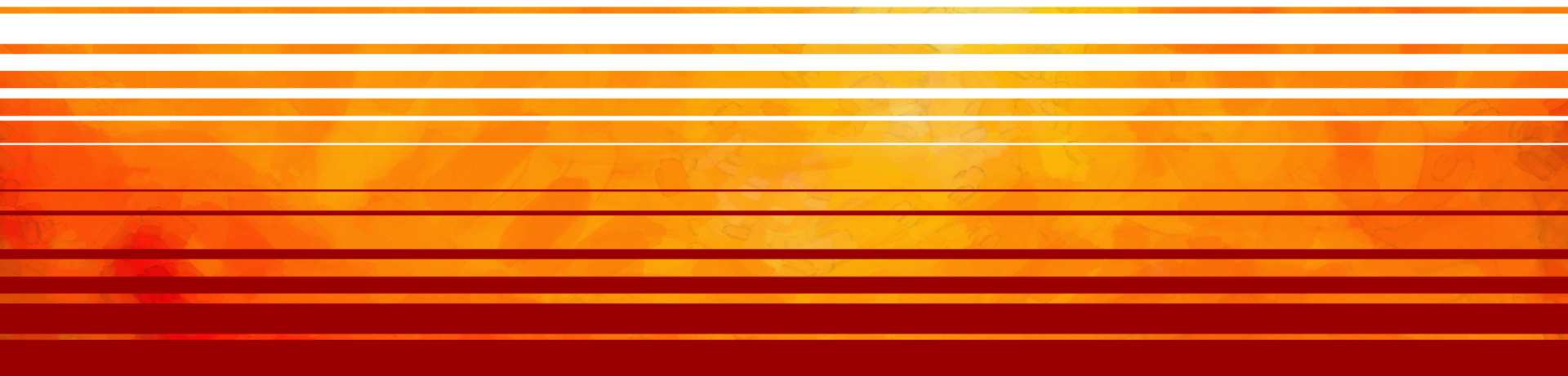


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for Health Policy & Economics

THE COST OF MENTAL ILLNESS: ALASKA FACTS AND FIGURES



ACKNOWLEDGMENTS

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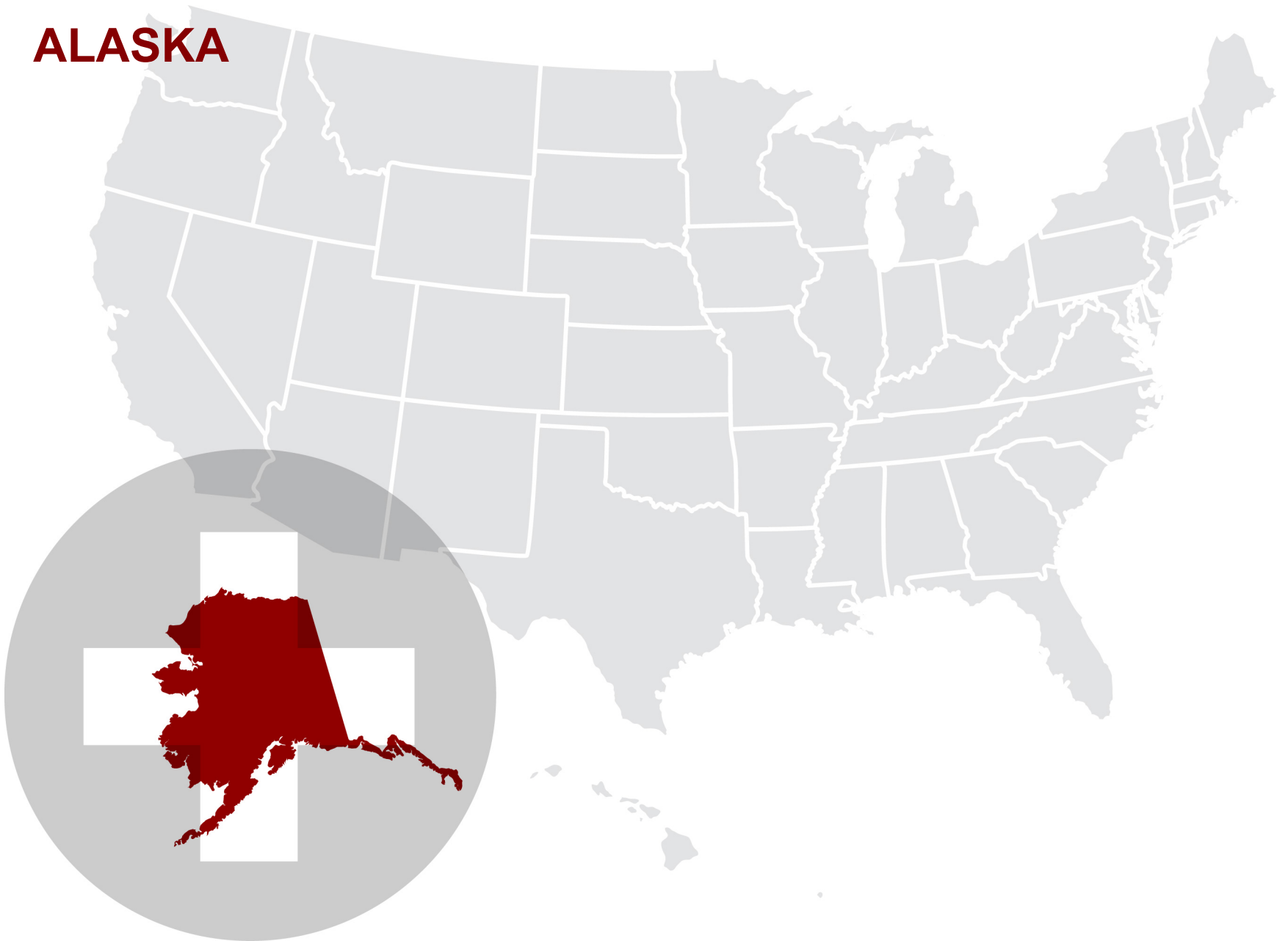


References, data sources and methods are described in more detail in the online appendix.

This chartbook and the appendix can be downloaded at:

http://healthpolicy.usc.edu/Keck_Schaeffer_Initiative.aspx

ALASKA



INTRODUCTION

- Improving access to high-quality medical and behavioral health care for patients with mental illness remains one of the most vexing problems facing the healthcare system in the United States.
- The hospitalization rate of patients with serious mental illness is very high compared to other conditions, imposing a large cost on the health care system despite the general absence of procedures.
- People living with mental illness are more likely to encounter the criminal justice system, resulting in a large number of arrests and incarcerations.
- Alaska faces unique challenges
 - Disperse population over huge land mass.
 - Very low number of psychiatric hospital beds compared to the U.S. average.
 - A higher number of behavioral health care professionals compared to the U.S. average, but shortages are pervasive in rural areas.

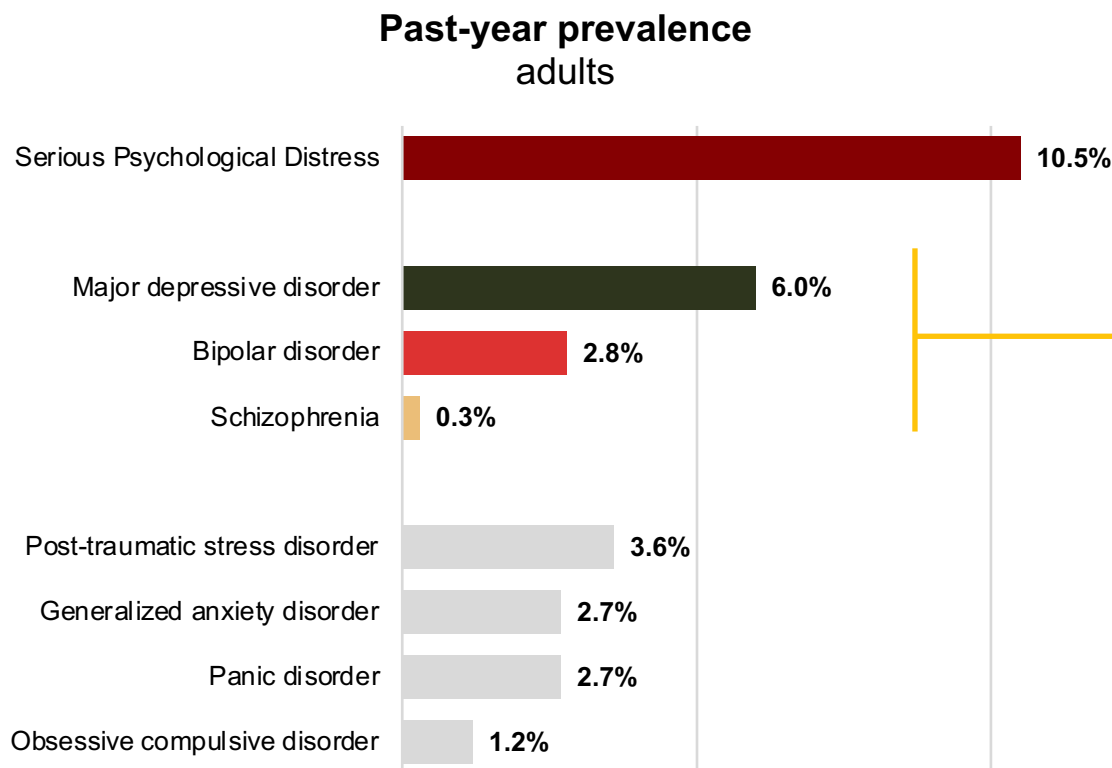
The data and methods are described in more detail in the appendix:

http://healthpolicy.usc.edu/Keck_Schaeffer_Initiative.aspx

QUANTIFYING THE POPULATION LIVING WITH MENTAL ILLNESS IN ALASKA AND THE U.S.

Prevalence of mental illness

UNITED STATES 2016



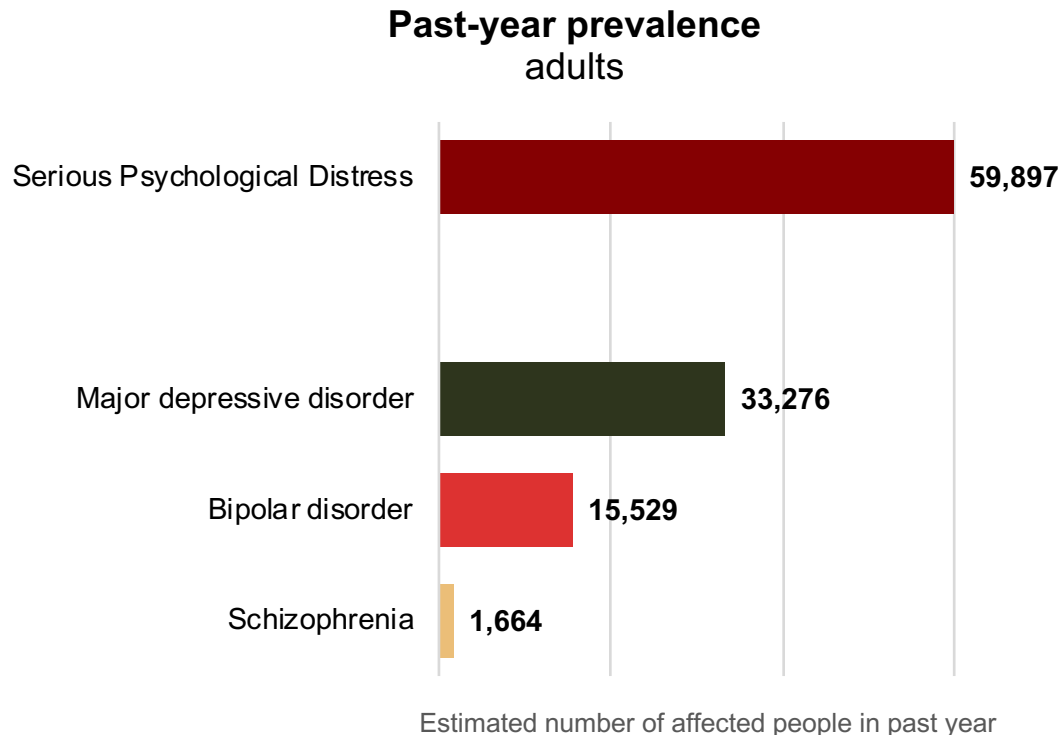
Many mental health conditions are fairly common in the general population.

*Whereas any of these conditions can severely limit someone's normal daily activities, three disorders are often labeled as **serious mental illness**: **major depressive disorder, bipolar disorder and schizophrenia**. These three disorders will be the focus of this chartbook.*

*NB: Due to symptom overlap, diagnoses of mental illnesses are not mutually exclusive
Source: National Survey on Drug Use and Health (NSDUH, R-DAS) 2015-2016 (SPD),
NSDUH Mental Health Surveillance Study 2008-2012 (major depressive disorder) and
National Institutes of Mental Health (other conditions – see appendix for original sources)*

Estimated number of people living with mental illness

ALASKA 2016



An estimated 60,000 adults in Alaska experienced serious psychological distress in the past 12 months.

Note that a patient can receive multiple diagnoses of a serious mental illness due to a high degree of overlap between the mental health conditions.

Source: National Institutes of Mental Health, National Survey on Drug Use and Health (NSDUH, R-DAS) 2015-2016, and NSDUH-MHSS 2008-2012. Estimated number of people affected based on total state population of 554,598 (18 years and over), Census Bureau data (2016)

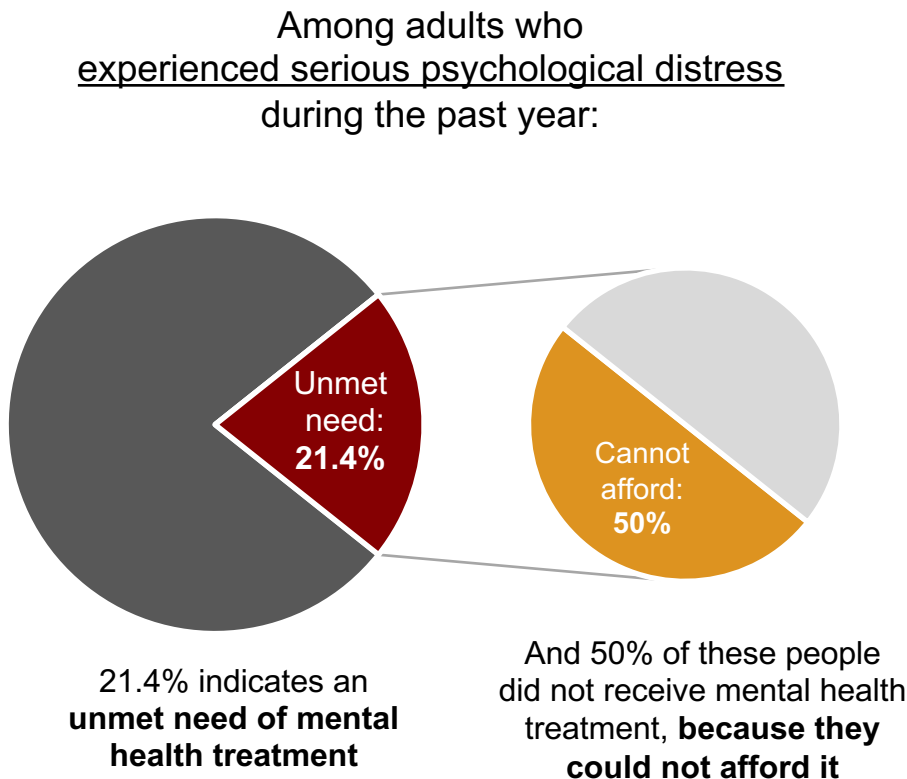
MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

Unmet mental health care needs

More than a fifth of adults with serious psychological distress in the past year reported an unmet need for mental health care. A common reason for not receiving care was the inability to afford mental health treatment, especially for people who do not have health insurance.

There is significant unmet need for mental health care in Alaska

ALASKA 2016



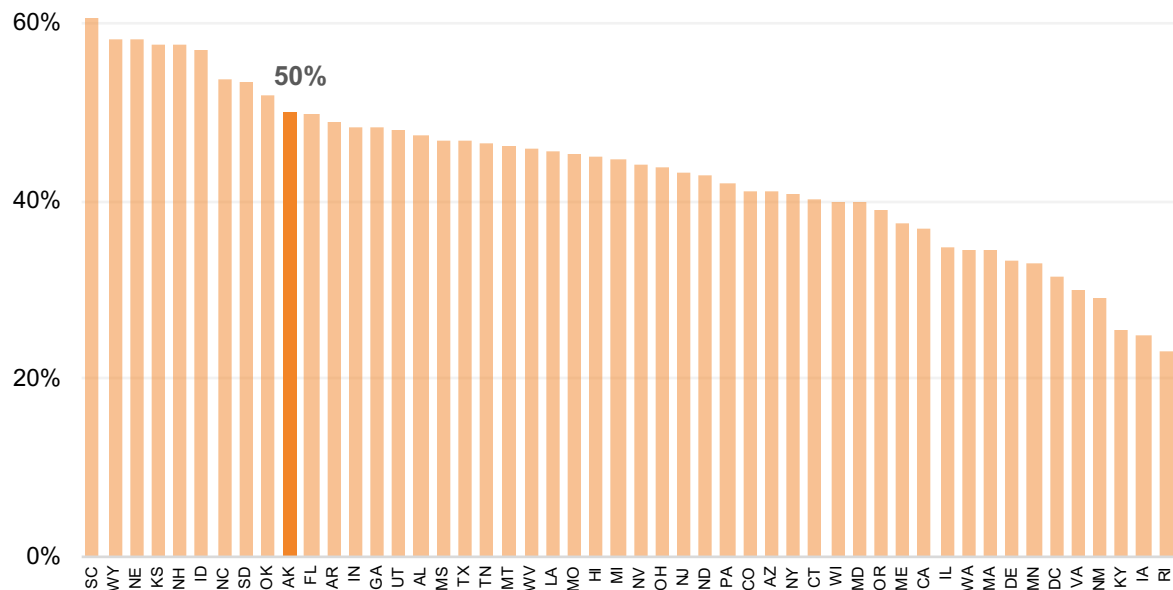
Among adults who experienced serious psychological distress in the previous year in Alaska, a fifth reported an unmet need for mental health care.

Half of the people with a perceived unmet need reported that they did not receive treatment because they could not afford it.

Unmet need of mental health treatment due to costs

ALASKA AND UNITED STATES 2016

Percentage of adults
who could not afford mental health care
among those with past-year serious psychological
distress and unmet need of treatment

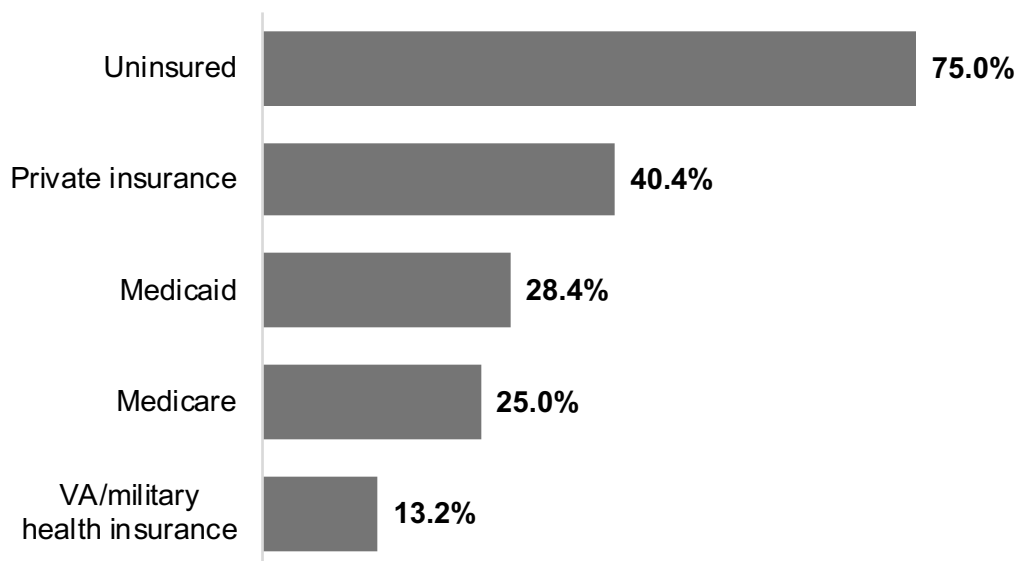


In Alaska, half of people with serious psychological distress and an unmet need of mental health treatment, did not receive this treatment due to costs.

Unmet need of mental health treatment due to costs differs by insurance coverage

UNITED STATES 2016

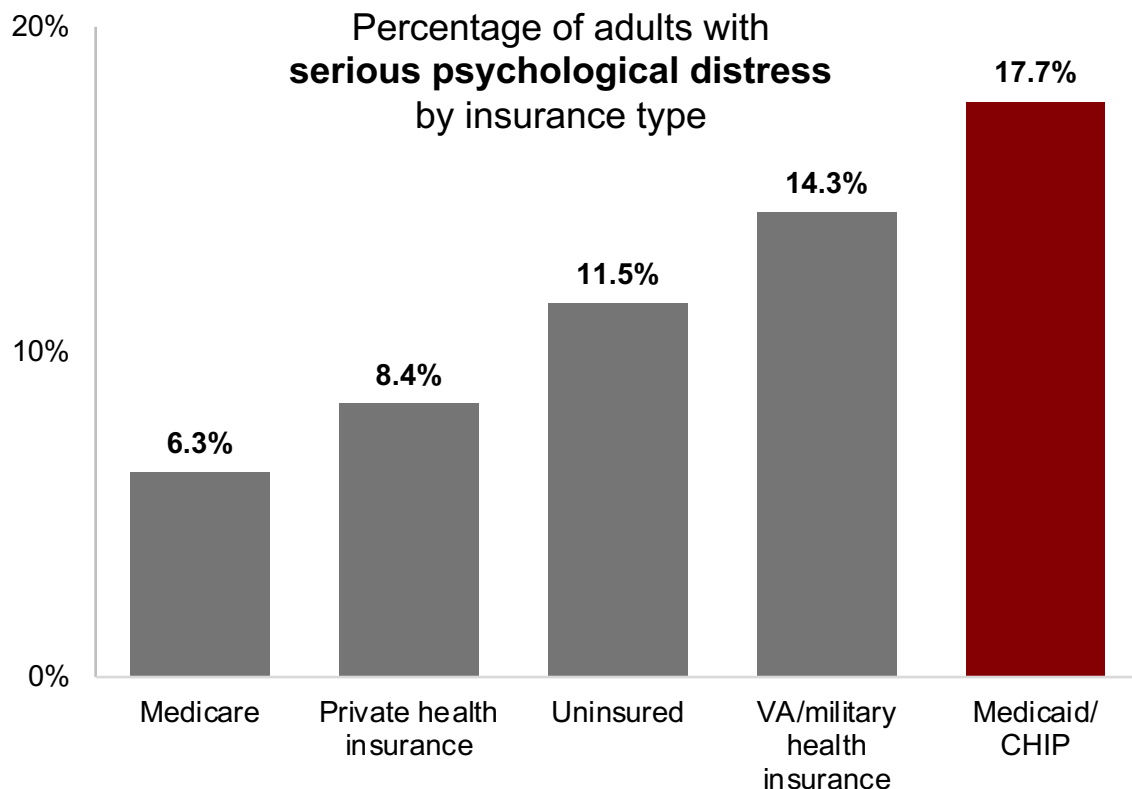
Percentage of adults
who could not afford mental health care
among those with past-year serious psychological distress
and unmet need of treatment



On a national level, the extent to which cost was a factor in driving unmet need for mental health care among those with serious psychological distress, varied by insurance status. People without health insurance were most affected by the inability to afford mental health treatment (75%), while those with VA/military health insurance coverage were least affected (13%).

People with mental illness have greater reliance on the safety net

ALASKA 2016



*In the **Medicaid population**, a higher percentage of Alaska's adults reported serious psychological distress (SPD) during the past year compared to people with other or no health insurance coverage.*

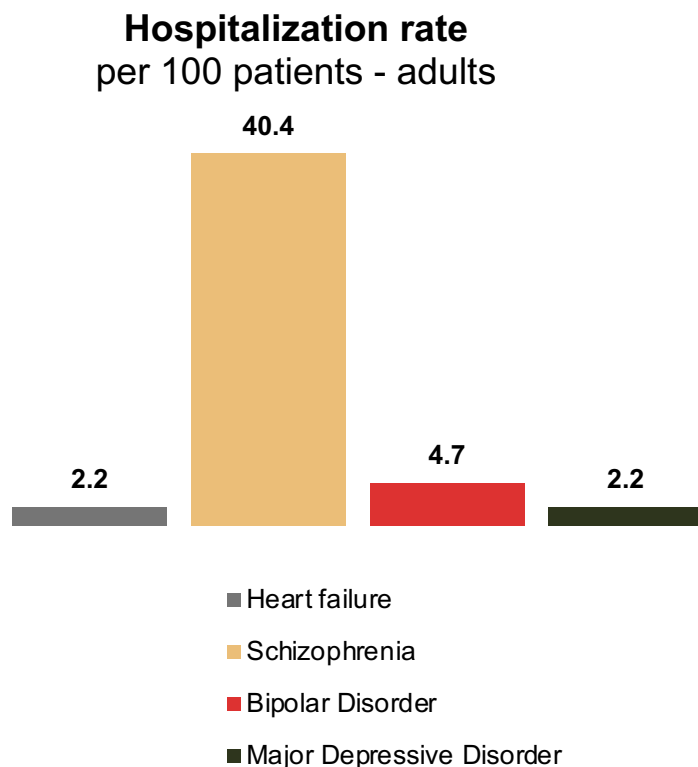
MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

Hospital utilization & costs

For every 100 patients with a serious mental illness, there were approximately 47 hospitalizations in the U.S. in 2014. The average length of stay for these hospitalizations is long compared to other hospital stays, and relatively little progress has been made in reducing the length of stay for a serious mental illness over the last decade. This imposes a large financial cost on the health care system and potentially diverts resources away from other sites of care.

Hospitalizations for mental illness

UNITED STATES 2014



In the U.S. the total number of hospitalizations is highest for adult patients with a principal diagnosis of bipolar disorder, whereas patients with a schizophrenia diagnosis have a much higher rate of hospitalizations.

In the U.S. there are approximately 47 serious mental illness-related hospitalizations for every 100 adult patients. The rate for each SMI is more than 18 times as high as for patients with heart failure as principal diagnosis.

3.2% of all hospitalizations are due to SMI

Source: Healthcare Cost and Utilization Project (HCUPnet) 2014

Estimate of hospitalization rate: based on total state population (Census bureau data, 2014)

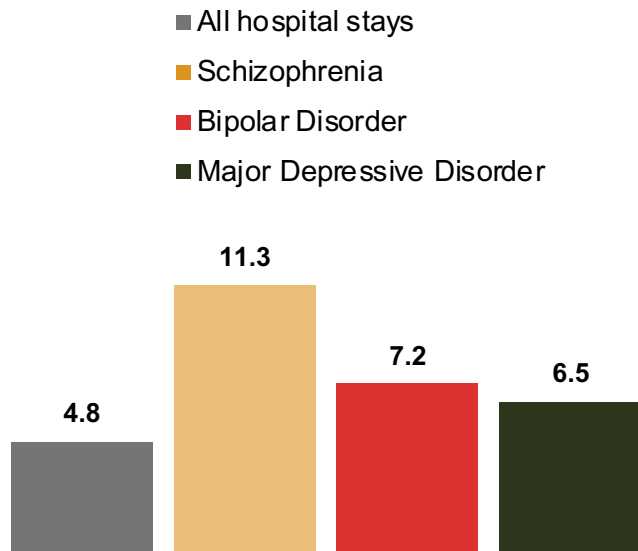
Prevalence estimates reported previously, and from Heart Disease and Stroke Statistics 2016

Update: A Report From the American Heart Association

Length of stay for mental illness hospitalizations

UNITED STATES 2014

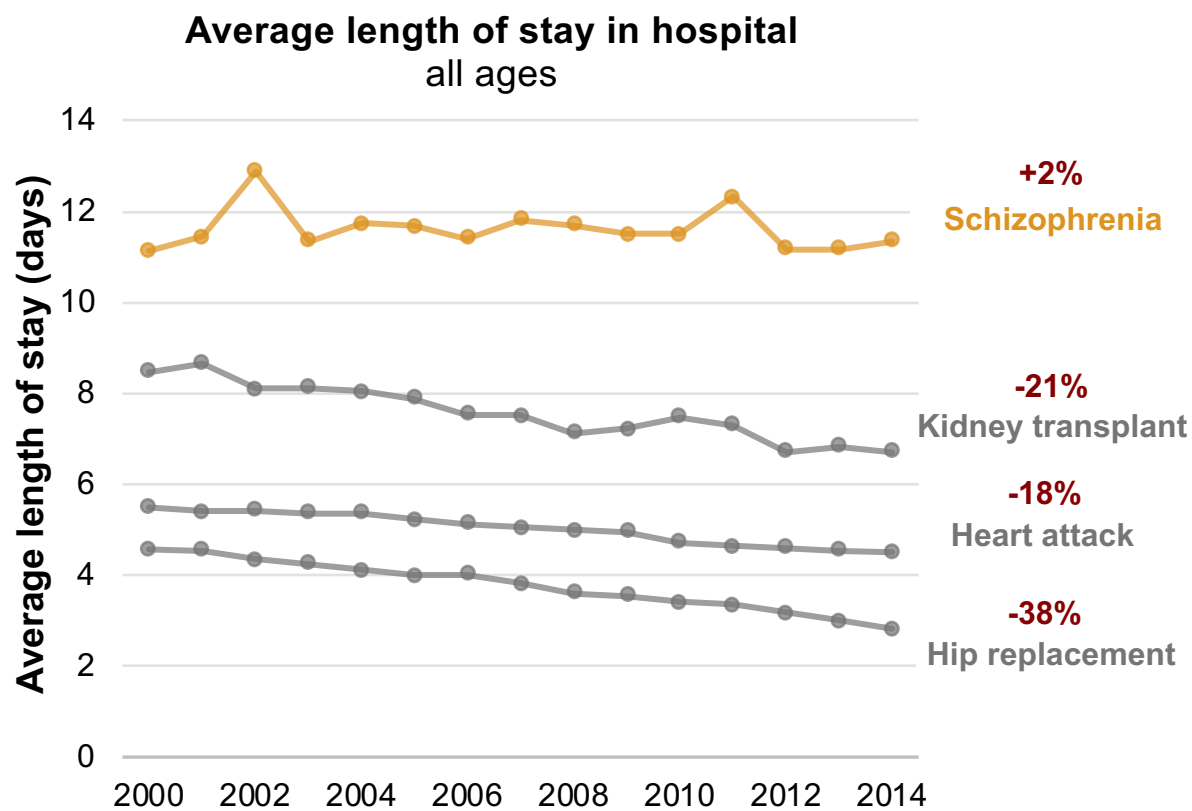
Average length of hospital stays (days) adults



In the U.S., the average hospital stay duration for adult patients with serious mental illness is high compared to all hospital stays, especially for patients diagnosed with schizophrenia.

Trends in length of stay for schizophrenia hospitalizations

UNITED STATES 2000-2014

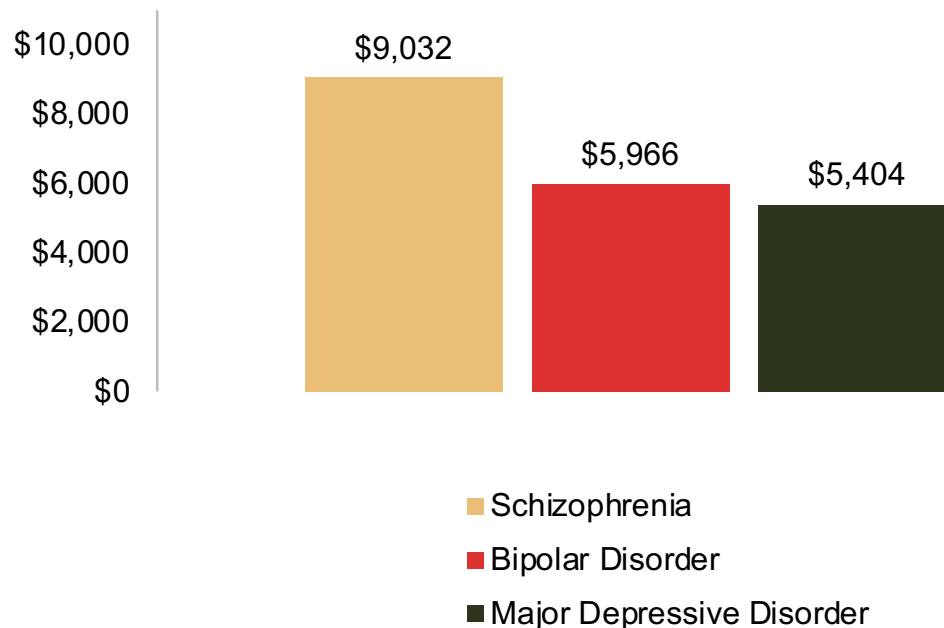


The average length of stay for a schizophrenia hospitalization was longer than those for kidney transplants, heart attacks or hip replacement surgeries. Moreover, the average duration for these other conditions all declined by at least 18% from 2000 to 2014 while for schizophrenia the duration has not changed by much.

Average hospital costs for mental illness hospitalizations

UNITED STATES 2014

Average hospital costs per stay
(all ages, in 2016 U.S. \$)

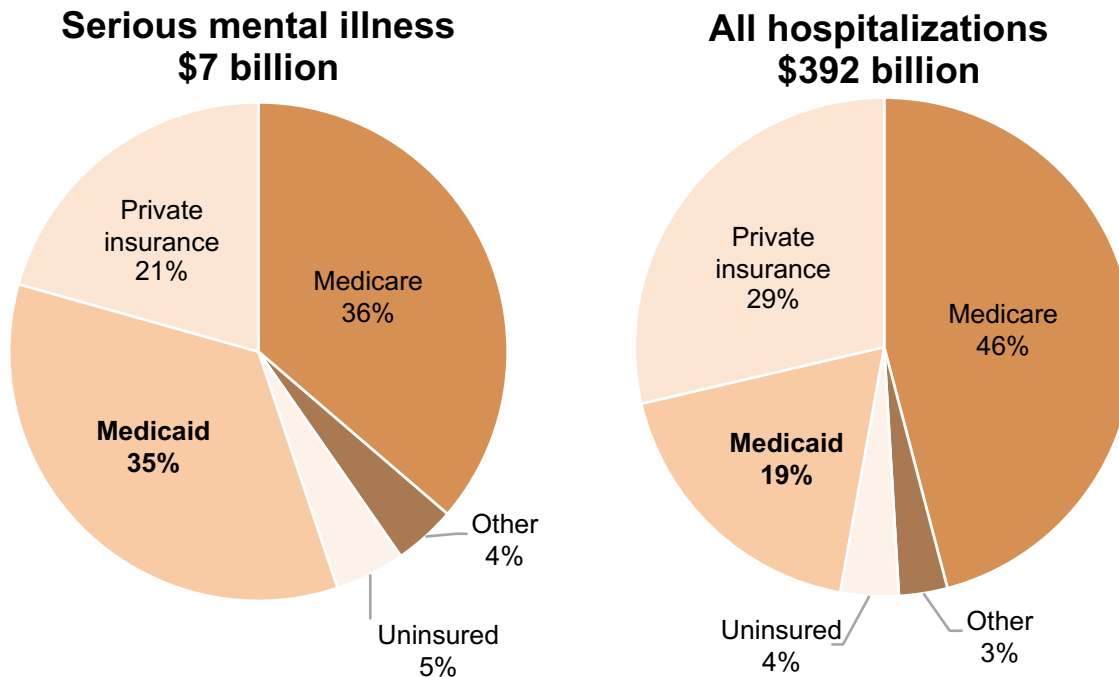


*The average costs for a hospitalization in the U.S. ranged from \$5,400 to \$9,000 per stay for patients with serious mental illness. This is despite **a general absence of procedures or surgeries** during a hospitalization for symptoms of serious mental illness.*

Total hospital costs for serious mental illness hospitalizations by insurance type

UNITED STATES 2014

Total hospital costs
(all ages, in 2016 U.S. \$)



Compared to all hospitalizations, the expected payer for hospitalizations involving serious mental illness is much more likely to be Medicaid and less likely to be Medicare or a private insurer. Only a small fraction of the \$392 billion in total hospitalization costs is covered by other programs (including VA/military health insurance), or paid by patients without health insurance.

Source: Healthcare Cost and Utilization Project (HCUPnet) 2014.

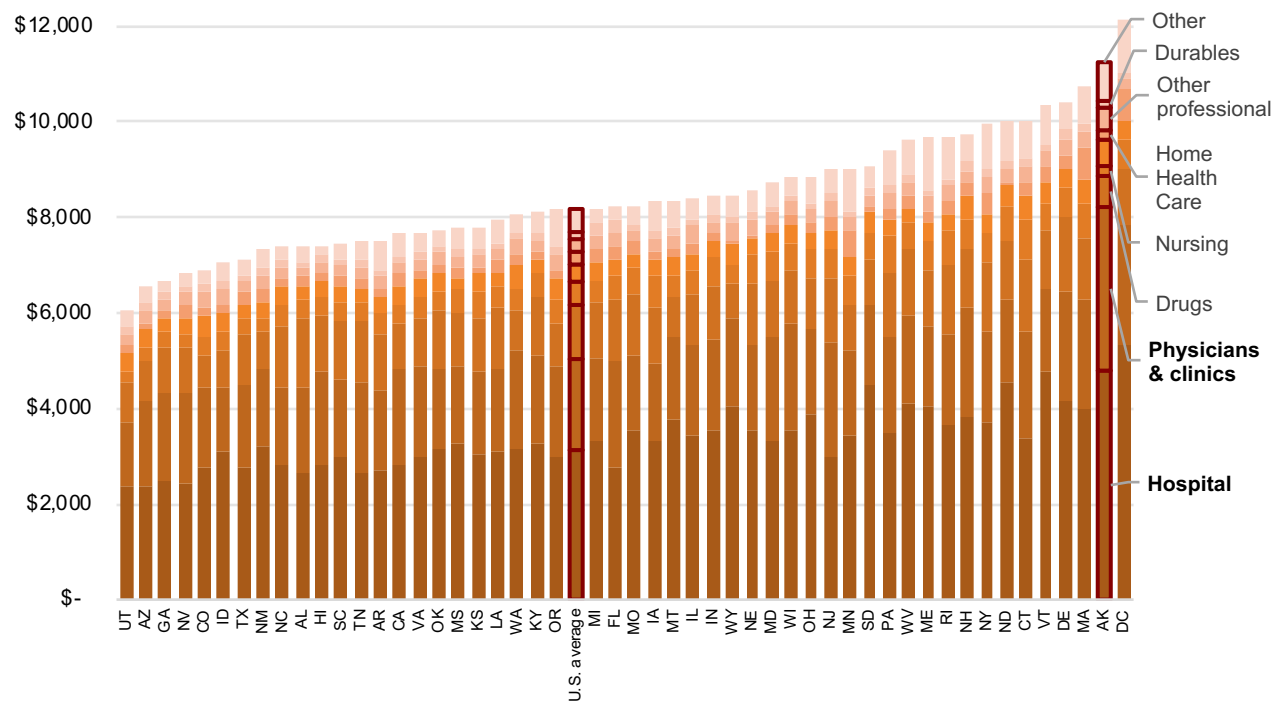
'Other' includes Worker's Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs. 'Uninsured' includes 'self-pay' and 'no charge'.

Hospitalizations for which the primary payer is 'missing' (less than 0.3%) are excluded.

Per capita health care expenditures

ALASKA AND UNITED STATES 2014

Per capita health care expenditures in 2014, by type of expenditures
(in 2016 U.S. \$)



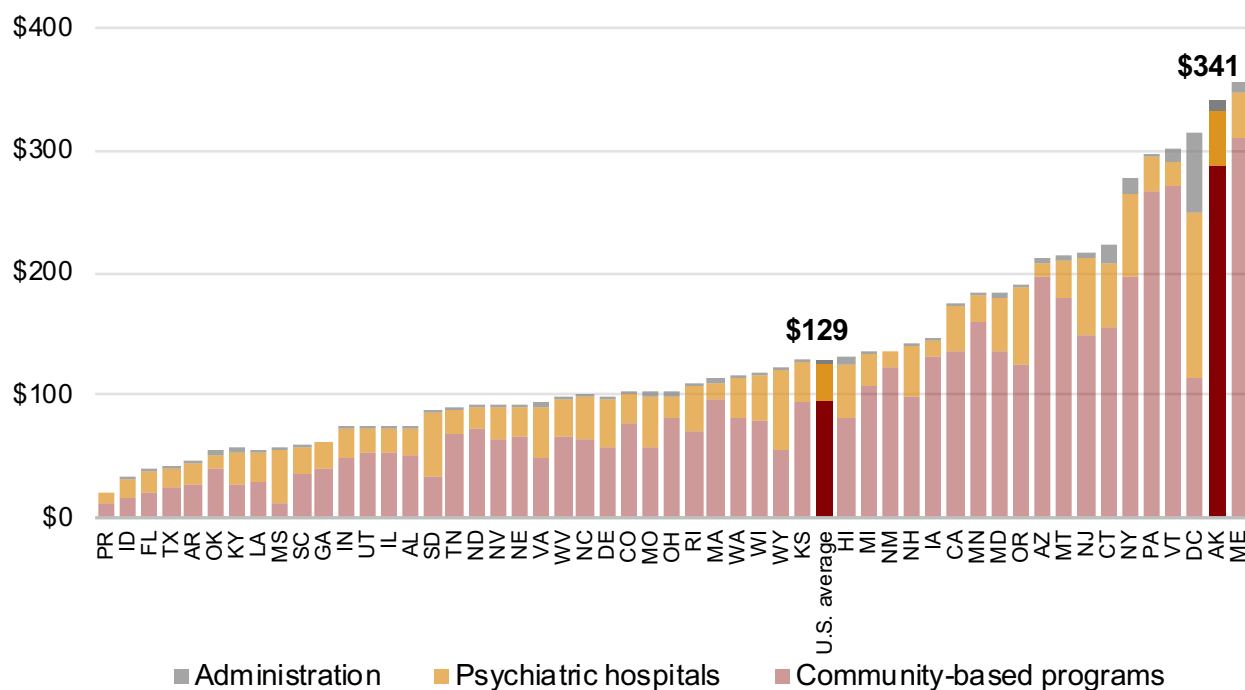
Alaska's average per capita health expenditures are 38% higher than the U.S. average, which is mostly due to higher costs related to hospitalizations and visits to physicians and other health professionals.

Per capita expenditures for people enrolled in Medicaid are especially high, at \$12,210, which is 76% higher than the U.S. average of \$6,934.

State Mental Health Agency spending

ALASKA AND UNITED STATES 2013

**Per capita
State mental health agency expenditures**
(in 2016 U.S. \$)



Alaska's state mental health agency spending on mental health services per capita is one of the highest in the U.S. In addition, a larger part of the per capita budget (84%) is spent on community-based programs.

Expenditures include (on average):

- 72% Community-based mental health programs funded and/or operated by state mental health agencies
- 26% Mental health services in state psychiatric hospitals
- 2% Administration/training/research/evaluation to support these services

AVAILABILITY OF BEHAVIORAL HEALTH CARE PROFESSIONALS

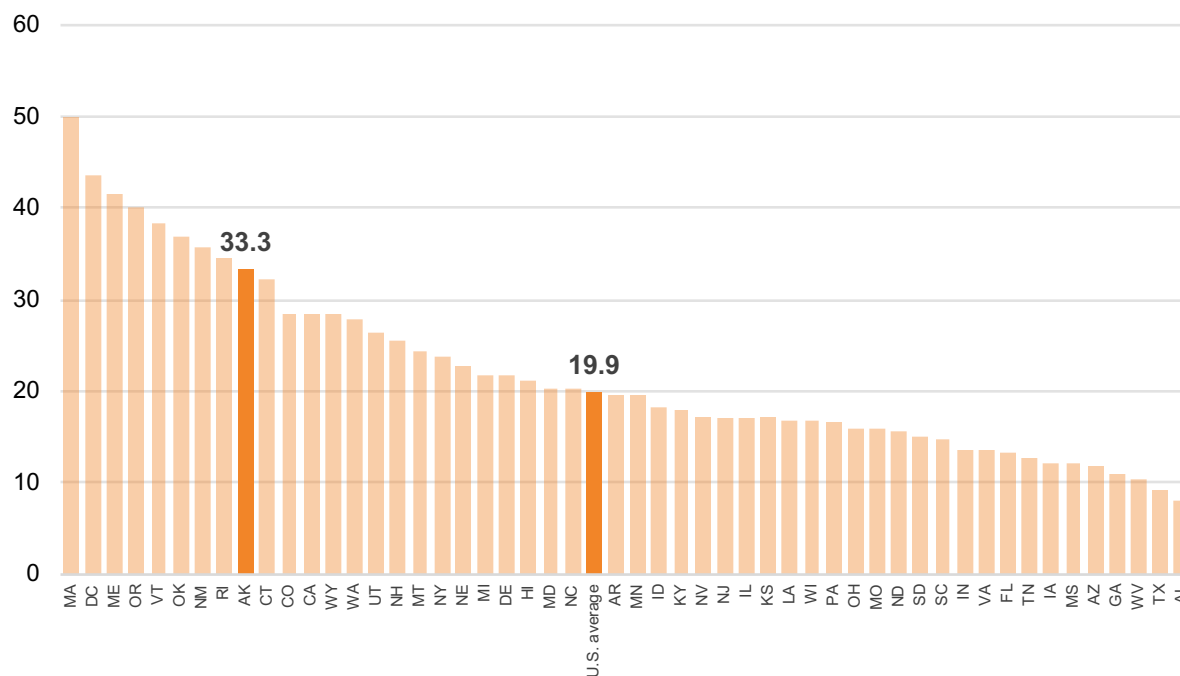
Per capita, Alaska has more behavioral health care professionals, but fewer hospital beds dedicated to psychiatric care in comparison to the U.S. average. Overall, this is not sufficient to fully serve the population with behavioral health care needs. There are many areas and facilities in Alaska that have a shortage of behavioral health care professionals; 11 full-time professionals are needed in addition to the current workforce in designated “shortage areas” to reach an acceptable provider-to-patient ratio.

This shortage is also present in the criminal justice system, where many people are in need of behavioral health treatment.

Availability of behavioral health care professionals

ALASKA AND UNITED STATES 2017

Number of behavioral health care professionals
per 10,000 residents

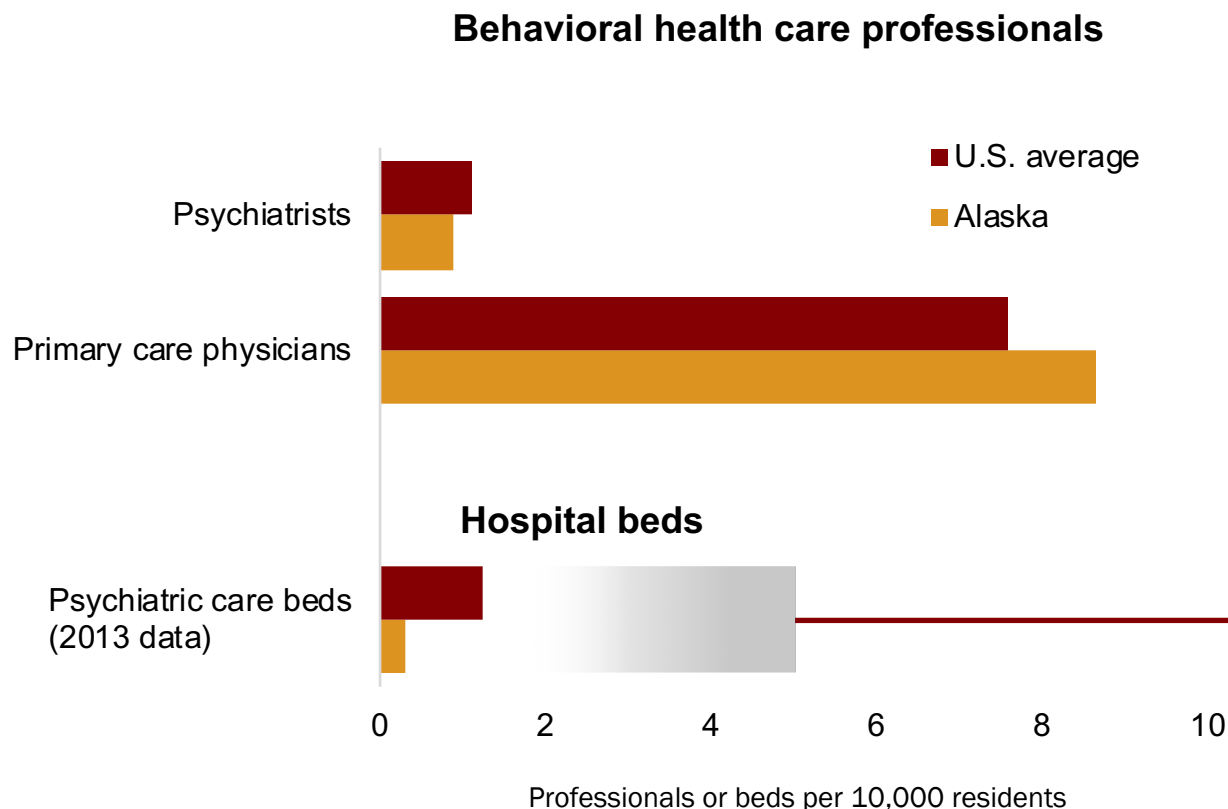


There are approximately 33 behavioral health care professionals for every 10,000 residents in Alaska, which is high compared to the average in the U.S. Note that the U.S. average does not represent the optimal number of behavioral health care professionals.

Behavioral health care professionals include: psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, and advanced practice nurses specializing in behavioral health care

Availability of behavioral health care professionals and hospital beds

ALASKA AND UNITED STATES 2014



Per resident, Alaska has slightly more primary care physicians, but fewer psychiatrists, and hospital beds dedicated to psychiatric care in comparison to the U.S. average.

Note that the U.S. average does not represent the optimal number of behavioral health care professionals or hospital beds.

Although the optimal number of beds is unknown in our current health care infrastructure, there are estimates that 5 beds per 10,000 residents are minimally required, assuming sufficient availability of outpatient programs for long-term treatment.

Source: Area Health Resource Files 2013 (psychiatrists, physicians and psychiatric care beds), and 2005-2013 Demographics of the U.S. Psychology Workforce, American Psychological Association (psychologists)

Treatment Advocacy Center, "The Shortage of Public Hospital Beds for Mentally Ill Persons"

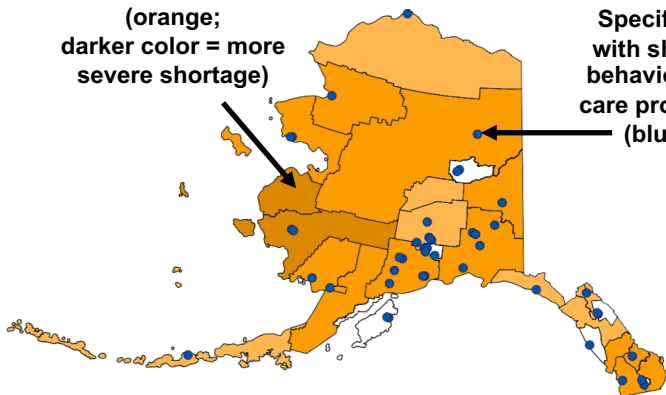
Shortage of behavioral health care professionals

ALASKA 2018



Geographic high needs area (orange; darker color = more severe shortage)

Specific facility with shortage of behavioral health care professionals (blue dots)



Behavioral health care professionals: psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage & family therapists

Facilities: Federal & state correctional institutions, state & county mental hospitals, community mental health centers, and other public or nonprofit private facilities

Geographic high needs area based on population-to-provider ratio, poverty levels, elderly and youth ratio, alcohol and substance abuse prevalence, and travel time to nearest source of care outside area

Currently, Alaska has 1 full-time equivalent behavioral health care professional in designated shortage areas and facilities with behavioral health care professional shortages. In order to address the shortage issue, 11 more full-time professionals are needed in these areas, 2 of whom are needed in correctional facilities.

Source: Health Professional Shortage Areas (HPSA), HRSA Data Warehouse, 03/16/2018

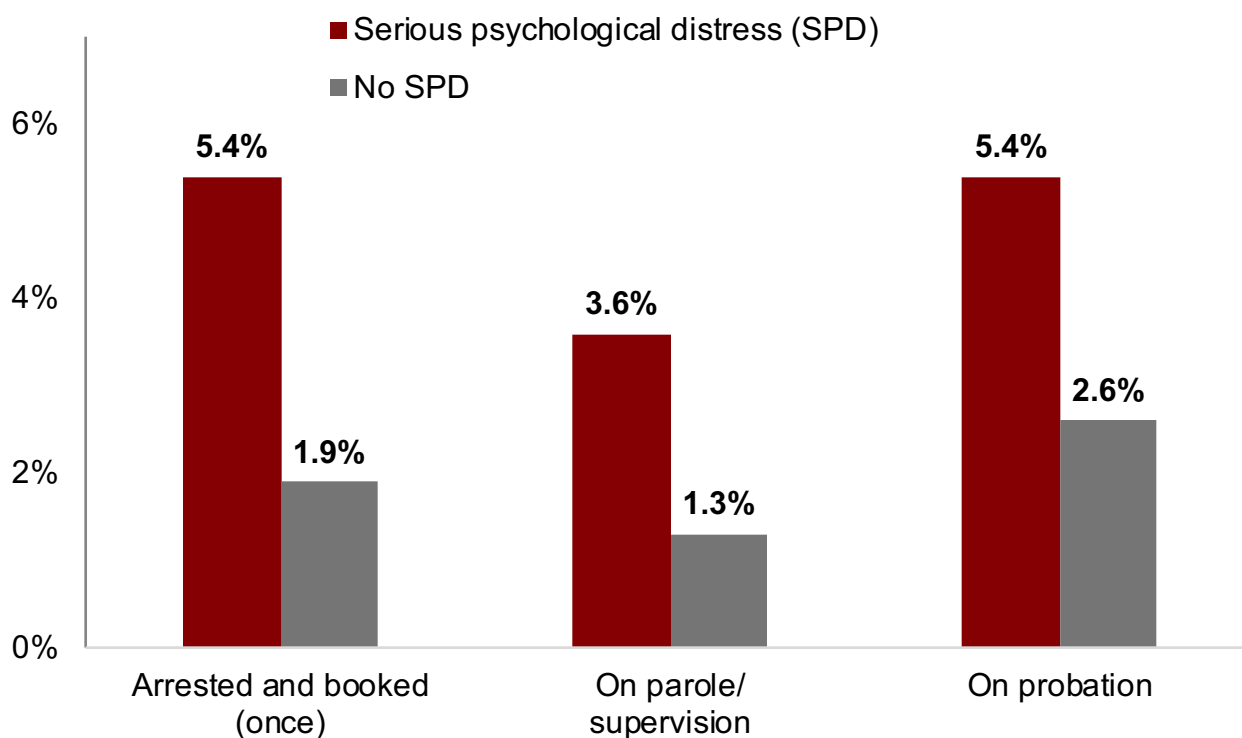
MENTAL HEALTH CONDITIONS & THE CRIMINAL JUSTICE SYSTEM

People living with mental illness are more likely to encounter the criminal justice system and to be arrested, suggesting that mental illness is a factor in incarceration risk. Whereas state and federal prisons have resources to provide mental health care to prisoners who were not receiving this before incarceration, local jails appear particularly unable to meet the health care needs of people with mental illness.

In Alaska, the prevalence of serious mental illness is similar to the U.S. average. The overall cost of incarceration of the 1000+ prisoners with serious mental illness in the state of Alaska exceeds \$75 million per year.

Contact with criminal justice system

ALASKA 2016

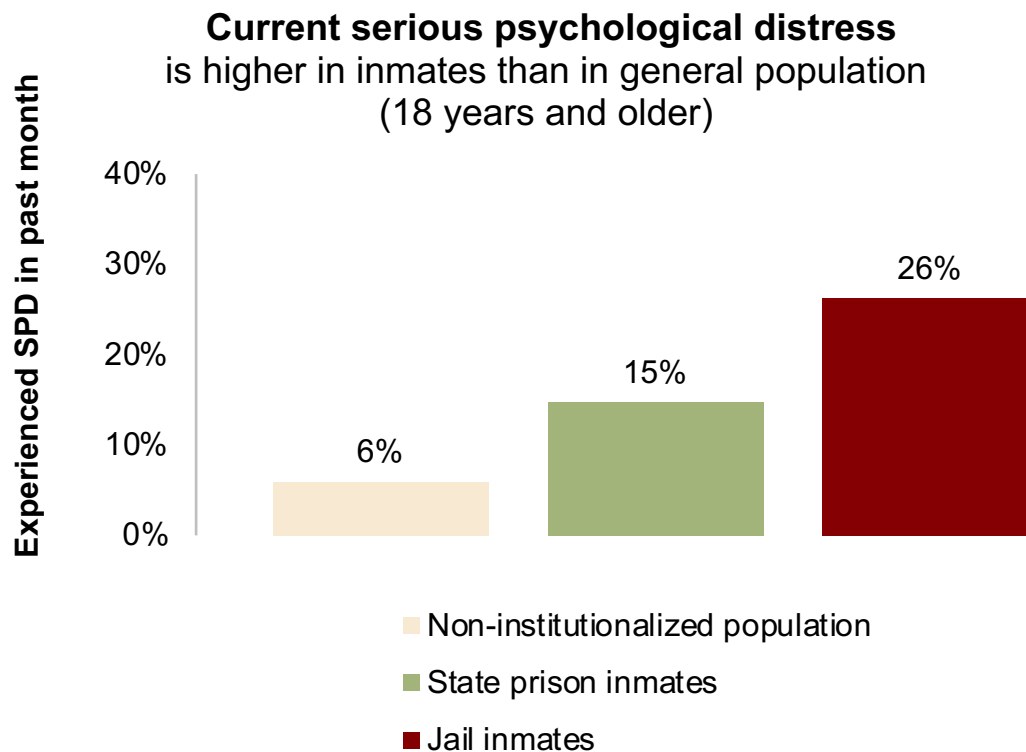


People who experienced serious psychological distress (SPD) are more likely to have been arrested or be on parole or probation in the past year. In Alaska these statistics are approximately 1.5 to 2.5 times higher than in the U.S.

Source: National Survey on Drug Use and Health (NSDUH, R-DAS) 2015-2016
Survey does not include current institutionalized population

Mental health issues in prison and jail populations

UNITED STATES



A large percentage of the U.S. adult prison and jail inmate population currently experiences serious psychological distress compared to the non-institutionalized population.

Additionally, these mental health issues are observed at higher rates in local jails than in prisons.

Source: National Survey of Drug Use and Health (NSDUH) 2016

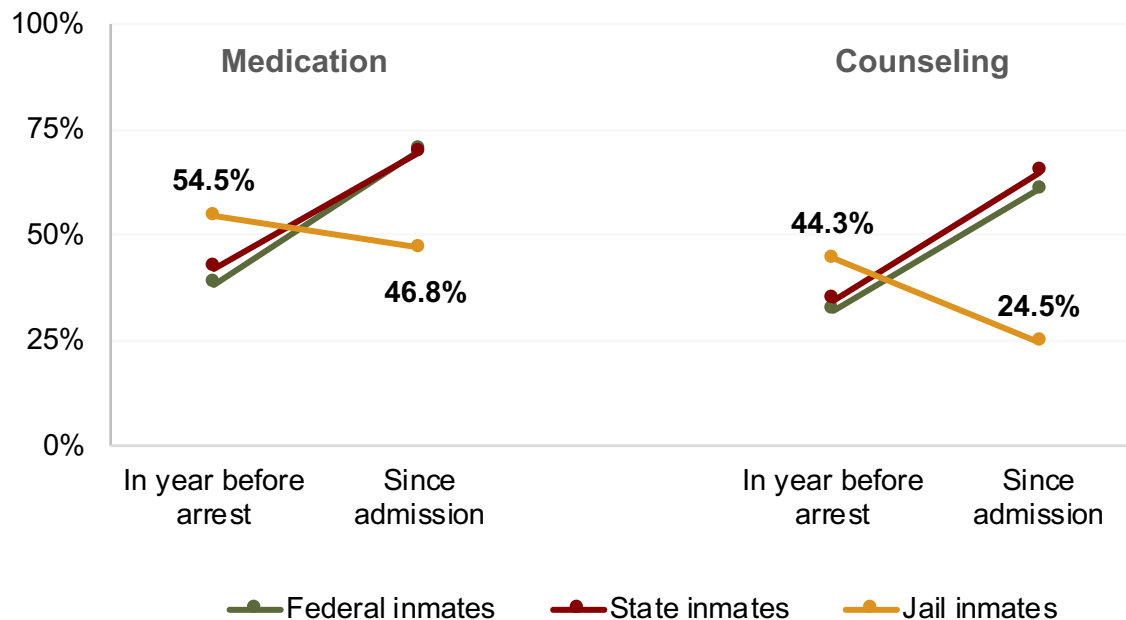
Bureau of Justice report: Sexual Victimization in Prisons and Jails Reported by Inmates, 2011-12, based on data from the National Inmate Survey

Change in treatment before and during incarceration in prison and jails

UNITED STATES

Lack of access to mental health treatment in local jails

Among inmates with a previously diagnosed serious mental illness and who have ever received respective treatment before incarceration



The increase in mental health care treatment in federal and state prisons after admission to prison suggests that these institutions are making up for the gaps in mental health treatment in the general health care system.

At the same time, local jail inmates do not have the same access to medication and counseling while incarcerated as federal and state prisoners.

Mental health conditions include prior diagnosis of depressive disorder, bipolar disorder, and/or schizophrenia. Medication and counseling data includes treatment for any mental illness.

Based on the most recent data (from 2004),
we estimate that the number of
Alaska state prison inmates in 2016,
previously diagnosed with serious mental illness was

1,026

Estimate of overall annual costs in 2016:

\$75,694,740

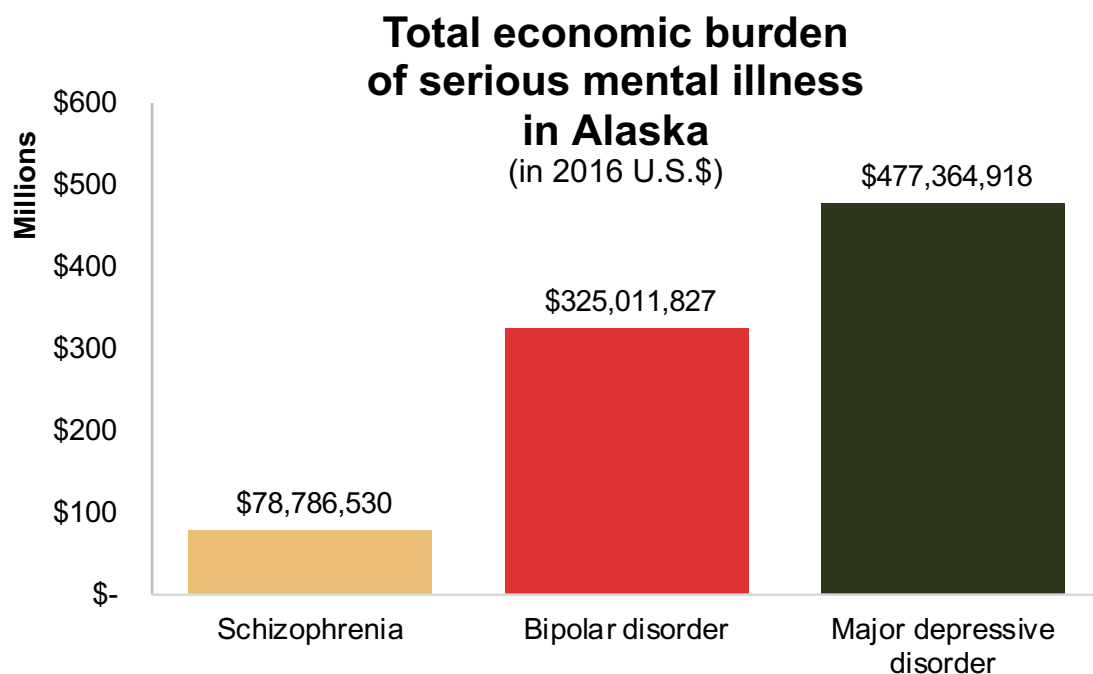
*Overall annual costs based on 2016 average of all state prison inmates in Alaska
Source: Annual Survey of State Government Finances 2016
Survey of Inmates in State/Federal Correctional facilities, BJS, 2004
Alaska State, Department of Corrections Offender Profile 2016*

TOTAL ECONOMIC BURDEN OF SERIOUS MENTAL ILLNESS

The economic burden of each serious mental illness in adults is estimated to be at least \$35 billion for the U.S. and \$78 million for Alaska per year

Economic burden of serious mental illness

ALASKA 2016



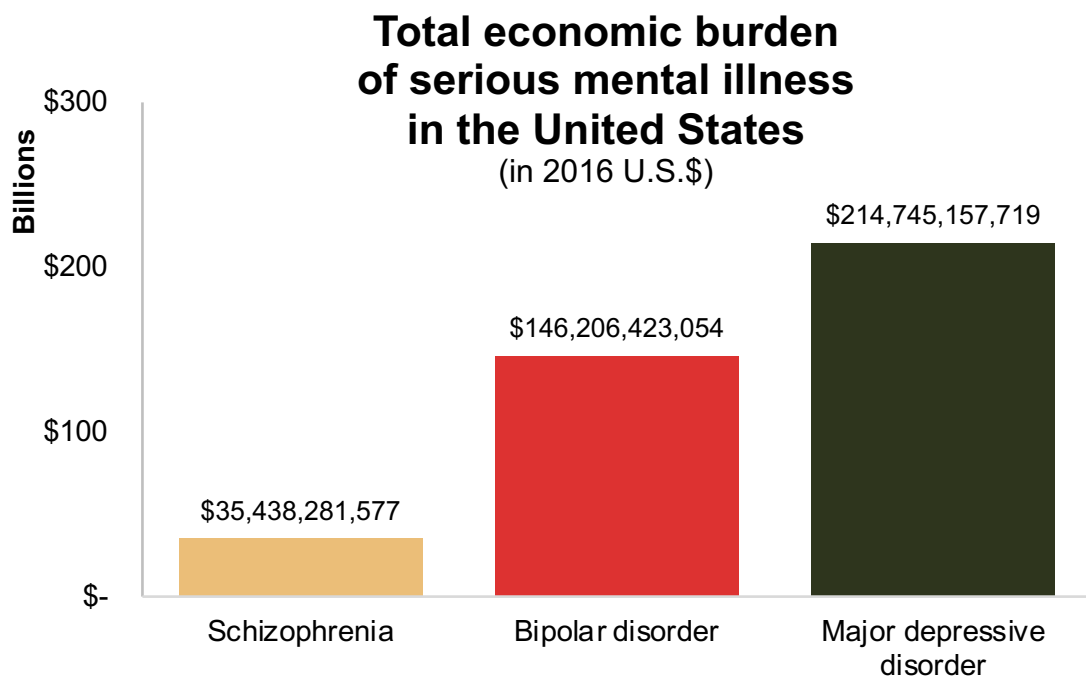
*The economic burden of schizophrenia, bipolar disorder, and major depressive disorder in adults in Alaska is estimated to be at least **\$78 million for each serious mental illness.***

Due to symptom overlap, diagnoses of mental illnesses are not mutually exclusive, therefore, patients with two or more diagnoses may be represented in multiple categories.

Source: MacEwan JP, Seabury S, et al. Pharmaceutical innovation in the treatment of schizophrenia and mental disorders compared with other diseases. *Innov Clin Neurosci.* 2016 Aug 1;13(7-8):17-25. See appendix for original sources

Economic burden of serious mental illness

UNITED STATES 2016



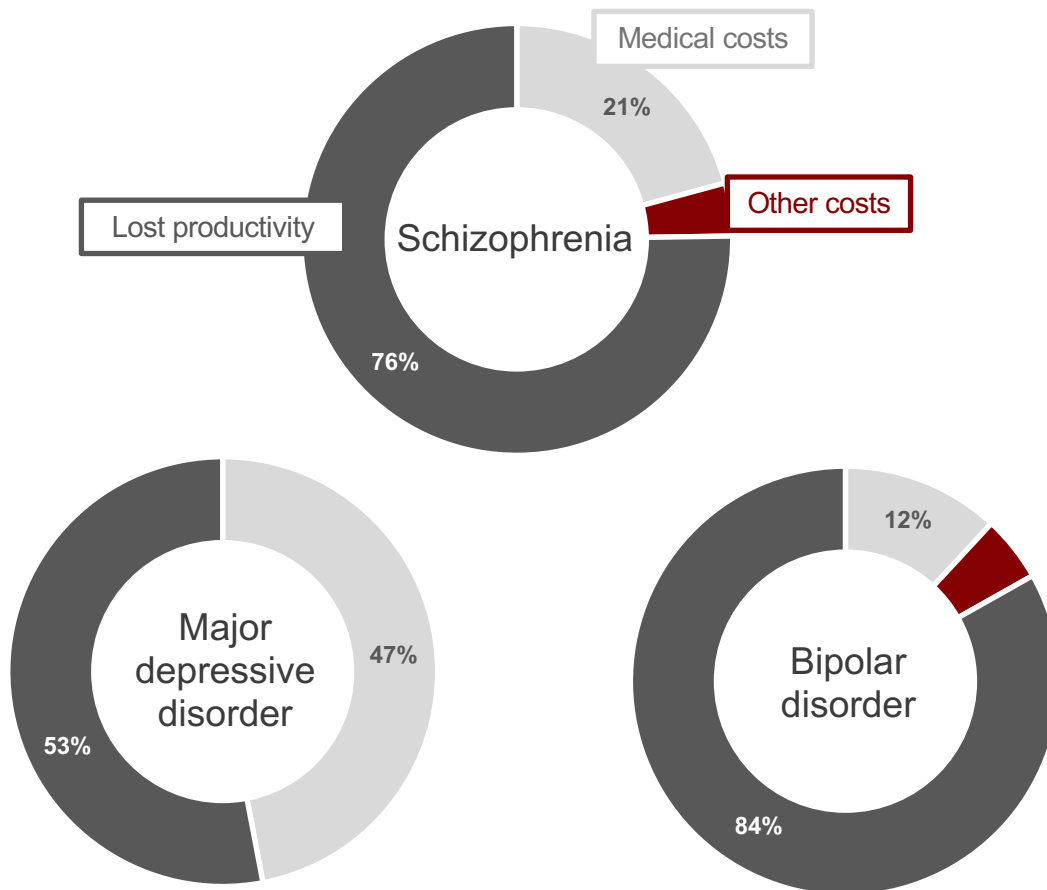
*The economic burden of schizophrenia, bipolar disorder, and major depressive disorder in adults in the U.S. is estimated to be at least **\$35 billion for each serious mental illness.***

Due to symptom overlap, diagnoses of mental illnesses are not mutually exclusive, therefore, patients with two or more diagnoses may be represented in multiple categories.

Source: MacEwan JP, Seabury S, et al. Pharmaceutical innovation in the treatment of schizophrenia and mental disorders compared with other diseases. *Innov Clin Neurosci.* 2016 Aug 1;13(7-8):17-25. See appendix for original sources

Lost productivity is the largest contributor to economic burden of serious mental illness

UNITED STATES



*Most of the total economic burden of serious mental illness is due to **lost productivity** (unemployment, lost compensation (incl. caregivers), or early mortality). Only 12 to 47% of the total burden is resulting from direct **medical costs** (including substance abuse treatment), and an even smaller percentage from law enforcement, incarceration, shelters, or research & training (**other costs**).*

This highlights the large potential economic and societal benefits from improving treatment for serious mental illness even if it means spending more on care.

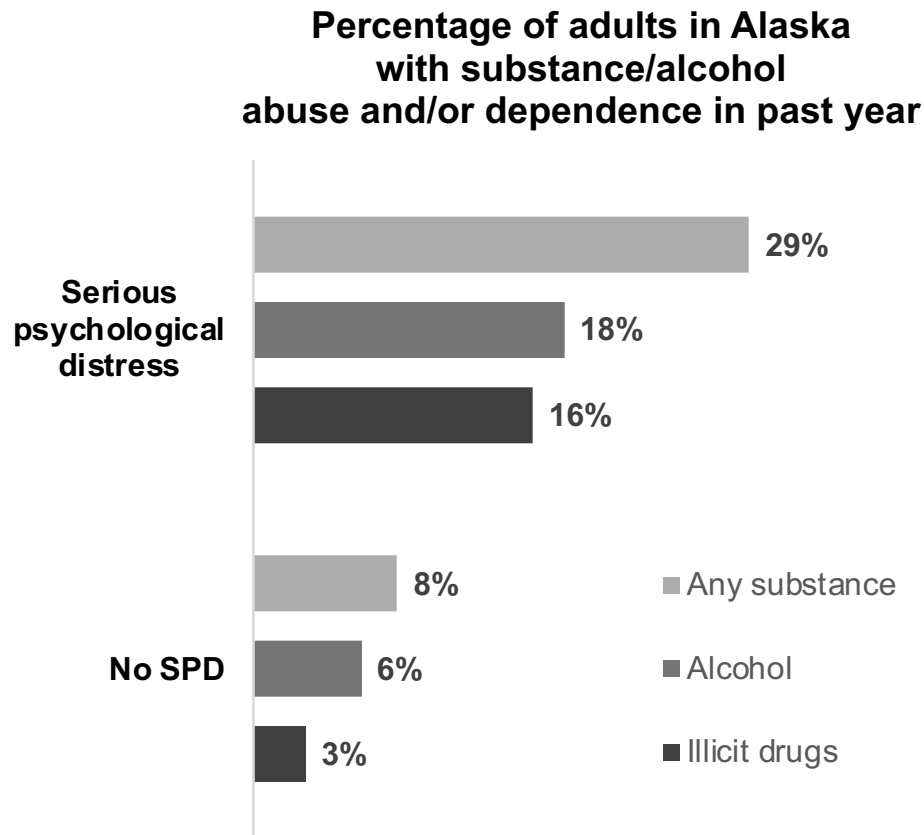
OPIOID ABUSE AND FATAL OVERDOSES

People who experience serious psychological distress are more likely to abuse or be dependent on alcohol, prescription opioids, and illicit drugs. During the past decades, the rates of opioid-related hospitalizations and emergency department visits have increased steadily in the U.S., despite a recent reduction in prescription opioid sales.

The increase in abuse and dependency, as well as the presence of substances like fentanyl, has resulted in a large increase in fatal overdoses by opioids in the last several years.

Substance abuse in people with serious psychological distress

ALASKA 2016

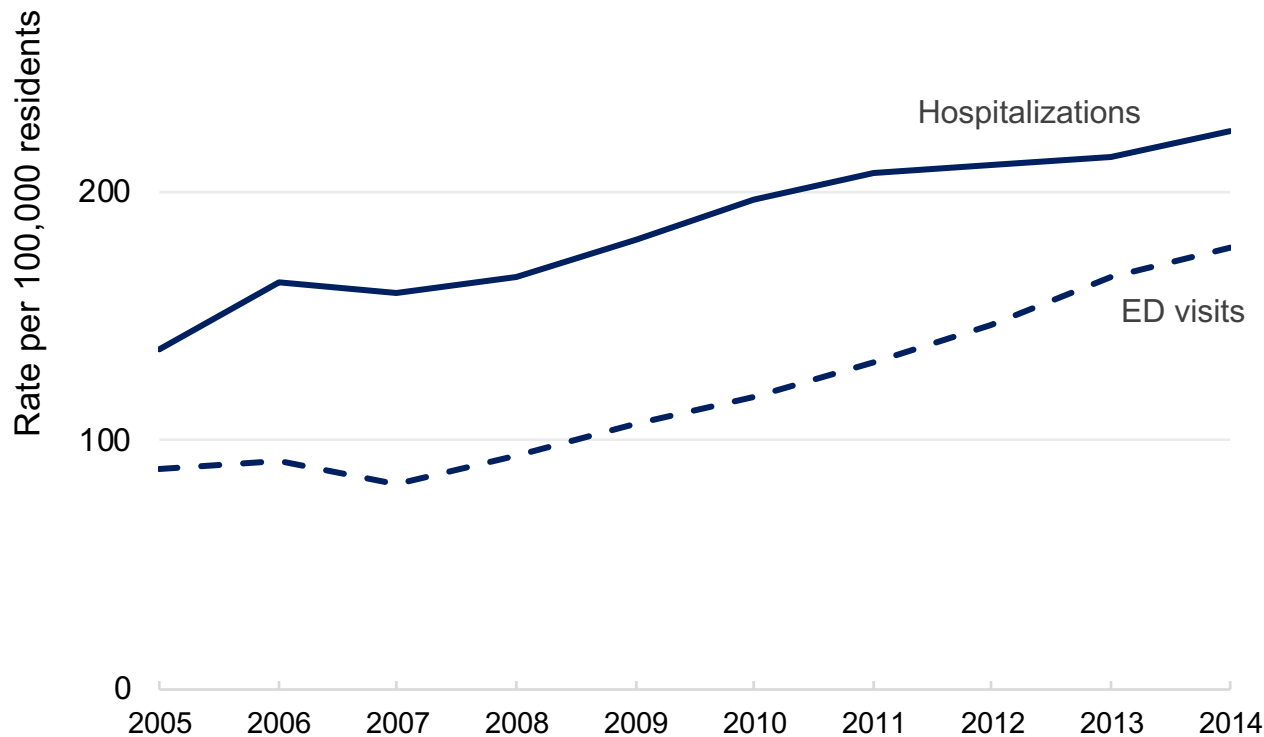


People who experienced serious psychological distress in the past 12 months are more likely to abuse or be dependent on alcohol or illicit drugs during that same time period.

Opioid-related hospitalization and emergency department visit rates are on the rise

UNITED STATES 2005-2014

Opioid-related hospitalizations and ED visits



The rates of opioid-related hospitalizations and emergency department visits have been rising steadily over the last decade, reaching 225 hospitalizations and 178 ED visits per 100,000 residents in the U.S.*

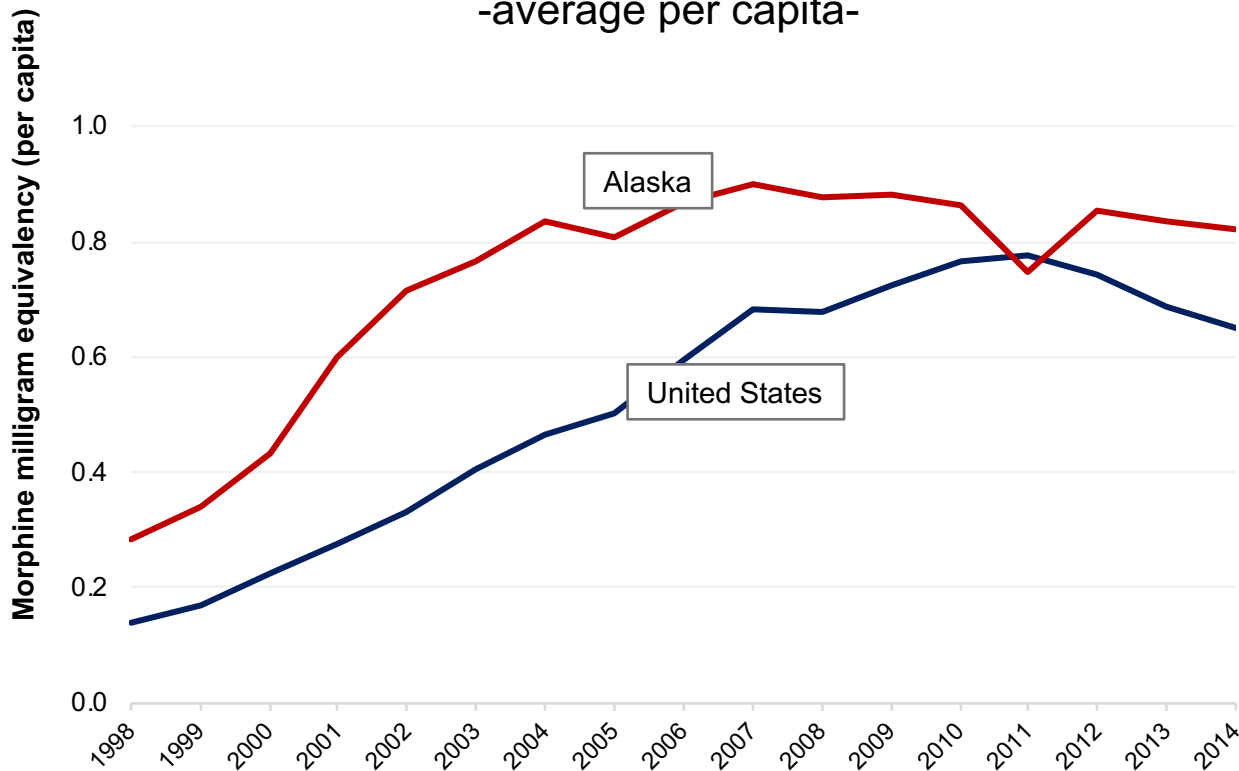
Source: Healthcare Cost and Utilization Project (HCUP Fast Stats - Opioid-Related Hospital Use)

* Opioid refers to both opioids and opiates in this chartbook

Prescribing of opioids started to decrease in 2007

ALASKA AND UNITED STATES 1998-2014

Prescription opioid sales
-average per capita-



Between 1998 and 2011, average prescription opioid sales in the U.S. increased more than five-fold, followed by a decline in the last several years.

Prescription opioid sales in Alaska were initially higher and peaked earlier, in 2007, but have been declining slowly since then.

Source: Automation of Reports and Consolidated Orders System (ARCOS), Drug Enforcement Administration. United States data includes all states except DE, MO and PA

**USING DATA AND RESEARCH
TO HELP MOVE FORWARD**

Why don't we do a better job providing behavioral health care in the U.S.?

- The potential benefits of improving outcomes for individuals with mental illness are large
 - Could alleviate hundreds of billions in economic burden
- But the benefits are diffuse
 - Spread across different healthcare payers
 - Indirect benefits accrue outside the healthcare system
 - Recognized over long time horizon

Individual agents (or agencies) may fail to recognize the benefits of improving access to quality mental healthcare

A more comprehensive approach is needed to understand the true returns to behavioral healthcare

- **Need to look beyond line-item accounting of cost savings**
 - Consider all types of medical spending, including hospitalizations, outpatient services, medication, social services, etc.
 - Use forward-looking measures that consider the lifetime effects on patients
 - Measure both direct and indirect effects
 - Labor market productivity, correctional facility spending, caregiver burden, etc.
- More research and data are needed to support ROI measurement
 - Data that spans different systems
 - Research that includes objective measures of outcomes spanning the full range of potential costs and benefits

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