Saint Louis Mental Health Board

INVESTING IN PROGRAMS THAT WORK

Dear Friends,

MHB is pleased to present the *St. Louis Adult Behavioral Health Needs Assessment*, prepared by the Washington University's George Warren Brown School of Social Work. The Trustees of the St. Louis Mental Health Board accepted this needs assessment at their meeting on August 20, 2015, with the understanding that it will serve to guide future MHB investments in behavioral health services.

In addition to the needs and service gaps reported, it is important to recognize the resources currently arrayed to address those needs. Some key organizations were established in the years since 2001 to ensure better, more responsive services to individuals with behavioral health conditions:

- **St. Louis Regional Health Commission (RHC)** provides funds to each of the Federally Qualified Community Health Centers to offer behavioral health screening, service and referral. RHC's quick response to the announced closing of the Metropolitan Psychiatric Center in 2010, led to a regional partnership that successfully maintained acute care psychiatric beds in the region. The Psychiatric Stabilization Center now being operated by BJC, is funded by RHC, SSM Health, BJC and the Missouri Department of Mental Health.

- **St. Louis Integrated Health Network (IHN)** was established in 2003 to improve access to care, enhance quality of care, and achieve cost efficiencies that optimize patient outcomes. Their Community Referral Coordinator program has increased the number of patients seeing a doctor, which means that those with behavioral health conditions are more likely to be identified and referred appropriately.

- **Behavioral Health Network of Greater St. Louis (BHN)** established in 2010, was initially formed as a result of a recommendation by the St. Louis Regional Health Commission. BHN coordinates the Hospital Community Linkage project to improve referrals and care coordination for behavioral health consumers. Individuals are referred from in-patient psychiatric units to Community Mental Health Centers. This program more appropriately meets the needs of individuals and improves access to psychiatric beds, while also generating cost savings.

With the advent of these organizations and their partnerships, behavioral health is taking its place in our community's understanding and conversation of health and wellness in a way that could not have been dreamt of before. Though the needs are great, never has our community been in a stronger position to address them.

Sincerely,

The St. Louis Mental Health Board

333 S. 18th Street, Suite 200—The Annex at Union Station—St. Louis, MO 63103—314-535-6964 phone—314-535-6584 fax—www.stlmhb.com

ST. LOUIS ADULT BEHAVIORAL HEALTH NEEDS ASSESSMENT

GEORGE WARREN BROWN SCHOOL of Social Work

Prepared for
Saint Louis Mental Health Board
August 2015

Washington University in St. Louis

Acknowledgements

This report was produced by researchers at the Brown School at Washington University in St. Louis. We acknowledge the contributions of our project team:

Enola Proctor
Stacey McCrary
Darrell Hudson
Sarah Bobmeyer
Ben Cooper
Lara Gerassi
Doug Luke
Nancy Mueller
Vithya Murugan
Jason Purnell

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Center for Mental Health Services Research
GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

Center for Public Health Systems Science
GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

Evaluation Center
GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

Washington University in St. Louis
INSTITUTE FOR PUBLIC HEALTH

MHB
Saint Louis Mental Health Board
INVESTING IN PROGRAMS THAT WORK

For more information, please contact:
Stacey McCrary, MSW
Brown School of Social Work
#1 Brookings Drive
St. Louis, MO 63130
Stacey.mccrary@wustl.edu

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Table of Contents

Executive Summary

Overview

More than a decade ago, the Presidents' New Freedom Commission on Mental Health stated that recovery is possible[1] for individuals with behavioral health needs. Yet national data continue to show serious shortcomings in the recognition, treatment, and recovery from substance and mental health disorders. The Saint Louis Mental Health Board (MHB) charged the George Warren Brown School of Social Work to assess the changes in St. Louis' adult behavioral health environment and identify current and emerging needs within the adult community. This report presents the findings of the needs assessment. The report focuses on: 1) adult behavioral health needs and priority populations; 2) adequacy of current mental health services; and 3) gaps, challenges, and opportunities in the City of St. Louis. A set of key findings and recommendations are provided to inform future planning of MHB. For purposes of this report, behavioral health conditions, treatment, and services are those that address both mental illnesses and substance use disorders.

Key Findings

The key findings presented below are organized into three categories: needs, services, and quality of life.

Behavioral health needs

- Depression is the most prevalent behavioral health condition, followed by alcohol and drug abuse. The City of St. Louis has high rates of psychotic disorders.
- Residents with co-occurring disorders, youth transitioning into the adult behavioral health system, and individuals with behavioral health needs who are homeless are identified as the populations with highest need.

Behavioral health services

- The City has shortages of psychiatrists, behavioral health professionals (e.g. social workers, case managers, mental health nurses), drug treatment, and long-term housing for individuals with behavioral health problems.
- Key barriers to outpatient behavioral health are affordability (e.g. insurance coverage) and accessibility, particularly geographical proximity and transportation. These access barriers are perceived to contribute to high reliance on emergency department care.
- Treatment rates for depression and addictive disorders are low, relative to need.
- Quality of behavioral healthcare is compromised by long wait lists, high staff turnover, variable delivery of evidence-based treatment, and challenges for integrated care.

- Behavioral health treatment facilities in the City of St. Louis use highly varied measures of clinical outcome and client functioning, and few treatment settings report using the kind of industry standard measures that have been tested and validated.

Quality of life

- Exposure to violence, transportation problems, and lack of stable housing threaten the quality of life for individuals with behavioral health conditions.

Recommendations

The following recommendations are based on the key findings from the assessment. The recommendations are organized into four areas: improving information, improving service access, improving service quality, and targeting quality of life for persons with behavioral health disorders.

Improving information about needs, services, and outcomes

- Support the collection of four types of data:
  - Data about the behavioral health needs of St. Louis residents, routinely collected through (1) supplements to ongoing community surveys and (2) universal, systematic screening and patient registries performed by primary care settings and social service agencies.
  - Accurate and timely data about real-time availability of behavioral health resources.
  - Data from patient encounters. Encounter data should include standardized diagnosis, procedure codes to reflect care—including psychosocial behavioral health treatments provided, treatment duration, sociodemographic information, and outcomes assessed on standardized instruments.
  - Harmonized, systematic screening and outcome tools.

Improving service access

- Support the integration of behavioral and physical healthcare through programs that physically co-locate care and increase the use of case managers and social workers. Integrated behavioral healthcare improves overall health, reduces costs, prevents duplication and gaps in care and preserves scarce psychiatric resources for more serious and persistent disorders.
- Support programs that address co-occurring conditions.
- Support system changes that target wait times and collaboration among service providers.

Improving service quality

- Increase support for workforce training in evidence-based treatments, thereby reducing current variation in quality and ensuring most effective use of treatment resources.
- Support training among primary care providers and staff, to equip them to identify and respond to behavioral health needs in their patients.

Improving quality of life for individuals with behavioral health needs

- Support programs that provide early intervention for behavioral health conditions.
- Continue to support programs that offer rapid re-housing and transportation resources.
- Support programs that address behavioral health needs of individuals exposed to or victimized by violence.

Conclusions

Mental illness and addiction comprise one of St. Louis' most serious public health problems. The City has high rates of depression, drug addiction, and psychosis. Anxiety and co-occurring disorders are also very high. Toxic stress—our city's spiraling confluence of economic inequality, racial segregation, and rising rates of gun violence—exacerbates the human and social toll of behavioral health disorders.

Their high prevalence notwithstanding, depression, drug addiction, and psychosis remain under-treated due in part to the City's shortage of psychiatrists and social workers, long wait lists, and persistent challenges to integrated care. Wait lists are long. The quality of behavioral healthcare varies widely.

Individuals living with mental illness and addiction need long-term stable housing and better access to transportation, to ensure their ability to travel to jobs and needed services. Deficiencies in community surveillance and health system screening leave many needs undetected, under-reported, and untreated. Poor data about real-time service availability complicates service coordination and timely referral.

St. Louis' behavioral healthcare needs to be timelier, more evidence-based, more focused on prevention, more responsive to early-stage expression of disorder, and more focused on long-term recovery. To achieve these goals, our region needs to expand its behavioral healthcare workforce, ensure real-time availability of data on open service slots, and accelerate progress toward integrated care. Co-occurring disorders need to be treated, and behavioral health must be addressed in primary care. This will require better training, staffing, and data collection related to behavioral health in primary care.

Finally, outcomes need to be systematically tracked and routinely reported in ways that permit analysis of quality of care and tracking of our region's progress in ensuring recovery from mental illness and addiction.

Background

About the Saint Louis Mental Health Board

Founded in 1994, MHB was established to receive and distribute monies to programs within the City of St. Louis that serve the most vulnerable citizens. Since its establishment, MHB has provided over $133 million dollars in funding to programs that serve these residents. Currently, MHB receives tax dollars from the Community Mental Health Fund, aimed at serving adults with severe behavioral health disorders within the City, as well as the Community Children's Services Fund, which focuses on the prevention and treatment of behavioral health concerns in children through 18 years of age. In 2014, MHB reached almost 2,900 consumers through its investment of almost $4 million dollars to serve adults in need of behavioral healthcare. Grantees are required to show measurable outcomes of evidence-based services in at least one MHB impact area.

Guided by its mission to facilitate the provision of quality services to the City's most vulnerable children and adults, MHB funds the following three impact areas:

- Individuals with serious behavioral health disorders achieve and sustain their progress toward recovery
- Individuals with serious behavioral health disorders who require frequent and repeated interventions across service systems are able to manage their conditions to avoid relapse, crises or emergencies
- Individuals with serious behavioral health disorders and other chronic conditions manage their overall health across their lifespan

In addition to funding these impact areas, MHB also focuses on two priority populations:

- Immigrants and refugees (particularly those who have been subjected to state-sponsored torture)
- Persons who are homeless or at risk of becoming homeless due to behavioral health disorders

Over the past 14 years, Care Access for New Americans (CANA), an initiative of MHB, has outreached and guided immigrants and refugees to appropriate specialty behavioral health and other social services. MHB leveraged CANA to secure funding from the Office of Refugee Resettlement (ORR) to address the specific needs of victims of state-sponsored torture. The Transformation Partnership, funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) and led by MHB, was born to be more responsive to the behavioral health and housing needs of consumers with severe mental illness. More information on these programs, including Impact Areas and links to reports can be found here, http://www.stlmhb.com/community-investments/who-we-fund/strategic-initiatives/.

Introduction

This report presents the results of an assessment of adult behavioral health needs in the City of St. Louis, led by the Center for Mental Health Services Research (CMHSR) at the Brown School at Washington University (WU) in St. Louis. The evaluation team at the Brown School worked closely with MHB to shape a stakeholder-driven, systematic approach and agreed to the following goals for the assessment:

1) identify adult behavioral health needs and priority populations in the City;

2) determine adequacy of the current mental health services;

3) identify gaps, challenges, and opportunities; and

4) provide recommendations to guide future investment decisions by MHB.

This needs assessment was informed by and extends MHB Board of Trustees' previous formal needs assessment as well as the changes in St. Louis' behavioral health environment since the previous needs assessment was conducted in 2004. As the Board has maintained in its strategic 2014-2016 priorities, recovery, efficiency and effectiveness are valued in behavioral health service delivery.

> Mental illness remains an urgent, unmet public health concern.

The Presidents' New Freedom Commission on Mental Health stated that recovery is possible[1] and is increasingly realized among behavioral health service consumers. Further, (SAMHSA's) Leading Change 2.0: Advancing the Behavioral Health of the Nation 2015–2018 Report states *"prevention works, treatment is effective, people recover."*[2]

Yet multiple reports decry the state of behavioral healthcare in the U.S. Mental illness is the leading source of disability in the U.S., accounting for nearly 40% of all medical disability for those aged 15-44.[3] This disability burden underscores the importance of behavioral health services addressing not only symptom management but also outcomes of social functioning and well-being. Although rates of behavioral health treatment have increased over time, access and quality remain serious problems. Fewer than half of those with major depressive disorder receive any treatment, and among those who do receive treatment only about 20% receive minimally adequate care.[4] Accordingly, behavioral health service consumers experience frequent crises, relapse, or other emergencies related to their illnesses, and need skills to manage and maintain recovery for improved physical and mental wellness.

Dr. Thomas R. Insel, Director of the National Institute of Mental Health (NIMH), stated that *"data on prevalence, treatment, and mortality indicate that mental illness remains an urgent, unmet public health concern."*[5] This report seeks to understand this public health concern locally, identifying needs and priorities for the City of St. Louis.

Methods

The assessment benefits from use of both quantitative and qualitative data. Quantitative analysis of secondary data (i.e. data that were administrative or collected by a different state or national agency) included sources that were either publicly available data or administrative data drawn from the BJC HealthCare System (BJC). Publicly available sources are listed below, with more detailed information in Appendix A. Additionally, administrative data from BJC were analyzed. Detailed discussions of these data are below. Key informant interviews were used for the qualitative portion of this needs assessment.

Key informant interviews

To achieve a more complete understanding of the behavioral health needs of adults in the City, twelve in-depth interviews with individuals MHB viewed as key stakeholders in the St. Louis behavioral health community were conducted. MHB provided the evaluators with a list of 19 stakeholders, which included a range of administrators, supervisors, and service providers representing organizations responsible for behavioral health services, health care, state level policy, and public safety. MHB divided this list into two groups, a first and second "tier" by priority.

The team also worked with MHB to identify a list of topics to inform the interviews. Then, questions were refined and a qualitative interview guide was developed by the team and approved by MHB. The interview guide addressed the following topics:

1) priority populations;

2) current service gaps and needs;

3) service quality; and

4) quality of life for adults with behavioral health needs.

The research team pilot tested the interview guide and conducted the interviews. The WU Institutional Review Board approved the study protocol prior to any data collection. All participants consented to participate in the one hour interview. The team completed 12 one-hour interviews, including all eight interviews from the first tier projected in our original proposal, supplemented by four additional interviews from the second tier. Table 1 reflects the participating organizations.

Two researchers applied an inductive analysis approach.[6] The analysts first coded the transcripts from each interview using a codebook developed according to topics in the interview guide. Additional codes were added as needed throughout coding as well. The analysts then reviewed the content from each code and identified themes across interviews. See Appendix B for a full description of the qualitative methodology and analysis. These interviews revealed several groups of high priority populations for MHB funding and service improvements, as well as perceptions of emerging trends and factors contributing to current behavioral healthcare needs.

Table 1. Organizations Participating in Stakeholder Interviews

Organization	Focus
Barnes-Jewish Hospital	Provides comprehensive health care services throughout the greater St. Louis region
BJC Behavioral Health Care	Provides and coordinates an array of mental health services in the greater St. Louis region
Bridgeway Behavioral Health	Provides addiction, domestic violence, and trauma services throughout the St. Louis metropolitan region
Family Care Health Center	Provides comprehensive primary health care services to the residents of St. Louis
Independence Center	Provides a system of high quality programs and services for adults with serious and persistent mental illnesses
Mental Health America	Promotes mental health and the prevention of mental disorders through advocacy, education, research, and services
Missouri Department of Mental Health	Provides mental health services to all Missourians through private provider agencies, community-based programs, and state-operated facilities
Peter and Paul Community Services	Provides housing and supportive services to homeless individuals, especially those with mental illness or who are HIV positive
Places for People	Provides services to help individuals recover from mental illness and associated chronic illnesses
St. Louis Integrated Health Network	Coordinates a regional network of Safety Net Providers and Specialty Care Services to coordinate and integrate care to the medically underserved
St. Louis Metropolitan Police Department	Responsible for public safety of the City of St. Louis
St. Louis Regional Health Commission	Focuses on improvement of health care access and delivery to the uninsured and underinsured

Analysis of publicly available data

The team obtained data about socio-demographic characteristics, adult mental health and substance abuse indicators and service utilization estimates of adults in the City. A primary source of information was a table of 41 data sources compiled by the Missouri Institute of Mental Health (MIMH) in preparation for the Youth Needs Assessment for MHB.[7] After review of this resource, final analysis was restricted to sources that:

1) focused on adults only;

2) focused on City of St. Louis only; and

3) contained information on mental health and/or substance abuse

Publicly Available Data

- American Community Survey 5-Year Estimates, 2009-2103
- Collaborative Psychiatric Epidemiologic Surveys (CPES)
- Missouri Behavioral Health Epidemiology Workgroup
- Missouri Department of Mental Health (DMH)
- Missouri Department of Health and Senior Services (DHSS)
- Missouri Information for Community Assessment (MICA)
- Substance Abuse and Mental Health Services Administration (SAMHSA)
- US Department of Health and Human Services (DHHS)

Analysis of BJC HealthCare Data

Our team also obtained data from BJC to gain additional insight into the mental health needs in the City. While BJC is not the only hospital system in the City of St. Louis, there is no publicly funded safety net hospital. BJC, particularly Barnes Jewish Hospital, serves a high number of vulnerable patients in the region and BJC is the largest health care system in the region. Data on behavioral health care within primary care and other medical settings provides a rich complement to data from substance abuse and mental health treatment facilities, uniquely reflecting not only how medical settings address behavioral health needs but also the needs of those who do not reach specialty behavioral health care. Using administrative data from BJC facilities, we have characterized the mental health needs for City residents who have sought mental health treatments within BJC facilities. Additionally, given the high usage of the emergency department (ED) for mental health treatment, as well as the treatment of mental health problems within primary care, data drawn from BJC is valuable and provides important insights into estimating the mental health needs of the City.

City of St. Louis Context

Key Findings

- City median income almost $13,000 less than the state of Missouri
- Among City residents, African-Americans earn almost $20,000 less than Whites
- An 18 year gap in life expectancy between zip codes 63106 and 63105
- Violence is a major and growing problem in the City, exacerbating stress and anxiety

This needs assessment is locally based—focused on the unique behavioral health needs of the City of St. Louis. We first present information about the demographic characteristics of the residents, and then provide the findings on the behavioral health needs and services.

The City of St. Louis is demographically diverse, and faces unique challenges, such as depopulation and tension surrounding Ferguson, as well as opportunities, such as economic development in specific neighborhoods and economic investment. Table 2 depicts the most recent, relevant demographic characteristics of adults in the City. Since 2000, the population has decreased 8.3%, from an estimated 348,189 to 319,294.[8] An estimated 79% of St. Louis residents are adults, aged 18 and older. The current median age is 34 years. Women comprise 52% of the St. Louis population.[9]

The City of St. Louis is racially and ethnically diverse. African Americans comprise the largest racial group (49%) compared to Whites (45%). About 7% of the City's population is foreign born. While the proportion of Latino residents overall is low (3.6%), there has been an increase of nearly 60% in the small Latino population since 2010.[8]

The overall median household income is $34,582, which is substantially less compared to the median income for Missouri ($47,380). The median income for African Americans in the City is roughly $20,000 less than Whites ($31,677 vs. $51,465). St. Louis has a high poverty rate (27%). Nearly 20% of the population is uninsured and the overall high school dropout rate is almost 13%. The unemployment rate is estimated to be 9% overall but hovers around 16% for African Americans. About 45% of City residents own their homes.[9]

Local and national data clearly demonstrate that poverty and health are highly linked: the worse off one's neighborhood is, the poorer one's physical health will be.[10-12] Thus, it is not surprising that African Americans have an elevated risk of physical morbidities and premature mortality compared to Whites.[13]

Table 2. Sociodemographic Characteristics of St. Louis (2009-2013)

	% (n) or M (SE)
Age (18+)	79.1 (252,407)
Median Age	34.2 years (+/-.2)
Gender	
Men	48.3 (154,082)
Women	51.7 (164,873)
Race	
White	44.9 (143,308)
Black or African American	48.6 (154,888)
Asian	2.8 (8,929)
Two or more races	2.5 (8,092)
Ethnicity	
Hispanic or Latino (of any race)	3.60
Immigration Status	
U.S. Born	297,570
Foreign Born	21,395
Income (household median)	34,582
Poverty Rate	27.40
Employment Status	
In Labor Force	65.4 (170,072)
Not In Labor Force	34.6 (89,893)
9.4% (24,367)	9.4 (24,367)
Housing	
Home ownership %	44.60
Marital Status	
Married	28.70
Separated	3.50
Divorced	12.10
Widowed	6.40
Never Married	4.90
Insurance Type*	
Private Health Insurance	54.9 (172,485)
Public Health Insurance	34.9 (109,761)
No Health Insurance	18.2 (57,317)

Source: 2009-2013 US Census Bureau American Community Survey 5-Year Estimates
*some residents likely have both private and public insurance

Adverse social and economic conditions contribute to the development of mental health problems. For instance, poverty is significantly associated with the development of depression.[14, 15] Poverty rates among African Americans have been significantly higher than Whites over the past 35 years in St. Louis. Over 70% of African American households subsist on $35,000 or less in annual income in the City.[16] Individuals who are chronically exposed to stress are more likely to develop mental health problems.[17,18]

The City of St. Louis remains one of the most racially and ethnically segregated cities in the United States. The East-West Gateway Council of Governments recently reported that St. Louis ranks 6th highest in White-Black segregation as measured by the dissimilarity index (i.e., "the degree to which two groups of people are evenly spread among census tracts in a given region based on the racial composition of the entire region") among 35 large metropolitan statistical areas and has seen only small decreases in segregation over the past several decades.[19] A long history of local and federal policies and informal practices is responsible for present-day segregation, which is linked to areas of concentrated poverty in the St. Louis region.[16]

Racial residential segregation has a profound impact on resources, both health promoting and health damaging, for individuals. Neighborhood resources are distributed unequally along racial lines.[20] Predominantly African American neighborhoods are poorer than White neighborhoods, and many African American communities do not have comparable resources, such as high quality schools or access to public services.[21, 22]

The life expectancy map by zip code in the *For the Sake of All* report shows an 18-year gap in life expectancy at birth between the 63106 zip code in the City of St. Louis and the 63105 zip code in St. Louis County.[16] Less than 10 miles separate these two areas in the St. Louis region. Access to employment opportunities is limited due to preparedness, cultural biases, further proximity to jobs, and often limited transportation options. African Americans (17.6%) have nearly four times the unemployment rate of Whites (4.6%) in St. Louis (City and county combined).[23] The confluence of social and economic factors

along with mental health problems make those who are already vulnerable, even more vulnerable in regard to their health.[24]

The tragic shooting death of the unarmed, 18-year old Michael Brown in August, 2014, ignited a tinderbox, not only in the St. Louis metropolitan area, but throughout the United States. Given Brown's age, it is important to note the stressors African American men face at critical periods of development, particularly at the emerging adult age. Imprisonment or incarceration, poverty, and mental illness interact in a vicious cycle. People who experience economic hardship are more likely to have a mental illness.[25, 26] And mental illness is associated with behavior problems and adult imprisonment.[24]

Violence is a major and growing problem in the City of St. Louis. Exposure to violence, both victimization and perpetration, is associated with mental health problems.[27-29] Not only does direct victimization create trauma, incidents of violence ripple throughout communities, creating higher levels of stress and vigilance while diminishing levels of trust.[30, 31]

In summary, the context of St. Louis carries particular risk for the behavioral health of its residents, risks associated with racial segregation, income inequality, violence, and resource limited communities.

What are the behavioral health needs of the City?

Key Findings

- Heroin is the drug for which adult City residents are most likely to be treated.
- Among the insured, those suffering from depression, bipolar depression, and anxiety were most likely to seek treatment.
- Three priority populations: those with co-occurring disorders, young adults transitioning to the adult behavioral health system, and homeless individuals
- Half of those in City jails have a behavioral health disorder.

The primary focus of the needs assessment was to identify the most common mental health problems in the City and their prevalence and variation by demographic and geographical factors. Understanding needs—those met by services and those remaining unmet—and knowing who has those needs is an important foundation for service delivery.[32] The team used three sources of information to complement data already available to MHB through reports from its grantees to understand the behavioral health needs of St. Louis: City-specific subsets of published epidemiologic data; behavioral health service use data on St. Louis residents from BJC, and in-depth qualitative data from interviews with stakeholders in St. Louis behavioral health care.

We examined these important questions:

a) What is the prevalence of behavioral health disorders, and the individuals who experience them?

b) What behavioral health disorders are being served in the City, and who is receiving services?

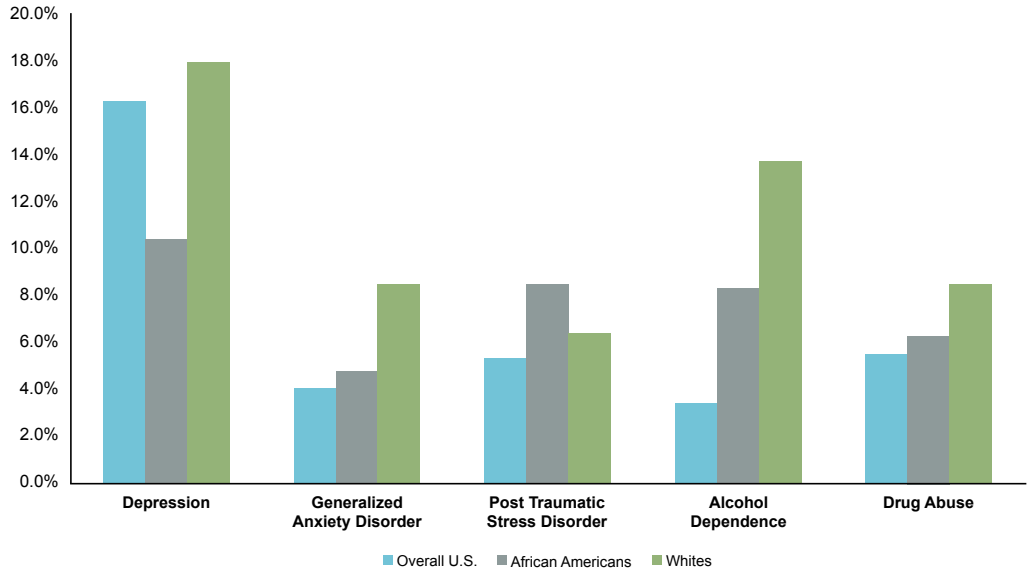
c) Which populations are high in priority for increasing or improving behavioral health services?

Who needs behavioral health services?

Because no representative epidemiologic data has focused directly on the City since the early 1990's, our team performed a thorough scan of the most publicly available data and identified data subsets, where possible, relevant to the City of St. Louis. Data specific to St. Louis should be understood within the broader context of national epidemiologic data, which we briefly present as a backdrop. Nationally, the most common 12-month mental disorders are mood, anxiety, and impulse control disorders.[33] The more recent Collaborative Psychiatric Epidemiologic Studies (CPES), whose nationally representative psychiatric epidemiologic data were collected just over 10 years ago, also found depression to be the most frequent both lifetime and 12-month disorder, affecting 16% and 7% of Americans respectively. Drug abuse was the next most prevalent mental disorder as nearly 6% of Americans experienced drug abuse over the life course, followed by anxiety disorders. Four percent of Americans

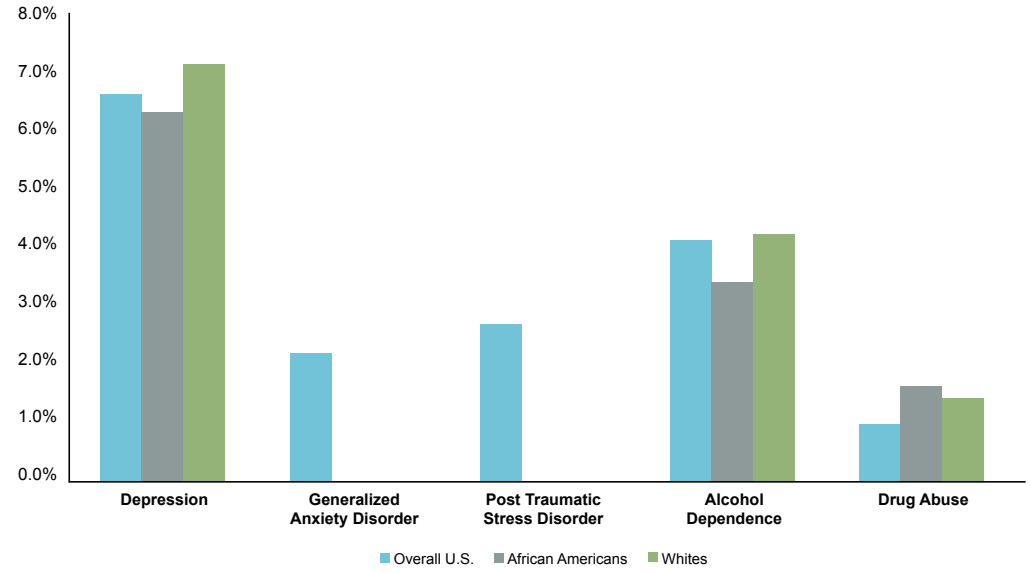
experienced lifetime generalized anxiety disorder and 5.5% experienced post-traumatic stress disorder. Figures 1 and 2 display the national estimates of lifetime and 12-month adult mental health conditions from the CPES. The next most common form of mental disorder experienced over the life course was alcohol dependence (9%), experienced by nearly 20% of African Americans and 19% of Whites (past 30 day reporting).

Figure 1. National Lifetime Estimates of Adult Mental Health Conditions, 2001-2003



Source: Collaborative Psychiatric Epidemiologic Surveys

Figure 2. National 12-Month Estimates of Adult Mental Health Conditions, 2001-2003

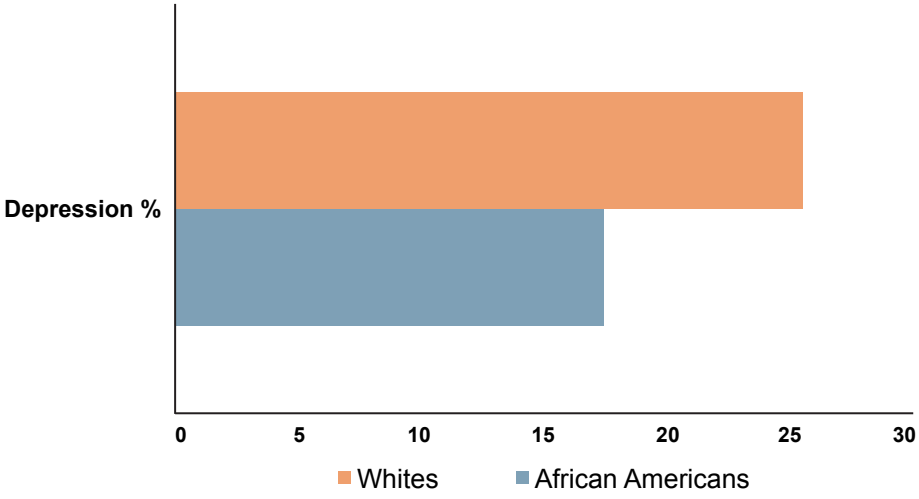


Source: Collaborative Psychiatric Epidemiologic Surveys

We obtained data from the Missouri Information for Community Assessment (MICA) to identify the rates of disorders specific to St. Louis. Limited data are available. The Office of Epidemiology, Missouri Department of Health and Senior Services (DHSS), includes only one behavioral health condition in its annual assessment of health conditions. 2014 data show that 21.8% of Missouri residents live with depressive disorders. This rate closely mirrors the 12-month incidence in national estimates. As shown in Figure 3, depression varies by race, with Whites more likely to report depression than African Americans.

21.8% of Missouri residents live with depressive disorders.

Figure 3. Prevalence of Depression Among African-Americans and Whites, City of St. Louis, 2011



Source: Missouri Information for Community Assessment

Reported rates of mental health conditions are likely under-estimated. As the 2001 Surgeon's General Mental Health Supplement highlights,[34] prevalence rates are imperfect measures of need. For instance, most extant studies do not include institutionalized individuals, such as those in psychiatric hospitals or prisons. It is also more difficult to recruit racial/ethnic minorities who reside in inner cities as they are not readily accessible to researchers who conduct household surveys.

Cognizant of these challenges, we also obtained newly available data from the St. Louis City Division of Corrections (DOC), to understand behavioral health problems in City jails. This data was collected for and included in the 2015 MacArthur Foundation's Safety and Justice Challenge grant. In 2014, nearly half of those jailed had a history of drug use and 20% had a history of a mental health disorder. From 2014-2015, the jail has consistently housed 1,200-1,300 individuals. The average age of individuals involved in the DOC is 32 with a range of 16 to 63. An overwhelming

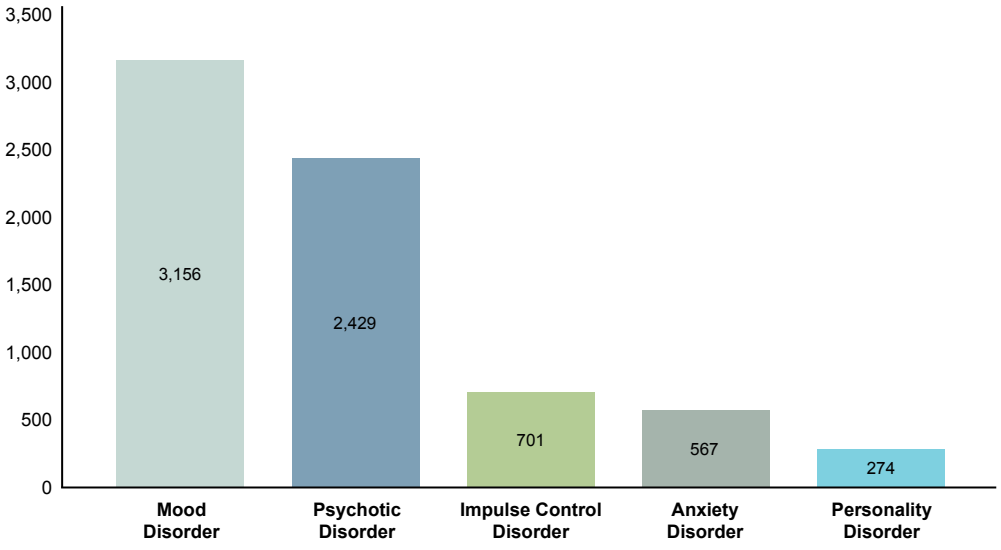
majority of these adults are males (92%) and African American (89%). As a result, a mental health treatment gap exists, as racial/ethnic minorities are overrepresented in prison but are far less likely to have received mental health treatment.

Who receives behavioral health services?: Missouri state treatment data

In addition to epidemiologic data, treatment rates also reflect behavioral health needs. Of course data from service users does not reflect the unmet need among those who have not sought or received care. However, St. Louis specific data on treatment rates, derived from the Missouri DHSS, shown in Figure 4, indicate that approximately 1% of the St. Louis population sought treatment for depression in 2013. This rate is low, given epidemiologic data that depression is the leading disorder, estimated to affect nearly half of all Americans at some point during their life course.[33, 35, 36] More than 270 cases of personality disorder and over 2,400 cases of psychotic disorder treatment were documented in the City in 2013. Considering the debilitating nature of psychotic disorders along with their greater treatment burden and costs, this represents a unique challenge for the St. Louis mental health system.

> Nearly half of those jailed have histories of drug use and 20% have histories of a mental health disorder.

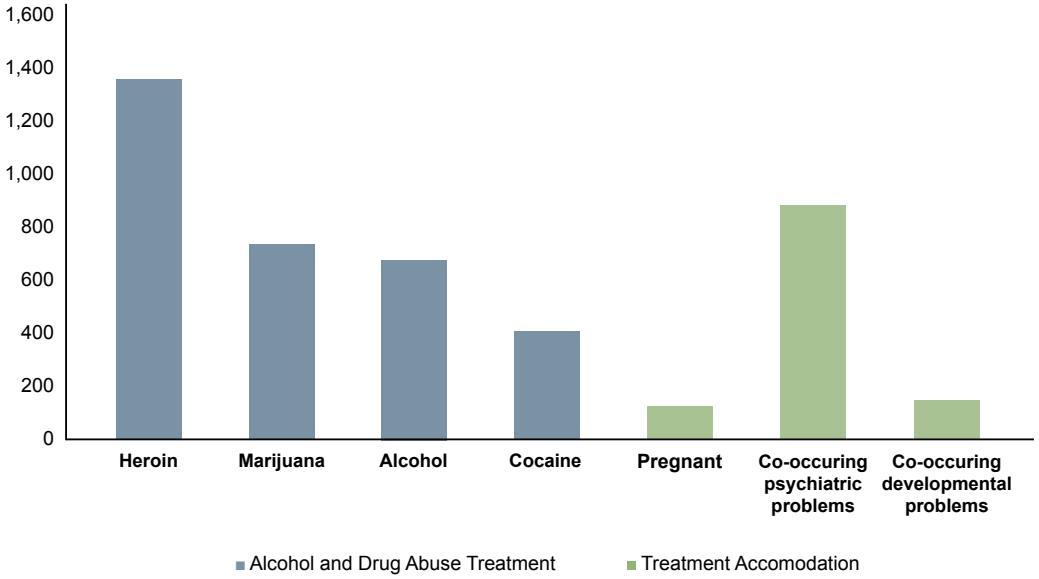
Figure 4. Psychiatric Treatment Services, City of St. Louis, 2013



Source: Missouri Department of Mental Health

Figure 5 depicts alcohol and drug abuse treatment using data from DMH. Heroin represents the substance use disorder most likely to be treated in the City. Among individuals suffering from alcohol or substance abuse related disorders, rates of co-occurring mental health problems such as anxiety, depression, and psychotic disorder, were high.

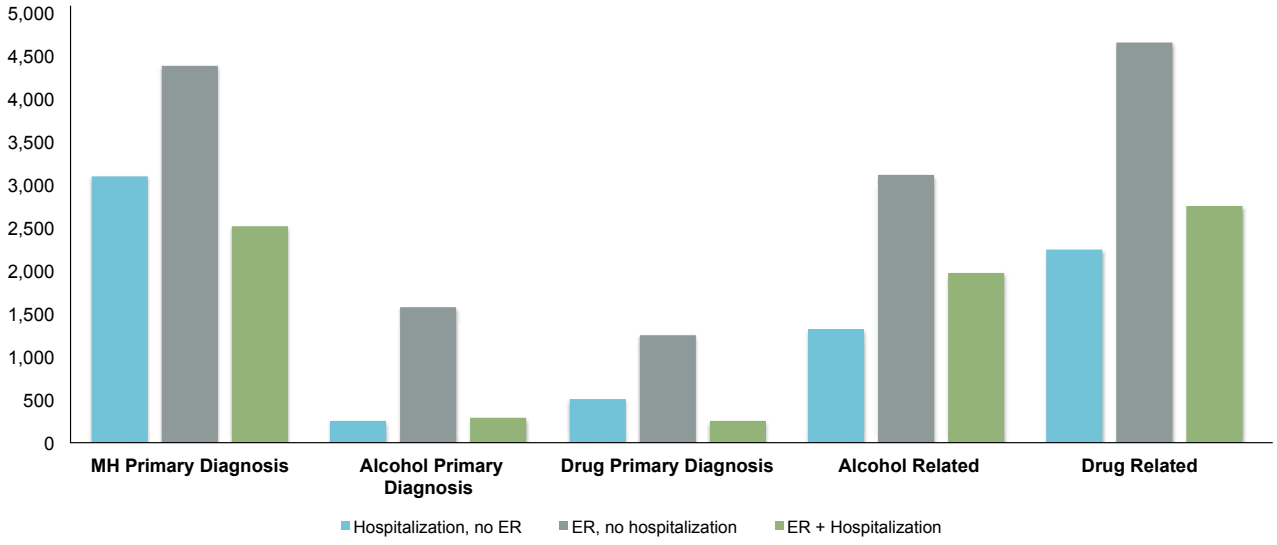
Figure 5. Alcohol and Drug Abuse Treatment, City of St. Louis, 2013



Source: Missouri Department of Mental Health Division of Behavioral Health

The team examined the distribution of mental health related hospital admissions and ED visits. As reported by DMH in 2011, Figure 6 reports nearly 3,100 hospital admissions that did not include an ED visit for mental health conditions in 2011. For ED visits without hospitalization, there were 4,377 cases. For both an ED visit and hospital admission, there were 2,517 cases. Overall, drug and alcohol diagnosis made up the majority of hospital admissions and ED visits.

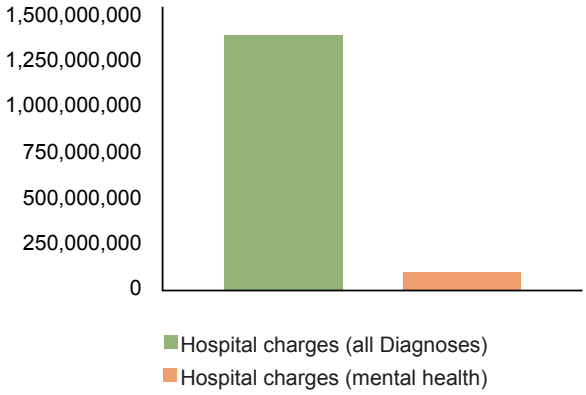
Figure 6. Mental Health Related Hospital and Emergency Department Admissions, City of St. Louis, 2011



Source: Missouri Department of Mental Health

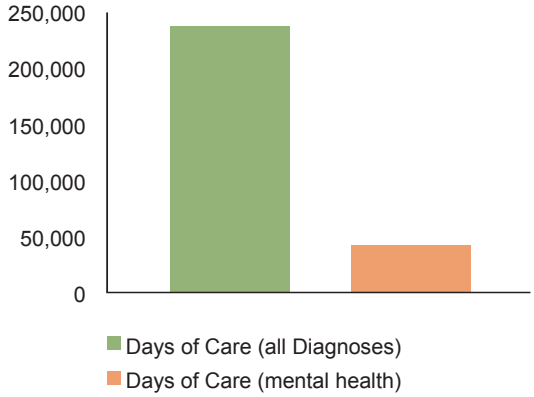
Figure 7 depicts significant costs associated with mental health treatment for 2012, the last year treatment cost data were available from the Missouri DHSS. That year, nearly $87 million dollars were spent on hospital charges for mental health treatment alone. Figure 8 reports over 42,000 days of care related to treatment of mental health conditions.

Figure 7. Hospital Charges, City of St. Louis 2012



Source: Missouri Department of Health & Senior Services

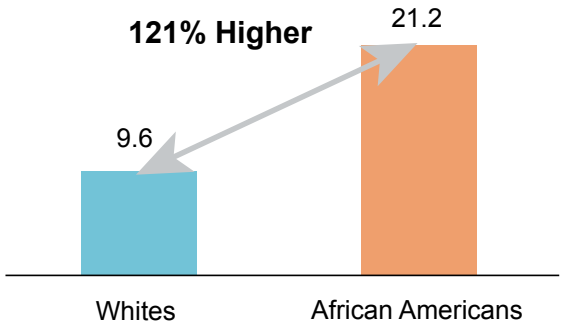
Figure 8. Days of Care, City of St. Louis, 2012



Source: Missouri Department of Health & Senior Services

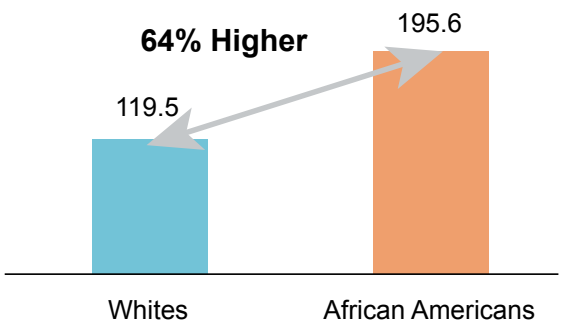
Figures 9 and 10 report rates of ED visits for mental health conditions in the City were 121% higher for African Americans compared to Whites, and rates of hospital stays for mental health conditions are 64% higher. Specifically, African Americans have much higher rates of ED visits for alcohol and substance abuse disorders, anxiety, and serious mental health conditions, such as schizophrenia. Due to negative stigma and under-reporting of mental health conditions among African Americans as well as under-diagnosis of mental health conditions by providers, it is possible that even more African Americans who have mental health conditions are not receiving the treatment they need.[37]

Figure 9. Rate of ED Visits for Mental Health Conditions by Race, City of St. Louis, 2011



Source: Missouri Information for Community Assessment

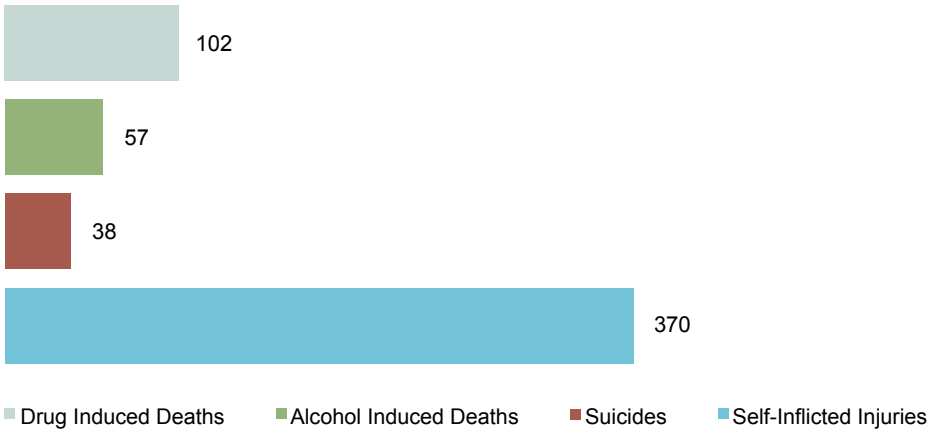
Figure 10. Rate of Hospital Stays for Mental Health Conditions by Race, City of St. Louis, 2011



Source: Missouri Information for Community Assessment

Reflecting the human and societal burden of behavioral health problems, Figure 11 depicts behavioral health related deaths and injuries. In 2013, DMH reported 370 self-inflicted injuries, 102 drug related deaths, 57 alcohol induced deaths and 38 suicides.

Figure 11. Behavioral Health Related Deaths and Injuries, City of St. Louis, 2013



Source: Missouri Department of Mental Health

Who receives behavioral health services?: A snapshot from BJC HealthCare

Considering that many Americans seek mental health services in primary care settings or while seeking treatment for physical health problems,[4] we obtained and analyzed data on St. Louis City adult residents who received mental health diagnoses and treatment from BJC to better understand behavioral health needs. These data complement data drawn from publicly available sources, and extend understanding, beyond information MHB routinely receives from its grantees. The data drawn from BJC is not representative, as most patients who sought services within the BJC system were more likely to be insured and employed than residents from the broader St. Louis community. However, BJC represents the largest healthcare system in the St. Louis region. Additionally, considering the Affordable Care Act's (ACA) emphasis on integrated care, it is imperative to estimate the mental health needs of patients seeking medical care.

We analyzed administrative data from BJC to determine the mental health diagnoses and location of BJC facilities serving St. Louis residents from 2010-2015. Analyses were restricted to patients aged 18 years or older who were primarily seeking treatment for mental health conditions. History of any mental health problem during the past five years was ascertained from electronic medical records defined by: International Classification of Disease Version 9 (ICD-9) diagnosis codes and procedures, drug orders for psychiatric medications, and facility seen. With these data, we have provided the prevalence of mental disorders ascertained from electronic medical records among St. Louis City residents who have used the BJC system. Additionally, data were stratified by age, race, and zip code of residence.

Table 3. BJC Facilities Visited by City Residents, 2010-2015

Organization	Frequency	Percent
Alton Memorial Hospital	18	0.18
Barnes-Jewish Hospital	8517	85.6
Barnes-Jewish St. Peters Hospital	24	0.24
Barnes-Jewish West County Hospital	54	0.54
Boone Hospital Center	13	0.13
Christian Hospital	1075	10.8
Missouri Baptist Hospital-Sullivan	17	0.17
Missouri Baptist Medical Center	150	1.51
Parkland Health Center	17	0.38
Progress West	24	0.24
St. Louis Childrens Hospital	20	0.2

Source: BJC HealthCare

Between 2010 and 2015, there were 9,950 visits to 11 BJC system hospitals (see Table 3) by City residents. In the 5-year period of observation, 4,333 City residents sought mental health treatment from these BJC facilities. The vast majority of patients sought treatment at Barnes Jewish Hospital followed by Christian Hospital. Patients had an average of 2.3 visits to BJC facilities over the 5-year observation period. As indicated in Table 4, Medicaid was the most common payor for mental health services at 56%. Another 16% of patients had private insurance and 19% had another form of payment.

Table 4. Insurance Types Used by City Residents at BJC Facilities, 2010-2015

Insurance Type	Percent	Frequency
Private Insurance	15.9	1461
Medicare	8.2	755
Medicaid	56	5159
Self-Pay	0.40	40
Other	19	1790

Source: BJC HealthCare

Table 5. Demographics of City Residents Receiving Behavioral Health Services at BJC Facilities, 2010-2015*

Demographic Factor	Statistic
Age (18+)	
Median Age	43.40 (± 15.3)
Gender	
Men	42% (1821)
Women	58% (2512)
Race	
White	38% (1656)
Black or African American	58% (2504)
Asian	0.58% (25)
Latino	0.09% (4)
Native American	0.09% (4)
Other	2.24% (97)
Unknown	1% (43)
Number of Visits	2.30 (± 3.76)

Source: BJC HealthCare
*chief complaint mental health problem

Table 5 displays the socio-demographics of St. Louis residents who received mental health treatment from BJC. The median age was 43 years of age. Over half (58%) of visits were by women compared to men (42%). Most visits were from African American patients (58%) followed by Whites (38%). Less than 1% of patients were Asian, Latino or Native American.

Table 6 displays the proportion of visits across the most common mental health conditions, from 2010-2015. The top three treated conditions were depression, bipolar disorder, and anxiety. The highest proportion of visits for mental health treatment was depression (39%), with 3,903 visits for depression during the 5-year observation period. The second most represented mental health condition treated within BJC was bipolar disorder (35%) with 3,519 visits. Another 18% of patients sought treatment for anxiety. Nearly 4% of patients were treated for dysthymia. Alcohol abuse treatment made up nearly 10% of visits and 1.3% of visits were for drug abuse treatment.

Table 6. Visits to BJC Facilities by City Residents for Behavioral Health Conditions, 2010-2015

Disorder	Percent	Frequency
Depression	39.2	3903
Bipolar	35.4	3519
Anxiety	18.4	1834
Alcohol dependence	9.8	973
Dsythymia	3.7	372
Drug abuse	1.35	134

Source: BJC HealthCare

The most common diagnoses treated in the BJC system varied significantly by race/ ethnicity (see Tables 7-9). For depression, 60% of the visits for depression were by African Americans compared to Whites (36%). For bipolar disorder visits, 58% were by African Americans compared to Whites (36%). African Americans made up 55% of the anxiety disorder visits compared to 41% of Whites. While the Missouri MICA data showed higher rates of depression among Whites in St. Louis, the BJC system treated more depression among African Americans. This reflects BJC's role as a safety net behavioral health provider in St. Louis.

Table 7. Rates of Depression Treatment by Race/Ethnicity at BJC Facilities, City Residents, 2010-2015

Race/Ethnicity	Percent
White	35.7
African American	59.5
Asian	0.6
Latino	0.03
Native American	0.1
Other	3.4
Unknown	0.6

Source: BJC HealthCare

Table 8. Rates of Anxiety Treatment by Race/Ethnicity at BJC Facilities, City Residents, 2010-2015

Race/Ethnicity	Percent
White	40.8
African American	54.5
Asian	0.6
Latino	0.05
Native American	0
Other	3.16
Unknown	0.87

Source: BJC HealthCare

Table 9. Rates of Bipolar Treatment by Race/Ethnicity at BJC Facilities, City Residents, 2010-2015

Race/Ethnicity	Percent
White	36.4
African American	57.8
Asian	0.4
Latino	0.06
Native American	0.14
Other	3.7
Unknown	1.5

Source: BJC HealthCare

Available data on behavioral health needs are limited in several ways. First, no comprehensive, systematic epidemiologic data have been collected on St. Louis City residents in over three decades. Depression is the sole behavioral health condition included in Missouri's annual Behavioral Risk Factor Surveillance System (BRFSS) and reported in MICA. Second, existing epidemiologic data and treatment datasets rarely permit drawing subsets to the City of St. Louis. St. Louis' distinct socioeconomic and demographic make-up must be considered when extrapolating state-wide data to St. Louis City. Third, given the large African American population in St. Louis, epidemiologic data should be interpreted cautiously. The difficulty in estimating the true burden of mental disorder in urban settings, among African Americans, and other medically underserved populations is widely reported.[38-41] And finally, it should be recognized that treatment data under-reflects the needs of individuals suffering from highly disabling mental health problems who have never sought treatment. Treatment data also underreport the needs of individuals with personality disorders, that are difficult to effectively treat and can be highly debilitating.

Who are the highest priority populations?

One focus of the stakeholder interviews was about what populations should be served or could be better served with MHB funding. Most participants stressed the needs of the population served by their agency, reflecting the high needs of various populations served by these agencies. However the data also reflected convergence around several priority populations. Across the interviews, three groups were identified as highest in priority for behavioral health services, and for MHB funding emphasis:

- **Co-occurring disorders, with two types of co-occurrence of concern**
  - Individuals with behavioral health and substance abuse disorders.
    - This group emerged from the data as highest in priority, with little change anticipated in the urgency of their needs. Moreover, individuals with both

mental health and addiction problems were seen as vulnerable to involvement with the criminal justice system, in part because they are *"visible," "downtown,"* and at risk for becoming homeless.

- Individuals with behavioral health disorders and chronic medical illnesses, such as diabetes or chronic heart conditions.
  - This group was described as often falling between the health-behavioral health divide. *"The behavioral health community views them as a population that the health community serves and the health community views them as a population that the behavioral health community's serving. Therefore they fall through the cracks. They look at them as separate populations when they're one."*

Young adults transitioning into the adult behavioral health service system

Young adults, such as those aging out of the foster care system, are no longer eligible for pediatric behavioral healthcare and seem to *"have no clue how to access the adult side." "They get really ill, and end up in the hospital or ED,"* according to stakeholders. *"We don't have great transition into the adult system. We see a lot of them lost and struggle in their early to mid twenties and eventually they'll come to us because they're injured or they're going to and need a medical stability evaluation."* A recent report by the Healthy Transitions Initiative states, "young adults with serious mental health conditions have some of the poorest outcomes among young people with disabilities."[42]

> People with co-occurring conditions fall through the cracks. They are looked at as separate populations when they are one.

Research conducted by faculty at the Brown School also demonstrates the prevalence of psychiatric and substance abuse problems among unaccompanied and homeless youth transitioning into adulthood.[43] One study found that 50% of adolescents aging-out of the foster care system experience at least one night of homelessness within two years of exit, and the experiences of homelessness place youth at substantial risk for victimization, psychological symptoms, and substance abuse problems.[44] Vulnerable youth subsequently need extensive social services in adulthood.

Homeless or unstably housed

These individuals were seen as *"the most vulnerable, most in need, living on the street"* and *"most at risk of a variety of illnesses." "The homeless factor magnifies the mental health and the type of needs and services that they require."*

Mental health issues are particularly prevalent among the city's homeless population. In 2013, emergency shelters in St. Louis city served 1,469 adults of whom approximately 61% self-reported serious mental health problems and 67% reported chronic substance abuse issues.[45] Diagnostic interviews conducted with a random sample of homeless adults using shelters in St. Louis suggested substantial lifetime rates of alcohol (61%), drug (51%), major depression (27%), antisocial personality (23%), PTSD (18.1%), and schizophrenia (9%) diagnoses.[46] The extremely high prevalence of mental illness presents a major challenge for homeless service providers working to secure stable housing, while homelessness greatly interferes with effective mental health services.

> Mental illness is the only illness that we require people to basically metastasize before they get help.

In addition to these three priority groups, interview data revealed three additional groups that could and should receive better behavioral health services in the City of St. Louis:

- **Individuals experiencing their first episode of mental illness:** Prevention and early intervention were seen as potentially cost-effective by halting the deterioration of this group to more serious conditions.

- **Individuals affected by stress and trauma,** including stresses from poverty and lack of food, and "toxic stress," a term reflecting neighborhood unrest and violence[47] "*that causes a lot of stress for our behavioral health patients.*" Gun violence was specifically noted as an increasing contributor to behavioral health needs. Respondents commented that, *"from a behavioral health standpoint and being under these pressures and living in an environment where you don't know if you're going to be shot going out your door causes a lot of anxiety and stress and behavioral health issues that probably we would not see in our City if it wasn't as violent and unstable as it is."*

- **Individuals with persistent and serious mental illness,** whose behavioral health disorders cause the greatest functional impairment. Our interviews captured concern that this group has *"already fallen to the brink of their existence"* whose behavioral health disorders cause *"the greatest functional impairment."* Commenting on the usual service emphasis on individuals with severe and persistent disorders, one participant stated, mental illness *"is the only illness that we require people to basically metastasize before they get help."*

Conclusions

The needs assessment revealed the importance of future data collection efforts. Unlike the 1980's when the NIMH prioritized epidemiological research, there are few funding sources for community wide studies of behavioral health need, and these studies are expensive to conduct. As one participant stated:

> "It's bad enough to have a population when you know you have a problem, but it is worse to have dark spots and not know. We don't know anything about the people who aren't covered but are getting free clinic services... that's about 30% of the people, and we know nothing about them. We need an analysis of the people nobody covers."

In order to direct screening and outreach efforts properly, practitioners, hospital systems, and public health officials must develop a greater understanding of the mental health needs of vulnerable, underserved populations. In cities like St. Louis, vulnerable populations, such as the poor or members of racial/ethnic minority groups, bear a disproportionate burden of physical morbidities and premature mortality;[48,37] mental health problems may contribute to this disproportionate burden. Yet, as mentioned above, estimating the true burden of mental disorder in urban settings, where mental disorders are often underdiagnosed among African Americans and other underserved populations, is difficult.[49, 50] Detection and treatment of mental disorders in primary care settings can often be described as the *"rule of diminishing halves"* because mental health problems are only recognized in half of patients who suffer from them, only half of those who suffer are treated, and only half of patients in treatment are treated effectively.[51]

Recommendations: to improve behavioral health in St. Louis

- All routine community surveillance efforts should be supplemented to include standardized behavioral health indicators.
- Primary care and social service settings should adopt uniform or consistent behavioral health screening tools and apply them universally to all patients. The Patient Health Questionnaire-9 (PHQ-9) and Daily Living Activities-20 (DLA-20) are two widely used and highly endorsed possibilities. The resultant patient registries would yield extremely valuable information about behavioral health needs.

Three priority populations

- Those with co-occurring disorders
- Emerging adults
- The homeless or unstably housed

- Attention and resources should be allocated to better serve three priority populations: individuals with co-occurring disorders, young adults transitioning into the adult behavioral health system and individuals who are homeless or unstably housed.

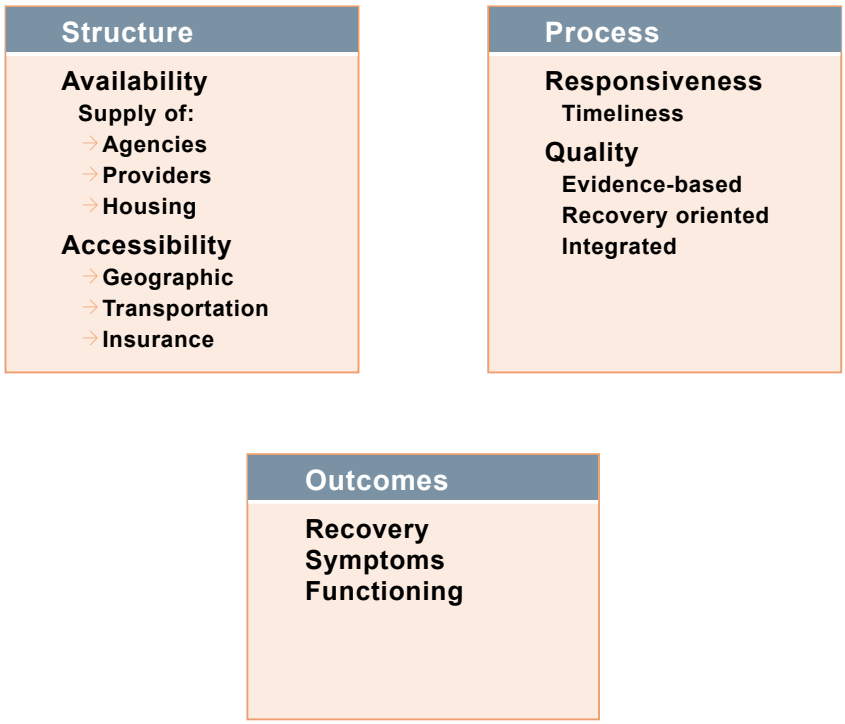
How good are behavioral health services in St. Louis?

Key Findings

- Wait lists are long
- Up-to-date data needed about service availability
- Quality of care varies
- Demand for social workers and case managers outstrips supply

We approached the analysis of behavioral health service quality from the Donabedian model,[52] the most widely used framework in U.S. health services research that has become "the paradigm" for quality assessment. As shown in Figure 12, this model views quality as a function of three issues: the structure, process, and outcomes of care. Structural indicators reflect the extent to which services are available and accessible. Process measures are those that reflect actual services: are they timely? Are they consistent with best available evidence? Are they consistent with priorities as reflected in local, state, and national policy? Outcome indicators reflect the actual effects of services on client and population health status.[52] For each indicator—structure, process, and outcome—the team identified available data sources, then obtained and analyzed the best available data. We comment on gaps in data and offer recommendations.

Figure 12. Donabedian Framework for Quality of Care



Structural characteristics of the behavioral health system in St. Louis: Availability and Accessibility

Availability of behavioral health services in St. Louis. We sought to understand the availability of behavioral health services to residents of the City of St. Louis. Health Resources and Services Administration (HRSA) data presented in Table 7 reflect the number of psychiatrists, clinics, hospitals and beds in the City of St. Louis as of 2013. St. Louis' quotient of 16.3 psychiatrists per 100,000 population is lower than St. Louis County's ratio of 18.0 per 100,000. Moreover, it should be recognized that two teaching hospitals within the City raise our location quotient, and not all psychiatrists based in the City treat its residents.

Table 10. Mental Health Providers in City of St. Louis

Psychiatrist	46
Psychiatrist/100 K Population	14.5
Hospital Total	11
Total Hospital Beds	3,226
Short-term General Hospitals	4
Short-term General Hospital Beds	2,182
Community Health Centers	39
Federally Qualified Health Centers	23

Sources: HRSA/American Hospital Association, Annual Survey of Hospitals

According to a recent National Alliance for Mentally Ill (NAMI) report,[53] the number of clients served in state psychiatric hospitals declined in Missouri by 5,815 over a five year period (2007-2012). Missouri's decline was the third largest in the nation, trailing Georgia and North Carolina. Intensive community services have been shown to reduce readmission for those discharged from psychiatric hospitals, suggesting need for community services to ensure the success of deinstitutionalization. While reflecting progress in deinstitutionalization, these data reflect increased demand for community based services.[54, 55]

We also obtained data about the availability of behavioral health services in St. Louis from stakeholder interviews. These data reveal four critical gaps (1) psychiatrists, (2) behavioral health social workers, case managers, and nurses, (3) drug addiction services; and (4) housing services, as elaborated through interview quotes, noted in italics.

Psychiatrist shortage. The stakeholder interviews reflect strong consensus that St. Louis has too few psychiatrists to meet current need. Participants spoke of the lack of psychiatrists, whether for outpatient appointments or to secure a bed in an inpatient facility. *"There are not enough psychiatrists." "Until the shortage of psychiatry is addressed, it will be difficult for people to be seen in a timely manner."* The psychiatry shortage affects even those with insurance. *"I hear from people who are trying to get a private psychiatrist. They have great insurance but can't get an appointment for three months. That's not uncommon. That's people with insurance."* A consequence

> The psychiatry shortage affects even those with insurance.

of the shortage of psychiatrists is inability to secure psychotropic medications. *"Medication is a huge problem if they don't get to see a psychiatrist."* Perceptions among stakeholders were consistent with quantitative data: *"fewer and fewer doctors are going into psychiatry. That's a big, big issue."*

While no stakeholders identified an actual shortage of primary care physicians or clinics, they did address serious challenges in primary care treatment of behavioral health—challenges we address below on integrated care.

Behavioral health professional shortage. The qualitative data revealed a broader shortage in the behavioral health workforce. Specifically, stakeholders described a shortage of psychiatric social workers, case managers, and nurses, the type of professionals who can *"actually be the bridge, be facilitators in the process"* of obtaining quality care. Interviewees also described a need for case manager/patient advocates to help individuals navigate the system and physically accompany them. *"A lot of people need case managers to help them navigate all of their needs. If agencies could just provide a human being to help these folks figure out the maze, to get into a system of care or a system of help."*

> We need more psychiatric social workers, case managers, and nurses, the type of professionals who can actually be the bridge to quality care.

Although the St. Louis area is home to four graduate social work programs and several psychology programs, more positions are needed to employ those graduates locally and better meet the City's demand for its behavioral health workforce. Staff turnover exacerbates staffing problems in behavioral health. According to a participant, because *"our system is so complex and fragmented,"* when staff leave an agency, contacts they've made at facilities and other agencies are lost, as well as some of the knowledge. Crisis Intervention Team (CIT) officers were also noted as in short supply, relative to high need.

Drug Treatment Shortage. Drug abuse services constitute another shortage area, due to recent and steep increases in addiction:

> "There's way too many clients, and (there is only one) state-funded medical detox program, not just in St. Louis, but in the entire eastern half of Missouri. At the same time (St. Louis has) this huge heroin influx. 70% of clients (in that one available detox program) are heroin addicts, opioid addicts now. Residential programs are backed up for weeks. Detox programs are backed up for weeks."

The BJC data revealed low rates of drug treatment in primary care, consistent with national findings.

- **Housing shortages.** Another theme in the qualitative data is the housing problem for individuals with behavioral health problems in St. Louis. Stakeholders reported that housing is a huge priority and *"probably the biggest thing."* Stable and secure housing for individuals with behavioral health needs has important effects on treatment and long-term outcomes.

  "If we don't provide people with stable housing, their treatment is episodic, it's not continuous. As a consequence, they do well for short periods of time. Then, they drop out of treatment, and we see them in the ED. They never really build a relationship with the provider."

  Housing has been a long-term priority, one that has been heavily supported financially, including by MHB, through their Permanent Supportive Housing Initiative. However, stakeholders in our sample were critical of traditional models:

  "There's a lot of money allocated for the front end, short-term crisis, detox... But there's not a lot of emphasis on keeping people engaged for long periods of time... where they have a safe, healthy place to stay while they're getting services, becoming stabilized."

  "All of the housing efforts in St. Louis are permanent supportive housing. There's no rapid-rehousing intervention. Evidently, that's actually what the majority of the homeless population needs. We only use the most expensive intervention; we use that for all patients regardless of need."

Accessibility of behavioral health services in St. Louis. Even when services exist, they may not be readily accessible. Three factors that complicate accessibility to behavioral health services: insurance, geographical distance, and transportation.

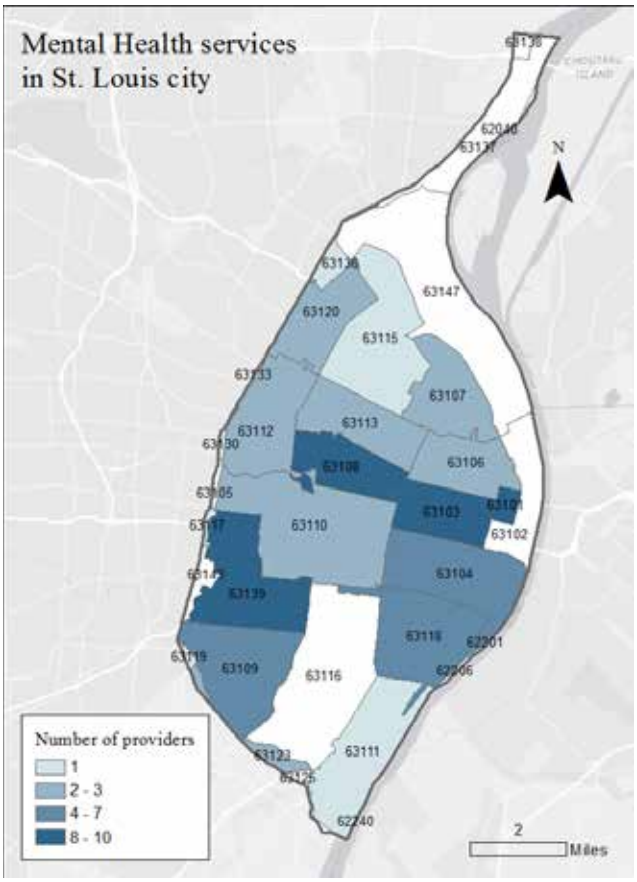
- **Insurance for behavioral health.** A strong theme in the stakeholder interviews is the critical role of insurance in ensuring access to behavioral healthcare. For those without insurance, behavioral health care is lacking or limited. One participant stated: *"By not expanding Medicaid we have issues where a lot of our behavioral health patients are still uninsured. It's hard giving them access to the care and resources they need when they're uninsured."*

  Lack of insurance prevents access to psychiatric care and psychotropic medication: *"A majority of psychiatrists don't accept Medicaid, and a growing number refuse all health insurance plans."* Moreover, as stakeholders describe, *"We don't have a lot of physicians who want to see low-income uninsured folks."*

  "Often, patients can't afford medications if they're self-paid, but there's nothing you can really do about that. You try to give them medication that they can afford and hopefully the family can help them pay for it."

Geographic accessibility. Geography further complicates access to care. As shown in Figure 13 behavioral health facilities are not evenly located throughout the City. Most mental health providers are located downtown and in the Central West End, namely zip codes 63101, 63103, 63108, and 63139. Areas that could have high need due to greater levels of poverty, for instance, do not have more than a handful of mental health providers. For instance, Figure 14 shows that in some of the highest poverty zip codes, such as 63106, 63107, 63112, and 63113, there are no mental health providers or just 1 or 2-3 providers.

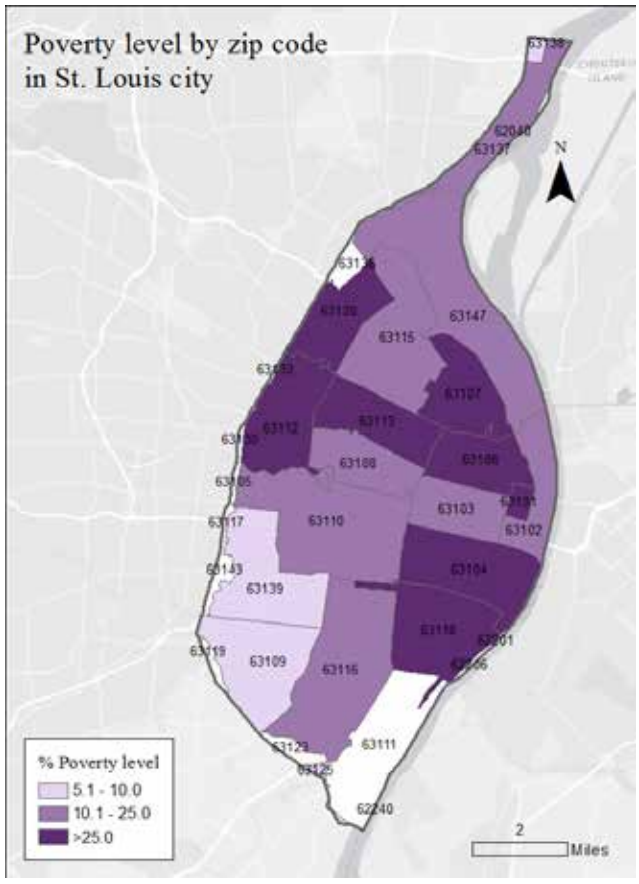
Figure 13. Mental Health Services in St. Louis City



improving, behavioral health care in that part of the City is seen as not *"equivalent to what's being done by other providers."* This division was seen as "*embarrassing*" because it parallels racial lines in the City. This is consistent with findings from the MHB Youth Needs Assessment, in which providers identified north St. Louis as the area of highest need.

Consistent with the map of behavioral health services, the qualitative data reflect concern that accessibility to high quality behavioral health services is particularly limited for residents of north St. Louis City. While services in north St. Louis are perceived as

Figure 14. Poverty Level by Zip Code in St. Louis City



- **Transportation.** Access is further complicated by transportation challenges that heavily impact individuals with behavioral health needs. *"What we hear from clients is a gap in transportation. That's a real need among the homeless population." "Lack of public transportation or transportation to services from wherever they're living, can be a real barrier to getting them services."*

Conclusions: Structural characteristics of behavioral health services.

The data reflect serious and pervasive problems with regard to the availability and accessibility of behavioral health services in the City. Psychiatrists are in short supply, and our City needs more psychiatric social workers and case managers. Wait lists are long and data is lacking about which agencies have open slots for those needing service. Geographically, the City's behavioral health services reflect the north-south divide with those in north St. Louis having markedly fewer services.

Opportunities and recommendations:

- Establish an integrated data system providing "real time" service availability, wait lists, and open slots.
- Support the employment of more behavioral health specialists, to increase access to care and to reduce the burden on psychiatrists and primary care providers.
- Establish a coordinated care system that can monitor individuals, such as tracking adherence with medications and appointments.
- Track wait lists for behavioral health care and provide incentives to providers who reduce wait times or provide same day availability.

Process indicators of the behavioral health system in St. Louis

We examined quality through several indicators that reflect the actual processes of care. These include timeliness of care, the extent to which current services are evidence-based and congruent with local, state, and national policy and practice trends, integration of behavioral and physical health services and recovery of services.

> Lack of public transportation can be a real barrier to getting services.

Timeliness of care. The Institute of Medicine (IOM) recognizes the importance of timely care, which is routinely included among key indicators of quality.[56] The stakeholders interviewed expressed striking consensus that long wait lists compromise the quality of behavioral healthcare in the City. The lack of timely care was described by the following stakeholder: *"We have 98 people on our wait list right now and 146 calls in the last two weeks requesting treatment that aren't even on the wait list. It's almost impossible to manage."*

Another stakeholder stated that sometimes, wait lists don't even exist:

> "Sometimes, the wait list doesn't even exist. People are waiting long periods of time or they may not even feel that there's a waiting list to be on. There is a lot of variability between how these organizations handle wait lists, but that just leaves somebody having to remember, 'I got to call this place on the 5th, and this one, oh well, they told me to call back next week.' That's not a good way for people to have to try to find services."

And specific to social service agencies, participants described the runaround their clients encounter when trying to schedule appointments:

> "If they try to do it on their own it can take weeks or months, but in most cases we'll try calling a couple of times and then they say, 'Oh, I was told somebody would call me back.' And nobody ever calls them back and so they just wait until the next crisis. I don't know where exactly the fault lies but we know that if a patient calls today and can't get an appointment, it's very unlikely that they're going to. Where they can get emergency help 24/7 which is typically the emergency department."

A primary contributor to wait lists is the psychiatric workforce shortage described above. Despite the recent push for an ED diversion program, long wait lists and limited capacity in community based agencies leads to overuse of ED's.

Getting services can take weeks or months.

At least one stakeholder agency provides same day assessment for behavioral health issues. *"If you're in the City and you want same day access for mental health, you can come here 8:30 to 4:30 Monday through Friday. You don't have to go to the ED. Do the people of the City of St. Louis even know that exists?"* In 2012, the National Council for Behavioral Health funded the Same Day Access Multi-State Initiative, which assisted agencies with, among other things, development and implementation of practices to improve assessment procedures, reduce client wait times, and engagement of clients to reduce cancellation and no-show rates. No Missouri organizations took part in that Initiative.

Evidence-based behavioral healthcare. A second key indicator of high quality care is the extent to which services delivered are evidence-based, that is demonstrated to be effective. The IOM defines effective services as those that are "based on scientific knowledge to all who could benefit."[56] The National Registry of Evidence-Based Programs and Practices (NREPP) currently includes 350 evidence-based practices that meet SAMHSA criteria for inclusion in the registry, 166 of which are identified as appropriate for use with the adult population and 142 for use with the urban adult population, and 82 with urban adults in an out-patient setting. See box for the NREPP criteria for evidence-based behavioral health treatment, and Appendix C for a list of the 82 evidence-based treatments mentioned above. It should be noted that there are other databases similar to NREPP, which may have different inclusion criteria,

and thus may include different evidence-based programs. Further, Appendix C contains examples of evidence-based treatments, some of which may not not be fundable by MHB.

Evidence-based care has been an emphasis in recent MHB funding, as well as in a wide array of other grants, an emphasis that is widely acknowledged in St. Louis: *"this is the thing that we are seeing funders ask more of; evidence-based."*

In qualitative interviews, participants were asked if services in the City are *"up to date"* or *"evidence-based."* The results reflect three very different views:

- belief that behavioral health services in St. Louis are evidence-based;
- belief there is a variation; and
- belief that evidence-based services have not penetrated St. Louis well enough.

SAMHSA Criteria for Inclusion in NREPP

- The intervention has produced one or more positive behavioral outcomes in mental health or substance abuse among individuals, communities, or populations. Significant differences between groups over time must be demonstrated for each outcome.
- Evidence of the positive behavioral outcome(s) has been demonstrated in at least one study using an experimental or quasi-experimental design.
- The results of these studies have been published in a peer-reviewed journal or other professional publication (e.g., a book volume) or documented in a comprehensive evaluation report.
- Implementation materials, training and support resources, and quality assurance procedures have been developed and are ready for use by the public.

Most participants in our interviewers stated that behavioral health services in the City are up to date *"for the most part"* and report that behavioral health providers in the City provide evidence-based programs. *"Yes. Yes. By and large, we're all pretty much into evidence-based practices." "All of our providers are doing some evidence-based services but it's not all that they're doing. I'd like to see them do more."* The key influence of external funding in increasing delivery of evidence-based treatment is clear, including funding from MHB:

> "We hardly do any model or service that isn't evidence-based. That partly comes from how we grew up and where we came from. The other part of that is almost all those evidence-based services we're utilizing are tied to grants whether it's MHB, or SAMHSA, or some other place. 'We want evidence-based' That's what we're paying for."

When asked to describe or name particular evidence-based practices offered in St. Louis City, responses included *"Assertive Community Treatment (ACT),"* and *"Cognitive Behavioral Treatment (CBT)."* Other programs were mentioned which the team could find no literature about and are not included in SAMHSA's list of evidence-based behavioral health interventions. And some agencies emphasize, rather than particular evidence-based programs or treatments, *"clinical skills that are evidence-based,"* such as motivational interviewing.

A second view reflected in our data is of wide variation in the delivery of evidence-based services, depending in part *"on who your case manager is":*

> "I think some are much better than others. The range of quality is bigger than I would like it to be. I wish we were all more on the positive side of the ledger, but overall I think people get pretty decent care. I know that our providers are all very committed."

> "We believe that in our area, (delivery of evidence-based practices is) less than the state, and for some reason, it depends on who you're talking to. A group has come together from the Behavioral Health Network to look at that and what we realized, for example, we realized that what we needed was better data."

A third view is that, *"by and large, no, no," "evidence-based interventions are not widely available"* in St. Louis: *"I hear stories sometimes of people really using interventions that are outdated."* This view may be surprising given the emphasis on evidence-based behavioral health care through MHB funding priorities and the DMH Transformation Grants. However the overall picture of variation does correspond to national data showing that only about 20% of individuals with serious mental disorders receive evidence-based care, leaving the City not alone in the challenge of implementing evidence-based care. While there have been improvements in medical and rehabilitative care, leading experts are concerned that evidence-based behavioral health services are not widely available and too much of the care provided is still not evidence-based.[57]

The range of service quality is bigger than it should be.

What explains the differing views of whether services are evidence-based? The data may reflect the reality that *"evidence-based"* remains in the eye of the beholder, as indicated by respondents labeling programs as *"evidence-based programs"* when they are not, in fact, rated or listed as such by national groups. More likely, the mixed reports on evidence-based services may reflect actual variation, with some services being evidence-based and others not, with *"the range of quality... bigger than I would like it to be."* In fact, one key leader very familiar with Medicaid funded behavioral health agrees that delivery of evidence-based care is quite variable in St. Louis. This participant states that protocols for evidence-based behavioral health treatment are followed with fidelity in primary care, but not in specialty mental health care. Across the board, participants agreed that funding is a key lever in

Integrated care would leave time for the behavioral health specialist to focus on the more chronic, unstable psychiatric patients that need more time and expertise.

increasing provision of evidence-based care, and that provider training is key to ensuring delivery of evidence-based care.

Integrated care. A third key indicator of quality is the extent to which behavioral healthcare is integrated. The Agency for Healthcare Research and Quality defines integrated care as that resulting from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors, life stressors and crises, stress-related physical symptoms, and ineffective patterns of health-care utilization (http://integrationacademy.ahrq.gov/lexicon).

Local, state, and national policies call for three types of care integration: (1) the integration between behavioral health and primary medical care, (2) integration of behavioral healthcare within a network of supportive social services, and (3) vertical integration from acute to community levels of behavioral health care.

Our data reflect a widespread and strongly held view that integrated care is extremely important. As one participant stated,

> "People have behavioral health needs and they have medical needs. If behavioral health is not controlled then medical health worsens. It's a downward spiral until you get control of one or both again."

Our data reflect three models for integrating behavioral and physical healthcare in the City. One model is moving behavioral health into primary medical care to increase recognition and access to behavioral health treatment. This model improves system efficiency and helps offset the psychiatry shortages noted earlier:

> "A lot of behavioral illness can be managed by internists and family medicine and primary care physicians. The complex cases, or the initial diagnosis and stabilization could be with the psychiatrist or a higher level of psychiatric service."

> "Integrated care would leave time for the behavioral health specialist to focus on the more chronic, unstable psychiatric patients that need a lot more time and management expertise."

A second model moves medical clinics into specialty mental health agencies, creating behavioral health homes. Missouri is perceived as a leader for this model. According to the DMH, Community Mental Health Center Healthcare Homes, implemented in 2012, assist individuals in accessing needed health, behavioral health, and social services and supports; managing their mental illness and other chronic conditions; improving their general health; and developing and maintaining healthy lifestyles.

> "Missouri is recognized as a really forward thinking state. This state has set up not just healthcare homes but behavioral healthcare homes and done it the right way. This is an innovative approach where this person is assigned to this behavioral healthcare home, which is there to take care of all their needs, to try to make sure that they stay engaged... that's a real plus for this area."

A third model of behavioral-primary care integration relies on referral linkages, with facilities remaining separate. *"We're trending in the right direction through some of the linkage programs."* However, one keystakeholder asserted that linkage programs are less effective than models that physically co-locate services, stating that co-located care requires, *"Interspersing the rooms, just bringing those together is very important to the coordination and efficiency of care for our behavioral health patients."*

Missouri has set up not just healthcare homes but behavioral healthcare homes and done it the right way.

Linkages are seen as critical in coordination between acute and community levels of behavioral healthcare. This area of care integration is plagued by challenges:

> "It's the coordination between the hospital and the out-patient setting and then the home setting. And making sure that the families are involved. There is fragmentation. We don't know each other's capacity and capabilities. An organization may have capacity this week but not the next. Maybe they had a staff manager that left so now they're on hold for a month until they bring somebody else on board."

Yet improvements were also noted, with our data reflecting awareness of hospital-community linkage programs:

> "Historically we've had issues with hospitals discharging without a real housing plan. Years ago it was not uncommon to have somebody just dropped off and told to fend for themselves. I can't say that that's happened recently."

We also found that integrated care is perceived to carry the threat of losing turf. As primary care begins to better address behavioral health, and as agency missions broaden to address a wider set of client needs, fears emerge over potential lost identity and being swallowed up in mergers.

"We all have a vested interest in protecting what we do, so everybody's a little hesitant to make a move... Should X organization try to do everything themselves and be this integrated place? Is there a way to partner with people, or do we need to be assimilated by somebody? It's really hard to decide what direction to go."

Qualitative data uncovered five needs that must be addressed, if St. Louis is to achieve fully integrated care:

- Overcome fear of the unknown: *"The non-psychiatric medical community is afraid of psychiatry, and psychiatry is afraid of primary care."*
- Convene stakeholder meetings to elicit agency and funder perspectives on choice and use of measures, along with incentives for buy-in, infrastructure development, and adherence to a common measure or set of measures. MHB could partner with the United Way, which has been pursuing greater harmony in outcome use and reporting.
- Recognize and become more aware of needs in primary care. *"Primary care is up to their necks in behavioral health and behavioral health is up to their necks in chronic medical conditions, and they all are pretending that they are not."*
- Train primary care providers to recognize and respond to patients' behavioral health needs. Primary care providers need *"more education on managing behavioral health issues as well as support in navigating the system and rapidly changing resource availability."*
- Increased use of psychiatric social workers and case managers in primary care: *"Physicians are educated, but the system is so complex. We need case coordinators in social work to provide information to patients and their families."*
- Ensure availability of up-to-date information systems to support care coordination and locating resources for clients, across their myriad needs. Many stakeholders expressed frustration with time spent looking for and contacting resources: *"Coordinating these resources and then making sure everybody's aware of them. You've got to spend ten hours on the phone trying to track down things and it's a lot of work that nobody really has time for."*

"A big need that the BHN is working on is a centralized database... (to) track where people are, what services they're receiving, et cetera. Obviously, there are going to be some concerns about privacy and so forth. The reality is,... Medicaid has a system that we, any of our providers, can go into and see... all services that Medicaid reimbursed for the last two, three, four or five years. What we're finding is that for clients who are non-Medicaid clients, there's no such system in existence."

Yet others noted improvement in the region's care coordination: "*the Integrated Health Network has these folks that go into the hospitals and hospital ED's and link people back to primary care, essentially.*"

Recovery-oriented services. A fourth key process indicator of quality behavioral healthcare is the extent to which they are oriented to recovery. A recovery orientation has been prioritized for two decades, since release of the President's New Freedom Commission report in 2003. Our data reflect widespread acceptance of, and local progress in achieving, a recovery emphasis. Stakeholders noted that, *"We move people toward recovery. It's a national movement too, not just us."* And *"We're holding people accountable for recovery."*

The data reveal several steps toward advancing a recovery focus.

- Funding is seen as key: *"Funders ask for focus on recovery. That means people are truly getting better."*
- A recovery focus requires reducing stigma and providing respectful service climates. *"A lot of it has to do with staff training and the way staff approach their clients. Some studies show that people with mental health issues and addiction feel like they're stigmatized more in mental health centers than anywhere else and that has to change."*

Recovery Requires

- Reducing stigma
- Respectful services
- Employment
- Social support
- Physical healthcare

- Employment is key to recovery, so that *"people can earn wages."* Stakeholders believe behavioral health organizations need to partner with the private sector to increase employment opportunities. *"That is where the majority of your jobs are. I don't think we've really done that much as a system."*
- Social support, such as the faith community, is essential: *"If they have lost their family because of their illness, they've got to create a new family. Those faith communities dovetail perfectly, because the faith communities are into serving people, right."*
- Physical health is essential for recovery, reflecting again the need for integrated behavioral and physical health. Respondents noted the importance of meeting *"basic needs"* and services. *"A lot of people don't realize you feel better, whether you have a medical issue or a psychiatric issue, if you eat well, stay healthy, and exercise and keep your body in good shape, and I think that would improve a lot of people's quality of life."*

Conclusions: Process indicators of quality

Wait times are long for individuals seeking outpatient behavioral healthcare in St. Louis, leading to overuse of ED care. Once individuals do reach the point of care, most but not all receive evidence-based, integrated, and recovery-oriented care. Yet quality is highly variable, dependent on the strength of organizational structure and provider training. Many participants in our qualitative interviews seemed uninformed about evidence-based programs or interventions that are delivered nationally and could be adopted here.

Recent City and region-wide assessment, planning, and linkage efforts to overcome traditional silos and improve care integration between primary and behavioral health, between behavioral health and social services, and from hospital to home, should be examined. Initiatives by Behavioral Health Network and Integrated Health Network were cited as contributing to integrated care, yet care coordination is complicated by high rates of staff turnover in agencies.

Opportunities and recommendations:

- Raise awareness of evidence-based behavioral health interventions and their importance for ensuring quality, and ensure community recognition of providers who delivery evidence-based care.
- Continue to use grant funding to incentivize delivery of evidence-based behavioral health services, and ensure that programs provide interventions that meet established criteria for evidence-based care.
- Use grant funding to incentivize reductions in wait lists, such as same day access programs.
- Incentivize the employment of case managers and social workers in primary care.
- Increase support for provider training in evidence-based, integrated, and recovery-oriented treatment models.
- Support programs that ensure physical co-location or integration of primary and behavioral healthcare.

Outcome indicators of quality in the behavioral health system in St. Louis

Actual outcome measures are the ultimate indicator of service quality. While the team was charged with assessing needs rather than evaluating impact, the data did capture stakeholder perceptions of outcome attainment and the challenges stemming from variation in outcome instruments across provider agencies.

Stakeholders perceived outcomes as *"pretty good... for the most part"* but highly variable. *"I think the outcome and experience is going to be highly dependent on your personal resources."*

Encounter Data Should Include

- Diagnosis
- Treatment procedure codes
- Sociodemographics
- Outcomes achieved

The most striking theme in the data was concern over how little systematic outcome data actually exists: *"I think we're still missing outcomes."* As one stakeholder stated, *"We've failed to agree on a common measures set. Probably 10, 12, maybe 20 different measures are in use."* Better data are also needed on patient

encounters. As one respondent noted, we need to *"know how many visits there are in each one of these health centers and what they were three years ago and did they go up or down? We don't even have that basic information."*

MHB required grantee agencies to use the Rennsalaerville Outcome Funding Framework, until June, 2015. This framework required projects to identify and track progress on milestone and performance target measures. We reviewed these measures for ten MHB grantee programs (see Table 11). The majority of these measures (73.1%) are related to the process of care or intervention (e.g., "Consumer completes assessment and treatment plan," "Consumer attends scheduled appointment"). While process of care indicators have value in reflecting client engagement, they should not be assumed to reflect actual interventions delivered, which require procedure codes, nor should they be used to substitute for actual outcomes attained.

The remaining 27% used measures that more directly reflect outcomes of the program (e.g., "Consumer improves at least one biometric indicator in one area of health concern," "Member works 120 days"). However, these agencies—like the wider field—employ a wide range of outcome indicators, that make it virtually impossible to use a set of standardize outcomes across all grantee programs. Thus measures reported to MHB did not reflect standardized outcomes to inform grantee agencies' program impacts. One respondent urged "somebody" to incentivize use of a common instrument across agencies to enable a clearer understanding of outcomes attained by individuals with behavioral health needs.

> We're still missing outcomes. We've failed to agree on a common measures set. Probably 10, 12. maybe 20 different measures are in use.

Standardized outcome assessment will grow in importance, given the shift from volume-based to value-based reimbursement (the National Council.org the Patient Protection and Affordable Care Act) and efforts by the National Quality Forum for federal legislation requiring alignment of quality measure across public and private sectors (http://qualityforum.org/News_and_Resources_Press_Release/2015/NQF_Issues). Without such alignment, improvement can't be tracked across a client's set of providers, nor can the quality of care be compared across providers. Nor can evaluators systematically answer the question, *"what improvements are seen through behavioral health services?"*

Outcomes measurement tools like the DLA-20 allow behavioral healthcare providers to access hard data to examine progress or lack of progress in patients and in doing so, to partner with patients toward recovery. It is an approach that can improve the chances for people with mental illness to live more independently and participate more fully in their communities.

Table 11. Sample of Milestones Reported Across MHB Grantee Agencies: Process of Care and Outcome Indicators

Agency	Process of care indicators	Outcome indicators
Agency A	- Consumer agrees to participate in the program and makes a commitment by setting goals - Consumer completes assessment and treatment plan - Consumer completes the program with successful discharge	- Consumer will brag about feeling better or improved mood as a result of participation - Consumer will improve at least one biometric indicator in 1 area of health concern
Agency B	- Consumer attends scheduled appointment - Consumer participates in treatment options	- Abstinence from substances of abuse during course of engagement - Improved Family and Social Relationships - Absence of Criminal Activity during course of engagement - Improved levels of optimism about life - Improved overall sense of well being - Stabilization of physical health
Agency C	- Consumer develops a trusting relationship with a staff member(s) - Consumer uses additional community resources to sustain recovery	- Consumer improves level of functioning in at least 1 life domain within 180 days of intake
Agency D	- Consumer initiates contact with team for help	- Consumer maintains status for 3 consecutive months
Agency E	- Consumer identifies health and wellness goals - Consumer identifies at least 3 behavior changes in 3 months.	- Consumers will see their biometrics moving toward normal ranges/limits
Agency F	- Consumer states “I want a job”	- Consumer works 60 days
Agency G	- Consumer agrees to work with staff	- Consumer models necessary behaviors to demonstrate ability to be stable
Agency H	- Consumer will acknowledge they need help	
Agency I	- Consumer selects appropriate intervention for recovery	
Agency J	- Consumer acknowledges feedback about risky behavior or depression	- Attend Therapy/Rehab - Reduce risky behavior

DMH reports on their website, dmh.mo.gov, that in April 2014, DMH required that the DLA-20 be used in all of its adult Community Psychiatric Rehabilitation (CPR) programs. Further, in July 2014 all Comprehensive Substance Abuse and Rehabilitation (CSTAR) programs, Primary Recovery Plus (PR+) programs, and the Missouri Department of Corrections (DOC) programs were required to use the DLA-20 at 1) time of admission, 2) each level of care change and 3) upon discharge. In July 2014 All Comprehensive Substance Abuse and Rehabilitation (CSTAR) programs, Primary Recovery Plus (PR+)

programs, and Department of Corrections (DOC) programs were required to use the DLA-20 at 1) time of admission, 2) each level of care change and 3) upon discharge.

Outcomes measurement and monitoring also helps persons with mental illness manage their treatment and enables behavioral health centers to partner with a host of primary care and health home partners because the program provides the type of measurable outcomes—with a verified reliability and validity—that payers need. Functional assessment shifts the practitioner-patient dynamic from *"We're going to try and keep you out of the hospital"* to *"We're going to try and help you function better."*

Conclusions: Outcome indicators of behavioral healthcare

Stakeholders identified the lack of standardized outcomes and measurement tools in use across the field as a challenge. Specifically related to MHB, grantee programs identify and track measures related primarily to the process of care or intervention, rather than functional and symptom outcomes experienced by service users. The outcomes that MHB grantee programs do report vary widely, making it difficult to describe overall outcomes across MHB's portfolio of funded work.

Opportunities and recommendations:

- Require and support collection of data on patient encounters. As one respondent noted, we need to *"know how many visits there are in each one of these health centers and what they were 3 years ago and did they go up or down? We don't even have that basic information."* Encounter data should include standardized diagnosis, procedure codes to reflect care—including psychosocial behavioral health treatments, sociodemographic information, and outcomes assessed on standardized instruments.

- Incentivize, support, and require use of standardized screening and outcome tools throughout the region's primary care, behavioral health, and social services agencies. The National Quality Forum identifies several criteria for evaluating measures, including (1) importance to measure and report; that is, do measures have the greatest potential for driving improvements? (2) scientific acceptability of measure properties; if not reliable and valid, there is a risk of misclassification and improper interpretation; (3) feasibility; administering the measures should impose as little burden as possible; (4) usability and use; the goal is to be able to use endorsed measures for decisions related to accountability and improvement; and (5) harmonization; measures should be well harmonized with those widely used and viewed as *"best-in-class."*

Recommendations and Conclusions

Mental illness and addiction comprise one of St. Louis' most serious public health problems. The City has high rates of depression, drug addiction, and psychosis. Anxiety and co-occurring disorders are also very high. Toxic stress—our city's spiraling confluence of economic inequality, racial segregation, and rising rates of gun violence—exacerbates the human and social toll of behavioral health disorders.

Their high prevalence notwithstanding, depression, drug addiction, and psychosis remain under-treated due in part to the city's shortage of psychiatrists and social workers, long wait lists, and persistent challenges to integrated care. Wait lists are long. The quality of behavioral healthcare varies widely.

Individuals living with mental illness and addiction need long-term stable housing and better access to transportation, to ensure their ability to travel to jobs and needed services. Deficiencies in community surveillance and health system screening leave many needs undetected, under-reported, and untreated. Poor data about real-time service availability complicates service coordination and timely referral.

St. Louis' behavioral healthcare needs to be timelier, more evidence-based, more focused on prevention, more responsive to early-stage expression of disorder, and more focused on long-term recovery. To achieve these goals, our region needs to expand its behavioral healthcare workforce, ensure real-time availability of data on open service slots, and accelerate progress toward integrated care. Co-occurring disorders need to be treated, and behavioral health must be addressed in primary care. This will require better training, staffing, and data collection related to behavioral health in primary care.

Finally, outcomes need to be systematically tracked and routinely reported in ways that permit analysis of quality of care and tracking of our region's progress in ensuring recovery from mental illness and addiction.

The City, like the nation itself, has a behavioral health service system challenged by historic fragmentation, continuing shortages of behavioral health care, uneven and insufficient evidence-based care, and only emerging provision of integrated care. MHB has a unique opportunity to leverage its influence and funding to improve our city's response to those experiencing behavioral health problems. MHB has effectively done so in recent years by supporting innovative programs around high priority service improvements.

This assessment yields several directions for improving behavioral health services in the City of St. Louis. Each section of this report provides recommendations, which we summarize here:

Monitoring behavioral health needs:

- Support the acquisition of better data about the behavioral health needs of City residents. Opportunities should be explored to supplement ongoing data collection efforts with a more complete set of behavioral health indicators.

- Require and support the use of a consistent set of standardized behavioral health screening tools in primary care and social service settings, to be universally used with all patients. The resultant patient registries would yield extremely valuable information about behavioral health needs.

Improve the structure, process, and quality of behavioral health services:

- Direct attention and effort on three populations identified in stakeholder interviews as highest in priority: individuals with co-occurring disorders, young adults transitioning into the adult behavioral health system and individuals who are homeless or unstably housed. More attention and resources should be allocated to serve or better serve these populations.

- Support establishment of an integrated data system about "real time" service availability, wait lists, and open slots.

- Support efforts to expand the behavioral health workforce, specifically social workers, case managers, and psychiatric nurses to increase access to care and to reduce the burden on psychiatrists and primary care providers. Incentivize the employment of case managers and social workers in primary care.

- Support establishment of a coordinated care system that can monitor individuals, tracking adherence with medications and appointments. This system should be tied to data tracking service availability.

- Track wait lists for behavioral health care and provide incentives to providers who reduce wait times or provide same day availability.

- Raise awareness of evidence-based behavioral health interventions and their importance for ensuring quality, and ensure community recognition of providers who deliver evidence-based care.

- Continue to use grant funding to incentivize delivery of evidence-based behavioral health services, and ensure that programs provide interventions that meet established criteria for evidence-based care.

- Use grant funding to incentivize reductions in wait lists, such as same day access programs.

- Increase support for provider training in evidence-based, integrated, and recovery-oriented treatment models.

- Support programs that ensure physical co-location or integration of primary and behavioral healthcare.

- Incentivize and support collection of more detailed data on patient encounters. As one respondent noted, we need to *"know how many visits there are in each one of these health centers and what they were 3 years ago and did they go up or down? We don't even have that basic information."*
    - Encounter data should include standardized diagnosis, procedure codes to reflect care — including psychosocial behavioral health treatments, sociodemographic information, and outcomes assessed on standardized instruments.
- Support a process to increase city-wide use of harmonized screening and outcome tools. The National Quality Forum identifies several criteria for evaluating measures, including (1) importance to measure and report; that is, do measures have the greatest potential for driving improvements? (2) scientific acceptability of measure properties; if not reliable and valid, there is a risk of misclassification and improper interpretation; (3) feasibility; administering the measures should impose as little burden as possible; (4) usability and use; the goal is to be able to use endorsed measures for decisions related to accountability and improvement; and (5) harmonization; measures should be well harmonized with those widely used and viewed as "best-in-class."

Many of these recommendations align with the six strategic initiatives identified in a recent report by SAMHSA Leading Change 2.0: Advancing the Behavioral Health of the Nation 2015-2018. Table 12 lists those six, along with corresponding priorities established by MHB and the Missouri DMH.

Table 12. Current Priorities: SAMHSA, MHB, and DMH

SAMHSA 2015 Strategic Initiatives	MHB Priorities (Strategic Anchors and Impact Areas)	Missouri Department of Mental Health
Prevention of substance abuse and Mental Illness		
Health Care and Health Systems Integration	Strengthen a coordinated system of high quality behavioral health services	Better Medical and Behavioral Service Integration
Trauma and Justice		Trauma Informed Care
Recovery Support	Individuals with serious behavioral health disorders achieve and sustain their progress toward recovery	
Health Information Technology		
Workforce Development		Developing and expanding a viable Missouri mental health workforce

We encourage MBH to include in future priorities programs related to prevention of mental illness and substance abuse, trauma and justice—particularly important to the City, and workforce development, particularly around detection and treatment of behavioral health disorders in primary care and evidence-based practices for all behavioral health providers. Health information technology solutions can significantly improve the adequacy of data on need, service availability, patient encounters, and treatment outcomes. Given the very recent release of SAMHSA's 2015 Strategic Initiatives, MHB has opportunity for national leadership by aligning its new strategic anchors and impact areas with SAMHSA priorities.

Appendices

Appendix A. Data Sources

Organization Name	Data Source Used in Report	Date	Description	Link to the reports
Missouri Department of Mental Health	See the list here: http://dmh.mo.gov/seow/secure/DataSourceDescriptions3-5-15.pdf	2010-2014	There are numerous useful reports on the MDMH websites. For example, the community behavioral health profile provides a snapshot of substance use/abuse and mental health in the City of STL and the consequences. In addition, there are reports on substance abuse and mental health treatment.	http://dmh.mo.gov/ada/countylinks/saint_louis_city_link.html
Missouri Department of Health and Senior Services	Behavioral Risk Factor Surveillance System, Missouri County Level Study, County-level study profiles	2013-2014	There are multiple reports available that touch on substance abuse and mental health indicators as well as treatment by county	http://health.mo.gov/data/mica/MICA/CHAIPTraining.html
Missouri Information for Community Assessment	Behavioral Risk Factor Surveillance System, Missouri County Level Study, County-level study profiles	1990-2013	The reports here generally focus more on inpatient and hospitalizations. However, there is data available by zip code on hospitalizations from mental disorders that may be useful.	http://health.mo.gov/data/mica/mica/index.html
US Department of Health and Human Services: Health Resources and Services Administration Health Workforce	Specialty data were obtained from the 2012 American Medical Association Physician Masterfile. American Hospital Association, Annual Survey of Hospitals 2011	2011-2012	This website provides county comparisons of doctors' offices, psychiatrists offices, hospitals and health centers.	http://ahrf.hrsa.gov/arfdashboard/HRCT.aspx
SAMHSA	See the list here: http://archive.samhsa.gov/data/2k12/MHUS2010/MHUS-2010.pdf	2010	This report has information on mental health and mental health services data for each state. Information may be covered more specifically in more reports above	http://archive.samhsa.gov/data/2k12/MHUS2010/MHUS-2010.pdf
SAMHSA	US Census, Treatment Episode Dataset, The National Survey of Substance Abuse Treatment Services,	2009	This report provides a snapshot of substance abuse treatment in STL city and compares it to Missouri and the US.	http://archive.samhsa.gov/data/StatesInBrief/2k9/CityReports/BHSIS/MO/StLouis/StLouis.htm
Missouri Behavioral Health Epidemiology Workgroup (MO-BHEW)	Missouri State Epidemiological Profile	2015	This report provides state level data regarding substance abuse (alcohol, tobacco, prescription, and illicit drugs) indicators as well as risk and protective factors	http://dmh.mo.gov/ada/mobhew/docs/missouristateepiprofile2015.pdf

Appendix B. Methods

Qualitative Interviews

Two doctoral students from the evaluation team with experience in qualitative methodology and data analysis were selected to conduct and analyze the interviews. They were provided additional training specific to the needs assessment and conducted mock interviews with other members of the research team to pilot test the question guide. Feedback was given on both interview guide questions themselves as well as the quality of interview skills. The research team provided additional strategies to improve interview techniques for both interviewers.

Data Collection

Participants were recruited via an initial email from MHB informing them of the needs assessment followed by a second email from the evaluation lead inviting participation in the interviews. The team then followed up via phone to schedule the interviews. Nine interviews were conducted in person and three were conducted via phone. The evaluation coordinator attended eight of the in-person meetings to act as note-taker.

The interviews lasted between 45-60 minutes. To limit potential bias, neither the PI nor members of the funding agency participated in the data collection process. Interviews were audio recorded and transcribed and all identifying information was removed.

Analysis

To enhance the validity of the analysis of the interview data, the analysts conducted the analysis using a four-step approach and Dedoose[58] software. First, the two analysts worked independently to analyze the transcripts with an inductive thematic based coding. The inductive approach was utilized to avoid superimposing a set of codes on the data and to allow the data to speak for itself. Next, the researchers randomly selected one interview to independently code. The codes were then compared and the analysts came to consensus on codes and code meaning.[59] The team also participated in the consensus meetings to provide additional insight. The project lead then randomly assigned the two analysts six interviews for primary coding and another six interviews for secondary coding. Codes were subsequently categorized into broader themes. Quotes were extracted from the codes for each theme and then re-evaluated to ensure that they captured the meaning of the themes.[60]

Appendix C. SAMHSA National Registry of Evidence-Based Programs and Practices

A Woman's Path to Recovery (Based on A Woman's Addiction Workbook)
Acceptance and Commitment Therapy (ACT)
Acceptance-Based Behavioral Therapy for Generalized Anxiety Disorder
Alcohol Behavioral Couple Therapy
Assisted Outpatient Treatment (AOT)
Behavioral Day Treatment and Contingency Managed Housing and Work Therapy
Boston Consortium Model: Trauma-Informed Substance Abuse Treatment for Women
Brief Marijuana Dependence Counseling
Brief Strengths-Based Case Management for Substance Abuse
Bringing Baby Home
Broad Spectrum Treatment (BST) and Naltrexone for Alcohol Dependence
Celebrating Families!
CHOICES: A Program for Women About Choosing Healthy Behaviors
Clinician-Based Cognitive Psychoeducational Intervention for Families (Family Talk)
Cocaine-Specific Coping Skills Training
Cognitive Behavioral Social Skills Training
Cognitive Enhancement Therapy
Cognitive Processing Therapy for Posttraumatic Stress Disorder
Combined Parent-Child Cognitive Behavioral Therapy (CPC-CBT): Empowering Families Who Are at Risk for Physical Abuse
Community Reinforcement and Family Training (CRAFT)
Computer-Assisted System for Patient Assessment and Referral (CASPAR)
Computer-Based Cognitive Behavioral Therapy, Beating the Blues
Contracts, Prompts, and Reinforcement of Substance Use Disorder Continuing Care (CPR)
Creating Lasting Family Connections Marriage Enhancement Program (CLFCMEP)
Customized Employment Supports
Depression Prevention (Managing Your Mood)
Double Trouble in Recovery
Dynamic Deconstructive Psychotherapy
Eye Movement Desensitization and Reprocessing
Family Expectations
Healing Our Women (HOW)
Healthy Living Project for People Living With HIV
IMPACT (Improving Mood--Promoting Access to Collaborative Treatment)
Incredible Years
Interactive Journaling
Interim Methadone Maintenance
Intervention To Increase African-American and Latino Participation in AIDS Clinical Trials: The ACT2 Program
Life Goals Collaborative Care (LGCC)
Living in Balance

Living in the Face of Trauma (LIFT): An Intervention for Coping With HIV and Trauma
Matrix Model
Mindfulness-Based Cognitive Therapy (MBCT)
Mindfulness-Based Stress Reduction (MBSR)
Modified Therapeutic Community for Persons With Co-Occurring Disorders
Motivational Enhancement Therapy
Motivational Interviewing
Multi-Family Psychoeducational Psychotherapy (MF-PEP)
Network Support Treatment (NST) for Alcohol Dependence
OQ-Analyst
Panic Control Treatment (PCT)
Parent-Child Interaction Therapy
Partners for Change Outcome Management System (PCOMS): International Center for Clinical Excellence
Partners in Care
Pathways' Housing First Program
Prize Incentives Contingency Management for Substance Abuse
Project ASSERT
Prolonged Exposure Therapy for Posttraumatic Stress Disorders
Psychoeducational Multifamily Groups
QPR Gatekeeper Training for Suicide Prevention
Recovery Training and Self-Help
Reinforcement-Based Therapeutic Workplace
Relapse Prevention Therapy (RPT)
Resources for Enhancing Alzheimer's Caregiver Health II (REACH II)
Seeking Safety
Short-Term Interpretive Group Therapy for Complicated Grief
Solution-Focused Group Therapy
Systematic Training for Effective Parenting (STEP)
Systems Training for Emotional Predictability and Problem Solving (STEPPS)
TCU (Texas Christian University) Mapping-Enhanced Counseling
Team Solutions (TS) and Solutions for Wellness (SFW)
TEAMcare
Telephone Monitoring and Adaptive Counseling (TMAC)
The Brief Negotiation Interview for Harmful and Hazardous Drinkers
Trauma Affect Regulation: Guide for Education and Therapy (TARGET)
Trauma Recovery and Empowerment Model (TREM)
Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)
Traumatic Incident Reduction
Triple P--Positive Parenting Program
Twelve Step Facilitation Therapy
Wellness Recovery Action Plan (WRAP)

* More information about NREPP and each of these evidence-based practices can be found at http://www.nrepp.samhsa.gov/Index.aspx

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