

ACCESS TO BEHAVIORAL HEALTH CARE IN MICHIGAN

Final Report

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SOLUTIONS TO ADVANCE HEALTH



Preface

The Michigan Health Endowment Fund contracted with Altarum to study access to behavioral health care in Michigan. This final report documents methods and results of analyses to characterize current access to mental health and substance use disorder treatment in the state, describes barriers to care, and identifies potential strategies for increasing access.



We also present high-level study results in four companion research briefs that summarize findings separately for the Medicare, Medicaid, privately-insured, and Total Michigan populations.

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Summary of Key Findings

- ▲ Of the 1.76 million Michiganders experiencing a mental illness, about 62% receive treatment, leaving 38%, more than 666,000 people, with unmet need.
- ▲ Most Michiganders with a substance use disorder go untreated. Of the 638,000 Michiganders experiencing a substance use disorder, only 20% receive treatment, leaving more than half a million people untreated.
- ▲ Anxiety disorders and depressive episode are the most common mental health conditions in Michigan, and those most likely to go untreated.
- ▲ Alcohol use disorder is the primary substance use disorder in Michigan, and the disorder most likely to go untreated.
- ▲ Across payer types, Medicaid enrollees are the most likely to remain untreated for a mental illness. About one-half of Medicaid enrollees, one-third of the privately-insured, and one-fifth of Medicare enrollees with a mental illness do not receive care.
- ▲ Across payer types, the privately insured are the most likely to remain untreated for a substance use disorder. About 87% of the privately- 60% of Medicare enrollees with a substance use disorder do not receive care.
- ▲ Barriers to behavioral health care access include shortages of providers, costs of care, and reluctance to seek care.
- ▲ Behavioral health provider capacity is especially low in the northern half of the lower peninsula, where seven counties have neither a psychiatrist nor a psychologist and no substance use disorder treatment facility.
- ▲ Geographic variations in access to care are evident. If all of Michigan could achieve the rates seen in best access areas of the state, another 236,000 people with a mental illness and 88,000 people with a substance use disorder would receive care. Statewide rates of treatment would rise to 75% of those with a mental illness and one-third of those with a substance use disorder.
- ▲ Through research and expert input, we identify 15 strategies to improve access to behavioral health care in Michigan, with emphasis on:
 1. Increasing retention of behavioral health providers in Michigan;
 2. Removing restrictions on scope of practice to fully leverage all members of the health care team;
 3. Promoting effective use of trained lay providers such as Peer Support Specialists and Recovery Coaches;
 4. Using telemedicine to extend the reach of the behavioral health workforce;
 5. Expanding school-based behavioral health care; and
 6. Integrating primary care and behavioral health care delivery.



Background & Approach

This study provides a comprehensive assessment of access to mental health and substance use disorder (SUD) treatment in Michigan. It identifies current challenges and provides a baseline against which progress can be tracked.

Behavioral health care in this study includes services to treat mild to moderate mental illness, serious mental illness, SUD, and co-occurring conditions. Intellectual or developmental disabilities are outside the scope of the study.

The analysis considers behavioral health care provided in outpatient, intensive outpatient, and residential care settings. We do not focus on inpatient psychiatric care, chronic pain treatment, and medication assisted treatment, as these types of treatment are examined in detail in other studies.

We quantify gaps in access to care by comparing the underlying need for behavioral health services to the care being received, as identified in 2016 administrative claims data. We use the IBM *MarketScan Research Database* for commercial claims, complete Medicaid claims data for Michigan, and Medicare Limited Data Set claims files for professionals and outpatient facilities to identify the share of individuals covered by each of these insurance types in Michigan who are currently receiving behavioral health services.

For the uninsured and the small share of the population with insurance coverage through the Veterans Health Administration (VA), Military Health System (MHS), Indian Health Service (IHS), or other source not reflected in our combined claims data, we used National Survey on Drug Use and Health (NSDUH) data to estimate the share untreated. We estimate the underlying need for care by applying rates of mental illness and SUD by age, sex, and insurance type, with Michigan-specific adjustments, to the Michigan population counts by insurance type. Prevalence rates are from the NSDUH and the National Survey of Children's Health. Michigan population data by age, sex, insurance status, and location are from the U.S. Census Bureau's American Community Survey.

Our measure of access quantifies the share of those with a behavioral health condition who receive any behavioral health care, compared to the share that remain untreated. It represents a minimum standard for access and does not indicate whether the appropriate type and volume of care was provided.

To inform our technical approach, we conducted a review of the literature on behavioral health prevalence, treatment, and access. We convened a Stakeholder Advisory Board representing behavioral health experts, payers, providers, and policy makers in Michigan, who reviewed our approach and findings throughout the duration of the study.

Please refer to Appendix A of this report for a more detailed description of the data sources and methods for this study.



Overall Access to Behavioral Health Care

OVERALL ACCESS FOR TOTAL MICHIGAN POPULATION

Of a total Michigan population of 9.9 million people, we estimate 1.76 million experience any mental illness (AMI). We find that 38% of those with AMI, more than 666,000 people, are not receiving care (Figure 1).

For SUD, the access gap is even larger – the majority of Michiganders with SUD are not receiving care. Of the 638,000 Michiganders experiencing SUD, 80% of them, more than half a million people, are not receiving care (Figure 2). As we discuss later in this report, among other barriers, a sizable share of those untreated for SUD may be unwilling or unready to seek care.

Nationally, Michigan ranks in the middle to upper third of U.S. states on composite measures of behavioral health access. For example, Mental Health America ranked Michigan 15th and 18th in recent years on access to mental health care.¹

OVERALL ACCESS FOR MEDICAID ENROLLEES

Of the nearly 2 million Michiganders covered under the Medicaid program, we estimate 481,000 experience AMI and 148,000 experience a SUD. We find that, despite having coverage, nearly half (49%) of Medicaid enrollees with AMI, nearly 236,000 people, are not receiving care (Figure 3), and 69% of enrollees with SUD, or 102,000 people, are not receiving care (Figure 4).

Figure 1: Unmet Need for AMI Care in Michigan

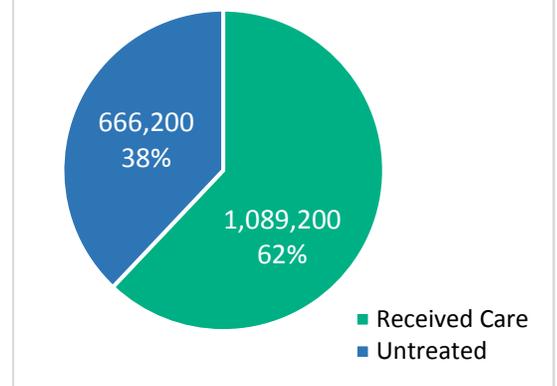


Figure 2: Unmet Need for SUD Care in Michigan

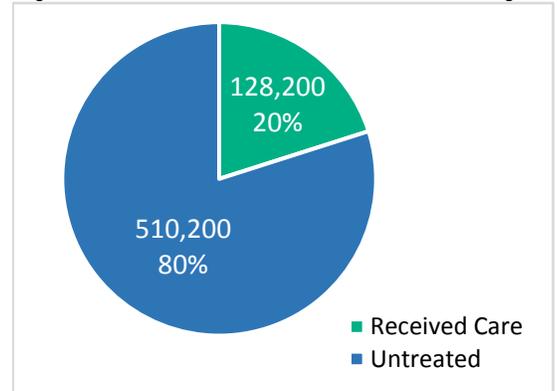


Figure 3: Unmet Need for AMI Care, Medicaid Enrollees in Michigan

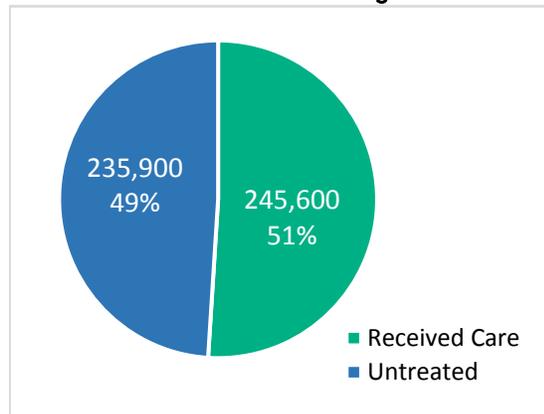
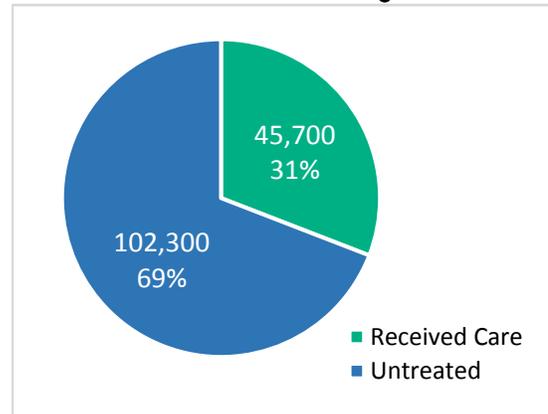


Figure 4: Unmet Need for SUD Care, Medicaid Enrollees in Michigan





OVERALL ACCESS FOR MEDICARE ENROLLEES

Of the 1.6 million Michiganders covered under the Medicare program, we estimate about 250,000 experience AMI and about 50,000 experience SUD. We find that one-fifth (21%) of Medicare enrollees with AMI, about 52,000 people, are not receiving care (Figure 5) and 59% of those with SUD, nearly 30,000 people, are not receiving care (Figure 6).

Figure 5: Unmet Need for AMI Care, Medicare Enrollees in Michigan

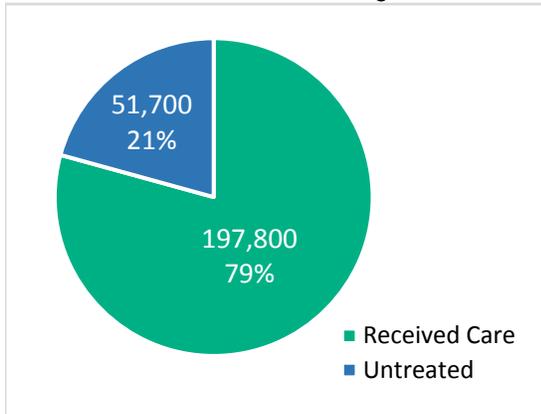
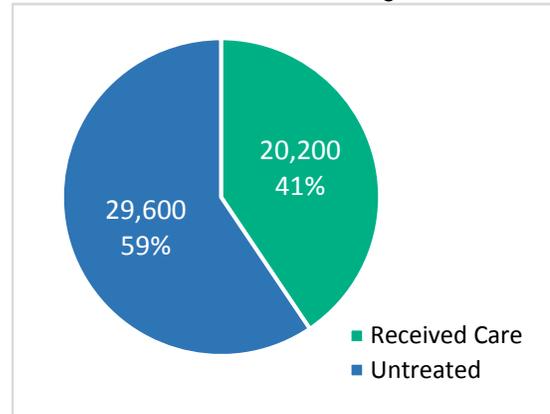


Figure 6: Unmet Need for SUD Care, Medicare Enrollees in Michigan



OVERALL ACCESS FOR PRIVATELY-INSURED

Of the 5.6 million Michiganders with private health insurance, we estimate 890,000 experience AMI and 372,000 experience SUD. We find that, despite having coverage, one-third (34%) of those with AMI, more than 305,000 people, are not receiving care (Figure 7), and 87% of those with SUD, nearly 324,000 people, are not receiving care (Figure 8).

Figure 7: Unmet Need for AMI Care, Privately-Insured in Michigan

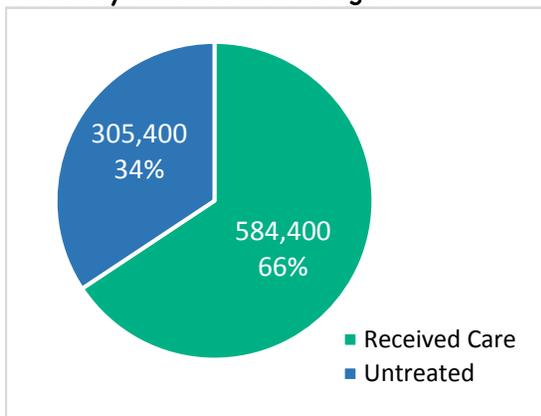
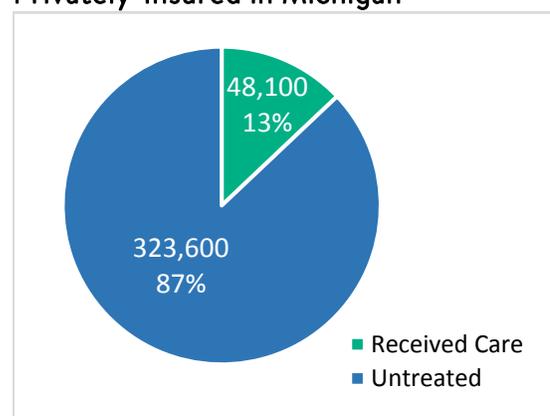


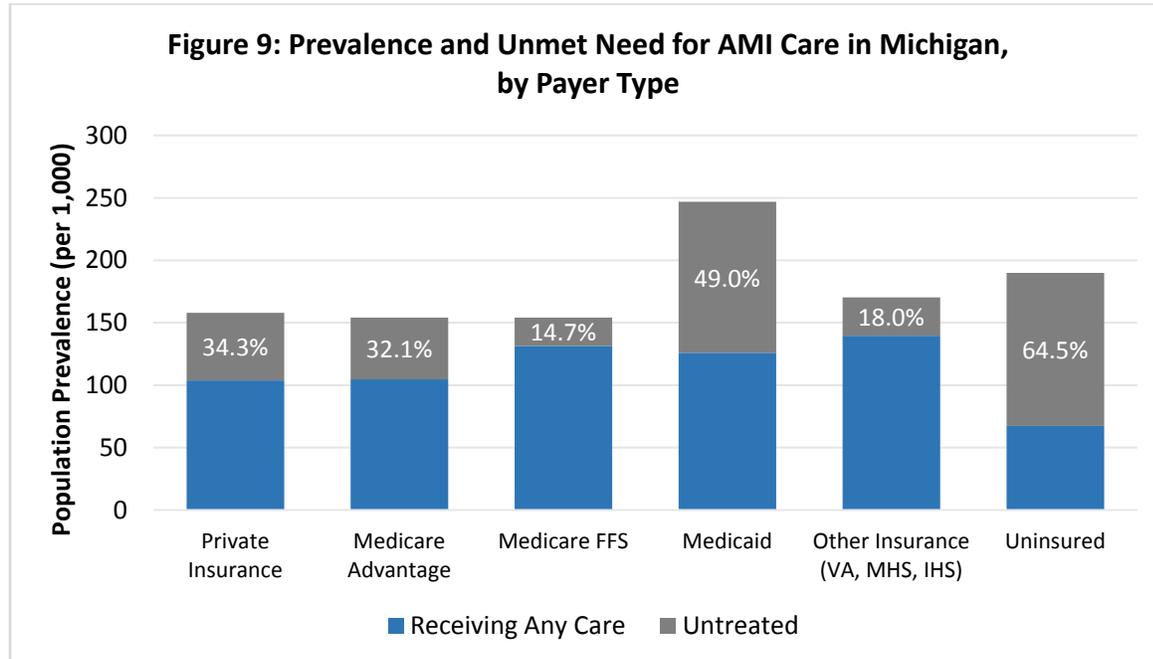
Figure 8: Unmet Need for SUD Care, Privately-Insured in Michigan





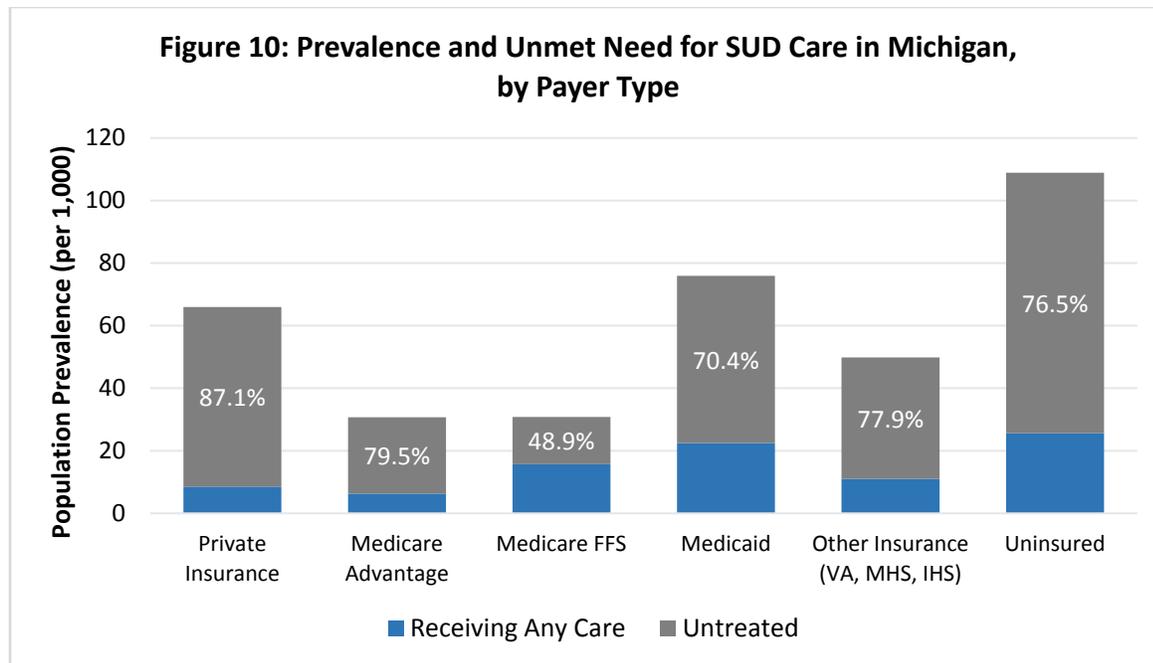
Comparisons Across Payer Type

Medicaid enrollees have a higher prevalence of AMI than Michiganders with other types of coverage, at about 250 people per 1,000. The uninsured experience the next highest rate, while those covered under private insurance and Medicare have AMI at a rate of about 150 people per 1,000.



Among the insured populations in Michigan, Medicaid enrollees have the largest share untreated for AMI at 49% (Figure 9). About one-third of those with an AMI covered under private insurance and Medicare Advantage are untreated. Medicare fee-for service (FFS) beneficiaries experience the best access to AMI care, where only about 15% of those with AMI are untreated.

The uninsured population in Michigan experience the highest prevalence of SUD, followed closely by the Medicaid population (Figure 10). The privately-insured have the largest share untreated, at 87%. The share untreated is between 70% and 80% for Medicaid, Medicare Advantage, the uninsured, and other insurance. The best access to SUD care is again under Medicare FFS, where 49% of those with SUD are untreated.



While population and claims data allow us to separate Medicare Advantage and Medicare FFS, it is important to note that the prevalence data are not available by Medicare plan type. If, for example, individuals enrolled in Medicare Advantage plans had lower rates of prevalence of behavioral health conditions than those enrolled in FFS, then the differences in the share of unmet need between the two Medicare populations shown here would be overstated.

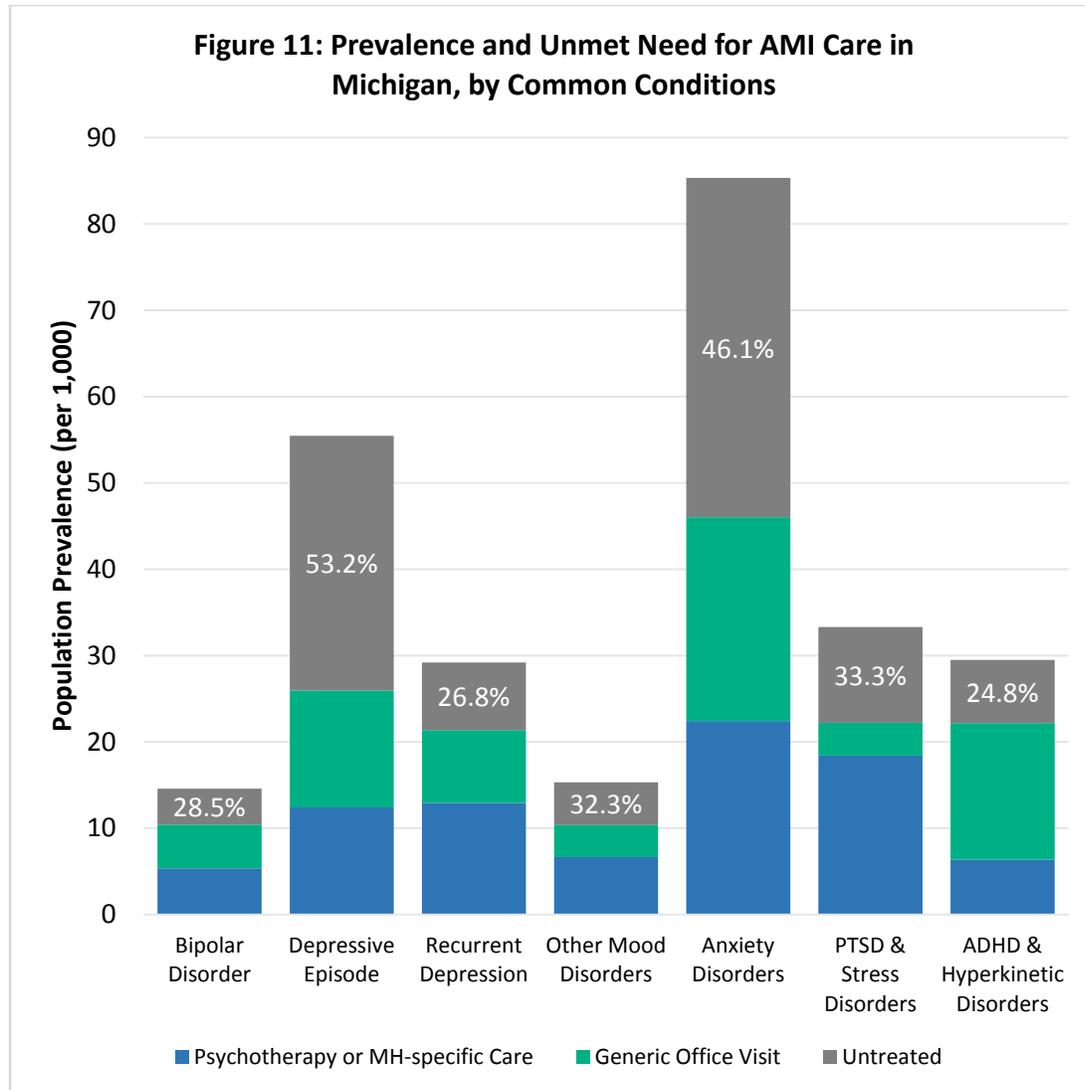
Results for Common Conditions

We examined results by common mental health and substance use disorder conditions for the Medicaid, Medicare, and privately-insured populations in Michigan.

COMMON MENTAL HEALTH CONDITIONS

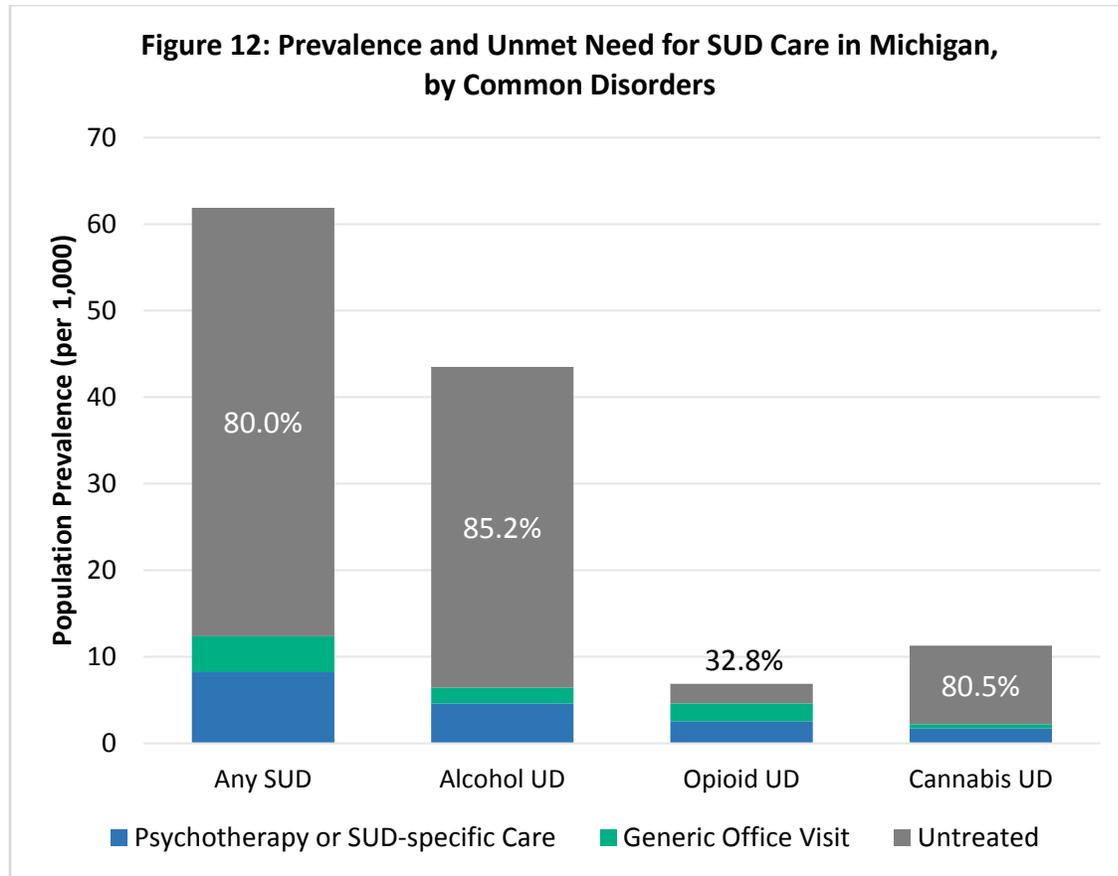
Unmet need for AMI in Michigan is greatest for the more prevalent, mild-to-moderate conditions. Figure 11 shows the variation in estimated prevalence and unmet need for some of the most common mental health condition diagnostic categories. The conditions with the largest shares going untreated are *anxiety disorders* and *depressive episode*. More serious conditions such as *bipolar disorder*, *recurrent depression*, and *post-traumatic stress disorder (PTSD)* and *other stress disorders* are less prevalent among Michiganders and show lower shares going untreated.

For those treated, Figure 11 also distinguishes between individuals who received a psychotherapy visit or specific mental health treatment (shown in blue) versus those who received a generic office visit with the primary purpose of treating a mental health condition (shown in green). Michiganders with *anxiety disorders*, a *depressive episode*, and *attention-deficit hyperactivity disorder (ADHD)* and *hyperkinetic disorders* are most likely to receive care under a generic office visit.



COMMON SUBSTANCE USE DISORDERS

Among common SUDs, prevalence and unmet need is greatest for alcohol use disorder (Figure 12). Michiganders are experiencing alcohol use disorder at about four times the rate as cannabis or opioid use disorder, and more than 85% of those with alcohol use disorder are not receiving care. While lower in prevalence, unmet needs are still large for the other major disorders; more than 80% of those with a cannabis use disorder are not receiving care, as are one-third of those with an opioid use disorder.



Compared to the mental health conditions, those who received care for SUD were much less likely to have received care under a generic office visit procedure code. The majority of those with a SUD received a service specific to SUD treatment or a psychotherapy visit.

SOURCE OF PAYMENT BY CONDITION

In Michigan, contracted Managed Care Organizations (MCOs) cover payment for the majority of mild to moderate outpatient mental health care for their enrollees. Prepaid Inpatient Health Plans (PIHPs) cover the remainder of outpatient mental health care for the Medicaid population. Figure 13 shows, for each of the most common mental health conditions, the share of all members for that condition with at least one claim paid by a PIHP. The data show that, as expected, PIHPs pay a larger share of claims for more serious conditions such as bipolar disorder (41%) and recurrent depression (40%).

Figure 13: Percent of Members with a PIHP Paid Claim, by Mental Illness Condition

Condition	% with a PIHP Claim	% without a PIHP Claim
Any Mental Illness	22%	78%
Bipolar Disorder	41%	59%
Depressive Episode	8%	92%
Recurrent Depression	40%	60%
Other Mood Disorders	29%	71%
Anxiety Disorders	4%	96%
PTSD & Stress Disorders	22%	78%
ADHD & Hyperkinetic Disorders	10%	90%

Source: Altarum analysis of 2016 Michigan Medicaid claims data

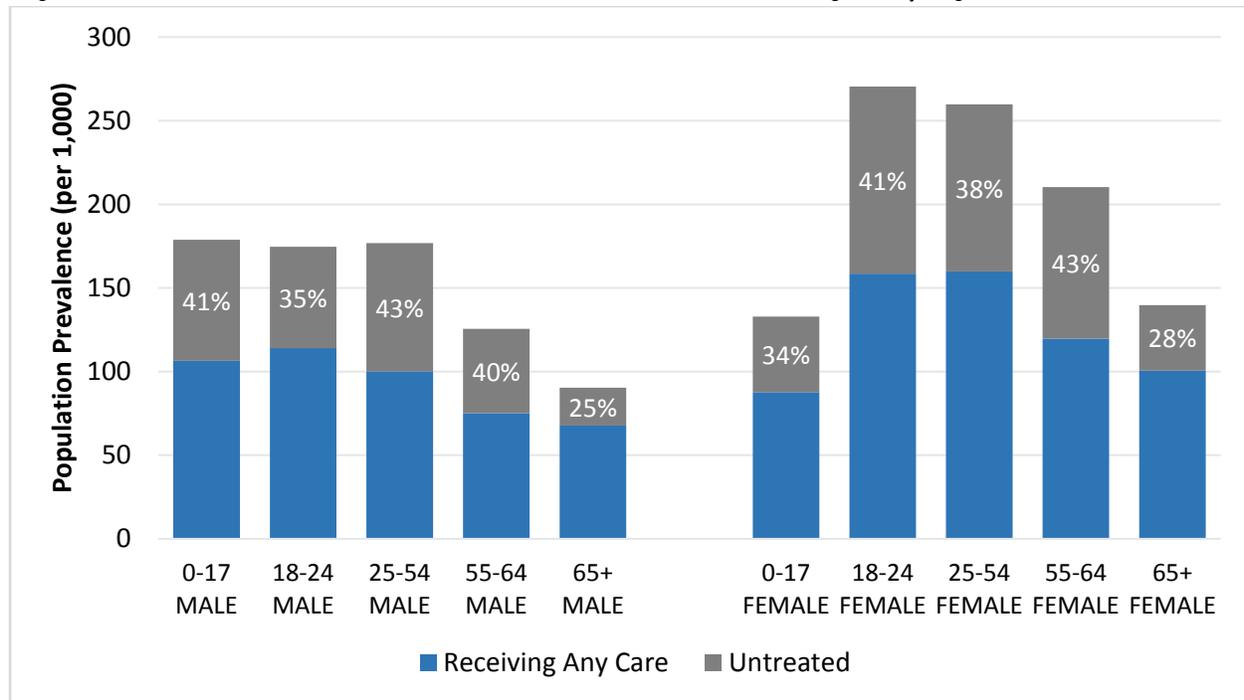


Variation by Age & Sex

MENTAL HEALTH CONDITIONS BY AGE & SEX

Male children have nearly three times the rate of AMI (including attention deficit disorder) as female children (Figure 14). For every other age group, women have significantly higher rates of AMI than men.

Figure 14: Prevalence and Unmet Need for AMI Care in Michigan, by Age & Sex



Unmet needs are similar across age/sex categories, ranging from 30% to 40% untreated. For example, 38% of women age 25 to 54 with AMI are untreated, while 43% of men in this age group are untreated.

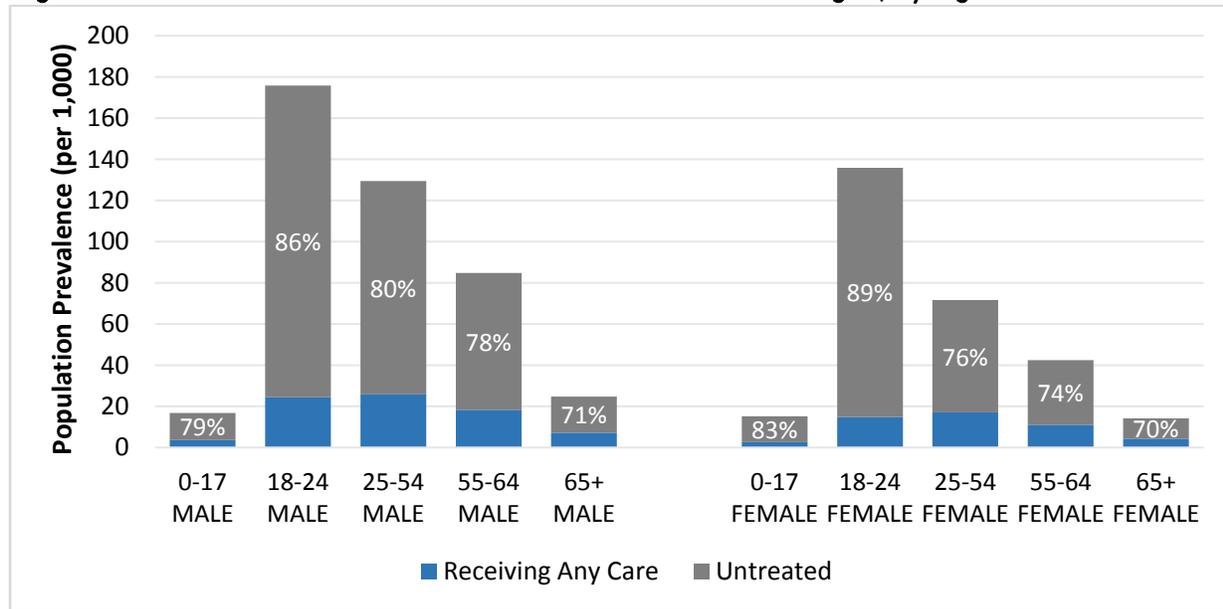
SUBSTANCE USE DISORDERS BY AGE & SEX

For SUDs in Michigan, prevalence is highest among young men ages 18 through 24, followed by young women ages 18 through 24, and then men ages 25 through 54 (Figure 15). Prevalence of SUD drops significantly for older adults age 65 and older.

Unmet needs for all age groups are much higher for SUD than for AMI. At any age, most individuals with a SUD do not receive care. The percent of individuals not receiving SUD care is between 70% and 90% for all age/sex categories.



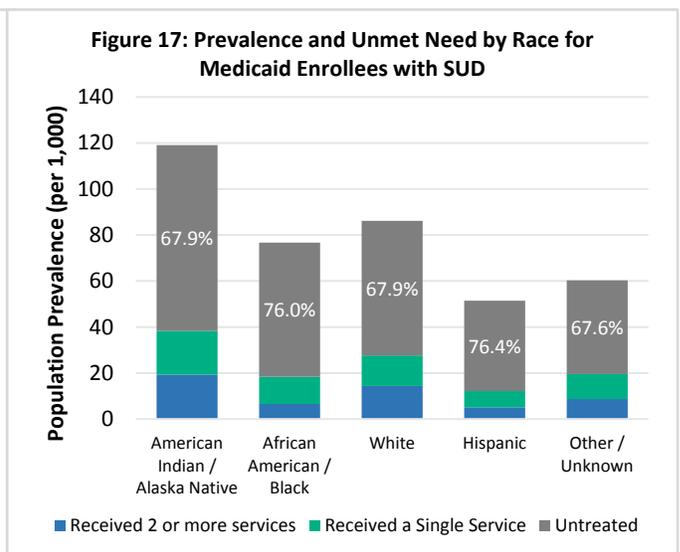
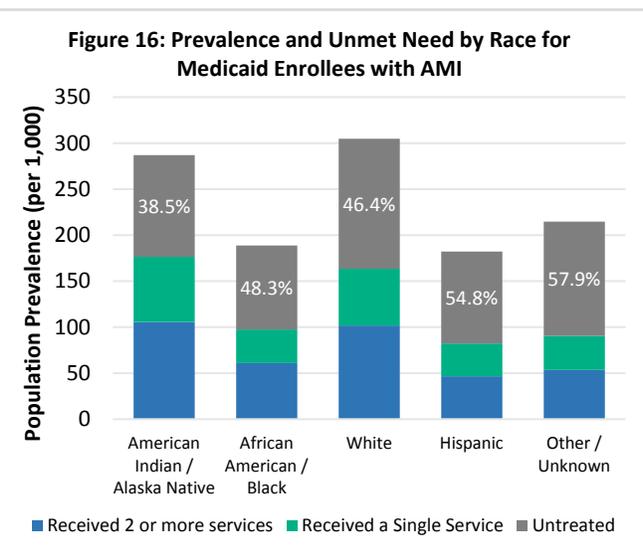
Figure 15: Prevalence and Unmet Need for SUD Care in Michigan, by Age & Sex



Variation by Race

Race was available in the Medicaid claims data, allowing a comparison of access by race and ethnicity. African American/Black and Hispanic Medicaid enrollees in Michigan have less than two-thirds the expected prevalence of AMI compared to White enrollees (Figure 16). American Indian Medicaid enrollees in Michigan have similar expected prevalence of AMI as Whites. American Indians in Michigan have the highest prevalence of SUDs, followed by Whites (Figure 17). Hispanics have the lowest prevalence of SUDs.

Comparing expected prevalence to observed utilization, the share of unmet need for AMI care under Medicaid ranges from 55% for Hispanics to 39% for American Indians. Rates of unmet need for SUD care are similar across racial and ethnic groups, ranging from 68% to 75%.





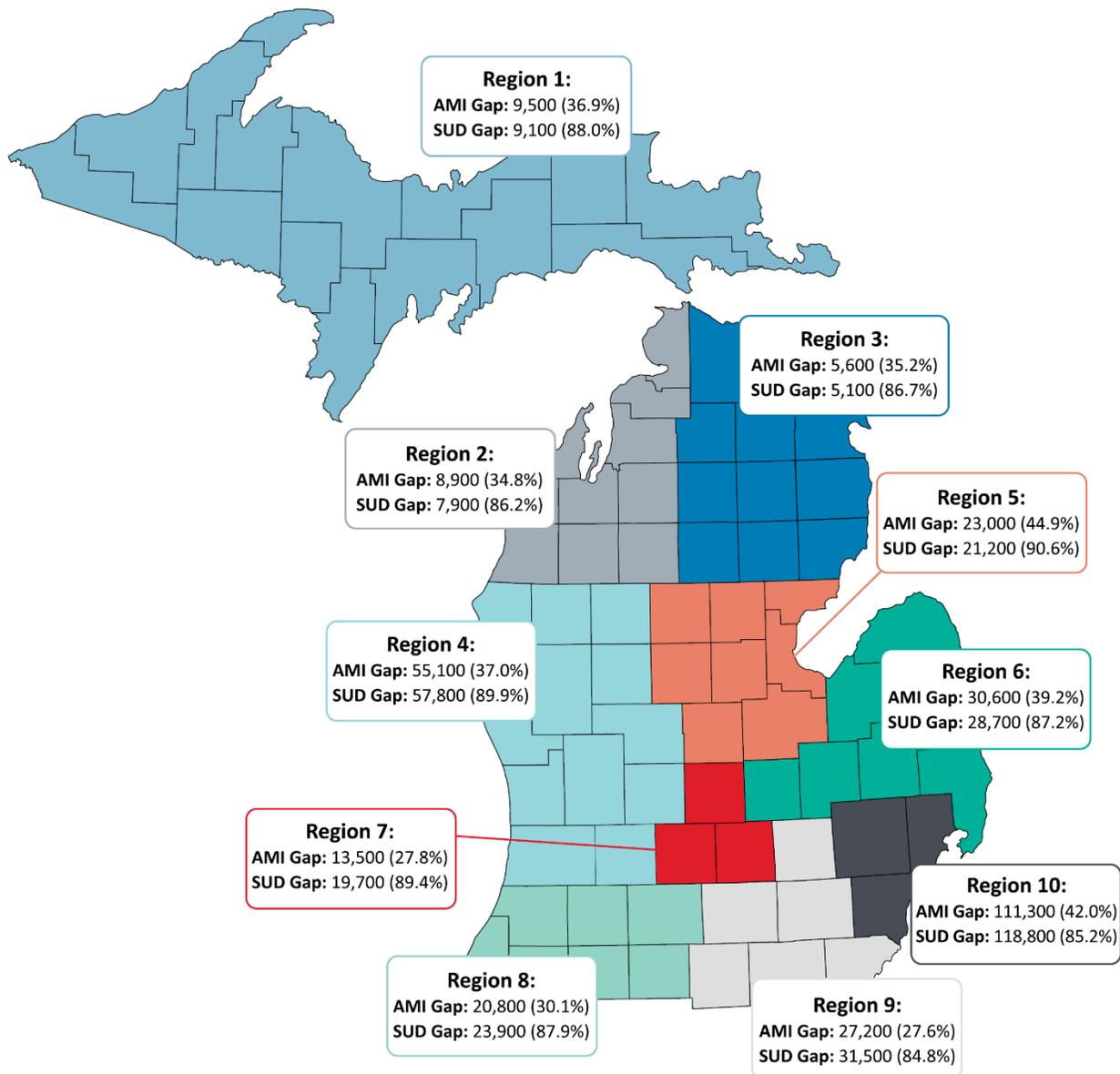
Geographic Variation

VARIATION BY REGION

Access to mental health and SUD treatment services varies by geographic area across the state of Michigan. Among the 10 Michigan Prosperity Regions, the percentage of individuals with AMI not receiving care ranges from 29.4% in Region 9 (Southeast Michigan) to 41.4% in Region 5 (Central Michigan) (Figure 18). While large numbers of Michiganders not receiving mental health services reside in the more populated regions of the state (West Michigan, Region 4 and Detroit Metro, Region 10), relative access gaps are greater in the more rural parts of the state.

Figure 18: Unmet Need by Michigan Prosperity Region

Number of Untreated Individuals with AMI and SUD (Percent of those with AMI/SUD who are untreated)

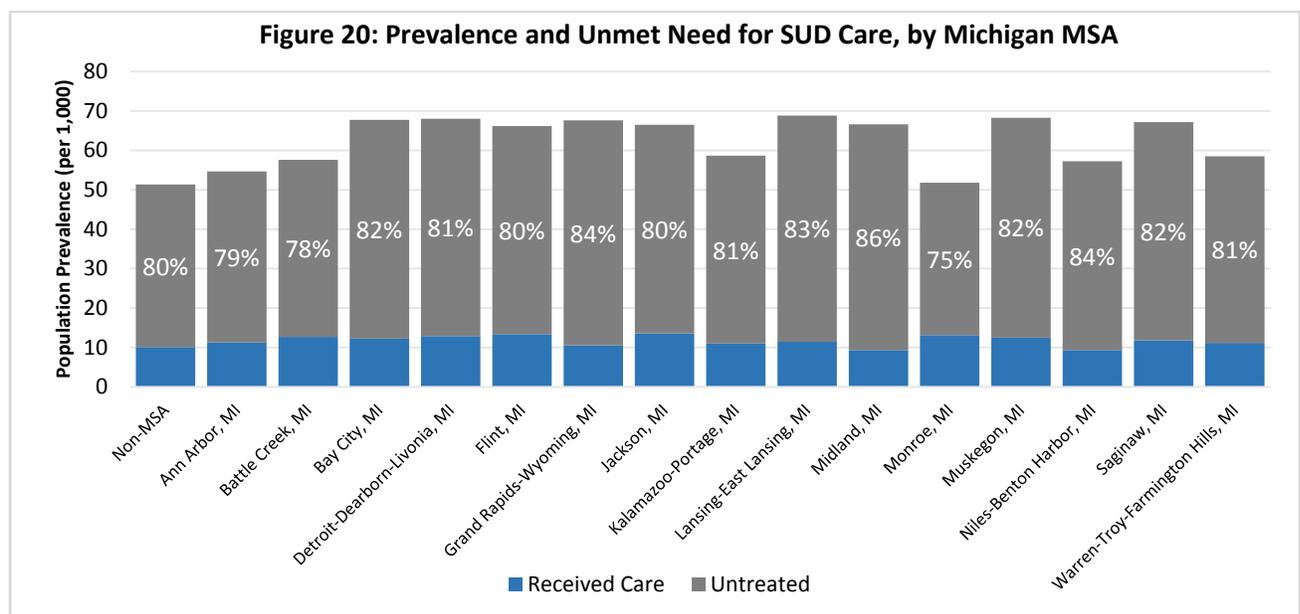
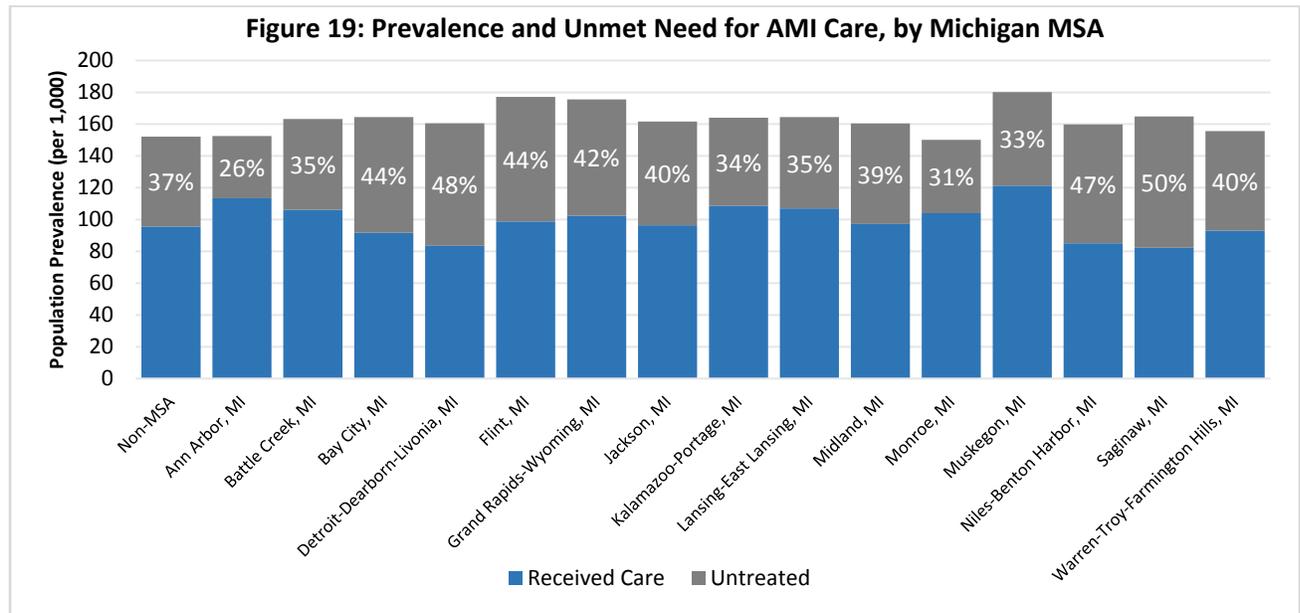




While the unmet need for SUD care is greater, the variation between regions is narrower. The share of unmet need for SUD care ranges from 75% in Region 2 (Northwest lower peninsula) to 83% in Region 4 (West Central Michigan).

VARIATION BY METROPOLITAN STATISTICAL AREA

There is more variation in unmet need across the state’s Metropolitan Statistical Areas (MSAs) than by the Prosperity Regions. The share of unmet need for AMI care ranges from lows of 26% in the Ann Arbor MSA to a high of 50% in the Saginaw MSA (Figure 19). The Detroit-Dearborn-Livonia and Niles-Benton Harbor MSAs also show high rates of unmet need for AMI care. The non-MSA areas of the state (rural areas outside of any city’s metropolitan region) have a share of unmet need near the state average, at 37% untreated.





The unmet need for SUD care shows a slightly different pattern by MSA as that seen for AMI care (Figure 20). The share of unmet need ranges from a low of 75% in the Monroe MSA to a high of 86% in the Midland MSA. The rural non-MSA areas have unmet need of 80%, again in the middle of the range of access gaps by MSA.

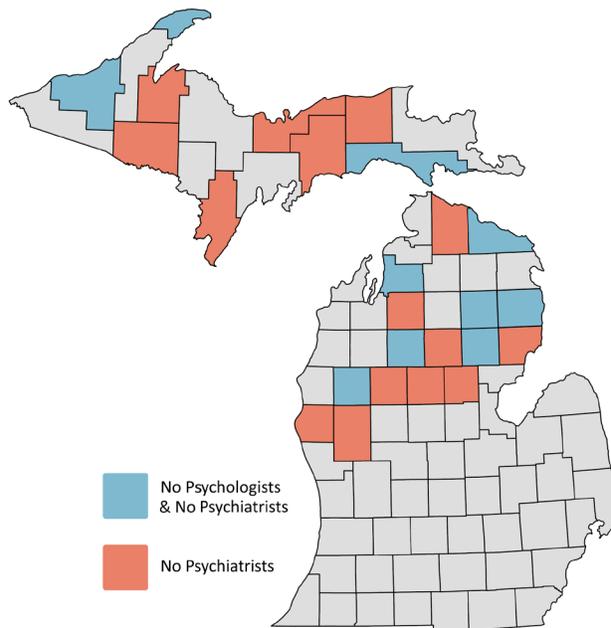
Barriers to Behavioral Health Care Access

SHORTAGES OF BEHAVIORAL HEALTH PROVIDERS

Michigan, like most of the country, has a shortage of psychiatrists and other behavioral health providers. While there are pockets of low supply throughout the state, shortages are especially concentrated in the northern half of the lower peninsula and parts of the upper peninsula.

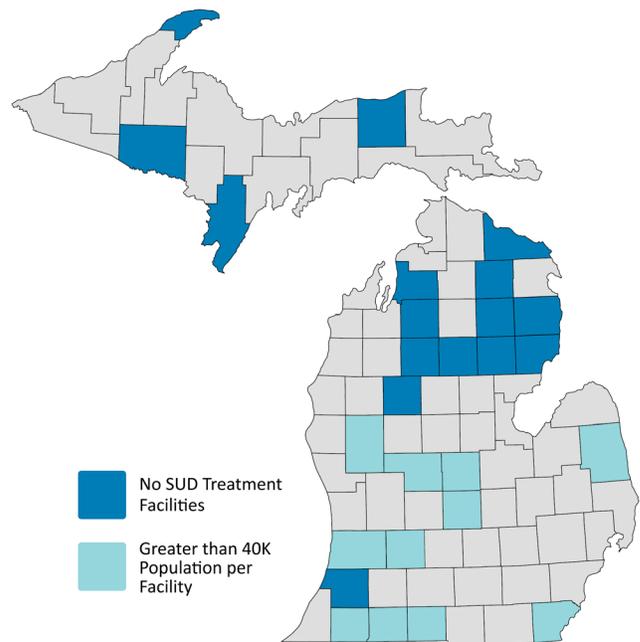
There are 25 counties in Michigan with no psychiatrist (Figure 21, shaded orange and light blue). Ten of these counties (those in light blue) have neither a psychiatrist nor a psychologist. With many of these counties adjoining, there are sizable geographic areas in the state with no MD or PhD behavioral health clinician.

Figure 21: Counties Lacking Behavioral Health Clinicians



Source: Altarum analysis of National Plan and Provider Enumeration System data, accessed December 2018

Figure 22: Counties Lacking SUD Treatment Facilities



Source: SAMHSA Behavioral Health Treatment Facility Locator, <https://findtreatment.samhsa.gov/locator>, which uses data from the National Survey of Substance Abuse Treatment Services and the National Mental Health Services Survey



Michigan also has a severe shortage of child and adolescent psychiatrists. A ratio of 47 child and adolescent psychiatrists per 100,000 population is considered a mostly sufficient supply; Michigan has 11 per 100,000. There are no child psychiatrists in the upper peninsula and most of the northern half of the lower peninsula.

There are 292 mental health treatment facilities in Michigan, a density comparable to the U.S. average of one for every 34,000 people. Mental health facilities offering residential services are in shorter supply; with 17 such facilities, there are 590,000 people per facility in Michigan compared to the U.S. average of 240,000 people per residential facility.

There are 430 SUD treatment facilities in Michigan, about one for every 23,000 people, a slightly greater supply than the U.S. average of one for every 25,000 people. SUD facilities offering detox services are less prevalent, with 78 facilities, about one for every 128,000 people, compared to the U.S. average of one for every 122,000 people.

While the total number of facilities relative to the population in Michigan is consistent with the national average, there is considerable geographic variation within the state. There are 16 counties in Michigan with no SUD treatment facility (Figure 22, shaded dark blue) and an additional 11 counties (shaded light aqua) with high population to facility ratios. Overall, seven counties in Michigan have no psychiatrist, no psychologist, and no SUD treatment facility: Missaukee, Ogemaw, Oscoda, Alcona, Antrim, Presque Isle, and Keweenaw.

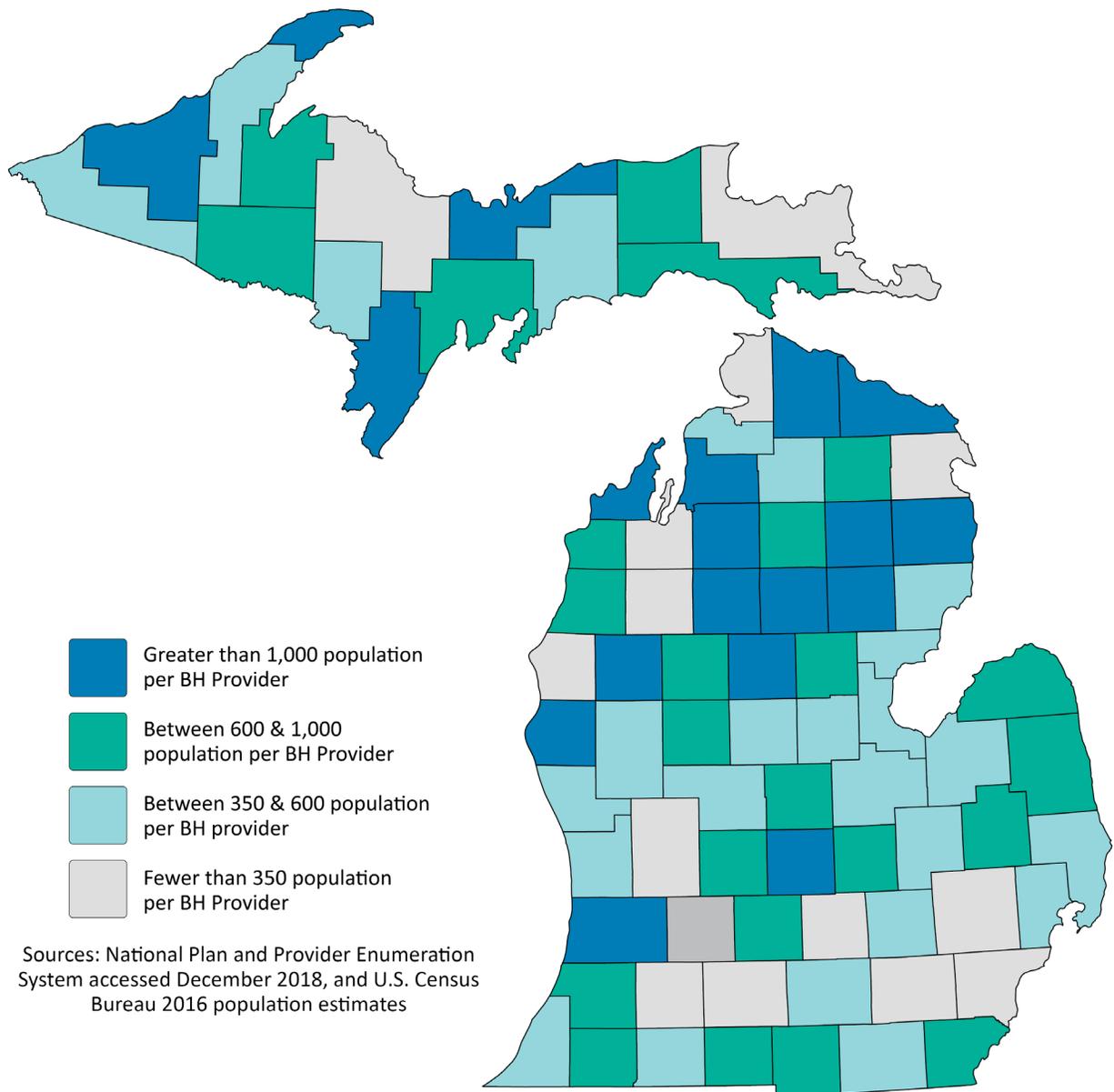
Broadening the definition of behavioral health provider to include psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, and advanced practice nurses specializing in mental health care, the supply of providers per capita in Michigan is better than the national average but varies considerably across the state.

Overall, Michigan has a population-to-provider ratio of 450:1 compared to the national average of 529:1. Figure 23 shows Michigan counties by quartile for per capita supply; the darker the shading, the more people per provider, and thus the sparser the supply.

There are three times the number of people per provider in the low supply counties compared to the counties with the most plentiful provider supply. Areas in the central and northern section of the lower peninsula tend to have the lowest supply of behavioral health providers per capita. These are also counties that tend to have a relatively greater share of the privately-insured population going untreated. Conversely, counties in the more populated areas of the state, such as southeast Michigan, have the greatest supply of providers and tend to have relatively lower shares untreated.



Figure 23: Population per Behavioral Health Provider by County in Michigan



AFFORDABILITY CONCERNS

Even for those with insurance, there are financial barriers to access. We find that large shares of those with behavioral health conditions who had health insurance did not receive treatment for their conditions. For those covered under high deductible plans, the out-of-pocket costs required to pay for treatment may be prohibitive. In addition, psychiatrists are more likely than other specialties to opt out of participation in public and private insurance networks, and many do not take insurance at all, increasing patient exposure to costs.² In Michigan, outpatient behavioral health care was four to six times more likely to be out-of-network than medical/surgical care.³



Survey data confirm that cost is a strong barrier to access. In the 2016 NSDUH, individuals reported “couldn’t afford costs,” and “not enough insurance coverage” as among the top reasons for not receiving treatment for AMI (Figure 24). For SUD treatment, high shares of respondents also cited cost and insurance coverage as barriers.

Figure 24: Self-Reported Reasons for Not Receiving Behavioral Health Treatment

TOP REASONS FOR NOT RECEIVING TREATMENT	% Citing Each Reason, AMI Care	% Citing Each Reason, SUD Care
Couldn’t Afford Costs	40%	27%
Thought Could Handle/Not Ready to Get Treatment	28%	38%
Didn’t Know Where to Go	22%	19%
Didn’t Have Time	20%	5%
Not Enough Insurance Coverage	13%	12%
Concerned about Neighbors’ Opinion	11%	14%
Didn’t Want Others to Find Out	9%	4%

Source: 2016 National Survey on Drug Use and Health. Respondents could select multiple answers.

LACK OF TRANSPORTATION

Respondents to the NSDUH survey also report transportation issues as a barrier to receiving care. For AMI, 11% of Medicaid enrollees report transportation as a factor (Figure 25). For SUD care, 8% of all respondents cite transportation as a factor.

Figure 25: Self-Reported Reasons for Not Receiving Behavioral Health Care, Medicaid

TOP REASONS FOR NOT RECEIVING TREATMENT	% Citing Each Reason, AMI Care	% Citing Each Reason, SUD Care
Couldn’t Afford Costs	29%	27%
Didn’t Know Where to Go	23%	19%
Thought Could Handle/Not Ready to Get Treatment	18%	38%
Didn’t Have Time	14%	5%
Concerned Might Get Committed/Have to Take Meds	16%	-
No Transportation/Too Far	11%	9%

Source: 2016 National Survey on Drug Use and Health. Respondents could select multiple answers. SUD care responses represent all insurance types.

PUBLIC AWARENESS AND PERCEPTIONS

The NSDUH survey data also show that lack of information on how to access care, lack of acceptance that care is needed, and reluctance to seek care due to discomfort with stigma are barriers to receiving treatment for behavioral health conditions. Respondents reported “didn’t know where to go,” and “thought could handle” as top reasons for not receiving care. Less often cited, but still among the top reasons were “concerned about neighbors’ opinion” and “didn’t want others to find out.”



Initial Access Targets for Michigan

A significant portion of Michiganders with a behavioral health condition are not receiving treatment for a variety of reasons that include provider availability and financial concerns along with cultural attitudes that lead to reluctance to seek care.

Shifting our capacity and our culture to fully meet the state's behavioral health needs is likely to be a long-term process. A more feasible near-term goal might be to strive to achieve the state's best levels of access in all parts of Michigan. We define "best access" as having the smallest share currently untreated.

We estimate that if all areas of the state achieved the current best access for Michigan, computed as the average of the top quintile of MSAs, an additional 236,400 Michiganders would receive mental health services each year, and an additional 87,500 would receive treatment for SUDs (Figures 26 and 27). Achieving this goal would increase the share of Michiganders with AMI receiving care from 62% to 75%. The share of Michiganders receiving care for SUDs would increase from 20% to one-third (34%) of those with a SUD.

Figure 26: Unmet Need for AMI Care if Best Michigan Access is Statewide

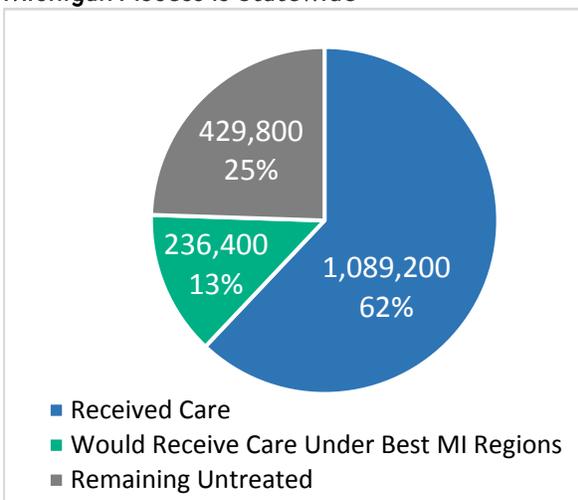
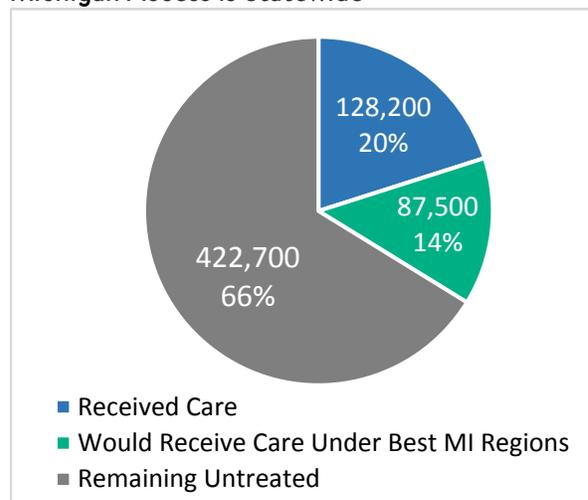


Figure 27: Unmet Need for SUD Care if Best Michigan Access is Statewide



Strategies to Improve Access

Based on our review of the literature, action plans from other states, and input from Michigan health care stakeholders and thought leaders, we identified 15 strategies to improve access to behavioral health care in Michigan. For discussion, we group the strategies into three broad domains based on primary barrier: increasing the effective supply of providers, improving patient affordability, or increasing willingness to seek treatment.



As shown in Figure 28, many of the strategies have the potential to address more than one barrier to access. For example, the use of telemedicine, while primarily implemented to increase the availability of behavioral health providers in underserved areas, can improve affordability by increasing access to in-network providers and increase willingness to seek care by reducing travel requirements and fear of stigma associated with receiving care at a behavioral health facility.

Figure 28: Strategies to Improve Access to Behavioral Health Care in Michigan, with Barriers Affected

	STRATEGIES	Provider Availability	Patient Affordability	Willingness to Seek Care
1	Expand programs to train behavioral health clinicians	✓		
2	Expand programs to train behavioral health non-clinician providers	✓		
3	Recruit and support applicants for workforce training from underserved areas	✓		✓
4	Increase retention of behavioral health providers in Michigan	✓		
5	Train more providers in needed behavioral health competencies	✓		
6	Expand provider scopes of practice to top of training	✓	✓	
7	Promote effective use of trained lay providers	✓	✓	✓
8	Advance the use of telemedicine	✓	✓	✓
9	Expand school-based behavioral health care	✓	✓	✓
10	Integrate primary care and behavioral health care delivery	✓	✓	✓
11	Maintain and enforce recent gains in coverage and parity		✓	
12	Encourage coverage design that reduces patient cost burden for BH		✓	
13	Increase public awareness of resources and paths to care			✓
14	Improve access to non-emergency medical transportation			✓
15	Support patient self-care and technology-assisted care		✓	✓

Of the 15 strategies, our top six recommendations, building on current initiatives in Michigan and having the potential to reduce multiple barriers to care, are:

1. Increase retention of behavioral health providers in Michigan [Strategy 4];
2. Expand provider scopes of practice to top of training [Strategy 6];
3. Promote effective use of trained lay providers [Strategy 7];
4. Advance the use of telemedicine [Strategy 8];
5. Expand school-based behavioral health care [Strategy 9]; and
6. Integrate primary care and behavioral health care delivery [Strategy 10].

Given the importance of cost as a barrier to seeking treatment, we also encourage exploration of benefit design changes that reduce the patient cost burden for behavioral health care, recognizing that this may increase health care spending.



STRATEGIES FOR INCREASING THE EFFECTIVE SUPPLY OF PROVIDERS

Strategies to address provider shortages can focus on increasing numbers of behavioral health providers, better aligning provider location with need, or maximizing the productivity and effectiveness of the existing workforce through practice change or technology. Michigan would need 167 additional psychiatrists practicing in underserved geographic areas to alleviate federal government-designated mental health professional shortage areas.⁴

1. Expand the number or size of programs to train behavioral health clinicians in Michigan, including graduate medical education (GME) residencies in psychiatry and psychiatric specialty training for nurse practitioners and physician assistants. Michigan has more than the average number of medical school slots per capita (52 per 100,000) and double the number of GME slots per capita (57 per 100,000) compared to other states, but there is an opportunity for more GME slots to shift to or be created for psychiatry and psychiatric subspecialties.⁵
2. Expand the number or size of programs to train non-clinician mental health or addiction health professionals in Michigan such as licensed professional counselors or licensed certified social workers.
3. Recruit applicants to behavioral health provider training from rural or underserved areas of the state. Example approaches include:
 - a. To maximize the access gains from new training programs, create initiatives to recruit program candidates from rural or underserved communities who are more likely to return to practice in these areas;
 - b. Expose children from underserved communities or populations to health careers through school-based or other programs;
 - c. Offer scholarships or loan repayment to encourage and support members of underserved communities to pursue training in behavioral health.
4. Increase the retention of behavioral health providers in Michigan. For physicians, current data on retention show that of those who receive undergraduate medical education (UME) in Michigan, 44% stay in the state, higher than the national average of 40%. Of those who receive GME, 45% stay in Michigan, about average. Of those who receive both UME and GME in Michigan, two-thirds stay to practice, but this is a bit below the national average of 69%.⁶ A variety of incentives may be available to retain physicians and other behavioral health providers. For example:
 - a. Examine the process for receiving and maintaining licensure or certification in the behavioral health professions and reduce the burden as needed and appropriate;
 - b. Compare Medicaid payment policies or other financial incentives in Michigan with other states, particularly Midwestern states that currently attract 11% of the physicians receiving GME training in Michigan. Consider adjustments needed to make Michigan more competitive;
 - c. Continue to fully participate in Conrad 30 J-1 Visa Waiver program sponsoring the maximum 30 international medical school graduates and prioritizing primary care and psychiatry;
 - d. Maintain and expand loan repayment programs rewarding commitments to practice in



Michigan, especially in underserved areas. Leverage federal dollars through HRSA programs and continue or expand local programs such as the Michigan Health Council's Michigan Loan Reimbursement and Employment Solution (MiLES);

- e. Create new provider retention programs informed by provider surveys or evidence-based strategies used in other states.
5. Train existing providers in needed behavioral health competencies; for example, increase the number of physicians in Michigan qualified to provide medication assisted treatment.
6. Remove restrictions on scope of practice that limit the ability of non-physician providers to practice to the full extent of their training and professional certification.
7. Promote effective use of trained lay providers such as Community Health Workers, Peer Support Specialists, or Recovery Coaches. Develop and implement certification to support reimbursement of peer support services. This strategy can also strengthen the cultural competency of care provided.
8. Extend the reach of the existing provider supply and support patient convenience through telemedicine, using approaches such as the following:
 - a. Support the use of telepsychiatry between patients and providers by aligning payment policies, especially for underserved areas;
 - b. Close gaps in broadband and technology capacity to support telemedicine throughout the state, including rural areas;
 - c. Sustain and grow teleconsultation programs that expand the reach of scarce psychiatrist resources through payment policies that reimburse for these consultations beyond grant funding. For example, develop a business model to sustain the MC3 program (<https://mc3.depressioncenter.org/>) connecting Michigan primary care providers to behavioral health specialists.
9. Expand use of school-based mental health providers. Michigan has historically had one of the highest ratios of students per school psychologist in the country. Recent state funding (Section 31N School Mental Health and Support Services Grant Opportunity) begins to address this by making \$31M available to expand school-based behavioral health, with the ability to bill Medicaid after two years. School-based health centers have a strong evidence base for improving access and health outcomes.⁷ For mental health or SUD conditions, the ability to diagnose and treat problems early can prevent more serious illness and the associated negative life impacts.
10. Integrate delivery of behavioral health and primary care. Integration promotes treatment of the whole person as well as increasing access to behavioral health care. This is an active area of innovation across the state. A recent Community Mental Health Association of Michigan report found 663 healthcare integration efforts of various types underway in Michigan.⁸ Several opportunities for further integration of services exist. For example:
 - a. Promote additional training of primary care providers for early detection and screening and ongoing follow up;
 - b. Co-locate primary care and behavioral health providers;
 - c. Implement integrated care models including the Collaborative Care Model, which has a strong evidence base of positive outcomes.



STRATEGIES FOR ADDRESSING AFFORDABILITY

Even for those with health care coverage, cost concerns are the most common reason cited for not receiving care. Our analysis of the privately insured shows that a greater share of Michiganders in high-deductible plans do not receive treatment. Beyond the financial barriers that higher deductibles and copayments can create for all health care, psychiatrists and other behavioral health clinicians are less likely to participate in public insurance programs or private insurance networks than other specialties, so patients more often face tradeoffs between location and timeliness of care and paying out-of-pocket. In addition to increasing the available supply of providers, insurers will also need to create levers that lower the patient cost burden of behavioral health care to fully close the treatment gap.

11. Maintain and fully enforce existing provisions for financial coverage of behavioral health. For example:
 - a. Continue operation and funding of the Healthy Michigan program;
 - b. Support the requirement for coverage to include essential benefits;
 - c. Support and enforce full implementation of the mental health parity law.
12. Encourage insurance plan design that lowers the patient cost burden of behavioral health care, including policies around deductibles and non-participating or out-of-network providers. It is important to address patient costs as this is a major reason that individuals forgo care. However, lowering patient costs to improve financial access will likely increase health care spending, potentially impacting premiums, capitated payments, or margins.

STRATEGIES FOR INCREASING WILLINGNESS TO SEEK TREATMENT

Public awareness or education programs are one approach to increasing the public's understanding of when and where to receive services and reducing perceptions of stigma associated with having a mental illness or SUD. Another approach is to explore ways to increase the convenience to patients of connecting with care. Finally, we note that integration with primary care, use of telemedicine, and school-based care, each listed under strategies to leverage the provider supply, also have the potential to increase convenience and comfort with receiving behavioral health care.

13. Increase public awareness of what types of local behavioral health resources are available and how to seek care.
14. Improve access to non-emergency medical transportation (NEMT) in Michigan.
15. Support increased patient self-care and technology-assisted self-monitoring and treatment, which is easy and private for patients to access and leverages scarce provider resources. For example:
 - a. Promote appropriate use of Internet-Based Cognitive Behavioral Therapy, which evidence shows to be effective in advancing patient outcomes, especially when combined with positive reinforcement and connection with a provider;
 - b. Examine or create mobile apps or computer or internet-based programs to support patient education, practice, or monitoring.



Michigan policy makers and stakeholders can implement each of the 15 strategies for improving access to varying degrees and using various approaches. While the precise investment cost will depend on the approach chosen, we can characterize each strategy broadly in terms of likely impact and resource intensity, informed by previous implementations and estimates made for specific programs in other states. Figure 29 displays such a characterization. The six strategies we emphasize combine medium to high impact with medium to low cost.

Figure 29: Matrix of Strategies Arranged by Degree of Impact and Cost

		→ → Impact on Access → →		
		Low	Medium	High
↑ ↑ ↑ ↑ Cost	High		[2] Expand programs to train behavioral health non-clinician providers [3] Recruit and support applicants for workforce training from underserved areas [12] Encourage coverage design that reduces patient cost burden for BH	[1] Expand programs to train behavioral health clinicians
	Medium	[11] Maintain and enforce recent gains in coverage and parity [14] Improve access to non-emergency medical transportation	[4] Increase retention of behavioral health workforce in Michigan [8] Advance the use of telemedicine	[7] Promote effective use of trained lay providers [9] Expand school-based behavioral health care [10] Integrate primary care and behavioral health care delivery
	Low	[5] Train more providers in needed behavioral health competencies [13] Increase public awareness of resources and paths to care [15] Support patient self care and technology-supported care	[6] Expand provider scopes of practice to top of training	



Appendix A: Data and Methods

In this appendix, we describe the data sources, processes, and methodological decisions we applied to complete the following key analytical tasks under this study:

- ▲ Estimating population counts and demographic characteristics;
- ▲ Constructing the claims data research file;
- ▲ Developing mental illness and substance use disorder prevalence estimates;
- ▲ Estimating unmet need for behavioral health care; and
- ▲ Measuring the behavioral health provider supply in Michigan.

POPULATION COUNTS AND DEMOGRAPHIC CHARACTERISTICS

To estimate the number of residents in Michigan by sex, age group categories, health insurance status, and geographic location, we used data from the U.S. Census Bureau's [American Community Survey](#) (ACS) available through [microdata](#) datasets and the [American Fact Finder](#) data portal. We used a mix of the most currently available “5-year” estimates (2013-2017, centered on the year 2015) and “1-year” estimates for the year 2016 to estimate the population in each Michigan county by age, sex, and health insurance status.

We calculated the Medicaid and Uninsured populations by county from the 2016 “1-year” estimates. The other insurance categories were estimated using the “5-year” estimates. In some cases, the “5-year” estimates were required to generate estimates for the smaller Michigan counties, as only the largest counties have sufficient sample sizes in the “1-year” estimates. In order to break the Medicare population into the Traditional (FFS) and capitated Medicare Advantage populations, we used data for the year 2016 for the State of Michigan from the [Medicare Enrollment Dashboard](#). This approach assumes that the split between Medicare Advantage and Traditional Medicare is constant in all Michigan counties. The county-level estimates by age group, sex, and insurance status are then combined into the required geographic groups of MSAs, Michigan PIHP Regions, and Michigan Prosperity Regions by adding up the results from each underlying county.

To avoid double-counting individuals with multiple health insurance sources (either due to switching insurance during the year or those with multiple simultaneous types of coverage), we derived an estimate of the number of individuals in each category with multiple insurance types from the underlying microdata and split counts across the associated categories. For example, an individual with dual-coverage in Medicare and Medicaid for the entire year would count in the totals as 0.5 persons in each insurance category. This results in the sum of each underlying category adding to the total Michigan population in 2016, according to ACS, a total of 9,814,714 citizens.

We benchmarked all subsequent analyses on behavioral health needs and claims dataset utilization measurements to these Michigan population data.



CLAIMS DATA PROCESSING

To estimate observed utilization of behavioral health care in Michigan, we designed and constructed unduplicated research files using commercial claims datasets from the IBM *MarketScan* data, Michigan Medicaid claims obtained from the State, and the Carrier claims and Outpatient Facility claims datasets from Traditional Medicare FFS data.

Enrollees by Benefit Type/Insurance Category, State of Michigan 2016

Health Insurance Category	Estimated Effective Michigan Enrollment (2016)	Number of Enrollees in Analytical Dataset (2016)
Private Insurance	5,633,421	1,035,566
Medicaid	1,949,782	1,933,125
Medicare Advantage	557,151	188,485
Medicare FFS	1,061,630	Carrier Claims (68,283), Outpatient Facility Claims (1,370,951)
Uninsured	553,713	Claims data not analyzed
Other Health Insurance (VA, MHS, IHS)	172,603	Claims data not analyzed

The overarching approach to these analyses is to define the potential population covered by each claims dataset by analyzing the accompanying enrollment file, then measuring the percentage of each potential population that received behavioral health services in the claims utilization files during a specific year. For all datasets, we measured utilization for 2016 by combining all relevant outpatient claims datasets, limiting the outpatient claims to those relevant to any mental health or substance use disorder condition, and finally by assessing the number of individuals receiving specific procedures for those mental health or substance use disorder diagnoses. We applied the same set of diagnosis and procedure codes to all datasets, except for including some code sets that are specific to certain insurance types (for example the inclusion of Healthcare Common Procedure Coding (HCPC) procedure codes for the Medicare claims).

The diagnosis codes used to define potential behavioral health services are primarily the “F” category of codes in the ICD-10 diagnosis set. Because each analysis is specific to the year 2016, all diagnosis codes are in the ICD-10 format. A table of each category of diagnosis codes used is provided in next section, with the rightmost columns showing the first 2 or 3 digits of the ICD-10 code used to define each behavioral health diagnosis category.

We curated the procedure codes used to define a relevant set of behavioral health services from a variety of sources used by physicians to bill for behavioral health care and through searches of the Current Procedural Terminology (CPT) and HCPC code sets for behavioral health service types. We then categorized these procedure codes into the following categories, Mental Health (MH) / Substance Use Disorder (SUD) specific outpatient services, MH/SUD specific intensive outpatient services, MH/SUD specific residential services, and generic office visit services. We define “access to care” as having occurred when any individual primary diagnosis for that office visit was one of the above MH or SUD conditions.



This definition of behavioral health services represents a middle-ground assessment of potential behavioral health utilization. Counting the “generic office visits” only when the primary reason for that visit is a mental health or behavioral health diagnosis allows the inclusion of provider visits that don’t code specifically for a behavioral health service (e.g. a psychotherapy visit) but are likely for the primary reason of addressing a behavioral health need. Further, requiring the “generic office visits” to have a primary diagnosis on the claim of a behavioral health need prevents overly defining care for behavioral health, as many generic office visits will include a mental health condition as a secondary or tertiary code. If an individual within the year received only generic office visits with mental health/substance use disorder diagnosis in the secondary or lower diagnoses on each claim, we do not include them in the “access to care” population. The set of procedure codes used in searching for relevant utilization is included in the section that follows.

TABLES OF DIAGNOSIS AND PROCEDURES CODES

Mental Health and Substance Use Disorder ICD-10 Diagnosis Code Definitions and Categories

Mental Health or SUD			ICD-10 Categories Substring
	Cat	Disease Category Label	
MH	Oth_Organic	Mental Health Caused by Physical Disease and Organic Disorders	F04
MH	Oth_Organic	Mental Health Caused by Physical Disease and Organic Disorders	F05
MH	Oth_Organic	Mental Health Caused by Physical Disease and Organic Disorders	F06
MH	Oth_Organic	Mental Health Caused by Physical Disease and Organic Disorders	F07
MH	Oth_Organic	Mental Health Caused by Physical Disease and Organic Disorders	F08
MH	Oth_Organic	Mental Health Caused by Physical Disease and Organic Disorders	F09
SUD	Alc_UD	Alcohol Use Disorder	F10
SUD	Opioid_UD	Opioid Use Disorder	F11
SUD	Cannabis_UD	Cannabis Use Disorder	F12
SUD	Sedative_UD	Sedative Use Disorder	F13
SUD	Cocaine_UD	Cocaine Use Disorder	F14
SUD	Stimulant_UD	Stimulant Use Disorder	F15
SUD	Hallucigen_UD	Hallucigen Use Disorder	F16
SUD	Inhalent_UD	Inhalent Use Disorder	F18
SUD	OtherDrug_UD	Other Psychoactive Drug Use Disorder	F19
MH	Schiz_NonMood_Psych	Schizophrenia and Non-Mood Psychotic Disorder	F2
MH	Manic_Epi	Manic Episode	F30
MH	Bipolar_Dis	Bipolar Disorder	F31
MH	Depressive_Epi	Depressive Episode	F32
MH	Recurr_Depre	Recurrent Depressive Disorder	F33
MH	Other_Mood	Other Mood Disorders	F34
MH	Other_Mood	Other Mood Disorders	F35
MH	Other_Mood	Other Mood Disorders	F36
MH	Other_Mood	Other Mood Disorders	F37
MH	Other_Mood	Other Mood Disorders	F38



MH	Other_Mood	Other Mood Disorders	F39
MH	Phobias	Phobic Anxiety Disorders	F40
MH	Anxiety_Dis	Other Anxiety Disorders	F41
MH	OCD_Dis	Obsessive Compulsive Disorder	F42
MH	PTSD_Stress	Post-Traumatic Stress Disorder	F43
MH	Dissociative_Dis	Dissociative (Conversion) Disorders	F44
MH	Somatoform	Somatoform Disorders	F45
MH	Other_Neur	Other Neurotic Disorders	F48
MH	Eating_Dis	Eating Disorders	F50
MH	Sleep_Dis	Sleep Disorders	F51
MH	Sex_Dis	Sexual Dysfunction, not caused by Disease	F52
MH	Postpartum_Depress	Postpartum Mental Health Conditions	F53
MH	Postpartum_Depress	Postpartum Mental Health Conditions	O906
MH	Other_Diseases_Connect	Mental Health Associated with Other Diseases	F54
MH	Unspec_Dis	Unspecified Mental Health Disorders	F56
MH	Personality_Dis	Personality Disorders	F6
MH	Hyperkinetic_ADHD	Hyperkinetic and ADHD Disorders	F90
MH	Conduct_Dis	Conduct Disorders	F91
MH	Conduct_Dis	Conduct Disorders	F92
MH	Other_Child	Other Mental Health Commonly Occurring in Children	F93
MH	Other_Child	Other Mental Health Commonly Occurring in Children	F94
MH	Other_Child	Other Mental Health Commonly Occurring in Children	F95
MH	Other_Child	Other Mental Health Commonly Occurring in Children	F96
MH	Other_Child	Other Mental Health Commonly Occurring in Children	F97
MH	Other_Child	Other Mental Health Commonly Occurring in Children	F98
MH	Unspec_Dis	Unspecified Mental Health Disorders	F99



Mental Health and Substance Use Disorder Procedure Code Definitions and Categories

Generic Office Visit Codes (requires primary diagnosis of MH/SUD condition to count as service)

99213	Office/outpatient visit est
99214	Office/outpatient visit est
99396	Prev visit est age 40-64
99215	Office/outpatient visit est
99284	Emergency dept visit
99285	Emergency dept visit
99212	Office/outpatient visit est
99395	Prev visit est age 18-39
99204	Office/outpatient visit new
99283	Emergency dept visit
99203	Office/outpatient visit new
99205	Office/outpatient visit new
99282	Emergency dept visit

Residential Care-Specific Codes

<i>HCPC/CPT</i>	
<i>Codes</i>	
H0010	Sub-acute detox, residential
H0011	Alc Detox, Residential
H0017	Behavioral Health, Residential, Hospital
H0018	Behavioral Health, Residential, Non-Hospital
<i>Revenue Codes</i>	
1001	Residential Treatment-Psych
1002	Residential Treatment-Chemical Dependence
0190	Subacute Care General
0191	Subacute Care Level1

Intensive Outpatient-Specific Codes

<i>HCPC/CPT Codes</i>	
H0015	Alcohol and/or drug services; intensive outpatient treatment
S9480	Intensive outpatient psychiatric services, per diem
<i>Revenue Codes</i>	
0905	Behavioral health treatment services; intensive outpatient
0906	Behavioral health treatment services; intensive outpatient, chemical dependency



Behavioral Health Specific Outpatient Procedure Codes

CPT Codes

- Use the add-on code with 90791 or 90792 for interactive psychiatric diagnostic interview examination using play equipment, physical devices, language interpreter, or other mechanisms of communication
- 90785** language interpreter, or other mechanisms of communication
- 90801** Psych Diagnostic Interview
- 90802** Psych Diagnostic Interview
- 90804** (individual psychotherapy 20-30 minutes, with medical evaluation and management services.)
- 90805** (individual psychotherapy 20-30 minutes, with medical evaluation and management services.)
- 90806** (individual psychotherapy 45-50 minutes, with medical evaluation and management services.)
- 90807** (individual psychotherapy 45-50 minutes, with medical evaluation and management services.)
- 90808** (individual psychotherapy 75-80, with medical evaluation and management services.)
- 90809** (individual psychotherapy 75-80, with medical evaluation and management services.)
- 90810** (individual psychotherapy 20-30 minutes, with medical evaluation and management services.)
- 90811** (individual psychotherapy 20-30 minutes, with medical evaluation and management services.)
- 90812** (individual psychotherapy 45-50 minutes, with medical evaluation and management services.)
- 90813** (individual psychotherapy 45-50 minutes, with medical evaluation and management services.)
- 90814** (individual psychotherapy 75-80, with medical evaluation and management services.)
- 90815** (individual psychotherapy 75-80, with medical evaluation and management services.)
- 90791** PSYCHIATRIC DIAGNOSTIC EVALUATION
- 90792** PSYCHIATRIC DIAGNOSTIC EVALUATION WITH MEDICAL SERVICES
- 90832** PSYCHOTHERAPY, 30 MINUTES WITH PATIENT AND/OR FAMILY MEMBER
- PSYCHOTHERAPY, 30 MINUTES WITH PATIENT AND/OR FAMILY MEMBER WHEN PERFORMED WITH AN EVALUATION AND MANAGEMENT SERVICE (LIST SEPARATELY IN ADDITION TO THE CODE FOR PRIMARY PROCEDURE)
- 90833** PSYCHOTHERAPY, 30 MINUTES WITH PATIENT AND/OR FAMILY MEMBER
- PSYCHOTHERAPY, 45 MINUTES WITH PATIENT AND/OR FAMILY MEMBER WHEN PERFORMED WITH AN EVALUATION AND MANAGEMENT SERVICE (LIST SEPARATELY IN ADDITION TO THE CODE FOR PRIMARY PROCEDURE)
- 90834** PSYCHOTHERAPY, 45 MINUTES WITH PATIENT AND/OR FAMILY MEMBER
- PSYCHOTHERAPY, 45 MINUTES WITH PATIENT AND/OR FAMILY MEMBER WHEN PERFORMED WITH AN EVALUATION AND MANAGEMENT SERVICE (LIST SEPARATELY IN ADDITION TO THE CODE FOR PRIMARY PROCEDURE)
- 90836** PSYCHOTHERAPY, 60 MINUTES WITH PATIENT AND/OR FAMILY MEMBER
- PSYCHOTHERAPY, 60 MINUTES WITH PATIENT AND/OR FAMILY MEMBER WHEN PERFORMED WITH AN EVALUATION AND MANAGEMENT SERVICE (LIST SEPARATELY IN ADDITION TO THE CODE FOR PRIMARY PROCEDURE)
- 90837** PSYCHOTHERAPY FOR CRISIS; FIRST 60 MINUTES
- PSYCHOTHERAPY FOR CRISIS; EACH ADDITIONAL 30 MINUTES (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY SERVICE)
- 90838** PSYCHOTHERAPY FOR CRISIS; EACH ADDITIONAL 30 MINUTES (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY SERVICE)
- 90839** PSYCHOANALYSIS
- 90840** FAMILY PSYCHOTHERAPY (WITHOUT THE PATIENT PRESENT)
- 90845** FAMILY PSYCHOTHERAPY (CONJOINT PSYCHOTHERAPY) (WITH PATIENT PRESENT)
- 90846** FAMILY PSYCHOTHERAPY (CONJOINT PSYCHOTHERAPY) (WITH PATIENT PRESENT)
- 90847** MULTIPLE-FAMILY GROUP PSYCHOTHERAPY
- 90849** GROUP PSYCHOTHERAPY (OTHER THAN OF A MULTIPLE-FAMILY GROUP)
- 90853** GROUP PSYCHOTHERAPY (OTHER THAN OF A MULTIPLE-FAMILY GROUP)
- 90862** Pharma management



90863	Pharma management
	NARCOSYNTHESIS FOR PSYCHIATRIC DIAGNOSTIC AND THERAPEUTIC PURPOSES (EG, SODIUM
90865	AMOBARBITAL (AMYTAL) INTERVIEW)
	THERAPEUTIC REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION (TMS) TREATMENT; INITIAL,
90867	INCLUDING CORTICAL MAPPING, MOTOR THRESHOLD DETERMINATION, DELIVERY AND MANAGEMENT
	THERAPEUTIC REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION (TMS) TREATMENT; SUBSEQUENT
90868	DELIVERY AND MANAGEMENT, PER SESSION
	THERAPEUTIC REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION (TMS) TREATMENT; SUBSEQUENT
90869	MOTOR THRESHOLD RE-DETERMINATION WITH DELIVERY AND MANAGEMENT
90870	ELECTROCONVULSIVE THERAPY (INCLUDES NECESSARY MONITORING)
	INDIVIDUAL PSYCHOPHYSIOLOGICAL THERAPY INCORPORATING BIOFEEDBACK TRAINING BY ANY
	MODALITY (FACE-TO-FACE WITH THE PATIENT), WITH PSYCHOTHERAPY (EG, INSIGHT ORIENTED,
90875	BEHAVIOR MODIFYING OR SUPPORTIVE PSYCHOTHERAPY); 30 MINUTES
	INDIVIDUAL PSYCHOPHYSIOLOGICAL THERAPY INCORPORATING BIOFEEDBACK TRAINING BY ANY
	MODALITY (FACE-TO-FACE WITH THE PATIENT), WITH PSYCHOTHERAPY (EG, INSIGHT ORIENTED,
90876	BEHAVIOR MODIFYING OR SUPPORTIVE PSYCHOTHERAPY); 45 MINUTES
90880	HYPNOTHERAPY
	Environmental intervention for medical management purposes on a
90882	psychiatric patient's behalf with agencies, employers, or institutions
90901	Biofeedback therapy
90911	Biofeedback therapy
96101	Psychological testing, interpretation and reporting per hour by a psychologist (per hour)
96102	Psychological testing per hour by a technician (per hour)
96103	Psychological testing by a computer, including time for the psychologist's interpretation and reporting (per hour)
96105	Assessment of Aphasia
96111	Developmental Testing, Extended
96116	Neurobehavioral Status Exam (per hour)
96118	Neuropsychological testing, interpretation and reporting by a psychologist (per hour)
96119	Neuropsychological testing per hour by a technician
96120	Neuropsychological testing by a computer, including time for the psychologist's interpretation and reporting
96150	Health & Behavioral Assessment – Initial (each 15 mins)
	Non-facility: 21.49 / Facility: 21.14
96151	Reassessment (each 15 mins)
	Non-facility: 20.78 / Facility: 20.42
96152	Health & Behavior Intervention – Individual (each 15 mins)
96153	Health & Behavior Intervention – Group (each 15 mins)
96154	Health & Behavior Intervention – Family with Patient (each 15 mins)
96155	Health & Behavior Intervention – Family without Patient (each 15 mins)
98968	Telehealth
99443	Telehealth
80301	Drug screen class list a
80354	Drug screening fentanyl
80349	Cannabinoids natural



80348	Drug screening buprenorphine
80320	Drug screen quantalcohols
80346	Benzodiazepines1-12
80365	Drug screening oxycodone
80324	Drug screen amphetamines 1/2
80361	Opiates 1 or more
80356	Heroin metabolite
80353	Drug screening cocaine
80336	Antidepressant tricyclic 3-5
80364	Opioid & opiate analog 5/more
80350	Cannabinoids synthetic 1-3
80357	Ketamine and norketamine
80347	Benzodiazepines 13 or more
80321	Alcohols biomarkers 1or 2
80323	Alkaloids nos
80329	Analgesics non-opioid 1 or 2
80344	Antipsychotics nos 7/more
80333	Antidepressants class 3-5
80325	Amphetamines 3or 4
80375	Drug/substance nos 1-3
80352	Cannabinoid synthetic 7/more
80335	Antidepressant tricyclic 1/2

HCPCS Codes

	Activity therapy, such as music, dance, art or play therapies not for recreation, related to the care and treatment of patient's disabling mental health problems, per session (45 min. or more)
G0176	
	Training and educational services related to the care and treatment of patient's disabling mental health problems per session (45 min. or more)
G0177	
H0001	Alcohol and/or drug assessment
	Behavioral health screening to determine eligibility for admission to treatment program
H0002	
H0003	Alcohol and/or drug screening; laboratory analysis of specimens for
H0004	Behavioral health counseling and therapy, per 15 min.
H0005	Alcohol and/or drug services; group counseling by a clinician
H0006	Alcohol and/or drug services; case management
H0007	Alcohol and/or drug services; crisis intervention (outpatient)
H0010	Sub-acute detox, residential
H0011	Alc Detox, Residential
H0012	Alcohol and/or drug services; sub-acute Residential OP)
H0013	Alcohol and/or drug services (Residential Addiction Program OP)
H0014	Alcohol and/or drug services; ambulatory detoxification
H0015	Alcohol and/or drug services; intensive outpatient treatment



H0016	ALCOHOL AND/OR DRUG SERVICES; MEDICAL/SOMATIC (MEDICAL INTERVENTION IN AMBULATORY SETTING)
H0017	Behavioral Health, Residential, Hospital
H0018	Behavioral Health, Residential, Non-Hospital
H0022	ALCOHOL AND/OR DRUG INTERVENTION SERVICE (PLANNED FACILITATION)
H0031	MENTAL HEALTH ASSESSMENT, BY NON-PHYSICIAN
H0036	COMMUNITY PSYCHIATRIC SUPPORTIVE TREATMENT, FACE-TO-FACE, PER 15 MINUTES
H0037	COMMUNITY PSYCHIATRIC SUPPORTIVE TREATMENT PROGRAM, PER DIEM
H0038	SELF-HELP/PEER SERVICES, PER 15 MINUTES
H0046	MENTAL HEALTH SERVICES, NOT OTHERWISE SPECIFIED
H0047	ALCOHOL AND/OR OTHER DRUG ABUSE SERVICES, NOT OTHERWISE SPECIFIED
H0048	ALCOHOL AND/OR OTHER DRUG TESTING: COLLECTION AND HANDLING ONLY, SPECIMENS OTHER THAN BLOOD
H0049	ALCOHOL AND/OR DRUG SCREENING
H0050	ALCOHOL AND/OR DRUG SERVICES, BRIEF INTERVENTION, PER 15 MINUTES
H2001	REHABILITATION PROGRAM, PER 1/2 DAY
H2010	COMPREHENSIVE MEDICATION SERVICES, PER 15 MINUTES
H2011	CRISIS INTERVENTION SERVICE, PER 15 MINUTES
H2012	BEHAVIORAL HEALTH DAY TREATMENT, PER HOUR
H2013	PSYCHIATRIC HEALTH FACILITY SERVICE, PER DIEM
H2017	PSYCHOSOCIAL REHABILITATION SERVICES, PER 15 MINUTES
H2018	PSYCHOSOCIAL REHABILITATION SERVICES, PER DIEM
H2019	THERAPEUTIC BEHAVIORAL SERVICES, PER 15 MINUTES
H2020	THERAPEUTIC BEHAVIORAL SERVICES, PER DIEM
H2030	MENTAL HEALTH CLUBHOUSE SERVICES, PER 15 MINUTES
H2031	MENTAL HEALTH CLUBHOUSE SERVICES, PER DIEM
H2034	ALCOHOL AND/OR DRUG ABUSE HALFWAY HOUSE SERVICES, PER DIEM
H2035	ALCOHOL AND/OR OTHER DRUG TREATMENT PROGRAM, PER HOUR
H2036	ALCOHOL AND/OR OTHER DRUG TREATMENT PROGRAM, PER DIEM
0064	Brief office visit for the sole purpose of monitoring or changing drug prescriptions used in the treatment of mental psychoneurotic and personality disorders
S9475	Ambulatory setting substance abuse treatment or detoxification services, per diem
S9480	Intensive outpatient psychiatric services, per diem
S9484	Crisis intervention mental health services, per hour
S9485	Crisis intervention, mental health services,
T1006	ALCOHOL AND/OR SUBSTANCE ABUSE SERVICES, FAMILY/COUPLE COUNSELING
T1007	ALCOHOL AND/OR SUBSTANCE ABUSE SERVICES, TREATMENT PLAN DEVELOPMENT AND/OR MODIFICATION
T1010	MEALS FOR INDIVIDUALS RECEIVING ALCOHOL AND/OR SUBSTANCE ABUSE SERVICES (WHEN MEALS NOT INCLUDED IN THE PROGRAM)
T1012	ALCOHOL AND/OR SUBSTANCE ABUSE SERVICES, SKILLS DEVELOPMENT
T1025	INTENSIVE, EXTENDED MULTIDISCIPLINARY SERVICES IN A CLINIC SETTING TO CHILDREN WITH COMPLEX MEDICAL, PHYSICAL, MENTAL AND PSYCHOSOCIAL IMPAIRMENTS, PER DIEM



T1026	INTENSIVE, EXTENDED MULTIDISCIPLINARY SERVICES IN A CLINIC SETTING TO CHILDREN W/ COMPLEX MEDICAL, PHYSICAL, MENTAL AND PSYCHOSOCIAL IMPAIRMENTS, PER HOUR
G0480	Drug test def 1-7 classes
H0025	Alcohol and/or drug prevention
J2315	Naltrexone, depot form
H0018	Alcohol and/or drug services
G0463	Hospital outpt clinic visit
G0478	Drug test presump opt inst
<i>Revenue Codes</i>	
0513	Psych Clinic
0900	Behavioral Health Treatment Services, general classification
0901	Behavioral health treatment services; electroshock
0902	Behavioral health treatment services; milieu treatment
0903	Behavioral health treatment services; play therapy
0904	Behavioral health treatment services; active therapy
0905	Behavioral health treatment services; intensive outpatient
0906	Behavioral health treatment services; intensive outpatient, chemical dependency
0907	behavioral health treatment services; community behavioral health
0909	Behavioral health treatment services; other behavioral health treatment
0914	Individual Therapy
0915	Group Therapy
0916	Family Therapy
0944	Drug Rehab
0945	Alcohol Rehab
1001	Residential Treatment-Psych
1002	Residential Treatment-Chemical Dependence
0190	Subacute Care General
0191	Subacute Care Level1

NPI behavioral health Provider taxonomy categories

Taxonomy		
Code	Provider Definition	Provider Category
101YA0400X	BMMH-Addiction Counselor (SUDs)	Counselor and Therapist
101YM0800X	BMMH-MentalHealth Counselor	Counselor and Therapist
103T00000X	Psychologist - nec	Psychologist
103TA0400X	Psychologist-Addiction(SUDs)	Psychologist
103TA0700X	Psychologist-AdultDevelopment&Aging	Psychologist
103TB0200X	Psychologist-Cognitive&Behavioral	Psychologist
103TC0700X	Psychologist-Clinical	Psychologist
103TC1900X	Psychologist-Counseling	Psychologist
103TC2200X	Psychologist-ClinicalChild&Adolescent	Psychologist
103TE1000X	Psychologist-Educational	Psychologist
103TE1100X	Psychologist-Exercise&Sports	Psychologist



103TF0000X	Psychologist-Family	Psychologist
103TF0200X	Psychologist-Forensic	Psychologist
103TH0004X	Psychologist-Health	Psychologist
103TH0100X	Psychologist-HealthService	Psychologist
103TM1700X	Psychologist-Men&Masculinity	Psychologist
103TM1800X	Psychologist-MentalRetardation&DevelopmentalDisabilities	Psychologist
103TP0016X	Psychologist-Prescribing(Medical)	Psychologist
103TP0814X	Psychologist-Psychoanalysis	Psychologist
103TP2700X	Psychologist-Psychotherapy	Psychologist
103TP2701X	Psychologist-GroupPsychotherapy	Psychologist
103TR0400X	Psychologist-Rehabilitation	Psychologist
103TS0200X	Psychologist-School	Psychologist
103TW0100X	Psychologist-Women	Psychologist
1041C0700X	BHMH-Social Worker-Clinical	Clinical Social Worker
106H00000X	BHMH-Marriage&FamilyTherapist	Counselor and Therapist
2084A0401X	Psychia-AddictionMedicine	Psychiatrist
2084B0040X	Psychia-BehavioralNeurology&Neuropsychiatry	Psychiatrist
2084P0015X	Psychia-PsychosomaticMedicine	Psychiatrist
2084P0800X	Psychia-Psychiatry	Psychiatrist
2084P0802X	Psychia-AddictionPsychiatry	Psychiatrist
2084P0804X	Psychia-Child&AdolescentPsychiatry	Psychiatrist
2084P0805X	Psychia-GeriatricPsychiatry	Psychiatrist
363LP0808X	PA/NP-Psychiatric/Mental Health	Adv. Practice Nurse - MH

ADDITIONAL INFORMATION ON CLAIMS DATA RESEARCH FILES

The following paragraphs define the steps that are specific to each claims dataset to ensure the correct population is defined and compared against the prevalence data by insurance category and demographic subpopulation.

Privately-Insured Population (IBM Commercial Claims)

The [IBM MarketScan](#) dataset is provided in two pieces, claims for the commercially-insured and Medicare-eligible populations. The privately-insured population is defined as those individuals for which it is expected that private insurance is the enrollee's primary payer. We include all individuals under the age of 65, as well as all individuals over the age of 65 who are currently working full-time, as most of those individuals, while eligible for Medicare, will have their employer plan as the primary payer. Within the *MarketScan* datasets, we limit the potential population to those without the flag for "identifies whether or not mental health/substance abuse claims for covered individuals are included for the current year of data" marked as "not covered/claims not present". This eliminates less than 10% of the potential population but removes the possibility we undercount the percentage of individuals receiving behavioral health care services due to those claims not being reported.



The *MarketScan* data include geographic information for only MSAs, defined by the primary address of the enrollee. We eliminate enrollees in MSAs not in the state of Michigan from the analysis, and combine all enrollees marked as “Non-MSA”, indicating they live in a rural area, in a single “Non-MSA” category. To compute utilization measures for the Michigan Prosperity regions and PIHP regions, we generate a weighted average of the utilization from each underlying MSA that is included in each plan region, weighted by the percentage of the privately-insured population (from ACS) of each region covered by the underlying MSA/Non-MSA areas.

The health plan definitions are taken from the IBM data categories. Consumer-directed health plans (CDHPs) are combined with High-deductible health plans (HDHPs) and then plans which are not HDHPs or CDHPs are split into a group of plans that cover out-of-network services (such as PPO plans) and plans that do not cover any out-of-network services (such as HMO plans).

Medicare Advantage Population (IBM Medicare Claims)

The IBM claims include commercial claims submitted for the Medicare eligible population from health plans and commercial employers for the purposes of coordination of benefits (COB) and supplemental insurance. These claims include both the Medicare submitted claims and commercial claims. To limit the population to the likely Medicare Advantage plans within this dataset, we include those in the Medicare Advantage analysis dataset who are retired (for which Medicare is likely the primary payer) and those plans not labeled as “Comprehensive”, which are likely supplemental plans for the Medicare FFS Population. This was determined by analyzing the percentage of claims for which Medicare vs. the employer was the primary payer.

We applied the same process to compute geographic categories from the MSA data variables for the privately-insured population to the Medicare Advantage data.

Medicaid Population (Michigan Medicaid claims)

The analysis of utilization for the Medicaid population was performed on a Medicaid dataset received directly from the State, which included a supplementary addition of all substance-use disorder claims that had initially been carved out. Analyses were run on a county-level, using resident addresses as the identifier and then combined into the larger geographic categories. While the total 2016 enrollee count in the Medicaid enrollee file was similar to the estimate derived from ACS, we used the count from ACS to ensure the final state population totals added correctly. An analysis of claims by the primary payer of each claim (PIHP vs. each of the Medicaid Health Plans) was completed, using flags in the data received from the State to estimate the percentage of particular diagnoses that were covered by the PIHPs vs. the traditional Medicaid plans. This analysis was done on a “per-enrollee” basis, calculating the percentage of enrollees with each condition that had at least one claim paid for by a PIHP. Race categories were also taken directly from the State data, with “American Indian / Alaska Native” combined with “Hispanic” and “Other / Unknown” into an “Other Race” category.

Traditional Medicare FFS Population

The following claims datasets are used in the measurement of the Traditional Medicare FFS population utilization: the Medicare Master Beneficiary Summary File (MBSF), the 5% Medicare



Carrier Claims dataset, and the 100% Medicare Outpatient Facility Claims dataset. We limit each of these files to enrollees with primary residential addresses in the state of Michigan. The MBSF is the enrollment file, used to compute the total number of enrollees potentially receiving behavioral health services, and the two claims files are combined to produce a comprehensive picture of behavioral health service utilization during the year 2016 for those enrollees. To match up the 5% sample of carrier claims to the 100% sample of outpatient claims, we use the MBSF to identify the Medicare beneficiaries in the 5% sample by enrollee ID no appreciable difference in the results.

Unlike the *MarketScan* data, we have county-level data for the Medicare enrollees, allowing a simple summing of the county-level findings to produce the larger geographic category estimates—MSA regions, prosperity regions, and PIHP regions. Also included in the Medicare data are race/ethnicity data, which are used to estimate utilization by race. All categories not “White” or “Black/African-American” are combined into a single “Other/Not Listed” race definition as there are too few of the other individual categories to produce a reliable estimate.

PREVALENCE OF MENTAL ILLNESS AND SUBSTANCE USE DISORDER

We estimated the prevalence of specific behavioral health needs by applying data from population-based surveys of mental health and substance use disorder conditions. We used this method whenever possible, rather than estimating condition prevalence directly from the claims datasets, because population-based surveys are more likely to capture that true rate of all individuals with a behavioral health need. In claims an unmet need is unobservable directly for example, for those who may need care but do not receive it and do not generate a claim. Given that the purpose of this study was to measure access to care, it was necessary to use population-based surveys to produce the estimate total need. The tradeoff of this approach is that we are limited to the conditions and categories asked about in the national surveys

We used three primary surveys to complete these estimates. To estimate the prevalence of any mental illness, any substance use disorder, and specific types of substance use disorders for adults (ages 18 and older), we used the [National Survey on Drug Use and Health](#) (NSDUH). For children (under the age of 18), we used a single survey, [the National Survey on Children’s Health](#). To compute aggregate estimates, we combine the prevalence rate results from these surveys with the ACS population data on population counts. For our analyses of specific mental health conditions, such as *Anxiety Disorders* and *Depressive Episode*, a current estimate of population prevalence from national surveys was not available that suited the study needs. In these cases we estimate the prevalence solely from the claims datasets by counting all individuals who had a behavioral health diagnosis in a particular category in any position on any claim, and compared that to the definition of “access” described above.

We analyzed the NSDUH for 2016, using the available microdata dataset to estimate the prevalence of any mental illness, any substance use disorder and specific substance use disorder categories for the entire United States by age group, sex, and insurance category. The NSDUH asks individuals to respond if they have “any mental illness” or “any substance use disorder.” The survey also includes insurance status, age and race for each respondent. Individuals are included in an insurance category if they responded “yes” to that insurance category question; for those who



selected multiple insurance types, their population prevalence was included simultaneously in both categories. To ensure prevalence estimates are representative, respondent weights were used to compute the rates for each population category.

These analyses resulted in population prevalence for conditions as a percentage of the total population, which are multiplied by the estimates of each population's total size in the ACS results to compute the number of individuals with each condition in the State of Michigan for each subgroup. Differences between the expected population counts of condition prevalence and observed utilization are then measured as gaps in access.

State and Sub-State Regions, Adults

To create a national-level prevalence by subpopulation category for adults, we used the NSDUH. However, the NSDUH microdata do not include geographic detail to protect respondent privacy. To adjust the national-level prevalence data in this survey to a Michigan-specific estimate we used the Substance Abuse and Mental Health Services Administration (SAMHSA) aggregated estimates for geographic regions from publicly-available tables of averages of state and sub-state data. We averaged the results of multiple years of the NSDUH survey, using the most current versions of these publicly-available tables.

To compute statewide estimates, each of the required national statistics by age group, sex, and insurance status were adjusted using the ratio of the State of Michigan to National average for the combined [2016-2017 results](#) for “any mental illness” or “substance-use disorder” prevalence. For the sub-state estimates of each condition, the ratio of the Michigan specific estimates was further refined using the ratio of the sub-state region to the Michigan average from the [2014-2016 NSDUH tables](#). Overall, these adjustments from national data to Michigan specific-results were minor, as Michigan's prevalence of mental health and substance use disorder conditions is near the U.S. average.

Further, there is only limited variation across the Michigan sub-state regions. The sub-state region estimates in the NSDUH results are for the Michigan PIHP regions, meaning that for other region definitions (the prosperity regions and MSA regions), we remapped the NSDUH region results onto the alternative region definitions, by selecting each PIHP region's data with the largest intersection of each required alternative sub-state category.

State and Sub-State Regions, Children

To create a national-level prevalence by subpopulation category for children under the age of 18, we used data from the [National Survey of Children's Health \(NSCH\)](#). Survey questions asked of the parent whether a selected child respondent “had ever been told they had” a particular behavioral health condition and “if they currently had that condition”. Any mental illness was defined as responding yes to the NSCH definitions of “Anxiety”, “Depression”, “Behavioral Problems”, or “Attention-Deficit/Hyperactivity Disorder (ADHD)”. Substance use disorders were defined in the NSCH's parallel question on any substance use disorder. Insurance categories were used, with “insurance provided by employer” and “insurance provided by insurance company” included as privately-insured. While the NSCH includes state flags, the results by insurance



category result in populations too small for a single-state to produce stable estimates. Thus, to create the state level estimates we instead used a similar approach to the NSDUH computations by estimating national-level prevalence by subpopulation category and adjusted based on the ratio of the Michigan averages to national averages. Respondent weights were used to ensure prevalence estimates were representative of the average population.

UNMET NEED FOR BEHAVIORAL HEALTH CARE

We define unmet need for behavioral health care by comparing the expected need for care with the observed utilization. We measure unmet need separately for each benefit type/insurance category and then combined these to produce aggregate estimates for the state. Using the claims analyses to estimate the percentage of each insurance group population that received a behavioral health service in 2016, we computed the share untreated for each insurance and demographic subpopulation by comparing the condition prevalence (as a percentage of the total) for that population with the percentage of the claims data population that received a behavioral health service (defined above). We define the unmet need as the difference between these two percentages. For some of the findings, we denoted when an individual received only a single instance of a behavioral health service during the year, which could be alternatively defined as “limited access to care.” In other cases, we denote the distinction between behavioral health-specific procedures and generic office visits.

When specific geographic groupings were produced directly in the claims data (such as the *MarketScan* data MSA categories), the available geographic categories were mixed using the population data from the ACS results to produce aggregate estimates. When necessary, we “rescaled” these weighted results for some categories to ensure that the total gap and prevalence data were equal to the sum of each underlying category by multiplying the weighted results by the ratio of the population total to the weighted total. While this has minor impacts on each regions’ results, it was necessary to ensure that we could combine each geographic, sex, and age group subpopulation categories to produce aggregate estimates that match the Michigan population totals.

For the less common health insurance subtype populations where claims data were not available to compute utilization estimates of behavioral health services, we relied on estimates from national surveys, which ask if individuals got access to care alongside the condition prevalence questions. For example, the Uninsured and Other Health Insurance (VA, MHS, and IHS) population estimates are derived by computing access directly in NSDUH, using results of the percentage of individuals who “received outpatient treatment for mental health in the past year” for any mental illness and who “received Alcohol or Drug Treatment in the past 12 months” for substance use disorder care. These findings for the relevant subpopulations of individuals allow for complete totals of condition prevalence, utilization, and gaps for the entire Michigan population.

Last, after we measured “absolute” gaps in access to care by subtracting the expected population prevalence by the observed percentage of enrollees receiving care, we computed “relative” gaps in access by creating a threshold of the best access areas in Michigan for each condition category. We set the benchmark to the top quintile (top 20%) of all regions for each subgroup and



computed relative access against this benchmark. We computed the number of individuals who would receive care if the entire state resembles the top quintile by setting all the gaps to that top quintile's average and then compared the findings to the absolute gap results to estimate how many individuals would have received care if the state uniformly looked like the best quintile.

BEHAVIORAL HEALTH PROVIDER SUPPLY

We used data for behavioral health providers (physicians, counselors, and related medical professions) to compare the availability of certain provider types with estimated gaps in access. These results help define the potential impacts limited provider availability has on the gaps in use in behavioral health services and allow us to identify and create maps of provider “deserts”, or areas with notable lack of specific behavioral health medical providers. We counted providers in the state of Michigan by city and county using [the CMS National Plan and Provider Enumeration System \(NPPES\) data](#) and used data from November 2018 to approximate the number of providers in the year 2016 (the prior 2016 data were not available at the time of study). It is possible the NPPES data overstate the number of actual providers available in a specific county because not all providers with an active National Provider Identifier (NPI) number may be practicing. They are likely conservative and represent the minimum possible number of provider shortage areas.

Definitions of behavioral health providers were determined using the [National Provider Identifier data descriptions](#) and the categories defined in the analysis are included in Appendix A3. We include any provider who has the appropriate categories in any of their position definitions, providing the broadest possible definition of behavioral health service provider categories, which will again be conservative in We calculated total county population per provider by combining the provider counts with data from ACS on each county's total population.

We also computed assessments of available behavioral health facilities for substance abuse disorder treatment. These assessments were made using the underlying 2016 data from the SAMHSA treatment locator tool. Counts of population per facilities use data from ACS for total population per county.



Appendix B: Literature Review

As the first task in this study, Altarum conducted a literature review to inform and contextualize our modeling and analysis of behavioral health treatment in the state. The four main questions that guided our search process were:

- 1) What methods have been used to measure access and barriers to health care services?
- 2) What is currently known about access to behavioral health services and barriers to access in the state of Michigan?
- 3) How have key concepts for this study been defined in previous research or by subject matter experts?
- 4) What are examples of policies or programs that have been applied to improve access to behavioral health care, particularly at the state level?

The sections that follow present annotated bibliographies or lists of references on the following topics:

- ▲ Measuring access to behavioral health care;
- ▲ Access to care in Michigan; and
- ▲ Strategies for improving access.

LITERATURE ON MEASURING ACCESS TO BEHAVIORAL HEALTH CARE

Addiction Medicine: Closing the Gap between Science and Practice. (2012). The National Center on Addiction and Substance Abuse at Columbia University.

<https://www.centeronaddiction.org/addiction-research/reports/addiction-medicine-closing-gap-between-science-and-practice>

This article focused both on the lack of treatment available to those with SUDs and the inappropriate nature of the treatment that is available. Though there are standards of care based on evidence of efficacy for chronic conditions such as blood pressure and diabetes, the same type of regulations and accountability do not exist for providers treating SUDs. The authors argue that addiction is a chronic medical disease and should be treated as such – that is, by medical doctors who have received addiction-specific training and rely on evidence-based treatment protocols. Their recommendations include a full integration of addiction medicine into primary health care systems and practices. They also recommend more evidence-based treatment training for nurse practitioners, physician assistants, psychologists, and social workers.

Andrilla, C.H.A., Patterson, D.G., Garberson, L.A., Coulthard, C., & Larson E.H. (2018). Geographic variation in the supply of selected behavioral health providers. *American Journal of Preventative Medicine*, 54(633), 199-207.

<https://www.ncbi.nlm.nih.gov/pubmed/29779543>

Authors of this survey used data from the National Plan and Provider Enumeration System National Provider Identifier (NPI) from October 2015. They narrowed the type of mental health providers they focused on to active psychiatrists, psychologists, and psychiatric Nurse



Practitioners. Zip codes were obtained for each of three provider types and these were classified into metropolitan, micropolitan, and non-core. Claritas 2014 U.S. population data were then used to calculate provider-to-population ratios for each provider type at the county and Census Division levels. Results indicated that numbers of psychologists, psychiatrists, and psychiatric NPs varied dramatically between metropolitan and non-metropolitan areas. This suggests that those living in more sparsely populated or rural areas have even less access to behavioral and mental health professionals than those living in urban centers.

Boccuti, C., Swoope, C., Damico, A., & Neuman, T. (2013). Medicare patients' access to physicians: A synthesis of the evidence (December 2013). Kaiser Family Foundation Issue Brief.

<https://www.kff.org/medicare/issue-brief/medicare-patients-access-to-physicians-a-synthesis-of-the-evidence/>

The takeaways from this article are that those on Medicare have relatively good access to physicians. This issue brief does not explicitly discuss access to mental health care. Most people on Medicare do not report that they skip seeing a doctor even though they think they need to see one. Those Medicare beneficiaries who do forgo medical care are more likely to be under age 65 (they receive Medicare because of a disability), are dual eligible (they receive both Medicaid and Medicare coverage), have worse health, are Black, have lower incomes, or have five or more chronic conditions. Just 1% of physicians opt out of accepting Medicare payments. Notably, of this 1%, 42% are psychiatrists. This may have an impact on elderly patients having access to psychiatric services.

Brenes, G. A., Danhauer, S. C., Lyles, M. F., Hogan, P. E., & Miller, M. E. (2015). Barriers to Mental Health Treatment in Rural Older Adults. *The American journal of geriatric psychiatry: official journal of the American Association for Geriatric Psychiatry*, 23(11), 1172-8.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4663185/>

Health services across the board tend to be less accessible for those living in rural compared to urban areas. This research was conducted to specifically examine barriers to mental health care for older adults living in rural communities. Interestingly, one of the key findings was that age was positively associated with seeking care. The authors speculated that this could be due to the oldest having overcome barriers to treatment. Among the most common barriers uncovered by the research were respondents believing they should not need help, cost, not knowing where to go for help, expecting treatment would not help, stigma, and not wanting to divulge personal matters to a stranger.

Byers, A. L., Arean, P. A., & Yaffe, K. (2012). Low use of mental health services among older Americans with mood and anxiety disorders. *Psychiatric services (Washington, D.C.)*, 63(1), 66-72.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3726310/>

The aim of this research was to understand why utilization rates of mental health treatment for the most common mood disorders (anxiety and depression) were low among older Americans. Consistent with previous research, 70% of the sample who were experiencing these conditions had not sought treatment. Predictors of not receiving services included belonging to a racial/ethnic



minority, not being comfortable discussing personal issues, being married, and having low perceived cognitive impairment. The authors recommend interventions designed to help older people identify mental health symptoms, promoting comfort with seeking mental health treatment, and increased screening efforts.

California Health Care Foundation (2016). Stepping Up to the Plate: Federally Qualified Health Centers Address Growing Demand for Care.

<https://www.chcf.org/wp-content/uploads/2017/12/PDF-SteppingUpPlateFQHCs.pdf>

This article functions as an adjunct to the California Health Care Foundation's longitudinal Regional Markets Study. The purpose of the California Health Care Foundation's longitudinal Regional Markets Study was to gain insights into health care organizations, delivery, and financing of health care within California, and to evaluate differences among regions over time. More specifically, the seven California health care markets and regions evaluated are: Fresno, Los Angeles, Orange County, Riverside/San Bernardino, Sacramento, San Diego, and the San Francisco Bay Area.

Mathematica Policy Research researchers interviewed over 200 respondents as a part of this larger study. Interview respondents included executives from hospitals, physician organizations, community health centers/FQHCs, Medi-Cal health plans, and other California-based health care leaders. In terms of the cross-site analysis, researchers conducted follow-up interviews with select respondents, and tracked local media sources to stay up to date on any changes that may have taken place since site-visit interviews.

The crux of this article is the burgeoning need for FQHCs as a result of the extensive Medicaid expansion within California. Further, it synthesizes how collaborations among FQHCs, other safety net providers, and some mainstream providers are extending primary care services, in addition to improving access and integration for behavioral health, specialty care, and social services.

Corrigan, P. W., Druss, B. G., & Perlick, P. W. (2014). The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care. *Psychological Science in the Public Interest*, 15(2), 37-70.

The authors of this article discuss how stigma associated with receiving mental health care represents a significant barrier to getting well-established and effective treatment to those who are suffering. They distinguish "personal level" barriers to access such as poor mental health literacy, beliefs that treatments will not work, lack of support for seeking treatment, and cultural irrelevance, from "provider and system-level barriers," i.e., lack of insurance or financial constraints. Though the effects of stigma are often thought of as operating at a micro level, the authors show how they also influence provider behavior and system resources. The authors also offer public health and policy solutions including:

- Educational public service campaigns
- A paradigm shift toward self-empowerment
- Promotion of mental health literacy
- Legislative and regulatory opportunities



Costello, E. J., He, J., Sampson, N. A., Kessler, R. C., & Merikangas, K. R. (2014). Services for Adolescents with Psychiatric Disorders: 12-Month Data from the National Comorbidity Survey-Adolescent.

<https://ps.psychiatryonline.org/doi/pdf/10.1176/appi.ps.201100518>

This study examined 12-month rates of behavioral health service utilization among adolescents. Results indicated that 45% of youth received some form of behavioral health care services. More specifically, adolescents with a diagnosis of ADHD were the most likely to receive such services, whereas adolescents with specific phobias were the least likely to receive services. Additionally, results also indicated that Black youth were significantly less likely to receive specialty behavioral health services in comparison to white youth. This study concluded that youth who struggle with psychiatric disorders often do not receive specialized behavioral health care services.

Cunningham, P., McKenzie, K., Taylor, E.F. (2006). The struggle to provide community-based care to low-income people with serious mental illnesses. *Health Affairs*.

<https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.25.3.694>

Most mental health care costs for low-income individuals are paid through Medicaid. This results in a gap for those who are low-income but do not qualify for Medicaid. States have shifted their mental health budgets to reflect the move toward increased Medicaid coverage and no longer invest in services for those who are low-income and uninsured. There is also concern that cost containment mechanisms such as reductions in reimbursements and eligibility, increased cost sharing, and greater restriction on prescription drug use has increased the number of providers who are unwilling to accept Medicaid as a form of payment.

Data for the article came from the fifth wave of the Community Tracking Study which was conducted by the Center for Studying Health Systems Change. The survey consisted of interviews with over 1,000 healthcare leaders in twelve nationally representative markets, e.g., Boston, Cleveland, Lansing, Miami, and Syracuse.

Study findings:

- Residential services such as Section 8 housing, group quarters, transitional shelters, and other support services were frequently mentioned as being in short supply.
- Lack of psychiatric inpatient beds for acute care.
- Shortages of key outpatient staff including psychiatrists resulting in long wait times to be seen.

Ewald, E. Loganathan, S., Hasche, H., & Kochner, K. Access to Care among Medicare Beneficiaries With and Without Depression. Center for Medicare & Medicaid Services. Office of Enterprise Data & Analytics. Data Highlight. June 2017.

https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/Downloads/ATC_Depression_2017.pdf

This research brief compares health care access for Medicare beneficiaries with and without depression. Those with depression were more likely to report not being able to get the health care they needed, not getting prescriptions for medications filled, and avoiding seeing doctors. This highlights how untreated mood disorders have a pervasive negative effect on all aspects of health.



It demonstrates the pressing need to address mental health access barriers in older adults.

Firth, J., Kirzinger, A., & Brodie, M. (2016). Kaiser Health Tracking Poll: April 2016.

<https://www.kff.org/report-section/kaiser-health-tracking-poll-april-2016-substance-abuse-and-mental-health/>

This poll tracks public opinion on the severity of health problems in the U.S. Results regarding access to substance abuse treatment and mental health services are particularly relevant for our project.

- Lack of access to mental health care is deemed the fourth most serious health problem facing the U.S. by participants.
- One in five respondents reports that they or a family member did not get mental health treatment when they needed it.
 - The cost was cited as the # 1 factor in not receiving mental health treatment.
 - Insurance not covering it (similar to cost) was the second most cited factor.
 - Afraid or embarrassed to seek care was the third most cited factor.
 - Not knowing where to get care was the fourth most cited factor.
- 42% of respondents felt that people who suffer from depression face discrimination.
- 32% of respondents felt that people who suffer from anxiety face discrimination.

Thus, though the cost is a predominant factor in people not accessing mental or behavioral health services, stigma plays a role as well. This is important because removing cost barriers will not necessarily address issues related to stigma.

Garrido, M. M., Kane, R. L., Kaas, M., & Kane, R. A. (2011). Use of mental health care by community-dwelling older adults. *Journal of the American Geriatrics Society*, 59(1), 50-6.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3050003/>

This research explored the infrequency of mental health care utilization among older adults. In a sample of 1,681, just 6.5% had received any sort of mental health care within the last year.

Predictors of who sought care included: being female, experiencing a mood disorder within the past year, a history of anxiety, having private insurance, and a history of substance abuse disorder.

For those who thought they needed treatment but had not sought it, reasons included: wanting to handle it on their own, thinking treatment would not be effective, and believing the problem would get better on its own.

Green, C.A. (2006). Gender and Use of Substance Abuse Treatment Services. National Institute on Alcohol Abuse and Alcoholism. *Alcohol Research & Health*, 29(1), 55-62.

<https://pubs.niaaa.nih.gov/publications/arh291/55-62.htm>

This report from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) provides a review of the research on gender and substance abuse treatment. The main findings regarding the treatment barriers faced by women compared to men include:

- Women are more likely to experience economic burdens that make treatment unaffordable.
- Women have more difficulty regularly attending treatment because of childcare and other



family responsibilities.

- Women report experiencing more shame and embarrassment about the need for SUD treatment.
- Women are more prone to experience depression and anxiety, which has been shown to interfere with seeking treatment for SUDs.

Greenfield, S. F., Brooks, A. J., Gordon, S. M., Green, C. A., Kropp, F., McHugh, R. K., Lincoln, M., Hien, D., & Miele, G. M. (2006). Substance abuse treatment entry, retention, and outcome in women: a review of the literature. *Drug and alcohol dependence*, 86(1), 1-21.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3532875/>

This article is a literature review examining substance abuse treatment in women. It includes research published between 1975 and 2005. Women are less likely to receive SUD treatment than men; however, once they have entered treatment, gender is not a predictor of outcome. Though women-only treatment has not been shown to be more effective than gender integrated treatment, the authors do concede that addressing women-oriented concerns during treatment can increase the probability of a successful outcome. This, of course, rests on the assumption that women take up treatment. Interventions designed to get women into treatment are needed to improve the number of women who receive help for SUD.

Hancock, C., Mennenga, H., King, N., Andrilla, H., Larson, E., Schou, P. (2017). Treating the Rural Opioid Epidemic. National Rural Health Association Policy Brief.

https://www.ruralhealthweb.org/NRHA/media/Emerge_NRHA/Advocacy/Policy%20documents/Treating-the-Rural-Opioid-Epidemic_Feb-2017_NRHA-Policy-Paper.pdf

This policy brief from the National Rural Health Association calls for greater attention for addiction, specifically opioid, treatment in rural areas. The main calls to action surround the use of medication assisted treatment (MAT) and funding for rural mental health infrastructure.

Hester, R.D. (2017). Lack of access to mental health services contributing to the high suicide rates among Veterans. *International Journal of Mental Health Systems*, 11:47.

<https://ijmhs.biomedcentral.com/articles/10.1186/s13033-017-0154-2>

This author of this article argues that Veterans face numerous obstacles to accessing mental health care, particularly the type of crisis intervention needed to address the severe anguish associated with suicide. The rates of suicide among Veterans is both higher than the general population and has gone up by 18% from 2011 to 2014. VA's or Veteran clinics do not have the resources to deal with the type of mental health crisis intervention that Veterans suffering from PTSD need. Further, Veterans are more likely to be homeless or employed in jobs that do not offer private health insurance. Even with private insurance, costs associated with mental health care often put the services out of reach of Veterans.

Holdt, W. (2018). Mental Health in California: For Too Many, Care Not There, California Health Care Almanac, California Health Care Foundation.

<https://www.chcf.org/wp-content/uploads/2018/03/MentalHealthCalifornia2018.pdf>



This report used current data to provide an overview of mental health, specifically: disease prevalence, suicide rates, supply and use of treatment providers, and mental health in the correctional facility. Key Findings from the report include:

- Higher rates of mental illness were seen in lower-income adults and children.
- A third of adults with any mental illness received treatment.
- A third of adolescents with major depression received treatment.
- California's jails and prisons are a hotbed of mental illness. 38% of female prisoners and 23% of male prisoners received mental health treatment while incarcerated.

Holdt, W. (2018). Substance Use in California: A Look at Addiction and Treatment. California Health Care Almanac, California Health Care Foundation.

<https://www.chcf.org/wp-content/uploads/2018/09/SubstanceUseDisorderAlmanac2018.pdf>

This report, the first almanac to feature substance use, describes the current state of substance use in California. Key findings include:

- 8% of Californians have a substance use disorder, but only 10% of these people get treatment.
- Alcohol use disorder (AUD) is the most common SUD in California, followed by illicit drug use.
- By the time they are in 11th grade, over half of California's adolescents have tried alcohol, and 40% have used marijuana.
- Visits to the emergency room related to heroin use tripled between 2006 and 2017.

Improving Access to Children's Mental Health Care. (2017). *Centers for Disease Control and Prevention* (CDC).

<https://www.cdc.gov/childrensmentalhealth/access.html>

This is a collection of references for what CDC is doing to remove barriers to mental and behavioral healthcare for children. The CDC created state-level maps showing the distributions of different types of mental health providers by state:

<https://www.cdc.gov/ncbddd/adhd/stateprofiles-providers/index.html>

Of note, there are several counties in Northern Michigan with 0 pediatricians per 10,000 children. So, the shortage of any children's health providers severely limits access to care even if behavioral health integration efforts were implemented. There are also several references here about the CDC's involvement in efforts to get health care to children in rural populations. This might be relevant for when we begin concentrating on the recommendations portion of this report.

Kelleher, K.J., & Gardner, W. (2017). Out of sight, out of mind – Behavioral and developmental care for rural children. (2017). *The New England Journal of Medicine Perspective*

<https://www.nejm.org/doi/full/10.1056/NEJMp1700713>

Researchers suggest that mental, behavioral, and developmental disorders (MBDDs) are more prevalent in children living in small rural communities compared to children living in cities and suburbs. Of note, poverty is concomitant with living in rural areas, and there is a strong tie between poverty, mental health, and substance use disorder. Low-population densities in these



areas make it difficult to support specialist practices. This exacerbates the nationwide shortage of clinicians trained in pediatric mental and behavioral health. The authors take the position that to deliver mental health care to children, "rural communities should partner with agencies that operate in alternative settings, use telehealth services, and employ primary care and alternative providers to coordinate care and deliver low-intensity interventions." The rest of the brief article discusses each of these points in more detail.

Kliff, S. (2017). There are 28 million uninsured under Obamacare. Here's who they are.

<https://www.vox.com/policy-and-politics/2017/6/29/15892642/28-million-uninsured-obamacare>

This investigative journalism report provides information about the demographics of the 28 million people who are uninsured under the Affordable Care Act (ACA). It breaks down the complex reasons why even though millions more are now insured, there are still millions who do not have coverage. For example, eligibility for ACA coverage among the nonelderly uninsured varied in the following ways in 2016:

- Ineligible for financial assistance due to income – 3 million
- Medicaid/other public eligible adult – 3.8 million
- Medicaid/other public eligible child – 2.6 million
- Tax credit eligible – 5.3 million
- In the coverage gap – 2.6 million
- Ineligible for coverage due to immigration status – 5.4 million
- Ineligible for financial assistance due to employer sponsored insurance (ESI) offer – 4.5 million

Knickman, J., Krishnan, R., & Pincus, H. (2016). Improving Access to Effective Care for People with Mental Health and Substance Use Disorders.

<https://nam.edu/wp-content/uploads/2016/09/Improving-Access-to-Effective-Care-for-People-Who-Have-Mental-Health-and-Substance-Use-Disorders.pdf>

This publication discusses and recommends how to improve access to evidence-based treatment for people struggling with psychiatric disorders. More specifically, this publication identifies the primary access barriers for behavioral health services in the U.S. as: fragmented systems of care, undersized/underprepared behavioral health workforce, and disjointed payment models. The authors put forward three main recommendations for remedying the system. The first pertains to implementing payment models that support service integration. The second suggests training a workforce skilled in managing mental health and substance abuse in the context of integrated care. The final recommendation is to develop incentives to disseminate tested organizational models and create new approaches for access to care.

Melek, S. P., Perlman, D., & Davenport, S. (2017). Addiction and mental health vs. physical health: Analyzing disparities in network use and provider reimbursement rates.

<http://www.milliman.com/uploadedFiles/insight/2017/NQTLDisparityAnalysis.pdf>

This 2017 report by Milliman, an actuarial consulting company, is written as an empirically based response to the recent increase of state and federal regulations focusing on the enforcement of



mental health and addiction parity laws, and the non-quantitative treatment limitations (NQTLs) that have emerged as a key trouble area for some health plans.

The report provides a quantitative evaluation investigating NQTLs. The first analysis focuses on out-of-network utilization rates for inpatient and outpatient facility services in addition to professional office visits. The other analysis focuses on reimbursement rates for office visits for in-network healthcare providers. The analysis was done using two large national research databases containing medical claims records from major insurers for preferred provider organizations (PPOs) covering nearly 42 million individuals across the United States. This report provides detailed results for each state between the years of 2013 – 2015, and identified significant disparities regarding reimbursements for behavioral health care providers. An important conclusion of the report is that lower reimbursement rates provided to behavioral health care specialists are a major contributor to lower network participation rates by these providers, and therefore create a source of access challenges for those in need of behavioral health care services.

Mechanic, D. (2002). Removing barriers to care among persons with psychiatric symptoms: A well-functioning managed care approach can provide an acceptable level of care and cost. *Health Affairs*.

<https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.21.3.137>

This article highlights that lack of access to mental health care has been a concern for over a decade. The author used data from three nationally representative surveys: A telephone survey conducted by the National Mental Health Association (NMHA) in 2001, a face-to-face interview from the National Comorbidity Survey from 1990-1992, and a telephone survey from Healthcare for Communities in 1997 and 1998.

An important takeaway from this article is that a large percentage of those with an unmet mental health need have not tried to seek care. For instance, in the NMHA data, only 18% of people who met the criteria for major depression or generalized anxiety had received a diagnosis from a doctor. Less than 10% of people in this undiagnosed group believed their symptoms meant they had a mental disorder. Notably, less than half of the group with a doctor's diagnosis agreed that they had a mental disorder. People, at least in 2002, were reticent to characterize themselves as having a mental health problem.

When the undiagnosed group in the NMHA survey was asked why they would not seek a doctor's advice about mental health issues, the most frequent response was, "not serious, I can handle it" (44%). The second largest group (28%) reported having limited or no insurance, and 18% reported they were too busy. People who knew others who were receiving mental health care were more likely to seek the care for themselves. (It's seen as normative.)

"The challenge for public policy is to develop a structure that makes it possible to close the gap in unmet need at a cost that purchasers and the larger society will find acceptable."

Mental Health America (2018). The State of Mental Health in America 2018.

<http://www.mentalhealthamerica.net/issues/state-mental-health-america#Key>

This report uses a "collection" of national survey data to measure a community's mental health needs, access to care, and outcomes, regardless of the differences between the states and their



various mental health policies. It ranks the state's effectiveness in addressing issues related to mental health and substance use. It is a companion to the interactive data on the MHA website.

Key facts and findings of the State of Mental Health in America:

- 18% or 43 million Americans have a mental health condition, and nearly half of those have a co-occurring substance abuse disorder.
- 56% of adults with a mental illness did not receive treatment.
- 7.7% of youth had no access to mental health services through their private insurance.
- Over the last five years, rates of severe depression in youth have increased from 5.9% to 8.2%. Over 1.7 million youth with major depressive episodes did not receive treatment.
- Healthcare reform is helping: rates of uninsured adults with a mental illness decreased by 5%; states that increased Medicaid Expansion had fewer uninsured adults with mental illness.

Measures used in the 2018 Calculated and Individual Rankings:

1. Adults with Any Mental Illness (AMI)
2. Adults with Alcohol Dependence and Illicit Drug Use
3. Adults with Serious Thoughts of Suicide
4. Youth with At Least One Major Depressive Episode (MDE) in the Past Year
5. Youth with Alcohol Dependence and Illicit Drug Use
6. Youth with Severe MDE
7. Adults with AMI who Did Not Receive Treatment
8. Adults with AMI Reporting Unmet Need
9. Adults with AMI who are Uninsured
10. Adults with Disability who Could Not See a Doctor Due to Costs
11. Youth with MDE who Did Not Receive Mental Health Services
12. Youth with Severe MDE who Received Some Consistent Treatment
13. Children with Private Insurance that Did Not Cover Mental or Emotional Problems
14. Students Identified with Emotional Disturbance for an Individualized Education Program
15. Mental Health Workforce Availability

Overall Ranking

Each state received a score calculated from the unweighted scores on the 15 measures. The higher a state is ranked, the lower the prevalence of mental health issues and the higher the access to care in that state.

Michigan was ranked 17th in this overall measure.

Adult Ranking

This is a calculated score with just the seven measures that are specific to the adult population.

Again, the higher a state is ranked, the lower the prevalence of mental health issues for adults and the higher the access to care in that state.

Michigan was ranked 19th in the adult ranking.

Youth Ranking

This is a calculated score with just the seven measures that are specific to the youth population.

Michigan was ranked 17th in the youth ranking.

Separating out the prevalence of mental health issues and access to care



Michigan was ranked 23rd in the prevalence of mental health issues (adult and youth) – the lower the number, the higher the prevalence

Michigan was ranked 16th in access to care (adult and youth) – the higher the number, the better the access.

National Alliance on Mental Illness (NAMI). (2017). The Doctor is Out: Continuing Disparities in Access to Mental and Physical Health Care.

<https://www.nami.org/About-NAMI/Publications-Reports/Public-Policy-Reports/The-Doctor-is-Out/DoctorIsOut.pdf>

National Alliance on Mental Illness (NAMI) conducted an online nationwide survey of about 3,000 individuals with mental illness or a proxy who answered on their behalf. The research was aimed at understanding the extent to which barriers to mental health care still existed despite the passage of the Mental Health Parity and Addictions Equity Act of 2008.

Key Findings:

The bottom line: having insurance does not necessarily mean that one won't encounter substantial cost barriers to receiving mental health care.

Just over half of respondents reported contacting psychiatrists who were not accepting new patients or who would not accept their insurance within the past year, and a third reported difficulty finding any mental health care provider, either in- or out-of-network, that would accept their insurance. These numbers are far higher than attempts to look for primary or other types of specialty care.

28% of respondents had to use an out-of-network provider for their mental health care, compared to just 7% that had to go out of network for other medical specialist care.

Private insurance is behind Medicaid. Medicaid beneficiaries were more likely to use in-network services than those with private insurance, and two-thirds of Medicaid users reported no out-of-pocket cost for their outpatient mental health care.

National Association of Community Health Centers (2011). NACHC 2010 Assessment of Behavioral Health Services In Federally Qualified Health Centers. (2011).

<http://www.nachc.org/wp-content/uploads/2015/06/BHReport.pdf>

This study is an assessment of behavioral health services provided at FQHCs. It includes an evaluation of the degree to which behavioral health care is currently integrated into the FQHC system. The parameters used to evaluate integration of services include: co-location of behavioral health and medical services; communication and collaboration between behavioral health and medical providers; access to behavioral health treatment plans by medical and behavioral health staff; access to problem lists by medical and behavioral health staff; access to medication lists and lab work, and joint decision making by medical and behavioral health staff regarding patient treatment. This study also sought to better understand the behavioral health workforce within FQHCs and what their training needs are to promote and increase their ability to provide integrated behavioral health services. Key findings include:

- The majority of FQHCs who responded (~65%) meet all the components for integrated care.



- Mental health services are provided by over 70% of the FQHCs who responded, however, Substance Abuse services are provided at only 55%.
- Though only 10% of the FQHCs do not routinely screen for depression, over 35% do not routinely screen for substance abuse disorders.
- When FQHCs do screen they are utilizing evidence-based protocols.
- Only 40% of the FQHCs provide mental health services at all their sites and only 32% provide substance abuse services at all their sites.
- Social Workers are the predominant behavioral health discipline represented in FQHCs while psychologists are underrepresented.
- Although medically assisted treatment (MAT) for opioid use disorder is provided at only 15% of the FQHCs that responded, 43% reported that at least one physician at their center would take the mandated DEA waiver course to provide these services in the future.
- The areas of training most frequently requested by health centers in the clinical realm include training medical providers on behavioral health disorders, short term interventions, problem focused treatment, motivational interviewing, screening brief intervention and referral to treatment (SBIRT) and PTSD and trauma interventions.
- The areas of training most frequently requested by FQHCs in non-clinical areas include managing “no shows” and reimbursement/coding.

National Conference of State Legislators (2018). The Costs and Consequences of Disparities in Behavioral Health Care.

http://www.ncsl.org/Portals/1/HTML_LargeReports/DisparitiesBehHealth_Final.htm

This report was developed by the National Conference of State Legislators (NCSL), and it describes the costs and consequences of disparities in behavioral health care. In addition to discussing contributing factors to health disparities it also provides context about access barriers to behavioral health care. The following are listed as the primary barriers:

- Lack of availability.
- Transportation, child care, difficulty taking time off work.
- The belief that mental health treatment “doesn’t work.”
- The high level of mental health stigma in minority populations.
- A mental health system weighted heavily towards non-minority values and norms.
- Racism, bias and discrimination in treatment settings.
- Language barriers and an insufficient number of providers who speak languages other than English.
- Lack of adequate health insurance coverage (and even for people with insurance, cost sharing makes it difficult to afford).

NCSL concludes this report by identifying several legislative approaches for decreasing behavioral health disparities. The NCSL recommendations are as follows:

- Improving awareness about differences in behavioral health status and access to services.
- Addressing behavioral health disparities directly and indirectly.
- Engaging diverse perspectives and populations.
- Promoting cultural and linguistic competence.



Priester, M. A., Browne, T., Iachini, A., Clone, S., DeHart, D., & Seay, K. D. (2015). Treatment Access Barriers and Disparities Among Individuals with Co-Occurring Mental Health and Substance Use Disorders: An Integrative Literature Review. *Journal of substance abuse treatment*, 61, 47-59.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4695242/>

This is a comprehensive and well-done review of research specific to access barriers for those suffering from a co-occurring substance abuse and mental health disorders (COD). Barriers are divided into two major categories: personal characteristic barriers and structural barriers.

Personal characteristics include:

- The complex interplay between dual diagnoses. Substance abuse worsens mental health conditions and symptoms of mental health conditions such as impaired cognition, low motivation, and poor social skills can be their own significant treatment barriers. Further, mental health conditions may detract from individuals' ability to fully participate in treatment for either of their conditions.
- Accessing care for COD can be further complicated if an individual also has intellectual disabilities and the treatment options narrow considerably for those who check all three boxes, i.e., mental health, substance abuse, and intellectual disability.
- Personal beliefs such as stigma surrounding treatment held by the individual with COD or even biased beliefs about people in certain categories by clinicians create additional barriers to treatment.
- The authors of the article also discuss numerous structural barriers that have been identified in the research, including:
 - A lack of specialized services to treat COD. This is particularly important given the limitations that the interactions put on the feasibility of treatment options for individuals. As with all mental health and SUD treatment, care is especially hard to access for those living in rural areas.
 - Providers are not often trained in the dual diagnosis inherent in COD. This is particularly true of those who work in pediatrics or family medicine and encounter adolescents with COD. Adolescents are often diagnosed just with mental health issues. There is some evidence that this is because physicians worry about how labeling them with SUD will affect their future opportunities.
- Some structural barriers can also be grouped together under the umbrella category of service provision, including:
 - Long waits for treatment, red tape surrounding enrollment, and selection bias for who is given a scarce program spot.
 - Lack of understanding about how symptoms from one condition impact the style and method of treatment necessary to deal with the other.
 - Cultural competence related to gender (on-site childcare, women only groups) and racial/ethnic minorities (inaccurate or under-diagnosis).

Finally, as with all mental and behavioral health and SUD treatment, cost is a major barrier to accessing treatment for those with COD.



Rowan, K., McAlpine, D.D., & Blewett, L.A. (2013). Access and cost barriers to mental health care, by insurance status, 1999-2010. *Health Affairs*, 32:10, 1723-1730.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4236908/>

The authors of this article used data from the Integrated Health Interview Series (IHIS), an online database of over forty years of the National Health Interview Survey. Specifically, they looked at insurance status, mental health (self-reported on the survey), and respondents' perceptions that cost was a barrier to accessing mental health services.

Highlights of results:

- People with mental health problems are increasingly more likely to have public insurance.
- Cost barriers to care increased among the uninsured and privately insured.

Conclusion:

Just gaining access to private insurance does not necessarily equate to increased access to services. Increases in cost-sharing may mean that the cost burden still limits access to mental health care even for those who are insured.

SAMHSA: Increasing Access to Behavioral Health Services and Supports through Systems of Care (2016)

https://www.samhsa.gov/sites/default/files/programs_campaigns/childrens_mental_health/awareness-day-2016-short-report.pdf

This is a short report put out on National Children's Mental Health Awareness Day – May 5th, 2016. It provides some useful information about what helped remove barriers to mental health care for children. SAMHSA's Comprehensive Community Mental Health Services for Children and Their Families Program – commonly referred to as the Children's Mental Health Initiative (CMHI) provide grants to "provide a comprehensive array of coordinated, evidence based services to children and youth and their families." The emphasis is on coordination, with the goal of getting children and youth to access mental health services through multiple entry points.

Data were gathered on parents' experiences during a national evaluation of the CMHI. Parents were especially satisfied with programs that offered flexible funds to be spent on basic needs such as clothing or therapies that were not otherwise covered, and transportation services to get them to and from appointments. This speaks to two barriers to mental health care that are commonly cited, cost and transportation. This brief also contains data demonstrating how improving children's access to mental health care services has a positive impact on the whole family, including parents' stress and employment.

Tyler, E., Hulkower, R.L., & Kaminski, J.W. (2017). Behavioral Health Integration in Pediatric Primary Care: Considerations and Opportunities for Policymakers, Planners, and Providers. *Milbank Memorial Fund*.

https://www.milbank.org/wp-content/uploads/2017/03/MMF_BHI_Executive-Summary-FINAL.pdf

This paper discusses the utility of integrating mental health care with primary pediatric care for children to increase treatment and streamline the referral process. This paper will be relevant later in the project (i.e., closing gaps), but also has some useful insights for the first phase.

Key Findings:



Only 15% to 20% of children with psychiatric disorders receive specialty care. This is due in part to the barriers to mental health care that many families experience.

There are shortages of child psychiatrists, with most states experiencing severe shortages (just 1 – 17 psychiatrists per 100,000 children).

Though two-thirds of pediatricians report a lack of training in the treatment of children's behavioral health needs, identification of mental health issues and the use of psychotropic drugs by pediatricians is trending higher.

Treatment of mental health disorders are the costliest childhood medical expenditures, totaling \$13.9 billion in 2012.

U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Workforce, National Center for Health Workforce Analysis (2016). National projections of supply and demand for selected behavioral health practitioners: 2013-2025.

<https://bhw.hrsa.gov/sites/default/files/bhw/health-workforce-analysis/research/projections/behavioral-health2013-2025.pdf>

This report used the HRSA Health Workforce Simulation Model (HWSM) to project the U.S. supply and demand for behavioral health practitioners in 2025. Results are categorized by two scenarios. In the first, the number of providers in 2013 (except for psychiatrists) is assumed to be adequate to meet the needs of the population. With this conservative estimate, by 2025 there are expected to be shortages for: psychiatrists; clinical, counseling, and school psychologists; mental health and substance abuse social workers; school counselors; and marriage and family therapists. Mental health and substance abuse social workers and school counselors will have shortages of more than 10,000 FTEs.

Using data from the SAMHSA 2013 National Survey on Drug Use and Health, the second scenario assumed that 20% of the US population needed behavioral health services but did not get them in 2013. With this less conservative approach, it was projected that by 2025 there would be shortages for all nine types of mental health professionals accounted for in the model. Further, six types of providers (psychiatrists, clinical, counseling, and school psychologists; substance abuse and behavioral disorder counselors; mental health and substance abuse social workers; mental health counselors; school counselors) will have shortages exceeding 10,000 FTEs.

This article also offers some explanations for why we might expect to see changes in supply and demand for behavioral and mental health services throughout the next decade: population growth, aging of the nation's population, overall economic conditions, expansion of insurance coverage, changes in healthcare reimbursement, retirement, attrition, availability of training, and geographic location of the health workforce.

Other factors include:

Integration of behavioral health services with primary health care. More frequent screenings done in a PC setting and the ability to gain services through the door of primary care will increase the number of people being diagnosed with the need for mental health services and reduce the stigma associated with seeking services.

Increased utilization of health care services due to expanded insurance coverage and stronger federal parity protection.



Advances in medicine and technology may increase demand for services by creating more treatment options, though this will be partially offset by advances that improve patient wellness. Growing emphasis on behavioral health wellness, prevention of mental and substance use disorders, behavioral care coordination, and behavioral care management may lead to new and different roles for some providers (e.g., behavioral health NPs and PAs).

Walker, E.R., Cummings, J.R., Hockenberry, J.M., Druss, B.G. (2015). Insurance status, use of mental health services, and unmet need for mental health care in the United States. *Psychiatric Services*, 66(6), 578-584.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4461054/>

This research looked at data from 33,647 adults who participated in the National Survey on Drug Use and Health. Of the participants, 9,723 were classified as having any mental illness (AMI), and 2,608 had a serious mental illness. Results indicate that 62% of those with AMI and 41% of those with a serious mental illness did not receive treatment. A strong predictor of receiving treatment was health insurance coverage. Seventy-two percent of those with an unmet need reported a structural barrier (cost; not knowing where to go; not having enough time) to accessing treatment and 47% reported an attitudinal barrier (feeling they could handle the problem without treatment; believing treatment wouldn't help; fear of someone in the community finding out; fear of being committed or having to take medication).

Weissman, J., Russell, D., Jay, M., Beasley, J.M., Mataspina, D., & Pegus, C. (2017). Disparities in health care utilization and functional limitations among adults with serious psychological distress, 2006-2014. *Psychiatric Services*, 68(7), 653-659.

<https://ps.psychiatryonline.org/doi/abs/10.1176/appi.ps.201600260?journalCode=ps>

The authors of this article compared adults with and without serious psychological distress for years before and during the implementation of the Affordable Care Act (ACA). They found that in 2014 the proportion of people with serious psychological distress who faced barriers to care remained above 2006 levels. Significant barriers included: lacking money for medications and healthcare, experiencing delays in care, visiting a doctor ten or more times in the past 12 months, changing the usual place of health care, changing usual place of health care because of insurance, experiencing limitations in activities of daily living, and the ability to work. The evidence suggests that even in the wave of greater insurance coverage for many Americans, those with serious psychological distress still experience substantial barriers to getting the mental health treatment they need.

RESEARCH ON ACCESS TO CARE IN MICHIGAN

Baum, N., Rheingans, C., & Udow-Phillips, M. The impact of the ACA on Community Mental Health and Substance Abuse: Experience in 3 Great Lake States. (July 2017). Center for Healthcare Research & Transformation. Ann Arbor, MI.

<https://www.chrt.org/?s=august%202017>

The authors of this article discuss changes in mental healthcare and substance abuse treatment in two states that expanded Medicaid under the ACA (Michigan and Indiana) and one that did not



(Wisconsin). Key findings include that in Medicaid expansion states, state and local funding for services for those with serious mental illness, serious emotional disturbance, and substance use disorder shifted to the federal government. Overall these services improved substantially within these states; for instance, Michigan increased care for substance abuse treatment by 14%, though there was a loss of flexibility in what the funds could cover.

Buche, J., Beck, A.J., Singer, P.M., Casemore, B., & Nelson, D. (2017). Workforce factors impacting behavioral health service delivery to vulnerable populations: A Michigan pilot study. Behavioral Health Workforce Research Center.

http://www.behavioralhealthworkforce.org/wp-content/uploads/2017/05/FA2P2_Vulnerable-Pop-BH-Serv-Del_Final-Report.pdf

This research focused on rural populations in southwest Michigan and assessed behavioral health workforce supply and need, barriers to recruiting and retaining care providers, and the extent to which care coordination occurs with primary care providers. The methodology consisted of a survey sent to 52 member organizations of Southwest Michigan Behavioral Health (SWMBH). Sixteen of the 52 organizations responded to the survey, and all data represents their survey responses. In addition to listing the types of services they provided, respondents reported on workforce factors that impacted service delivery. For instance, 70% of organizations were trying to fill vacancies for providers. They felt that they did not have an adequate applicant pool to choose from, that applicants lacked direct experiences they were looking for, and that they couldn't offer attractive financial incentives to would-be employees.

Mental Health in Michigan (July 2010). Prepared for Ethel and James Flinn Foundation, Detroit, Michigan, by Public Sector Consultants Inc. Lansing, Michigan <http://www.flinnfoundation.org/wp-content/uploads/2011/03/Mental-Health-in-Michigan-Jul-2010.pdf> or www.pscinc.com.

This comprehensive report about the mental health system in the state of Michigan provides excellent background information about the structure and capacity of the system and makes a recommendation for policy affecting mental health care in the state going forward. Some relevant findings and information:

- The Michigan Mental Health Code defines a “mental health professional” as an individual who is trained and experienced in mental illness or developmental disabilities and who is also one of the following:
 - A physician who is licensed to practice medicine or osteopathic medicine and surgery in Michigan
 - A psychologist licensed to practice in Michigan
 - A registered professional nurse licensed to practice in Michigan
 - A master’s social worker licensed to practice in Michigan
 - A professional counselor licensed to practice in Michigan
 - A marriage and family therapist licensed to practice in Michigan
- In 2010 there were 11,000 mental health professionals in Michigan. The distribution of mental health workers is uneven across the state.
- 47 counties are designated as mental health care health professional shortage areas.



Michigan House of Representatives (December 2017). House C.A.R.E.S. Task Force Final Report. <https://house.mi.gov/PDFs/HouseCARESTaskForceReport.pdf>

Background: Tom Leonard, Speaker of the Michigan House of Representatives, created the bipartisan House C.A.R.E.S. Task Force, focusing on Community, Access, Resources, Education, and Safety. The goal of the task force was to do a deep dive into the state of mental health care in Michigan – reviewing every single place in our local communities where vulnerable residents lacked care or resources.

Many policy recommendations were laid out in the report. In a progress report that came out in July of 2018, the specific actions taken to address the recommendations are listed.

<https://house.mi.gov/PDFs/HouseCaresProgressReportJuly2018.pdf>

Riba, M, Udow, M., Young, D., Smiley, M., & Traylor, J. (2013). Access to Mental Health Care in Michigan. Cover Michigan Survey 2013. Center for Healthcare Research & Transformation.

<https://www.chrt.org/publication/access-mental-health-care-michigan/>

This research looked at the prevalence of depression and anxiety in Michigan and the capacity of the Michigan health care system to serve people with these mental health needs. Data came from the Cover Michigan Survey and the Michigan Primary Care Physician Survey. About 25% of Michigan residents reported having a diagnosis of depression, anxiety, or both. Rates were higher for Medicaid recipients and the uninsured.

The report concluded that the current health care system in Michigan was inadequate to serve adults and children with mental health needs.

57% of primary care physicians reported that the availability of mental health services in their community was inadequate for adults and 68% reported it was inadequate for children.

Data are reported using the number of inpatient psychiatric beds available in Michigan as a metric of access. Michigan ranked 42nd nationally, with just 40.4 beds per 100,000 adults.

Substance Abuse and Mental Health Services Administration. Behavioral Health Barometer: Michigan, Volume 4: Indicators as measured through the 2015 National Survey on Drug Use and Health, the National Survey of Substance Abuse Treatment Services, and the Uniform Reporting System. HHS Publication No. SMA-17-Baro-16-States-MI. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017.

https://www.samhsa.gov/data/sites/default/files/Michigan_BHBarometer_Volume_4.pdf

This report uses data aggregated from the 2015 National Survey on Drug Use and Health, the National Survey of Substance Abuse Treatment Services, and the Uniform Reporting System to compare rates of Michiganders' mental health issues and substance use to national averages from 2011 to 2015. Key takeaways include:

- Adolescent substance use was slightly above or on par with national averages.
- Treatment for adolescent depression was slightly higher than national averages but still just 42.5%.
- Treatment for adult mental illness was higher than the national average but still just 45.9%.



U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Workforce, National Center for Health Workforce Analysis (2018). State-Level Projections of Supply and Demand for Behavioral Health Occupations: 2016-2030.

<https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/state-level-estimates-report-2018.pdf>

In this report HRSA provided a breakdown of the supply and demand of 10 different types of mental health and substance abuse treatment professionals including: adult psychiatrists, pediatric psychiatrists, psychiatric nurse practitioners, psychiatric physician assistants, psychologists, addiction counselors, mental health counselors, school counselors, social workers, and marriage and family therapists. Analysis consisted of two different sets of model parameters, one being slightly more conservative in the other, i.e., assuming a current equilibrium for supply and demand. Baseline data was from 2016. Two sets of estimates were produced, adequacy of supply in 2016 and adequacy of supply in 2030. For six of the 10 types of service providers, Michigan is currently understaffed and will continue to be so 12 years from now. For two types of providers, child psychiatrists and psychiatric nurse practitioners, we are currently undersupplied but are expected to have slight oversupplies in the future. Currently, there appears to be a large glut of social workers which will continue to grow assuming trajectories for new people entering the profession continue to increase.

REFERENCES ON STRATEGIES FOR IMPROVING ACCESS

Strategies for Reducing Cost Barriers

Behavioral Health Trends. 2010-2017: A Decade of Utilization under the Mental Health Parity Act. <https://s3.amazonaws.com/media2.fairhealth.org/infographic/asset/Behaviorial%20Health%20Info%20graphic%20-%20Final.pdf>

Gionfriddo, P., Nguyen, T., & Counts, N. (2016). Reducing Health Care Costs Through Early Intervention On Mental Illnesses. Health Affairs Blog. <https://www.healthaffairs.org/doi/10.1377/hblog20160125.052822/full/>

Lardiere, M.R., Jones, E., & Perez, M. (2011). National Association of Community Health Centers. 2010 Assessment of Behavioral Health Services Provided in Federally Qualified Health Centers. <http://www.nachc.org/wp-content/uploads/2015/06/BHReport.pdf>

Rudowitz, R. & Antonisse, L. (2018). Implications of the ACA Medicaid Expansion: A Look at the Data and Evidence. Kaiser Family Foundation Issue Brief. <http://files.kff.org/attachment/Issue-Brief-Implications-of-the-ACA-Medicaid-Expansion-A-Look-at-the-Data-and-Evidence>



State-level Solutions

Berro, M., Rosenthal, J., Mention, N. (2018). How Supported Employment Can Address Mental Health Inequalities in Racial and Ethnic Minority Populations: Five States' Experiences. National Academy for State Health Policy.

<https://nashp.org/wp-content/uploads/2018/12/Supported-Employment-Brief.pdf>

Friedman, M. D. & Udow-Phillips, M. (2018, August). Michigan Health Policy for the Incoming 2019 Gubernatorial Administration. Center for Healthcare Research and Transformation.

<https://www.chrt.org/wp-content/uploads/2018/09/FULL-PDF-9-25-Health-FriedmanUdow-Phillips-final-.pdf>

Michigan Loan Reimbursement and Employment Solution. Loan Repayment Supporting Michigan's Most Underserved Communities.

<https://www.milesprogram.org/>

The Pew Charitable Trusts. (2018, July). Substance Use Disorder Treatment Policy Recommendations for the State of Wisconsin.

<http://legis.wisconsin.gov/assembly/hope/media/1161/wisconsin-final-report-final.pdf>

Integration of Primary Care and Behavioral Health Services

American Psychiatric Association. Academy of Psychosomatic Medicine. (2016). Dissemination of Integrated Care Within Adult Primary Care Settings. The Collaborative Care Model.

<https://www.integration.samhsa.gov/integrated-care-models/APA-APM-Dissemination-Integrated-Care-Report.pdf>

Children's View. (2018). Innovative Solutions at CHOP are Removing Barriers to Mental Health Care.

<https://www.chop.edu/news/innovative-solutions-chop-are-removing-barriers-mental-health-care>

Madras, B. K., Compton, W. M., Avula, D., Stegbauer, T., Stein, J. B., & Clark, H. W. (2008). Screening, brief interventions, referral to treatment (SBIRT) for illicit drug and alcohol use at multiple healthcare sites: comparison at intake and 6 months later. *Drug and alcohol dependence*, 99(1-3), 280-95.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2760304/>

National Alliance on Mental Illness. (2011). A Family Guide: Integrating Mental Health and Pediatric Primary Care.

https://www.integration.samhsa.gov/integrated-care-models/FG-Integrating_12.22.pdf

SAMHSA-HRSA (2013). The Business Case for the Integration of Behavioral Health and Primary Care.



https://www.integration.samhsa.gov/financing/The_Business_Case_for_Behavioral_Health_Care_Monograph.pdf

Townley, C. & Dorr, H. (2017). Integrating Substance Use Disorder Treatment and Primary Care. National Academy for State Health Policy.

<https://nahp.org/wp-content/uploads/2017/02/Primary-Care-Integration-Brief.pdf>

Applications of Telemedicine

Huskamp, H.A., Busch, A.B., Souza, J., Uscher-Pines, L., Rose, S., Wilcock, A., Landon, B.E., & Mehrotra, A. (2018). How is Telemedicine Being Used in Opioid and Other Substance Use Disorder Treatment? *Health Affairs*, 7,12.

https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2018.05134?utm_source=Newsletter&utm_medium=email&utm_content=CMS+Issues+Final+Rule+On+2018+Risk+Adjustment+Methodology%3B+2019+Pass-Through+Funding+For+State+Waivers%3B+Telemedicine+To+Combat+The+Opioid+Epidemic&utm_campaign=HAT&

Townley, C. & Yalowich, R. (2015, November). Improving Behavioral Health Access & Integration Using Telehealth & Teleconsultation: A Health Care System for the 21st Century. National Academy for State Health Policy.

<https://nashp.org/wp-content/uploads/2015/11/Telemedicine1.pdf>

Substan Shaddox, C. (2017). Women at Higher Risk for Opioid Addiction, Face Treatment Barriers. Connecticut Health Team.

<http://c-hit.org/2017/04/02/women-at-higher-risk-for-opioid-addiction-face-treatment-barriers/>

Waite-O'Brien, N. (2009). Women: Overcoming Barriers to Treatment. Highlights of the American Bar Association Commission on Lawyer Assistance Programs, 12(3).

https://www.americanbar.org/content/dam/aba/publishing/highlights_newsletter/legalservices_colap_highlights_highfa09.pdf

Cultural Competency

Brach, C., & Fraser, I. (2000). Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. *Medical care research and review: MCRR*, 57 (Suppl 1), 181-217.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5091811/>

Center for Substance Abuse Treatment (US). Improving Cultural Competence. Rockville, MD: Substance Abuse and Mental Health Services Administration (US); 2014. (Treatment Improvement Protocol (TIP) Series, No. 59.)

<https://www.ncbi.nlm.nih.gov/books/NBK248428/S>



Stigma Reduction

Knaak, S., Mantler, E., & Szeto, A. (2017). Mental illness-related stigma in healthcare: Barriers to access and care and evidence-based solutions. *Healthcare Management Forum*, 30(2), 111-116.
<https://journals.sagepub.com/doi/pdf/10.1177/0840470416679413>

Suart H. (2016). Reducing the stigma of mental illness. *Global mental health (Cambridge, England)*, 3, e17.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5314742/>

Removing Barriers to Mental Health Services for Veterans. (2014). American Public Health Association.
<https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/14/51/removing-barriers-to-mental-health-services-for-veterans>

Russell, D. (2018). Overcoming Barriers to Recovery. National Alliance on Mental Illness Blog.
<https://www.nami.org/Blogs/NAMI-Blog/October-2018/Overcoming-Barriers-to-Recovery>



Acronyms

ADHD	Attention-Deficit Hyperactivity Disorder
AMI	Any Mental Illness
FFS	Fee-for-Service
GME	Graduate Medical Education
IHS	Indian Health Service
MHS	Military Health Service
MI	Michigan
MSA	Metropolitan Statistical Area
NEMT	Non-Emergency Medical Transportation
NSDUH	National Survey on Drug Use and Health
PIHP	Prepaid Inpatient Health Plan
PTSD	Post-Traumatic Stress Disorder
SAMHSA	Substance Abuse and Mental Health Services Administration
SUD	Substance Use Disorder
UME	Undergraduate Medical Education

Endnotes

¹ Hellebuyck Michele, Halpern Madeline, Nguyen Theresa, & Danielle Fritze, “The State of Mental Health in America,” 2019, Mental Health America.

² Bishop Tara F., Press Matthew J, Keyhani Salomeh, & Harold Alan Pincus, “Acceptance of Insurance by Psychiatrists and the Implications for Access to Mental Health Care,” *JAMA Psychiatry*, February 2014, Vol 71, No 2.

³ Milliman Research Report, “Addiction and mental health vs. physical health: Analyzing disparities in network use and provider reimbursement rates,” December 2017.

⁴ Henry J. Kaiser Family Foundation, Mental Health Care Health Professional Shortage Areas as of December 31, 2017. Accessed at <https://www.kff.org/other/state-indicator/mental-health-care-health-professional-shortage-areas-hpsas/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

⁵ Association of American Medical Colleges, 2017 State Physician Workforce Data Report, November 2017.

⁶ Ibid.

⁷ Knopf JA, Finnie RKC, Peng Y, Hahn RA, Truman BI, Vernon-Smiley M, Johnson VC, Johnson RL, Fielding JE, Muntaner C, Hunt PC, Jones CP, Fullilove MT, Community Preventive Services Task Force. School-based health centers to advance health equity: a Community Guide systematic review. *American Journal of Preventive Medicine* 2016;51(1):114–26.

⁸ Center for Healthcare Integration & Innovation, Community Mental Health Association of Michigan, “Healthcare Integration and Coordination – 2018/2019 Update: Survey of Initiatives of Michigan’s Public Mental Health System,” January 2019.