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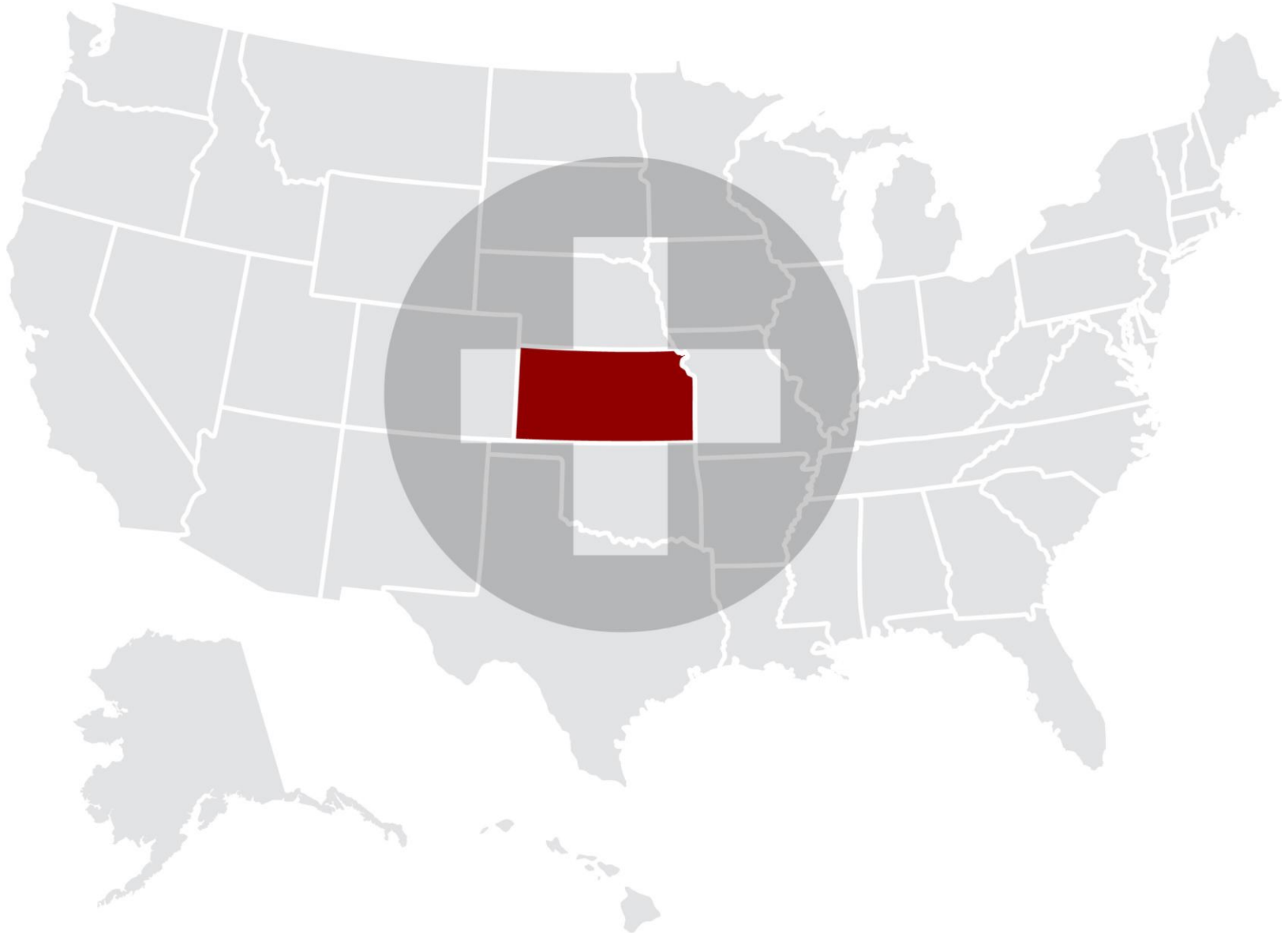
Leonard D. Schaeffer Center
for Health Policy & Economics

THE COST OF MENTAL ILLNESS: KANSAS FACTS AND FIGURES

Hanke Heun-Johnson, Michael Menchine, Dana Goldman, Seth Seabury
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KANSAS



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. In Kansas, there is concern that access to affordable mental health care has been hampered by the state's fiscal issues and policy decisions.

This chartbook attempts to quantify the magnitude of the challenges facing Kansas in terms of the economic burden associated with behavioral health issues. We describe the size and characteristics of the population with mental illness and show the impact on the health care system based on high rates of hospitalization. We also note the unmet need in terms of behavioral health care professionals and discuss the implications for the criminal justice system in Kansas.

INTRODUCTION

Key findings include:

- The hospitalization rate of patients with serious mental illness is very high compared to other hospitalizations, which imposes a large cost on the health care system due to the relatively long length of stay, despite the general absence of procedures.
- Kansas has a lower number of behavioral health care professionals per capita compared to the rest of the U.S., and shortages are particularly evident in rural areas.
- People living with mental illness are more likely to encounter the criminal justice system, resulting in a large number of arrests and incarcerations. The overall annual cost of incarcerating people with serious mental illness in state prisons in Kansas exceeds \$110 million.

The data presented in this chartbook are publicly available and represent the most recent numbers to which we had access. The term “behavioral health” is used to describe data related to mental illness and substance abuse, whereas “mental health” does not include substance abuse.

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

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

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

KEY POPULATIONS OF INTEREST

SERIOUS PSYCHOLOGICAL DISTRESS (SPD)

When someone experiences serious psychological distress, he or she may have a diagnosed or undiagnosed mental health condition, such as major depressive disorder, bipolar disorder, or schizophrenia (described below). Serious psychological distress is determined by six questions on the Kessler-6 screening instrument, which measures the frequency of symptoms of depression, anxiety, and emotional distress during a specific time period

MAJOR DEPRESSIVE DISORDER

A mental illness that severely impairs a person's ability to function, characterized by the presence of depressed mood, feelings of worthlessness, guilt, or helplessness, reduced concentration, ability to think, sleep problems, loss of interest or pleasure in activities, and/or recurrent thoughts of suicide

BIPOLAR DISORDER

A mental illness characterized by extreme shifts in mood and energy levels. During manic episodes, a patient has abnormally high energy and activity levels that lead to impairment in daily functioning or requires hospitalization to prevent harm to self or others. Delusions or hallucinations can also occur. Manic episodes may be alternated with major depressive episodes

SCHIZOPHRENIA

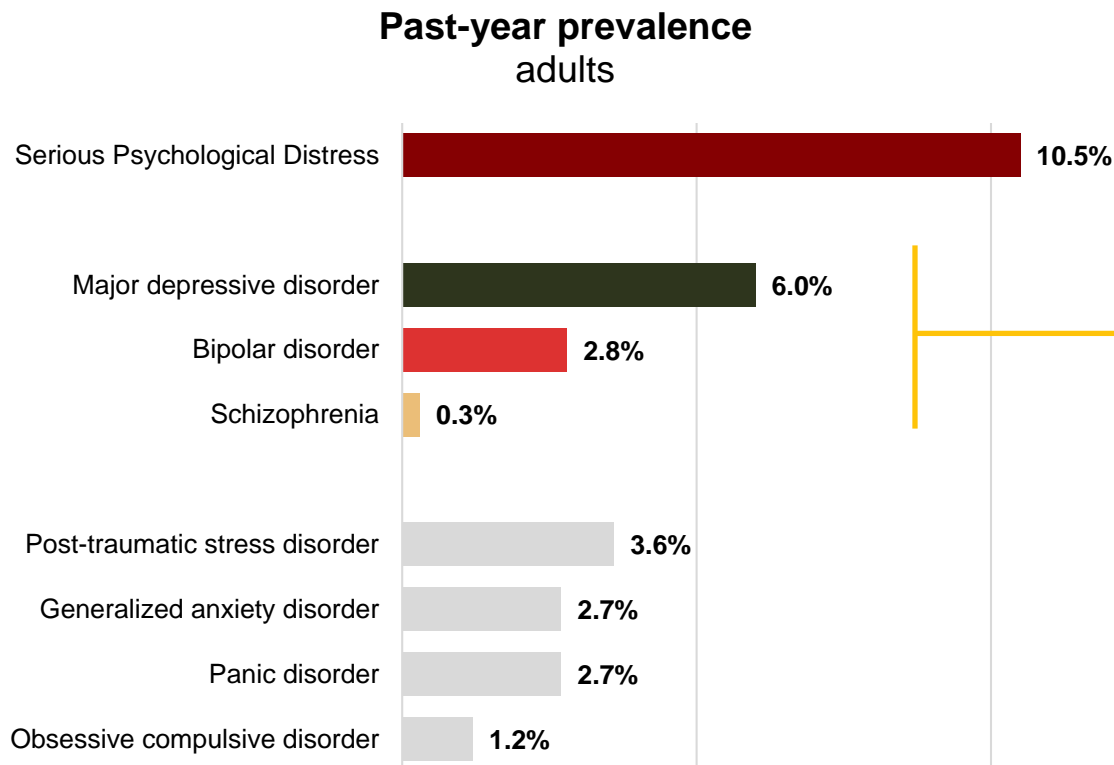
A debilitating mental illness that distorts a patient's sense of reality. Symptoms of schizophrenia include hallucinations, delusions, confusion, cognitive and mood impairments, and extremely disorganized thinking

RISK FACTORS: GENETIC & EXTERNAL FACTORS

Many different genetic factors may increase risk, but no single genetic variation causes a mental illness by itself; Specific interactions between the individual's genes and environment are necessary for a mental illness to develop

Prevalence of mental illness

UNITED STATES 2016



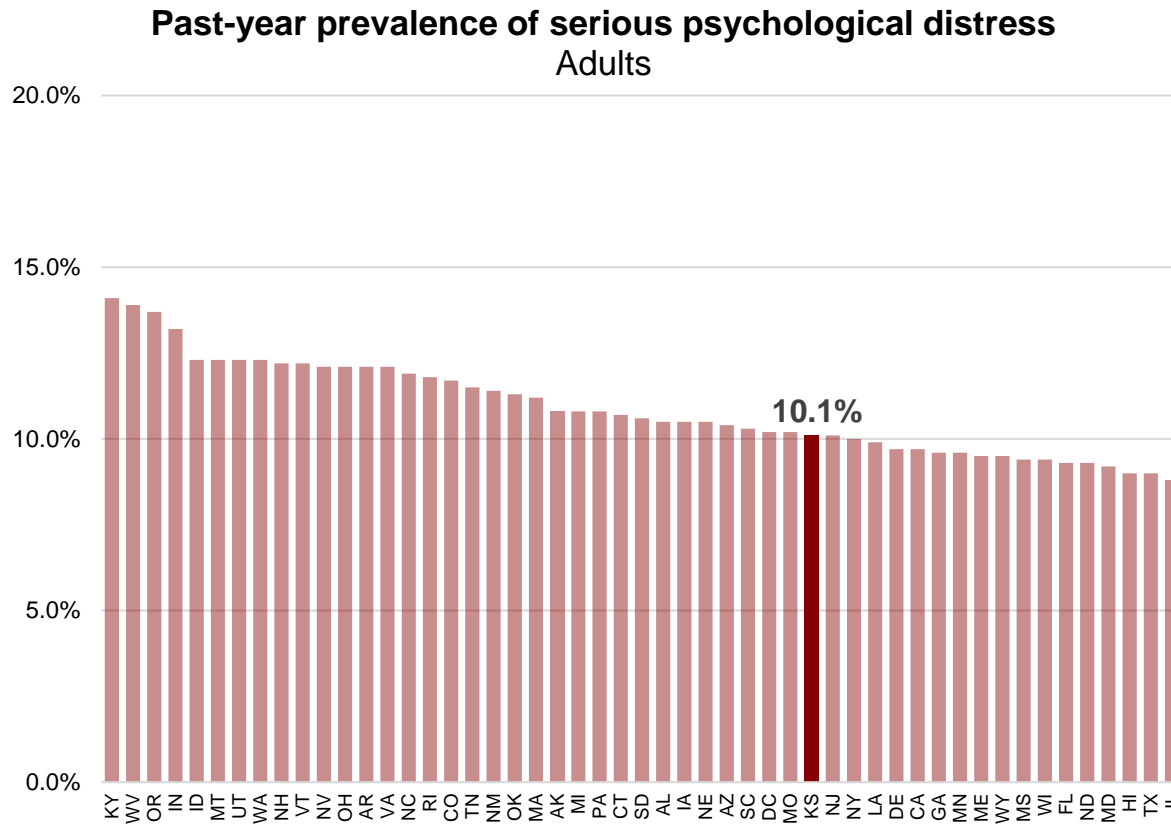
Many mental health conditions are fairly common in the general population.

*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)*

State variation in prevalence of serious psychological distress

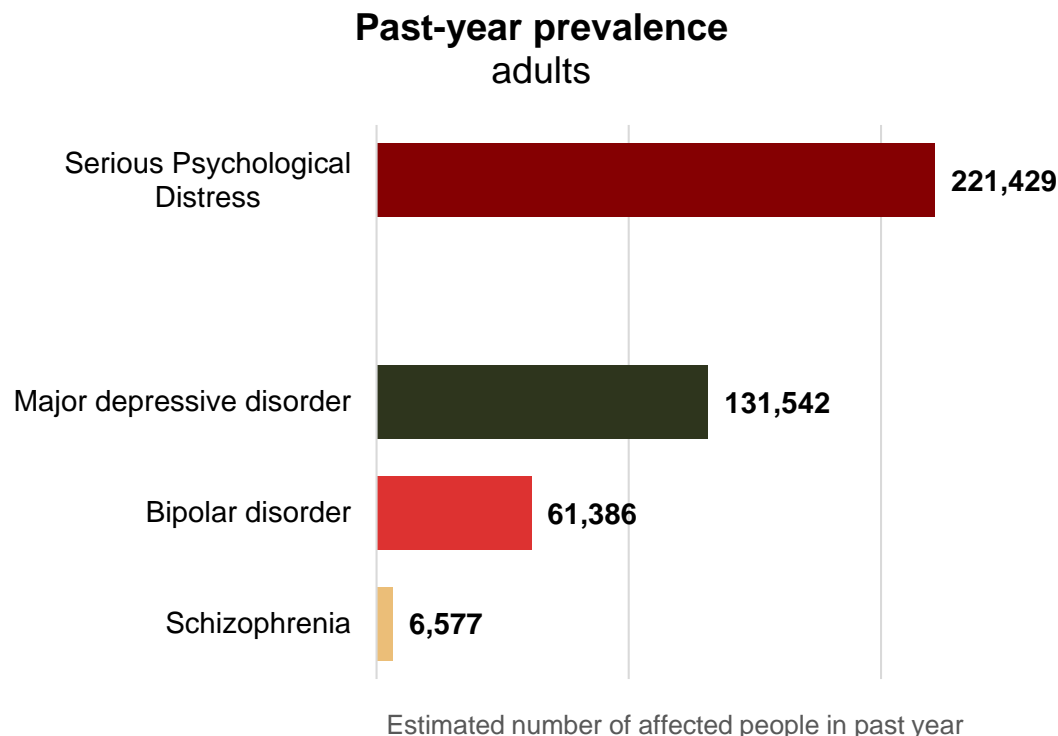
KANSAS AND UNITED STATES 2016



The prevalence of serious psychological distress in the past year among adults in Kansas is 10.1%, which is slightly lower than the U.S. average of 10.5%.

Estimated number of people living with mental illness

KANSAS 2016



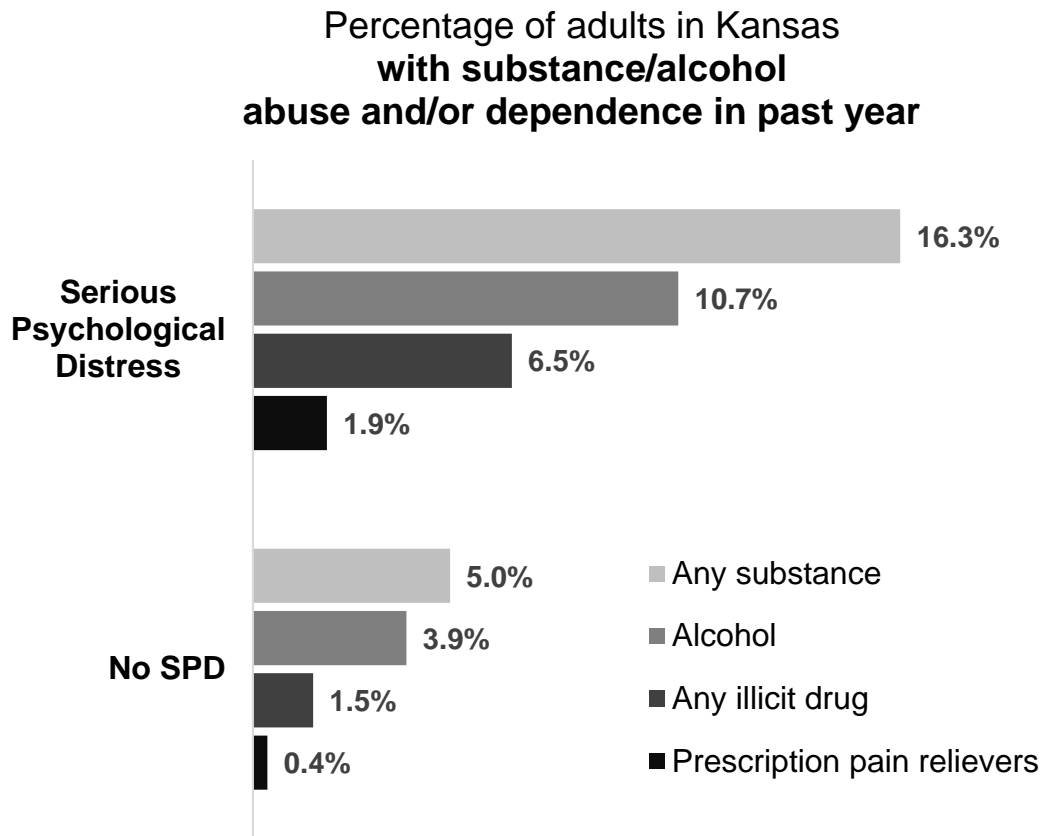
An estimated 220,000 adults in Kansas experienced serious psychological distress in the past 12 months.

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 Institutes of Mental Health, National Survey on Drug Use and Health (NSDUH, R-DAS) 2015-2016, and NSDUH-MHSS 2008-2012. Estimate of # of people affected using total state population of 2,191,407 (18 years and over), Census Bureau data (2015)

Substance abuse in people with serious psychological distress

KANSAS 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.

MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

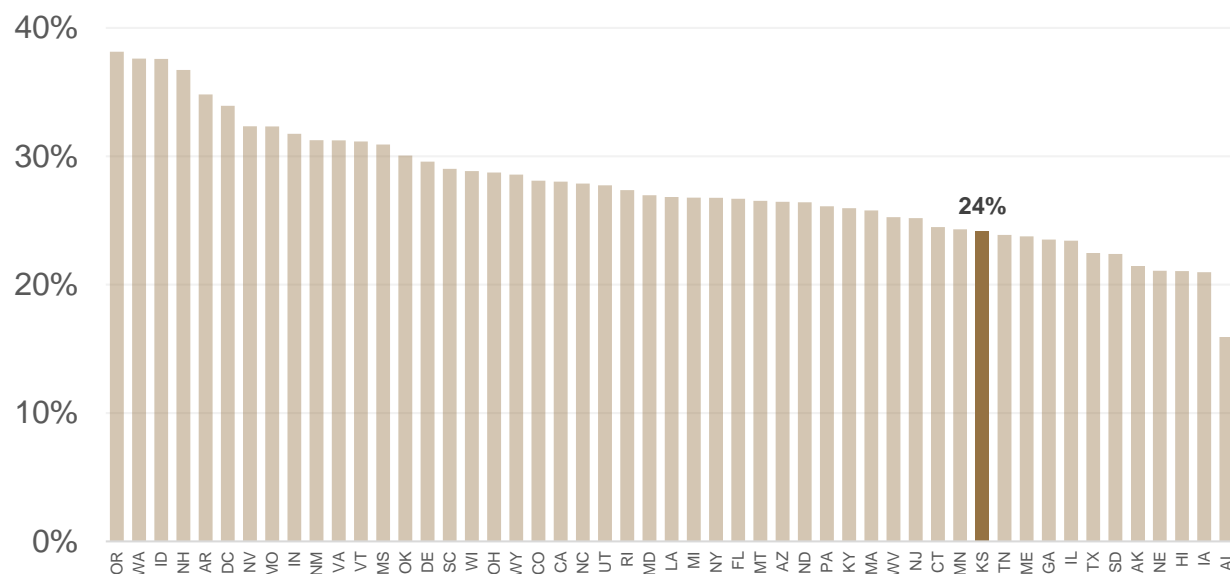
Unmet mental health care needs

Approximately a quarter 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.

Unmet need of mental health treatment

KANSAS AND UNITED STATES 2016

Percentage of adults
who have an unmet need of mental health treatment
among those
with past-year serious psychological distress



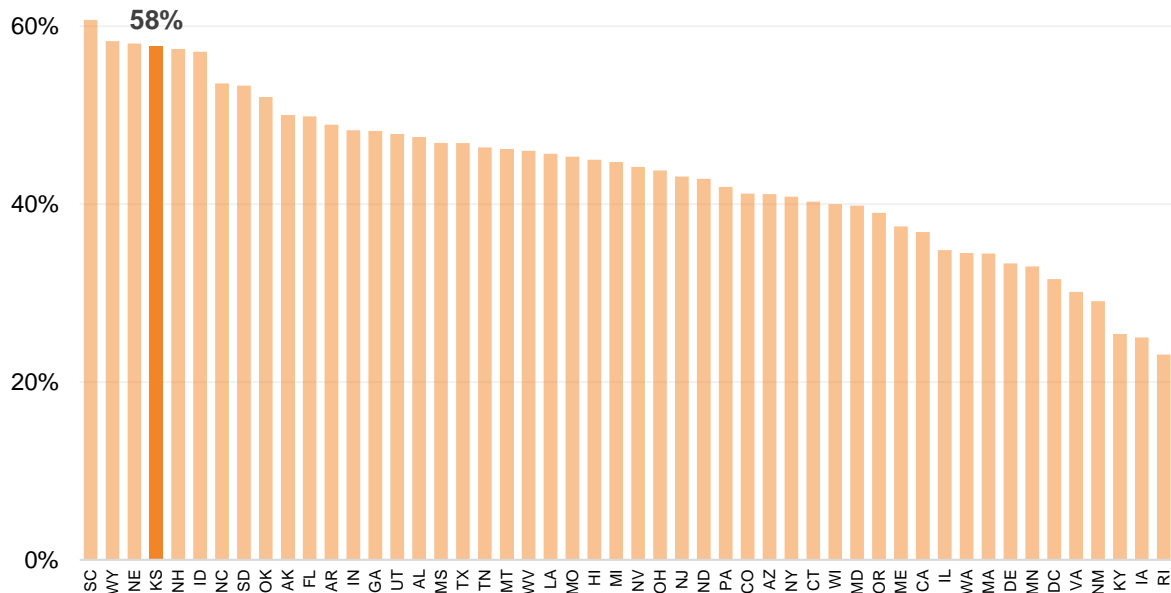
In Kansas, 24% of people with serious psychological distress have an unmet need of mental health treatment.

In Kansas' general adult population, 4.1% of people have a unmet need of mental health treatment.

Unmet need of mental health treatment due to costs

KANSAS AND UNITED STATES 2016

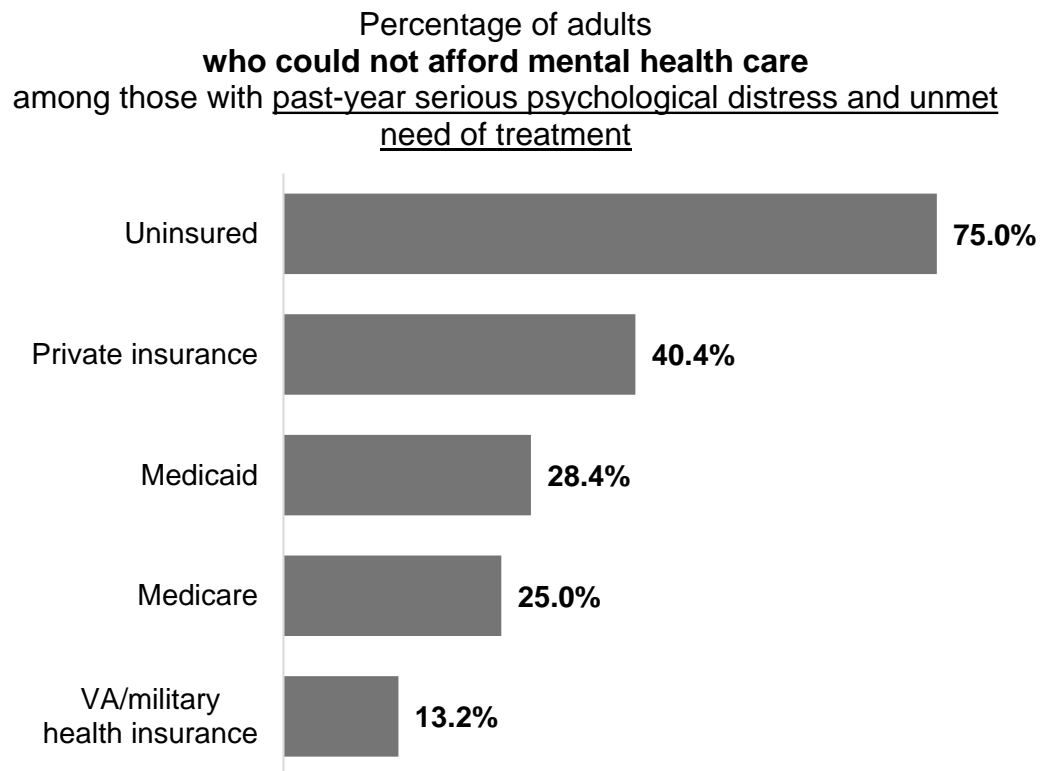
Percentage of adults
who could not afford mental health care
among those with past-year serious psychological
distress and unmet need of treatment



In Kansas, 58% 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

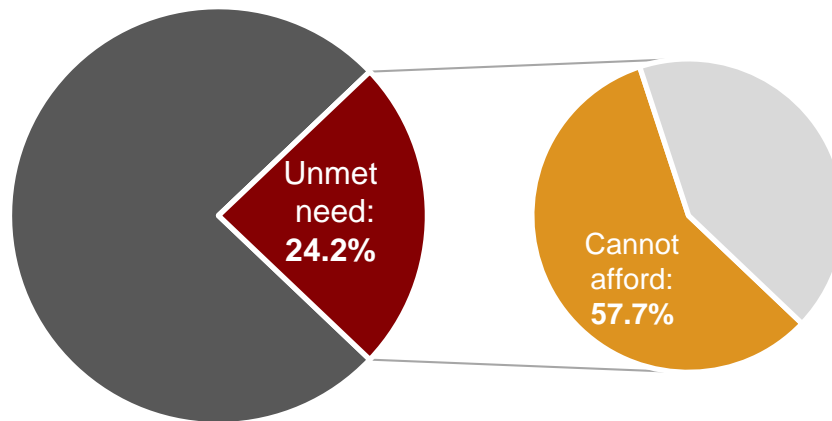


On a national level, the extent to which cost was a factor in driving unmet need for mental health care among those with serious psychological distress, varied by insurance status. People without health insurance were most affected by the inability to afford mental health treatment (75%), while those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

There is significant unmet need for mental health care in Kansas

KANSAS 2016

Among adults who experienced **serious psychological distress** during the past year:



24.2% indicates an **unmet need of mental health treatment**

And 57.7% of these people did not receive mental health treatment, **because they could not afford it**

Among adults who experienced serious psychological distress in the previous year in Kansas, 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.

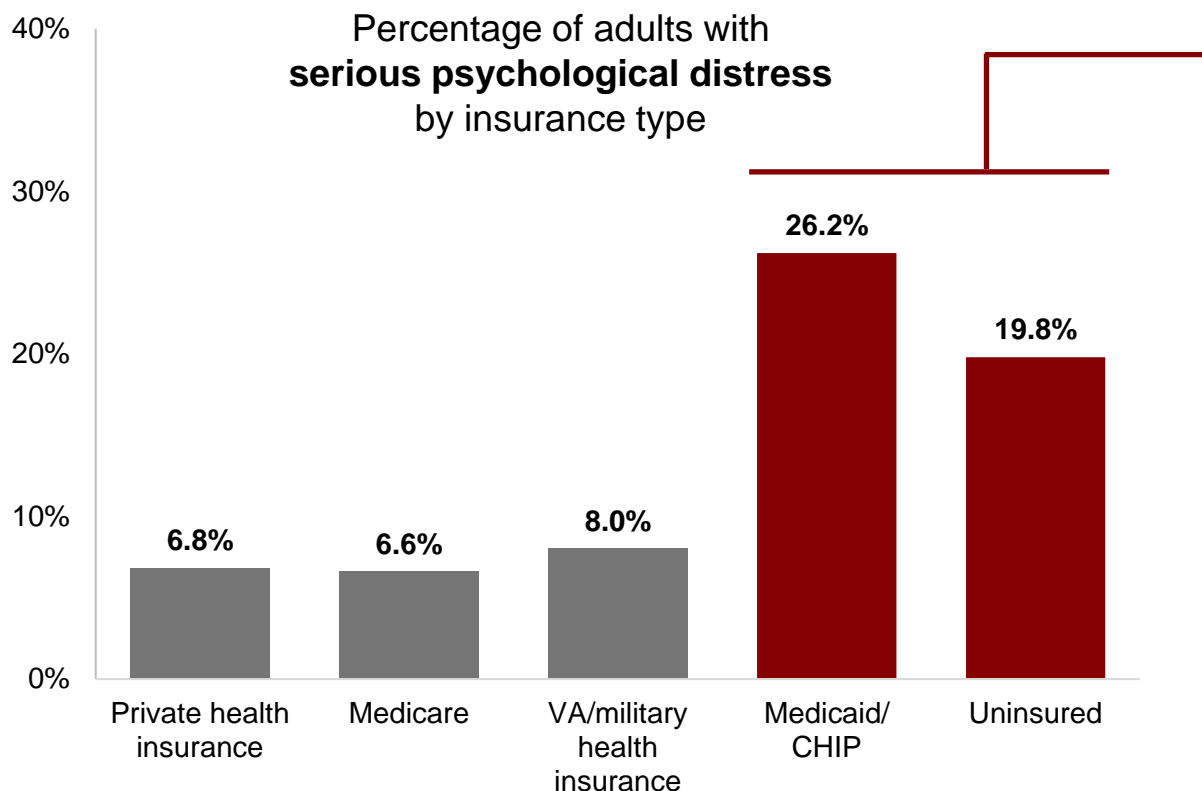
MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

Medicaid & behavioral health care needs

Medicaid provides a safety-net for people with low income or qualifying disabilities, and a large percentage of people with Medicaid coverage experience behavioral health issues. However, it is often a financial burden for physicians to accept Medicaid patients since reimbursement rates are generally lower than for other patients. This can lead to access barriers for patients with Medicaid coverage that prevent them from receiving the behavioral health care they need.

People with mental illness have greater reliance on the safety net

KANSAS 2016

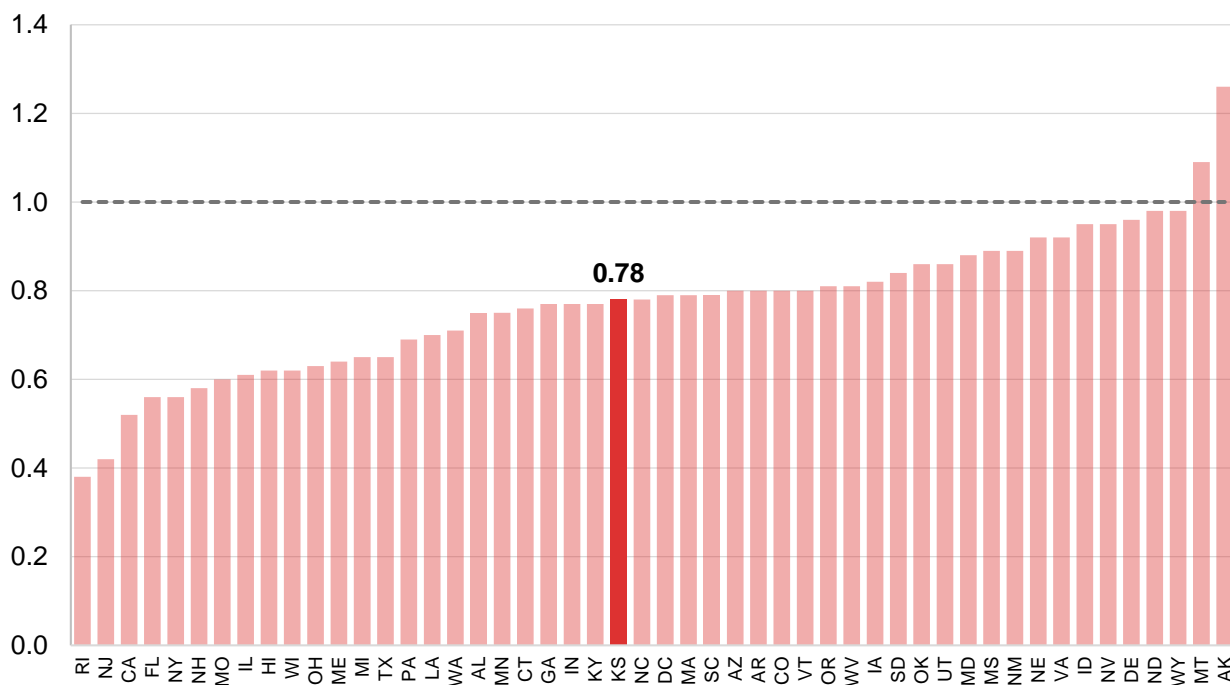


*In the **Medicaid and uninsured population**, a higher percentage of adults in Kansas reported serious psychological distress (SPD) during the past year compared to people with Medicare, VA/military, or private health insurance coverage.*

Medicaid reimbursement rates to physicians are low

KANSAS AND UNITED STATES 2016

Medicaid-to-Medicare fee ratio, 2016



Low reimbursement rates are a disincentive for individual physicians to accept patients with Medicaid coverage and mental health problems. Compared to Medicare fee levels, Medicaid reimbursement rates are low in most states, including Kansas.

This can be a barrier for these patients to obtain access to mental health care.

MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

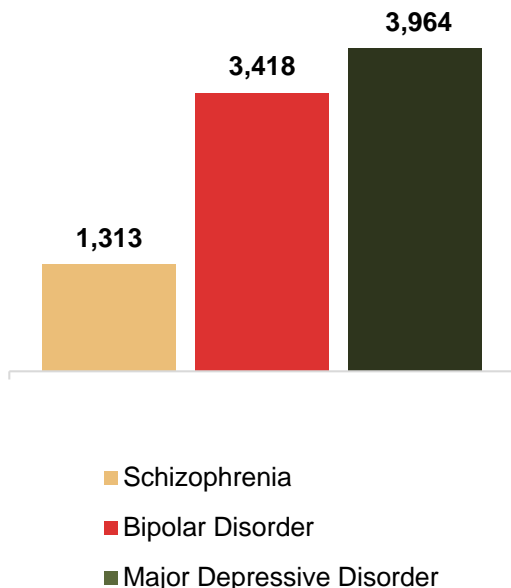
Hospital utilization & costs

For every 100 patients with a serious mental illness, there were approximately 47 hospitalizations in the U.S. and 29 hospitalizations in Kansas 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.

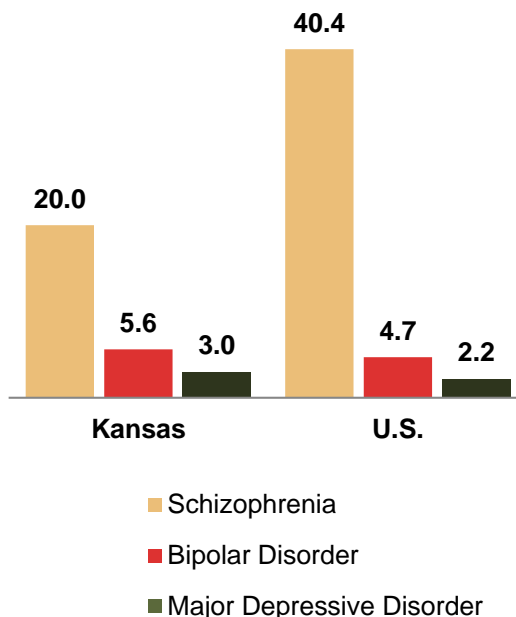
Hospitalizations for mental illness

KANSAS AND UNITED STATES 2014

Hospitalizations
Kansas - adults



Hospitalization rate
per 100 patients - adults



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

Compared to rest of the U.S., hospitalization rates in Kansas are slightly higher for patients with major depressive or bipolar disorder, but much lower for those with a diagnosis of schizophrenia.

3.4% of all hospitalizations in Kansas are due to SMI

Source: Healthcare Cost and Utilization Project (HCUPnet) 2014

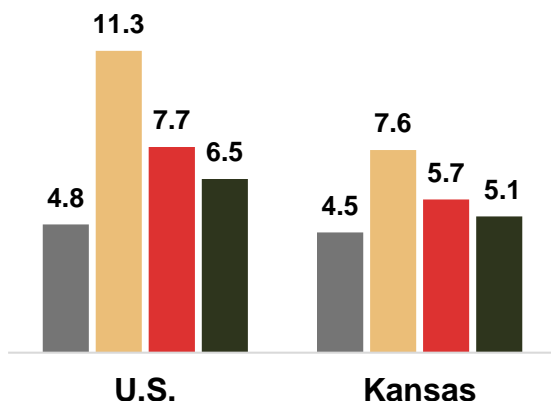
Estimate of hospitalization rate: based on total state population (Census bureau data, 2014) and prevalence estimates reported previously

Length of stay for mental illness hospitalizations

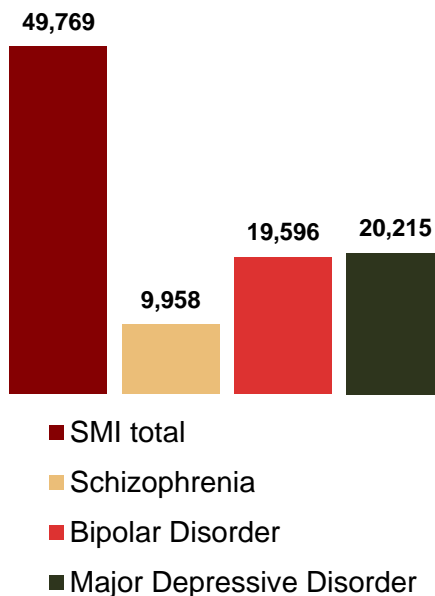
KANSAS AND UNITED STATES 2014

Average duration of hospital stays (days) adults

- All hospital stays
- Schizophrenia
- Bipolar Disorder
- Major Depressive Disorder



Total number of hospital days in 2014 Kansas - adults



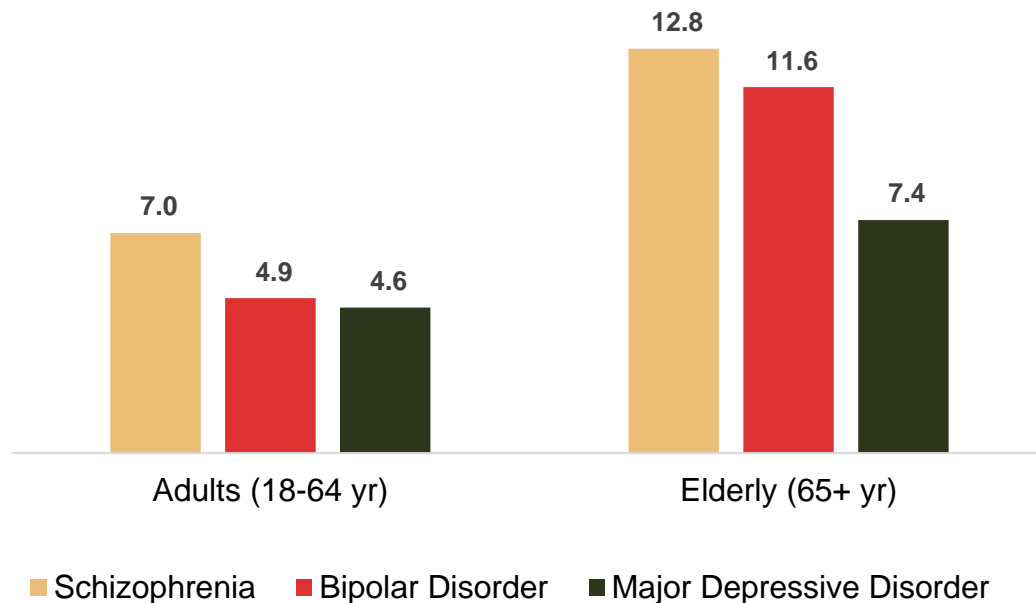
The average hospital stay duration for adult patients with serious mental illness is relatively low in Kansas compared to the rest of the U.S., but remains higher than the average stay in a hospital for any diagnosis.

The total time spent in the hospital by adults with a primary diagnosis of serious mental illness is approximately 50,000 days each year in Kansas.

Hospitalizations of elderly patients with serious mental illness

KANSAS 2014

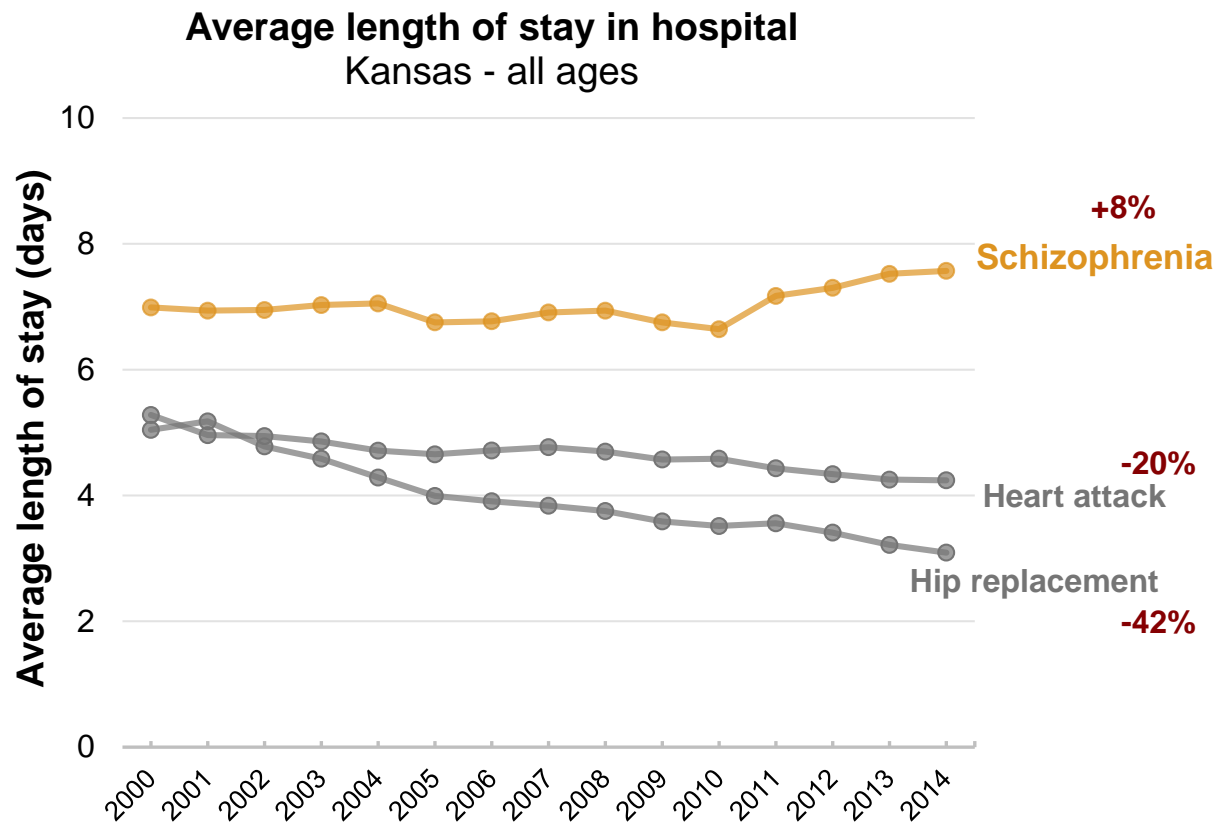
Average duration of hospital stays (days)
Elderly (65+ yr)



The length of stay in the hospital for serious mental illness in elderly patients is at least 60% higher on average than for younger adults with a similar diagnosis. Treatment of medical comorbidities due to aging, as well as difficulty finding long-term care environments may be at the root of this disparity.

Trends in length of stay for schizophrenia hospitalizations

KANSAS 2000-2014

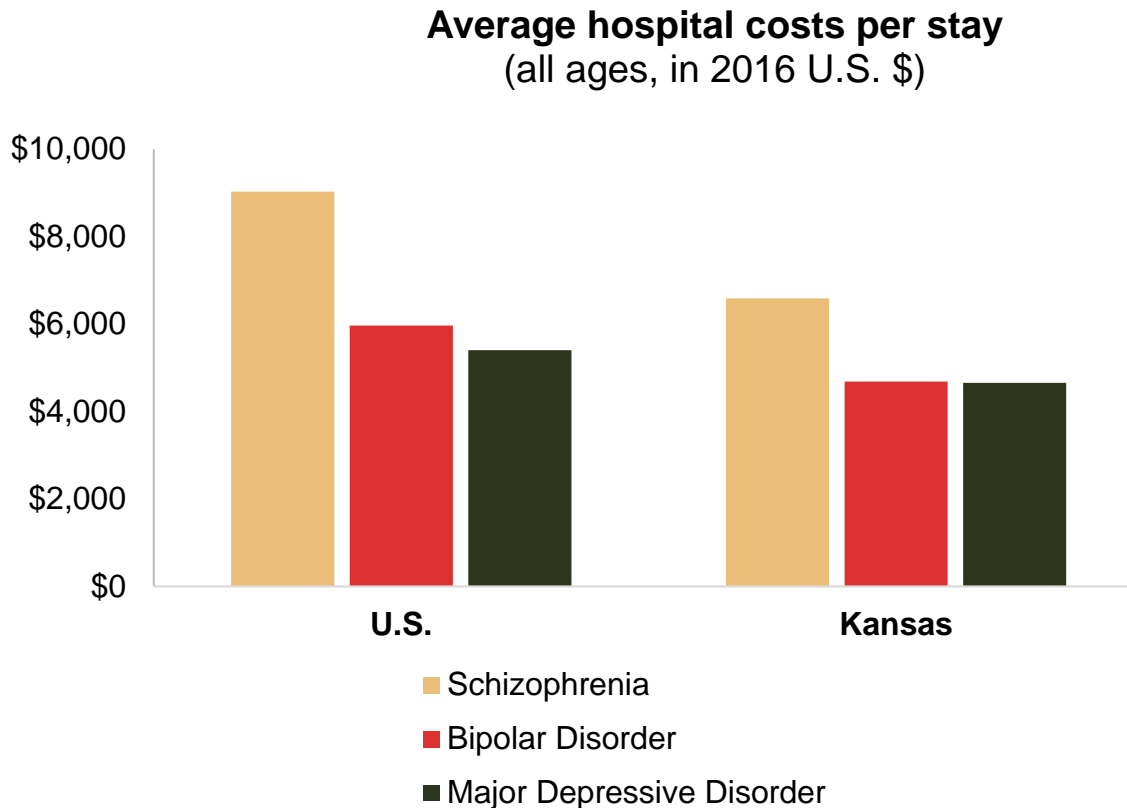


The average stay for a schizophrenia hospitalization in Kansas was several days longer than for a hospitalization as a result of a heart attack or hip replacement.

Moreover, the latter have declined by at least 20% since 2000, while for schizophrenia the length of stay increased with 8%.

Average hospital costs for mental illness hospitalizations

KANSAS AND UNITED STATES 2014

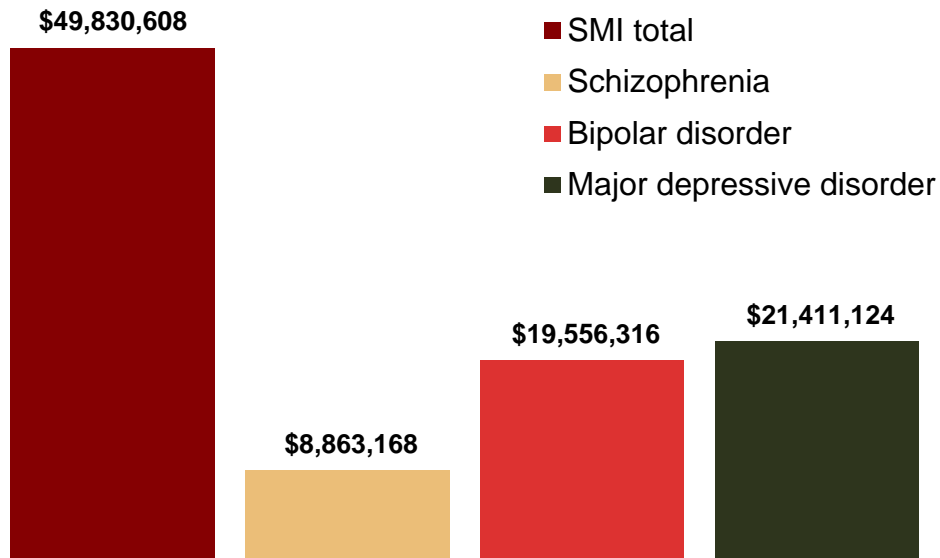


*Hospital costs in the U.S. and Kansas ranged from \$4,600 to \$9,000 per stay for patients with serious mental illness. This is despite a **general absence of procedures or surgeries** during a hospitalization for symptoms of serious mental illness.*

Total hospital costs for mental illness hospitalizations

KANSAS 2014

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

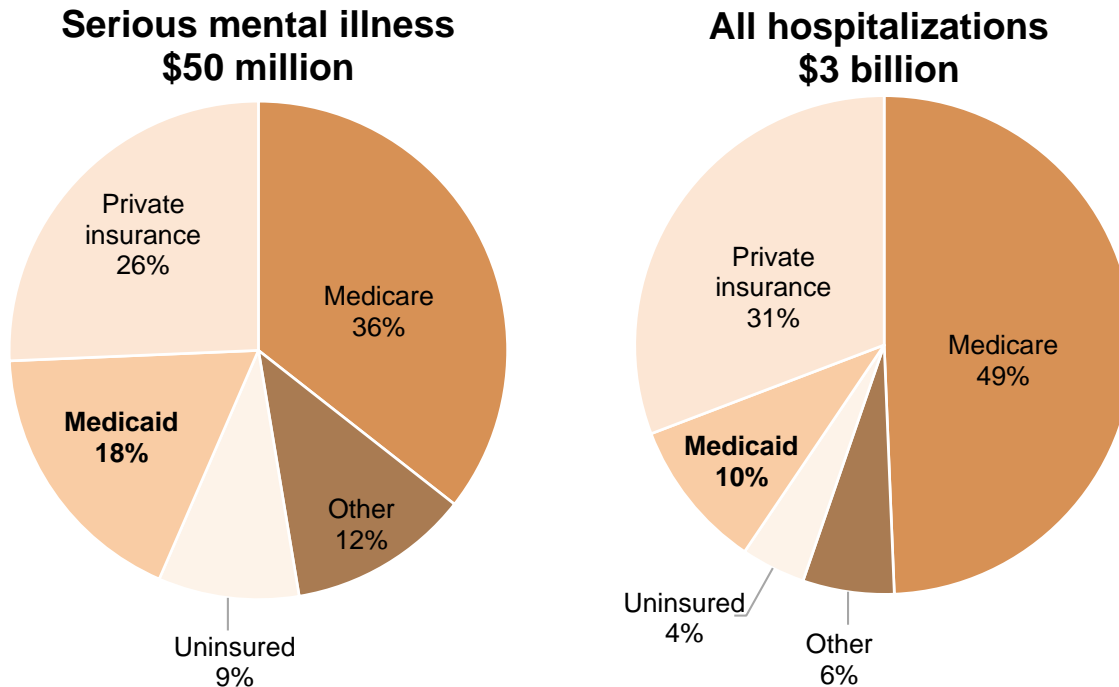


Total hospital costs in Kansas for hospitalizations for serious mental illness together almost reached \$50 million in 2014.

Total hospital costs for serious mental illness hospitalizations by insurance type

KANSAS 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 or the patients themselves, and less likely to be Medicare or private insurance.

Only a small fraction of the \$3 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' (0.1%) are excluded.

MENTAL HEALTH CARE COVERAGE, UTILIZATION & COSTS

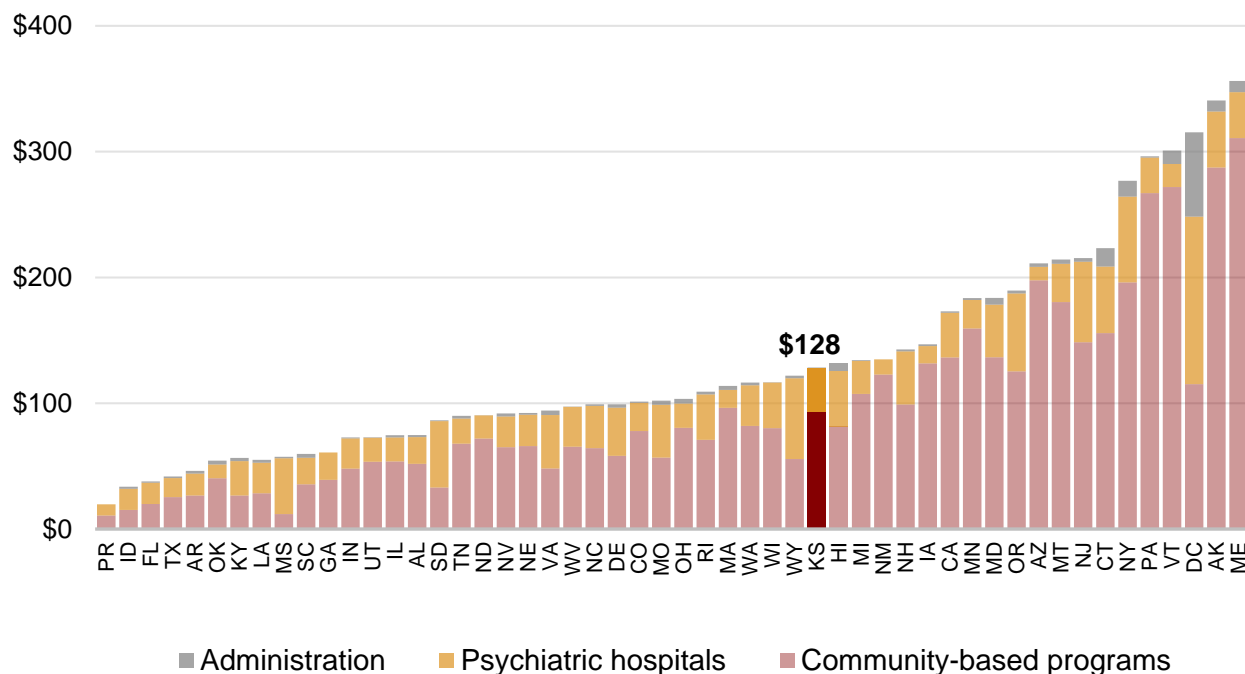
Investment in community-based programs

For several decades, a shift from hospital inpatient care towards community-based clinic outpatient treatment has taken place, as is exemplified by the budget trends of state mental health agencies. On average, approximately 72% of their budgets is now spent on community-based programs, compared to 33% in the early 1980s. Compared to the U.S. average, the Kansas state mental health agency spends a similar total amount per capita.

State Mental Health Agency spending

KANSAS AND UNITED STATES 2013

**Per capita
State Mental Health Agency expenditures**
(in 2016 U.S. \$)



Kansas' state mental health agency spending on mental health services per capita is very similar compared to the U.S. average (\$129).

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

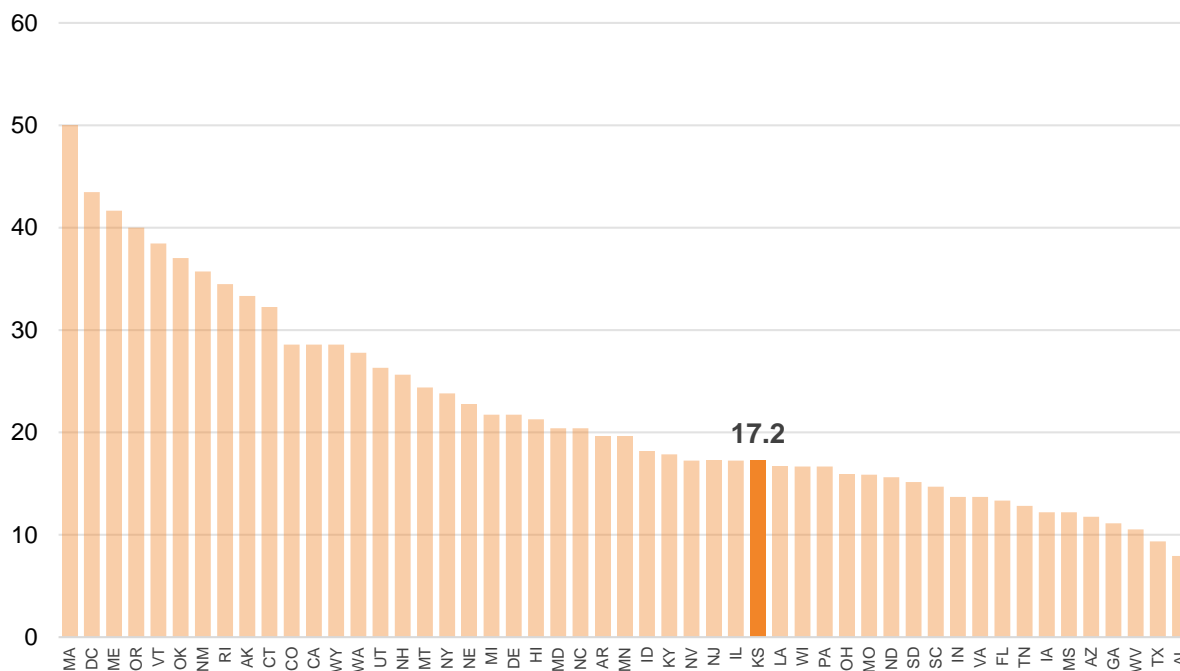
Kansas has a smaller number of overall behavioral health care professionals and hospital beds per capita in comparison to the U.S. average. There are many areas and facilities in Kansas that have a shortage of behavioral health care professionals; 38 full-time professionals are needed in addition to 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

KANSAS AND UNITED STATES 2017

Number of behavioral health care professionals
per 10,000 residents



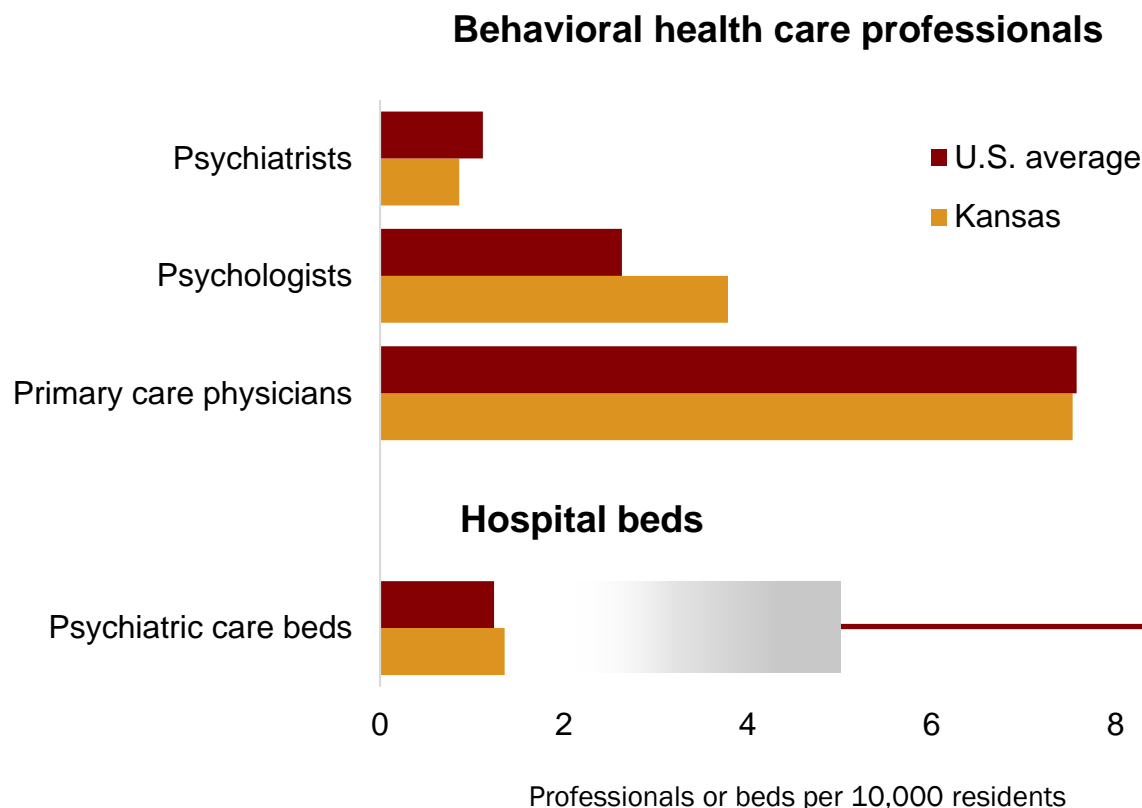
There are approximately 17 behavioral health care professionals for every 10,000 residents in Kansas, which is slightly lower than the average in the U.S. of 20 professionals per 10,000 residents.

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

KANSAS AND UNITED STATES 2013



Per resident, Kansas has slightly fewer psychiatrists, but more psychologists, compared to the U.S. average. The number of primary care physicians and hospital beds dedicated to psychiatric care are very similar in comparison to the average in the U.S.

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

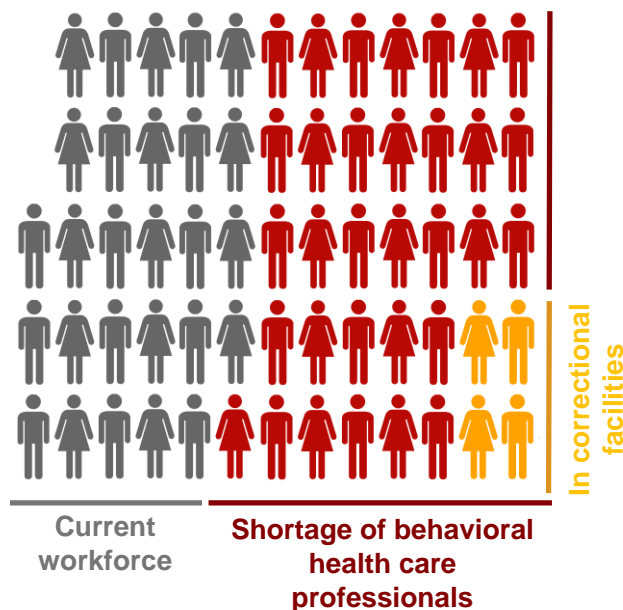
Although the optimal number of beds is unknown in our current health care infrastructure, there are estimates that 5 beds per 10,000 residents are minimally required assuming sufficient availability of outpatient programs for long-term treatment.

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)

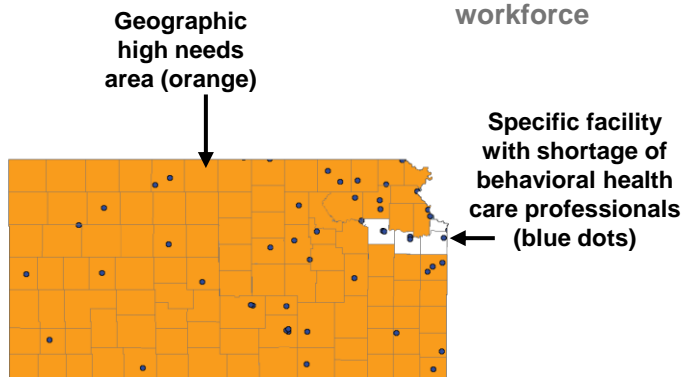
Treatment Advocacy Center, "The Shortage of Public Hospital Beds for Mentally Ill Persons"

Shortage of behavioral health care professionals

KANSAS 2018



Currently, Kansas has 27 full-time equivalent behavioral health care professionals in designated shortage areas and facilities with behavioral health care professional shortages. In order to address the shortage issue, 36 more full-time professionals are needed in these areas, 4 of whom are needed in correctional facilities.



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

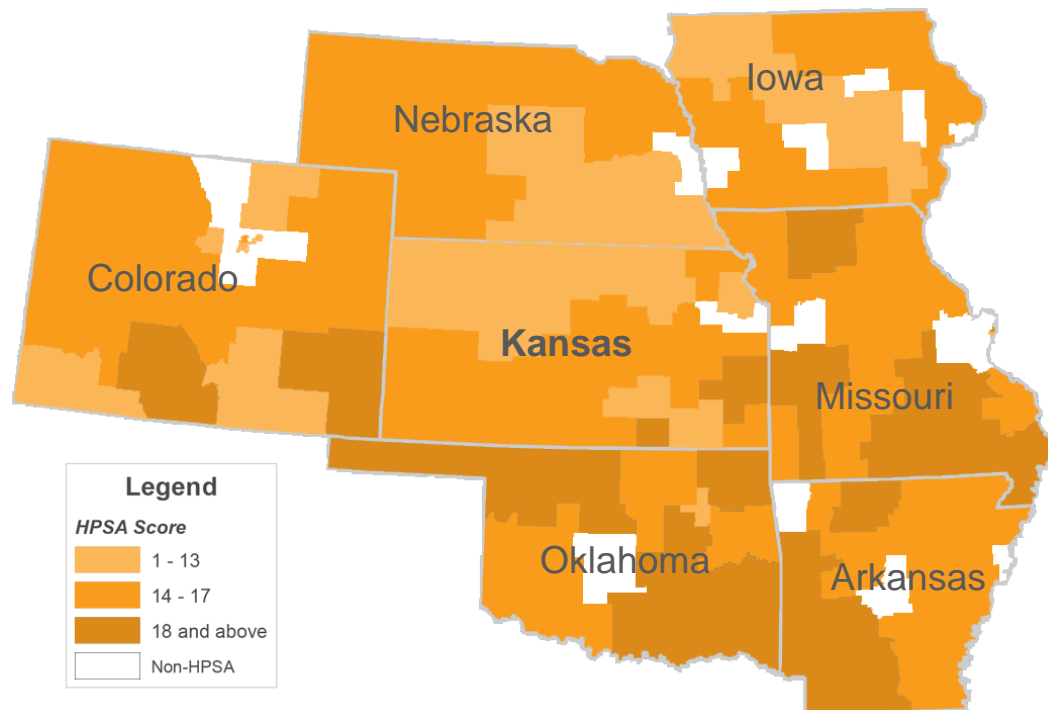
Facilities:
Federal & state correctional institutions, state & county mental hospitals, community mental health centers, and other public or nonprofit private facilities

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

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

Shortage of behavioral health care professionals in the Kansas region

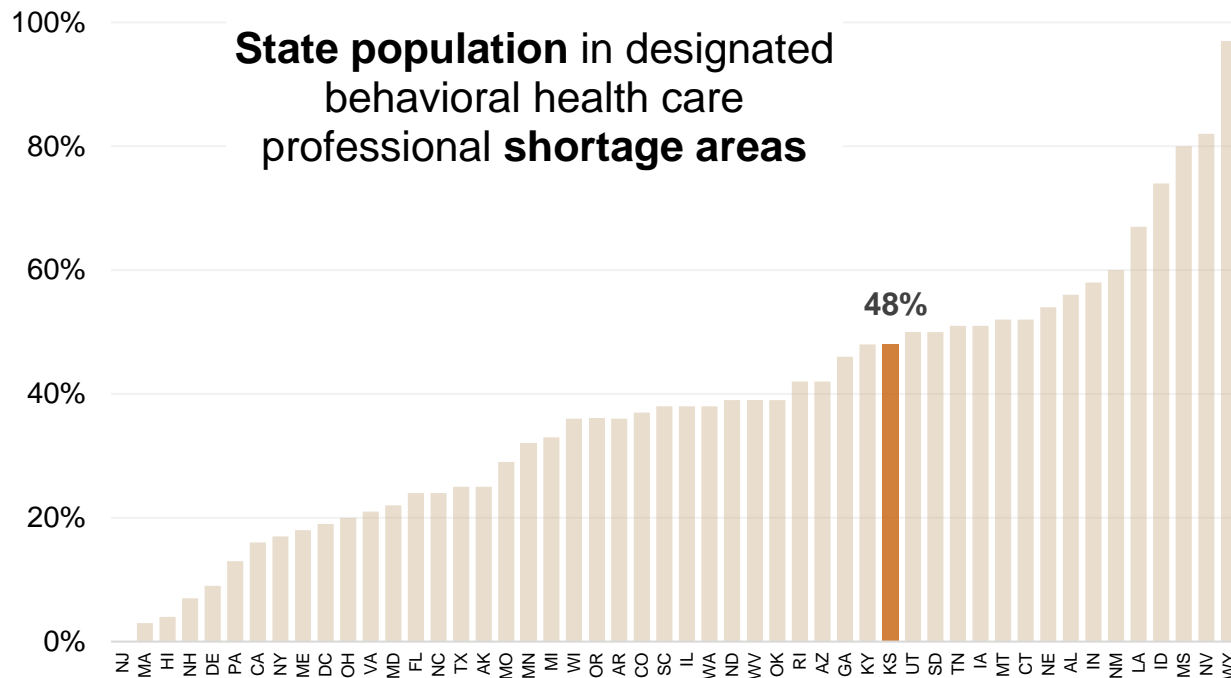
KANSAS 2018



This map shows widespread shortages of behavioral health care professionals in Kansas and bordering states, especially in rural areas. The severity of the shortage is measured on a Health Professional Shortage Area scale from 0 to 25, with 0 indicating no shortage, and 18 and above a severe shortage.

State population in behavioral health care professional shortage areas

KANSAS AND UNITED STATES 2018



1,388,836 people in Kansas (48% of the state population) reside in designated shortage areas and/or are served by a facility with shortages of behavioral health care professionals. This is higher than the U.S. average of 30%.

Source: Health Professional Shortage Areas (HPSA), HRSA Data Warehouse, 03/16/2018, and Census Bureau data (2017)

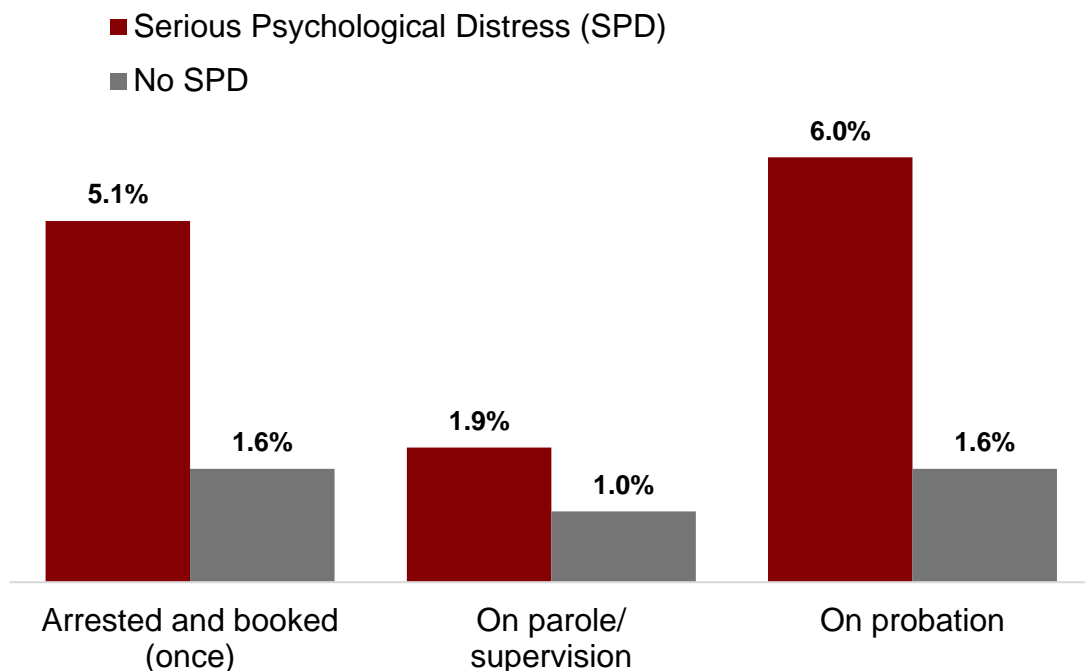
MENTAL HEALTH CONDITIONS & THE CRIMINAL JUSTICE SYSTEM

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 Kansas, the prevalence of serious mental illness is relatively high compared to the U.S. average. The overall cost of incarceration of the roughly 3,000 prisoners with serious mental illness in the state of Kansas exceeds \$110 million per year.

Contact with criminal justice system

KANSAS 2016

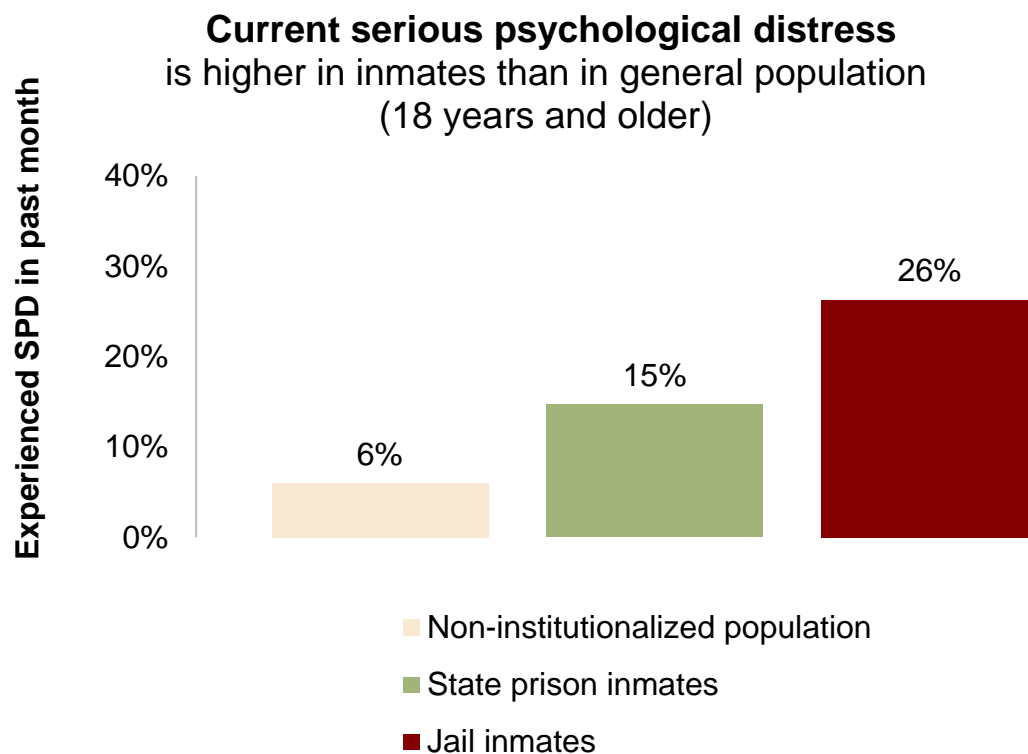


People who experienced serious psychological distress (SPD) are more likely to have been arrested or be on parole or probation in the past year.

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.

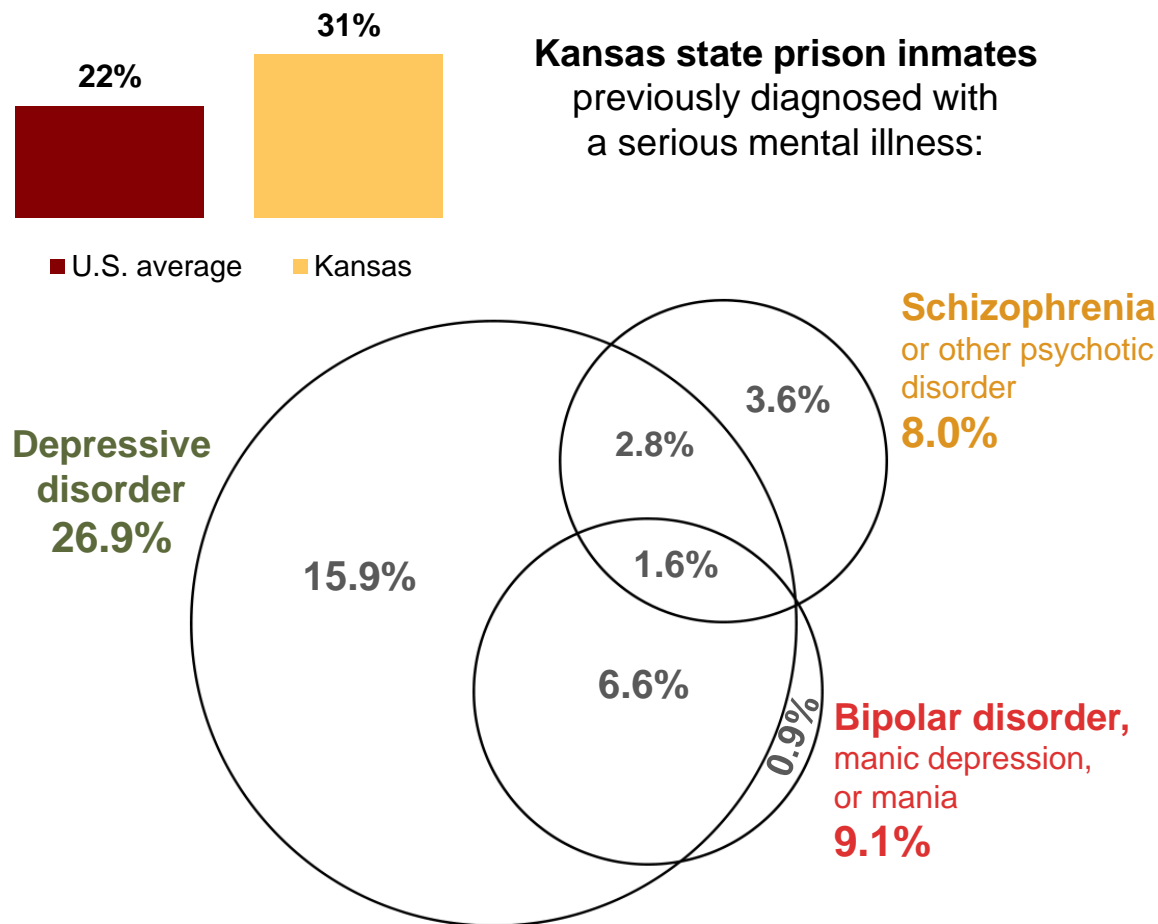
Additionally, these mental health issues are observed at higher rates in local jails than in prisons.

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

State prison population with serious mental illness

KANSAS



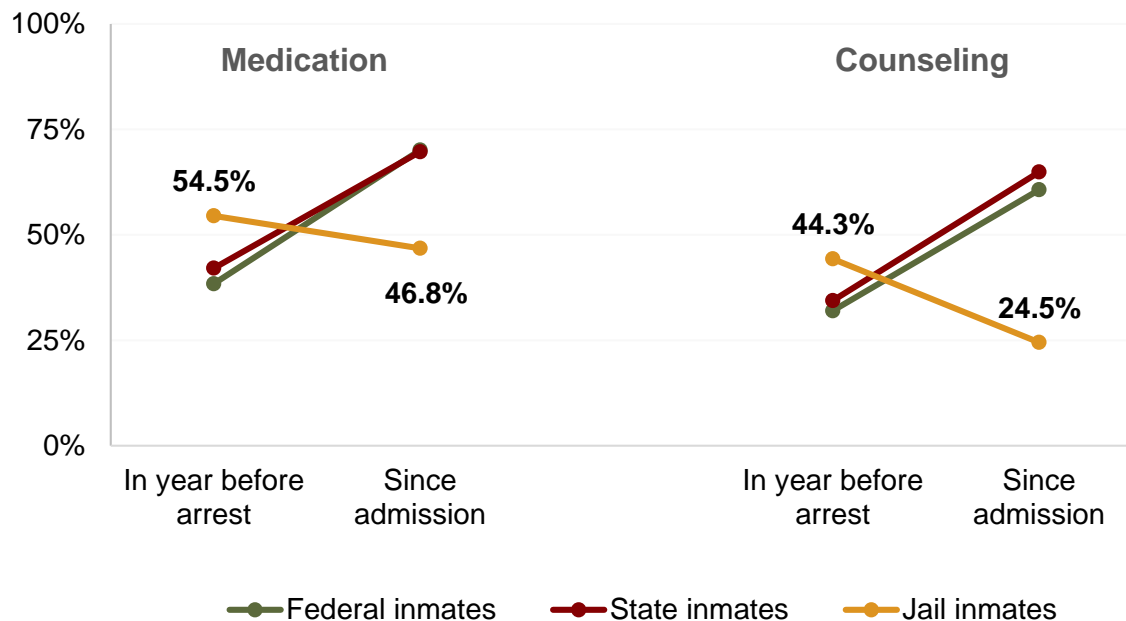
In Kansas state prisons, approximately 31% of prison inmates previously have been diagnosed with a serious mental illness, which is much higher than the overall U.S. prison population. Many patients have been diagnosed with two or three mental illnesses, confirming the presence of overlap in symptoms in this population.

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.

Estimated number of
Kansas state prison inmates in 2016,
previously diagnosed with serious mental illness :

3,011

Estimate of overall annual costs in 2016:

\$110,212,130

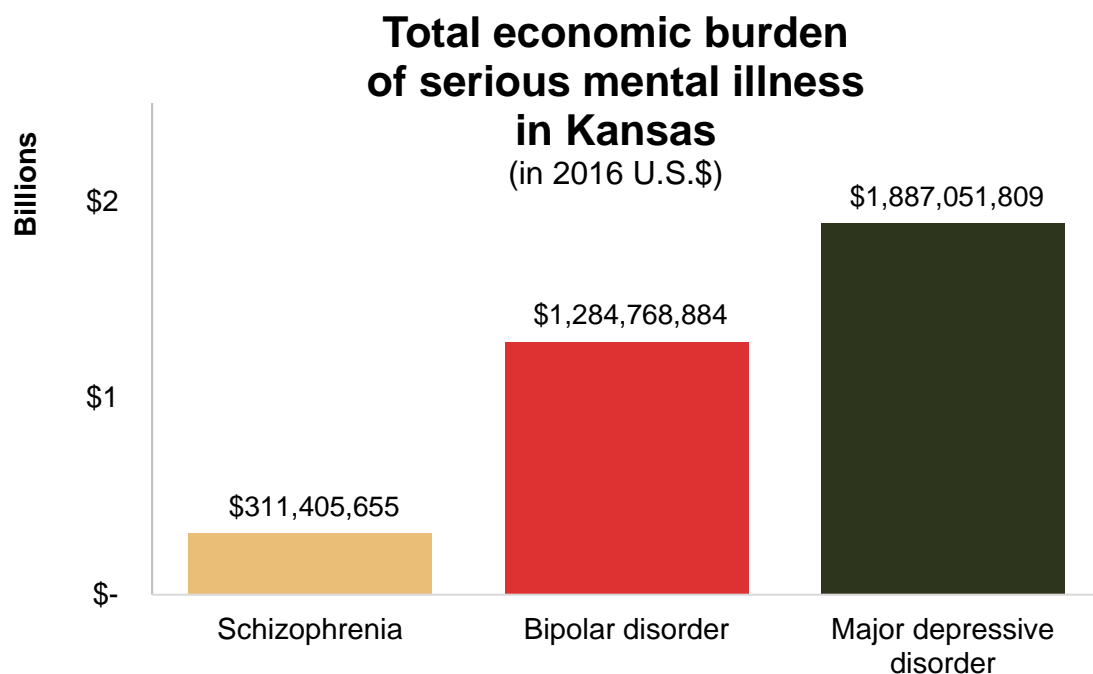
*Overall annual costs based on 2016 average of all state prison inmates in Kansas
Source: Annual Survey of State Government Finances 2016
Survey of Inmates in State/Federal Correctional facilities, BJS, 2004
Kansas State, Department of Corrections Annual Report FY 2016*

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 \$300 million for Kansas per year

Economic burden of serious mental illness

KANSAS 2016



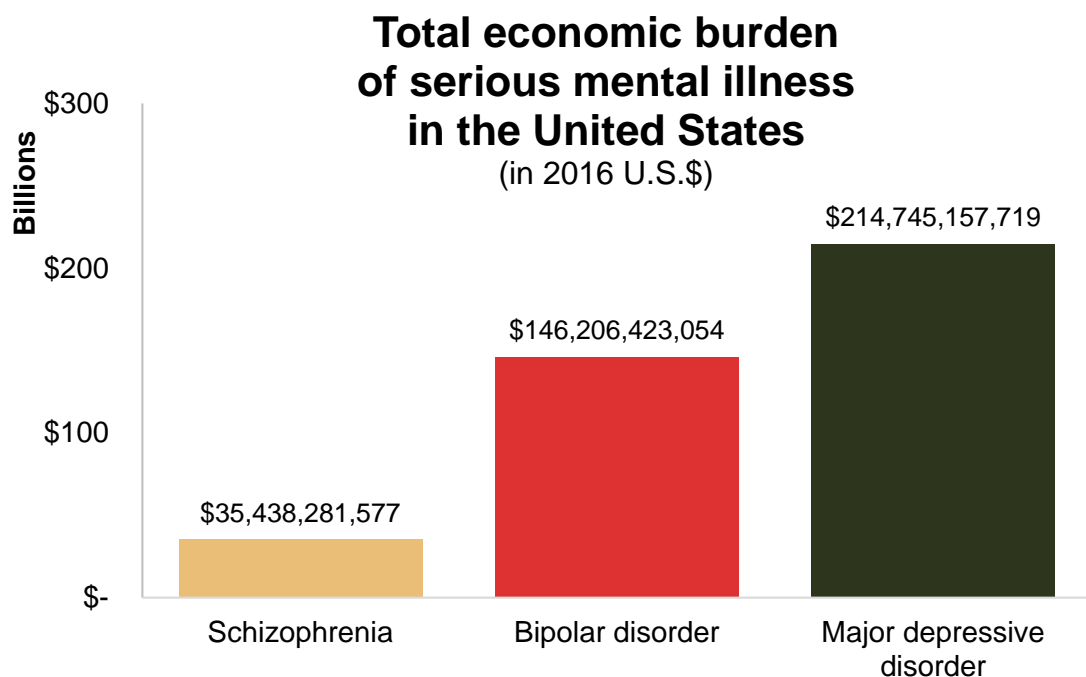
*The economic burden of schizophrenia, bipolar disorder, and major depressive disorder in adults in Kansas is estimated to be at least **\$300 million for each serious mental illness.***

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



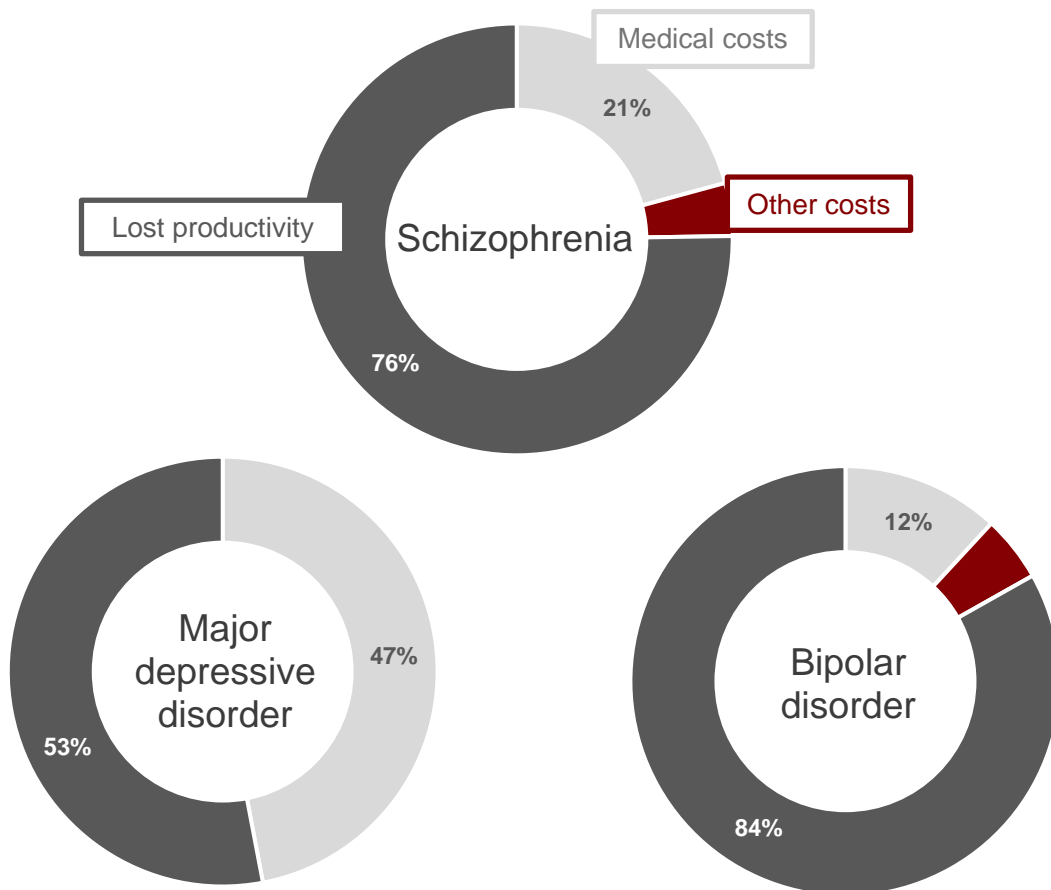
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Source: MacEwan JP, Seabury S, et al. Pharmaceutical innovation in the treatment of schizophrenia and mental disorders compared with other diseases. *Innov Clin Neurosci.* 2016 Aug 1;13(7-8):17-25. See appendix for original sources

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.

ACKNOWLEDGMENTS

Authors:

Hanke Heun-Johnson,
PhD

Michael Menchine,
MD, MPH

Dana P. Goldman,
PhD

Seth A. Seabury,
PhD

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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

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