



HIDI HealthStats

Statistics and Analysis From the Hospital Industry Data Institute

JUNE 2016 ■

MENTAL HEALTH IN MISSOURI: LIMITED ACCESS, INCREASING DEMAND AND TRAGIC CONSEQUENCES



- Missouri has the 17th highest suicide rate in the country, and is second highest only to North Dakota in the Midwestern region.^{ix}
- One in 10 Missouri adults have a serious mental illness, and 40 percent of those adults go without treatment.^x
- Missouri has cut state general revenue funding for mental health services by as much as 35 percent since 2009.^x

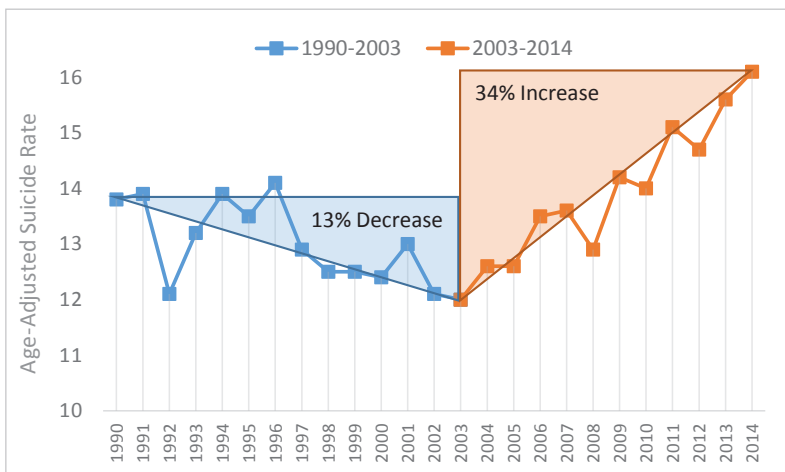
Background

Mental health disorders are pervasive and often chronic conditions. Nearly 20 percent of all adults in the U.S. and Missouri experience a diagnosable mental health disorder each year, and nearly half will experience a mental health disorder during their lifetime.^{i, ii} Seven in 10 Americans experience the physical and emotional symptoms of stress, and fewer than 4 in 10 believe they can adequately manage their stress.ⁱⁱⁱ Research suggests that mental health disorders are a leading cause of mortality globally, and that significant preventive opportunities exist to limit the global burden of premature death caused by mental health-related diseases and disorders.^{iv} A major contributor to mental health-related mortality is suicide, which has been characterized as an epidemic in the U.S.^v In 2014, there were 42,773 deaths by suicide in the U.S., making it the 10th leading cause of death among adults and the third leading cause of death among people ages 10 to 24.^{vi} Suicide costs society more than \$44.6 billion in combined medical and work loss costs annually in the U.S.^{vii}

Missouri data suggest that a cyclical relationship exists between access to mental health services, hospital utilization for mental health disorders and adverse outcomes, such as suicide and suicidal thoughts.

- Access to mental health services are particularly limited in Missouri where 90 percent of counties are federally-designated mental health shortage areas and 61 percent have no licensed psychiatrists.^{viii}
- The growth rate of hospital utilization for mental health disorders in Missouri more than doubled the rate of hospital utilization for all other conditions combined during the previous 10 years.

Figure 1: Age-Adjusted Suicide Rates for Missouri Residents, 1990-2014



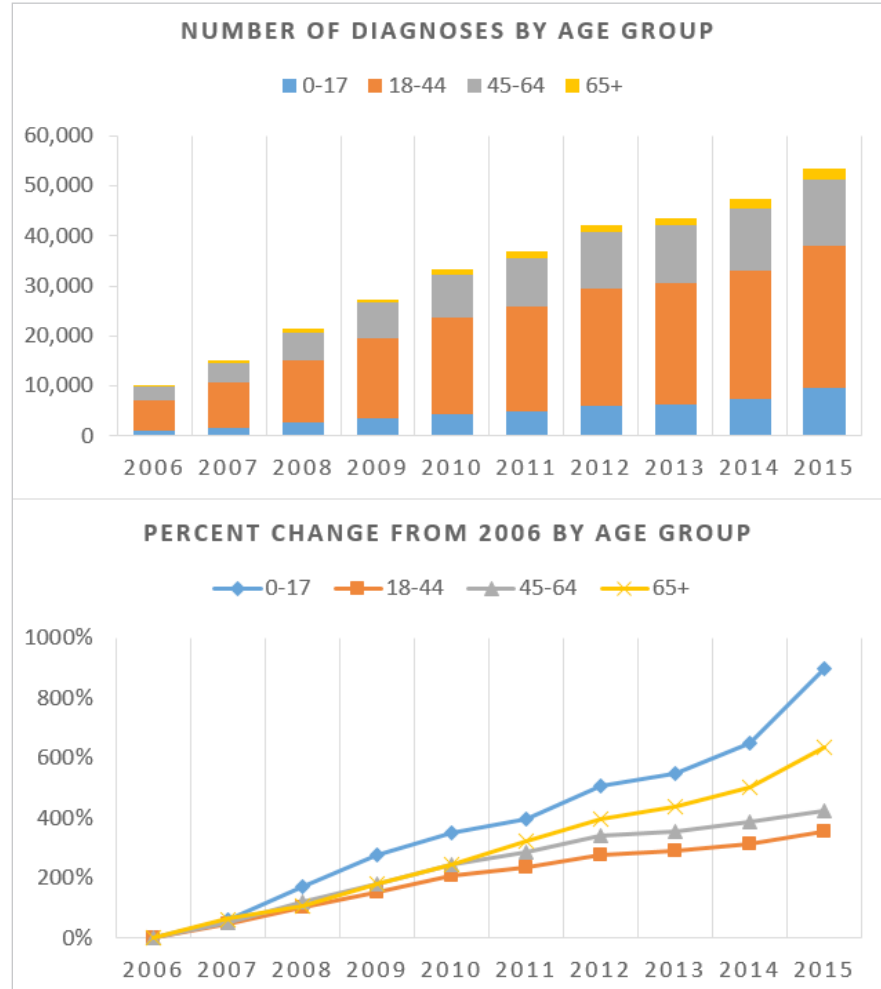
Source: Missouri Department of Health and Senior Services, Missouri Information for Community Assessment

- Hospital visits by Missouri residents with diagnosed suicide ideation quadrupled between 2006 and 2015, and the death rate for suicide increased 34 percent between 2003 and 2014 (Figure 1). Missouri has the 17th highest suicide rate in the country, and is second highest only to North Dakota in the Midwestern region.^{ix}

Access to Mental Health Care in Missouri

One in 10 Missouri adults have a serious mental illness, and 40 percent of those adults go without treatment.^x Nearly 1 in 10 children between the ages of 12 and 17 in Missouri experienced a depressive episode during the previous year.ⁱⁱ Despite the need for mental health services among a large portion of the population, the average wait time to see a psychiatrist is 10 to 30 days for adults in Missouri and up to six months for children and teens.^{xi} Access to inpatient psychiatric care also is becoming scarce. In 1990, Missouri had more than 1,400 additional psychiatric hospital beds as compared to 2012, a decrease in capacity of 32 percent.^{xii} The net effect of this decline in capacity leaves Missouri with 22.2 psychiatric beds per 100,000 total Missouri population — fewer than half of the recommended minimum of 50 per 100,000.^{xi} Movement toward community-based and away from inpatient-based mental health care is a goal shared by Missouri hospitals and freestanding inpatient psychiatric hospitals; however, success hinges on resource availability in Missouri’s communities that is adequate to meet the growing need for these services. A 2016 Missouri Hospital Association survey found that 61.3 percent of reporting hospitals had to temporarily board behavioral health patients in the emergency department during the previous week while attempting to

Figure 2: 10-Year Trend in Missouri Diagnoses for Suicide Ideation in Hospital Inpatient and Emergency Departments by Age (Diagnosis Code V6284 on Record)



Source: FY 2006-2015 HIDI Inpatient and Outpatient (ED) Databases for Residents of Missouri

stabilize the patient and locate placement in an appropriate setting. Three quarters of the boarded patients were between the ages of 21 and 64, and the majority (69 percent) had to be boarded for more than four hours. Forty percent remained in an ED bed for longer than eight hours and 9 percent remained for more than 24 hours. For 95 percent of respondents, the most common reason for extended ED stays

for behavioral health patients was difficulty in finding a receiving facility for the patient because of the scarcity of psychiatric beds.

Accessing inpatient psychiatric care can be particularly limited for low-income working-age adults. During the formation of the Medicaid program, Congress included a policy known as the Institution for Mental Disease,

Better detection systems have identified an alarming mental health trend. Throughout the last decade, hospital diagnosis of suicide ideation for all Missouri residents increased **433 percent**, with a nearly **900 percent** increase among children and adolescents (Figure 2). Missouri has the second highest suicide rate in the Midwest.

or IMD exclusion, which prohibits federal Medicaid payments to specialty inpatient facilities with more than 16 beds for adults ages 22 to 64. The policy was designed to shift the cost associated with treatment to state and local governments, but has largely limited access for these individuals.

In 2011, the Centers for Medicare & Medicaid Services accepted applications from states for an IMD waiver program for emergency mental health services. With a total award of \$75 million, Missouri was one of 12 demonstration projects funded in 2012. Focused on freestanding inpatient psychiatric facilities, the three-year project resulted in the admission of 2,060 patients for a total of 13,243 inpatient days. These admissions brought in Medicaid billings of \$11,313,300 to the state of Missouri. In the absence of the waiver, the majority of these admissions would have resulted in protracted searches for treatment and uncompensated care. The budget neutral demonstration resulted in significant indirect benefits for the patients and throughout at acute care hospitals. The project ended in early 2015 when funding was exhausted. However, in response to the effectiveness of the demonstration project, President Obama signed into law the Improving Access to Emergency Psychiatric Services Act in December 2015. The act reauthorizes the IMD waiver demonstration through September 2016 and allows the U.S. Department of Health & Human Services to extend the program for three more years and to other states. Missouri currently is waiting on a federal appropriation to reinstate the demonstration.

Another driver of access to mental health care is public investment in services. At \$99.40 per capita, Missouri's spending on public mental health services is well below

the national average of \$119.62 per capita.^{x1} Reimbursement rates for the Department of Mental Health's community health care providers have fallen far behind inflation making it harder for providers to maintain proper staffing and services. According to a 2016 commentary from The Missouri Budget Project, Missouri has cut state general revenue funding for mental health services by as much as 35 percent since 2009.^x

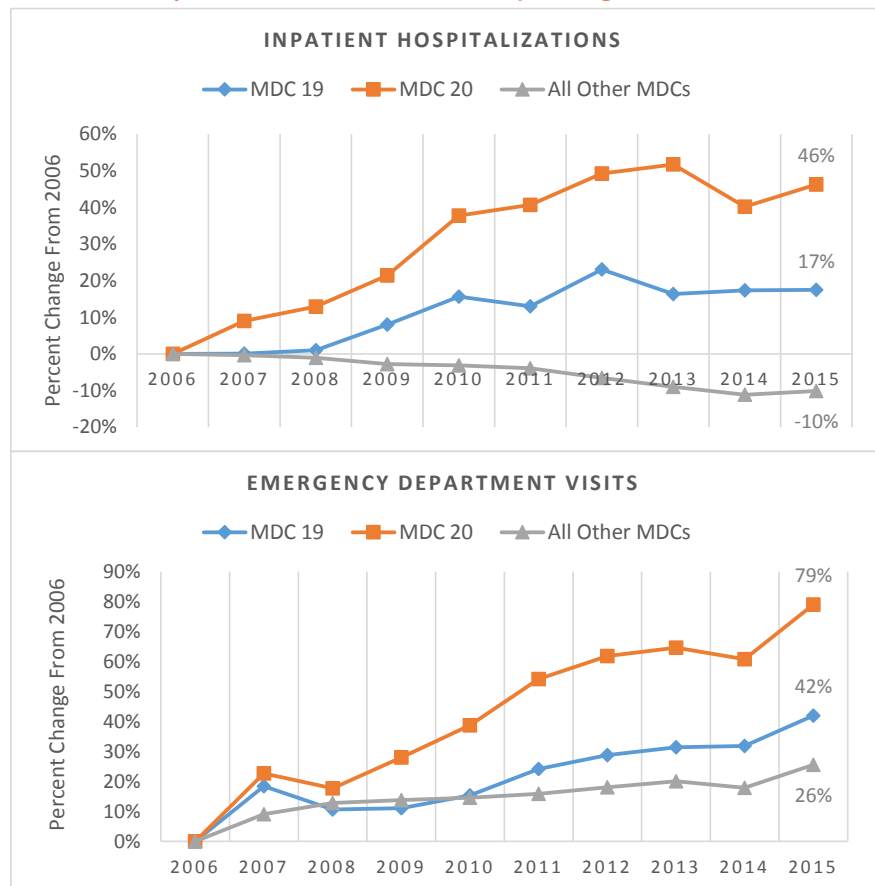
Hospital Utilization for Mental Health Disorders in Missouri

Evaluating hospital discharge data for mental health and substance abuse disorders between 2006 and 2015 exemplifies the growing need for access to community-based mental health services in Missouri. The number of

Missourians diagnosed in a hospital setting with suicide ideation — or suicidal thoughts — has dramatically increased throughout the last 10 years. While it is unclear how much of this trend is due to surveillance bias, in 2006, slightly more than 10,000 diagnoses for ideation occurred for Missouri residents. By 2015, the number had quintupled to 53,509 — a relative increase of 433 percent. The rate of growth for suicide ideation diagnosis was highest for children below the age of 18 who experienced a 10-year increase of nearly 900 percent (Figure 2).

Hospital inpatient and ED visits for all mental health and substance abuse disorders also have substantially increased for Missourians during

Figure 3: 10-Year Trend in Missouri Hospital Utilization for Mental Health Disorders Compared to All Other Conditions by Setting



Source: FY 2006-2015 HIDI Inpatient and Outpatient (ED) Databases for Residents of Missouri

the last decade. In 2006, Missourians visited a hospital inpatient or ED for mental health-related problems on 123,140 occasions. By 2015, this number rose to more than 167,000 visits. Throughout the 10-year period, hospital utilization for mental diseases and disorders (MDC 19) increased by 28 percent for Missouri patients — a 17 percent increase in inpatient hospitalizations and a 42 percent increase in ED visits. At the same time, visits for substance abuse or induced mental disorders (MDC 20) grew by 68 percent — a 46 percent increase in hospitalizations and a 79 percent increase in ED visits. By comparison, Missouri hospital utilization for all other diagnoses increased by only 16 percent — a 10 percent decline in inpatient utilization and a 26 percent increase in ED visits (Figure 3). This 10-year expansion in hospital utilization for mental health-related issues outstripped the growth rate for all other hospital utilization combined by a factor of 2.3 to 1.

In 2015, Missouri hospitals treated nearly 86,000 unique Missouri patients for mental health disorders or substance abuse. With an average of 3.9 visits each, these patients were treated for mental health or substance abuse on multiple occasions. The

Between 2006 and 2015, ED utilization for mental health-related disorders by Missouri Medicaid patients increased 40 percent — 111 percent for Medicaid Managed Care and 26 percent for Medicaid Fee-for-Service. The increase for all other payers combined was 57 percent.

majority of these patients — 79.6 percent — were treated for mental diseases and disorders, 27 percent of patients were treated for substance abuse or induced mental disorders, and just 6.6 percent were treated for both (Table 1).

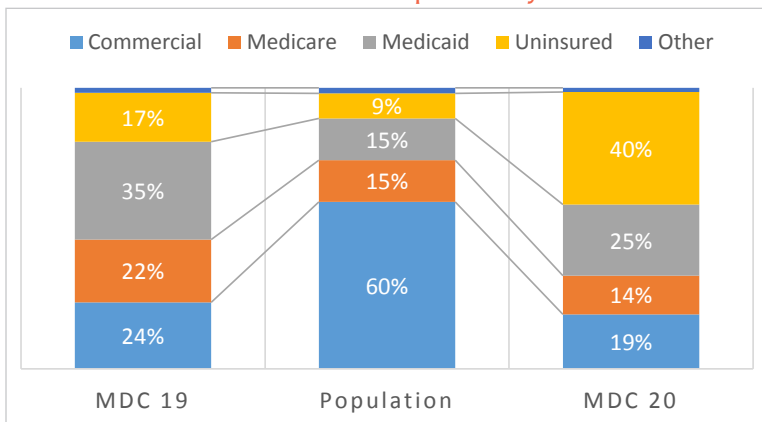
Among all payers, Medicaid patients seeking treatment for mental health diseases and disorders, and substance abuse accounted for the most hospital visits in 2015. Patients with Medicaid listed as their primary insurer accounted for 35 percent of MDC 19 visits, 25 percent of MDC 20 visits and only 15 percent of Missouri’s total population (Figure 4). Uninsured patients also accounted for a larger proportion of total visits than expected based on their composition of the population of only 9 percent. Combined, Medicaid and uninsured patients accounted for 52 percent of visits for mental diseases

and disorders, 65 percent of visits for substance abuse and induced mental disorders, and 16 percent of the total population in Missouri.

Table 1 shows the demographic distribution of patients with a hospital visit for mental disorders and substance abuse in Missouri in 2015. Although overall hospital utilization is fairly evenly distributed among males and females, hospital visits for substance abuse and induced mental disorders are nearly twice as high among males in Missouri. Utilization by race approximately reflects the overall population. However, black patients accounted for 16.5 percent of visits and 11.8 percent of the population,^{xiii} which may be reflective of systemic issues, such as access to mental health care in Missouri’s minority communities. The prevalence of visits for substance abuse or induced mental disorders is lowest among the youngest and oldest age cohorts between 18 and 64 years accounted for a disproportionate share of all mental health and substance abuse hospital patients at 78.2 percent, compared to only 61.6 percent of the overall population.^{xiv} More than 129,000 visits for mental health disorders — 77 percent — originated in emergency rooms during 2015. One in 2 visits resulted in a patient being admitted for an overnight stay with an average duration of 6.8 days. The average amount charged for each visit was \$8,550. Total hospital charges for mental disorders and substance abuse visits in Missouri was \$1.4 billion last year.

Mental health disorders can occur at any age. Hospital utilization for mental disorders among high school-aged children is among the highest for any age cohort in the state (Figure 5). Patients ages 14 to 17 accounted for 11 percent of hospital visits for mental diseases and disorders (MDC 19) in

Figure 4: Distribution of Inpatient Stays and ED Visits for Mental Health Disorders and the Missouri Population by Insurance Status



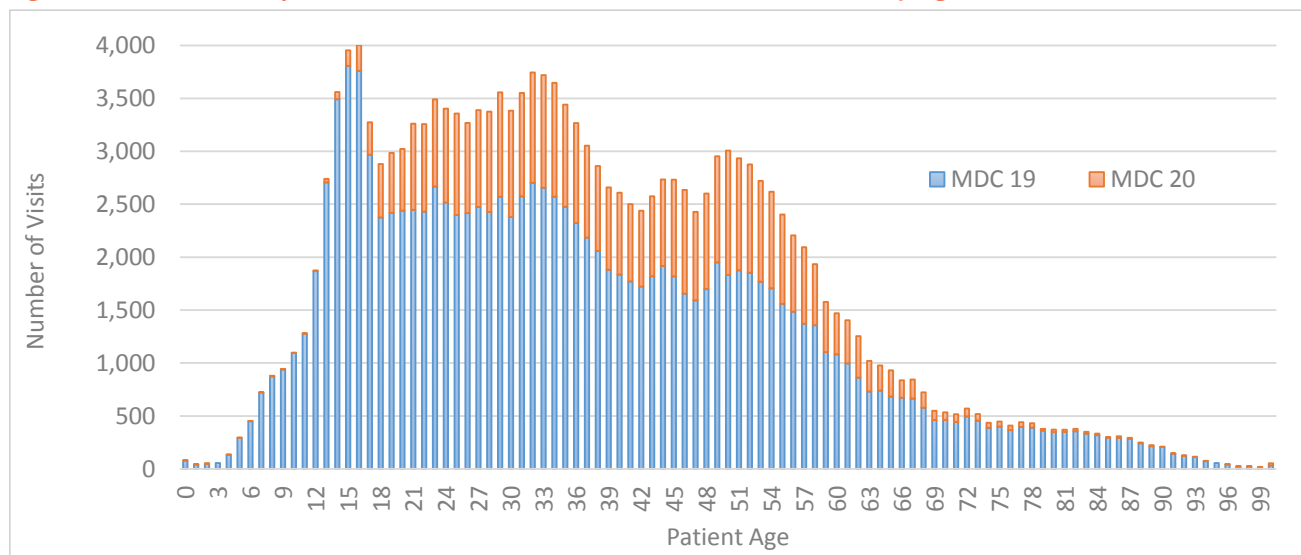
Sources: FY 2015 HIDI Inpatient and Outpatient (ED) Databases for Residents of Missouri, and Kaiser Family Foundation 2014 Health Insurance Coverage of the Total Population for Missouri

Table 1: Characteristics of Missouri Patients With Any Hospitalization or ED Visit for Mental Health Disorders During FY 2015

	MDC 19		MDC 20		Both		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Gender								
Female	36,115	52.8%	8,451	36.4%	2,133	37.6%	42,433	49.4%
Male	32,243	47.2%	14,776	63.6%	3,540	62.4%	43,479	50.6%
Total	68,358	100.0%	23,227	100.0%	5,673	100.0%	85,912	100.0%
Race (may not sum to total due to multiple races reported for some patients)								
White	55,689	78.1%	18,772	77.4%	4,810	78.2%	69,651	77.9%
Black	11,484	16.1%	4,183	17.3%	900	14.6%	14,767	16.5%
Asian	815	1.1%	170	0.7%	111	1.8%	874	1.0%
Other	3,331	4.7%	1,120	4.6%	330	5.4%	4,121	4.6%
Age								
0-17	9,208	13.5%	448	1.9%	76	1.3%	9,580	11.2%
18-35	24,493	35.8%	9,967	42.9%	2,531	44.6%	31,929	37.2%
36-64	26,418	38.6%	11,752	50.6%	2,927	51.6%	35,243	41.0%
65+	8,239	12.1%	1,060	4.6%	139	2.5%	9,160	10.7%
Average Annual Utilization for Any Reason								
ED Visits	3.88	-	4.87	-	8.75	-	3.83	-
IP Stays	1.27	-	1.27	-	2.74	-	1.17	-
ALOS	6.26	-	4.22	-	4.70	-	5.91	-
Charges	\$35,556	-	\$38,847	-	\$66,767	-	\$34,378	-

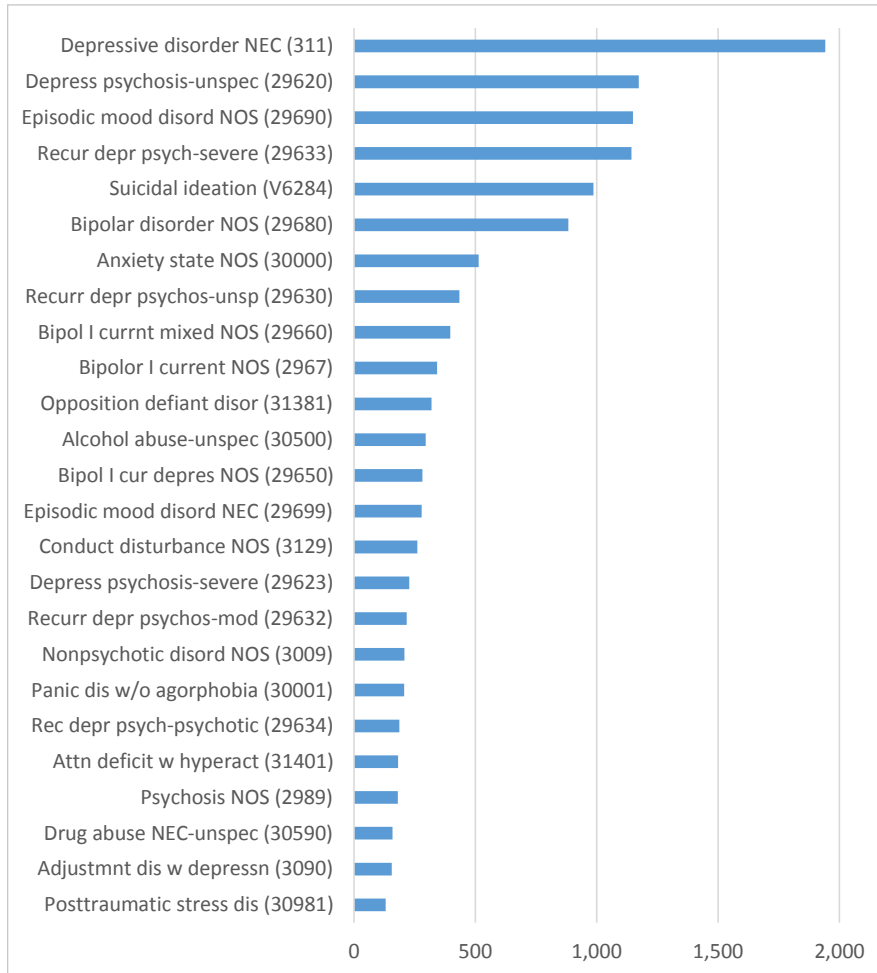
Source: FY 2006-2015 HIDI Inpatient and Outpatient (ED) Databases for Residents of Missouri

Figure 5: Missouri IP Hospitalizations and ED Visits for Mental Health Disorders by Age in FY 2015



Source: FY 2015 HIDI Inpatient and Outpatient (ED) Databases for Residents of Missouri

Figure 6: Top 25 Inpatient and ED Primary Diagnoses for Mental Health Disorders Among Missouri Patients Ages 14-17 in FY 2015



Source: FY 2015 HIDI Inpatient and Outpatient (ED) Databases for Residents of Missouri

2015, but only represent 5 percent of the total population in Missouri.^{xiv} Ninety-five percent of mental health-related hospital visits for patients ages 14 to 17 were for mental diseases and disorders and only 5 percent were for substance abuse or induced mental disorders. The most common mental disease and disorder causes of hospital visits among teenagers in 2015 were depression, mood disorders, attention deficit disorder, bipolar disorder, anxiety and stress, suicidal thoughts, and eating disorders. Figure 6 shows the top 25 primary diagnoses for mental health disorders among teens ages 14 to 17 in 2015.

Between 2006 and 2015, hospital utilization for mental health diseases and disorders by patients ages 14 to 17 increased by 42 percent. Visits for adults ages 18 and older increased by 24.5 percent during the same period.

Untreated mental health disorders among children are of particular concern. The high school drop-out rate for students with mental illness is 50 percent.ⁱⁱ Nine percent of adolescents between the ages of 12 and 17 suffered from at least one psychiatric episode in the previous year. Impulse

control disorder accounts for 37 percent of these episodes, while mood disorders make up 26 percent and anxiety disorders account for 14 percent.ⁱⁱ

Conclusion

Mental health disorders and suicide are a growing problem in the U.S. and Missouri. Throughout the last 10 years, Missouri has experienced tightened access to mental health services, which has contributed to significant increases in patients seeking help for mental health problems in hospitals and hospital emergency rooms. Tragically, Missouri also has experienced significant growth in the rate of suicides since 2003. Understanding and reversing barriers to access for mental health care will minimize the burden of mental health disorders and suicide in Missouri.

Suggested Citation

Reidhead, M. & Willson, S. (2016, June). *Mental Health in Missouri: Limited Access, Increasing Demand and Tragic Consequences*. *HIDI HealthStats*. Missouri Hospital Association. Hospital Industry Data Institute. Available at <http://web.mhanet.com/hidi-analytics-research>

- ⁱ Kessler R., Berglund P., Demler, O., Jin, R. & Walters E. Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication (NCS-R).
- ⁱⁱ Missouri Coalition for Behavioral Healthcare. *Missouri Mental Health by the Numbers*. Retrieved from http://media.wix.com/ugd/6dadf9_f7ec9da6e3864406aa10eec84efe41a8.pdf
- ⁱⁱⁱ American Psychological Association. (2012). *Impact of Stress*. Retrieved from <http://www.apa.org/news/press/releases/stress/2012/impact-report.pdf>
- ^{iv} National Center for Biotechnology Information. (2015, April). Mortality in mental disorders and global disease burden implications: A systematic review and meta-analysis. *JAMA Psychiatry*, 72(4), 334-341. Retrieved from doi: 10.1001/jamapsychiatry.2014.2502
- ^v Foreign Policy. *America's suicide epidemic is a national security crisis*. Retrieved from <http://foreignpolicy.com/2016/04/28/americas-suicide-epidemic-is-a-national-security-crisis/>
- ^{vi} Centers for Disease Control and Prevention. (2016, April). *Increase in suicide in the United States, 1999-2014*. NCHS Data Brief No. 241. Retrieved from <http://www.cdc.gov>
- ^{vii} Centers for Disease Control and Prevention. *Injury prevention and control: Division of violence prevention*. Retrieved from <http://www.cdc.gov/violenceprevention/suicide/consequences.html>
- ^{viii} Health Resources and Services Administration. Data Warehouse. Missouri. Data as of May 19, 2016. Retrieved from <http://datawarehouse.hrsa.gov/tools/analyzers/HpsaFindResults.aspx>
- ^{ix} Drapeau, C. & McIntosh, J. (2015, December). *U.S.A. suicide 2014: Official final data*. Washington, D.C.: American Association of Suicidology. Retrieved from <http://www.suicidology.org>
- ^x Missouri Budget Project. *The health of Missouri is at stake*. Retrieved from <http://www.mobudget.org/the-health-of-missouri-is-at-stake/>
- ^{xi} Treatment Advocacy Center. *No room at the inn*. Retrieved from http://www.tacreports.org/storage/documents/no_room_at_the_inn-2012.pdf
- ^{xii} Missouri Hospital Association. *Elimination of state-operated acute psychiatric inpatient and emergency services in Missouri*. Retrieved from <http://web.mhanet.com/MHA%20Behavioral%20Health%20Report%20April%202012.pdf>
- ^{xiii} U.S. Census Bureau. American FactFinder. 2014 Missouri QuickFacts.



HOSPITAL INDUSTRY DATA INSTITUTE
The Data Company of the Missouri Hospital Association

© 2016 Hospital Industry Data Institute
P.O. Box 60
Jefferson City, MO 65102-0060