

**MICHIGAN HEALTH  
ENDOWMENT FUND**



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# **Telehealth In Michigan**

**INSIGHTS AND DATA FOR EFFECTIVE POLICYMAKING**

**SPONSORED BY**

Michigan Health Endowment Fund  
Ethel & James Flinn Foundation

**RESEARCH TEAM**

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## Preface

We would like to acknowledge the generous funding received from the Michigan Health Endowment Fund, the Ethel & James Flinn Foundation, and the University of Michigan Department of Urology Faculty Catalyst Award to help create this report. We are also grateful for the valuable analytic support provided by the Susan B. Meister Child Health Evaluation and Research (CHEAR) Center at the University of Michigan, particularly for the Medicaid analysis. Finally, we appreciate access to data from the Michigan Value Collaborative (MVC). MVC is a Blue Cross Blue Shield of Michigan (BCBSM) funded collaborative quality initiative that includes 103 acute care hospitals and 40 physician organizations across the State of Michigan. MVC provides Michigan hospitals and provider organizations with payment and utilization data for an episode of care from paid, adjudicated claims. For this analysis, MVC provided us with BCBSM Preferred Provider Organization Commercial insurance claims data. Support for the Michigan Value Collaborative is provided by Blue Cross Blue Shield of Michigan as part of the BCBSM Value Partnerships program; however, the opinions, beliefs and viewpoints expressed by our research team do not necessarily reflect those of BCBSM or any of its employees.

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# Introduction

*Telehealth in Michigan* is a comprehensive collection of data that has been produced in partnership with the University of Michigan's Institute for Healthcare Policy and Innovation (IHPI), the Michigan Health Endowment Fund, and the Ethel and James Flinn Foundation. The data book aims to offer policymakers and other interested parties insights regarding the impact of telehealth on healthcare access for Michigan residents.

The Telehealth Research Incubator lab is a signature initiative of the Institute for Healthcare Policy and Innovation (IHPI) at the University of Michigan (U-M). IHPI is the largest consortium of health services researchers in the nation. Since its establishment in 2018, the Telehealth Research Incubator lab has been dedicated to conducting policy research on the impact of telehealth on healthcare access, quality, and costs. Spearheading this project and the Telehealth Research Incubator lab is Dr. Chad Ellimoottil, whose research specialization revolves around the use of insurance claims for telehealth policy assessment. Dr. Ellimoottil's telehealth research receives funding through the Agency for Healthcare Research and Quality.

Dr. Ellimoottil's experience in telehealth extends beyond his telehealth policy research; he is also the Medical Director of Virtual Care for the University of Michigan Medical Group. In this capacity, he oversees the strategy and execution of virtual care services in all medical specialties, which includes 350,000 virtual visits annually. He has been invited to speak as a subject matter expert in various public and private settings, such as the U.S. Department of Health and Human Services, the Medicare Administrative Contractors meeting, National Public Radio (NPR), and Freakonomics Radio. Moreover, he has firsthand experience using virtual care to treat his patients.

To learn more about a particular analysis featured in this data book, please do not hesitate to contact Dr. Ellimoottil.

Sincerely,



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# Key Takeaways and Policy Considerations

## **Telehealth Use Trends Among Medicare, Medicaid, and Commercially-Insured Individuals**

### *Key Takeaways*

- During the early stages of the COVID-19 pandemic, there was a significant surge in telehealth usage among Medicare, Medicaid, and commercially-insured patients. However, since then, the proportion of telehealth visits has gradually declined and currently stands at approximately 11%, 13%, and 17% of all outpatient evaluation and management visits for Medicare, Medicaid, and commercially-insured patients, respectively.
- Notably, the overall volume of outpatient visits remained steady, comparable to pre-pandemic levels, indicating that telehealth predominantly substituted for in-person care.

### *Policy Considerations*

- Telehealth continues to play a crucial role in providing healthcare services to patients in Michigan.
- The concern about telehealth being overused can be alleviated by evidence that the overall volume of outpatient visits has remained stable.

## **The Effect of Telehealth Expansion on Usage in Rural and Non-Rural Michigan Counties**

### *Key Takeaway*

- Although telehealth policies like the originating site requirement were initially established to promote telehealth adoption in rural areas, the relaxation of this geography-specific policy (which allowed patients to access telehealth services from their homes) resulted in increased telehealth utilization in both urban and rural areas.

### *Policy Considerations*

- Permanently expanding the list of originating sites to include the patient's home will support telehealth adoption in rural areas.
- Limiting telehealth services to rural regions would significantly impede its usage outside of these areas.

## **The Relationship between Telehealth Utilization and Broadband Access in Michigan**

### *Key Takeaways*

- The percentage of households with broadband internet subscriptions in Michigan counties ranged from 72% to 92%.
- There was a positive correlation between broadband access and higher utilization of telehealth services.

### *Policy Consideration*

- Targeted policies designed to increase broadband internet access in counties with a low percentage of households subscribing to broadband, such as Lake County, Oscoda County, and Iron County, could potentially improve telehealth utilization in those areas.

## **Demographic Characteristics of Telehealth Users and Non-Users**

### *Key Takeaway*

- Telehealth usage was more prevalent among beneficiaries who were under 65 years old, female, dual-eligible for Medicaid, and resided in non-rural areas.

### *Policy Considerations*

- Although there are slight variations in telehealth usage rates among different demographics, it is crucial to acknowledge that telehealth is widely used across all age groups, genders, races/ethnicities, rural/urban locations, and income levels.
- While we did not examine the breakdown of telehealth modality usage (e.g., video vs phone visits) in this study, our previous research suggests that discontinuation of insurance coverage for phone visits may reduce telehealth access for patients who are older, African-American, need an interpreter, rely on Medicaid, and reside in regions with limited broadband access.

## **The Influence of Licensure Waivers on Telehealth Services Provided Across State Lines**

### *Key Takeaways*

- In 2020, when medical licensing rules were eased to permit out-of-state clinicians to conduct telehealth visits with Michigan residents, interstate telehealth constituted only 0.47% of all evaluation and management visits and 3% of telehealth visits in Michigan.
- 49% of out-of-state visits involved Michigan residents receiving care from clinicians practicing in neighboring states such as Illinois, Indiana, Minnesota, Ohio, and Wisconsin.
- 28% of out-of-state visits took place between Michigan residents and clinicians practicing in Florida.

### *Policy Consideration*

- While the overall utilization of interstate telehealth remains low for Michigan residents, the most effective approach to facilitating their access to out-of-state clinicians is to prioritize medical licensing reciprocity agreements with neighboring states and Florida, where Michigan snowbirds may have established healthcare providers.

## **Telehealth Usage by Federally Qualified Health Centers and Rural Health Clinics**

### *Key Takeaway*

- The top ten Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs), identified as having the highest volume of Medicare claims, provided a median of 13% and 9% of their visits via telehealth in 2020, respectively.

### *Policy Consideration*

- Telehealth is an important part of care delivery for FQHCs and RHCs in Michigan

## **The Impact of Telehealth Expansion on Access to Behavioral Health Services**

### *Key Takeaways*

- Using two methods to assess prevalence, we found that approximately 1 in 5 individuals in Michigan have a behavioral health/mental health condition.
- Behavioral health specialist shortages are prevalent in many Michigan counties. In fact, 50% of counties have 10 or fewer specialists, and 20% have either one or none at all.
- In 2021, telehealth services accounted for 46% of all behavioral healthcare provided to Medicare beneficiaries residing in Michigan counties with high demand for these services.
- Among Medicaid beneficiaries residing in Michigan counties with high demand for behavioral healthcare, 52% received their treatment via telehealth in 2021.
- In 2021, 82% of behavioral healthcare delivered to Medicare patients living in areas with shortages of behavioral health specialists came from professionals located in a different county. Furthermore, 47% of visits to these specialists were conducted via telehealth.

### *Policy Consideration*

- Telehealth expansion has undeniably enhanced access to behavioral health services in two significant ways. First, it has provided a means of delivering care to areas in Michigan with a high demand for behavioral health services. Second, it has extended access to counties where there are shortages of behavioral health providers, bringing these much-needed services to underserved communities.

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# Telehealth Use Trends Among Medicare, Medicaid, and Commercially-Insured Individuals

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## Key Takeaway

- During the early stages of the COVID-19 pandemic, there was a significant surge in telehealth usage among Medicare, Medicaid, and commercially-insured patients. However, since then, the proportion of telehealth visits has gradually declined and currently stands at approximately 11%, 13%, and 17% of all outpatient evaluation and management visits for Medicare, Medicaid, and commercially-insured patients, respectively.
- Notably, the overall volume of outpatient visits remained steady, comparable to pre-pandemic levels, indicating that telehealth predominantly substituted for in-person care.

## Policy Consideration

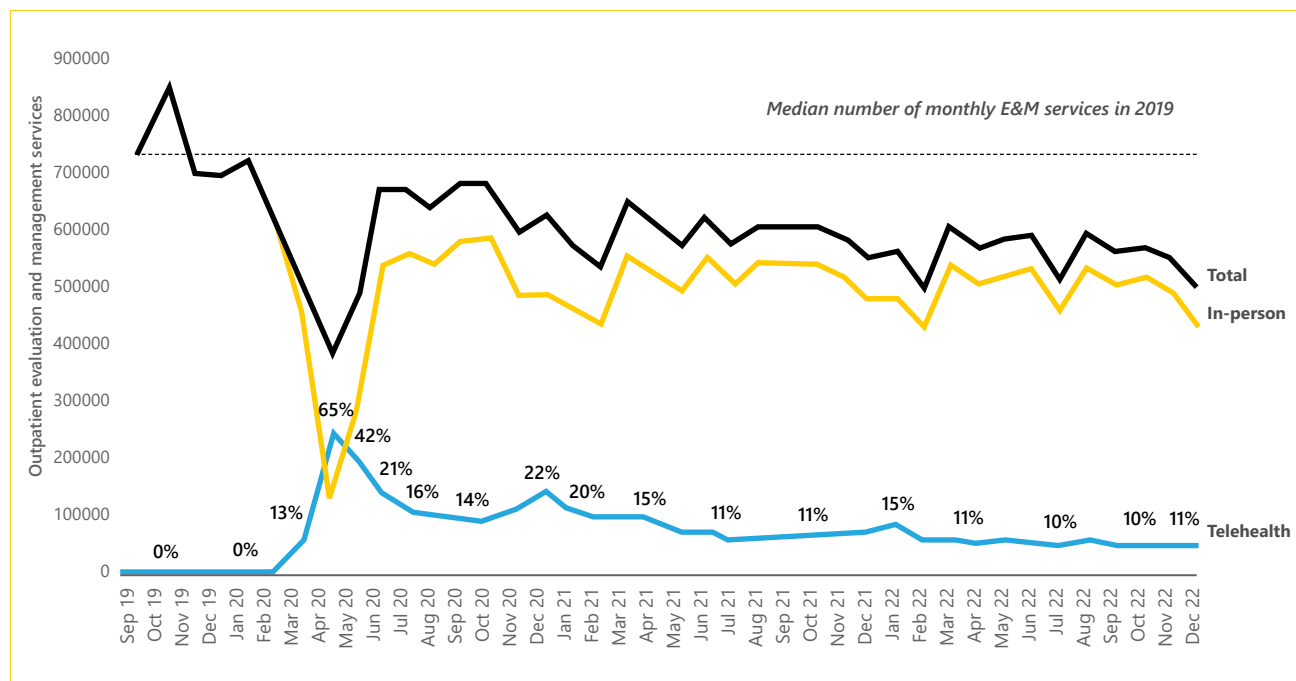
- Telehealth continues to play a crucial role in providing healthcare services to patients in Michigan.
  - The concern about telehealth being overused can be alleviated by evidence that the overall volume of outpatient visits has remained stable.
- 

The COVID-19 pandemic brought about a significant increase in telehealth usage due to social distancing and changes in regulations. Prior to the pandemic, telehealth usage was minimal, with only a small percentage of healthcare providers and patients utilizing billable telehealth services. However, in March and April 2020, as most states implemented shut-down orders, telehealth usage skyrocketed. We analyzed telehealth trends for outpatient evaluations and management visits using Michigan Medicare fee-for-service, commercial, and Medicaid claims.

## MEDICARE FEE-FOR-SERVICE

Our analysis revealed that telehealth utilization among Medicare patients significantly increased during the initial months of the pandemic, accounting for a peak of 65% of all outpatient visits in April 2020 (as illustrated in Exhibit 1). Subsequently, telehealth usage declined. At the end of 2022, approximately 11% of outpatient visits were performed through telehealth.

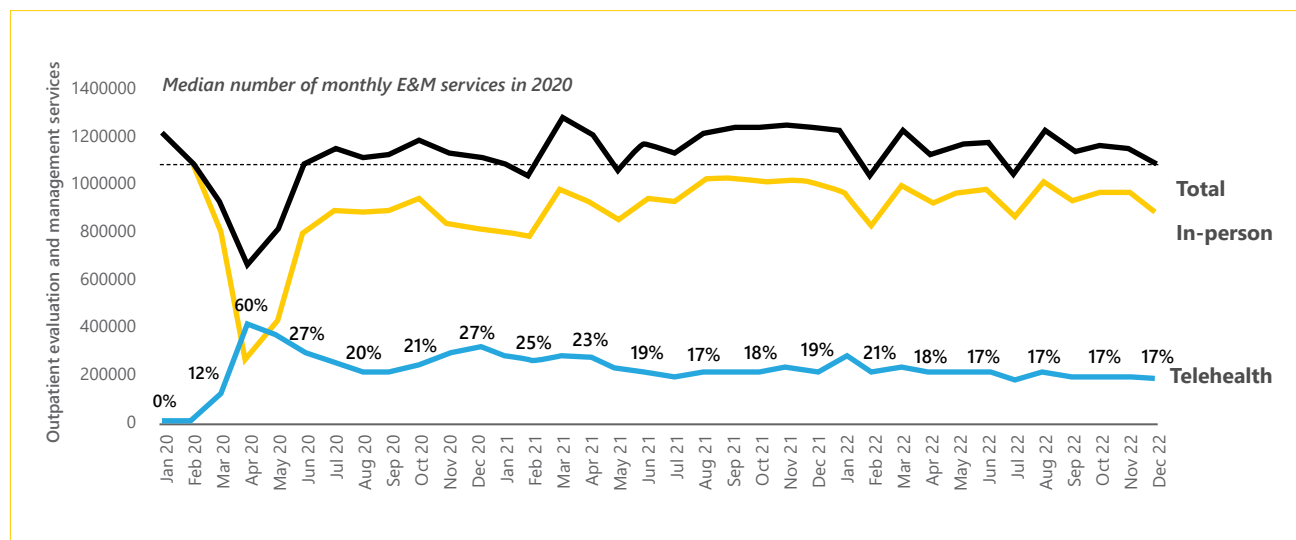
## Exhibit 1: Trends in In-Person and Telehealth Evaluation and Management Visits Among Michigan Medicare Fee-for-Service Beneficiaries, 2019-2022



### COMMERCIALLY-INSURED BENEFICIARIES

We observed a similar pattern among commercially-insured individuals where telehealth usage surged during the early stages of the pandemic (March to May 2020), accounting for 60% of all outpatient visits during the week of April 5th, 2020 (Exhibit 2). However, there was a decline in telehealth usage over time. Despite this decline, the percentage of commercially-insured patients using telehealth remained nearly double that of the Michigan Medicare population. Similarly, telehealth utilization remained relatively consistent from June 2020 to December 2022, with only a slight decline over time. It's worth noting that the overall volume of care remained unchanged compared to pre-pandemic levels, indicating that telehealth was mainly utilized as a replacement for in-person care.

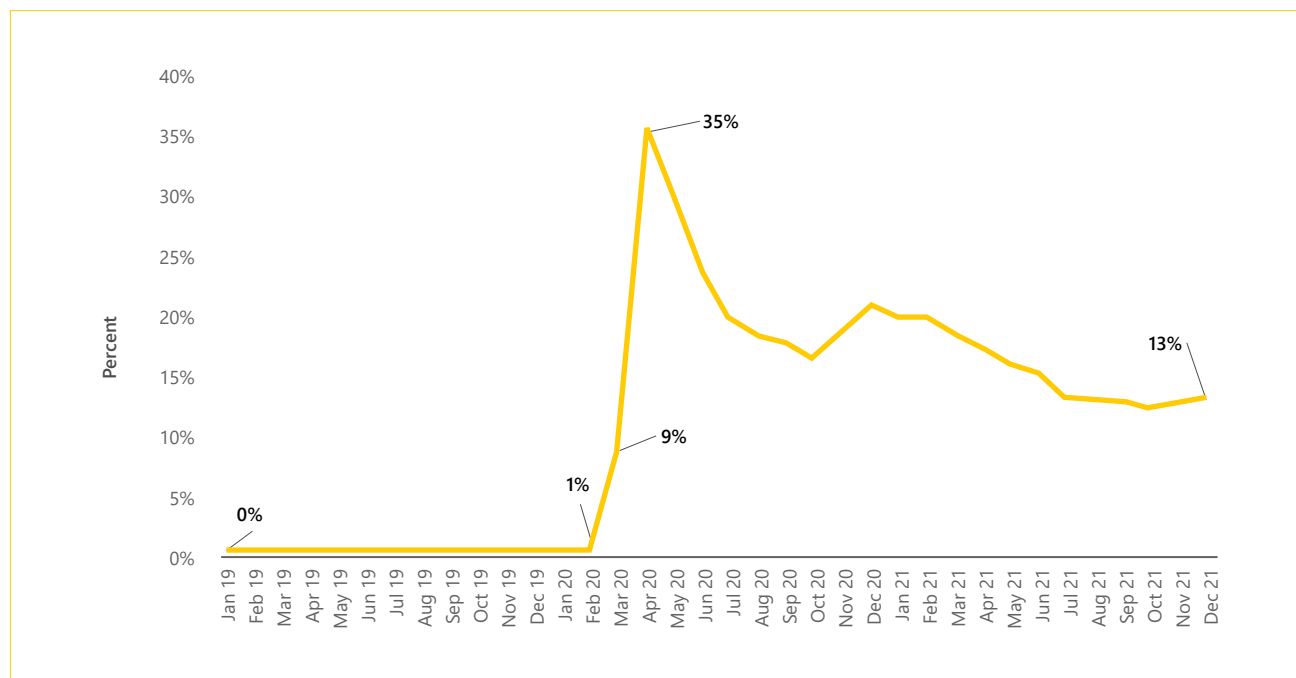
## Exhibit 2: Trends in In-Person and Telehealth Evaluation and Management Visits Among Commercially-Insured Beneficiaries, 2020-2022



### MEDICAID

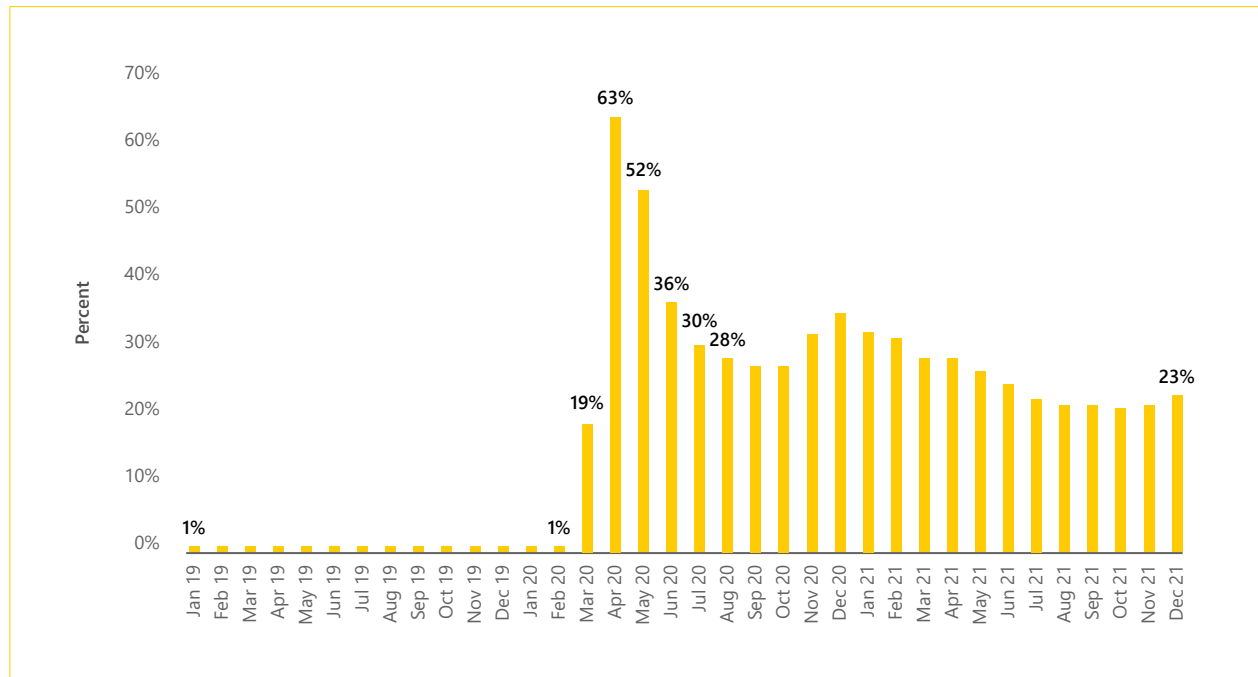
Michigan Medicaid beneficiaries also had a comparable trend. Telehealth constituted 35% of outpatient visits among Michigan Medicaid patients at its peak in April and May 2020 (as depicted in Exhibit 3). The percentage decreased to 23% in June 2020, remaining relatively steady at around 20% through April 2021. Thereafter, we observed a gradual reduction to approximately 12-13% towards the end of 2021.

### Exhibit 3: Trends in the Percentage of Telehealth Evaluation and Management Visits Among Michigan's Medicaid Beneficiaries, 2019-2021



We also computed the percentage of Medicaid enrollees who received a telehealth service in a given month. Before February 2020, approximately 1% of Medicaid beneficiaries who received outpatient care that month received a telehealth service. However, this percentage increased dramatically, peaking at 63% in April 2020 (as illustrated in Exhibit 4). Over time, this number gradually decreased, and by December 2021, 23% of Medicaid enrollees who had an outpatient visit that month received a telehealth service.

## Exhibit 4: Trends in the Percentage of Medicaid Beneficiaries Who Had a Telehealth Visit, 2019-2021



# The Effect of Telehealth Expansion on Usage in Rural and Non-Rural Michigan Counties

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## Key Takeaway

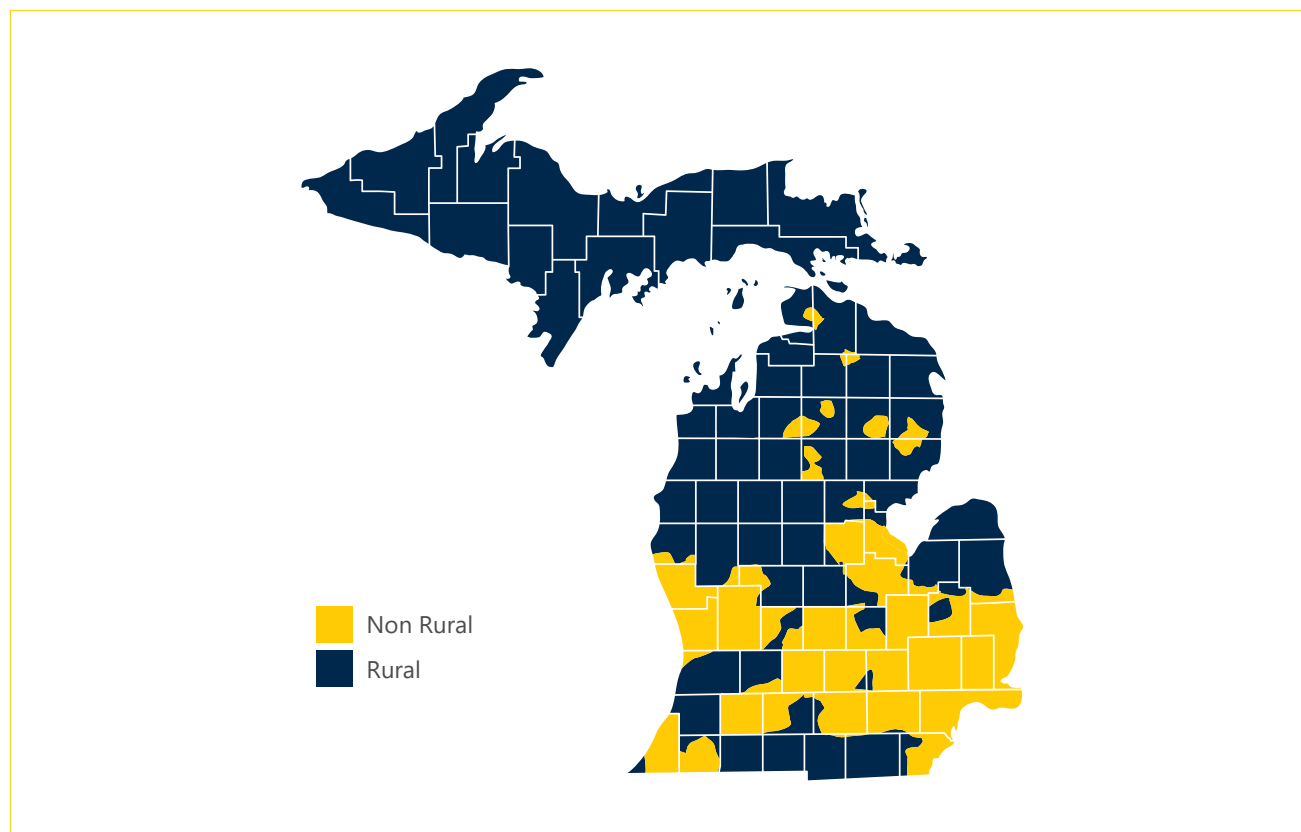
- Although telehealth policies like the originating site requirement were initially established to promote telehealth adoption in rural areas, the relaxation of this geography-specific policy (which allowed patients to access telehealth services from their homes) resulted in increased telehealth utilization in both urban and rural areas.

## Policy Consideration

- Permanently expanding the list of originating sites to include the patient's home can increase telehealth adoption in rural areas.
  - Limiting telehealth services to rural regions would significantly impede its usage outside of these areas.
- 

Rural communities often face challenges such as low population density, geographic isolation, and limited healthcare resources. Delivering healthcare in these regions can be difficult due to a scarcity of healthcare providers, difficulties accessing specialized care, and insufficient funding. The Federal Office of Rural Health Policy (FORHP) classifies 553 out of 979 ZIP codes in Michigan as rural, with 28.2% of Michigan Medicare beneficiaries in 2020 residing in these areas.

## Exhibit 5: Michigan's Rural Counties, as Defined by the Federal Office of Rural Health Policy, 2020



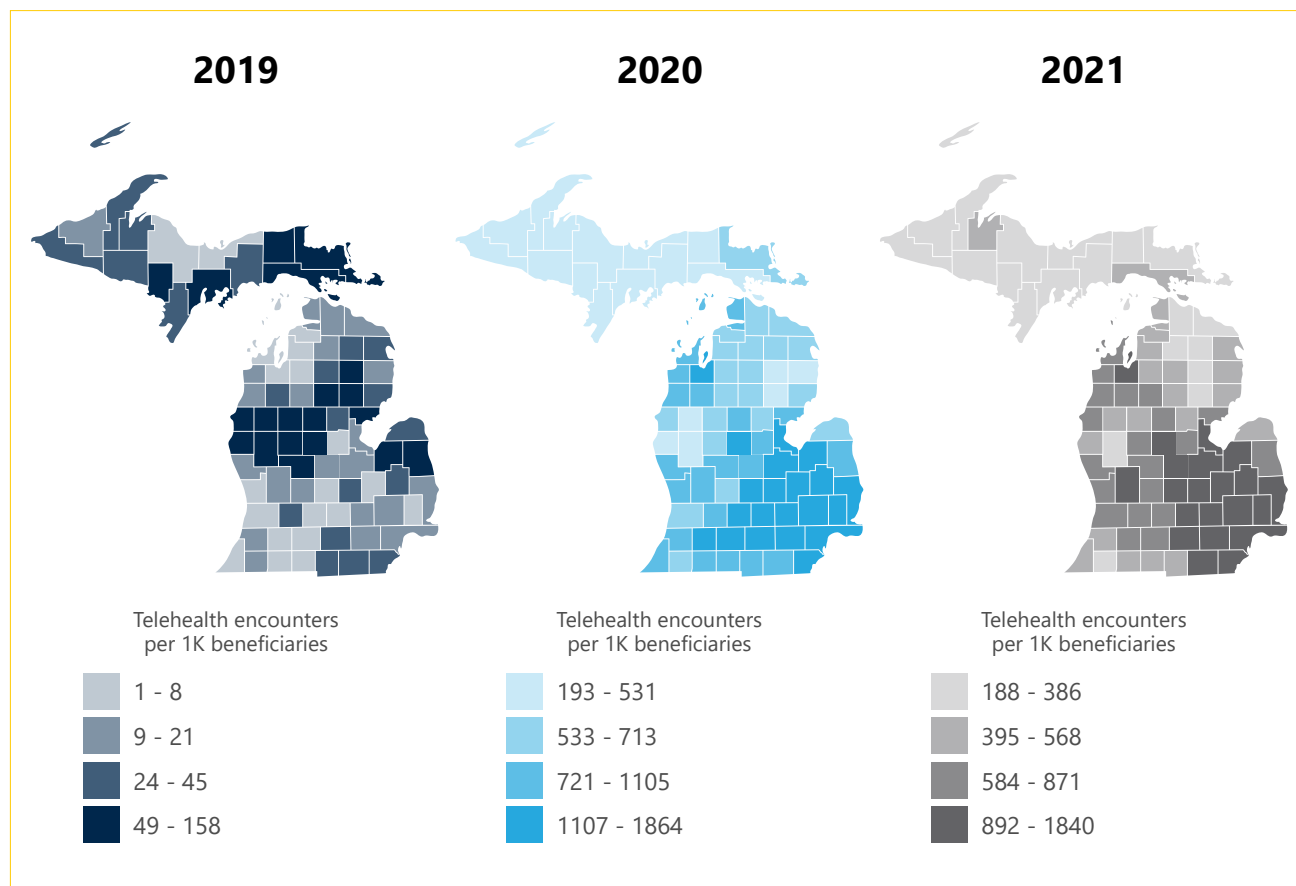
Note: Rural zip codes were defined using Federal Office of Rural Health Policy (FORHP) data files.

Telehealth has the potential to enhance healthcare accessibility in rural Michigan. However, before the COVID-19 pandemic, the utilization of telehealth services was restricted by the “originating site” requirement, which restricted patients to specific clinical settings, such as physician offices and hospitals, located in counties outside Metropolitan Statistical Areas (MSAs) or rural Health Professional Shortage Areas (HPSAs). Nonetheless, many Medicare and Medicaid programs temporarily expanded the list of originating sites during the pandemic, encompassing patients’ homes.

To gauge the impact of including patients’ homes as an originating site on telehealth adoption among rural Michigan residents, we examined the geographical distribution of telehealth visits in 2019 and 2020. We also evaluated the distribution in 2021 to determine if any changes had occurred. As expected, our analysis of telehealth utilization among Michigan’s Medicare beneficiaries in 2019, as shown in Exhibit 5, revealed that the majority of these services were provided to rural county residents, as expected. In 2020 and 2021, there was a higher concentration of telehealth services delivered in urban regions of the state. Importantly, the number of telehealth visits/1,000 Medicare beneficiaries in rural areas increased 5-10-fold after the inclusion of the home as an originating site. While telehealth use in rural areas decreased in 2021, activity remained much higher than levels in 2019.



## Exhibit 6: County-Level Geographic Distribution of Telehealth Services among Medicare Beneficiaries, 2019-2021



After adjusting for population size, it was found that residents of Chippewa, Isabella, and Ogemaw Counties received the highest amount of telehealth services in 2019 (Exhibit 7). In 2020, there was a noticeable increase in the utilization of telehealth among residents in urban counties. Even when accounting for population size, residents of Macomb, Washtenaw, and Wayne Counties had the highest usage of telehealth services. This trend continued in 2021 (not shown).

## Exhibit 7: Top Michigan Counties for Telehealth Utilization (Adjusted for Population) in 2019-2020

Counties with highest number of telehealth visits/1,000 beneficiaries (2019)	Telehealth visits/1,000 beneficiaries	Counties with highest number of telehealth visits/1,000 beneficiaries (2020)	Telehealth visits/1,000 beneficiaries
Chippewa County	158	Macomb County	1,864
Isabella County	130	Washtenaw County	1,840
Ogemaw County	88	Wayne County	1,816
Osceola County	85	Oakland County	1,702
Montcalm County	85	Genesee County	1,632

# The Relationship between Telehealth Utilization and Broadband Access in Michigan

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## Key Takeaway

- The percentage of households with broadband internet subscriptions in Michigan counties ranged from 72% to 92%. There was a positive correlation between broadband access and higher utilization of telehealth services.

## Policy Consideration

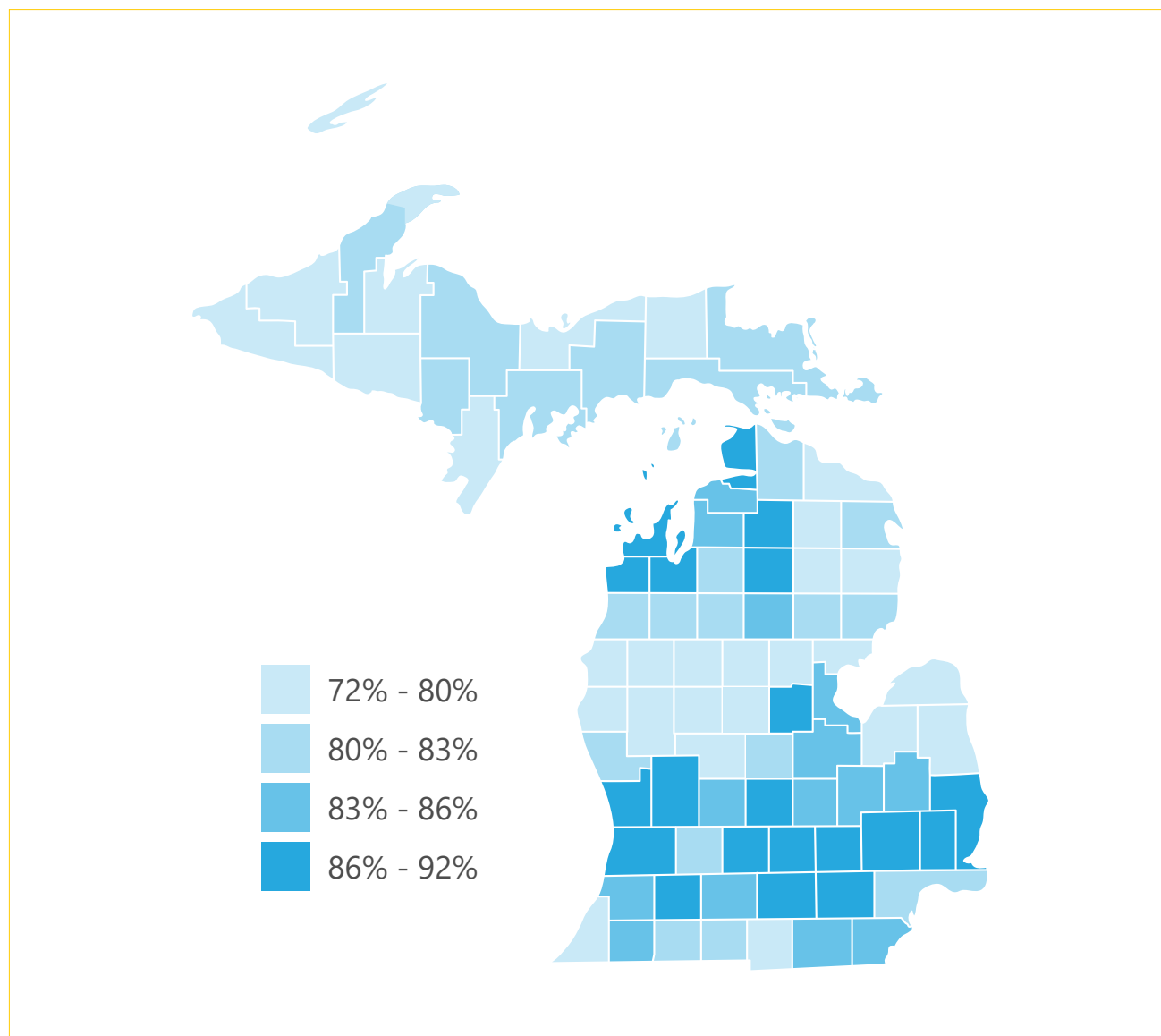
- Policies aimed at expanding broadband internet access in counties such as Lake County, Oscoda County, and Iron County may enhance telehealth utilization in these areas.
- 

For telehealth to be effective, it requires a reliable and fast internet connection, known as broadband. Without adequate broadband access, patients in rural and remote areas may have difficulty connecting with healthcare providers. In addition, healthcare providers in these areas may be unable to perform telehealth services. Therefore, broadband access is a crucial component for expanding telehealth and increasing access to healthcare in rural and remote areas.

To assess the degree of broadband access in Michigan, we examined data from the 2021 American Community Survey (5-year estimates). The survey, conducted annually by the United States Census Bureau, provides a comprehensive understanding of the social, economic, and housing characteristics of the U.S. population, including the number of households with an internet subscription for broadband.

Our analysis revealed that in Michigan, 86% of households had a broadband internet subscription. As a state, we ranked 28th in terms of the percentage of households with broadband internet subscriptions. At the county level in Michigan, broadband subscription rates ranged from 72% to 92%. As illustrated in the map below, the counties with the lowest broadband subscription rates included Lake County (72%), Oscoda County (72%), and Iron County (74%). As expected, these counties are located in rural areas of Michigan with limited access to broadband services.

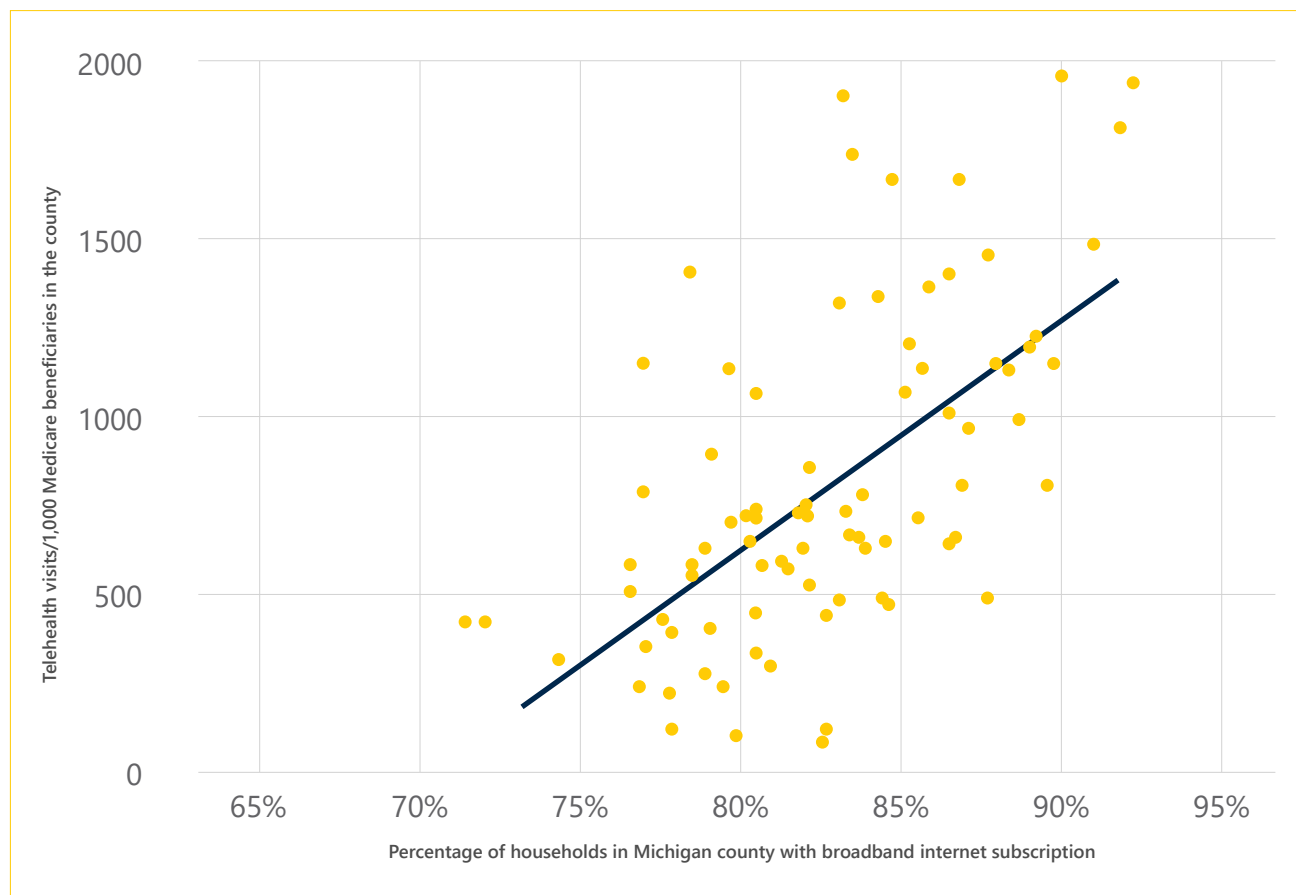
## Exhibit 8: Percentage of Households in Michigan Counties that Had Internet Access through Broadband, 2021



Note: Data from American Community Survey, 2021

We analyzed the relationship between the percentage of households in a county with access to broadband and the number of telehealth visits per 1,000 Medicare beneficiaries in 2020. As expected, we found a positive correlation between these two variables ( $r = 0.60$ ). The exhibit below shows the correlation between broadband access and telehealth utilization at the county level.

## Exhibit 9: Correlation at the County Level between Broadband Access and Telehealth Visits



We divided the counties into two groups based on whether they were below or above the median for both broadband access and telehealth use. Exhibit 10 presents the Michigan counties that were below the median for both broadband access and telehealth use.

## Exhibit 10: Michigan Counties with Below-Median Broadband Access and Telehealth Utilization

NAME	Telehealth visits per 1,000 Medicare FFS beneficiaries	Percentage of households with broadband internet subscription
<b>State (median)</b>	<b>721</b>	<b>82.7%</b>
Lake County	477	72%
Oscoda County	487	72%
Iron County	388	74%
Montmorency County	559	77%
Huron County	611	77%
Gogebic County	332	77%
Baraga County	422	77%
Oceana County	507	77%
Alcona County	486	78%
Luce County	310	78%
Keweenaw County	218	78%
Mecosta County	624	79%
Osceola County	610	79%
Newaygo County	473	79%
Presque Isle County	655	79%
Menominee County	356	79%
Alger County	333	80%
Ontonagon County	202	80%
Hillsdale County	721	80%
Mason County	665	80%
Gladwin County	718	80%
Ogemaw County	503	81%
Mackinac County	409	81%
Alpena County	618	81%
Delta County	376	81%
Kalkaska County	622	81%
Cheboygan County	603	82%
Iosco County	553	82%
Missaukee County	659	82%

# Demographic Characteristics of Telehealth Users and Non-Users

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## Key Takeaway

- Telehealth usage was more prevalent among beneficiaries who were under 65 years old, female, dual-eligible for Medicaid, and resided in non-rural areas.

## Policy Consideration

- Although there are slight variations in telehealth usage rates among different demographics, it is crucial to acknowledge that telehealth is widely used across all age groups, genders, races/ethnicities, rural/urban locations, and income levels.
  - While we did not examine the breakdown of telehealth modality usage (e.g., video vs phone visits) in this study, our previous research suggests that discontinuation of insurance coverage for phone visits may reduce telehealth access for patients who are older, African-American, need an interpreter, rely on Medicaid, and reside in regions with limited broadband access.
- 

We conducted an analysis of the demographic characteristics of Michigan Medicare fee-for-service beneficiaries who used telehealth services compared to those who did not (non-users). The results indicated that a higher percentage of patients under the age of 65 utilized telehealth services. When it came to gender, a greater proportion of females used telehealth services compared to males. We observed minimal differences in race/ethnicity between telehealth users and non-users. Furthermore, we noted that individuals residing in rural zip codes had a lower rate of telehealth use (30.8%) compared to those in non-rural areas (45.9%). Finally, we found that patients who were dual-eligible for Medicaid (a commonly used proxy for low-income) had a higher rate of telehealth usage. Overall, the trends in telehealth usage among Michigan beneficiaries were consistent with those observed at the national level.<sup>1</sup>

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<sup>1</sup> Ellimoottil C, Zhu Z, Dunn RL, Thompson MP. Trends in telehealth use by Medicare fee-for-service beneficiaries and its impact on overall volume of healthcare services. June 21, 2022 (<https://www.medrxiv.org/content/10.1101/2022.06.15.22276468v1>. opens in new tab). preprint.

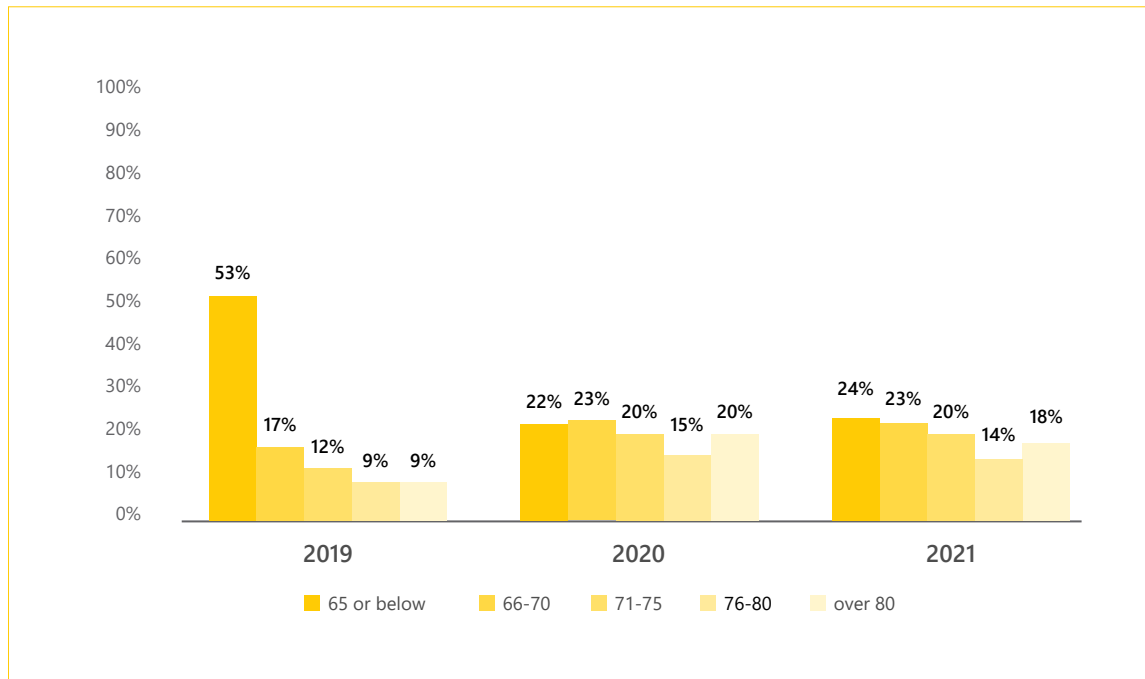
**Exhibit 11: Characteristics of Telehealth Users and Non-Users, 2020**

		No.(%)	
Characteristics		Telehealth user (n=386,515)	Telehealth non-user (n=541,086)
Age (%)	<=65	84,715 (21.9%)	91,419 (16.9%)
	66-70	89,570 (23.2%)	145,038 (26.8%)
	71-75	77,359 (20.0%)	112,864 (20.9%)
	76-80	57,424 (14.9%)	76,079 (14.1%)
	>80	77,447 (20.0%)	115,686 (21.4%)
Sex	Male	160,554 (41.5%)	257,347 (47.6%)
	Female	225,961 (58.5%)	283,739 (52.4%)
Race	Non-hispanic white	322,818 (83.5%)	461,417 (85.3%)
	Black (or African-American)	44,107 (11.4%)	50,301 (9.3%)
	Asian/Pacific islander	3,543 (0.9%)	5,249 (1.0%)
	Hispanic	1,690 (0.4%)	3,372 (0.6%)
	American Indian/Alaska Native	1,277 (0.3%)	2,661 (0.5%)
	Other/Unknown	13,080 (3.4%)	18,086 (3.3%)
Zip code	Rural	80,562 (20.8%)	180,998 (33.5%)
	Non-rural	305,953 (79.2%)	360,088 (66.5%)
Dual eligibility	Yes	90,223 (23.3%)	101,726 (18.8%)
	No	296,292 (76.7%)	439,360 (81.2%)

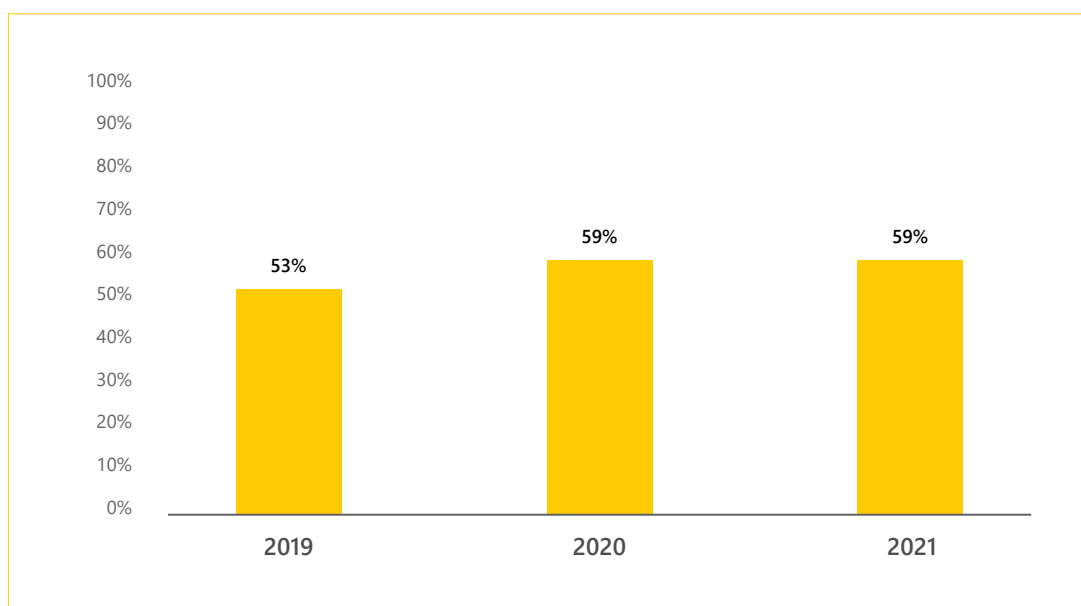
Furthermore, we investigated how demographic trends evolved over time among Medicare fee-for-service beneficiaries who utilized telehealth services. Our findings indicated a significant shift across all demographics between 2019 and 2020. However, thereafter, there were only slight variations observed in terms of age, race, gender, and rural/urban residence.

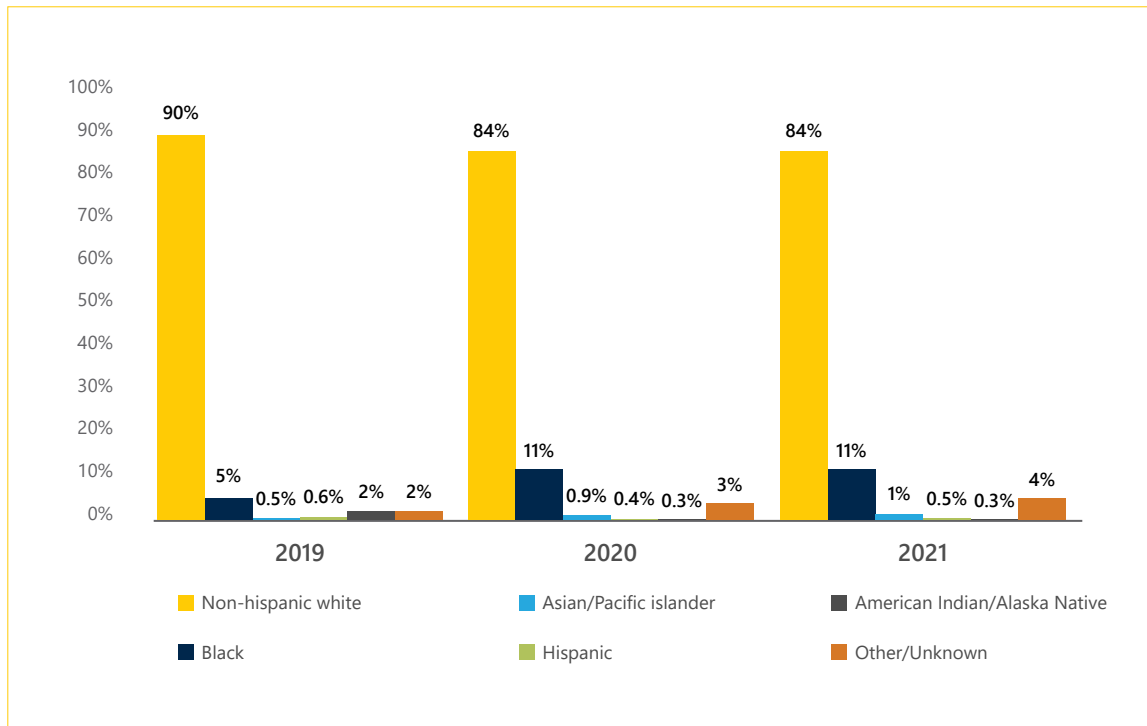


## Exhibit 12: Telehealth User Proportions by Age, 2019-2021

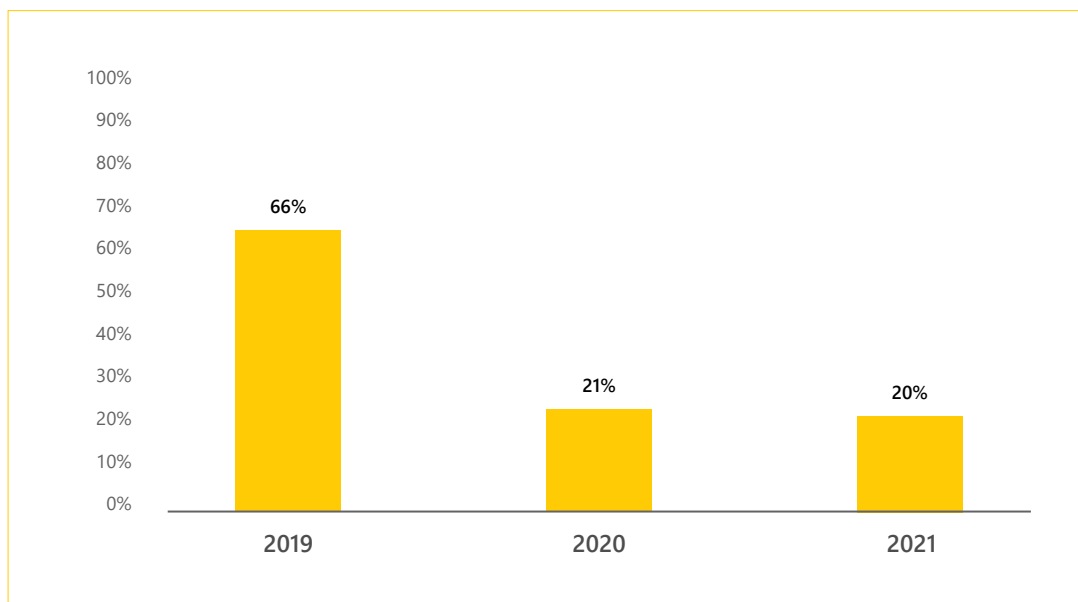


### Exhibit 13: Percentage of Telehealth Users that Were Female, 2019-2021



**Exhibit 14: Telehealth User Proportions by Race/Ethnicity, 2019-2021**

## Exhibit 15: Percentage of Telehealth Users that Lived in Rural Zip Codes, 2019-2021



A limitation of our analysis is that we did not examine the breakdown of telehealth modality usage (e.g., video vs. phone visits) by demographics. In a previous study utilizing data from Michigan Medicine, we discovered that patients who were older, African-American, needed an interpreter, relied on Medicaid, and resided in regions with limited broadband access were less likely to utilize video visits as opposed to phone visits.<sup>2</sup> The discontinuation of insurance coverage for phone visits under post-pandemic policies may reduce telehealth access for patients who exhibit one or more of these characteristics.

<sup>2</sup> Chen J, Li KY, Andino J, Hill CE, Ng S, Steppe E, Ellimoottil C. Predictors of audio-only versus video telehealth visits during the COVID-19 pandemic. *J Gen Intern Med.* 2022 Apr;37(5):1138-1144.

# The Influence of Licensure Waivers on Telehealth Services Provided Across State Lines

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## Key Takeaway

- In 2020, when medical licensing rules were eased to permit out-of-state clinicians to conduct telehealth visits with Michigan residents, interstate telehealth constituted only 0.47% of all evaluation and management visits and 3% of telehealth visits in Michigan.
- 49% of out-of-state visits involved Michigan residents receiving care from clinicians practicing in neighboring states such as Illinois, Indiana, Minnesota, Ohio, and Wisconsin.
- 28% of out-of-state visits took place between Michigan residents and clinicians practicing in Florida.

## Policy Consideration

- While the overall utilization of interstate telehealth remains low for Michigan residents, the most effective approach to facilitating their access to out-of-state clinicians is to prioritize medical licensing reciprocity agreements with neighboring states and Florida, where Michigan snowbirds may have established healthcare providers.
- 

Interstate healthcare refers to when patients receive medical care from a clinician located in a different state. Prior to the COVID-19 public health emergency, state medical licensure regulations restricted clinicians from practicing telehealth with patients who were located outside of the state in which the clinician was licensed. However, during the COVID-19 public health emergency, insurers and state governments implemented temporary measures to make it easier for patients to seek care from out-of-state clinicians. This includes allowing individual states to waive within-state licensure requirements for Medicare beneficiaries receiving telehealth services, as well as allowing out-of-state clinicians to perform telehealth across state lines. Now, as the national public health emergency is ending, many states are changing their stance on allowing interstate telehealth. Some states have ended their emergency declarations, causing temporary licensure waivers to expire, while others have enacted legislation allowing out-of-state clinicians to practice interstate telehealth. Despite the interest of policy makers in addressing the use of telehealth across state lines, there is a lack of data around how patients used interstate telehealth.

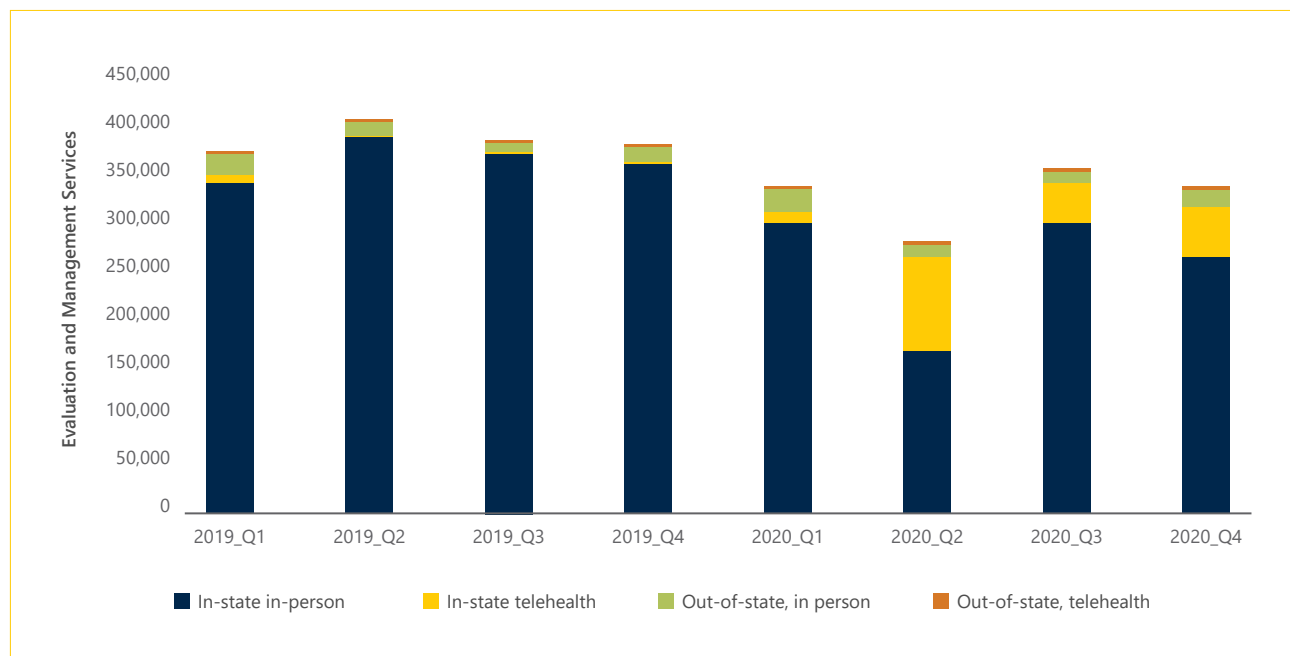
Using a 20% sample of Medicare fee-for-service patients, we analyzed the quarterly patterns of four types of visits: out-of-state telehealth, out-of-state in-person, in-state telehealth, and in-state in-person. Our findings indicate that while the number of out-of-state telehealth services increased in 2020, the proportion of telehealth services that were provided across state lines remained relatively stable. In 2019, the median quarterly number of out-of-state telehealth services was very low (20 per quarter). In

2020, the number of out-of-state telehealth services increased, with the number of services provided in the first quarter at 359, the second quarter at 3,290, the third quarter at 1,461, and the fourth quarter at 1,748. In 2019, out-of-state telehealth visits represented 0.01% of all evaluation and management visits and 3% of all telehealth visits. In 2020, out-of-state telehealth comprised a median of 0.47% of all evaluation and management visits and 3% of all telehealth visits. Our finding that out-of-state telehealth comprised a small proportion of all evaluation and management visits is consistent with what we found on a national level<sup>3</sup>.

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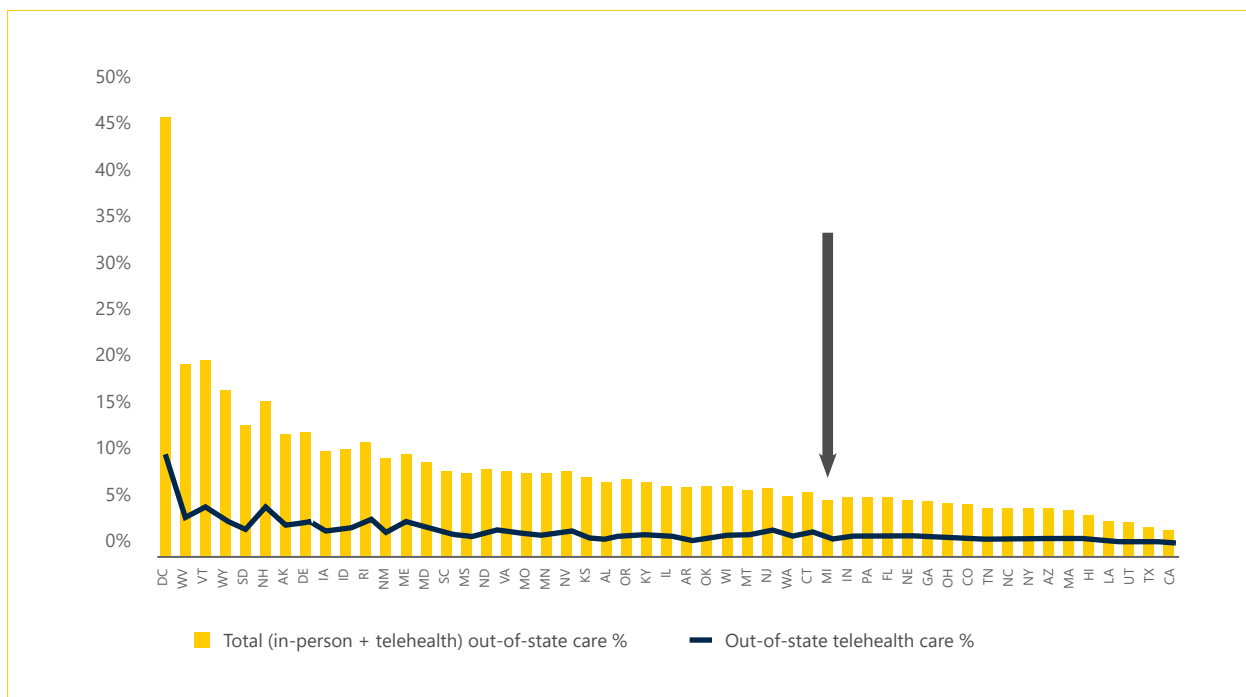
3 Andino JJ, Zhu Z, Surapaneni M, Dunn RL, Ellimoottil C. Interstate telehealth use by Medicare beneficiaries before and after COVID-19 licensure waivers, 2017-20. *Health Aff (Millwood)*. 2022 Jun;41(6):838-845.

## Exhibit 16: Quarterly Number of Outpatient Evaluation and Management Services for Medicare Beneficiaries by Four Visit Types, 2019-2020



Our research suggests that out-of-state care is less prevalent among Michigan Medicare patients compared to patients in other states. The states and districts with the highest percentages of evaluation and management visits performed by out-of-state clinicians were Washington, D.C. (45.5%), Vermont (19.6%), and West Virginia (19.0%). Similarly, the states with the highest percentages of out-of-state telehealth evaluation and management visits were Washington, D.C. (9.3%), Vermont (4.1%), and New Hampshire (4.1%). In 26 states, less than 1% of evaluation and management visits were performed by out-of-state clinicians. Michigan ranks 37th in terms of the percentage of evaluation and management visits performed by out-of-state clinicians and 45th in terms of the percentage of evaluation and management visits performed by out-of-state telehealth clinicians.

## Exhibit 17: State-by-State Comparison of Out-of-State Telehealth Visits (Yellow Line) and Total Out-of-State Visits (Blue Bar) as a Percentage of Total Evaluation and Management Visits, 2020



To gain insight into where Michigan residents were seeking out-of-state care in 2020, we analyzed data and found that 49% of these out-of-state visits were between Michigan residents and clinicians practicing in neighboring states, including Illinois, Indiana, Minnesota, Ohio, and Wisconsin. Additionally, 89% of out-of-state visits (in-person or telehealth) occurred between Michigan residents and clinicians practicing in one of the ten states listed above.



**Exhibit 18: Top Ten States Where Michigan Residents Received Care from Out-of-State Clinicians in 2020**

Patient residence	Provider state	Percentage of total out-of-state care that occurred in this state
Michigan	Florida	28%
Michigan	Indiana	17%
Michigan	Ohio	16%
Michigan	Wisconsin	8%
Michigan	Arizona	6%
Michigan	Illinois	4%
Michigan	California	3%
Michigan	Minnesota	2%
Michigan	Texas	2%
Michigan	New York	1%

# Telehealth Usage by Federally Qualified Health Centers and Rural Health Clinics

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## Key Takeaway

- The top ten Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs), identified as having the highest volume of Medicare claims, provided a median of 13% and 9% of their visits via telehealth in 2020, respectively.

## Policy Consideration

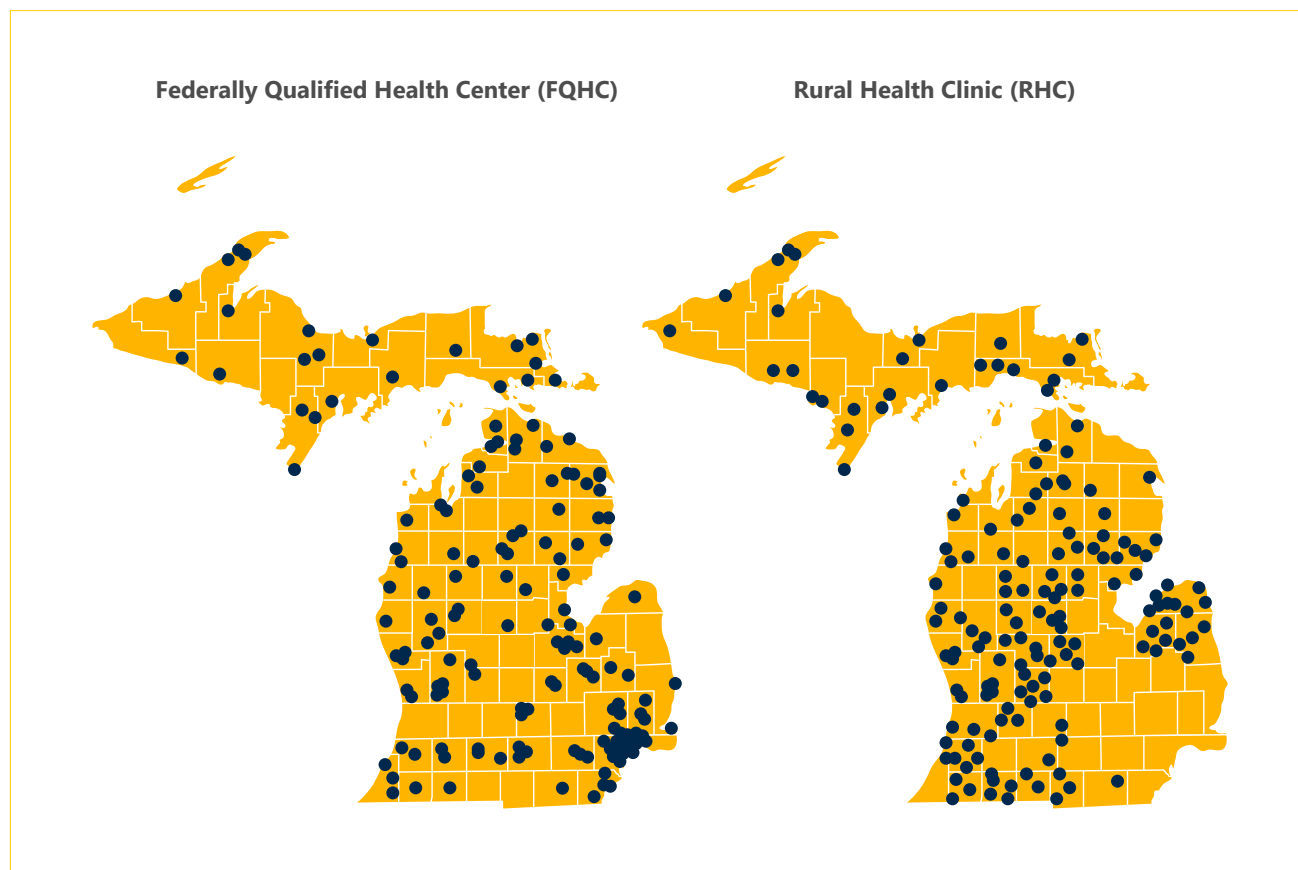
- Telehealth is an important part of care delivery for FQHCs and RHCs in Michigan.
- 

Federally Qualified Health Centers (FQHCs) are community health centers that offer primary and preventive healthcare services to underserved communities. They are funded by the federal government and must meet certain requirements in order to be designated as an FQHC, including providing services to patients regardless of their ability to pay. Similarly, Rural Health Clinics (RHCs) are primary care clinics located in rural areas that serve largely rural populations. They are also certified by the federal government and must meet certain standards to be designated as an RHC. These clinics are often found in areas with a shortage of healthcare providers and aim to provide comprehensive, affordable, and accessible primary care to underserved rural communities.

Prior to the Coronavirus Aid, Relief, and Economic Security (CARES) Act, FQHCs and RHCs were restricted to acting as originating sites for telehealth services. However, the guidelines implemented by the Act now allow these centers to serve as distant site providers of telehealth. In addition, the Consolidated Appropriations Act of 2023 enables FQHCs and RHCs to continue billing Medicare for telehealth services until December 31, 2024.

We identified a total of 273 active Federally Qualified Health Centers (FQHCs) and 221 active Rural Health Clinics (RHCs) in Michigan by analyzing the 2021 Medicare Provider Services file (Quarter 4). The distribution of these facilities was widespread, with FQHCs present in 69 out of the 83 counties in the state and RHCs in 61 counties.

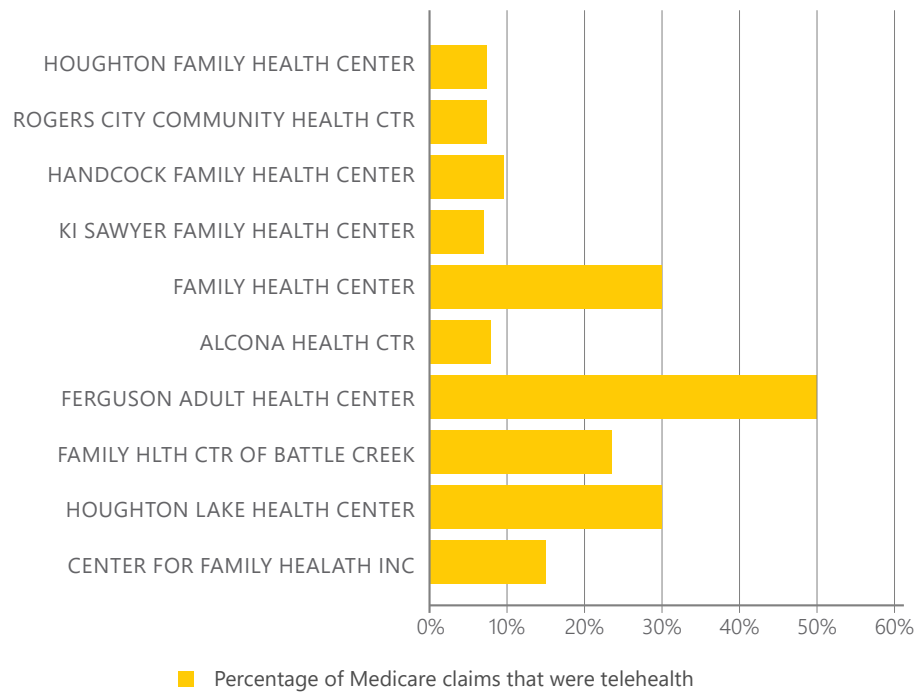
## Exhibit 19: Geographic Distribution of Federally Qualified Health Centers and Rural Health Clinics in Michigan, 2021



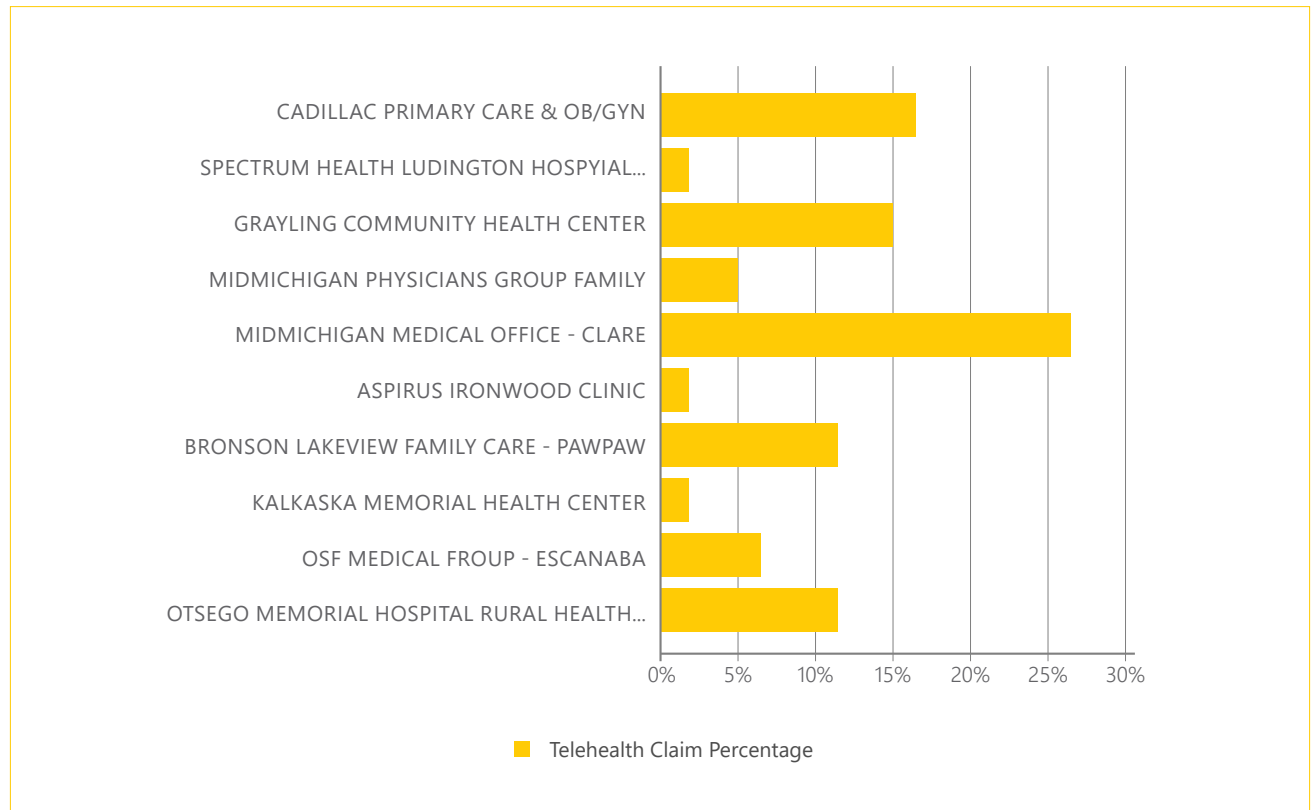
Note: Data from 2021 Medicare Provider Services file (Quarter 4)

We analyzed Medicare claims data from Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs) in Michigan to determine their utilization of telehealth. The exhibit below illustrates the top 10 FQHCs and RHCs that utilized telehealth and the proportion of their total Medicare visits that were conducted through telehealth. In 2020, the median percentage of visits conducted through telehealth for the top ten FQHCs and RHCs was 13% and 9%, respectively. It's worth noting that Medicare patients may constitute a small portion of the patient population at these clinics, thus our analysis is limited in scope.

## Exhibit 20: Top Ten Federally Qualified Health Centers by Volume of Medicare Claims and Their Telehealth Claims Percentage, 2020



## Exhibit 21: Top Ten Rural Health Clinics by Volume of Medicare Claims and Their Telehealth Claims Percentage, 2020



# The Impact of Telehealth Expansion on Access to Behavioral Health Services

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## Key Takeaway

- Using two methods to assess prevalence, we found that approximately 1 in 5 individuals in Michigan has a behavioral health/mental health condition.
- Behavioral health specialist shortages are prevalent in many Michigan counties. In fact, 50% of counties have 10 or fewer specialists, and 20% have either one or none at all.
- In 2021, telehealth services accounted for 46% of all behavioral healthcare provided to Medicare beneficiaries residing in Michigan counties with high demand for these services.
- Among Medicaid beneficiaries residing in Michigan counties with high demand for behavioral healthcare, 52% received their treatment via telehealth in 2021.
- In 2021, 82% of behavioral healthcare delivered to Medicare patients living in areas with shortages of behavioral health specialists came from professionals located in a different county. Furthermore, 47% of visits to these specialists were conducted via telehealth.

## Policy Consideration

- Telehealth expansion has undeniably enhanced access to behavioral health services in two significant ways. First, it has provided a means of delivering care to areas in Michigan with a high demand for behavioral health services. Second, it has extended access to counties where there are shortages of behavioral health providers, bringing these much-needed services to underserved communities.
- 

Telehealth has revolutionized the practice of behavioral health by providing an easy and accessible way for patients to receive treatment for mental health and substance abuse issues. Before telehealth became widespread, many people with behavioral health conditions faced difficulties accessing care, often due to a shortage of providers in their area. Additionally, the social stigma and inconvenience of in-person visits prevented many from seeking help. Telehealth has eliminated these barriers by enabling patients to connect with providers remotely, regardless of their location. This has been especially beneficial for those living in rural areas, where accessing mental healthcare can be particularly challenging.

According to the Centers for Disease Control, over half of all individuals will be diagnosed with a mental illness or disorder at some point in their lifetime.<sup>4</sup> Additionally, one in five Americans will experience a mental illness in a given year. This trend holds true in the state of Michigan, where an analysis by Altarum, funded by the Michigan Health Endowment Fund, estimates that in 2019, nearly 20% Michigan's 9.9 million residents experienced a mental illness.<sup>5</sup>

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4 Centers for Disease Control and Prevention. About Mental Health. <https://www.cdc.gov/mentalhealth/learn>. Accessed April 21, 2023.

5 Rhyon C, Turner A, Daly M, Hudrle-Rabb Danielle. Access to Behavioral Health Care In Michigan, 2019 Data Update. Altarum. <https://altarum.org/publications/access-behavioral-health-care-michigan-2019-data-update>. Accessed May 4, 2023.

We analyzed the impact of telehealth expansion on access to behavioral health services using two analytic approaches:

**Analysis #1: To what extent has the expansion of telehealth changed access to care from behavioral health specialists in counties with a high demand for behavioral health services?** To conduct this analysis, we initially computed the demand for behavioral health services at the county level. Next, we determined the extent to which telehealth, provided by behavioral health specialists, had penetrated these high-demand counties for behavioral health services.

**Analysis #2: To what extent has the expansion of telehealth improved access to behavioral health specialists in counties facing shortages of such specialists?** For this analysis, we first identified counties with a low supply of behavioral health specialists (i.e., behavioral health shortage areas). Next, we determined the extent to which telehealth, provided by behavioral health specialists outside of these counties, had penetrated these areas.

*Analysis #1: To what extent has the expansion of telehealth changed access to care from behavioral health specialists in counties with a high demand for behavioral health services?*

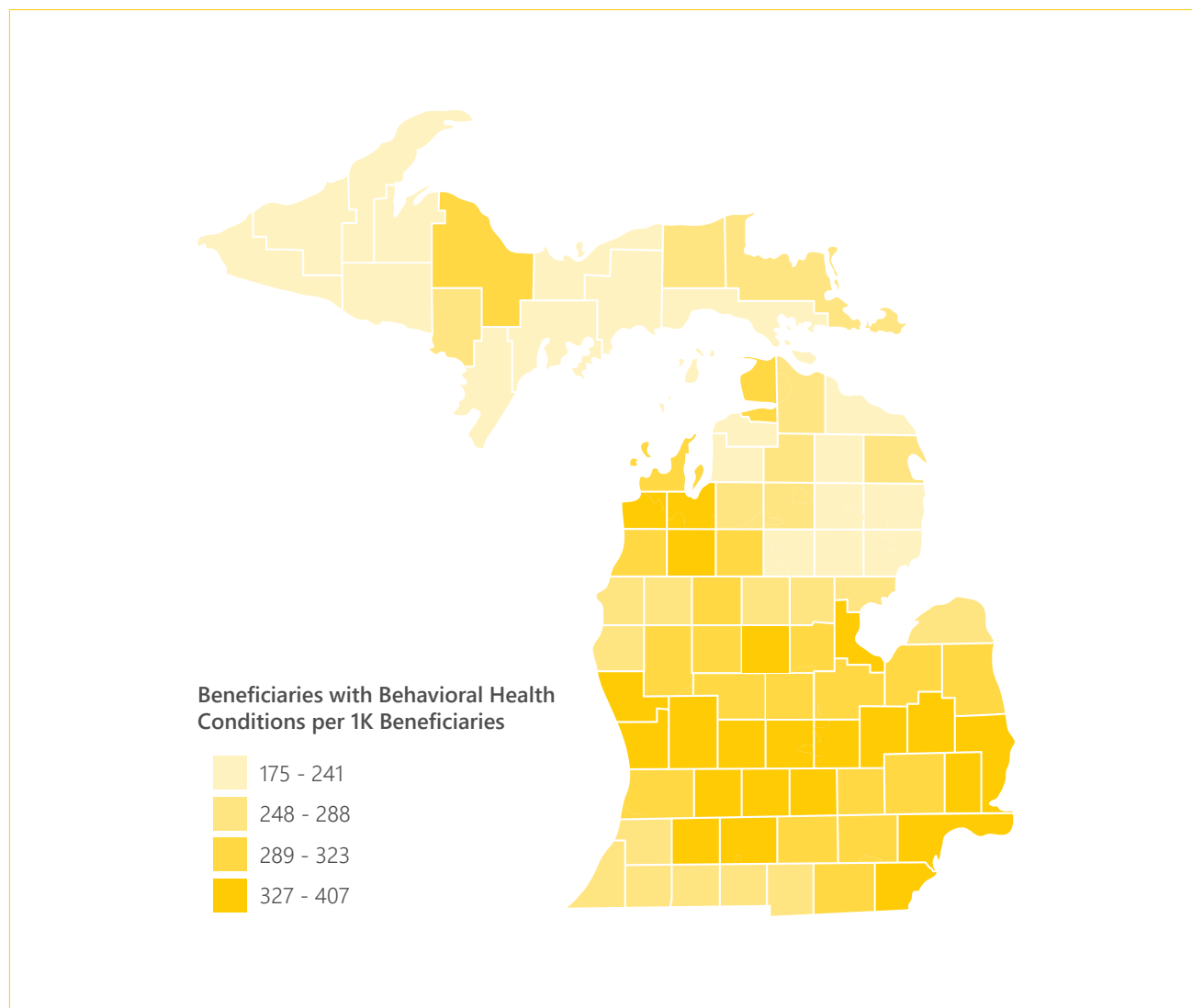
We calculated the county-level demand for behavioral health services in two ways:

- **Method #1: Prevalence of any mental illness using 2018-2020 National Survey on Drug Use and Health (NSDUH).** This is analogous to the approach used by Altarum in their report, *Access to Behavioral Health Care in Michigan*
- **Method #2: Percentage of individuals who have an insurance claim with a behavioral health diagnosis listed using Medicare fee-for-service data from 2019-2021.** We established that patients needed to have two or more claims for a qualifying behavioral health diagnosis. These claims for behavioral health diagnoses could be submitted by any provider, including primary care providers, not just behavioral health specialists.

Both methods of estimating demand have their advantages and disadvantages. For instance, survey-based methods can provide insight into the overall need for behavioral health services, regardless of whether care was received but may overestimate the demand for behavioral health as patients may self-report symptoms without necessarily desiring or meeting criteria for treatment. On the other hand, claims-based methods may underestimate prevalence by not capturing individuals with behavioral health conditions who did not seek care. Therefore, we used both survey-based and claims-based estimates to provide a more comprehensive understanding of county-level demand for behavioral health services.

Using the survey-based method, we found that the average county-level prevalence of any mental illness was 21% and that the county-level prevalence ranged from 18% to 23%. Using the claims-based method, we found that the county-level prevalence of behavioral health conditions was 23% and that the county-level prevalence ranged from 7% to 40%. Exhibit 22 illustrates the geographic distribution of patients who have been diagnosed with a behavioral health condition based on our claims-based method.

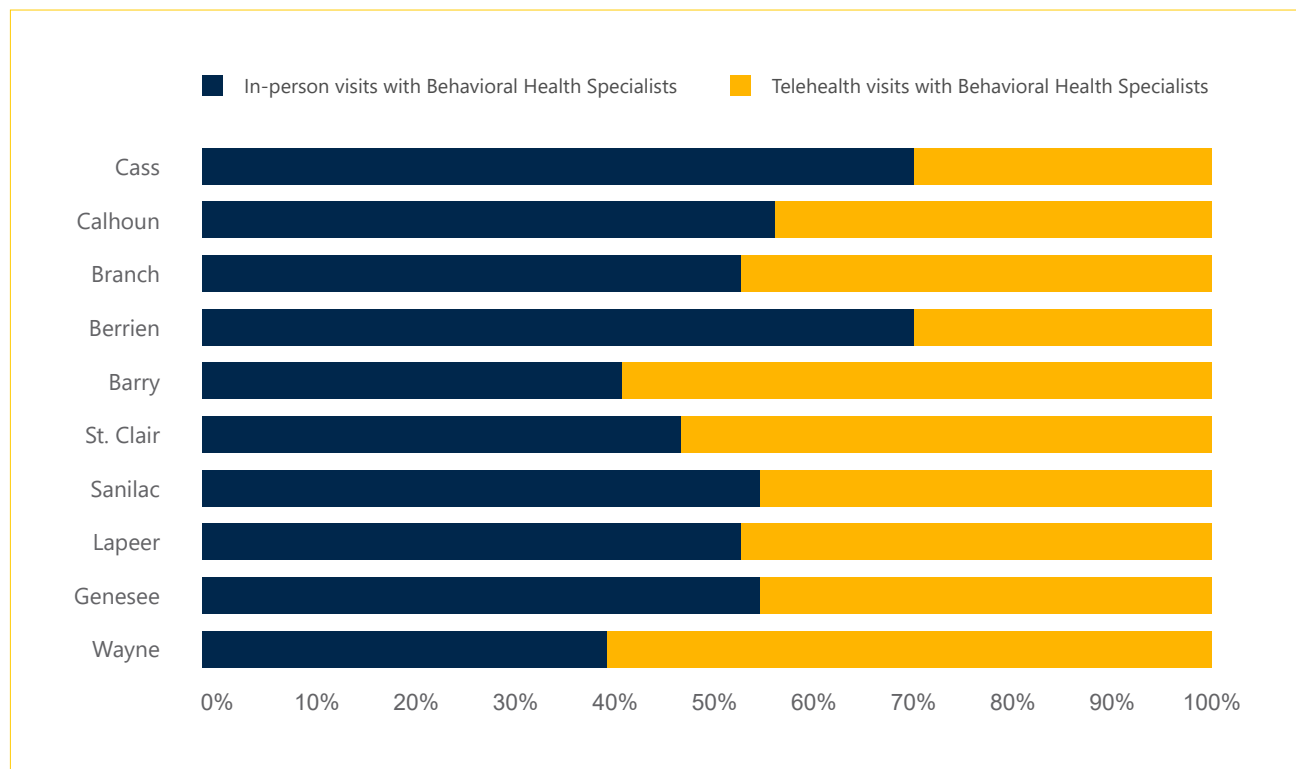
## Exhibit 22: Demand for Behavioral Health Services in Michigan Counties Based on Claims Data, 2021



To determine the utilization of telehealth in Michigan counties with high demand for behavioral health services, we first analyzed the top ten counties with the highest demand using data from the 2018-2020 National Survey on Drug Use and Health. We then calculated telehealth visit rates with behavioral health specialists using 2021 Medicare fee-for-service data. On average, we found that 46% of visits with behavioral health specialists in these counties were conducted via telehealth, with a range of 29% in Cass County to 60% in Wayne County.

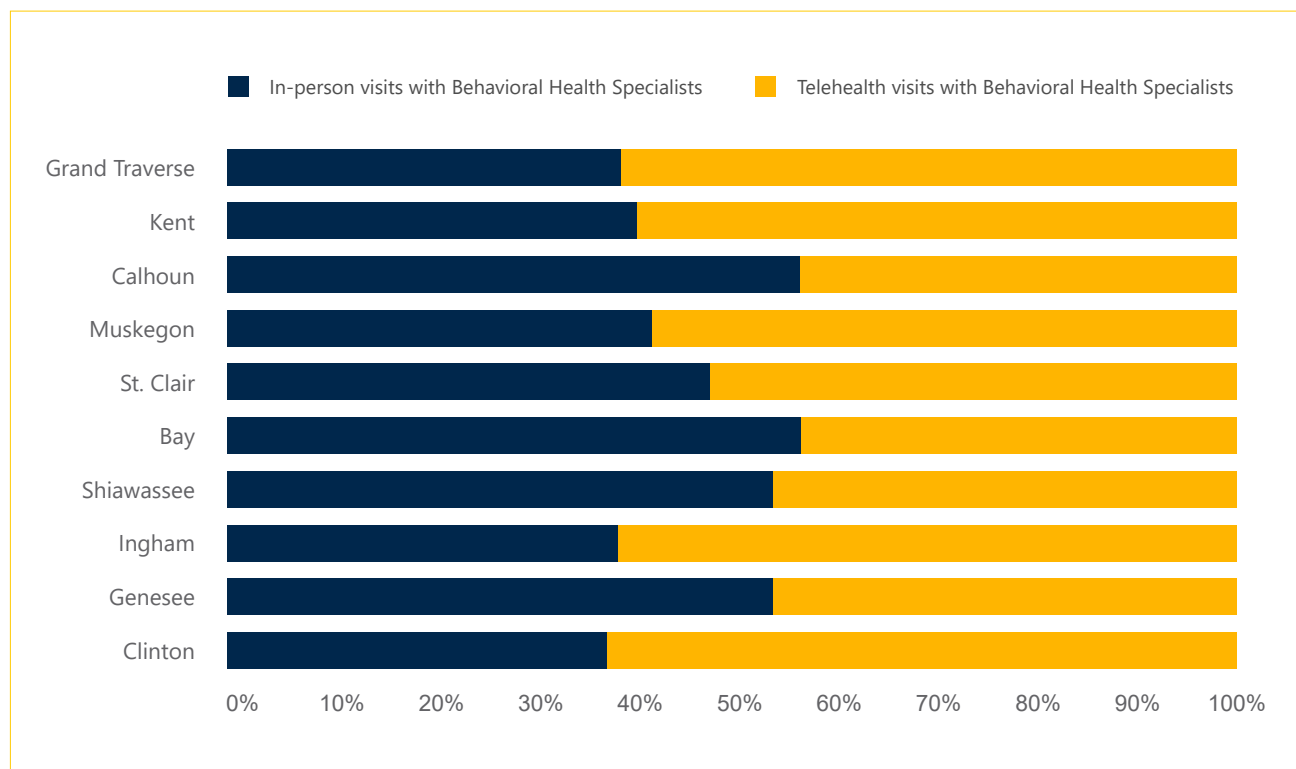


### Exhibit 23: Percentage of Behavioral Health Specialist Visits Conducted via Telehealth in the 10 Counties with the Highest Survey-Based Demand for Telehealth, 2021



We then performed a similar analysis by identifying the top ten counties with the highest demand for behavioral health services utilizing Medicare claims data. We discovered that, on average, 53% of visits with behavioral health specialists in these counties were conducted via telehealth, with a range of 63% to 43%.

## Exhibit 24: Percentage of Behavioral Health Specialist Visits Conducted via Telehealth in the 10 Counties with the Highest Claims-Based Demand for Telehealth, 2021



We performed a complementary analysis of Medicaid claims both at the visit and individual level. Results are shown in Exhibits 25 and 26.

**Exhibit 25: Number of Medicaid-Enrolled Beneficiaries Residing in High-Demand Counties, Who Had an Outpatient Visit for Mental Health or Substance Use Disorder, with Only In-Person Visit(s) vs. Telehealth Visit(s), 2019 & 2021**

	In-person only	Any telehealth	% telehealth
2019	253,158	4,040	1.6%
2021	130,505	141,395	51.6%

## Exhibit 26: Number of Outpatient Visits for Mental Health or Substance Use Disorder by Medicaid Beneficiaries Residing in High-Demand Counties, In-Person vs. Telehealth, 2019 & 2021

	# In-person visits	# telehealth visits	% telehealth
<b>2019</b>	5,903,065	11,888	0.2%
<b>2021</b>	5,143,080	1,094,524	17.5%

*Analysis #2: To what extent has the expansion of telehealth improved access to behavioral health specialists in counties facing shortages of such specialists?*

There are various ways to measure the shortage of behavioral health specialists. One such method is by analyzing the ratio of behavioral health providers to citizens. According to research from the University of Wisconsin Population Health Institute, Michigan has an average of one behavioral health provider for every 360 citizens; however, there is significant variation in the availability of behavioral health providers across different counties. Of Michigan's 83 counties, only 15 have ratios below this statewide average, leaving 68 counties facing varying degrees of shortages. Additionally, Michigan has a total of 242 designated Health Professional Shortage Areas (HPSAs) for mental healthcare, which means that more than 40% of the state's population lives in an area with unmet behavioral healthcare needs. Furthermore, analysis from Altarum indicates that about 40% of Michigan residents with a behavioral health condition do not receive treatment, and for those with substance use disorders, 80% do not receive care.<sup>6</sup>

To pinpoint areas facing a shortage of behavioral health providers, we calculated the number of behavioral health providers with a mailing address in each county. We considered providers in the fields of psychiatry, geriatric psychiatry, neuropsychiatry, psychology, clinical psychology, licensed clinical social work, and addiction medicine as behavioral health specialists. We included only providers who were actively providing care in our data set, which is an advantage over relying solely on National Provider Identification numbers, as some providers may have an NPI but not be currently providing care. Additionally, we also included Federally Qualified Health Centers (FQHCs) and Rural Health Clinics as behavioral health providers because the specialists at these centers may not bill using their own national provider identifier. While methodological differences can lead to varying classifications of what constitutes a behavioral health shortage area, when we compared our analysis to that produced by Altarum, we found 86% agreement in the counties identified as a behavioral health shortage area.

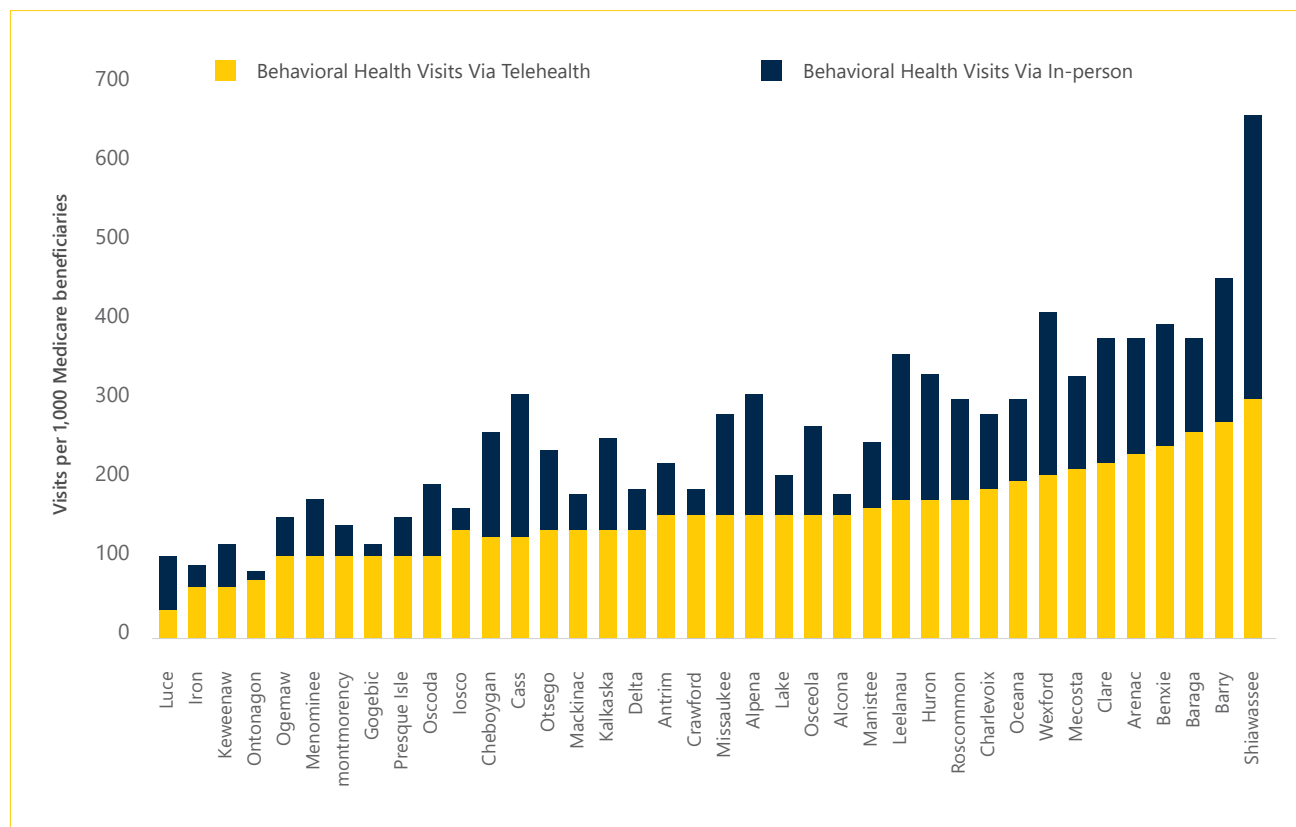
Specifically, we identified the following 38 counties as behavioral health shortage areas because they have 10 or fewer behavioral health specialists that practice in the county:

<sup>6</sup> Rhyon C, Turner A, Daly M, Hudrle-Rabb Danielle. Access to Behavioral Health Care In Michigan, 2019 Data Update. Altarum. <https://altarum.org/publications/access-behavioral-health-care-michigan-2019-data-update>. Accessed May 4, 2023.

Baraga	Luce	Cass
Keweenaw	Arenac	Wexford
Ontonagon	Delta	Gogebic
Mackinac	Kalkaska	Alpena
Oscoda	Crawford	Charlevoix
Ogemaw	Clare	Huron
Roscommon	Cheboygan	Manistee
Lake	Mecosta	Presque Isle
Missaukee	Iron	Shiawassee
Osceola	Alcona	Barry
Iosco	Oceana	
Menominee	Otsego	
Montmorency	Leelanau	
Antrim	Benzie	

In our first analysis of telehealth access in counties experiencing a behavioral health shortage, we determined the number of visits conducted by behavioral health providers for Medicare fee-for-service patients. We then evaluated the proportion of these visits that were performed through telehealth versus in-person. We found that 57% of visits in areas with a behavioral health shortage were conducted via telehealth.

## Exhibit 27: Utilization of Telehealth and In-Person Care by Patients Residing in Behavioral Health Shortage Areas, 2021



However, this issue required further investigation. While telehealth was being used in behavioral health shortage areas, it was uncertain whether it was truly improving access to care or simply making it more convenient for patients. In the former scenario, we would expect that behavioral health specialists who do not reside in behavioral health shortage areas would provide care to patients in those areas. If this is the case, we can confidently say that access to care has been improved through telehealth. However, if all the telehealth care provided to patients in behavioral health shortage areas is by providers who also reside in those areas, then it is simply more convenient but not necessarily an improvement in access to care.

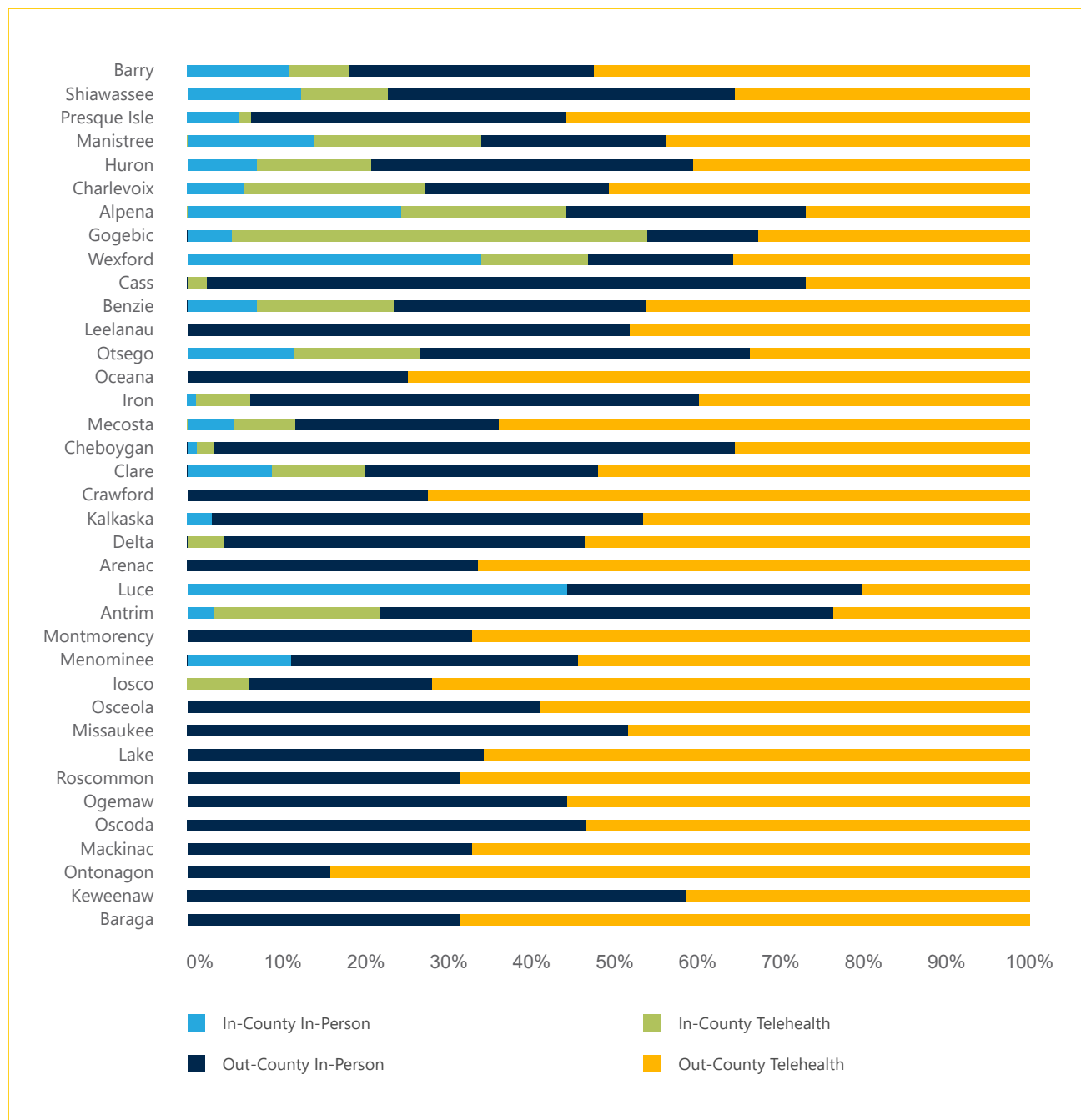
To investigate this, we divided behavioral health specialist visits into four categories:

Category	Patient and provider location
1. In-county in-person	Patient and provider are located in the same county and the visit is performed in person
2. In-county telehealth	Patient and provider are located in the same county and the visit is performed via telehealth
3. Out-of-county in-person	Patient and provider are located in different counties and the visit is performed in person
4. Out-of-county telehealth	Patient and provider are located in different counties and the visit is performed via telehealth

The first two categories represent local care, with the second category being more convenient as it is through telehealth. The third category represents care outside of the behavioral health shortage area but still requiring the patient to travel to receive care. Lastly, the fourth category, which is of particular interest, is telehealth provided to high-need shortage areas by providers who reside in other counties.

Exhibit 28 illustrates our finding that a considerable proportion of patients residing in behavioral health shortage areas received care through telehealth from providers outside other counties. Specifically, we found that 82% of behavioral health visits in behavioral health shortage areas were delivered by behavioral health specialists residing in a different county. 47% of these visits were conducted via telehealth. The remaining 36% took place in person, requiring patients to travel to a different county to receive the service. These findings strongly indicate that telehealth has significantly improved access to behavioral health services in areas with a shortage of providers.

## Exhibit 28: Percentage of Behavioral Health Specialist Visits Provided by Out-of-County Specialists via Telehealth (Yellow Bar) in Michigan Counties with Shortages of Behavioral Health Specialists, 2021



We performed a complementary analysis of behavioral health shortage areas in Medicaid claims both at the visit and individual level. Results are shown in Exhibits 29 and 30.



**Exhibit 29: Number of Medicaid-Enrolled Beneficiaries Residing in Behavioral Health Provider Shortage Counties with Outpatient Visits for Mental Health or Substance Use Disorder: In-Person Visit(s) Only vs. Telehealth Visit(s)**

	# Patients with In-Person Visits Only	# Patients with Telehealth Visits	% Telehealth
<b>2019</b>	26,171	2,836	9.1%
<b>2021</b>	17,252	13,813	41.7%

**Exhibit 30: Number of Outpatient Visits for Mental Health or Substance Use Disorder by Medicaid Beneficiaries Residing in Behavioral Health Provider Shortage Counties: In-Person Visit(s) vs. Telehealth Visit(s)**

	# Visits that were In-person	# Visits that were Telehealth	% Telehealth
<b>2019</b>	514,808	8,593	1.6%
<b>2021</b>	437,605	97,168	18.1%

# Methodology

## Data Sources

<b>Medicare fee-for-service</b>	We utilized two datasets to analyze the effects of telehealth on Medicare beneficiaries. For the majority of our analysis, we examined a dataset that included a 100% national sample of Medicare beneficiaries who live in Michigan. For interstate analyses, we used a 20% national sample of Medicare beneficiaries to compare nearby states. Within the Medicare datasets, we employed the outpatient file to identify visits that took place at federally-qualified health centers and rural health clinics, the carrier file to identify evaluation and management visits, and the beneficiary summary file to describe demographics and entitlement.
<b>Commercial payer</b>	For our commercial payer data sample, we utilized data from Blue Cross Blue Shield of Michigan, which was generously provided by our colleagues at the Michigan Value Collaborative (MVC).
<b>Medicaid</b>	We extracted Medicaid data from the state Enterprise Data Warehouse, and utilized existing algorithms to identify outpatient visits related to mental health or substance use disorder, based on diagnosis and procedure codes. The data was then summarized to generate monthly aggregate numbers of outpatient visits, differentiating between those conducted via telehealth versus in-person. Sarah Clark and her team at the Susan B. Meister Child Health Evaluation and Research Center conducted this analysis as part of the 1003 SUPPORT Act Demonstration Project, and selected aggregated results were presented in this report.
<b>American Community Survey</b>	To evaluate broadband access in Michigan, we utilized the American Community Survey. We specifically examined the 2021 5-year estimates and leveraged the variable "B28002_004E: With an Internet subscription: Broadband of any type" to determine the percentage of households in each county that had broadband access.
<b>Rural</b>	We identified rural zip codes using the Federal Office of Rural Health Policy (FORHP) Data Files. These files are available here: <a href="https://www.hrsa.gov/rural-health/about-us/what-is-rural/data-files">https://www.hrsa.gov/rural-health/about-us/what-is-rural/data-files</a>

### Key Definitions

<b>Telehealth</b>	To identify telehealth services, we referred to Medicare's list of eligible telehealth services and used the corresponding modifier codes (GT, GQ, 95) or place of service code for each year of the study. Additionally, we utilized Healthcare Common Procedure Coding System codes for selected virtual care services such as phone visits, virtual check-ins, online digital evaluations, interprofessional consultations, and remote monitoring.
<b>Behavioral health provider</b>	<p>We identified behavioral health providers using the specialty code, which is available on Medicare claims. Specifically, we used the following codes:</p> <ul style="list-style-type: none"> <li>26 Psychiatry</li> <li>27 Geriatric psychiatry</li> <li>86 Neuropsychiatry</li> <li>62 Psychologist (billing independently)</li> <li>68 Clinical psychologist</li> <li>80 Licensed clinical social worker</li> <li>79 Addiction medicine</li> </ul>
<b>Behavioral health conditions</b>	To identify behavioral health conditions, we utilized ICD-10-CM codes, which were then aggregated using the refined Clinical Classifications Software (CCSR) provided by the Agency for Healthcare Research and Quality (AHRQ). This software categorizes more than 70,000 ICD-10-CM diagnosis codes into over 530 clinical categories across 22 body systems. The list of CCSR codes that were utilized for this study are provided in the Table below.

## TABLE OF BEHAVIORAL HEALTH CONDITIONS USED IN THIS ANALYSIS

<b>MBD001</b>	Schizophrenia spectrum and other psychotic disorders
<b>MBD002</b>	Depressive disorders
<b>MBD003</b>	Bipolar and related disorders
<b>MBD004</b>	Other specified and unspecified mood disorders
<b>MBD005</b>	Anxiety and fear-related disorders
<b>MBD007</b>	Trauma- and stressor-related disorders
<b>MBD008</b>	Disruptive, impulse-control and conduct disorders
<b>MBD009</b>	Personality disorders
<b>MBD010</b>	Feeding and eating disorders
<b>MBD011</b>	Somatic disorders
<b>MBD012</b>	Suicidal ideation/attempt/intentional self-harm
<b>MBD013</b>	Miscellaneous mental and behavioral disorders/conditions
<b>MBD017</b>	Alcohol-related disorders
<b>MBD018</b>	Opioid-related disorders
<b>MBD019</b>	Cannabis-related disorders
<b>MBD020</b>	Sedative-related disorders
<b>MBD021</b>	Stimulant-related disorders
<b>MBD022</b>	Hallucinogen-related disorders
<b>MBD023</b>	Inhalant-related disorders
<b>MBD024</b>	Tobacco-related disorders
<b>MBD025</b>	Other specified substance-related disorders
<b>MBD026</b>	Mental and substance use disorders in remission
<b>MBD027</b>	Suicide attempt/intentional self-harm; subsequent encounter
<b>MBD028</b>	Opioid-related disorders; subsequent encounter
<b>MBD029</b>	Stimulant-related disorders; subsequent encounter
<b>MBD030</b>	Cannabis-related disorders; subsequent encounter
<b>MBD031</b>	Hallucinogen-related disorders; subsequent encounter
<b>MBD032</b>	Sedative-related disorders; subsequent encounter
<b>MBD033</b>	Inhalant-related disorders; subsequent encounter
<b>MBD034</b>	Mental and substance use disorders; sequela