Increasing access to integrated models of primary and behavioral health care in rural and urban areas of Michigan

The role of primary care practices and providers

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Introduction

Nationally, mental health (MH) needs increased significantly over the last several years, exacerbated by the current coronavirus disease (COVID-19) public health emergency that began in March 2020. A recent report from the Kaiser Family Foundation stated that "...from September 29 – October 11, 2021, 31.6 percent of adults in the U.S. reported symptoms of anxiety and/or depressive disorder, up from 11.0 percent in 2019" (Kaiser Family Foundation [KFF], 2021). Studies have also shown an increase in behavioral health (BH) needs for residents of Michigan, with this need growing at similar rates to national measures. In 2021, 29.8 percent of people in Michigan reported symptoms of anxiety and depression (Kaiser Family Foundation [KFF], 2021). The increased prevalence of BH conditions creates more need for services.

Our study examines the use of BH services during this time of increased need and identifies the types of providers delivering these services. In particular we examine telehealth services, medication-assisted treatment (MAT), and integrated care services and whether the use of these services varies by rural and urban areas in Michigan. The analyses are conducted using Blue Cross Blue Shield of Michigan (BCBSM) preferred provider organization (PPO) and health maintenance organization (HMO) claims data for commercially insured members from 2019, 2020, and 2021. BCBSM is the largest health insurance provider in the state of Michigan, providing coverage for 4.5 million people across all plans (Blue Cross Blue Shield of Michigan [BCBSM], 2015).

The study places emphasis on rural and underserved populations in the state. Rural populations generally have worse health outcomes and tend to be older, poorer, and sicker than populations in urban areas. The majority of primary care, BH, and dental health professional shortage areas nationally are in rural areas, and residents may have difficulty gaining access to specialists (Donnellan, 2019; Kaiser Family Foundation [KFF], 2017). This report analyzes the claims of individuals with BH diagnoses and BH services as well as the types of providers delivering these services.

Key findings

Overall, our study found that there was increased growth in the use of BH services from 2019 to 2021, particularly for telebehavioral health and integrated care services. However, there were still disparities in the use of these services among members who lived in metro compared with rural communities in Michigan, which may be due in part to lack of BH providers and broadband access in rural areas. Addressing these underlying access issues may help close the gap between metro and rural areas.

- In 2021, a similar proportion of both PPO members (12%) and HMO members (15%) had a BH diagnosis. However, there were wide geographic disparities in the proportion of members who received BH services. In metro areas, 40.6% of PPO members and 38.6% of HMO members received any BH service. By comparison, only 26.9% of PPO members and 22.1% of HMO members in rural counties had any BH service in 2021.
- From 2019 to 2021, the use of telehealth services increased enormously in all geographic regions in Michigan for both PPO and HMO members. Telebehavioral health has often been touted as a means to close the gap in use of BH services, yet geographic disparities remain. In 2021, 28% of PPO members in metro counties had a claim for a telehealth visit, twice the rate of members in rural counties (14%). This difference was even greater for HMO members—28% had a telehealth visit compared with only 11% in rural areas. These differences were statistically significant.
- In 2021, a larger proportion of PPO members from metro areas (36.4%) received a BH service from a BH provider than did those from rural areas (23.7%). This difference was even greater for HMO members—35.2% received a BH service from a BH provider in urban areas compared with 19.2% in rural areas.
- A very small percentage of all members with BH diagnoses had claims for integrated care services in 2021 (0.4% in both PPO and HMO populations). However, this proportion has been steadily increasing in recent years, likely due both to a growing awareness of integrated care billing codes among providers as well as the introduction of an additional integrated care code in 2021.

Methodology

We began this study by conducting a literature review of both academic and gray literature to identify relevant prior research and benchmarking parameters about delivery of BH services by provider type and by geography. Search engines included PubMed, University of Michigan libraries, and Google Scholar. Search terms included: rural, behavioral health, mental health, provider, integrated care, primary care, access, telehealth, and medication-assisted treatment.

We accessed BCBSM PPO and HMO outpatient medical claims data, 2019–2021, through the Michigan Value Collaborative. Data included monthly medical claims files, monthly membership files, and supporting data documentation. We then developed an analytic plan based on the available data (Appendix A).

The University of Michigan Institutional Review Board determined that this study [HUM00211132] was not regulated for review.

Study population: This study included analysis of BCBSM PPO outpatient claims for members from January 2019 to December 2021, and HMO outpatient claims from January 2019 to October 2021 (HMO claims for November and December 2021 were not available). Monthly files were aggregated to annual data files in each study year for both medical claims and for membership files. Medical claims were then matched to membership files. Member claims were then included in the study if they had 12 months of continuous enrollment, and a corresponding Michigan ZIP code. We used members' ZIP codes from the last month of data in a calendar year.

Member demographics included age, sex, and geographic location, and age was identified by calculating a member's age at the end of each year, with no members excluded based on age. Race data were not available in either the membership or claims files. For geographic analyses, member ZIP codes were aggregated to the county level and categorized by metro, micro, or rural designation, as defined by the 2010 U.S. Census and Office of

Management and Budget (U.S. White House OMB, 2010). Based on the OMB definitions, there are 26 metro counties, 25 micro counties, and 32 rural counties in Michigan.[1]

To identify all BH-specific diagnoses in the claims, we used the International Classification of Diseases, Tenth Revision (ICD-10) diagnostic codes including codes for both MH and substance use disorders (SUD). Members were included in the study cohort if they had any BH diagnosis in each individual year of the study (2019, 2020, and 2021). We developed indicators for members who had only MH diagnoses, only SUD diagnoses, or had both diagnoses.

Use Measures: This study analyzed the use of specific outpatient BH services by including relevant ICD-10, HCPCS, and CPT procedural codes to define telebehavioral health, integrated care, and MAT in the claims. Prescription drug claims, including regular medication refills, were not in the scope of work outlined for this analysis.

Provider types: Based on consultation with the Behavioral Health Workforce Research Center (BHWRC) staff and corresponding data documentation, we found that the BCBSM claims data did not adequately describe primary care settings or differentiate among primary care settings through a place of service variable, in part because primary care includes a broad range of services that can be provided in a variety of health settings. Additionally, the outpatient place of service variable for doctor's offices does not denote whether the location is a primary care versus a specialty provider clinic. As a proxy for care setting, we aggregated provider types into three main categories: BH providers (e.g., psychologists, psychiatrists, social workers), primary care providers (PCPs; e.g., physicians, nurses, physician assistants), and both primary care and BH providers (includes clinics that had multiple provider types). These definitions were informed by literature and supporting documentation in the claims data, including information about the provider organization and specialty (NAMI, 2020).

Results

Behavioral Health Population

The total PPO membership in Michigan with continuous 12-month enrollment remained fairly stable from 2019 to 2021, from >3.5 million members in 2019 to approximately 3.3 million members in 2021. The total HMO membership in Michigan remained stable as well, with just >1 million members across all 3 years.

In contrast to recent survey data (KFF, 2021) that showed a large increase in the prevalence of depression and anxiety from 2019 to 2021, the proportion of members in this study who had a claim for any BH diagnosis only rose 1 percentage point during the same time period. The proportion of members with any BH diagnosis was not statistically significantly different from 2019 to 2021 for both the PPO[2] and HMO populations.

Highlights of the BH population include:

- The total proportion of PPO members with a BH diagnosis in 2021 was fairly consistent between metro (12.7%), micro (12.9%), and rural areas (12%).

[1]Metropolitan Statistical Areas based on urbanized areas of ≥50,000 population, Micropolitan Statistical Areas based on urban clusters of ≥10,000 population but <50,000 population, and Rural areas have a population of <10,000 (https://www.federalregister.gov/documents/2010/06/28/2010-15605/2010-standards-for-delineating-metropolitan-and-micropolitan-statistical-areas).

[2] In a two-sample t-test of the difference in proportions of PPO members with a BH diagnosis, there was not a statistically significant difference in 2021 (Proportional Mean = 0.126, SD = 0.016), compared to 2019 (Proportional Mean = 0.122, SD = 0.015); t(164) = -1.42, p = 0.16.

- The total proportion of HMO members having a BH diagnosis in 2021 was 15.8% in the metro area, 15.1% in the micro region, and 14.7% in the rural area, which is higher than the PPO population, but shows a similar range across all geographic regions (Figure 1).
- Among both the HMO and PPO populations, more male than female members had SUD diagnoses (65% versus 35%), whereas more female members had mental health diagnoses compared with male members (65% versus 35%). This finding remains consistent across the study period.
- Among both the HMO and PPO populations, the highest proportion of members with an SUD diagnosis were aged 55–64 years (25.3%–27.6%), followed by members aged ≥65 years. Dual MH and SUD diagnoses numbers were higher in this age group as well.

PPO Population

Throughout the study period (2019–2021), the proportion of PPO members with any BH diagnosis remained fairly consistent (12% in 2019 and 13% in 2021)(**Table 1)**. Though claims analysis showed an increase of 1 percentage point among those with a BH diagnosis, this is not consistent with survey data where higher proportions of people reported symptoms of anxiety and depression between 2019 and 2021 (KFF, 2021). Likewise, the proportion of BH members with only MH conditions, only SUD conditions, and a mix of MH and SUD conditions remained relatively the same across the study period (98%, 0.5%, and 1%, respectively). Additional details on the top MH diagnoses in 2021 can be found in Appendix C.

Table 1.

PPO Members With Behavioral Health Diagnoses, 2019–2021

Year	Total BH Population	MH Only	SUD Only	MH and SUD
2019	419,207	411,808 (98.2%)	2,647 (0.6%)	4,752 (1.1%)
2020	422,186	415,537 (98.4%)	2,344 (0.6%)	4,305 (1.0%)
2021	419,238	413,125 (98.5%)	2,130 (0.5%)	3,983 (1.0%)

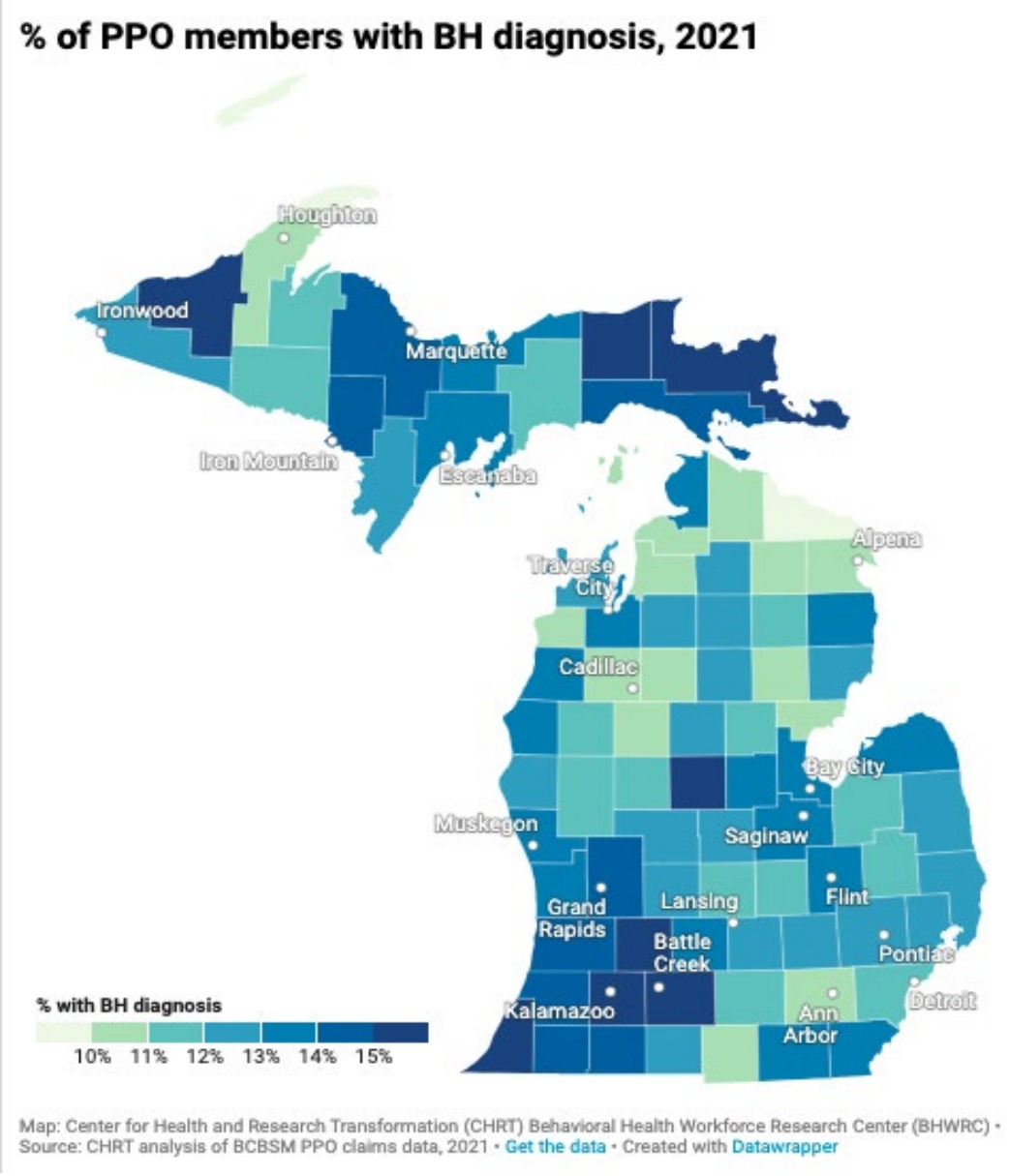
Among the total PPO membership, a higher proportion of female compared with male members had a BH diagnosis in 2021 (20% versus 12%, respectively). However, a higher proportion of male members (0.9%) had an SUD diagnosis compared with female members (0.5%). Though the proportion of members with an SUD diagnosis is small, this finding is consistent with the literature. According to the literature, SUD prevalence is generally higher in men, but this gap is closing. A recent study showed that the prevalence of SUD is higher in men, but women who have addictive disorders present a more vulnerable profile and are less likely to enter treatment (Fonseca, 2021).

By age group, 16% percent of PPO members aged 16–24 years had a BH diagnosis in 2021, followed by 15% of members aged 25–34 years and 15% of members aged 35–44 years. The age groups with the lowest prevalence among PPO members in 2021 were minors aged ≤15 years (8%) and older adults aged ≥65 years (10%).

Additionally, the proportion of members with a BH diagnosis was similar across geographic regions, when aggregated to the metro, micro, and rural areas (12.7%, 12.9%, and 12%, respectively). However, there was variation at the county level, ranging from 10.8% to 16.3% for metro counties and 9.2% to 16% for rural counties.

Figure 1.

Percentage of PPO Members With Any Behavioral Health Diagnosis by County, 2021



HMO Population

In 2019, a total of 165,064 HMO members (16%) had any BH diagnosis (**Table 2**). In 2020, that number increased slightly to 169,809 (15%). By 2021, the number of members with a BH diagnosis was 163,729 (14.6%). MH, SUD,

and dual MH/SUD diagnoses remained consistent across all 3 years of data. Additional details on the top MH diagnoses in 2021 are provided in Appendix C.

Table 2.

HMO Members With Behavioral Health Diagnoses, 2019–2021

Year	Total BH Population	MH Only	SUD Only	MH and SUD
2019	165,064	161,303 (97.7%)	1,268 (0.76%)	2,493 (1.51%)
2020	169,809	165,528 (97.4%)	1,044 (0.61%)	2,237 (1.31%)
2021	163,729	160,737 (98.1%)	1,036 (0.63%)	1,956 (1.19%)

The HMO membership shows female members having a higher proportion of BH diagnoses in 2021 (20% versus 11%). Conversely, among HMO members who had a BH diagnosis, a higher proportion of male members (0.13%) had an SUD diagnosis compared with female members (0.07%). This is consistent with findings in the literature, even with the small total numbers within the population (Fonseca, et al., 2021).

By age group, 18% of HMO members aged 16–24 years had a BH diagnosis in 2021, followed by 17.8% of members aged 35–44 years and 17.1% of members aged 45–54 years. The age groups with the lowest prevalence in 2021 were ≤15 years (9.5%) and 55–64 years (15.7%).

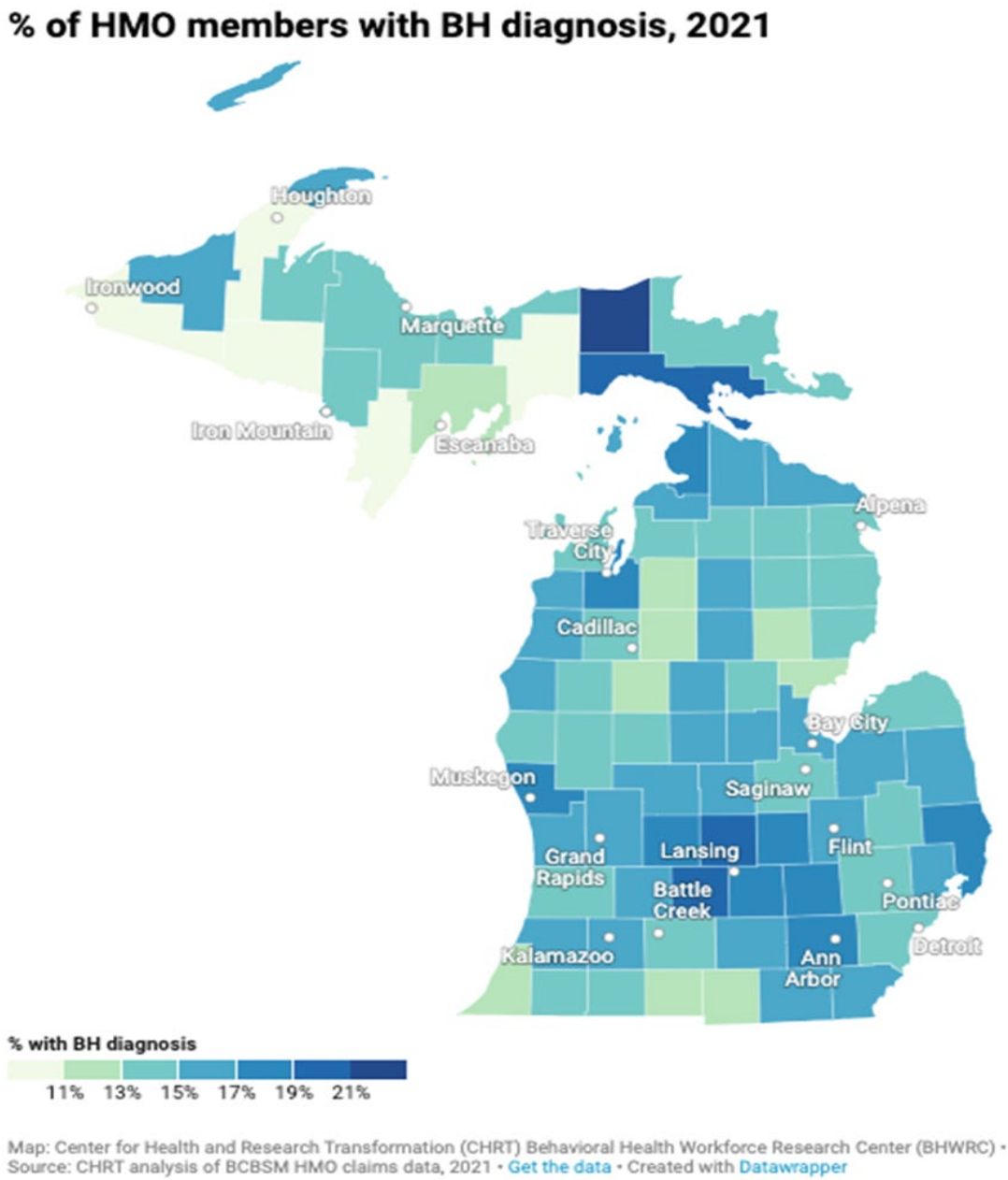
Proportions remained consistent across geographic regions, when aggregated to the metro, micro, and rural areas (15.8%, 15.1%, and 14.7%, respectively). The county level showed more variation, with ranges from 11.6% to 20.1% for metro counties and 9.1% to 23.1% for rural counties (Figure 2).

Findings included:

- Most members had an MH diagnosis, accounting for >97% of the diagnoses in the claims, with SUD and dual MH/SUD ranging from 0.6% to 1.5% of diagnoses.
- Though the proportion of diagnoses was steady across geographic regions, there was variation in each category. The metro category ranged from 11.6% to 20.1%. The rural area ranged from 9.1% to 23.1%.

Figure 2.

Percent of HMO Members With Any Behavioral Health Diagnosis by County, 2021



Behavioral Health Services

We analyzed the proportion of members with BH diagnoses who received specific BH services, including telehealth, MAT, and "all other" BH services, and the proportion with claims for integrated care services. "All other" BH services included services such as peer supports, biofeedback, community psychiatric support treatment, and psychotherapy visits conducted in in-person settings.

PPO Population

In 2019, 35% of members with a BH diagnosis received any BH services, including telebehavioral health, MAT, and integrated care services.[3] By 2021, 38.7% of members with a BH diagnosis received BH services, a 10% increase over 2019 **(Table 3)**. There were likely additional members who had a BH diagnosis and only had corresponding drug claims who were not included in this study. Additionally, some members may not have received any services or prescription drugs to manage their conditions. The literature indicates that many people with BH conditions do not receive the BH treatments they need to manage their conditions. One study showed that >20% of adults with anxiety and/or depression did not receive the care they needed during the current COVID-19 public health emergency (Kaiser Family Foundation [KFF], 2021).

Table 3.

PPO Members With Behavioral Health Diagnoses Receiving Specific Behavioral Health Services, 2019–2021*

Year	Any BH Service		Integrated Care		Telehealth		MAT		Other BH Services	
	# Members	% BH Pop	# Members	% BH Pop	# Members	% BH Pop	# Members	% BH Pop	# Members	% BH Pop.
2019	146,929	35.0%	617	0.15%	2300	0.5%	196	0.05%	144,438	34.5%
2020	156,907	37.2%	740	0.18%	96,865	22.9%	183	0.04%	153,146	36.3%
2021	162,134	38.7%	1591	0.38%	107,226	25.6%	308	0.07%	158,912	37.9%

*Members may have had more than one service

Geographic Variation

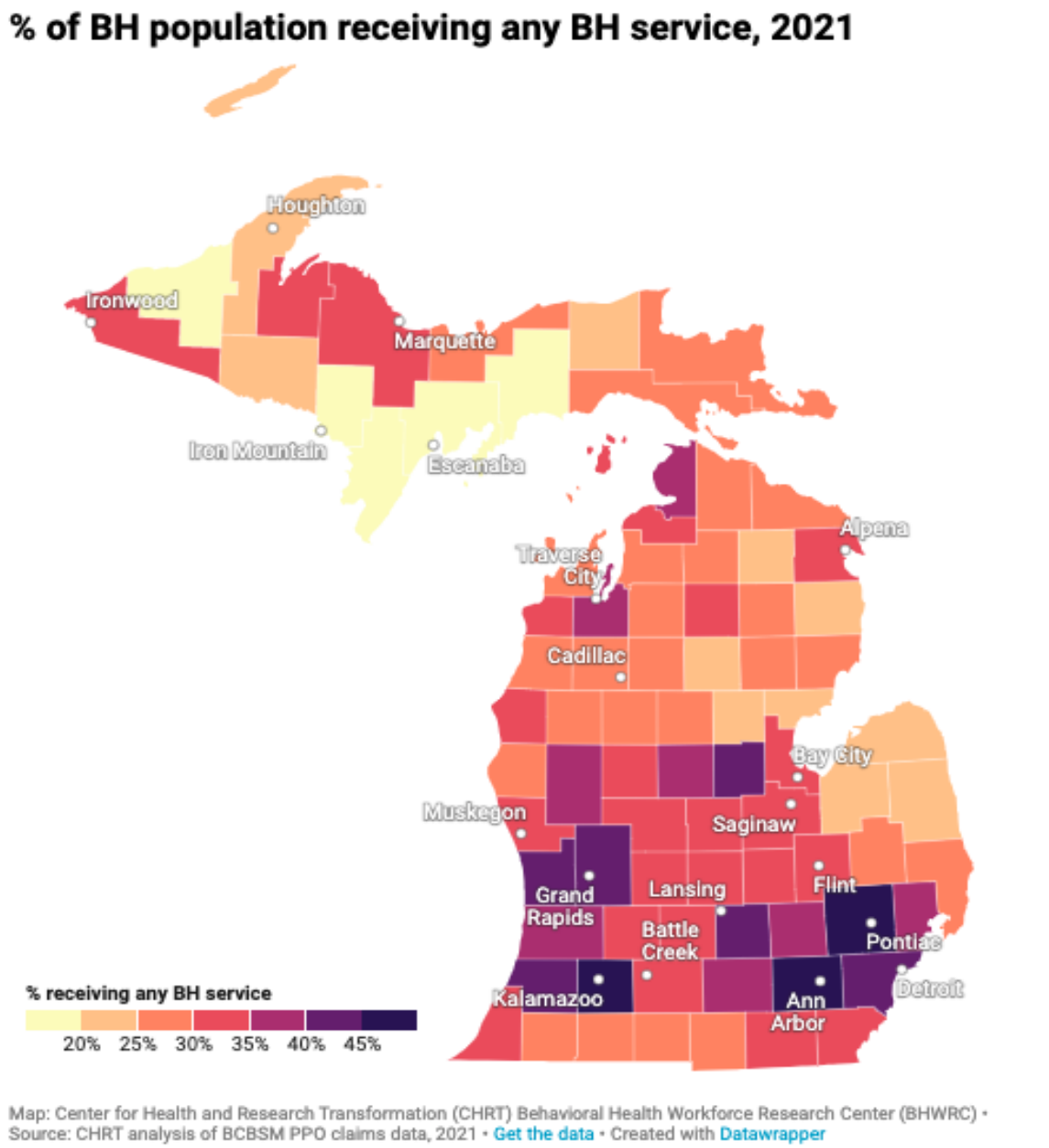
There was substantial variation in the percentage of PPO members receiving any BH service by geographic region, with significantly higher proportions of members in metro areas receiving services than in rural areas in 2021 **(Figure 3)**. In 2019, 37.2% of members in metro counties had any BH service, and 22.4% of members in rural counties had any BH service. The disparities remained 2 years later, with 40.6% of members in metro counties having any BH service, compared with only 26.9% of members in rural counties in 2021.[4]

[3] This study does not include BH services such as regular medication management (e.g., refills for medication treating the BH condition).

[4] In a two-sample t-test of the difference in the proportions of those using BH services, metro counties were significantly higher than rural counties. Metro (Proportional Mean = 0.327, SD = 0.066) Rural (Proportional Mean = 0.266, SD = 0.047); t(56) = -7.10, p = <0.0001.

Figure 3.

Percentage of PPO Members With Any Behavioral Health Service by County, 2021



HMO Population

In 2019, 34.8% of HMO members with a BH diagnosis received some BH services. This number increased to 37.2% in 2021, a 7% increase over 2019 **(Table 4)**. Similar to the PPO population, this analysis does not include prescription drug claims. It is likely that a percentage of members receive regular medication management for their BH diagnoses from the PCPs, which would not show up in our analyses.

ble 4.

HMO Members With Behavioral Health Diagnoses Using Specific Behavioral Health Services, 2019–2021*

Year	Any BH Service		Integrated Care		Telehealth		MAT		Other BH Services	
	# Members	% BH Pop	# Members	% BH Pop	# Members	% BH Pop	# Members	% BH Pop	# Members	% BH Pop
2019	57,497	34.8%	428	0.26%	716	0.4%	117	0.07%	56,222	34.06%
2020	62,207	36.6%	377	0.22%	38,315	22.6%	135	0.0%	60,693	35.74%
2021	60,954	37.2%	635	0.39%	42,943	26.2%	125	0.08%	59,431	36.30%

*Members may have had more than one service

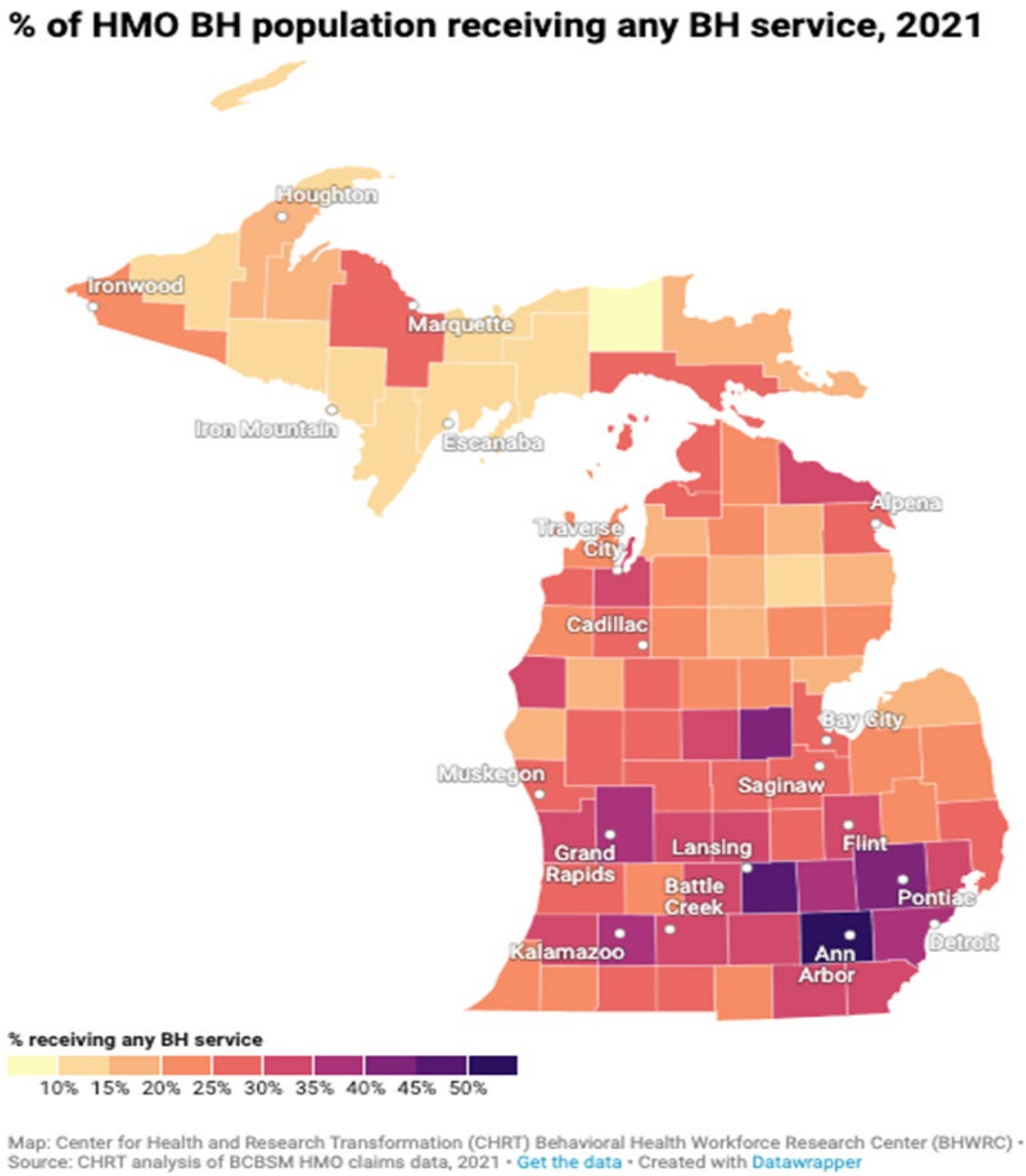
Geographic Variation

Geographic disparities exist in the HMO population as well as the PPO population, with significantly higher proportions of members from metro counties receiving BH services than in rural counties.[5] In 2021, 38.8% of members in metropolitan areas had a BH service and only 22.1% of members in rural areas had a BH service (Figure 4). This disparity is an important indicator of gaps in receiving services across geographic regions.

[5] In a two-sample t-test of the difference in proportions of members who had claims for BH services, those in metro counties had significantly higher use than those in rural counties (Metro Proportional Mean = 0.330, SD = 0.076; Rural Proportional Mean = 0.198, SD = 0.054); t(56) = -7.75, p = <0.0001.

Figure 4.

Percentage of HMO Members With Any Behavioral Health Service by County, 2021



Integrated Care Services

Integrating BH and primary health care is an evidence-based practice worthy of replication. The Agency for Healthcare Research and Quality defines integrated care as "a team of primary and behavioral health care providers that work together with patients, using a systematic and cost-effective approach, to provide patient-centered care for

their shared population" (AHRQ, 2013). There is limited knowledge about the workforce responsible for delivering primary care–based BH services and what procedures they use in integrated settings.

Members in this study may have received BH care in a variety of settings, including an integrated care setting, from a BH provider, or from a PCP that is delivering BH services. Literature has highlighted the use of primary care for BH treatment. A recent Center for Health and Research Transformation and BHWRC study reported that "..today, two-thirds of patients with depression receive treatment for their depression in primary care settings. Primary care physicians serve as patients' primary managers of psychiatric disorders in one-third of their patient panels" (Buche, et al., 2017).

This study analyzed the use of integrated care codes for both general BH integration and codes that are billable under the Collaborative Care Model, which is one specific type of integrated care.[6] Because our analysis only looked at claims that were billed under integrated care codes, the full breadth and use of integrated care among BH members may not be captured in this study.

Findings

Among both the PPO and HMO populations in our study, a very small percentage of all members with BH diagnoses had claims for integrated care services in 2021 (0.4% in both populations). Most PPO members who had claims for integrated care services lived in metro areas, and only a small number (68 members) lived in rural areas. In the PPO population, though only a small number of members had claims with integrated care codes, this number more than doubled from 2020 to 2021 (from 740 to 1,591 members, respectively).

In the HMO population, the number of members with BH diagnoses with integrated care claims did not increase as much as the PPO population; however, the 2021 data only included 10 months of data: 428 members in 2019, 377 in 2020, and 635 in 2021. The number of HMO members who had integrated care claims increased >48% from 2019 to 2021. Additional analysis with 2022 claims data may be needed to show continued increases in the use of integrated care codes.

These findings may indicate a greater use in billing for integrated care due in part to the release of a new integrated care code in 2021. In 2021, the Centers for Medicare & Medicaid Services released a new integrated care code (G-2214) to make it easier for providers to bill for integrated care.[7] This new billing code allows providers to bill for 30 minutes in any month of collaborative care model services. By comparison, other billing codes for the collaborative care model include higher time parameters for services (first 70 minutes in the first calendar month of services, and first 60 minutes in any subsequent month of services).

Our findings of low but rising proportions of claims using integrated care codes are consistent with recent literature that indicated an uptick in integrated care codes used, even though the overall proportions are small. A 2020 study

[6] Code definitions were obtained from the AIMS Center at the University of Washington and CMS. According to the AIMS Center, the Collaborative Care Model is defined as "a specific type of integrated care developed at the University of Washington that treats common mental health conditions such as depression and anxiety. Trained primary care and behavioral health providers provide evidence-based medication or psychosocial treatments, supported by regular psychiatric case consultation" (AIMS, 2021).

[7] On January 1, 2021, CMS began making payment for the services of HCPCS code G2214. This code is defined as an "Initial or subsequent psychiatric collaborative care management, first 30 minutes in a month of behavioral health care manager activities, in consultation with a psychiatric consultant, and directed by the treating physician or other qualified healthcare professional." G2214 was developed in response to requests from stakeholders who needed an additional code that could capture shorter amounts of time spent with a patient (Center for Medicare and Medicaid Services, 2022).

that looked at Medicare fee-for-service claims data in 2017 and 2018 found that 0.1% of beneficiaries had BH integration services, though the use of services was steadily increasing in the 2-year study period (Cross, 2020).

Telehealth

Prior to the COVID-19 pandemic, several barriers made implementing telehealth difficult, including technical issues, a need for reimbursement, user resistance, and a lack of standardized procedures to measure the effectiveness of telehealth (Cordina, et al., 2022). However, telehealth is an approach to care delivery that is expected to reduce barriers to accessing needed health care, including BH services. Since the start of the COVID-19 pandemic, telehealth delivery gained traction, with increased use for both medical care and BH care services. Increased use in telehealth services was due in large part to policies introduced during the COVID-19 pandemic that have increased accessibility to telehealth services. A recent study showed that although telehealth use has declined somewhat since the first year of the pandemic, the use of telehealth is still much higher than pre-COVID levels (in mid-2021, 38 times higher than pre-COVID use) (Cordina, 2022).

Our study examined the use of telehealth for BH services (telebehavioral health) in both PPO and HMO populations from 2019 to 2021. Claims for telehealth use for BH services increased greatly from 2019 to 2021. In 2021, the percentage of members with BH diagnoses who used telehealth services was approximately 26% in both the PPO and the HMO populations, >50 times higher than telehealth use in 2019 **(Figure 5)**.

Figure 5.

Percentage of Members With Behavioral Health Diagnoses Using Telebehavioral Health Services, HMO and PPO Populations, 2019–2021

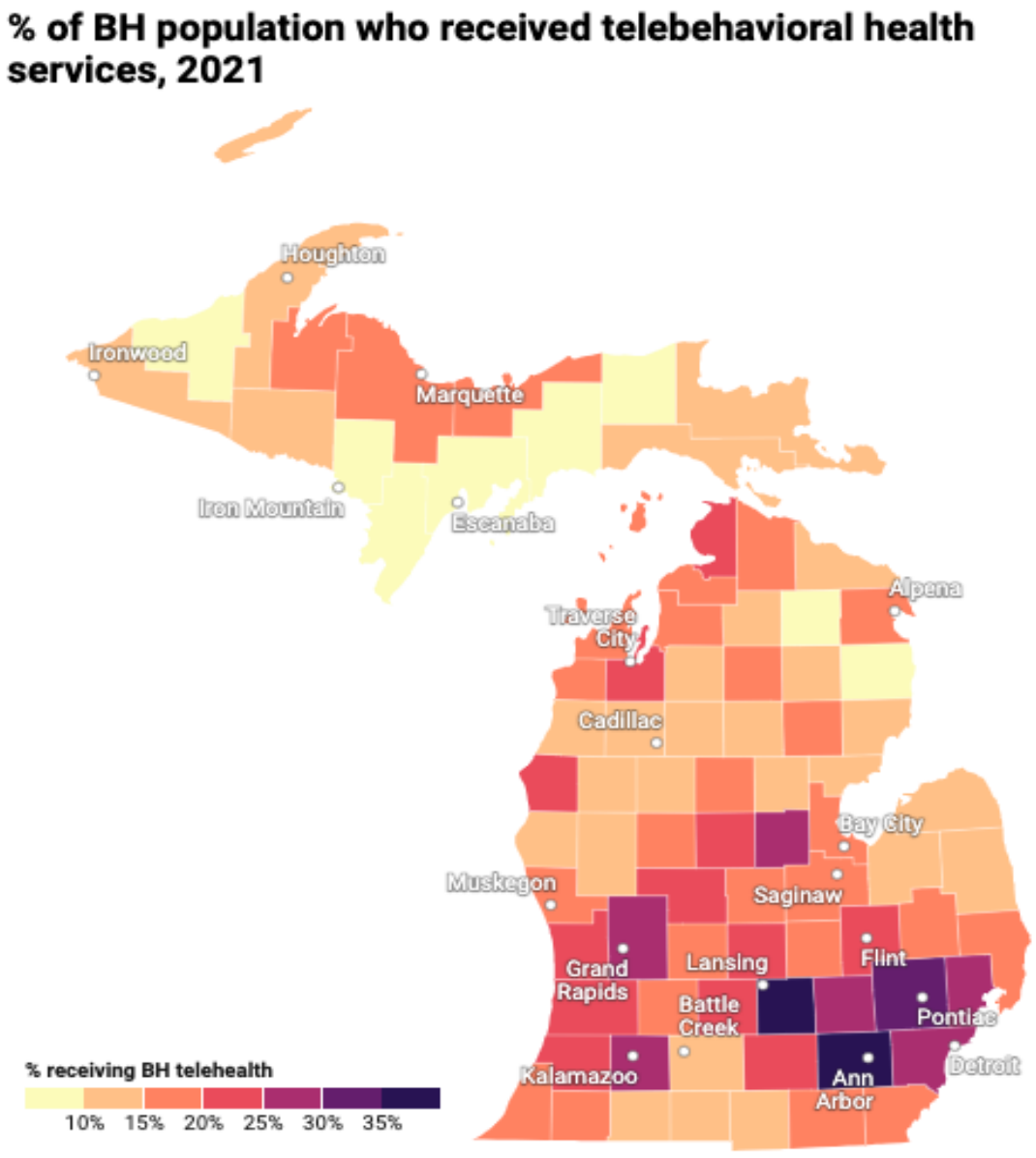
PPO Population

Though the use of telehealth soared among all geographic regions in Michigan from 2019 to 2021, the rate of increase during that period was much higher in metro areas than rural areas. The rate of telehealth claims for members in rural counties was nearly 18 times higher in 2021 compared to 2019 (14% compared with 0.8%, respectively). At the same time, the rate of telehealth claims for members in metro counties was >50 times higher in 2021 compared with 2019 (28% versus 0.5%). Among metro counties, telehealth use ranged from a low of 14% to a high of nearly 40%. By comparison, in rural counties, telehealth use ranged from a low of 6% to a high of 20% **(Figure 6).** In 2021, the difference in the proportions of members with a BH condition who had a telehealth claim was significantly higher in metro counties compared with rural counties.[8]

[8] In a two-sample t-test of the difference in proportions of members who used telebehavioral health services in 2021, those in metro counties had significantly higher use of telebehavioral health than those in rural counties (Metro Proportional Mean = 0.234, SD = 0.066; Rural Proportional Mean = 0.136, SD = 0.033); t(35.4) = -6.93, p = <0.0001).

Figure 6.

Percentage of Members with Behavioral Health Diagnoses With Any Telebehavioral Health Claims, PPO Population by Geographic Region, 2021



Map: Center for Health and Research Transformation (CHRT) Behavioral Health Workforce Research Center (BHWRC) • Source: CHRT analysis of BCBSM PPO claims data, 2021 • Get the data • Created with Datawrapper

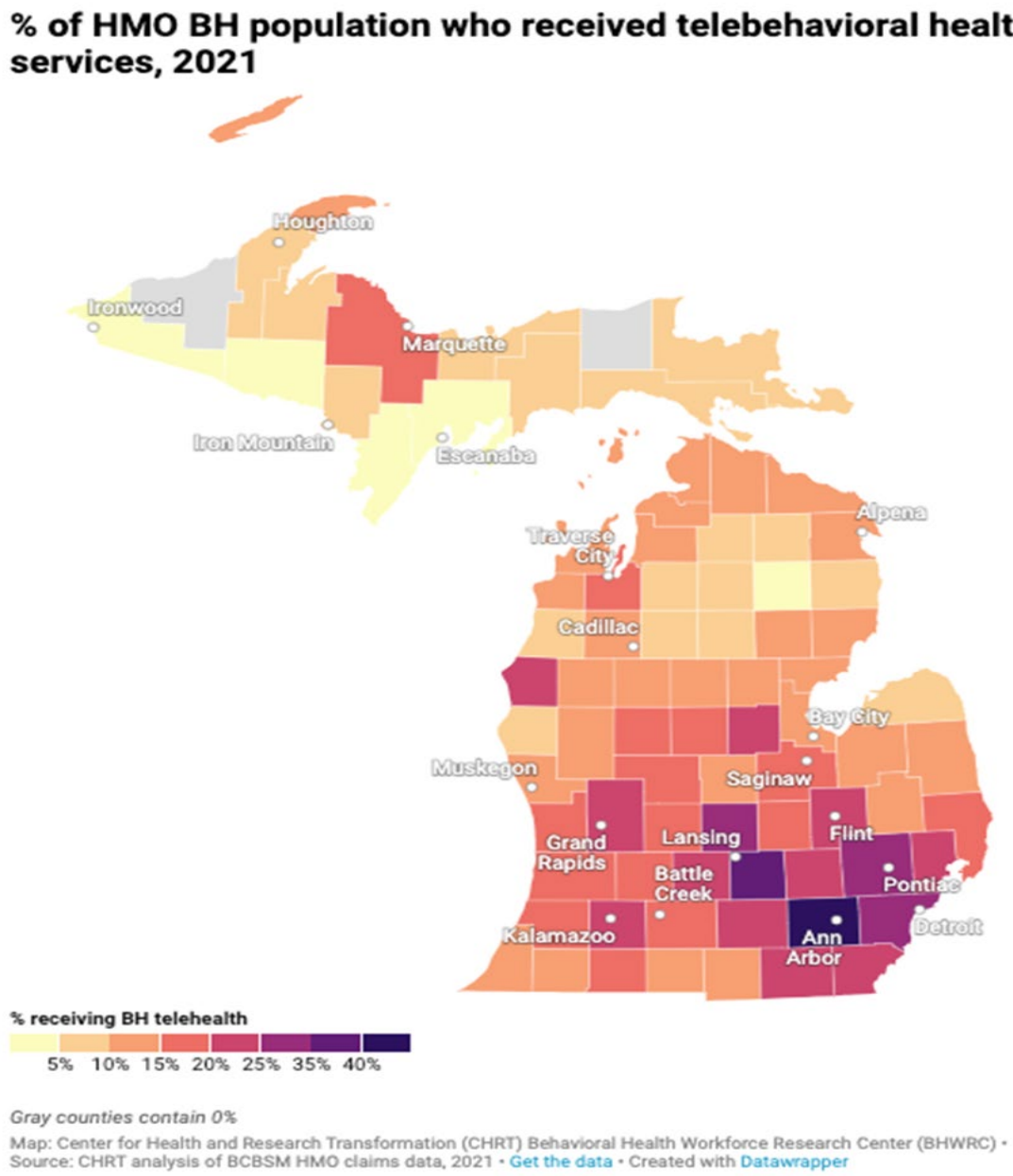
HMO Population

Telehealth use increased significantly from 2019 to 2021 in the HMO population as well. However, the rates did not increase equally across regions. In metro areas, telehealth use increased from 0.43% in 2019 to 27.9% in 2021, which is nearly 70 times higher. In rural areas, telehealth use increased from 0.47% in 2019 to 11.1% in 2021, showing use being 23 times higher. Additionally, more members in metro areas used telehealth services than those living in rural areas. In 2021, use of telehealth in metro areas ranged from 13.5% to 45% compared with rural areas, which had counties with 0% use up to 14.7% (Figure 7). The difference in the proportion of members with a BH condition who had a telehealth claim was significantly higher in metro counties compared with rural counties.[9]

[9] In a two-sample t-test of the difference in proportions of members who used telebehavioral health services in 2021, a higher proportion of those in metro counties used telebehavioral health services than those in rural counties (Metro Proportional Mean = 0.234, SD = 0.066; Rural Proportional Mean = 0.136, SD = 0.033); t(35.4) = -6.93, p = <0.0001).

Figure 7.

Percentage of Members with Behavioral Health Diagnoses With Any Telebehavioral Health Claims, HMO Population by Geographic Region, 2021



*gray areas have 0%

Overall, our analysis found that gaps in accessing behavioral health services in rural regions are stark, which is consistent with findings in the literature. A key assumption of this study was that telehealth would help bridge the gap between access to BH services in rural and metro areas. However, our analysis, and other recent studies, have

found that the increase in telehealth use has largely occurred among people who live in metro areas. One recent study found that among those who had at least one health care encounter in March 2020, urban residents were 54.3% more likely to have a telehealth visit compared with those living in rural areas (Morales, et al., 2020).

The shift to telehealth is often referenced as a key strategy to improving access to care; however, the geographic disparities hinder the growth of telehealth in rural communities. Many researchers point to the lack of broadband access as one barrier for rural patients. A study of Federal Communications Commission mapping data found that whereas only 3% of residents in urban areas of Michigan do not have access to high-speed broadband Internet, about 40% of those in Michigan's rural communities lack that access. This lack of broadband access may only limit the expansion of telehealth use in rural areas. As such, it will be crucial to address these access issues in order to help close the gap in telehealth use among metro and rural areas (Hirko, et al., 2020).

Medication-Assisted Treatment

MAT combines the use of medications (e.g., buprenorphine, naltrexone, and methadone) administered by healthcare providers with counseling and behavioral therapies is defined as "...to provide a 'whole patient' approach to the treatment of substance use disorders. Medications used in MAT are approved by the Food and Drug Administration and MAT programs are clinically driven and tailored to meet each members' needs" (SAMHSA, 2022). For both the PPO and HMO populations, use of MAT services was low each year. In the PPO population, only 0.05% of members with BH diagnoses had claims for MAT services (196 members) in 2019, and 0.07% (308 members) in 2021. Similar to the use of integrated care services, nearly all members who had MAT claims lived in metro areas. The HMO population had 117 MAT claims in 2019 and 125 MAT claims in 2021, both very low numbers as well. There are 5 MAT billing codes that are allowable in telehealth settings, but these codes were hardly used in telehealth among the study population. For example, in 2021, only 29 HMO claims used an MAT telehealth code.

These findings regarding low MAT use are consistent with the findings in the literature. One study suggested that MAT is underused in part due to workforce challenges, such as a lack of physicians with expertise in addiction medicine who feel confident prescribing MAT, and a lack of nurses and other healthcare staff with experience managing or delivering the medication. Other barriers include a lack of reimbursement for physician time, lab tests, and purchasing medication as well as scope of practice restrictions for certain providers (Atterman et al., 2018).

In general, use of BH treatment in members with SUDs has been low. In 2020, only 9.7% of people aged ≥12 years (4 million people) that had an SUD received any substance use treatment. However, the National Drug Abuse Treatment Clinical Trials Network is funding a study to test the implementation and effectiveness of telemedicine-based MAT for opioid use disorder in rural primary care. This is significant because even though rural areas are disproportionately impacted by the opioid use epidemic, rural residents often lack access to MAT (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021).

Provider Types

Members with BH diagnoses in our study population had outpatient BH claims from a range of providers, including BH providers (e.g., psychiatrists, psychologists, and social workers) as well as PCPs (e.g., nurses, physicians, and physician assistants). This analysis aggregated claims by provider types into three categories: BH providers, PCPs, and both PCPs and BH providers (which includes clinics that had multiple provider types).

Among both PPO and HMO members, a majority (81% among PPO and 84% among HMO members) received their BH services from only BH providers, whereas 8% of PPO members and 6% of HMO members received their BH services only from PCPs. Additionally, 7.5% of PPO members and 6% of HMO members received BH services

from a mix of both BH providers and PCPs. This distribution of BH services by provider type remained fairly consistent across each year in our study period.

However, while a small proportion of members received BH services from PCPs, a majority (57%) of the total PPO BH members in 2021 had other services (such as annual wellness visits and other office visits) with a PCP. This finding may indicate that a large proportion of members have a relationship with a PCP, and these visits may have included prescription refills for BH medication needed to manage conditions. Analysis of prescription drug claims would be necessary to determine whether this was the case.

Provider Mix

Among PPO and HMO members in 2021 who had claims for BH services, many received services from social workers (31.6% among PPO and 33.4% among HMO members), followed by psychologists (31.2% among PPO and 20.6% among HMO) and licensed counselors (20.8% among PPO and 20.6% among HMO). Only a small proportion of PPO members had psychiatrist claims for BH services (0.7%), but again this may be because this study did not include an analysis of pharmaceutical claims.

Both PPO and HMO members largely received BH services from either social workers or psychologists. Among those with claims for integrated services, nearly all received services from physicians and lived in metro areas. This may be due to billing parameters, as CMS documentation outlines that the treating (billing) practitioners on a psychiatric collaborative care model are typically PCPs (Centers for Medicare & Medicaid Services [CMS], 2022). Other providers who billed for integrated care services in 2021 included nurses, rural health centers, and physician assistants.

Geographic Variation

There was wide geographic variation in the proportion of BH members who received services from BH provider types among both PPO and HMO members. In the PPO population, 36.4% in metro areas had BH services with any BH provider in 2021, compared with only 23.7% of total PPO BH members in rural areas. In the HMO population, 35.2% in metro areas had BH services with any BH provider in 2021, compared with 19.3% of total HMO BH members in rural areas.

We expected that our analyses would find a higher proportion of members in rural areas receiving BH services from PCPs. However, the proportions of both PPO and HMO members in our study who received BH services with a PCP were similar for both metro and rural areas in 2021. The proportion of PPO members with a PCP was 6.1% in metro areas and 4.1% in rural areas in 2021. The HMO population was similar, as only 4.5% of members in metro areas and 3.5% of members in rural areas had BH services with a PCP in 2021. In rural counties, there was wide variation in the mix of providers who billed for BH claims. A higher proportion of PPO members in rural areas had BH services with PCPs such as physicians or nurses, as compared with BH providers such as psychologists or social workers.

This gap in the use of BH providers between metro and rural areas may be partly due to larger proportions of BH members more generally receiving any services in metro areas but may also be due to a lack of specialty BH providers in rural areas. Recent literature supports this finding: One 2020 study found that although the prevalence of MH disorders is similar among both urban and rural communities, those who live in urban areas are far more likely to receive any services for their conditions and see specialized MH providers for those services. Cited reasons for these geographic disparities include a reduced access to providers, limited availability of specialty MH providers in rural areas, and more consistent use in innovative approaches to MH care among metro areas (Morales, 2020). Additionally, there are challenges with recruitment and retention of BH providers in rural areas, with non-competitive wages, lack of opportunities for professional advancement, and a lack of adequate leadership cited as some of the obstacles (Knudsen, Abraham, & Oser, 2011).

Conclusions and future implications

Overall, this study had three main takeaways: (1) the use of BH services, particularly telehealth services, increased from 2019 to 2021; (2) in 2021, there were still wide disparities in the use of telebehavioral health services among metro and rural areas; and (3) only small proportions of BH patients had claims for integrated care services, but this proportion has steadily increased from 2019 to 2021.

This study showed that from 2019 to 2021, there was a 10% increase in the proportion of commercially insured members with a BH diagnosis who received services for their BH conditions. This trend may be due in part to broad increases in the use of telebehavioral health services and the overall need for BH care as a result of the COVID-19 pandemic. Some members with BH diagnoses may have been able to manage BH conditions without regular therapy or other services prior to the pandemic, but the added stressors related to the pandemic may have led some to seek services.

Across the U.S. and in Michigan, telehealth use increased substantially during the public health emergency as more services were allowable as remote telehealth services. Going forward, it may be key for policymakers to act to support telehealth as a necessary and effective form of providing care BH services even as COVID-19 becomes endemic. It will also be important to provide support to rural communities so that they, too, can access services through telehealth. In this study there were much lower proportions of members in rural areas who received telehealth services, compared with metro areas. The geographic disparities in use of telehealth services may require support for high-speed broadband Internet and access to necessary devices in rural areas. (Donnellan, 2019).

Additionally, further research is needed to better understand the low use of both integrated care codes and the use of BH services in primary care. Given recent increases in the use of integrated care codes, more data may show further uptake and awareness in the use of these codes. Although this study also showed only a small proportion of the population receiving BH services from a PCP, many members were seeing PCPs for other services such as annual wellness visits, during which they may be receiving prescriptions for BH medications. Additional analysis to look at prescription drug claims data may show more members receiving treatment for their BH conditions through regular primary care medication management. PCPs will likely be a key provider group to help fill the gaps in access to BH services especially as rural communities lack access to specialty BH providers.

Limitations

In general, there are some key limitations when analyzing claims data, including potential lags in billed claims, limited demographic information (e.g., no available race data), variables that do not offer clean distinctions among provider types, and only being able to analyze services that were billed. This analysis only included data from one large insurer for a commercially insured population and may not be representative of all insured population groups within Michigan. One component of the study emphasized analysis of the use of integrated services in primary care among metro and rural areas in Michigan. However, though some outpatient billing codes exist for BH integration and the collaborative care model, these codes are not widely used. Finally, location variables in these data do not adequately define primary care settings. As such, this study may not represent the full use of integrated care and had to create proxy measures for examining integrated care, as detailed in this report.

Appendix A: Analytic Plan

Distribution of behavioral health (BH) integration codes:

- Utilization of codes over time (2019–2021)
- Stratify by provider type: focus on primary care doctors, BH providers

Distribution of all other BH services, focus on telehealth:

- Stratify by provider type and place of service

Number and percentage of providers providing BH services in integrated care (using integrated care codes), from 2019 to 2021.

Categorize by subgroups accordingly:

- Among those that have BH diagnoses, seeing both primary care and BH providers; look for integrated care codes
- Among those with BH diagnoses, only see primary care providers for BH services
- Among those with BH diagnoses, only see BH providers for BH services
- Stratifications to include:
    - Total Michigan
    - By geographic region: rural and urban
    - By insurance type (PPO, HMO, Medicare Advantage)

Number and percentage of members receiving BH services in integrated care (using integrated care codes), from 2019 to 2021.

Categorize by subgroups accordingly:

- Among those that have BH diagnoses, seeing both primary care and BH providers; look for integrated care codes
- Among those with BH diagnoses, only see primary care providers for BH services
- Among those with BH diagnoses, only see BH providers for BH services
- Member characteristics to include:
    - Total Michigan
    - By geographic region: rural and urban
    - By race (if data available)
    - By age group
    - By gender
    - By insurance type
    - By provider type
    - By BH diagnosis

Types of BH services received in integrated care settings: Of those members receiving BH in integrated care, calculate number and percentage of members, from 2019 to 2021.

- Categorize by sub-groups accordingly:
  - Among those that have BH diagnoses, seeing both primary care and BH providers; look for integrated care codes
  - Among those with BH diagnoses, only see primary care providers for BH services
  - Among those with BH diagnoses, only see BH providers for BH services
- By stratifications:
  - Receiving telemedicine
  - Receiving medication-assisted treatment
  - Other relevant BH services
  - By insurance type
  - Geographic region: rural and urban

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Appendix C: Mental Health Diagnosis Distribution for Top Conditions, 2021

PPO Population: Top 20 Mental Health Diagnoses Ranked by Count of PPO Members With Mental Health Diagnosis, 2021[10]

Mental Health Diagnosis	Members (n)
Anxiety disorder, unspecified	147,979
Generalized anxiety disorder	126,298
Major depressive disorder, single episode, unspecified	74,869
Adjustment disorder with mixed anxiety and depressed mood	31,949
Other specified anxiety disorders	31,377
Attention-deficit hyperactivity disorder, predominantly inattentive type	28,913
Attention-deficit hyperactivity disorder, combined type	26,438
Attention-deficit hyperactivity disorder, unspecified type	23,964
Major depressive disorder, recurrent, mild	19,477
Dysthymic disorder	18,097
Panic disorder without agoraphobia	16,797

[10] Members may be represented in multiple disease groups as some members may have more than one mental health diagnosis.

Mental Health Diagnosis	Members (n)
Adjustment disorder with anxiety	16,538
Major depressive disorder, single episode, moderate	14,768
Adjustment disorder with depressed mood	12,692
Post-traumatic stress disorder, unspecified	12,248
Adjustment disorder, unspecified	11,833
Major depressive disorder, single episode, mild	11,803
Insomnia primary	11,465
Major depressive disorder, recurrent severe without psychotic features	11,287
Major depressive disorder, recurrent, unspecified	9,406

HMO Population: Top 20 Mental Health Diagnoses Ranked by Count of HMO Members With Mental Health Diagnosis, 2021[11]

Mental Health Diagnosis	Members (n)
Anxiety disorder, unspecified	55,561
Generalized anxiety disorder	47,479

[11] Members may be represented in multiple disease groups as some members may have more than one mental health diagnosis.

Mental Health Diagnosis	Members (n)
Major depressive disorder, single episode, unspecified	33,231
Other specified anxiety disorders	12,530
Adjustment disorder with mixed anxiety and depressed mood	11,286
Major depressive disorder, recurrent, mild	7,649
Dysthymic disorder	6,299
Panic disorder without agoraphobia	6,119
Major depressive disorder, single episode, moderate	5,875
Adjustment disorder with anxiety	5,798
Adjustment disorder with depressed mood	4,928
Major depressive disorder, recurrent severe without psychotic features	4,763
Post-traumatic stress disorder, unspecified	4,681
Major depressive disorder, single episode, mild	4,622
Insomnia primary	4,389
Adjustment disorder, unspecified	3,995
Major depressive disorder, recurrent, unspecified	3,930

Mental Health Diagnosis	Members (n)
Bipolar disorder, unspecified	3,546
Major depressive disorder, recurrent, in partial remission	3,539
Major depressive disorder, recurrent, in full remission	2,718