the average cost of the 12-week courses of Harvoni and Viekira Pak.

It is important to recognize the estimated costs are limited by the complexity of HCV treatment and a lack of available data. For one, multiple genotypes of HCVs exist, each requiring unique treatment guidelines and medication. Multiple medications exist that vary in price by type and length of prescription (6 weeks, 12 weeks, or 24 weeks). Additionally, pharmaceutical companies negotiate prices with each insurer or pharmacy separately and sometimes give away medications for low-income patients.

While the State of Alaska Infectious Disease Program tracks new reported cases of HCV, it does not track the number of patients receiving treatments. Those receiving treatment could be not only new reported cases, but those cases backlogged in the years prior to the new and more effective treatment methods made recently available. To obtain the number of actual treatments would require the release of information by all health care providers in the state that treat HCV. A more representative total for the costs of treating HCV would include the number of cases treated, the treatment type for each case, and the amount paid for the treatment type. Unsuccessful attempts were made to obtain this information from pharmaceutical manufacturers and health care providers. This analysis does not include the high costs associated with liver treatment or transplants. Theoretically, these costs are included under the impatient and outpatient cost estimates.

HIV and AIDS Costs

DHSS's Division of Public Health's Epidemiology Section compiles and reports data on infectious disease cases reported in the state. Since 1982, the state has tracked HIV and AIDS in several ways, including all known cases in the state and cases first diagnosed in the state of HIV (non-AIDS) and HIV with AIDS. The state also records methods of transmission.

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[2] Surveillance for Viral Hepatitis – United States, 2013. *The Centers for Disease Control and* Prevention. http://www.cdc.gov/hepatitis/statistics/2013surveillance/

For this report, the transmission estimate counts of interest are IDU, and male-to-male sex and IDU. From 1982 to 2015, there were 1,680 total reported cases of HIV and HIV with AIDS. Of these 1,680 cases, 330 were attributed to IDU, for an Alaska-specific attribution rate of 19.6 percent; this is similar to the national rate reported in NDIC report, "*The Economic Impact of Illicit Drug use on American Society 2011,*" of 18.5 percent.

PREVENTION SERVICES

DBH prevention grants target mental health and substance abuse. Some target only mental health or only substance abuse, while others target both. This study separates out the grants for mental health and reports only the grants directed towards substance abuse. For grants that target both substance abuse and mental health, DBH assisted in estimating what proportion went towards substance abuse prevention. The total amount directed towards substance abuse prevention was then further separated to identify totals for alcohol abuse prevention and drug abuse prevention. If grant recipient programs used funds to prevent both alcohol and drug abuse, it is estimated that half went to the prevention of alcohol abuse and half to the prevention of drug abuse, unless otherwise informed by DBH.

It is important to note that only grants with funding for substance abuse prevention are reported. There are prevention grants directed solely towards mental health prevention that are not included.

Chapter 6: Public Assistance and Social Services

FEDERAL GOVERNMENT COSTS

This report captures federal funding from federal FY 2014, the most recent available published data, for the following programs: Old Age, Survivors, and Disabilities Insurance (OASDI); Supplemental Security Income (SSI); Temporary Assistance for Needy Families (TANF); and Supplemental Nutrition Assistance Program (SNAP).

The NIDA study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992*, compiled the national prevalence of drug abuse among beneficiaries of different social welfare programs. This study applied those prevalence rates to the federal funding allocated to Alaska through the programs listed above. The NIDA study estimated that one-third of total funding attributable was to drug abuse. This report adopts that estimate.

STATE GOVERNMENT COSTS

The State of Alaska Office of Management and Budget published actual expenditures for SFY 2015 for individual programs operated by the Division of Public Assistance (DPA). Prevalence rates for drug abuse among social welfare beneficiaries – taken from the 1998 NIDA study – were applied to state funding for welfare programs to determine the portion attributable to drug abuse.

PREVENTION GRANTS

DBH provided SFY 2015 data on prevention grants, also used under the health care costs section. This report separated from the total grant values the amounts directed towards substance abuse. For grant recipient programs that prevent both substance abuse and other mental health issues, DBH assisted in estimating what proportion went towards substance abuse prevention. The grant value allocated to substance abuse prevention was then further separated to identify totals for alcohol abuse prevention and drug abuse prevention. If grant

recipient programs used funds to prevent both alcohol and drug abuse, this report estimated that half went to the prevention of drug abuse.

Justice System

Justice system governmental finances and employment data were compiled from U.S. Census Bureau information. The justice data include the expenditures and employment of the federal government, state governments, and a sample of county, municipal, and township governments. Unless otherwise noted, data for total governmental expenditures, including justice and non-justice governmental functions, also include the expenditures of special districts and school districts, which generally do not have justice functions. The 2012 survey sample was selected from the *2007 Census of Local Governments* and consists of large units of government (including all 50 state governments) sampled with certainty and smaller units selected with a probability proportional to the unit's expenditure. It was designed to produce data by type of government estimate with a relative standard error of 3 percent or less for total expenditure and state estimates with a relative standard error of 5 percent or less on total expenditure, criminal justice, and other government functions. All other government units were selected into the sample with a probability proportional to their size.

Abbreviations

ACS	American Community Survey
AIDS	Acquired Immunodeficiency Syndrome
AMI	Any Mental Health Illness
ART	Antiretroviral Treatment
BJS	Bureau of Justice Statistics
BVS	Bureau of Vital Statistics
CDC	Centers for Disease Control and Prevention
DAF	Drug-attributable Fractions
DBH	Division of Behavioral Health
DHSS	Alaska Department of Health and Social Services
DOC	Alaska Department of Corrections
DOLWD	Alaska Department of Labor and Workforce Development
DOTPF	Alaska Department of Transportation and Public Facilities
DPA	Division of Public Assistance
DPS	Alaska Department of Public Safety
DSDA	Alaska Division of Senior and Disability Services
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders
ED	Emergency Department
ESRI	Environmental Systems Research Institute
GF	General Fund
HFRP	Alaska Hospital Facilities Data Reporting Program
HIV	Human Immunodeficiency Virus
IDU	Injection Drug Use
LTC	Long Term Care
MDE	Major Depressive Episodes
NAMI	National Alliance on Mental Illness
NCVS	National Criminal Victimization Survey
NDIC	National Drug Intelligence Center
NHSTA	National Highway Traffic Safety Administration
NIDA	National Institute on Drug Abuse

NIH	National Institute of Health
NSDUH	National Survey of Drug Use and Health
OSC	Office of Children Services
PFAS	Partial FAS
PYLL	Potential Years of Life Lost
QALY	Quality-adjusted Life Years
QCEW	Quarterly Census of Employment and Wages
SAMHSA	Substance Abuse and Mental Health Services Administration
SFY	State Fiscal Year
SMI	Serious Mental Health Illness
SNAP	Supplemental Nutrition Assistance Program
SNF	Skilled Nursing Facility
SSI	Supplemental Security Income
SUD	Substance Use Disorder
TANF	Temporary Assistance for Needy Families
UCR	Uniform Crime Report

Chapter 1: Drug Consumption and Prevalence in Alaska

Summary

- In 2013-2014, approximately 77,000 Alaskans age 12 or older (13 percent) used illicit drugs in the past month, including 69,000 (12 percent) consuming marijuana and 20,000 (4 percent) using other illicit drugs (such as cocaine). Approximately 26,000 Alaskans (4 percent) used pain relievers for non-medical reasons, and 13,000 Alaskans (2.2 percent) were illicit-drug dependent.
- In 2013-2014, 114,000 Alaskans 12 years or older (20 percent) reported consuming marijuana in the past year.
- Marijuana use was considerably higher in Alaska than nationally; with 12 percent saying they consumed marijuana in the past month compared to 8 percent in the U.S. and 20 percent consuming in the past year in Alaska compared to 13 percent in the U.S.
- Other than marijuana, consumption rates for illicit drugs in Alaska were similar to national rates in 2013-2014.
- In 2013-2014, young adult Alaskans (age 18-25) had the highest percent of illicit drug use by age group, with 24 percent saying they had used illicit drugs in the past month. Among that age group:
    - 37 percent used marijuana in the past year.
    - 21 percent used marijuana in the past month.
    - 7 percent used other illicit drugs in the past month (excluding marijuana).
    - 4 percent used cocaine in the past year.
    - 9 percent used painkillers non-medically.
    - 9 percent were drug dependent or abusing drugs (including 7 percent who were just drug dependent).

Co-Occurrence of Mental Health and Substance Abuse

- In 2013, there were approximately 62,815 adults in Alaska who needed treatment for a substance use disorder (SUD).
- Of those who needed treatment, approximately 37 percent (22,990 people or 3 percent of Alaska's population) also have a mental illness.

Illicit Drug/Drug Abuse Consumption in Alaska

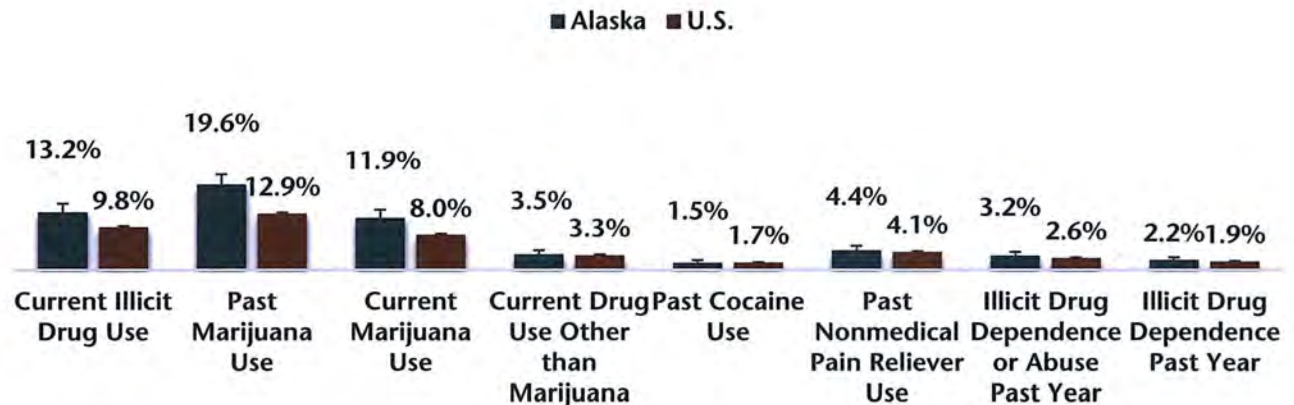
In 2013-2014, approximately 13.2 percent of Alaskans age 12 or older reported illicit drug use in the past month, including 11.9 percent consuming marijuana and 3.5 percent using other illicit drugs (such as cocaine). In 2013-2014, 19.6 percent of Alaskans reported consuming marijuana sometime in the past year. Overall illicit drug use was higher in Alaska (13.2 percent) than nationally (9.8 percent). Marijuana use was also considerably higher in Alaska than the national averages of 8 percent consuming in the past month and 12.9 percent consuming in the past year. There were no statistically significant differences between consumption patterns for other illicit drugs for Alaska and nationally.

Table 8. Drug Prevalence Estimates, Alaska and U.S., Age 12+, 2013-2014

	Alaska		United States	
Drug Indicator, Ages 12+	**Percent**	**95% Confidence Interval**	**Percent**	**95% Confidence Interval**
Illicit drug use in past month	13.2%	11.5 – 15.2%	9.8%	9.5 – 10.0%
Marijuana use past year	19.6%	17.5 -21.9%	12.9%	12.6 – 13.2%
Marijuana use past month	11.9%	10.1 – 13.8%	8.0%	7.7 – 8.2%
Illicit drug use in past month, other than marijuana	3.5%	2.7 – 4.4%	3.3%	3.1 – 3.4%
Cocaine use past year	1.5%	1.1 – 2.2%	1.7%	1.6 – 1.8%
Nonmedical use of pain relievers past year	4.4%	3.6 – 5.4%	4.1%	3.9 – 4.2%
Illicit drug dependence or abuse past year	3.2%	2.6 – 4.0%	2.6%	2.5 – 2.8%
Illicit drug dependence in past year	2.2%	1.7 – 2.8%	1.9%	1.8 – 2.0%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 3. Drug Consumption Patterns Prevalence Estimate Percentages, Alaska and U.S., Age 12+, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Approximately 77,000 Alaskans used illicit drugs in the past month (2013-2014), including 69,000 who consumed marijuana and 20,000 who used other illicit drugs. Approximately 114,000 Alaskans used marijuana in the past year (2013-2014). Approximately 26,000 Alaskans used pain relievers for non-medical purposes in the past year. Approximately 13,000 Alaskans are illicit drug dependent.

Table 9. Drug Prevalence Estimates with Alaska Model-Based Population Estimates, Age 12+, 2013-2014

Drug Indicator, Ages 12+	% of Alaskans	95% Confidence Interval	# of Alaskans	95% Confidence Intervals
Illicit drug use in past month	13.2%	11.5 – 15.2%	77,000	66,000 – 88,000
Marijuana use past year	19.6%	17.5 -21.9%	114,000	101,000 – 127,000
Marijuana use past year	11.9%	10.1 – 13.8%	69,000	59,000 – 80,000
Illicit drug use in past month, other than marijuana	3.5%	2.7 – 4.4%	20,000	16,000 – 26,000
Cocaine use past year	1.5%	1.1 – 2.2%	9,000	6,000 – 13,000
Nonmedical use of pain relievers past year	4.4%	3.6 – 5.4%	26,000	21,000 – 31,000
Illicit drug dependence or abuse past year	3.2%	2.6 – 4.0%	19,000	15,000 – 23,000
Illicit drug dependence in past year	2.2%	1.7 – 2.8%	13,000	10,000 – 16,000

Source: National Survey of Drug Use and Health, SAMHSA.

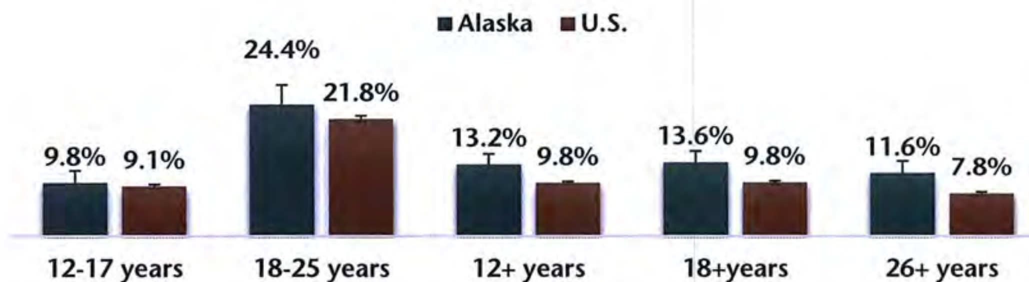
The highest percent of illicit drug use (in the past month) by age group occurred among young adults (24.4 percent of all Alaskans age 18-25). Alaskans age 12 or older are more likely to use illicit drugs (13.2 percent) than nationally (9.8 percent).

Table 10. Illicit Drug Use in the Past Month Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	**Percent**	**95% Confidence Interval**	**Percent**	**95% Confidence Interval**
12-17 years	9.8%	7.9 – 12.1%	9.1%	8.7 – 9.5%
18-25 years	24.4%	21.1 – 28.1%	21.8%	21.2 – 22.4%
12+ years	13.2%	11.5 – 15.2%	9.8%	9.5 – 10.0%
18+ years	13.6%	11.7 – 15.8%	9.8%	9.6 – 10.1%
26+ years	11.6%	9.6 – 13.9%	7.8%	7.5 – 8.1%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 4. Illicit Drug Use in the Past Month Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Marijuana

The highest percent of marijuana use (in the past year) by age group occurred with young adults (36.5 percent of all Alaskans age 18-25). Alaskans age 12 or older are more likely to use marijuana (19.6 percent) than nationally (12.9 percent).

Table 11. Marijuana Use in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
12-17 years	17.3%	14.7 – 20.2%	13.3%	12.8 – 13.7%
18-25 years	36.5%	32.7 –40.4%	31.8%	31.1 – 32.5%
12+ years	19.6%	17.5 -21.9%	12.9%	12.6 – 13.2%
18+ years	19.9%	17.6 – 22.3%	12.9%	12.6 – 13.2%
26+ years	16.7%	14.2 – 19.5%	9.6%	9.3 – 10.0%

Source: National Survey of Drug Use and Health, SAMHSA

Figure 5. Marijuana Use in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

Source: National Survey of Drug Use and Health, SAMHSA.

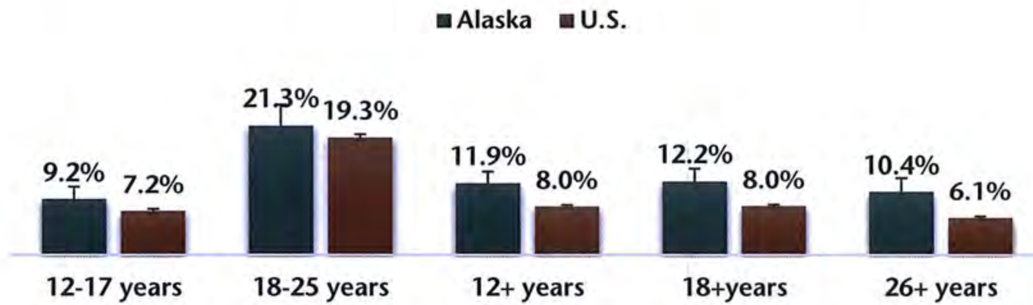
The highest percent of marijuana use (in the past month) by age group occurred with young adults (21.3 percent of all Alaskans age 18-25). Alaskans age 12 or older are more likely to use marijuana (11.9 percent) than nationally (8.0 percent).

Table 12. Marijuana Use in the Past Month Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
12-17 years	9.2%	7.4 – 11.3%	7.2%	6.9 – 7.6%
18-25 years	21.3%	18.2 – 24.7%	19.3%	18.7 – 19.9%
12+ years	11.9%	10.1 – 13.8%	8.0%	7.7 – 8.2%
18+ years	12.2%	10.3 – 14.3%	8.0%	7.8 – 8.3%
26+ years	10.4%	8.5 – 12.8%	6.1%	5.9 – 6.4%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 6. Marijuana Use in the Past Month Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014



Source: National Survey of Drug Use and Health, SAMHSA.

Other Illicit Drugs

The highest percent of other illicit drug use (not including marijuana) in the past month, by age group, occurred among young adults (7.4 percent of all Alaskans age 18-25).

Table 13. Illicit Drug Use in the Past Month Other than Marijuana Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
12-17 years	2.9%	2.1 – 4.1%	3.3%	3.1 – 3.5%
18-25 years	7.4%	5.7 – 9.6%	6.6%	6.2 – 6.9%
12+ years	3.5%	2.7 – 4.4%	3.3%	3.1 – 3.4%
18+ years	3.6%	2.8 – 4.6%	3.3%	3.1 – 3.5%
26+ years	2.8%	2.0 – 3.95	2.7%	2.6 – 2.9%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 7. Illicit Drug Use in the Past Month Other than Marijuana Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

Source: National Survey of Drug Use and Health, SAMHSA.

Cocaine

The highest percent of cocaine use (in the past year) by age group occurred among young adults (3.8 percent of all Alaskans age 18-25).

Table 14. Cocaine Use in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
12-17 years	0.5%	0.3 – 0.9%	0.6%	0.5 – 0.7%
18-25 years	3.8%	2.7 – 5.4%	4.5%	4.2– 4.8%
12+ years	1.5%	1.1 – 2.2%	1.7%	1.6 – 1.8%
18+ years	1.7%	1.1 – 2.4%	1.8%	1.7 – 1.9%
26+ years	1.2%	0.8 – 2.0%	1.3%	1.2 – 1.4%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 8. Cocaine Use in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

Source: National Survey of Drug Use and Health, SAMHSA.

Nonmedical Use of Pain Relievers

The highest percent of nonmedical use of pain relievers (in the past year) by age group occurred among young adults (9.0 percent of all Alaskans age 18-25).

Table 15. Nonmedical Use of Pain Relievers in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
12-17 years	4.5%	3.5 – 5.8%	4.7%	4.4 – 4.9%
18-25 years	9.0%	7.2 – 11.2%	8.3%	8.0 – 8.7%
12+ years	4.4%	3.6 – 5.4%	4.1%	3.9 – 4.2%
18+ years	4.4%	3.5 – 5.5%	4.0%	3.8 – 4.2%
26+ years	3.5%	2.7 – 4.7%	3.3%	3.1 – 3.5%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 9. Nonmedical Use of Pain Relievers in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

Source: National Survey of Drug Use and Health, SAMHSA.

Drug Dependence or Abuse

The highest percent of illicit drug dependence or abuse (in the past year) by age group occurred among young adults (8.7 percent of all Alaskans age 18-25).[3]

Table 16. Illicit Drug Dependence or Abuse in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	**Percent**	**95% Confidence Interval**	**Percent**	**95% Confidence Interval**
12-17 years	3.4%	2.5 – 4.7%	3.5%	3.3 – 3.8%
18-25 years	8.7%	6.9 – 11.0%	7.0%	6.6 – 7.4%
12+ years	3.2%	2.6 – 4.0%	2.6%	2.5 – 2.8%
18+ years	3.2%	2.5 – 4.1%	2.6%	2.4 – 2.7%
26+ years	2.1%	1.5 – 3.0%	1.8%	1.7– 1.9%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 10. Illicit Drug Dependence or Abuse in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

Source: National Survey of Drug Use and Health, SAMHSA.

[3] Based on criteria in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), including such symptoms as withdrawal, tolerance, use in dangerous situations, trouble with the law, and interference with major obligations at work, school, or home during the past year.

Drug Dependence Only

The highest percent of illicit drug dependence only (in the past year) by age group occurred among young adults (6.5 percent of all Alaskans age 18-25).

Table 17. Illicit Drug Dependence in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

	Alaska		United States	
Age Group	Percent	95% Confidence Interval	Percent	95% Confidence Interval
12-17 years	1.9%	1.3 – 2.7%	1.9%	1.7 – 2.1%
18-25 years	6.5%	4.9 – 8.7%	5.0%	4.7 – 5.3%
12+ years	2.2%	1.7 – 2.8%	1.9%	1.8 – 2.0%
18+ years	2.2%	1.7 – 2.9%	1.3%	1.2 – 1.5%
26+ years	1.4%	1.0 – 2.0%	1.9%	1.8 – 2.0%

Source: National Survey of Drug Use and Health, SAMHSA.

Figure 11. Illicit Drug Dependence in the Past Year Prevalence Estimates, by Age Group, Alaska and U.S. Comparisons, 2013-2014

Source: National Survey of Drug Use and Health, SAMHSA.

Co-Occurring Disorders

While substance use disorders (SUD) have been documented as a problem in Alaska and nationwide, not often mentioned are individuals with SUDs who also have a mental health issue, defined as a co-occurring disorder. Research has shown individuals with co-occurring disorders display higher rates of substance dependence or abuse than the population as a whole. Further, they are likely to receive treatment only for their mental illness rather than for substance dependence or abuse.

According to the National Alliance on Mental Illness (NAMI), people with co-occurring disorders are far more prone to violence, medication noncompliance, and failure to respond to treatment. The poor response is because they are normally undergoing treatment for only one disorder, not both. Further, individuals with co-occurring disorders not only suffer from poorer overall functioning, they also have a significantly greater chance of relapse to substance use. Finally, people with co-occurring disorders are more likely to live in high-risk locations such as marginal neighborhoods with high substance usage, and they have a more difficult time forming social relationships and becoming involved in their communities.

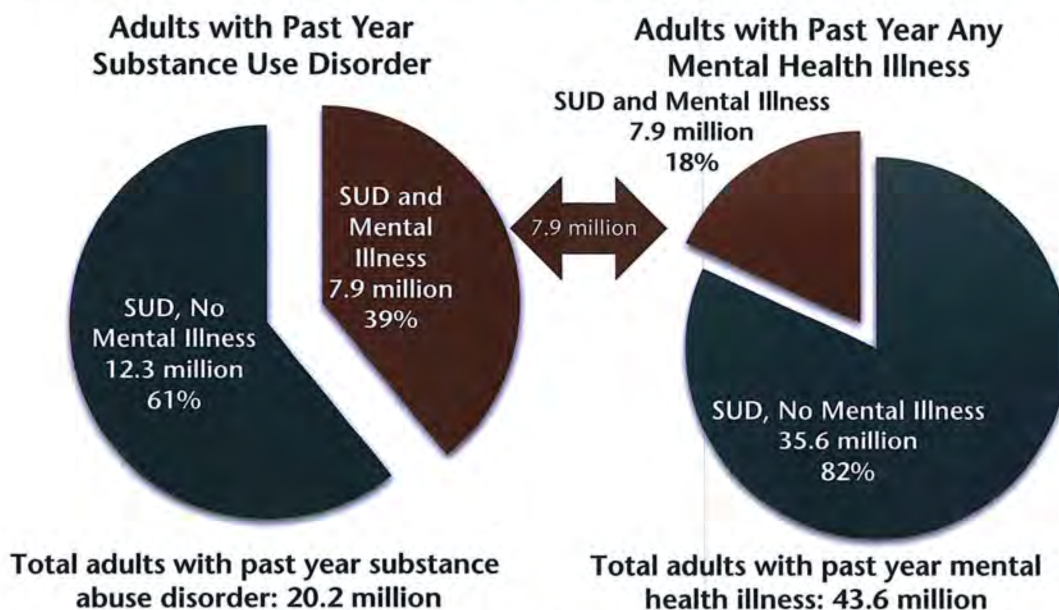
This means people with co-occurring disorders are highly likely to be homeless. In 2011, SAMHSA estimated 50 percent of homeless persons with serious mental illness (SMI) have a co-occurring SUD.[4]

In 2000, DHSS partnered with what was then the Alaska Mental Health Board and the Advisory Board on Alcoholism and Drug Abuse to identify challenges and barriers in caring for individuals with co-occurring mental health and substance use disorders. The goals of the project were to improve treatment outcomes, to improve accessibility of services and quality of care, and to improve efficiency in administration to minimize costs and facilitate greater use of funds for client services. As part of the program, the project team administered a survey of substance use disorder and mental health providers. Mental health providers reported up to three-quarters of their clients experienced co-occurring disorders, compared to 42 percent of substance abuse providers.[5] DHSS's DBH was a product of this project and continues to work towards integration and improvement of services.

Co-Occurring Disorders in the U.S.

According to NSDUH data from "*Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health,*" in 2014, there were 20.2 million adults (age 18 or older) with a past year SUD, and an additional 43.6 million adults who had any mental illness (AMI). Among these two groups, there were 7.9 million adults who had both an SUD and AMI (39 percent of the 20.2 million who have an SUD plus 18 percent of the 43.6 million who have AMI). The 7.9 million adults with co-occurring disorders represents 3.3 percent of the total U.S. population, with 2.3 million experiencing the co-occurrence of an SUD and a serious mental health illness (SMI) (1.0 percent of the total U.S. population).

Figure 12. Past Year Co-Occurring Mental Health and Substance Use Disorders, Adults Age 18+, 2014

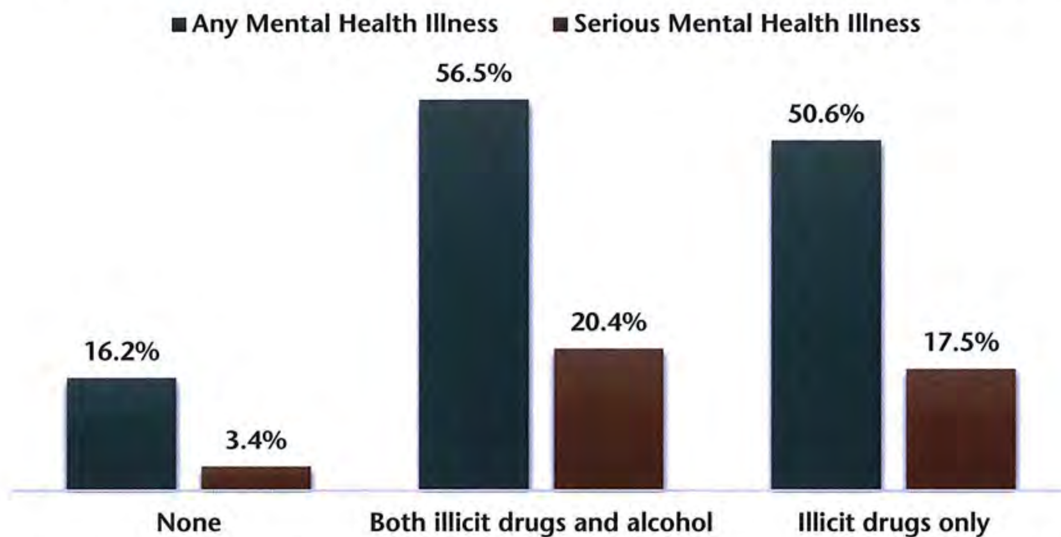


Source: U.S. Department of Health and Human Services, SAMHSA NSDUH, "*Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health*" (2015).

[4] National Alliance on Mental Illness (NAMI), *Dual Diagnosis and Integrated Treatment of Mental Illness and Substance Abuse Disorder*, http://www.nami.org/Template.cfm?Section=By_Illness&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=54&ContentID=23049.
[5] DHSS, *Final Report of the Steering Committee, Substance Abuse/Mental Health Integration Project*, http://www.hss.state.ak.us/abada/pdf/itfinal.pdf.

In 2014, among adults with AMI, only 16 percent had no drug abuse. However, 57 percent were dependent on or abusing both illicit drugs and alcohol, and 51 percent were dependent on or abusing illicit drugs only. Among adults with serious mental illness, only 3 percent had no substance dependence or abuse. However, 20 percent were dependent on or abusing both illicit drugs and alcohol, and 18 percent were dependent or abusing illicit drugs only.

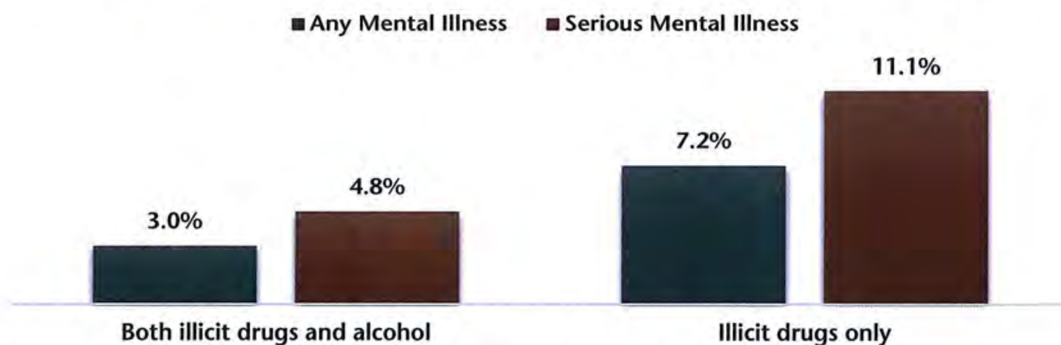
Figure 13. Percentage of Adults (18+ Years) with Mental Illness in the Past Year, by Past Year Drug Only or Both Alcohol and Drug Dependence or Abuse, 2014



Source: SAMHSA's NSDUH, *"Results from the 2014 National Survey on Drug Use and Health: Mental Health Detailed Tables"* (2015).

In 2014, among adults with SUDs, 3 percent of those with AMI were dependent on or abusing both illicit drugs and alcohol, and 7 percent were dependent on or abusing illicit drugs only. For those with past year SMI, 5 percent were dependent on or abusing both illicit drugs and alcohol, and 11 percent were dependent on or abusing illicit drugs only.

Figure 14. Percentage of Adults (18+ Years) with Drug Only or Both Alcohol and Drug Dependence or Abuse in the Past Year, by Past Year Mental Illness, 2014



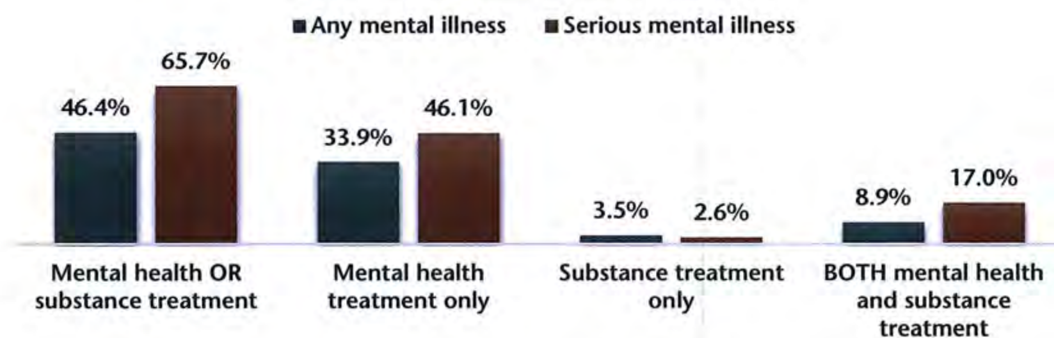
Source: SAMHSA's NSDUH, *"Results from the 2014 National Survey on Drug Use and Health: Mental Health Detailed Tables"* (2015).

Mental health and substance use co-occurring disorders are not limited to adults. While NSDUH does not estimate overall mental health among adolescents age 12-17, it does provide estimates of adolescents having a past year major depressive episode (MDE). MDE is defined as a period of two or more weeks in the past year when an individual experiences a depressed mood or loss of interest or pleasure in daily activities, with at least four out of seven qualifying symptoms (i.e. problems with sleep, eating, energy, concentration, and self-worth). In 2014, there were an estimated 271,000 adolescents in the U.S. who had an SUD and an MDE, approximately 1.1 percent of all U.S. adolescents.

TREATMENT

In 2014, among adults who had substance abuse or dependence in the past year and received some form of treatment, 46 percent with AMI received mental health or substance treatment, 34 percent with AMI received mental health treatment only, 4 percent with AMI received substance treatment only, and 9 percent with AMI received both mental health and substance treatment. Of adults who had a past year substance abuse or dependence and received some form of treatment, 66 percent of those with SMI received mental health or substance treatment, 46 percent of those with SMI received mental health treatment only, 3 percent of those with SMI received substance treatment only, and 17 percent of those with SMI received both mental health and substance treatment.

Figure 15. Percentage of Substance Abuse or Dependence in the Past Year Who Received Mental Health Treatment/Counseling and/or Illicit Drug or Alcohol Treatment in the Past Year, Age 18+, 2014

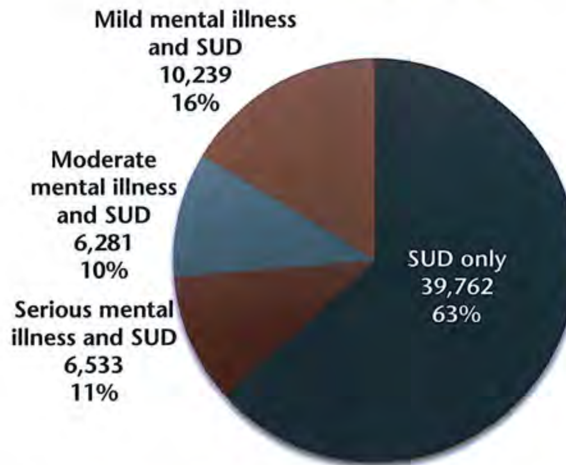


Source: SAMHSA's NSDUH, *"Results from the 2014 National Survey on Drug Use and Health: Mental Health Detailed Tables"* (2015).

Co-Occurring Disorders in Alaska

According to the report *"Alaska Behavioral Health Systems Assessment Final Report,"* in 2013, there were approximately 62,815 adults in Alaska who needed treatment for an SUD. Of those who needed treatment, 22,990 were estimated to have AMI (37 percent of those needing SUD treatment), approximately 3.1 percent of the total Alaska population. Of those with AMI and an SUD, 16 percent had SUD and mild mental illness, 10 percent had moderate mental illness and SUD, and 11 percent had SMI and SUD.

Figure 16. Alaska Adult Past Year Mental Health Prevalence Among Persons Needing Treatment for Illicit Drug or Alcohol Use, 2013



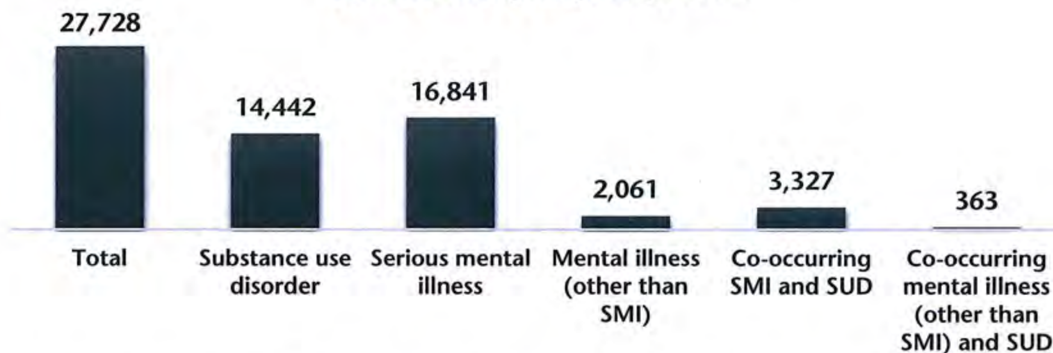
Source: Alaska Mental Health Trust Authority, *"Alaska Behavioral Health Systems Assessment Final Report"* (2016).

TREATMENT

According to SAMHSA's National Survey of Substance Abuse Treatment Services (N-SSATS), in 2013, Alaska had 91 treatment facilities; of which 83 offered treatment services for co-occurring disorders.[6]

Per a report produced for the Alaska Mental Health Trust Authority, in SFY 2013, Alaska behavioral health services served 27,728 unique adult clients with support from State Medicaid and/or behavioral health funds. There were 14,442 individuals with SUD, 16,641 with SMI, 2,061 with mental illness other than SMI, 3,327 with co-occurring SMI and SUD, and 363 with co-occurring SUD and mental illness other than SMI. Adults with SUD or SMI make up 61 percent of the total, and co-occurring disorders comprise 13 percent of the 27,728 Alaska adults.

Figure 17. Total Number of Alaska Adults Served with Support from State Medicaid and Behavioral Health Funds by Diagnosis, FY2013



Notes: Alcohol and/or Related Deaths, as defined, with 100 percent alcohol or drug-attributable ICD-10 codes listed in at least one contributing cause of death, as coded in the International Classification of Diseases, 10th Revision.
Source: Alaska Mental Health Trust Authority, *"Alaska Behavioral Health Systems Assessment Final Report"* (2016).

[6]http://www.samhsa.gov/data/sites/default/files/2013_N-SSATS/2013_NSATS_National_Survey_of_Substance_Abuse_Treatment_Services.pdf

Chapter 2: Productivity Losses

Summary

- From 2010 to 2014, there were 908 deaths in Alaska that had an ICD-10 code potentially linked to drugs. By applying the attributable fractions, 792 (87 percent) of the deaths were attributable to drug abuse. Between 2010 and 2014, there was an average of 158 drug-related deaths per year.
- There are two ways to measure productivity loss due to drug-related deaths: 1) deaths where the primary (or underlying) causes of death are linked to drugs or 2) deaths where drugs were not linked to the primary cause but were a subsequent cause with an attributable fraction assigned to that cause of 100 percent due to drugs (see Tables 58-60 in the appendix for details on which causes are 100 percent attributable). These two measures cannot be combined because there will be overlap between deaths where both primary and subsequent causes were attributable to drug abuse. However, both measures are useful as indicators of the productivity loss associated with drug abuse.
- Productivity loss due to deaths where drugs are the primary cause of death totaled approximately $391 million in Alaska in 2014.
  - An average of 58 women and 100 men died per year from drug abuse.
  - Female deaths attributed to drugs caused a productivity loss of $107.5 million (27 percent of the total), while male deaths caused the remaining $284.0 million productivity loss.
  - The age group with the highest productivity loss was ages 25-34, followed by 35 to 44 years, and 45 to 54 years.
- The estimated cost of lost productivity due to drug abuse-related incarceration in Alaska in 2014 was about $29.7 million, including $4.4 million for women (15 percent) and $25.4 million for men (85 percent).
- In 2014, productivity losses due to drug dependence were an estimated $81.4 million.
  - Men had an estimated loss of $48 million (59 percent) while women were estimated to have a loss of $33 million (41 percent).
- In 2014, productivity losses due to drug dependence or abuse were approximately $119.3 million.
  - Men had an estimated loss of $70 million (59 percent) and women were estimated to have a loss of $49 million (41 percent).
- In SFY 2015, admission to 24-hour detoxification and residential treatment services resulted in an estimated loss $1 million in potential earnings associated with drug abuse/dependence. These lost earnings were associated with approximately 42,000 bed days for drug treatment.
- In SFY 2015, 3,197 lost days of work for medical treatment of diseases and conditions attributable to drug abuse resulted in an estimated $613,824 in lost earnings.
- In 2015, in total, drug abuse resulted in $775 million in lost productivity in Alaska.

Lost Productivity Due to Mortality

One of the largest economic costs to Alaska due to drug abuse results from premature death. Various causes of death can be attributed to drug abuse either directly or indirectly, such as motor vehicle collisions, diabetes, or homicide. In all such cases, premature death results in the loss of the person's potential productivity. Total lost productivity as a result of death makes up the largest drug abuse-attributable cost to the Alaska economy.

Since each individual has the potential to join the workforce and contribute to the economy, premature death costs the economy in the form of lost production of goods and services as well as the circulation of earned wages back into the local economy. While some individuals may not join the workforce, they nevertheless have the potential to create societal value by performing household services, such as raising children and maintaining the household.

According to DHSS' BVS, 908 deaths occurred in Alaska from 2010 to 2014 that included an ICD-10 code that could be linked to drugs. By applying the attributable fractions, it was estimated 792 of these deaths (87 percent) were attributable to drugs. There was an annual average of 158 drug-related deaths between 2010 and 2014.

Table 18. Alaska Drug-Related Deaths, 2010-2014

	Deaths Caused by Selected ICD-10 Diagnoses 2010-2014	Estimated Drug Attributable Deaths 2010-2014	Annual Average Drug Attributable Deaths Per Year
Directly attributable (100 percent)	756	756	151
Partially attributable <100 percent	152	36	7
Total	**908**	**792**	**158**

Notes: Due to rounding columns may not add to totals. See the Appendix for ICD-10 codes used and drug attribution rates, along with estimations by cause of death.
Source: Death counts provided by DHSS' Division of Public Health Bureau of Vital Statistics' (BVS) unpublished data and McDowell Group calculations. Drug attribution rates from CDC's Vital Statistics; Patra et al. *"Substance-attributable morbidity and mortality changes to Canada's epidemiological profile: Measurable differences over a ten-year period;"* and Rogers et. al. *"The Costs of Alcohol and Drug Abuse in Maine."*

Estimated Productivity Losses for Primary (Underlying) Cause of Death

The table below shows the annual average number of drug-attributable deaths by age and gender from 2010 to 2014 where drugs were the primary cause of death. The table includes estimates of the inflation-adjusted future earnings for each age group and gender and the estimated economic loss by age group and gender.[7]

The primary causes of drug-related deaths with the highest annual costs were accidental poisoning by and exposure to drugs, medicaments, and biological substances (96 deaths per year); suicide by and exposure to drugs, medicaments, and biological substances (11 deaths per year); and hepatitis C (6 deaths per year). (A full list of deaths by primary cause and counts are in the appendix.)

[7] Please note, the totals in this section may differ slightly than totals in other sections in this chapter due to the removal of deaths where the age of the person is unknown.

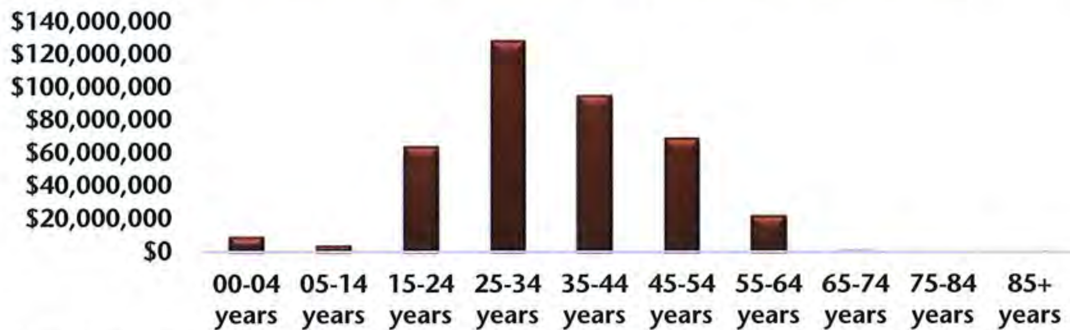
Total productivity loss due to drug-attributable deaths is estimated at $391.4 million. About 27 percent of the productivity loss attributed to drugs ($107.5 million) is associated with female deaths. The remaining 73 percent ($284.0 million) is associated with male deaths).

Table 19. Estimated Productivity Loss in Alaska, Primary Cause Drug-Attributable Mortality, by Age and Gender, Annual Average Deaths 2010-2014, $2014

	Annual Ave. Drug Attributable Deaths	Net Present Value of Future Earnings (3% Discount Rate)	Estimated Loss Due to Drugs ($)
Females			
0-4 years	1.6	$2,240,253	$3,584,405
5-14 years	0.6	$2,641,089	$1,584,653
15-24 years	6.2	$3,056,355	$18,949,401
25-34 years	10.8	$2,847,565	$30,782,178
35-44 years	13.3	$2,185,690	$29,161,476
45-54 years	13.3	$1,343,687	$17,825,352
55-64 years	10.0	$532,092	$5,306,021
65-74 years	2.2	$122,750	$272,996
75-84 years	0.5	$22,338	$11,437
85+ years	0.2	$1,113	$223
Females Total	**58**	**-**	**$107,478,142**
Males			
0-4 years	1.8	$3,028,719	$5,451,694
5-14 years	0.6	$3,572,336	$2,143,402
15-24 years	10.6	$4,225,625	$44,791,625
25-34 years	23.3	$4,185,264	$97,374,352
35-44 years	19.3	$3,390,101	$65,537,433
45-54 years	23.3	$2,214,940	$51,581,523
55-64 years	17.2	$960,192	$16,492,258
65-74 years	2.2	$250,985	$547,147
75-84 years	0.9	$48,252	$41,304
85+ years	0.4	$4,054	$1,622
Males Total	**100**	**-**	**$283,962,359**
Overall Total	**158**	**-**	**$391,440,502**

Note: Due to rounding columns may not add to totals. For universal understanding, the term, "primary" is substituted for the official term, "underlying."
Source: Death counts provided by DHSS' BVS' unpublished data, and McDowell Group calculations. Drug attribution rates from CDC's Vital Statistics; Patra et al., and Rogers et. al. Net present value of future earnings from Wendy Max, Dorothy Rice, Hai-Yen Sung, Martha Michel, *"Valuing Human Life: Estimating the Present Value of Lifetime Earnings, 2000"* (2004). Values have been adjusted for inflation from ADOLWD Research and Analysis, http://laborstats.alaska.gov/cpi/cpi.htm.

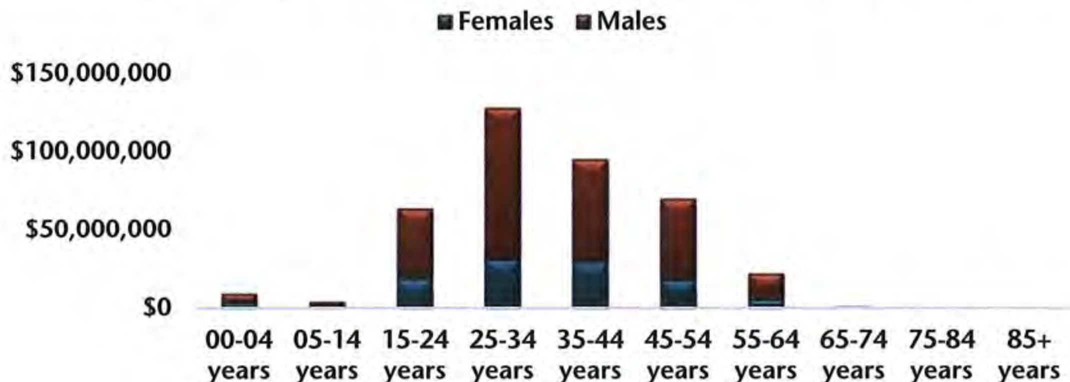
Figure 18. Estimated Productivity Loss in Alaska, Primary Cause Drug-Attributable Mortality, by Age Group and Gender, Annual Average Deaths, 2010-2014, $2014



Note: The term, "primary" is substituted for the official term, "underlying" because it is more commonly understood.
Source: DHSS' BVS' unpublished data, McDowell Group calculations, CDC's Vital Statistics, Patra et al., Rogers et al., Max et al., and DOLWD.

In 2014 dollars, the age group with the largest loss was 25 to 34 years, followed by 35 to 44 years, and 45 to 54 years.

Figure 19. Estimated Productivity Loss in Alaska, Primary Cause Drug-Attributable Mortality, by Age Group and Gender, Annual Average Deaths, 2010-2014, $2014



Note: The term, "primary" is substituted for the official term, "underlying" because it is more commonly understood.
Source: DHSS' BVS' unpublished data, McDowell Group calculations, CDC's Vital Statistics, Patra et al., Rogers et al., Max et al., and ADOLWD.

Estimated Productivity Losses for Contributing (Not Primary) Cause of Death

Another way to estimate productivity loss is to consider substance abuse-related deaths when the primary cause of death was not alcohol and/or drug-attributable, but rather a contributing cause and the attributable fraction assigned to that cause is 100 percent (see Tables 58-60 in the appendix for details on which causes of death are 100 percent attributable).

For the purposes of this study, deaths attributed to drugs was not separated from those attributed to alcohol. Based on this methodology, the number of substance abuse-attributable deaths between 2010 and 2014 is 1,970, for an annual average of 394 alcohol and/or drug-related deaths per year from 2010-2014.

For all deaths where alcohol and/or drugs were a contributing cause and where the attribution rate assigned to the cause was 100 percent due to alcohol or drugs, there was an estimated productivity loss of $708.9 million.

Females had an annual average of 152 deaths per year for a productivity loss of $211.5 million (30 percent of total), while males averaged 242 deaths per year for a productivity loss of $497.4 million (70 percent of total). The age group with the highest productivity loss was ages 45-54, followed by ages 25-34, and 35-44.

Estimated Value of Potential Years of Life Lost (PYLL)

Yet another way to see the impact of mortality due to drugs is by calculating the potential years of life lost (PYLL). These estimates are based on an average 75-year lifespan for both males and females, and are based on a person's age at the time of their death and how many years they would have been expected to live if drugs had not been a factor in their deaths.

Using the PYLL method, between 2010 and 2014, there were 618 deaths attributable to drugs for a total of 20,067 PYLL per year. No attempt was made to calculate a monetary value for PYLL.

Table 20. Estimated PYLL (Potential Years of Life Lost) Due to Drug-attributable Causes in Alaska, 2010-2014

Cause	Total Number of Drug Attributable Deaths	PYLL Attributable to Drugs	Average PYLL Per Year
Directly attributable (100 percent)	557	18,391	3,678
Partially attributable <100 percent	61	1,636	327
Total	**618**	**20,027**	**4,005**

Note: Due to rounding columns may not add to totals.
Source: Death counts provided by DHSS' BVS' unpublished data, and McDowell Group calculations. Drug attribution rates from CDC's Vital Statistics; Patra et al., and Rogers et. al.

Lost Productivity Due to Incarceration

Alaska also experiences lost productivity from people incarcerated because of drugs. Incarcerated individuals may commit a crime directly related to drug use, such as driving while intoxicated or selling narcotics. They may also commit crimes when they are under the influence of a drug or to obtain more drugs. It is assumed incarcerated adults could otherwise be productive members of the workforce or in households. Therefore, their absence from society due to incarceration is an economic loss for Alaska.

The table below shows the number of inmates in Alaska by offense category, the percentages of crimes attributable to drugs, the estimated numbers of inmates attributed to drugs, and the estimated total number of inmates attributed to drug abuse. In 2014, there were 3,302 inmates incarcerated in Alaska for the specified offenses. Of those inmates incarcerated 734 were attributed to drugs (22 percent of inmates incarcerated for these specific offenses).

(See table next page.)

Table 21. Incarcerations Attributed to Drug Abuse by Offense in Alaska, 2014

Type of Offense	2014 Alaska Inmates by offense category [1]	Percent Attributed to Drugs [2]	Estimated Number Attributed to Drugs
Alcohol offenses	340	0%	0
Assault	749	6%	48
Burglary	108	34%	36
Drug offenses	433	100%	433
Homicide/murder/ manslaughter	429	7%	31
Larceny-theft	286	39%	112
Motor vehicle theft	49	18%	9
Prostitution	2	12%	0
Robbery	130	28%	36
Sexual offenses	776	4%	29
Total	**3,302**		**734**

[1] Alaska Department of Corrections (DOC), *"Alaska Offender Profile, 2014"* (2015). http://www.correct.state.ak.us/admin/docs/Final_2014_Profile.pdf
2 U.S. Department of Justice National Drug Intelligence Center (NDIC), *"The Economic Impact of Illicit Drug Use on American Society 2011"* (2011).

To estimate the cost of lost productivity, the study team obtained median individual annual average earnings for Alaska's population 16 or older by gender from the ACS 2010-2014 Five-Year Data. These earnings (adjusted for inflation to 2014 dollars) were $42,923 (+/-$800) for males and $30,441 (+/-$400) for females. The estimated cost of lost productivity due to incarceration related to drug abuse in Alaska in 2014 was $29.7 million; $4.4 million from women (15 percent) and $25.4 million from men (85 percent).[8]

Table 22. Cost of Lost Productivity by Gender in Alaska, 2014

Estimated Number	Attributed to Drugs[1]	Total[1]	Median Earnings[2]	Earnings Lost Due to Incarceration Due to Drugs
Females incarcerated	143	249	$30,441	$4,353,063
Males incarcerated	591	1,483	$42,923	$25,367,493
Total	**734**	**1,732**		**$29,720,556**

Source: [1] McDowell Group calculations based on DOC and NDIC drug attribution rates. [2] American Community Survey (ACS) 2010-2014 Five-Year Data.

Losses Due to Diminished Productivity

Drug dependence or abuse can impair an individual's productivity in employment (physical and/or mental impairment; ability, willingness, or motivation to work or find a job; etc.) and non-employment activities (household chores, parenting, etc.). These estimates address only workplace earnings. While non-employment impacts are important, there is no generally accepted method to compute monetary values for household activities.

[8] The large differential between men and women is partly because of men's higher earnings but mainly because men are a much larger proportion of the prison population than women.

Two different estimates of impaired productivity losses in traditional earnings are presented below. The first is for individuals who reported drug dependence in the past year, while the second is for individuals who reported drug dependence or abuse in the past year. The estimates cannot be added together as there is overlap.

In 2014, there was an estimated loss of $81.4 million in labor force earnings due to drug dependence. Males lost an estimated $48.0 million (59 percent) and females an estimated $33.4 million (41 percent).

Table 23. Alaska Labor Force Earnings Losses, Workers with a History of Drug Dependence, by Gender, 2014

	Male	Female	Total
2014 Alaska population 15+ years [1]	300,185	278,476	**578,661**
2013-2014 Annual average percentage of population 12+ years reporting past year drug dependence [3]	2.2%	2.2%	-
2014 Estimated number of Alaskans 15+ years dependent	6,574	6,099	**12,673**
2010-2014 Median Alaska individual annual average earnings [4]	$42,923	$30,441	-
Loss in productivity from drug dependence [2]	17.0%	18.0%	-
Estimated productivity loss due to drug dependence	**$47,970,262**	**$33,416,681**	**$81,386,943**

Note: Due to rounding, some columns may not sum to total.
[1] Alaska Department of Labor and Workforce Development's 2014 population estimates.
[2] U.S. Department of Justice National Drug Intelligence Center (NDIC), *"The Economic Impact of Illicit Drug Use on American Society 2011"* (2011).
[3] SAMHSA's *"National Survey on Drug Use and Health, 2013 and 2014 – Alaska"* (2014).
[4] American Community Survey (ACS) 2010-2014 Five-Year Data.

The loss in productivity for individuals who reported past year drug dependence or abuse was estimated to be $119.3 million in 2014. Males lost an estimated $70.3 million (59 percent) and females an estimated $49.0 million (41 percent).

Table 24. Alaska Labor Force Earnings Losses, Workers with a History of Drug Dependence or Abuse, by Gender, 2014

	Male	Female	Total
2014 Alaska population 15+ years [1]	300,185	278,476	**578,661**
2013-2014 Annual average percentage of population 12+ years reporting past year drug dependence or abuse [3]	3.2%	3.2%	-
2014 Estimated number of Alaskans 15+ years dependent or abusing	9,636	8,939	**18,575**
2010-2014 Median Alaska individual annual average earnings [4]	$42,923	$30,441	-
Loss in productivity from drug dependence [2]	17.0%	18.0%	-
Estimated productivity loss due to drug dependence or abuse	**$70,312,576**	**$48,980,614**	**$119,293,190**

Note: Due to rounding, some columns may not sum to total.
[1] Alaska Department of Labor and Workforce Development's 2014 population estimates.
[2] NDIC, *"The Economic Impact of Illicit Drug Use on American Society 2011"* (2011).
[3] SAMHSA's *"National Survey on Drug Use and Health, 2013 and 2014 – Alaska"* (2014).
[4] American Community Survey (ACS) 2010-2014 Five-Year Data.

Lost Productivity Due to Drug Treatments

When individuals are admitted to a medical facility for treatment of drug dependence or abuse, they may lose time that would otherwise be spent in the workforce. This results in economic loss due to reduced employment, production, and services. To estimate that loss, this report quantifies potential earnings forfeited by clients admitted to DBH Treatment and Recovery grantee agencies for 24-hour detoxification or residential services.

In SFY 2015, admission to 24-hour detoxification and residential treatment services resulted in an estimated loss of potential earnings of $1.4 million associated with drug abuse/dependence. These lost earnings were associated with 42,376 bed days for drug treatment.

Table 25. Number of 24-Hour Detoxification and Residential Bed Days and Estimated Lost Earnings from Drug-related Admissions, SFY 2015

	Number/$Amount
Number of bed days	42,376
Estimated Lost Earnings	$1,356,861

Source: Total number of bed days estimates calculated from data provided by the State of Alaska Division of Behavioral Health.

Incomes varied widely for clients receiving services at residential treatment and detoxification facilities. More than half reported annual incomes of $0 or less than $5,000. Estimates of lost earnings per day ranged from $0 to $143.

Table 26. Number of Clients Who Received 24-Hour Detoxification or Residential Treatment Services, Number of Bed Days for Those Clients, and Estimated Lost Earnings, Attributable to Drugs, by Client Income Range, SFY 2015

Income Range	# of Clients	% of Clients	Estimated # of Drug Bed Days	Estimated Earnings per Day	Estimated Lost Earnings due to Drug Abuse
<18 years	110	5.20%	2,215	$0	$0
$0-4,999	1,176	55.9	23,685	7	169,697
$5,000-9,999	147	7.0	2,961	21	63,644
$10,000-$19,999	257	12.2	5,176	43	222,509
$20,000-29,999	151	7.2	3,041	72	217,880
$30,000-39,999	70	3.3	1,410	100	141,432
$40,000-49,000	53	2.5	1,067	129	137,606
$50,000+	140	6.7	2,820	143	404,092
Total	**2,104**	**100%**	**42,376**		**$1,356,861**

Source: Estimates calculated from data provided by the State of Alaska Division of Behavioral Health.

Lost Productivity Due to Drug Abuse Related Medical Conditions

In SFY 2015, 3,197 lost days of work for medical treatment of diseases and conditions attributable to drug abuse resulted in an estimated $613,824 in lost earnings (not including drug treatment programs (see above)).

Table 27. Total Length of Stay for Inpatient and ED Treatment of Diseases and Conditions Attributable to Drug Abuse, and Subsequent Lost Potential Earnings, SFY 2015

Total Inpatient Length of Stay (days)*	Total ED Length of Stay (days)*	Total Length of Stay (days)	Average Earnings per Day**	Estimated Lost Potential Earnings
1,866	1,331	3,197	$192	$613,824

Source: *Alaska Hospital Facilities Data Reporting Program (HRFP); **Based on DOLWD wage data.

Chapter 3: Vehicle Traffic Collisions

Summary

- In 2011, 704 vehicle traffic collisions in Alaska were attributed to impaired (alcohol and/or drug) drivers, costing approximately $990.5 million.
- Impaired traffic collisions represented about 6 percent of all traffic collisions (a total of 12,576 collisions) in Alaska.
- Of the impaired collisions, 54 percent involved property damage only, 33 percent resulted in minor injuries, 9 percent resulted in major injuries, and 4 percent caused a fatality.
- 1,680 persons were involved in the 704 impaired-related collisions; 229 people had minor injuries, 64 had major injuries, and there were 30 fatalities.
- Of the $990.5 million in estimated costs due to substance abuse-related traffic collisions, approximately 40 percent (or $396.2 million) are related to drug abuse.

Impaired Traffic Collisions

DOTPF maintains records of all traffic collisions in Alaska by injury severity, including impaired (alcohol and/or drug) collisions. DOTPF data does not distinguish between alcohol and drug-related collisions. National Highway Traffic Safety Administration (NHSTA) estimates of the average costs per crash were used to develop the following table of unit costs of impaired traffic collisions in Alaska for 2011. While DOTPF maintains records of off-road vehicle collisions such as ATVs and snowmachines that occur on roadways, no record is kept of those incidences that occur off-road.

(See table next page.)

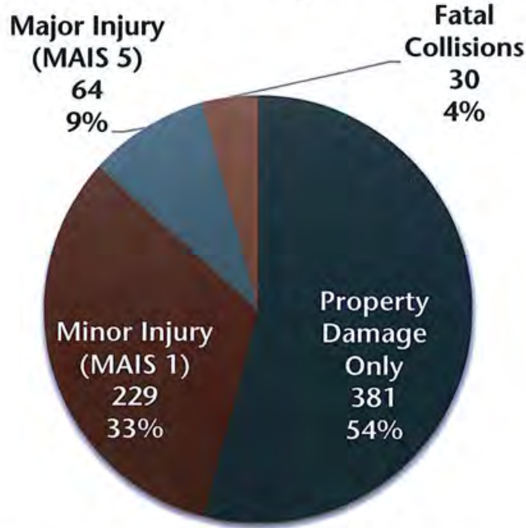
Table 28. Unit Costs of Impaired (Alcohol and/or Drugs) Traffic Collisions in Alaska, 2011

	Property Damage Only	Minor Injury	Major Injury	Fatal
Type of Cost				
Medical	$0	$4,425	$578,183	$16,704
Emergency services	$40	$126	$1,209	$1,275
Market productivity	$0	$4,158	$489,605	$1,635,627
Household productivity	$85	$1,330	$138,874	$445,824
Insurance administration	$270	$5,436	$104,769	$40,043
Workplace costs	$88	$482	$15,681	$16,659
Legal costs	$0	$1,996	$121,803	$150,558
Congestion costs	$1,523	$1,568	$2,162	$8,087
Property damage	$3,455	$7,640	$21,338	$15,852
Quality-adjusted life years (QALYs)	$0	$34,473	$7,028,039	$12,010,805
Total	**$5,460**	**$61,635**	**$8,501,664**	**$14,341,436**

Source: U.S. Department of Transportation National Highway Traffic Safety Administration (NHSTA) "*The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised)*" (2015). http://www-nrd.nhtsa.dot.gov/pubs/812013.pdf.

In 2011, there were 704 impairment-caused traffic collisions reported in Alaska, 6 percent of the 12,576 total traffic collisions in the state. Of the impaired collisions, those with property damage only totaled 381 (54 percent of impaired collisions), 229 collisions (33 percent) resulted in minor injuries, 64 (9 percent) resulted in major injuries, and 30 collisions (4 percent) had a fatality. The figure below shows impaired-related traffic collisions by injury severity.

Figure 20. Impairment-caused (Alcohol and/or Drug) Traffic Collisions, by Type, in Alaska, 2011



Source: Alaska Department of Transportation and Public Facilities (DOTPF), "2011 Alaska Traffic Crashes" (2015). http://www.dot.alaska.gov/stwdplng/transdata/pub/accidents/2011_AK_CrashData.pdf.

The table below shows the 704 Alaska impairment-caused collisions by type and by injury, including property damage only, minor and major injuries, fatalities, and the total cost. Total cost of the impairment-caused collisions in Alaska in 2011 was $990.5 million. The highest costs resulted from fatal collisions which totaled $430.2 million.

In all, it is estimated that approximately 40 percent (or $396.2 million) of the impairment-related collisions in Alaska is related to drug abuse.

Table 29. Number of Impairment-caused Traffic Collisions and Cost of Collisions in Alaska, 2011

	Property Damage Only	Minor Injury	Major Injury	Fatal	Total
Number of Alaska Impaired Collisions[1]	**381**	**229**	**64**	**30**	**704**
Type of Costs [2]					
Medical	$0	$1,013,364	$37,003,719	$501,131	$38,518,214
Emergency services	$15,082.97	$28,816	$77,366	$38,259	$159,523
Market productivity	$0	$952,213	$31,334,749	$49,068,804	$81,355,767
Household productivity	$32,321	$304,669	$8,887,945	$13,374,724	$22,599,660
Insurance administration	$102,887	$1,244,903	$6,705,230	$1,201,293	$9,254,314
Workplace costs	$33,398	$110,406	$1,003,586	$499,782	$1,647,172
Legal costs	$0	$457,166	$7,795,412	$4,516,746	$12,769,324
Congestion costs	$580,156	$359,063	$138,354	$242,617	$1,320,189
Property damage	$1,316,528	$1,749,664	$1,365,622	$475,563	$4,907,377
Quality-adjusted life years (QALYs)	$0	$7,894,209	$449,794,521	$360,324,164	$818,012,894
Total	**$2.1 million**	**$14.1 million**	**$544.1 million**	**$430.2 million**	**$990.5 million**
Estimated portion attributed to drug abuse (40 percent)					**$396.2 million**

Note: Due to rounding, some columns may not sum to total.
[1] DOTPF, "2011 Alaska Traffic Crashes" (2015). http://www.dot.alaska.gov/stwdplng/transdata/pub/accidents/2011_AK_CrashData.pdf.
[2] NHSTA, "*The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised)*" (2015). http://www-nrd.nhtsa.dot.gov/pubs/812013.pdf.

Lastly, while there are no cost estimates available, DOTPF also reports the number of persons who were involved in impaired (alcohol and/or drug-related) collisions. People involved include occupants of the impaired driver's car, occupants of other cars, or pedestrians. In 2011, there were 1,680 persons involved in impairment-caused collisions; 229 had minor injuries, 64 had major injuries, and 32 were fatalities.

Chapter 4: Criminal Justice and Protective Services

Summary

- In 2014, there were 9,572 drug-related offenses and arrests, representing 27 percent of all offenses. These offenses affected 12,237 victims and resulted in $277 million in criminal justice system and crime victim costs.

Table 30. Summary of Criminal Justice Costs Attributable to Drug Abuse in Alaska, 2014

	Drug-Related
Counts	
Offenses and arrests	9,572
Percentage offenses-arrests	27%
Crime victims	12,237
Percentage crime victims	29%
Costs	
Criminal justice system	$73.4 million
Crime victim – tangible costs	$28.5 million
Crime victim – intangible costs	$175.4 million
Drug Abuse Criminal Justice Costs	**$277.3 million**

Source: McDowell Group calculations.

- In SFY 2015, Office of Children Services (OCS) expenditures for child abuse and neglect attributable to drug abuse totaled an estimated $37 million.

Criminal Justice

Alaskans dependent on or abusing drugs play a role in crimes. Drug abuse can be directly attributed to crimes such as driving under the influence or the sale of illegal drugs and other violent and nonviolent crimes. Many costs accompany these crimes including the costs of the criminal justice system (police protection and law enforcement, legal and adjudication, and incarceration), and costs to crime victims (both tangible and intangible). Productivity loss due to incarceration is covered in Chapter 2.

Offenses and Arrests

In 2014, among the 11 types of offenses or arrests in the table below, 9,572 (27 percent) were attributable to drug abuse. The offenses with the highest counts attributable to drugs were larceny-theft (6,002), drug laws (1,159), and burglary (1,054).

Table 31. Offenses and/or Arrests Attributable to Drug Abuse in Alaska, 2014

Type of Offense	2014 Alaska Number of Known Offenses or Arrests	Percent Attributable to Drug Abuse [3]	Estimated Offenses/Arrests Attributable to Drug Abuse
Criminal homicide [1]	47	7%	3
Sexual assault (rape and attempted) [1]	764	4%	28
Aggravated assault [1]	3,224	5%	164
Other assault [1]	8,799	8%	669
Robbery [1]	627	28%	176
Burglary [1]	3,136	34%	1,054
Larceny-theft [1]	15,350	39%	6,002
Motor vehicle theft [1]	1,730	18%	306
Stolen goods [2]	24	27%	6
Prostitution (commercialized vice) [2]	36	12%	4
Drug laws [2]	1,159	100%	1,159
Total	**34,896**		**9,572**

1 DPS, *Crime in Alaska, 2014* (2015). http://www.dps.alaska.gov/statewide/docs/UCR/UCR_2014.pdf.
[2] FBI UCR (2015). https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014/tables/table-69.
[3] U.S. Department of Justice National Drug Intelligence Center (NDIC), *The Economic Impact of Illicit Drug Use on American Society 2011* (2011).

Criminal Justice System Costs

The estimated cost of drug abuse to the criminal justice system in Alaska in 2014 was $73.4 million. Larceny-theft produced the largest costs, an estimated $27.0 million, followed by drug-law infractions ($19.5 million), and other assaults ($9.0 million). It should be noted that incarceration data does not include Alaska Statute Title 47 Protective Holds by the Department of Corrections.

Table 32. Criminal Justice System Costs Attributable to Drug Abuse by Offense in Alaska, 2014

Type of Offense	Estimated Alaska Offenses/Arrests Attributable to Drug Abuse	Criminal Justice System Cost per Arrest/Offense	Estimated Alaska Drug-Related Costs
Criminal homicide [1]	3	$612,035	$2,071,127
Sexual assault (rape and attempted) [1]	28	$41,305	$1,167,608
Aggravated assault [1]	164	$13,479	$2,216,306
Other assault [1]	669	$13,479	$9,013,872
Robbery [1]	176	$21,569	$3,786,640
Burglary [1]	1,054	$6,438	$6,783,444
Larceny-theft [1]	6,002	$4,491	$26,954,251
Motor vehicle theft [1]	306	$6,032	$1,847,115
Stolen goods [1]	6	$10,673	$69,161
Prostitution (commercialized vice) [2]	4	$9,085	$40,555
Drug laws [2]	1,159	$16,797	$19,468,013
Total	**9,572**		**$73.4 million**

[1] National Institute of Health (NIH), *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation* (2010). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835847/pdf/nihms170575.pdf
[2] NIH National Institute on Drug Abuse (NIDA), *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992* (1998).

Crime Victimization

There were approximately 41,992 victims of the crimes in the table below in Alaska in 2014; 12,237 victims were involved in crimes associated with drug abuse, or approximately 29 percent of victims.

Table 33. Victimizations Attributable to Drug Abuse in Alaska, 2014

Type of Crime	2014 U.S. Victimization Rate per 1,000 persons 12 years or older or per 1,000 households [1]	Estimated Number of Alaska Victims [3, 4]	Percent Drug Related [5]	Estimated Number of Victims Attributable to Drug Abuse
Homicide	-	47 [2]	7%	3
Rape/sexual assault	1.1	670	5%	34
Robbery	2.5	1,523	28%	427
Aggravated assault	4.1	2,498	5%	127
Other assault	12.4	7,555	8%	574
Theft	90.8	22,852	39%	8,935
Burglary	23.1	5,814	34%	1,953
Motor vehicle theft	4.1	1,032	18%	183
Total		**41,992**		**12,237**

[1] BJS, *Criminal Victimization, 2014* (2015). http://www.bjs.gov/content/pub/pdf/cv14.pdf.
[2] DPS, *Crime in Alaska, 2014* (2015). http://www.dps.alaska.gov/statewide/docs/UCR/UCR_2014.pdf.
[3] 2014 population data from DOLWD.
[4] 2014 household data from ACS 2010-2014 Five-Year Data.
[5] NDIC, *The Economic Impact of Illicit Drug Use on American Society 2011* (2011).

Crime Victim Tangible Costs

The estimated tangible cost to victims attributable to drug abuse for Alaska in 2014 was $28.5 million. The offense with the highest cost was other assaults ($7.8 million), followed by theft ($6.7 million), and burglary ($4.2 million).

Table 34. Crime Victim Tangible Costs Attributable to Drug Abuse in Alaska, 2014

Type of Offense	Estimated Number of Victims Attributable to Drug Abuse	Crime Victim Tangible Cost Per Offense [1]	Estimated Alaska Drug-Related Tangible Costs
Homicide [2]	3	$1,150,463	$3,893,165
Rape/sexual assault	34	$8,667	$296,249
Robbery	427	$5,146	$2,194,886
Aggravated assault	127	$13,571	$1,729,040
Other assault	574	$13,571	$7,792,668
Theft	8,935	$749	$6,690,361
Burglary	1,953	$2,125	$4,150,248
Motor vehicle theft	183	$9,537	$1,741,920
Total	**12,237**		**$28.5 million**

[1] NIH, *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation* (2010). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835847/pdf/nihms170575.pdf
[2] Crime victim cost for murder was calculated as the mean present value of lifetime earnings for a homicide victim.

Crime Victim Intangible Costs

The estimated intangible cost to victims attributable to drug abuse for Alaska in 2014 was $175.4 million. The offense with the highest cost was other assaults ($85.1 million), followed by homicide ($44.6 million), and aggravated assaults ($18.9 million).

Table 35. Crime Victim Intangible Costs Attributable to Drug Abuse in Alaska, 2014

Type of Offense	Estimated Number of Victims Attributable to Drug Abuse	Crime Victim Intangible Cost Per Offense	Estimated Alaska Drug-Related Intangible Costs
Homicide	3	$13,168,788 [2]	$44,563,180
Rape/sexual assault	34	$311,424	$10,645,019
Robbery	427	$35,215	$15,019,568
Aggravated assault	127	$148,228	$18,884,888
Other assault	574	$148,228	$85,112,954
Theft	8,935	$16	$139,383
Burglary	1,953	$501	$978,142
Motor vehicle theft	183	$409	$74,646
Total	**12,237**		**$175.4 million**

[1] NIH, *"The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation"* (2010). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835847/pdf/nihms170575.pdf
[2] Intangible cost for murder was calculated as the mean value of a statistical life.

Protective Services

Substance abuse is a risk factor for abuse and neglect of children and adults. A 1999 study by the National Center on Addiction and Substance Abuse at Columbia University found that substance-abusing parents were three times more likely to abuse and four times more likely to neglect their children. Likewise, an adult caregiver who struggles with substance use is more likely to abuse his or her charge. Because of alcohol and drug abuse, agencies that assist victims of abuse and neglect see more cases and incur greater costs.

The National Survey of Children and Adolescent Well-Being estimates that 61 percent of infants and 41 percent of older children in out-of-home care are from families with active alcohol or drug abuse (Wulczyn, Ernst, & Fisher, 2011). For almost 31 percent of all children placed in foster care in 2012, parental alcohol or drug abuse was the documented reason for removal and in several states that percentage surpassed 60 percent (National Data Archive on Child Abuse and Neglect, 2012)

Child Protective Services

Office of Children Services (OCS) expenditures for child abuse and neglect attributable to drug abuse are estimated at $37 million in SFY2014.

Table 36. Summary of OCS Expenditures Attributable to Drugs, SFY 2015

State Spending	Federal Spending	Total
$25,139,125	$11,493,850	$36,632,975

Source: State of Alaska 2014 Actual Expenditures

Title 47 Protective Custody

The Title 47 Protective Custody Statute allows the State of Alaska to take people who are incapacitated by drugs or otherwise at-risk to a hospital for treatment, place them in the custody of a family member, or commit them to a detention center for up to 12 hours. In SFY2013, there were a total of 3,726 protective holds; however, it is estimated by DOC personnel that most (up to 99 percent) of these holds were related to alcohol, not drugs.

Chapter 5: Health Care

Summary

- Hospital-related medical costs to treat conditions and diseases attributable to drug abuse totaled $17.8 million in 2012, including $14.6 million in inpatient charges, and $3.1 million in ED charges. Adjusted for inflation, in 2015, these costs would be $15.1million in inpatient charges and $3.2 million in ED charges, for a combined total of $18.3 million.

Table 37. Summary of Alaska Medical Charges Attributable to Drug Abuse, 2012 and 2015$

	Inpatient Charges	Emergency Department Charges	Total Medical Charges
Total (2012)	$14,603,710	$3,147,428	$17,751,138
Drug Abuse Total (2016$)	**$15,075,863**	**$3,249,187**	**$18,325,050**

- In SFY 2015, Division of Behavior Health funding for drug dependence/abuse to treatment and recovery grantee agencies accounted for an estimated $23.5 million for drug treatment.
- In 2015, an estimated $2.5 million in HIV/AIDS medical costs were attributable to injected drug use in Alaska.
- In 2015, an estimated $90 million in treatment costs were associated with 1,009 new hepatitis C cases attributable to injected-drug use.
- In total, annual drug-abuse-related health care costs totaled $134.3 million in 2015.

Medical Costs

Drug abuse leads to medical conditions and diseases that require treatment in medical settings. This section covers the costs to treat diseases and conditions that arise from the abuse of drugs. Medical costs are presented for two hospital setting types: inpatient and ED. Costs for treating addiction may be found in the *Costs of Treating Drug Dependence* section below.

Inpatient

Some of the health problems caused by drug abuse require admission to a hospital. In 2012, inpatient charges in Alaska attributable to drug abuse totaled $14.6 million. Adjusted to 2015 dollars, the total inpatient charges for drug abuse would be $18.3 million. The number of admissions attributable to drug abuse totaled 511 admissions. The total length of hospital stays resulting from those admissions was 1,866 days.

Table 38. Summary of Alaska Inpatient Hospital Admissions, Length of Stay, and Total Charges Attributable to Drug Abuse, 2012 and Adjusted 2015$

	Number of Admissions	Length of Stay (days)	Total Charges
Total	511	1,866	14,603,710
Total (2015$)			**$15,075,863**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Emergency Department (ED) Costs

Some patients with health problems caused by drug abuse receive treatment in the ED. In 2012, statewide ED charges attributable to drug abuse totaled $3.1 million. Adjusted to 2015 dollars, the total attributable to drug abuse would be $3.2 million. The number of ED visits attributable to drug abuse totaled 1,331. The number of days patients spent in the ED as a result of those visits totaled 1,331 days for drug-related treatment.

Table 39. Summary of Alaska ED Visits, Length of Stay, and Total Charges Attributable to Drug Abuse, Alaska, 2012 and Adjusted 2015$

	Number of Visits	Length of Stay (days)	Total Charges ($)
Total	1,331	1,331	3,147,428
Total (2015$)			**$3,249,187**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 40. Inpatient Hospital Admissions, Length of Stay, and Charges, HFDR Total and Attributable to Drugs, Alaska, 2012

		Total Inpatient Stays				Attributable to Drugs		
Diagnosis or Condition	Age	# of Discharges	Length of Stay (days)	Charges	Attributable Fraction (%)	# of Discharges	Length of Stay (days)	Charges
Drug mental disorders and psychoses	All	81	301	1,765,897	100%	81	301	$1,765,897
Drug dependence	All	11	39	175,106	100	11	39	175,106
Non-dependent abuse of drugs	All	12	17	152,812	100	12	17	152,812
Polyneuropathy due to drugs	All	-	-	-	100	-	-	-
Drug dependence complicating pregnancy, childbirth, or puerperium	All	19	51	316,852	100	19	51	316,852
Drugs affecting fetus or newborn via placenta or breast	All	1	6	20,934	100	1	6	20,934
Drug withdrawal syndrome in newborn	All	7	134	741,742	100	7	134	741,742
Fetal damage due to drugs	All	-	-	-	100	-	-	-
Poisoning by opiates and related narcotics	All	71	233	2,239,419	100	71	233	2,239,419
Poisoning by sedatives and hypnotics	All	17	81	667,249	100	17	81	667,249
Poisoning by CNS muscle tone depressants	All	3	3	49,896	100	3	3	49,896
Poisoning by psychotropic agents	All	129	412	3,668,507	100	129	412	3,668,507
Poisoning by CNS stimulants	All	7	29	424,183	100	7	29	424,183
Total		**358**	**1,306**	**10,222,597**		**358**	**1,306**	**$10,222,597**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 41. Inpatient Hospital Admissions, Length of Stay, and Charges, Total and Attributable to Drugs, Alaska, 2012

	HFDR Attributable to Drugs Total				Statewide Estimate		
	# of Admissions	Length of Stay (days)	Charges	Estimation Factor	# of Admissions	Length of Stay (days)	Charges
Total	358	1,306	10,222,597	÷ 0.7	511	1,866	14,603,710

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 42. Emergency Department Visits, Length of Stay, and Charges, Total and Attributable to Drug Abuse, Alaska, 2012

		Total Inpatient Stays				Attributable to Drugs		
Diagnosis or Condition	Age	# of Discharges	Length of Stay (days)	Charges	Attributable Fraction (%)	# of Discharges	Length of Stay (days)	Charges
Drug mental disorders and psychoses	All	60	60	142,741	100%	60	60	142,741
Drug dependence	All	145	145	213,566	100	145	145	213,566
Non-dependent abuse of drugs	All	467	467	1,006,730	100	467	467	1,006,730
Polyneuropathy due to drugs	All	-	-	-	100	-	-	-
Drug dependence complicating pregnancy, childbirth, or puerperium	All	4	4	8,239	100	4	4	8,239
Drugs affecting fetus or newborn via placenta or breast	All	-	-	-	100	-	-	-
Drug withdrawal syndrome in newborn	All	-	-	-	100	-	-	-
Fetal damage due to drugs	All	-	-	-	100	-	-	-
Poisoning by opiates and related narcotics	All	104	104	316,497	100	104	104	316,497
Poisoning by sedatives and hypnotics	All	29	29	84,752	100	29	29	84,752
Poisoning by CNS muscle tone depressants	All	1	1	5,756	100	1	1	5,756
Poisoning by psychotropic agents	All	116	116	404,983	100	116	116	404,983
Poisoning by CNS stimulants	All	6	6	19,936	100	6	6	19,936
Total		**932**	**932**	**$2,203,200**		**932**	**932**	**$2,203,200**

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Table 43. ED Visits, Length of Stay, and Charges, Total and Attributable to Drug Abuse, Alaska, 2012

	HFDR Attributable to Drugs Total				Statewide Estimate		
	# of Visits	Length of Stay (days)	Charges	Estimation Factor	# of Visits	Length of Stay (days)	Charges
Total	932	932	$2,203,200	÷ 0.7	1,331	1,331	$3,147,428

Source: Alaska Hospital Facilities Data Reporting Program (HFDR). McDowell Group estimates.

Costs of Treating Drug Dependence or Addiction

Some individuals who are drug dependent need detoxification, treatment, and/or support services. In SFY 2015, agencies receiving DBH treatment and recovery grants logged 4,295 admissions for drug abuse disorders, with 31 percent for drugs only, and 69 percent for both alcohol and drug abuse.

Table 44. Percent of Admissions for Drug Only and Both Alcohol and Drug Treatment, by Treatment Setting, SFY 2015

Substance of Abuse	# of Admissions	% of Total
Drug Only	1,318	31%
Alcohol and Drug	2,977	69%
Total	**4,295**	**100%**

Source: State of Alaska Division of Behavioral Health.

Each admission could include enrollment in more than one service type. Of the 4,721 admissions, 1,140 were associated with drugs only, and 3,311 were associated with both alcohol and drugs.

Table 45. Number of Enrollments for Drug Treatment, by Service Type, SFY 2015

Service Type	# Enrollments for Drugs	% of Total	# of Enrollments for Both Alcohol and Drugs	% of Total	Total Enrollments
24-Hr Detoxification	291	21%	576	17%	867
Residential	334	24%	728	22%	1,062
Outpatient	702	50%	2,002	60%	2,704
Outpatient-Opioid	83	3%	5	<1%	88
Total	**1,410**	**100%**	**3,311**	**100%**	**4,721**

Note: Due to rounding some columns may not total. Residential and outpatient treatment settings included 2 and 20 admissions, respectively, without information on the substance of abuse. These admissions have been added to the "Alcohol and Drug Abuse" category.
Source: State of Alaska Division of Behavioral Health

In SFY 2015, admissions to 24-hour detoxification and residential services resulted in an estimated 42,376 associated with drugs. A total of 94 percent of these bed days were through residential services.

Table 46. Bed Days at Drug Abuse Treatment, by Treatment Setting, SFY 2015

Service Type	Estimated # of Bed Days for Drug Abuse
24-Hr Detoxification	2,511
Residential	39,865
Total	**42,376**

*Note: As described in methodology, percentages are from admissions data.
Source: Estimates calculated from data provided by the State of Alaska Division of Behavioral Health.

In SFY 2015, DBH funding for drug dependence/abuse to treatment and recovery grantee agencies (including grant awards and Medicaid payments for services received in state FY2015) totaled $23.5 million, with $12.2 million from DBH grants and $11.3 million from Medicaid.

Table 47. DBH Grants and Medicaid Funding for Drug Abuse Treatment, by Service Type, SFY 2015

Treatment Setting	Treatment Costs for Drug Abuse
DBH Grants	
24-Hr Detoxification	$1,228,816
Residential	5,446,707
Outpatient	4,342,670
Outpatient-Opioid	1,163,017
DBH Grants Total	**$12,181,210**
Medicaid	
24-Hr Detoxification	$51,541
Residential	3,769,752
Outpatient	7,233,543
Outpatient-Opioid	291,924
Medicaid Total	**$11,346,759**
DBH Grant and Medicaid Total	**$23,527,969**

*Note: As described in methodology, percentages are from admissions data.
Source: State of Alaska Division of Behavioral Health.

Prescription Drugs

Prescription drugs such as buprenorphine, naltrexone, acamprosate calcium, and disulfiram play a role in treating the conditions, disorders, and diseases caused by or related to substance abuse. Prescription drugs also can be acquired illegally and then abused. Both the legal and illegal use of prescription drugs are assessed below.

Legal Use

Hepatitis C treatment contributes to prescription drug costs, especially with the advent of new medications. Those costs are addressed in the hepatitis C section of the report.

Illegal Use

Criminal justice system costs associated with prescription drug cases include costs for law enforcement, legal and adjudication fees, incarceration costs, treatment costs, and loss of productivity. The report addresses those costs elsewhere.

Beyond monetary costs, prescription drug cases place an additional burden on the time and resources of the criminal justice system, and that burden is growing. The Alaska State Troopers 2014 Annual Report marks a rise in the abuse of opiates, both heroin and prescription opioids. From 2012 to 2014, the pounds of heroin seized

rose from 4.93 to 22.42. Likewise, the dosage units of hydrocodone seized rose from 141 to 796 and of OxyContin/OxyCodone from 609 to 1,183.

The 2015 Youth Risk Behavior Survey of Alaska schools reports 6.4 percent of students at traditional high schools had taken prescription drugs (such as OxyContin, Percocet, Vicodin, Codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription in the past 30 days, while 14.6 percent had taken them once or more in their lives. While those figures are worrisome enough, for students at alternative high schools, the percentages are much greater, 19.8 percent for use in the past 30 days and 37.4 percent for use once or more in their lives.

SAMHSA's NSDUH reports that, in 2014, 4.4 percent of all Alaskans age 12 or older, nearly 27,000 people, had used pain relievers in the past year for nonmedical use.

HIV and AIDS Costs

While HIV and AIDS are most often thought of as sexually transmitted diseases, a portion of cases can be attributed to intravenous drug use through the sharing of unhygienic needles. Due to advances in health care for HIV and AIDS, extensive inpatient care is not always required, nor is it as expensive as it was in the past. However, treatment remains costly.

In 2015, there were an estimated 671 people with HIV/AIDS living in Alaska. The Alaska Injection-drug use (IDU) attribution rate suggests there are approximately 132 cases of people living with HIV/AIDS in Alaska attributable to IDU. In 2011, the NDIC estimated the average annual cost of antiretroviral treatment (ART) for an individual with HIV/AIDS at $12,500. Adjusted for inflation and Alaska's medical cost-of-living differential, in 2015, Alaska had an estimated HIV/AIDS medical cost of $2.5 million attributable to injected drug use.

Table 48. Alaska Cases of HIV/AIDS and Estimated Medical Costs, 2015

	2015
Counts	
Number of cases of HIV and HIV with AIDS living in Alaska [1]	671
Alaska IDU attribution rate [1]	19.6%
Estimated number of Alaska cases attributed to IDU	132
Cost	
Annual cost of ART, adjusted for inflation and cost-of-living [2]	$19,250
Total Estimated Medical Cost of HIV/AIDS in Alaska	**$2.5 million**

[1] DHSS Division of Public Health, *"HIV Surveillance Report – Alaska, 1982-2015"* (2016).
[2] U.S. Department of Justice National Drug Intelligence Center (NDIC), *"The Economic Impact of Illicit Drug Use on American Society 2011"* (2011).

Hepatitis B and C Drug Treatment Costs

The estimated costs below pertain only to the drug treatment costs associated with hepatitis and does not include costs associated with hepatitis impacts, such as liver transplants and other impatient or outpatient expenses. These costs are included under the section on medical costs found earlier in this chapter.

Hepatitis B

Per the World Health Organization (WHO), a vaccine that is safe and 95 percent effective for Hepatitis B (HBV) has been available since 1982. However, even in the 1990s, the HBV vaccine was still relatively new, so the number of HBV cases, and subsequent medical and treatment costs, were much higher for this infectious disease than they are now.

According to the Alaska Department of Health and Social Services (DHSS) Division of Public Health's Epidemiology Section, there were three cases of HBV reported in Alaska in 2014. Per WHO, more than 90 percent of healthy adults will recover naturally from the disease, and less than 5 percent of those infected will develop a chronic illness, and costs attributable to IDU are negligible.

Hepatitis C

IDU is now the most common means of Hepatitis C virus (HCV) transmission in the United States.[9] HCV spreads easily when materials such as needles are shared among drug users.[10] Rates of infection declined in the 1990s, plateaued in the 2000s, and have risen in recent years, especially among younger populations. Increased use of heroin is linked to this rise.[11] While still highly costly, with the FDA's approval of direct-acting antiviral medication with high cure rates in 2013 and 2014, the treatment landscape and associated costs have changed considerably. In 2015, treatment of 1,009 new reported HCV cases attributable to IDU cost an estimated $90 million. It is important to recognize that new reported cases do not necessarily indicate when HCV was contracted. An analysis of the costs to Alaska to treat Hepatitis C contracted through IDU use is shown in the table below.

Table 49. Hepatitis C Cases and Estimated Drug Treatment Costs, 2015

# New Reported HCV Cases*	% Attributable to IDU**	# Cases Attributable to IDU	Estimated Cost per Treatment	Estimated Total HCV Treatment Costs
1,638*	61.6%**	1,009	$89,250***	$90,053,964

Source: *State of Alaska Infectious Disease Program, **Surveillance for Viral Hepatitis – United States, 2013, ***University of Washington Hepatitis C Online.

[9] http://www.cdc.gov/hepatitis/hcv/hcvfaq.htm

[10] Surveillance for Acute Viral Hepatitis – United States, 2007. *The Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report, 58.* http://www.cdc.gov/mmwr/pdf/ss/ss5803.pdf

[11] https://www.aids.gov/pdf/hcv-and-young-pwid-consultation-report.pdf

Chapter 6: Public Assistance and Social Services

Summary

- In federal fiscal year 2014, the federal government provided $5 million in social welfare support for people who were drug abusers.
- The State of Alaska also contributes funding to social welfare programs, such as SNAP, Adult Public Assistance, Alaska Temporary Assistance, Tribal Assistance Services, and Child Care Benefits. In SFY 2015, drug abuse accounted for $3 million of State funded social welfare.

Social Welfare Funding

Drug abuse can result in greater demand for social welfare services. For example, problems with drugs can reduce personal income or lead to disability, qualifying individuals for publicly funded social programs like food stamps, public assistance, and vocational rehabilitation. The following section addresses the portion of social welfare funding from federal and state sources that is attributable to drug abuse.

Social welfare spending includes two broad categories: administrative expenses and benefits paid to beneficiaries. This distinction is noted because benefit payments are transfer payments, representing a redistribution of money rather than an actual cost and net loss. This report presents aggregate totals including both administrative costs and benefit payments.

Federal

The federal government funds numerous social welfare benefits in Alaska. Federal programs transfer money to the State of Alaska, which then allocates funding to an array of state-run programs. *(For sources of attribution rates, please refer to the Methodology section.)* In federal fiscal year (FFY) 2014, $4.7 million of federal funds were designated for drug-abuse-related social welfare in Alaska.

Table 50. Federal Social Welfare Spending in Alaska Attributable to Drug Abuse, FFY 2014

Social Welfare Program	Federal Funding Total	% Attributable to Drug Abuse[4]	Drug Abuse[4]
OASDI	$103,133,000[1]	0.6%	$578,576
SSI	6,366,000[1]	1.0%	63,023
TANF	49,361,402[2]	1.7%	847,042
SNAP	184,438,186[3]	1.7%	3,164,959
Total	**$343,298,588**	**1.4%**	**$4,653,600**

Source: [1]Social Security Administration; [2]USDHHS Office of Family Assistance; [3]Supplemental Nutrition Assistance Program State Activity Report Fiscal Year 2014; [4]1998 NIDA study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992.*

State

The State of Alaska also contributes funding to social welfare programs. In SFY 2015, $2.6 million of State funds were designated for drug abuse-related social welfare.

Table 51. State Social Welfare Program Spending Attributable to Drug Abuse, Alaska, SFY 2015

Social Welfare Program	State Funding Total[1]	% Attributable to Drug Abuse[3]	Drug Abuse[3]
SNAP Administrative Costs	$10,674,523[2]	0.2%	$185,025
Adult Public Assistance	59,419,200	1.4%	812,062
Public Assistance Field Services	14,799,800	1.7%	256,530
Public Assistance Admin	1,256,200	1.7%	21,774
Alaska Temporary Assistance Program	15,164,300	1.7%	262,848
Work Services	3,750,000	1.4%	51,250
Tribal Assistance Services	10,084,200	1.4%	137,817
Women, Infants, and Children	10,574,400	1.1%	116,318
Energy Assistance	23,729,400	1.4%	324,302
Child Care Benefits	2,728,200	1.4%	37,285
General Relief Assistance	3,135,200	1.4%	42,848
Senior Benefits Payment Program	22,665,400	1.4%	309,760
Total	**$177,980,823**	**1.4%**	**$2,557,821**

Source: [1]Division of Public Assistance Actual Expenditures, SFY 2015, State of Alaska Office of Management and Budget; [2]Supplemental Nutrition Assistance Program State Activity Report Fiscal Year 2014; [3]1998 NIDA study, *The Economic Costs of Alcohol and Drug Abuse in the United States – 1992.*

Chapter 7: Drug Abuse Impacts on the State General Fund Budget

The purpose of this chapter is to highlight the impacts of drug abuse on the State of Alaska's General Fund budget.

Summary

- In SFY 2015, the Division of Behavioral Health funded $780,391 in drug abuse prevention.
- Of the $780,391 allocated toward the prevention of drug abuse, $383,200 million (or 49 percent) was funded through Undesignated General Funds (UGF).
- In SFY 2015, $178 million supported 12 different social welfare programs administered by DHSS. Approximately $2.6 million (or 1.4 percent) funded social welfare for drug abusers, of which $1.7 million was supported with UGF.
- Based on national proportions, the State of Alaska Justice System's total spending in SFY 2015 of $655.1 million would represent 33 percent of the total justice systems budgets of an estimated $1.99 billion in Alaska (including federal and local government systems). If an estimated $73.4 million is attributed to drug abuse arrests and offenses in Alaska, then this would conservatively represent about 4 percent of total justice systems costs in Alaska. The estimated UGF portion of the state budget would be $21.5 million.

Healthcare Related Costs

Prevention Grants

The State of Alaska Division of Behavioral Health (DBH) allocates grant funding to programs that prevent mental health problems and drug abuse. Some of these programs operate at the systems level, guiding governments and communities to implement and organize services. Other programs work directly with individuals suffering from poor mental health or addiction and their families. This section of the report presents the total amount of DBH grants directed towards drug abuse.

In SFY 2015, DBH allocated an estimated total of $780,391 towards the prevention of drug abuse.

Table 52. State of Alaska DBH Prevention Grant Funding for the Prevention of Drug Abuse, SFY 2015

Grant Recipient	Total Grant Value	% for Drug Abuse	Grant Total for Drug Abuse
Reentry Program	600,000	25	150,000
Rural Human Services System	1,991,565	25	497,891
Therapeutic Court	265,000	50	132,500
Total	**$10,158,313**	**7.7%**	**$780,391**

Source: DHSS, Division of Behavioral Health.

Of the $780,391 allocated toward the grants supporting prevention of drug abuse, approximately $383,200 was funded through Undesignated General Funds (UDF).

Table 53. Undesignated General Fund Portion of DBH Prevention Grant Funding, ('000$) FY 2015

Grant Recipient	Total State Budget	UGF Portion	% UGF of Total	% for Drug Abuse	UGF Portion of Drug Abuse Grants
Reentry Program	$600.0	$600.0	100%	$150.0	$150.0
Rural Human Services System	$3,468.3	$869.4	25%	$497.9	$124.5
Therapeutic Court	$5,565.2	4,565.9	82%	$132.5	$108.7
Total	**$21,437.4**	**$14,385.8**		**$780.4**	**$383.2**

Source: DHSS, Division of Behavioral Health.

Social Welfare Related Costs

There are 12 different social welfare programs administered by DHSS. Funding for these programs in SFY 2015 was $178.0 million. Among the programs are Adult Public Assistance, Energy Assistance, Senior Benefits Payment Programs, and Alaska Temporary Assistance Program. Approximately $2.6 million funded social welfare for drug abusers, of which $1.7 million was supported with UGF.

Table 54. Undesignated General Fund Portion of State of Alaska Social Welfare Program Spending Attributable to Drug Abuse, SFY 2015

Social Welfare Program	State Funding Total[1]	% UGF Funding	Drug Abuse Spending	Portion UGF Funding
SNAP Administrative Costs	$10,674,523[2]	43.9	$185,025	$81,226
Adult Public Assistance	$59,419,200	90.2	$812,062	$732,480
Public Assistance Field Services	$14,799,800	45.7	$256,530	$117,234
Public Assistance Admin	$1,256,200	32.0	$21,774	$6,968
Alaska Temporary Assistance Program	$15,164,300	43.9	$262,848	$115,390
Work Services	$3,750,000	17.5	$51,250	$8,969
Tribal Assistance Services	$10,084,200	93.7	$137,817	$129,135
Women, Infants, and Children	$10,574,400	1.5	$116,318	$1,745
Energy Assistance	$23,729,400	47.2	$324,302	$153,071
Child Care Benefits	$2,728,200	19.5	$37,285	$7,271
General Relief Assistance	$3,135,200	100	$42,848	$42,848
Senior Benefits Payment Program	$22,665,400	100	$309,760	$309,760
Total	**$177,980,823**	**67%**	**$2,557,821**	**$1,706,095**

Source: [1]Division of Public Assistance Actual Expenditures, SFY 2015, State of Alaska Office of Management and Budget; [2]Supplemental Nutrition Assistance Program State Activity Report Fiscal Year 2014;

Criminal Justice/Corrections Related Costs

Based on analysis of Criminal Justice impacts presented in Chapter 4, there were 9,572 offenses/arrests related to drug abuse in 2014, representing about 27 percent of total offenses/arrests. The total criminal justice systems costs associated with these offenses and arrests is estimated at $73.4 million. These costs include local, state, and federal government funds spent on police protection, legal and adjudication services, and corrections programs occurring in Alaska.

Table 55. Summary of Criminal Justice Costs Attributed to Drug Abuse in Alaska, 2014

	Drug-Related
Counts	
Offenses and arrests	9,572
Percentage offenses-arrests	27%
Costs	
Criminal justice system	$73.4 million

Source: McDowell Group calculations.

Based on a 2012 Survey, the Bureau of Justice Statistics provides a national breakout of federal, state, and local government expenditures on justice systems for police protection, judicial and legal services, and corrections. When combined, on a national basis, state government expenditures for justice systems are about 33 percent of total expenditures ($86 billion out of total national justice system spending of $265 billion).

Table 56. National Justice System Expenditures by Type of Government, Percent and in $Thousands, Federal FY2012

Category	Percent	$Thousands
Police Protection		
Federal	25%	$31,395,000
State	12%	$14,815,502
Local	66%	$84,053,185
Total		**$126,434,125**
Judicial and Legal Services		
Federal	27%	$15,894,000
State	39%	$22,770,081
Local	38%	$22,049,483
Total		**$57,935,169**
Corrections		
Federal	11%	$8,978,000
State	60%	$48,680,649
Local	33%	$26,397,777
Total		**$80,791,046**
Total Justice System		
Federal	21%	$56,267,000
State	33%	$86,266,232
Local	50%	$132,500,445
Total		**$265,160,340**

Note: Totals will not sum due to the removal of any fund duplications.
Source: Bureau of Justice Statistics (BJS) Justice Expenditure and Employment Extracts Program (JEE).

In SFY 2015, $111.9 million out of $115.7 million (or 97 percent) of the Alaska Court System was funded with Undesignated General Funds (UGF). A total of 83 percent (or $171.3 million) of the Alaska Department of Public Safety's budget was from UGF. The Department of Correction's budget was 89 percent funded with UGF (or $297.7 million). Combined, $580.9 million in UGF supported 89 percent of the combined budgets for the Alaska Court System, Department of Public Safety, and Department of Corrections.

Table 57. State of Alaska Justice System Budgets, SFY 2015

	Undesignated General Funds	Total State Budget	% UGF of Total Budget
Alaska Court System	$111.9 million	$115.7 million	96.7%
Dept. of Public Safety	$171.3 million	$206.3 million	83.0%
Dept. of Corrections	$297.7 million	$333.0 million	89.4%
Total	**$580.9 million**	**$655.1 million**	**88.7%**

Note: Columns may not add due to rounding.
Source: State of Alaska, Office of Management and Budget, McDowell Group calculations.

Using national proportions, the State of Alaska Justice System's total spending in SFY 2015 of $655.1 million would represent approximately 33 percent of the total justice system's budget in Alaska (including federal and local government systems) totaling about $1.99 billion.

If an estimated $73.4 million is attributed to drug abuse arrests and offenses in Alaska, then this would represent about 4 percent of total justice systems costs in Alaska. The portion of those costs impacting the state budget is approximately $24.2 million (33 percent of $73.4 million). The estimated UGF portion of the state budget would be $21.5 million (using the proportion of 89 percent of the total budget). Therefore, of the total UGF funding of $580.9 million in the state's justice system, approximately 4 percent is directly attributed to drug abuse-related costs. This is likely a conservative estimate. State of Alaska spending on criminal justice probably accounts for a higher percentage (than the national average) of total criminal justice spending in Alaska. For example, in Alaska there are no federal penitentiaries or correctional institutions.

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Table 58. ICD-10 Codes and Drug Attributable Fractions (DAF) by Cause of Death, Gender, and Age Group

Cause	ICD-10	DAF
Direct Causes		
Behavioral Health Disorders due to psychoactive substance	F11, F12, F13, F14, F15, F16, F17.0, F17.3-F17.9, F18, F19	100%
Accidental poisoning by and exposure to drugs, medicaments, and biological substances	X40-X44	100%
Intentional self-poisoning (suicide) by and exposure to drugs, medicaments, and biological substances	X60-X64	100%
Assault (homicide) by drugs, medicaments and biological substances	X85	100%
Poisoning by and exposure to drugs, medicaments and biological substances, undetermined intent	Y10-Y14	100%
Others		
Accidental poisoning by and exposure to narcotics and psycodysleptics, not elsewhere classified	X42	100%
Poisonings by drugs	T40.0, T40.1, T40.2, T40.3, T40.4, T40.5, T40.7, T41.3	100%
Drugs, medicament and biological substances causing adverse effects in therapeutic use; Opioids and related analgesics causing adverse effects in therapeutic use	Y45.0	100%
Indirect Causes		
Homicide	X85-Y09, Y87.1	13%
HIV/AIDS	B20-B24	5%
Hepatitis B	B16.9, B18.0, and B18.1	28%
Hepatitis C	B17.1, B18.2	28%

Source: Attribution rates from Centers for Disease Control and Prevention's (CDC) Vital Statistics; Patra et al. "*Substance-attributable morbidity and mortality changes to Canada's epidemiological profile: Measurable differences over a ten-year period,*" and Rogers et. al. "*The Costs of Alcohol and Drug Abuse in Maine.*"

Table 59. Alaska Drug-Related Deaths, by Cause, 2010-2014

	Total # of Deaths	Drug Attributable Deaths	Annual Average Drug Attributable Deaths/Year
Causes of Death 100 Percent Attributable	**756**	**756**	**151**
Accidental poisoning by and exposure to drugs, medicaments, and biological substances	478	478	95.6
Assault (homicide) by drugs, medicaments and biological substances	198	198	39.6
Behavioral Health Disorders due to psychoactive substance	12	12	2.4
Drugs, medicament and biological substances causing adverse effects in therapeutic use	0	0	0.0
Intentional self-poisoning (suicide) by and exposure to drugs, medicaments, and biological substances	57	57	11.4
Poisoning by drugs	0	0	0.0
Poisoning by and exposure to drugs, medicaments and biological substances, undetermined intent	11	11	2.2
Causes of Death Partially Attributable	**152**	**36**	**7.2**
Hepatitis B	11	3	0.6
Hepatitis C	113	32	6.3
HIV/AIDS	28	1	0.3
Total	**906**	**790**	**158**

Notes: Due to rounding columns may not add to totals. See Appendix for ICD-10 codes used and drug attribution rates.
Source: Death counts from DHSS' BVS' unpublished data, and McDowell Group calculations. Attribution rates from Centers for Disease Control and Prevention's (CDC) Vital Statistics; Patra et al. *"Substance-attributable morbidity and mortality changes to Canada's epidemiological profile: Measurable differences over a ten-year period;"* and Rogers et. al. *"The Costs of Alcohol and Drug Abuse in Maine."*

Table 60. Estimated Potential Years of Life Lost (PYLL) Due to Causes of Death Attributable to Drugs in Alaska, 2010-2014

	Total # of Drug Attributable Deaths	PYLL Attributable to Drugs	Estimated Average PYLL/Year
Causes of Death 100 Percent Attributable	**557**	**18,391**	**3,678**
BH Disorders due to psychoactive substance	10	333	67
Accidental poisoning by and exposure to drugs, medicaments, and biological substances	479	16,153	3,231
Intentional self-poisoning (suicide) by and exposure to drugs, medicaments, and biological substances	57	1,677	335
Assault (homicide) by drugs, medicaments and biological substances	0	0	0
Poisoning by and exposure to drugs, medicaments and biological substances, undetermined intent	11	228	46
Poisoning by drugs	0	0	0
Drugs, medicament and biological substances causing adverse effects in therapeutic use	0	0	0
Causes of Death Partially Attributable	**61**	**1,636**	**327**
HIV/AIDS	1.4	36	7
Hepatitis B	3.1	55	11
Hepatitis C	30.8	537	107
Homicide	25.5	1,008	202
Total	**618**	**20,027**	**4,005**

Note: Due to rounding columns may not add to totals.
Source: DHSS' BVS' unpublished data, and McDowell Group calculations. Attribution rates from CDC's Vital Statistics; Patra et al., Rogers

January 2018

Protective Factors for Youth Substance Abuse and Delinquency

The Role of Afterschool Programs

PREPARED FOR

PREPARED BY

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Introduction

The Alaska Children's Trust (ACT) asked McDowell Group to create a brief that describes how protective factors reduce youth substance abuse and delinquency and the role that afterschool programs (ASPs) can play within this context. First, this brief defines protective factors and describes their capacity to reduce youth substance abuse and delinquency. Recent data from the Anchorage Youth Risk Behavior Survey (YRBS) is presented to underscore the experience of local youth. Next, it presents an overview of afterschool programs (ASPs) and their potential to provide and enhance protective factors for youth. Distinguishing features of successful ASPs are noted. In closing, a case study of the Icelandic Model showcases a leading-edge preventive strategy that cultivates youth protective factors at multiple levels of the social ecology.

McDowell Group conducted a literature review of relatively recent, peer-reviewed research from a number of online resources. Additional resources were provided by the Alaska Afterschool Network, Afterschool Alliance, and the American Institutes for Research. To help interpret the results, several informal interviews were conducted with ASP professionals. All photos were provided by the Alaska Afterschool Network from local programming.

McDowell Group thanks Barbara Dubovich of Camp Fire Alaska, the National Institute on Out-of-School Time, and the American Institutes for Research for their support on this project.

The following definitions are used in this report:

Afterschool programs (ASPs) are regular, structured or semi-structured activities for school-age (K-12) youth that occurs before school, after school, between school terms, or during the summer. Other terminology—out-of-school time or OST, extra-curricular activities, organized activities, expanded learning time, school-age care—is synonymous in this context and used interchangeably.[1,2]

Protective factors are features within an individual, family, or community that enhance healthy development and help a person cope successfully with life's challenges.

Risk factors are individual, family, school, or community features that increase the likelihood youth will engage in unhealthy behavior.

[1] American Youth Policy Forum. (2006). ***Helping Youth Succeed through Out-of-School Time Programs.*** Washington, DC: American Youth Policy Forum.
[2] Little, P., Wimer, C., & Weiss, H. B. (2008). After school programs in the 21st century: Their potential and what it takes to achieve it. ***Issues and opportunities in out-of-school time evaluation, 10***(1-12).

Risk & Protective Factors

This section first describes how risk and protective factors influence behavior through conditions at the individual, family, and community levels, then presents risk and protective factors linked with decreasing youth risk behaviors. Finally, it displays analysis of protective factors and efforts to prevent risk behaviors among students in the Anchorage School District (ASD).

Overview

Extensive research has shown an individual's social conditions, personal traits, genetic disposition, and life experiences are associated with different types of healthy or unhealthy behavior. These social and personal influences are defined as risk and protective factors.[3]

> **Risk factors** are individual, family, school, or community features that increase the likelihood youth will engage in unhealthy behavior (such as substance abuse or misuse [e.g. alcohol, tobacco, marijuana, and other drugs] or personal, domestic, or interpersonal violence). The more risk factors present in a child's life, the greater likelihood unhealthy behavior will develop.
>
> **Protective factors** are features within an individual, family, or community that enhance healthy development and help a person cope successfully with life's challenges. Protective factors are sometimes called resiliency factors or developmental assets. They are integral to strength-based abuse-prevention efforts.

Some protective and risk factors are fixed and cannot change, while others are considered variable. Factors are also cumulative and interrelated: the more protective factors in place for an individual, family, school, and community, the less likelihood of community members engaging in unhealthy behavior. Researchers believe an imbalance of risk and protective factors leads to negative outcomes. This means, if a person has enough protective factors in his or her life, s/he may be able to navigate even numerous risk factors to positive outcomes.[4]

Individual protective factors are associated with each phase of a child's life. Infancy and early childhood factors (under age 5) include self-regulation, secure attachment, mastering communication and language skills, and the ability to make friends and get along with others. Factors specific to middle childhood (age 5-12) include increasing academic skills, positive behavior at home, school, and in public, and the ability to make and keep friends.

For adolescents and youth (over age 12), protective factors also include engagement in meaningful activities (e.g. participation in clubs, sports teams, volunteering activities, service-learning projects and/or peer-based programs); social, emotional, and life skills (e.g. problem-solving, decision-making, grades, educational attainment); connection to culture, religion, peers, and/or community; and positive personal qualities, self-awareness, and peer influence. As youth enter early adulthood, this base of protective factors increases their

[3] Alaska Department of Health and Social Service's Division of Behavioral Health. (2011).
"Risk and Protective Factors for Adolescent Substance Use (and other Problem Behavior)." http://dhss.alaska.gov/dbh/Documents/Prevention/programs/spfsig/pdfs/Risk_Protective_Factors.pdf.
[4] Bernat, D. H., & Resnick, M. D. (2006). Healthy youth development: Science and strategies. Journal of Public Health Management Practice (Supplement), S10-S16.

capacity to explore their identity, self-sufficiency and independent decision-making, and helps them be future- and achievement-orientated.

Family protective factors include family connectedness, attachment, and bonding; positive parenting styles characterized by reliable and consistent responsiveness, support, and discipline; adequate socioeconomic supports for the family; clear expectations for family behavior and values; and strong family communication, attention, and sense of caring.

School protective factors include a strong connection to school; a caring school climate with positive norms; participation in extracurricular activities and healthy peer groups; positive teacher expectations; reliable and steady school administration and management; positive partnerships and overlap between family, school, and community life; physical and psychological safety, including policies to ensure a welcoming atmosphere from school staff and other students; and high academic expectations.

Community protective factors include positive connection to other adults and strong role models; safe, supportive, and connected neighborhoods and communities; strong community infrastructure, including access to mental health and health care; a strong regulatory system for childcare providers; healthy social norms and programs to enhance them; a variety of opportunities for youth engagement; a sense of belonging and connection to community and culture; and strong cultural traditional activities.

Factors that Impact Youth Substance Abuse and Delinquency

Numerous risk and protective factors affect youth substance abuse, delinquency, and other risk behaviors. The more risk factors an adolescent has at the individual, family, school or community level, the more likely s/he is to engage in risk behaviors. The more protective factors present in an adolescent's life, the more likely s/he is to engage in prosocial and developmentally-healthy behaviors. For example, youth who experience adverse childhood experiences (ACEs), witness family members engaging in substance use, and live in disconnected or transient communities are more likely to engage in risk behaviors themselves. On the other hand, youth who have a positive self-concept, are engaged in meaningful activities, and are connected to their families and other adults in their community are more likely to avoid risk behaviors.

Table one summarizes risk and protective factors shown in national research to be associated with increases and decreases in adolescent risk behavior.

(See next page.)

Table 1. Types of Risk and Protective Factors for Adolescent Risk behaviors

Level	Risk Factor	Protective Factor
Individual	• Early initiation of risk behavior • Depression or suicidal ideation • Loss of cultural identity and connection • Childhood media exposure to violence and alcohol • Friends who engage in risk behavior • Early and persistent antisocial behavior • Low perceived risk of harm from risk behavior • Gang involvement • Older physical appearance than peers • Working more than 20 hours/week • Perceived risk of early death • Academic failure • Lack of personal commitment to school • Experience of child abuse and/or other family violence	• Engagement in meaningful activities (e.g. organized activities outside of school such as clubs, lessons, sports or volunteering) • Life skills and social competence • Cultural identity and connection • Positive personal qualities • Positive self-concept • Positive peer role models • Religious identity • High grade point average • Student participation in extracurricular activities
Family	• Family history of risk behavior, adverse childhood experiences (ACEs), and family violence • Family management problems • Family conflict • Favorable parental attitudes towards and involvement in risk behavior • Household access to guns or substances (alcohol, tobacco, marijuana, or other illegal drugs)	• Family connectedness • Positive parenting style • Living in a two-parent family • Higher parent education • High parental expectations about school
School	• Disconnected from school	• Connected to school • Caring school climate
Community	• Availability of drugs and alcohol • Community norms and laws favorable toward drug use and crime • Availability of firearms • Transitions and mobility • Low neighborhood attachment • Community disorganization • Poverty	• Positive connection to other adults • Safe, supportive, and connected neighborhoods • Strong community infrastructure • Local, state policies and practices that support healthy norms and child-youth programs • Range of opportunities within the community for meaningful youth engagement (e.g. volunteering or participation in community-based projects)

Source: Adapted from Alaska Department of Health and Social Service's Division of Behavioral Health. (2011). "Risk and Protective Factors for Adolescent Substance Use (and other Problem Behavior)."

Local Protective Factor Data

The relationships in the table above have been identified in Alaska as well. Analysis of 2003-2013 YRBS[5] data from ASD traditional high schools shows protective factors perform a preventive function for student risk behaviors.[6] Using correlational and multiple regression analyses, Garcia, Price, and Tabatabai examined the relationships between eight protective factors for ASD students—talking to parents about school every day, having one adult besides a parent to ask for help, spending at least one hour a week volunteering or helping at school or in the community, engaging in organized after school activities at least one day a week, not feeling alone, feeling like s/he matters to the community, having teachers who care and provide individual encouragement, and attending schools with clear rules and consequences for behavior—and substance abuse and delinquency.

The study found that "[f]or every one unit increase in the number of protective factors, youth are 15% less likely to currently drink alcohol; 16% less likely to binge drink; [and] 20% less likely to smoke marijuana."[7] The study also analyzed the associations between the eight protective factors and the following risk behaviors:

1. Alcohol use during the past 30 days
2. Binge drinking (five or more servings of alcohol in one sitting)
3. Smoking marijuana during the past 30 days
4. Missing class without permission during the past 30 days

The protective factors associated with the greatest reduction in likelihood a student will drink alcohol, binge drink, or smoke marijuana are 'having teachers who students feel really care' and 'regularly talking to their parents about school.' The strongest protective factors for reducing school absenteeism are 'having teachers who students feel really care' and 'attending schools with clear rules and consequences.'[8] In addition, the study illustrated a dosage effect related to afterschool program participation. The next table details the strength of association between each of protective factors and risk behaviors measured. Statistically significant results are highlighted in blue. The impacts of afterschool programming are discussed in detail in the following chapter.

(See next page.)

[5] The Youth Risk Behavior Survey (YRBS) is a risk-based survey administered to all high school students (grades 9 through 12) every other year regarding risk-related behaviors. The nationwide survey assesses youth risk in six main areas:

1. Behaviors that contribute to unintentional injuries and violence
2. Sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases
3. Alcohol and other drug use
4. Tobacco use
5. Unhealthy dietary behaviors
6. Inadequate physical activity

[6] Garcia, G. M., Price, L. and Tabatabai, N. (2014). Anchorage Youth Risk Behavioral Survey Results: 2003-2013 Trends and Correlation Analysis of Selected Risk Behaviors, Bullying, Mental health conditions, and protective factors. UAA Department of Health Sciences. This study was completed at the request of the Anchorage Youth Development Coalition (AYDC), in partnership with United Way of Anchorage.

[7] Garcia, G. M., Price, L. and Tabatabai, N. (2014). Anchorage Youth Risk Behavioral Survey Results: 2003-2013 Trends and Correlation Analysis of Selected Risk Behaviors, Bullying, Mental health conditions, and protective factors. UAA Department of Health Sciences. This study was completed at the request of the Anchorage Youth Development Coalition (AYDC), in partnership with United Way of Anchorage.

[8] Ibid.

Table 2. Strength of Association Between Protective Factors and Risk Behaviors for Anchorage Students at Traditional High Schools

Protective Factor		Risk Behavior			
		Current Alcohol Use	Binge Drinking Ever	Current Marijuana Use	Recently Missed Class without Permission
Talking to parents about school everyday		32% less likely	34% less likely	39% less likely	32% less likely
Having one or more adults to ask for help		not significant	20% less likely	not significant	27% less likely
Spending at least one hour/week volunteering at school or in the community		18% less likely	21% less likely	33% less likely	not significant
Feeling like s/he matters to people in the community		19% less likely	17% less likely	35% less likely	34% less likely
Not feeling alone		21% less likely	24% less likely	30% less likely	29% less likely
Having teachers who really care about him/her		51% less likely	46% less likely	45% less likely	44% less likely
Attending a school with clear rules and consequences for behavior		25% less likely	23% less likely	29% less likely	34% less likely
Participating in organized after school activities...	at least one day per week	not significant	16% less likely	31% less likely	not significant
	at least two days per week	18% less likely	not significant	39% less likely	28% less likely

Source: Garcia, G. M., Price, L. and Tabatabai, N. (2014). Anchorage Youth Risk Behavioral Survey Results: 2003-2013 Trends and Correlation Analysis of Selected Risk Behaviors, Bullying, Mental health conditions, and protective factors. UAA Department of Health Sciences. Note: Table results are rounded to the nearest percent.

Afterschool Programs

This section presents an overview of afterschool programming followed by a discussion of the role of ASPs within the context of protective factors. Then it describes features linked with successful ASP outcomes.

Overview

ASPs can vary tremendously in structure, content, emphases, goals, and student demographics. Some ASPs are sponsored within schools, others are hosted by private organizations, religiously affiliated entities, community organizations, park districts, youth service agencies, health agencies, libraries, museums, etc.[9,10] Except for summer programs, most ASPs operate for 2 to 3 hours a day, 4 to 5 days a week.[11] One useful way to differentiate ASPs is by activity category, whether they are structured as:

1. Team sports, sports clubs, or organized sports activities out of school.
2. Prosocial activities, such as participation in volunteering, service clubs, and/or religious service activities in the community.
3. Performing arts, including participation in band, drama, art, or dance.
4. Academic-oriented clubs and experiential/enriched learning programs.
5. School involvement, such as participation in student government.[12]

ASPs are tasked with a range of goals "from providing supervision and reliable and safe childcare for youth during the afterschool hours to alleviating many of society's ills, including crime, the academic achievement gap, substance use, and other behavioral problems and academic shortcomings."[13] ASPs vary in the degree to which they articulate and target their goals. For example, some ASPs explicitly target outcomes such as improved school attendance, while other ASPs have unwritten goals or lack overt outcome goals altogether.[14]

Not all youth have access to ASPs. A consistent finding in the literature is that substantial barriers—cost, availability, travel, etc.—disproportionally limit participation for lower-income and ethnic minority youth.[15] Although many ASPs specifically target underserved youth in their missions, children of higher income families are most likely to participate in ASPs and at a greater frequency; they are also more likely to participate in diverse programming with an enrichment (rather than tutorial) emphasis.[16]

[9] American Youth Policy Forum. (2006). *Helping Youth Succeed through Out-of-School Time Programs.* Washington, DC: American Youth Policy Forum.
[10] Little, P., Wimer, C., & Weiss, H. B. (2008). After school programs in the 21st century: Their potential and what it takes to achieve it. *Issues and opportunities in out-of-school time evaluation, 10*(1-12).
[11] Ibid.
[12] Fredricks, J. A., & Eccles, J. S. (2006). Extracurricular involvement and adolescent adjustment: Impact of duration, number of activities, and breadth of participation. *Applied Developmental Science, 10*(3), 132–146.
[13] Kremer, K. P., Maynard, B. R., Polanin, J. R., Vaughn, M. G., & Sarteschi, C. M. (2015). Effects of after-school programs with at-risk youth on attendance and externalizing behaviors: a systematic review and meta-analysis. *Journal of youth and adolescence, 44*(3), 616-636.
[14] Ibid.
[15] Ibid.
[16] Little, P., Wimer, C., & Weiss, H. B. (2008). After school programs in the 21st century: Their potential and what it takes to achieve it. *Issues and opportunities in out-of-school time evaluation, 10*(1-12).

Researchers tend to categorize afterschool programming in terms of several broad, often overlapping, purposes:

- **Enrichment** – to augment the educational experience of youth by offering skill-development, training, and other enrichment opportunities outside of the regular school day.[17,18]
- **Development** – to improve the academic, social and emotional learning, and health outcomes of youth and that are not a focus during the standard school day.[19]
- **Supervision** – to provide afterschool care for the children of full-time working parents who would either not be able to work or be required to leave their children in some form of self-care.
- **Prevention** – to prevent delinquency and other risk behaviors by keeping youth occupied during the peak hours for juvenile crime.

While these purposes are not mutually-exclusive—enrichment experiences, for example, can improve physical health—programs adopt a variety of target populations, strategies, and levels of sophistication to reach their identified outcomes.

Afterschool Programs Outcomes and Protective Factors

ASPs have the potential to serve as protective factors in and of themselves, as well as present youth with opportunities to develop or experience other protective factors. Several studies link ASP participation directly to reduced risk behaviors:

- Locally, University of Alaska Anchorage researchers found that students who participate in organized ASPs at least once a week are 16 percent less likely to binge drink and 31 percent less likely to use marijuana. Students who participate in ASPs at least two days a week are 18 percent less likely to use alcohol, 39 percent less likely to use marijuana, and 28 percent less likely to miss class without permission.[20]
- A review of youth risk and protective factors related to substance abuse found engagement in meaningful activities—volunteering or participating in peer-based programs or service learning projects—was associated with reduced alcohol, tobacco, and drug use, teen pregnancy, school suspensions, and school dropouts.[21]
- Analysis of 43 studies of ASPs serving children between the ages of 5 and 14 observed declines in drug use or arrests and/or changes in attitudes towards drugs.[22]
- A review of 2,587 citations related to youth externalizing behaviors (delinquency, maladjustment, drug use, discipline problems, alcohol use etc.) found a positive, but not statistically significant, effect on externalizing behaviors.[23]

[17] American Youth Policy Forum. (2006). ***Helping Youth Succeed through Out-of-School Time Programs***. Washington, DC: American Youth Policy Forum.
[18] Little, P., Wimer, C., & Weiss, H. B. (2008). After school programs in the 21st century: Their potential and what it takes to achieve it. ***Issues and opportunities in out-of-school time evaluation, 10***(1-12).
[19] American Youth Policy Forum. (2006). ***Helping Youth Succeed through Out-of-School Time Programs***. Washington, DC: American Youth Policy Forum.
[20] Garcia, G. M., Price, L. and Tabatabai, N. (2014). Anchorage Youth Risk Behavioral Survey Results: 2003-2013 Trends and Correlation Analysis of Selected Risk Behaviors, Bullying, Mental health conditions, and protective factors. UAA Department of Health Sciences. This study was completed at the request of the Anchorage Youth Development Coalition (AYDC), in partnership with United Way of Anchorage.
[21] Alaska Department of Health and Social Service's Division of Behavioral Health. (2011). "Risk and Protective Factors for Adolescent Substance Use (and other Problem Behavior)." http://dhss.alaska.gov/dbh/Documents/Prevention/programs/spfsig/pdfs/ Risk_Protective_Factors.pdf.
[22] Mahoney, J. L., Parente, M. E., & Zigler, E. F. (2010). After-school program participation and children's development. In J. L. Meece & J. S. Eccles (Eds.), ***Handbook of research on schools, schooling, and human development*** (pp. 379–397). New York, NY: Routledge.
[23] Kremer, K. P., Maynard, B. R., Polanin, J. R., Vaughn, M. G., & Sarteschi, C. M. (2015). Effects of after-school programs with at-risk youth on attendance and externalizing behaviors: a systematic review and meta-analysis. ***Journal of youth and adolescence, 44***(3), 616-636.

- A longitudinal study of 3,000 elementary and middle school students participating in ASPs in eight states found reports of misconduct declined and, among middle school students, use of drugs and alcohol was less than their unsupervised peers.[24]

Depending on purpose and design, ASPs have the potential to cultivate a variety of protective factors linked with youth substance abuse and delinquency prevention including:

- Life skills and social competence
- Cultural identity and connection
- Positive personal qualities
- Positive self-concept
- Positive peer role models
- Religious identity
- High grade point average
- Connected to school
- Positive connection to other adults
- Safe, supportive, and connected neighborhoods
- Range of opportunities within the community for meaningful youth engagement

Many studies and evaluations have found that ASPs can cultivate protective factors:

- In their review of the value of ASPs, RAND found evidence that multipurpose programs (such as 21st Century Learning Centers, school-aged childcare and Boys and Girls Clubs) can improve youth's feelings of safety.[25]
- The same review found that ASPs that specifically target academic instruction and skill development can improve student achievement.[26]
- Similarly, ASPs that deliberately focus on social and emotional skill development have been linked to reduced risk behaviors.[27]
- Lauer et al. found that ASPs can have positive effects on math and reading achievement for at-risk students.
- A review of 43 studies of ASPs found most describe positive associations between ASP participation and increases in student motivation, effort and attachment to school.[28] Likewise, most studies included in the review found that participants experienced an improved sense of well-being (increased self-efficacy and self-concept, and decreased anxiety and depression) compared to non-participants.[29]
- A longitudinal study of 3,000 students' participation in ASPs in eight states found participating elementary school students showed gains in social skills with peers and prosocial behaviors, as well as decreases in aggressive behaviors with peers.[30]

In addition to cultivating specific protective factors for youth substance abuse and delinquency, ASPs can yield other positive outcomes for participating youth as well. An extensive range of positive academic, social/emotional, prevention, and health outcomes are associated with ASPs. While many of these outcomes are identified by research as protective factors for youth substance abuse and delinquency, others—such as

[24] Vandell, D. L., Reisner, E. R., & Pierce, K. M. (2007). *Outcomes linked to high-quality afterschool programs: Longitudinal findings from the study of promising afterschool programs.* Washington, DC: Policy Studies Associates.
[25] McCombs, J.S., Whitaker, A., and Youngmin Yoo, P. (2017) The Value of Out-of-School Time Programs. Santa Monica, CA: RAND Corporation. Available at https://www.rand.org/pubs/perspectives/PE267.html.
[26] Ibid.
[27] Ibid.
[28] Mahoney, J. L., Parente, M. E., & Zigler, E. F. (2010). After-school program participation and children's development. In J. L. Meece & J. S. Eccles (Eds.), *Handbook of research on schools, schooling, and human development* (pp. 379–397). New York, NY: Routledge.
[29] Ibid.
[30] Vandell, D. L., Reisner, E. R., & Pierce, K. M. (2007). *Outcomes linked to high-quality afterschool programs: Longitudinal findings from the study of promising afterschool programs.* Washington, DC: Policy Studies Associates.

improved homework completion or improved body image—support positive youth development in other important ways. The following table groups ASP associated outcomes by domain.

Table 3. Anticipated Outcomes of Participation in After School Programs

Supportive Outcomes by Domain
Academic Outcomes
Better attitudes towards school and higher educational aspirations
Higher school attendance rates and less tardiness
Less disciplinary action
Lower dropout rates
Better performance in school (achievement test scores, grades)
Greater on-time promotion
Improved homework completion
Engagement in learning
Social/Emotional Outcomes
Decreased behavioral problems
Improved social and communication skills and/or relationships with peers, parents, and teachers
Increased self-confidence, self-esteem, and self-efficacy
Lower levels of depression and anxiety
Development of initiative
Improved feelings and attitudes toward self and school
Prevention
Avoidance of drug and alcohol use
Decreases in delinquency and violent behavior
Increased knowledge of safe sex
Avoidance of sexual activity
Reduction in juvenile crime
Health and Wellness Outcomes
Better food choices
Increased physical activity
Increased knowledge of nutrition and health practices
Reduction in BMI
Improved blood pressure
Improved body image

Source: Table compiled by McDowell Group using information from Little, P., Wimer, C., & Weiss, H. B. (2008). After school programs in the 21st century: Their potential and what it takes to achieve it. ***Issues and opportunities in out-of-school time evaluation*, *10***(1-12).

Success Features Among Afterschool Programs

Several modifier effects—including intensity of participation, program type, program quality, and system integration—influence ASP outcomes.

Participation Intensity

For ASPs to impact outcomes, the frequency, duration, and quality of participation matter.[31] Fredricks and Eccles researched how the duration of youth involvement in afterschool programming, the total number of activities pursued, and the breadth of participation affect youth development and risky behavior.[32] Analysis of longitudinal data showed that, in general, longer duration of participation predicted more positive outcomes, including higher grades, resilience, academic peer context, and a less risky peer context.[33] Likewise, the greater number of activities was associated with school belonging, resilience, academic peers, and negatively with stress and risky peers.[34] The number of different types of ASPs was indicative of positive school belonging, resilience, and academic peers.[35] Adolescents who participate in programs because of their own intrinsic interest or motivation realize a greater degree of developmental growth.[36]

Activity Type

Researchers have found that different types of ASPs—sports, academic clubs, performance arts, volunteering/service, community-based, and religious—support different developmental outcomes.[37] For example, some studies suggest that youth who participate in sports-based ASPs learn to sustain effort, set goals, and develop values like responsibility, persistence, and self-control; studies of academic-based clubs, predictably, are associated with positive academic outcomes; while research on participation in service activities develops moral and political identity and predicts subsequent civic engagement.[38] One study found that "ASPs that emphasize social skill and character development are more effective at reducing delinquent behavior than are programs lacking such an emphasis."[39]

Program Quality

Program quality is of paramount importance and varies greatly. Outcome gains appear to depend on the quality of an ASP's structure (smaller program size, educated staff, low turnover, more mature programs), process (positive social inter-changes among staff and participants), and participation (frequency, duration, intrinsic motivation to participate).[40] In a study of high-quality programs, researchers found positive outcomes for youth who regularly attended high-quality programs and negative outcomes for youth who intermittently attended unstructured programs.[41] Positive outcomes are more likely when the participant's needs are well-matched with

[31] Weiss, H. B., Little, P., & Bouffard, S. M. (2005). More than just being there: Balancing the participation equation. *New Directions for Student Leadership, 2005*(105), 15-31.
[32] Fredricks, J. A., & Eccles, J. S. (2006). Extracurricular involvement and adolescent adjustment: Impact of duration, number of activities, and breadth of participation. *Applied Developmental Science, 10*(3), 132–146.
[33] Ibid.
[34] Ibid.
[35] Ibid.
[36] Mahoney, J. L., Vandell, D., Simkins, S., & Zarrett, N. (2009). Adolescent out-of-school activities. In R. Lerner, & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 228–269). New York, NY: John Wiley.
[37] Ibid.
[38] Ibid.
[39] Gottfredson, D. C., Gerstenblith, S. A., Soulé, D. A., Womer, S. C., & Lu, S. (2004). Do after school programs reduce delinquency? *Prevention Science, 5*(4), 253-266.
[40] Mahoney, J. L., Parente, M. E., & Zigler, E. F. (2010). After-school program participation and children's development. In J. L. Meece & J. S. Eccles (Eds.), *Handbook of research on schools, schooling, and human development* (pp. 379–397). New York, NY: Routledge.
[41] Vandell, D. L., Reisner, E. R., & Pierce, K. M. (2007). *Outcomes linked to high-quality afterschool programs: Longitudinal findings from the study of promising afterschool programs.* Washington, DC: Policy Studies Associates.

the intentions of the ASP.[42] In a review of 69 ASPs, Durlack et al. found that four SAFE qualities differentiated programs with positive outcomes:[43]

1. **Sequenced:** Does the program use a connected and coordinated set of activities to achieve skill development objectives?
2. **Active:** Does the program use active learning to help youth learn?
3. **Focused:** Does the program have at least one component that addresses personal and social skills?
4. **Explicit:** Does the program target specific personal or social skills?

Compared to programs that did not follow these evidence-based practices, the researchers found that "SAFE programs were associated with significant improvements in self-perceptions, school bonding and positive social behaviors; significant reductions in conduct problems and drug use; and significant increases in achievement test scores, grades and school attendance."[44]

System Integration

In recent years, the Icelandic Model—a prevention effort that includes ASPs in a multi-dimensional strategy to combat youth substance abuse in Iceland—has demonstrated the power to reduce risk factors for substance use while increasing protective factors by integrating efforts at family, school, and community levels. The government-led response has three main components:

1. **Parental education** about the importance of providing emotional support, reasonable monitoring, and time with their teenage children;
2. **Youth participation** in organized sports, extracurricular activities, and other recreational programs; and
3. **Strengthened networks** between agencies in the community and schools. [45]

In addition to the components mentioned above, the model has several other elements:

- National media campaigns to discourage alcohol and cigarette use
- A national, school-based anti-smoking initiative focused on positive peer influence
- Legislation to decrease the visibility of and access to alcohol and tobacco
- Mandated labelling of cigarettes with anti-smoking messages
- A national ban on alcohol and tobacco-related advertising, display of tobacco products in shops, and smoking in all outdoor places
- Increasing the legal age of maturity from 16 to 18
- A publicized Prevention Day[46]

Survey data and evaluation findings have found substantial declines in national rates of substance use and simultaneous increases in protective factors coinciding with the Icelandic Model's interventions.[47]

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[42] Ibid.
[43] Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American journal of community psychology, 45*(3-4), 294-309.
[44] Durkak, J. A., & Weissberg, R. P. (2013). Afterschool programs that follow evidence-based practices to promote social and emotional development are effective. In *Expanding Minds and Opportunities: Leveraging the Power of Afterschool and Summer Learning for Student Success.* Available at http://www.expandinglearning.org/expandingminds/article/afterschool-programs-follow-evidence-based-practices-promote-social-and.
[45] Sigfusdottir, I. D., Kristjansson, A. L., Thorlindsson, T., & Allegrante, J. P. (2008). Trends in prevalence of substance use among Icelandic adolescents, 1995–2006. *Substance Abuse Treatment, Prevention, and Policy, 3*(1), 12.
[46] Kristjansson, A. L., James, J. E., Allegrante, J. P., Sigfusdottir, I. D., & Helgason, A. R. (2010). Adolescent substance use, parental monitoring, and leisure-time activities: 12-year outcomes of primary prevention in Iceland. *Preventive medicine, 51*(2), 168-171.
[47] Sigfusdottir, I. D., Kristjansson, A. L., Thorlindsson, T., & Allegrante, J. P. (2008). Trends in prevalence of substance use among Icelandic adolescents, 1995–2006. *Substance Abuse Treatment, Prevention, and Policy, 3*(1), 12.

Concluding Remarks

The research supports the following general conclusions:

- **Reduction of risk factors and promotion of protective factors are linked with decreases in youth substance abuse and delinquency.** These findings are demonstrated nationally and have been replicated for local Alaska students.
- **ASPs can serve as protective factors as well as cultivate protective factors at individual, family, school, and community levels,** but not all youth have access to ASPs. A consistent finding in the literature is that barriers limit participation for lower-income and minority youth.
- **ASPs vary in structure, content, emphases, goals, and student demographics.** Some ASPs are sponsored within schools, others are hosted by private organizations, religiously affiliated entities, community organizations, park districts, youth service agencies, health agencies, libraries, and more.
- **Different types of ASPs—volunteering/service, community-based, performance arts, academic clubs, and sports—support different developmental outcomes**. For ASPs to impact outcomes, the frequency, duration, and quality of participation matter. Program quality is also of paramount importance.
- **Effective ASPs share design features.** ASP best practices include explicit targeting of outcomes, engaging supportive and trained staff, and utilizing sequenced programming.
- **ASPs work best as part of a systemic prevention effort.** The Icelandic Model, a leading-edge prevention effort, exemplifies inclusion of ASPs in a multi-dimensional strategy to combat youth substance abuse.

Alaska State Legislature
Information from
Senator Jerry Ward and Senator Drue Pearce

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Sponsor Statement for SCR 12
Sobriety Awareness Month

A Senate Concurrent Resolution declaring March 2000 as Sobriety Awareness Month

Updated: February 10, 2000

Alcohol and drug abuse has been identified as the single most destructive health problem in Alaska. Its devastating effects have been felt within every racial, ethnic and economic background.

Senate Concurrent Resolution (SCR 12) reinforces the commitment Alaskans make to a clean and healthy lifestyle.

SCR 12 will help to:

a. highlight and reinforce socially appropriate behaviors and choices that improve quality of life and health of individuals, families, and communities;
b. reduce the incidence of alcohol and drug related crime; and,
c. reduce the burden on government in having to expend valuable resources to pay for the perverse problems caused by alcohol and drugs.

SCR 12 follows conventional wisdom to focus on sobriety as a solution being embraces by thousands of Alaskans.

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ALASKA FEDERATION OF NATIVES
2016 ANNUAL CONVENTION
RESOLUTION 16-15

TITLE: THAT THE ALASKA LEGISLATURE PERMANENTLY REINSTATE THE MONTH OF MARCH AS "SOBRIETY AWARENESS MONTH (SAM)" IN SUPPORT OF ITS DECLARATION OF POLICY UNDER ALASKA STATUTE 47.37.010

WHEREAS: The Alaska Federation of Natives (AFN) is the largest statewide Native organization in Alaska and its membership includes 151 federally recognized tribes, 150 village corporations, 12 regional corporations and 12 regional non-profit and tribal consortiums that contract and compact to run federal and state programs; and

WHEREAS: the mission of AFN is to enhance and promote the cultural, economic, and political voice of the entire Alaska Native community; and

WHEREAS: The declaration of policy for the State of Alaska, under Alaska Statute 47.37.010, is "to recognize, appreciate, and reinforce the example set by its citizens who lead, believe in, and support a life of sobriety"; and

WHEREAS: Between the years of 1995 and 2006, the Alaska Legislature designated the month of March as Sobriety Awareness Month (SAM) ten times in recognition and support of Alaska Statute 47.31.010; and

WHEREAS: Many Alaskans lead, believe-in and support a life of sobriety, universally agreeing that it is a positive, healthy, and productive way of life, free from the devastating effects of alcohol and drugs; and

WHEREAS: These same Alaskans comprise a population for which a voluntary census has never previously been taken before to confirm the population exists. The lifestyle choice they have chosen is proof that they are "Living Examples To The Truth", that life can be lived and enjoyed without having to consume any mood/mind altering substance or beverage; and

WHEREAS: Between 1993 & 1995, AFN supported the growing grass-roots sobriety movement in Alaska, and collected more than 10,000 sobriety pledge signatures from men, women and children who claimed the goals of sobriety. These signatures were given to Iditarod Musher for Sobriety Mike Williams, of Akiak, Alaska, who carried these signatures 1,049 miles in the March 1995 Iditarod Sled Dog Race as a symbolic gesture to honor the "serum of commitment" that was needed to help cure alcohol and drug abuse throughout Alaska; and

WHEREAS: In 1996, AFN learned that no Alaska statute referenced sobriety in accordance with this pledge of sobriety so the Alaska House of Representatives' Judiciary Chair, Representative Brian Porter introduced legislation under HB523A (1996)

to amend Alaska Statute 47.37.010 with language that recognized, appreciated and reinforced the lifestyle many people voluntarily ascribed; and

WHEREAS: In comparison to the pervasive social-ills caused by alcohol and drug abuse in Alaska, there exists an aggregate population of citizens who lead a life of sobriety, whose lifestyle choice has three societal benefits which include, but are not limited to:

1. An improved quality of life and health for individuals, families and communities;
2. An improved reduction in crime and social ills (e.g., domestic violence, child abuse and neglect, sexual assault, homicide, suicide, etc.) predominately associated with alcohol and drug abuse; and
3. An improved reduction in government spending for local, state and federal treasuries that end up paying for the pervasive social ills caused by and associated with alcohol and drug abuse.

NOW THEREFORE BE IT RESOLVED by the delegates to the 2016 Annual Convention of the Alaska Federation of Natives that AFN call upon the Alaska State Legislature to permanently reinstate and annually designate, in perpetuity, the month of March as Sobriety Awareness Month in accordance with fulfilling, in whole or in part, its declaration policy under Alaska Statute 47.37.010; and

BE IT FURTHER RESOLVED that the Alaska Legislature enact or amend all state grant services and any state grants federal matching requirements for all substance abuse prevention programs, to set aside up to five percent of their annual program budget to help the State of Alaska meet its declaration of policy under AS 47.37.010; and

BE IT FURTHER RESOLVED that Alaska's Governor, his or her Cabinet, and any for-profit or non-profit agency(ies) interested in helping the State of Alaska meet its declaration of policy under Alaska Statute 47.37.010, develop meaningful and respectful methods to collect census data to prove the existence of Alaska's aggregate citizen population by inviting citizens who are willing to voluntarily self-identify as being among many of the Living Examples To The Truth that life can be lived and enjoyed without having to consume any mood or mind altering substances; and

BE IT FURTHER RESOLVED that from the collected census data be used as a baseline established for Alaska's Living Examples To The Truth population, which can be monitored and documented on a voluntarily basis throughout every Alaska community in order to showcase and appreciate all the positive social outcomes or health correlations that are a direct result of this population's chosen lifestyle, and whose documented and monitored healthy baseline findings can be relevantly added to the Healthy Alaskans 2020 Scorecard (http://hss.state.ak.us/ha2020/); and

BE IT FURTHER RESOLVED that every public and private organization affected by, concerned with, and working toward the prevention of alcohol and drug abuse, be encouraged to pass an identical resolution and publicly invite all Alaska citizens to wear a white ribbon of their choosing during the month of March 2017, Sobriety Awareness Month, as a way to recognize, appreciate, and reinforce those who are truly making a difference by their freely chosen lifestyle of sobriety, which benefits society.

BE IT FURTHER RESOLVED that this resolution shall be the policy of AFN until it is withdrawn or modified by subsequent resolution.

SUBMITTED BY: COOK INLET REGION, INC.
COMMITTEE ACTION: PASS
CONVENTION ACTION: AMEND AND PASS

Julie Kitka

President

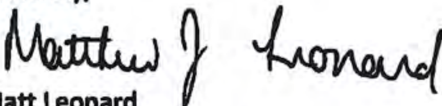
Dear members of the Alaska Legislature:

I am writing on my own behalf in representation of nothing other than my own personal experience. I have lived in Wasilla since 1986 and have spent much of my life in that community. I've seen the introduction and expansion of new businesses, as well as the reduction of many locally owned small businesses. I've watched our road system expand and have witnessed the increase in demand for further development in travel capability within the Valley. Peripheral to all these developments has run the growth of a problem that has reached epidemic proportion within recent years. Drugs have proliferated in my community and there seems no way of entirely comprehending their impact.

Sobriety awareness is only one way to combat the impression drugs are having; but in my experience, it is one of the most effective. When I was 29 years old, I found myself in a place of hopelessness. I had been recklessly drinking alcohol and using illicit and prescription drugs since I was 13. Faced with a doomed future, I asked a higher power for help and was immediately reminded of those who had graced my life and had shared with me their experience using, drinking, and (most significantly) living with sobriety. The miracle of that moment was the lasting imprint the memory of their sobriety had on me. It would follow me into today where I have been sober for over three years – and am remarkably happy to share that fact!

Sobriety awareness is an ideal upon which anyone can relate perception, experience, and most importantly ... hope. To designate an entire month in the name of sobriety awareness allows a platform for those seeking solution to their dilemma, whether in their own lives or their family members' lives, to come together and share visions of growth and courage that they may create an amalgam of hope greater than any individual. Please designate March as "Sobriety Awareness Month" in our beautiful state.

Sincerely,



Matt Leonard
fozzyleonard@yahoo.com

Soldotna High School

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Tony Graham - Principal
Randy Neill - Assistant Principal
Kyle McFall - Athletic Director
Nathan Erfurth - Activities Director

Kenai Peninsula Borough School District

February 28th, 2018

To the Honorable Members of the 30th Alaska Legislature,

It has come to the attention of the Soldotna High School Student Government that HB 138 is set to be presented to the Alaska State House. The Soldotna High School Student Government offers its wholehearted support for this bill because it raises awareness of and encourages sobriety around the state.

As high school students, sobriety is essential to creating healthy learning environments. Unfortunately, many of us can tell stories of neighbors, friends, and family member who have had their lives destroyed by substance abuse. At Soldotna High School, we are lucky to have educational spaces free of addiction and harmful substances. We support this bill because it recognizes and encourages healthy lifestyles.

For the first time, many of us are at a time in our lives when our decisions have long-term consequences. Alcoholism and substance abuse can have devastating effects not just on our current situations but on our decisions for years to come. Sobriety offers students the opportunity to take control of their actions and determine their own futures. This bill will raise awareness about the enormous benefits of sobriety.

With students understanding the potential that their lives have when sobriety is a forefront, the lives of students not only at Soldotna High School, but all over our state, will improve drastically. We strongly urge you to support HB 138.

Thank you for your consideration,

The Soldotna High School Student Government

March 1, 2018

Sent Via Electronic Mail
The Honorable Ivy Spohnholz Alaska
House of Representatives
State Capitol Room 421
Juneau, AK 99801

Re: HB 138, A Bill to Establish March as Sobriety Awareness Month

Dear Representative Spohnholz,

The Alaska Federation of Natives (AFN) is the largest statewide Native organization in Alaska. Its membership includes 186 federally recognized tribes, 177 village corporations, 12 regional corporations and 11 regional non-profit and tribal consortiums that contract and compact to run federal and state programs. AFN's mission is to enhance and promote the cultural, economic, and political voice of the entire Alaska Native community.

AFN strongly supports HB 138. Sobriety and healthy living has been a top priority of AFN for many years.

In *2016 Convention Resolution 16-15: that the Alaska legislature permanently reinstate the month of March as "Sobriety Awareness Month (SAM)" in support of its declaration of policy under Alaska statute 47.37.010*, it is noted that between the years of 1995 and 2006, the Alaska Legislature designated the month of March as Sobriety Awareness Month (SAM) ten times in recognition and support of Alaska Statute 47.31.010. It is time to reestablish this official recognition of the benefits of health lifestyles on the quality of life of all Alaskans.

AFN calls on the Alaska State Legislature to permanently reinstate and annually designate, in perpetuity, the month of March as Sobriety Awareness Month.

Please contact me if you have any questions.

Sincerely,

ALASKA FEDERATION OF NATIVES

Julie E. Kitka

Julie Kitka
President

Cc. Board of Directors, AFN

3000 A Street, Suite 210 | Anchorage, AK 99501 http://www.nativefederation.org/

March 6, 2018

The Honorable Ivy Spohnholz
Alaska House of Representatives
State Capitol Room 421
Juneau, AK 99801

Re: *HB 138, A Bill to Establish March as Sobriety Awareness Month*

Dear Representative Spohnholz,

In 2016, CIRI sponsored the Alaska Federation of Natives Convention Resolution 16-15 resolving that the Alaska legislature permanently reinstate the month of March as "Sobriety Awareness Month." CIRI is writing today to voice its wholehearted support for your legislation, HB 138, which seeks to codify Sobriety Awareness Month into the Alaska statutes. Currently, an epidemic of opioid, methamphetamine and alcohol abuse results in an unacceptable social burden upon Alaskans. Your legislation reflects the deep concern that CIRI, and our family of non-profit organizations, share regarding the negative consequences of drug and alcohol abuse on all Alaskans. While this problem seems large and difficult to attack, a positive step forward from your legislation can be made by reaffirming sobriety and freedom from substance abuse as our societal norm.

CIRI believes your legislation helps point the way towards wellness as a goal for all Alaskans and is committed to helping you achieve the outcomes included in AFN Resolution 16-15, specifically:

1. An improved quality of life and health for individuals, families and communities;
2. An improved reduction in crime and social ills (e.g., domestic violence, child abuse and neglect, sexual assault, homicide, suicide, etc.) predominately associated with alcohol and drug abuse; and
3. An improved reduction in government spending for local, state and federal treasuries that end up paying for the pervasive social ills caused by and associated with alcohol and drug abuse.

CIRI joins your call to the Alaska State Legislature to permanently reinstate and annually designate the month of March as Sobriety Awareness Month. Thank you for your service and please contact me if you have any questions.

Sincerely,

Cook Inlet Region, Inc.

Sophie Minich
President and Chief Executive Officer

Jody Simpson

From: Judy Andree <jagster42@gmail.com>
Sent: Thursday, March 08, 2018 3:24 PM
To: Sen. David Wilson; Sen. Natasha Von Imhof; Sen. Cathy Giessel; Sen. Peter Micciche; Sen. Tom Begich
Cc: Rep. Ivy Spohnholz
Subject: Support for HB 138 from League of Women Voters of Alaska

Follow Up Flag: Follow up
Flag Status: Completed

League of Women Voters of Alaska

P. O. Box 22048, Juneau, AK 99802

March 8, 2018

Dear Members of the Senate Health & Social Services Committee:

The League of Women Voters of Alaska strongly supports HB 138, an act establishing the month of March as Sobriety Awareness Month. The League of Women Voters of the United States has been concerned for decades with health care issues and the education of the populace on matters relating to the maintenance of good health. HB 138 has as one of it goals an increase in public awareness of the prevention and treatment of alcoholism, drug abuse, and misuse of other hazardous materials. Misuse of mood-altering substances can and do cause great harm to individuals, families, and communities. Alcohol and other addictive substances cause abuse, neglect, domestic violence, financial problems, and even death. Dependency on any of these substances is an illness, but too often those dependent are blamed rather than assisted in recovery.

Celebrating sobriety is a positive way to educate the public about the benefits that accrue from a sober lifestyle. Given the issue of substance abuse and its history in Alaska, dedicating March to sobriety awareness is a wise step. We urge the Senate Health and Social Services Committee to support this bill. Thank you.

Sincerely,

Judy Andree, President

League of Women Voters of Alaska

CHAIRMAN & PRESIDENT

March 9, 2018

The Honorable Ivy Spohnholz, Chair
House DHSS Committee
State Capitol Building
Juneau, AK 99801

Dear Representative Spohnholz:

On behalf of the Alaska Native Tribal Health Consortium (ANTHC), I write in support of House Bill 138, an Act establishing the month of March as Sobriety Awareness Month.

ANTHC is a statewide tribal health organization serving all 229 tribes and more than 166,000 Alaska Native and American Indian (AN/AI) individuals in Alaska. ANTHC and Southcentral Foundation co-manage the Alaska Native Medical Center, the tertiary care hospital for all AN/AIs in Alaska. ANTHC also provides a wide range of statewide public health, community health, environmental health, and other programs and services for Alaska Native people and their communities.

ANTHC concurs with the legislative findings and intent "to call attention to Alaskans who choose a positive and healthy lifestyle by not consuming mood- or mind-altering substances, and who, by virtue of their freely chosen lifestyle, serve as examples that life can be lived and enjoyed without the consumption of mood- or mind-altering substances."

From 2014-2016, 58 percent of Alaska Native adults reported no alcohol use. In 2017, 80 percent of Alaska Native high school students reported no current use of alcohol. Based on a report from the McDowell Group, *Protective Factors for Youth Substance Abuse and Delinquency*, positive connection to adults, strong role models and healthy social norms are protective factors that enhance healthy development among our youth.

ANTHC supports these findings as well as the healthy and positive lifestyle chosen by those committed to sobriety. The passage of HB 138 would serve as a statement to all Alaskans on the importance of sobriety, helping to facilitate public and private sector activities dedicated to recognizing and celebrating the individual and shared health benefits of sobriety.

Sincerely,

Andy Teuber
Chairman and President

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

Tasha Elizarde

From:	Michael Carson <carsons@mtaonline.net>
Sent:	Monday, March 12, 2018 10:03 AM
To:	Tasha Elizarde
Subject:	HB138

Date: March, 2018

To: Rep. Ivy Spohnholz, Berta Senator Gardner & Senate HSS

From: Michael P. Carson

Cc: Tasha. elizarde@akleg.gov & Jacob.@tatum@akleg.gov

Re. Sobriety Awareness Month in Alaska (HB 138 & SB 208)

But, by the Grace of God, this year I will celebrate 30 years clean & sober. Again, but, by the Grace of God. My imagination has been fired and this past 30 years have been the most satisfactory years of my life. And, I know the future will be bright and hopeful with many opportunities to engage more deeply with my family, friends, strangers and my community.

My name is Michael Carson. I am a co-founding board member of MyHouse in the Mat-Su. Also, I am the V.P. and the Recovery Specialist at MyHouse. In addition, I am currently the Chair of the Mat-Su Opioid Task Force. And, I have been leading a teen recovery group at the Mat-Su Youth Facility for the past 15 years.

Thank you for the opportunity to express my support of HB 134, Sobriety Awareness Month (March) in Alaska. Recovery is every aspect of building relationships to overcome addiction and isolation. I believe recovery has to be lived out in the open to convince those still suffering there is hope. What a better way to bring more attention to sobriety and for those still suffering than having an awareness month and with celebrating it across our entire State.

With the opioid epidemic taking 99 lives this past year (Dr.Jay Butler) due to overdoses, we have to recognize recovery is possible for everyone. It does not matter how far down the scale a person has gone, there is always hope. Even with the total bewilderment and

despair of addiction, hope is eternal. And, that hope is shared by those in recovery. In fact, those that have suffered, owe to the suffering.

That is the reason why recovery is imperative to share through an awareness month. The message of those in recovery is, " If I can get sober, you can too. And, let me share with you how I did that. NOT ALONE!"

Addiction wants to live in the darkness and wants to stay there alone. Recovery is all about coming into the light and building relationships. And, recovery is to be shared with others to re-enforce one's own recovery. Can you imagine all those in the recovery community sharing their personal stories and shouting out their light and hope?!

And, the message of those in recovery would be, 'We are miracles and most importantly, the age of miracles is still with us. Our recovery community proves that!'

Thank you for considering a Sobriety Awareness Month.

LessDopeMoreHope

Michael

Special note- some of the above statements are modified or re-stated from the Big Book of A.A.

In Support of Senate Bill 208 (Complement of HB138): March – Sobriety Awareness Month

March 13, 2018

Greetings!

It is an honor to be here and to speak in support of Senate Bill 2008, a compliment House Bill 138 – March: Sobriety Awareness Month, which passed the Alaska House of Representatives last session.

My name is Gregory Nothstine. My Inupiat name is Tungwenuk. I am the son of Sophie Egeelana Tungwenuk-Nothstine from the Native Village of Wales (Alaska). I currently serve as Board President for Sobermiut – Reviving Our Spirit, a 501c3 non-profit organization. On behalf of the Sobermiut Board and every person who is a Living-Example-To-The-Truth (LETTT) that life can be lived and enjoyed without having to consume any mood/mind altering substance(s). I salute the full Alaska Senate and the Senate Committee on Health & Social Services for considering the passage this bill, meeting Alaska policy under Alaska Statute 47.37.010.

It pleases me to say that I have some historical knowledge on an amendment to AS 47.37.010 in 1996 and all the subsequent resolutions that the Alaska Legislature passed to meet its policy and declare the month of March as Sobriety Awareness Month. Between the years of 1995 and 2006, the Alaska Legislature designated the month of March as Sobriety Awareness Month (SAM) ten times, in recognition and support of Alaska Statute 47.31.010 with the passages of HCR011A (1995), SCR004A (1997), SCR021A (1998), SCR012A (2000), SCR002B (2001), SCR022A (2002), SCR005Z (2003), SCR021A (2004), HCR001Z (2005), HCR033Z (2006).

I want to, again, thank the Alaska Legislature for the proactive steps it has historically taken to create a "value added appreciation policy" to recognize the merits of positive lifestyle, led by thousands of Alaskans, who represent an aggregate population in Alaska, and who, by virtue of their freely chosen way of life, benefit Alaskans in three meaningful ways:

1) LETTTs help improved the quality of life for themselves, their families, and communities; and
2) LETTTs help reduce the incidence of social ills caused by alcohol and drug abuse; and
3) LETTTs help reduce the burden on local, state, and the federal government in having to pay for all the pervasive socials ills caused by alcohol and drug abuse.

Again, thank you for the opportunity to participate in this hearing and to speak in support of SB208. I, again, salute this committee and the Alaska Legislature for this groundbreaking legislation, should it pass. It represents a paradigm shift in thinking and expands support for the protective factors that help protect all Alaskans.

Tungwenuk – Gregory Nothstine, President
Sobermiut – Reviving Our Spirit
PO Box 2121
Anchorage, Alaska 99514
907-360-2683 cell phone

Sobermiut: Reviving Our Spirit
Anchorage, Alaska

Resolution 2016-01

Entitled: For the Alaska Legislature to permanently reinstate the month of March as Sobriety Awareness Month (SAM) in support of its declaration of policy under Alaska Statute 47.37.010

WHEREAS: The declaration of policy for the State of Alaska, under Alaska Statute 47.37.010, is *"to recognize, appreciate, and reinforce the example set by its citizens who lead, believe in, and support a life of sobriety."*; and

WHEREAS: Between the years of 1995 and 2006, the Alaska Legislature designated the month of March as Sobriety Awareness Month (SAM) ten times in recognition and support of Alaska Statute 47.31.010 with the passages of HCR011A (1995), SCR004A (1997), SCR021A (1998), SCR012A (2000), SCR002B (2001), SCR022A (2002), SCR005Z (2003), SCR021A (2004), HCR001Z (2005), HCR033Z (2006); and

WHEREAS: Many Alaskans that lead, believe-in, and support a life of sobriety universally agree that it is *"a positive, healthy, and productive way of life, free from the devastating effects of alcohol and drugs"*; and

WHEREAS: These same Alaskans represent an aggregate population for which a voluntary census has never been taken before to confirm the population exists, the lifestyle choice they have chosen is proof that they are *Living-Examples-To-The-Truth (LETTT)* that life can be lived and enjoyed without having to consume any mood/mind altering substance or beverage (e.g., the same as vegetarians are proof that life can be lived without consuming meat); and

WHEREAS: Between 1993 & 1995, the Alaska Federation of Natives, Incorporated (AFN), with its AFN Sobriety Movement (AFNSM) program was geared to support the growing signs of an aggregate population, which was only then recognized or referred to as a grass-roots sobriety movement growing in Alaska, did collect over 10,000 sobriety pledge signatures from men, women, and children who claimed the goals of AFNSM, and these signatures were given to none other than Iditarod Musher for Sobriety Mike Williams, of Akiak, Alaska, who carried these signatures 1,049 miles in the March 1995 Iditarod Sled Dog Race in a symbolic gesture to honor them as the "serum of commitment" that was needed to help cure alcohol and drug abuse throughout Alaska; and

WHEREAS: In 1996, AFNSM learned nowhere in Alaska statute was sobriety referenced in accordance with the conceptual understanding of the 10,000 Alaska citizens who signed the AFNSM Sobriety Pledge, whose signatures were honored and carried on the Iditarod Trail. It was, then, Alaska House of Representatives' Judiciary Chair, Representative Brian Porter, introduced legislation, under HB523A (1996), to amend Alaska Statute 47.37.010 with language that was more in line with recognizing, appreciating, and reinforcing the lifestyle so many people voluntarily ascribed, and provided so many unseen and unmeasured societal health and cost benefits; and

WHEREAS: In comparison to the pervasive social-ills caused by alcohol and drug abuse in Alaska, there exists an aggregate population of citizens who lead a life of sobriety, whose lifestyle choice has three societal benefits, which include, but are not limited to:

1. An improved quality of life and health for individuals, families, and communities;
2. An improved reduction in crime and social ills (e.g., domestic violence, child abuse & neglect, sexual assault, homicide, suicide, etc.) predominately associated with alcohol and drug abuse;
3. An improved reduction in government spending for local, state, and federal treasuries who end up paying for the pervasive social ills caused by and associated with alcohol and drug abuse.

NOW THEREFORE BE IT RESOLVED that the Board of Directors of Sobermiut: Reviving Our Spirit, hereby call upon the Alaska State Legislature to permanently reinstate and annually designate, in perpetuity, the month of March as Sobriety Awareness Month (SAM) in accordance with fulfilling, in whole or in part, its declaration policy under Alaska Statute 47.37.010; and be it

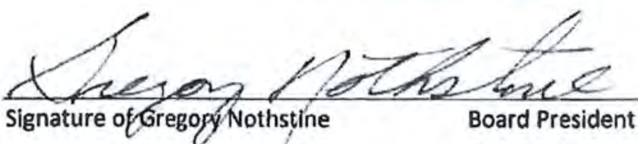
FURTHER RESOLVED that the Alaska Legislature enact or amend all state grant services and any state grants with federal matching requirements for all substance abuse prevention programs, to set up to or set aside a maximum of 5% of their annual program budget to help the State of Alaska meet its declaration of policy under AS 47.37.010; and be it

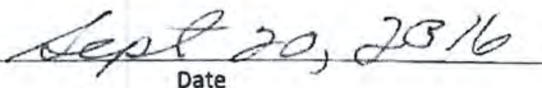
FURTHER RESOLVED that Alaska's Governor, his or her Cabinet, and any for-profit or non-profit agency(ies) interested in helping the State of Alaska meet its declaration of policy under Alaska Statute 47.37.010, develop meaningful and respectful methods to collect census data to prove the existence of Alaska's aggregate citizen population, by inviting citizens who are willing to voluntarily self-identify, as being among many of the *Living-Examples-To-The-Truth (LETTT)* that life can really be *lived and enjoyed* without having to consume any mood/mind altering substances; and be it

FURTHER RESOLVED that from the collected census data a baseline be established for Alaska's LETTT population, which can be monitored and documented on a voluntarily basis throughout every Alaska community in order to showcase and appreciate all the positive social outcomes or health correlations that are a direct result of this population's chosen lifestyle, and whose documented and monitored healthy baseline findings can be relevantly added to the Healthy Alaskans 2020 Scorecard (http://hss.state.ak.us/ha2020/); and be it

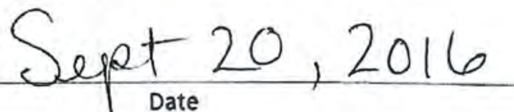
FINALLY RESOLVED that *every public and private organization, affected by, concerned with, and working toward the prevention of alcohol and drug abuse,* be encouraged to pass an identical resolution and publicly invite all Alaska citizens to wear a white ribbon of their choosing during the month of March 2017, Sobriety Awareness Month, as a way *to recognize, appreciate, and reinforce* the unsung population of LETTTs who are truly making a difference by their freely chosen lifestyle, which benefits society in the three-aforementioned ways above.

The Board of Directors for Sobermiut: Reviving Our Spirit unanimous passed this resolution on September20, 2016.





Signature of Gregory Nothstine Board President Date



Signature of Sheila Randazzo Board Secretary Date

Jody Simpson

From:	Alyssa Jones <ajones@citci.org>
Sent:	Tuesday, March 13, 2018 1:04 PM
To:	Tasha Elizarde; Jacob Tatum; Senate Health and Social Services
Subject:	HB 138/SB 208

I support this bill! Thank you for your efforts.

Alyssa Jones, MS, LPC, NCC, CDC I
Mental Health Professional Clinician
Recovery Services
Cook Inlet Tribal Council, Inc
907-793-3166
ajones@citci.org

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Jody Simpson

From: Barbara Doty <Barbara.Doty@matsugov.us>
Sent: Tuesday, March 13, 2018 4:05 PM
To: Senate Health and Social Services
Subject: HB 138/Senate Bill 208

Please support these two bills that will have significant benefit to promote awareness of the benefits of sobriety. Dr. Barbara Doty M.D. Assembly District 6 Mat Su Borough

Jody Simpson

From: Gregory Nothstine <tungwenuk@live.com>
Sent: Saturday, April 22, 2017 7:29 PM
To: Sen. David Wilson
Cc: Sen. Natasha Von Imhof; Sen. Cathy Giessel; Sen. Peter Micciche; Sen. Tom Begich; Rep. Dean Westlake
Subject: In Support of House Bill 138 - March As Sobriety Awareness Month
Attachments: AFN Resolution 16-15 - Sobriety Awareness Month.pdf; HB0138A - SAM 2017.pdf

Importance: High

Honorable Members of the Alaska Senate Health & Social Services Committee:

The Alaska Territorial Legislature became a national trendsetter when it passed the first civil rights bill in the nation in the days of Ms. Elizabeth Peratrovich. Now the Alaska State Legislature has a similar trend setting opportunity in leading the nation with the passage of House Bill 138 – permanently designating the month of March as Sobriety Awareness Month. Already Alaska is the first state in the nation to have a declaration of policy (AS 47.37.010) in support of the sobriety lifestyle that millions of people freely lead and recognize the world over.

Every year millions of dollars are spent on the prevention of alcohol and drug abuse. Every year education material and information warns the public to the dangers and symptomatic social ills associated with and caused by alcohol and drug abuse (e.g., child abuse and neglect, crime, domestic violence, etc.). Yet, the dangers and symptomatic social ills remain.

From 1995 up until 2006, the Alaska Legislature set a precedent and became the first state in the nation to pass legislation in support of the sobriety lifestyle and to declare the month of March as "Sobriety Awareness Month." Here is a record of the legislation passed by the Alaska Legislature:

- 1995 19th Legislature – 1st Session: HCR11A – March 1995 Sobriety Awareness Month
- 1996 19th Legislature – 2nd Session: HB523A – Amendment to AS 47.37.010 to current policy
- 1997 20th Legislature – 1st Session: SCR004A – March 1997 Sobriety Awareness Month
- 1998 20th Legislature - 2nd Session: SCR021A – March 1998 Sobriety Awareness Month
- 2000 21st Legislature – 2nd Session: SCR012A – March 2000 Sobriety Awareness Month
- 2001 22nd Legislature – 1st Session: SCR002B – March 2001 Sobriety Awareness Month
- 2002 22nd Legislature – 2nd Session: SCR022A – March 2002 Sobriety Awareness Month
- 2003 23rd Legislature – 1st Session: SCR005Z – March 2003 Sobriety Awareness Month

- 2004 23rd Legislature – 2nd Session: SCR012A – March 2004 Sobriety Awareness Month
- 2005 24th Legislature – 1st Session: HCR001Z – March 2005 Sobriety Awareness Month
- 2006 24th Legislature – 2nd Session: HCR033Z – March 2006 Sobriety Awareness Month

By proclaiming the month of March as Sobriety Awareness Month it allows the state to fulfill its declaration of policy under AS 47.37.010 and to recognize, appreciate, and reinforce the collective benefit and contribution of its aggregate population of citizens who, by their own volition choose to lead a non-consumer lifestyle of mood/mind altering substances. We have always looked for role models. However, many of these role models are already among us living, invisibly, in plain sight, e.g., men, women, young adults, and children. Alaska is the first state in the nation to be doing more to than just turning a blind eye to this population's collective contribution. These Alaska citizens are friends, family members, and co-workers. They are all "Living-Examples-To-The-Truth (LETTT)" that life can be lived and enjoyed without 'having to' consume any mood/mind altering beverages or substances.

By virtue of this aggregate population of LETTT's freely chosen lifestyle, we are all benefiting in three distinct, yet unappreciated and unrecognized ways:

1. LETTTs help to improve the quality of life and health of individuals, families, and communities

2. LETTTs help to reduce the incidence of alcohol and drug related social ills (e.g., child abuse and neglect, crime, domestic violence, etc.)

3. LETTTs help to reduce the burden on government treasuries in having to pay for the pervasive social ills associated with alcohol and drug abuse

Thank you for your and time and your service! LETTTs make a difference. Support the passage of HB138.

Best regards,

Gregory Nothstine, President

Sobermiut - Reviving Our Spirit

907-360-2683

Attachments:

- House Bill 138
- AFN Resolution 2016-15

ALASKA FEDERATION OF NATIVES
2016 ANNUAL CONVENTION
RESOLUTION 16-15

TITLE: THAT THE ALASKA LEGISLATURE PERMANENTLY REINSTATE THE MONTH OF MARCH AS "SOBRIETY AWARENESS MONTH (SAM)" IN SUPPORT OF ITS DECLARATION OF POLICY UNDER ALASKA STATUTE 47.37.010

WHEREAS: The Alaska Federation of Natives (AFN) is the largest statewide Native organization in Alaska and its membership includes 151 federally recognized tribes, 150 village corporations, 12 regional corporations and 12 regional non-profit and tribal consortiums that contract and compact to run federal and state programs; and

WHEREAS: the mission of AFN is to enhance and promote the cultural, economic, and political voice of the entire Alaska Native community; and

WHEREAS: The declaration of policy for the State of Alaska, under Alaska Statute 47.37.010, is "to recognize, appreciate, and reinforce the example set by its citizens who lead, believe in, and support a life of sobriety"; and

WHEREAS: Between the years of 1995 and 2006, the Alaska Legislature designated the month of March as Sobriety Awareness Month (SAM) ten times in recognition and support of Alaska Statute 47.31.010; and

WHEREAS: Many Alaskans lead, believe-in and support a life of sobriety, universally agreeing that it is a positive, healthy, and productive way of life, free from the devastating effects of alcohol and drugs; and

WHEREAS: These same Alaskans comprise a population for which a voluntary census has never previously been taken before to confirm the population exists. The lifestyle choice they have chosen is proof that they are "Living Examples To The Truth", that life can be lived and enjoyed without having to consume any mood/mind altering substance or beverage; and

WHEREAS: Between 1993 & 1995, AFN supported the growing grass-roots sobriety movement in Alaska, and collected more than 10,000 sobriety pledge signatures from men, women and children who claimed the goals of sobriety. These signatures were given to Iditarod Musher for Sobriety Mike Williams, of Akiak, Alaska, who carried these signatures 1,049 miles in the March 1995 Iditarod Sled Dog Race as a symbolic gesture to honor the "serum of commitment" that was needed to help cure alcohol and drug abuse throughout Alaska; and

WHEREAS: In 1996, AFN learned that no Alaska statute referenced sobriety in accordance with this pledge of sobriety so the Alaska House of Representatives' Judiciary Chair, Representative Brian Porter introduced legislation under HB523A (1996)

to amend Alaska Statute 47.37.010 with language that recognized, appreciated and reinforced the lifestyle many people voluntarily ascribed; and

WHEREAS: In comparison to the pervasive social-ills caused by alcohol and drug abuse in Alaska, there exists an aggregate population of citizens who lead a life of sobriety, whose lifestyle choice has three societal benefits which include, but are not limited to:

1. An improved quality of life and health for individuals, families and communities;
2. An improved reduction in crime and social ills (e.g., domestic violence, child abuse and neglect, sexual assault, homicide, suicide, etc.) predominately associated with alcohol and drug abuse; and
3. An improved reduction in government spending for local, state and federal treasuries that end up paying for the pervasive social ills caused by and associated with alcohol and drug abuse.

NOW THEREFORE BE IT RESOLVED by the delegates to the 2016 Annual Convention of the Alaska Federation of Natives that AFN call upon the Alaska State Legislature to permanently reinstate and annually designate, in perpetuity, the month of March as Sobriety Awareness Month in accordance with fulfilling, in whole or in part, its declaration policy under Alaska Statute 47.37.010; and

BE IT FURTHER RESOLVED that the Alaska Legislature enact or amend all state grant services and any state grants federal matching requirements for all substance abuse prevention programs, to set aside up to five percent of their annual program budget to help the State of Alaska meet its declaration of policy under AS 47.37.010; and

BE IT FURTHER RESOLVED that Alaska's Governor, his or her Cabinet, and any for-profit or non-profit agency(ies) interested in helping the State of Alaska meet its declaration of policy under Alaska Statute 47.37.010, develop meaningful and respectful methods to collect census data to prove the existence of Alaska's aggregate citizen population by inviting citizens who are willing to voluntarily self-identify as being among many of the Living Examples To The Truth that life can be lived and enjoyed without having to consume any mood or mind altering substances; and

BE IT FURTHER RESOLVED that from the collected census data be used as a baseline established for Alaska's Living Examples To The Truth population, which can be monitored and documented on a voluntarily basis throughout every Alaska community in order to showcase and appreciate all the positive social outcomes or health correlations that are a direct result of this population's chosen lifestyle, and whose documented and monitored healthy baseline findings can be relevantly added to the Healthy Alaskans 2020 Scorecard (http://hss.state.ak.us/ha2020/); and

BE IT FURTHER RESOLVED that every public and private organization affected by, concerned with, and working toward the prevention of alcohol and drug abuse, be encouraged to pass an identical resolution and publicly invite all Alaska citizens to wear a white ribbon of their choosing during the month of March 2017, Sobriety Awareness Month, as a way to recognize, appreciate, and reinforce those who are truly making a difference by their freely chosen lifestyle of sobriety, which benefits society.

BE IT FURTHER RESOLVED that this resolution shall be the policy of AFN until it is withdrawn or modified by subsequent resolution.

SUBMITTED BY: COOK INLET REGION, INC.
COMMITTEE ACTION: PASS
CONVENTION ACTION: AMEND AND PASS

Julie Kitka

President

Alaska State Legislature

Senate

Office of the Secretary

Official Business

State Capitol, Room 211
Juneau, Alaska 99801-1182
Phone: (907) 465-3701
Email: senate.secretary@akleg.gov

FOR YOUR IMMEDIATE ATTENTION

DATE: 2/12/18

TO: Health and Social Services Committee
(Jody, Room 115)

FROM: Office of the Senate Secretary

SUBJ: Return of Bill Request

The Senate President has requested the following bill be returned to the House:

RETRIEVE

HOUSE BILL NO. 138
"An Act establishing the month of March as Sobriety Awareness Month."

The Senate Secretary's office has retrieved the bill.

Thank you.

Alaska State Legislature

Senate

State Capitol, Room 211
Juneau, Alaska 99801-1182
Phone: (907) 465-3701
Email: senate.secretary@akleg.gov

Official Business

Office of the Secretary

FOR YOUR IMMEDIATE ATTENTION

DATE: 2/16/18

TO: Senate Health and Social Services Committee
(Jody, Room 115)

FROM: Office of the Senate Secretary

SUBJ: Return of Bill File

The following bill is returned to the Senate Committee of referral.

RETURN

HB 138-MARCH: SOBRIETY AWARENESS MONTH

Thank you.