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# Rapid Growth In Mental Health Telemedicine Use Among Rural Medicare Beneficiaries, Wide Variation Across States

**ABSTRACT** Congress and many state legislatures are considering expanding access to telemedicine. To inform this debate, we analyzed Medicare fee-for-service claims for the period 2004–14 to understand trends in and recent use of telemedicine for mental health care, also known as telemental health. The study population consisted of rural beneficiaries with a diagnosis of any mental illness or serious mental illness. The number of telemental health visits grew on average 45.1 percent annually, and by 2014 there were 5.3 and 11.8 telemental health visits per 100 rural beneficiaries with any mental illness or serious mental illness, respectively. There was notable variation across states: In 2014 nine had more than twenty-five visits per 100 beneficiaries with serious mental illness, while four states and the District of Columbia had none. Compared to other beneficiaries with mental illness, beneficiaries who received a telemental health visit were more likely to be younger than sixty-five, be eligible for Medicare because of disability, and live in a relatively poor community. States with a telemedicine parity law and a pro-telemental health regulatory environment had significantly higher rates of telemental health use than those that did not.

Fewer than one-third of patients with mental illness in the United States surveyed between 2001 and 2003 received specialty mental health care in the previous twelve months.<sup>1</sup> Among patients with more serious mental illness, fewer than half received specialty mental health care,<sup>2,3</sup> and 43 percent reported unmet need for mental health care.<sup>3</sup> The lack of mental health specialists in some communities is a key driver of low utilization, particularly in rural areas.<sup>4,5</sup> Telemedicine in the form of live video teleconferencing with a specialty mental health clinician—known as telemental health—is one proposed way to alleviate these access barriers.<sup>6,7</sup>

Compared to other conditions, mental health conditions may be particularly well suited to tele-

medicine, given that visits frequently do not involve a physical exam. Using telemental health to assess and treat patients with mental illness has been demonstrated to be comparable or even superior to in-person care in numerous randomized trials,<sup>8–10</sup> particularly for patients with depression<sup>11–13</sup> and schizophrenia.<sup>14–16</sup> The Department of Veterans Affairs has described its widespread implementation of telemental health.<sup>17,18</sup> However, research has provided few insights into how telemental health is being used in other real-world settings.<sup>19</sup>

In this article we describe telemental health use across the United States among Medicare beneficiaries with a diagnosis of mental illness. Medicare has taken a cautious approach to reimbursement for telemedicine. Current Medicare

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regulations provide coverage only for those living in rural areas, and they mandate that the interaction occur via live videoconference. In addition, the patient must be hosted at a clinic or facility such as a hospital in a rural region, and not be at home or the workplace.<sup>20</sup> In 2015 Medicare created a limited exception for urban patients who are cared for by certain accountable care organizations.<sup>21,22</sup> Medicare also limits what types of care can be provided by telemedicine—though currently this set of reimbursable care includes almost all mental health encounters, such as consultations, office visits, psychotherapy, and psychopharmacologic management.<sup>23</sup>

The telemedicine clinician is reimbursed at the same rate as the provider of an office visit at a similar level, and the hosting facility receives a small reimbursement to cover the costs of the space and equipment required for hosting.<sup>20</sup> The telemedicine clinician typically must be licensed in the state where the patient resides: Only fourteen states extend conditional or telemedicine licenses to out-of-state physicians.<sup>24</sup>

Many bills have been proposed in Congress to expand telemedicine services in Medicare. These include proposals to pay for visits in the patient's home, make all beneficiaries (both rural and urban) eligible, and make it easier for beneficiaries to receive care from physicians licensed in another state.<sup>25</sup> None of the bills have become law, in part because of the Congressional Budget Office's concerns about their financial impact. The Congressional Budget Office recently emphasized the need for more research on how telemedicine is being used among those with commercial insurance or Medicare.<sup>26</sup>

To inform both policy makers and the mental health community, we describe how telemental health is being used among Medicare beneficiaries diagnosed with any mental illness and among those diagnosed with a serious mental illness, and how its use has changed over time. We characterize the rates of telemental health use, how use varies by state, and the patients and clinicians who are most likely to receive or provide telemental health.

## Study Data And Methods

**IDENTIFYING RURAL BENEFICIARIES** We used 2004–14 Medicare Part B claims for a 20 percent sample of fee-for-service Medicare beneficiaries. We restricted our analyses to Medicare beneficiaries who lived in a rural community, as dictated by Medicare coverage policy. We used Medicare's definition of *rural*, which is ZIP codes outside of a metropolitan Core Based Statistical Area or those within an area assigned a rural-urban commuting area code 4–10 (micropolitan

to rural). Based on these criteria, 31.7 percent of all fee-for-service Medicare beneficiaries live in a rural area.

**IDENTIFYING BENEFICIARIES WITH MENTAL ILLNESS** We focused on two populations of rural Medicare beneficiaries: those diagnosed with any mental illness, and those diagnosed with serious mental illness. To identify individuals diagnosed with any mental illness, we required at least two outpatient visits or one inpatient admission in a given year with an *International Classification of Diseases*, Ninth Revision (ICD9), code with any mental health diagnosis (291, 292, or 295–316), excluding codes for disorders related to brain damage (310) or tobacco dependence (305.1).

The federal government's definition of *serious mental illness* requires both that the diagnosable disorder meet the psychiatric criteria of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) and that the disorder have resulted in functional impairment.<sup>27</sup> Since claims data do not provide the clinical detail that enables one to know whether a disorder is disabling, we chose to define *serious mental illness* by including diagnoses that typically are disabling and are commonly included when defining populations with serious mental illness.<sup>28–30</sup> These diagnoses are schizophrenia and psychotic disorders (ICD9 codes 295 and 297), bipolar disorder (296.0, 296.1, 296.4–296.6, 296.7, 296.8, 296.9, 301.11, and 301.13), and depression with psychotic features (296.2, 296.3, 300.4, 301.12, 309.1, and 311 when the fifth digit of the code is 3 or 4). Cohorts were created for each calendar year.

**DEFINING BENEFICIARY CHARACTERISTICS** We used the Medicare Beneficiary Summary file to identify beneficiaries who were eligible for Medicare because of disability or end-stage renal disease. We identified non-behavioral health chronic illnesses (excluding depression and schizophrenia) according to Hierarchical Condition Categories using diagnosis codes from hospitalizations, hospital outpatient visits, and physician encounters in a given year. We used census data to categorize beneficiaries by the median family income in the beneficiary's ZIP code of residence.

Finally, we calculated the distance from the centroid of the beneficiary's ZIP code of residence to the centroid of the telemental health clinician's ZIP code. We did not look at the distance from the hosting site to the telemental health clinician because data on the hosting site were not available for most telemental health visits.

**IDENTIFYING TELEMEDICINE VISITS** *Telemedicine visits* were defined as evaluation and man-

# Telemental health appears to be complementing and supplementing in-person care.

agement visits using Healthcare Common Procedure Coding System codes, with GT and GQ modifier codes indicating the use of interactive audio and video telecommunication systems or asynchronous telecommunications systems, respectively. The following telemedicine-specific Healthcare Common Procedure Coding System codes also were used in our definition: G0425–7 (telehealth consultations emergency department, initial inpatient), G0406–8 (follow-up inpatient, skilled nursing facility consultations via telehealth), and G0459 (pharmacologic management service furnished via telehealth to inpatients).

**IDENTIFYING TELEMENTAL HEALTH VISITS AND IN-PERSON MENTAL HEALTH VISITS** We categorized all visits (in person and telemedicine) as mental health–related based on the procedure code (for a full list of the relevant codes, see the online Appendix)<sup>31</sup> or if the first or second diagnosis code was associated a mental health diagnosis (using the list of diagnosis codes above). Because substance use disorders and mental illness often coexist, we included substance use codes on the list of procedure codes. However, we acknowledge that we have underestimated substance use disorder care, since CMS has redacted Medicare claims related to such care from all research data sets because of privacy concerns. To address concerns that add-on codes (such as 90833) or facility codes might lead to our overestimating the numbers of visits, we included a maximum of one visit per day. We excluded a small number (1.7 percent) of telemental health visits in which the physician specialty was primary care (general practice, family medicine, or internal medicine), to ensure that we included only specialty telemental health care.

We examined the training of the clinicians who provided telemental health and in-person mental health specialty care. We wanted know how often clinicians were seeing their patients via both modes. Also, we hypothesized that telemental health was predominantly used for care pro-

vided by psychiatrists.

**CATEGORIZING VISITS BY REASON** We classified telemental health visits based on the first diagnosis code listed. While the first diagnosis listed is not always the main problem addressed in a visit, using the first diagnosis code can help characterize common conditions treated by telemental health at the population level.

**STATE REGULATORY AND PAYMENT ENVIRONMENT FOR TELEMENTAL HEALTH** More than half of the states have passed telemedicine parity laws to encourage the growth of telemedicine by requiring commercial or Medicaid plans or both to pay for care via telemedicine.<sup>32</sup> We compared the rate of telemental health visits in states with and without such a law in 2012 (for a list of states with such a law, see Appendix Table A1).<sup>31</sup>

The provision of telemental health is also affected by regulations such as licensing and how care can be provided via telemedicine. The American Telemedicine Association has given each state a grade (A, B, C, or F) for how it regulates the provision of telemental health by licensed psychologists. We examined variation in telemental health use across states categorized by their letter grade (grouping C and F together, as only one state received an F).<sup>32</sup> While this grading scheme focused on psychologists, we used the grade as a proxy for the telemental health regulatory environment in a state for all specialty mental health clinicians.

**ANALYSES** We calculated the numbers of annual telemental health visits among rural Medicare beneficiaries in the period 2004–14. Because we used a 20 percent sample of fee-for-service Medicare beneficiaries, all estimates of the number of visits were weighted by 5. Using Student's *t* test, we compared the rates of telemental health visits in 2004 and 2014 per 100 patients with any mental illness and per 100 patients with a serious mental illness. We also compared the 2004–14 rate of utilization growth in states with and without telemedicine parity laws.

We estimated a multivariable logistic regression model to determine what beneficiary characteristics were associated with telemental health use in 2014, the most recent year for which data were available. The unit of analysis was the patient, and the outcome was whether the patient had a telemental health visit in 2014. Variables in the model were age, sex, race, reason for Medicare eligibility, median family income in the beneficiary's ZIP code, and number of comorbidities (0, 1, 2, or 3 or more) in 2014.

We conducted a sensitivity analysis in which we defined comorbidities based on data for the previous year. This had no substantive impact on our findings.

**LIMITATIONS** These analyses had several key

limitations. First, we might have undercounted the number of telemental health visits. For patients dually eligible for and covered by Medicare and Medicaid, any telemental health visits covered only by Medicaid would not be captured in our data. In addition, clinicians may provide telemental health services to Medicare beneficiaries for which they do not seek reimbursement or may erroneously submit claims,<sup>33</sup> and this may be more common in states without telemedicine parity laws.

Second, a limitation of any current analysis of Medicare data is that substance use disorder claims have been redacted because of a federal privacy law on substance use disorder treatment.<sup>34</sup> Given that patients with mental illness often also have a substance use disorder, the redaction of these claims could have led us to underestimate the use of telemental health.

Third, we categorized visits based on the first listed diagnosis, but the order of diagnoses in Medicare claims can be arbitrary. Fourth, we could identify patients with mental illness based only on the care they received (treated prevalence), and we do not know how many patients with mental illness receive no care but could benefit from telemental health.

Fifth, when a patient receives a telemental health visit, he or she must be hosted at a local facility. Because information on the hosting facility was available in our data for fewer than half of the telemedicine encounters included, we were not able to characterize the hosting facilities. Finally, because claims data do not include information about whether an illness is disabling, our definition of *serious mental illness* is conservative and likely led to our underestimating the number of Medicare beneficiaries with serious mental illness who received telemental health services.

## Study Results

**CHARACTERISTICS OF RECIPIENTS OF A TELEMENTAL HEALTH VISIT** Of all rural Medicare beneficiaries in 2014, 1,645,200 (14.5 percent) had a mental health diagnosis, and 424,385 (3.7 percent) had a diagnosis of a serious mental illness. In 2014, 1.5 percent (95% confidence interval: 1.5, 1.5) of rural beneficiaries diagnosed with any mental illness and 3.7 percent (95% CI: 3.5, 3.8) of those diagnosed with serious mental illness received a telemental health visit (data not shown). The most common primary diagnoses on the telemental health visit claims were major depressive disorder and bipolar disorder (ICD-9 code 296; 20.9 percent; 95% CI: 20.3, 21.5) and schizophrenia (ICD-9 codes 295 and 297; 23.1 percent; 95% CI: 22.4, 23.7).

## It is unclear what drives the variation in telemental health use across states.

Compared to beneficiaries with any mental illness who did not receive a telemental health visit, those who did receive a visit were more likely to be younger than age sixty-five (69.7 percent versus 39.8 percent) and be eligible for Medicare because of disability (80.4 percent versus 51.6 percent). Beneficiaries who received a telemental health visit lived in communities with lower income (Exhibit 1).

Many of these differences between beneficiaries who did and those who did not receive a telemental health visit were also seen in our multivariable model of telemental health utilization (Exhibit 2). For example, compared to rural beneficiaries with any mental illness ages eighty-five and older, beneficiaries younger than age sixty-five were more likely to receive a telemental health visit (odds ratio: 1.85).

**TRENDS AND GEOGRAPHIC VARIATION IN TELEMENTAL HEALTH USE** From 2004 to 2014 the number of telemental health visits among rural patients with any mental illness rose from 2,365 to 87,120 visits (Exhibit 3) (an average annual growth rate of 45.1 percent; data not shown), while the number of visits among those with serious mental illness rose from 1,040 to 50,050 (an average annual growth rate of 49.3 percent).

Among all rural Medicare beneficiaries with a mental illness, there were 5.3 telemental health visits (95% CI: 5.2, 5.4) per 100 beneficiaries in 2014, compared to 0.2 telemental health visit (95% CI: 0.2, 0.2) per 100 beneficiaries in 2004 ( $p < 0.01$ ) (data not shown). There was notable variation across states in telemental health use in 2014. In three states (Connecticut, Delaware, and Rhode Island) we observed no telemental health visits, while in Iowa and South Dakota there were more than ten visits per 100 beneficiaries with any mental illness.

Among Medicare beneficiaries with a serious mental illness, there was also great variation in telemental health use across states. There were 11.8 (95% CI: 11.6, 12.0) telemental health visits per 100 beneficiaries nationally in 2014. Four states and the District of Columbia had no visits, while there were more than 45 visits in Nevada

**EXHIBIT 1**

**Characteristics of rural Medicare beneficiaries with mental illness who received or did not receive a telemental health visit in 2014**

	Beneficiaries with any mental illness (n = 1,645,200)		Beneficiaries with serious mental illness (n = 424,385)	
	Received a visit (n = 24,570)	Did not receive a visit (n = 1,620,630)	Received a visit (n = 15,570)	Did not receive a visit (n = 408,815)
<b>AGE RANGE (YEARS)</b>				
Younger than 65	69.7%	39.8%	78.0%	65.9%
65-74	16.7	28.7	15.3	19.7
75-84	8.4	19.4	4.9	9.8
85 and older	5.2	12.0	1.8	4.5
<b>SEX</b>				
Female	58.8	64.7	55.4	58.4
<b>RACE</b>				
White	85.7	90.6	83.9	86.9
Black	9.3	6.0	10.7	9.2
Other	5.0	3.4	5.4	3.9
<b>REASON FOR ENTITLEMENT</b>				
Disability	80.4	51.6	89.0	78.0
Age	19.2	47.8	10.7	21.6
End-stage renal disease	0.4	0.6	0.3	0.4
<b>NUMBER OF COMORBIDITIES</b>				
0	32.6	28.5	36.3	33.5
1-2	37.6	36.4	37.6	36.0
3 or more	29.8	35.0	26.0	30.5
<b>MEDIAN FAMILY INCOME IN ZIP CODE (PERCENT OF POVERTY)</b>				
Less than 200%	1.6	1.2	1.1	1.0
200% to less than 400%	82.3	72.4	83.0	72.2
400% to less than 600%	11.3	21.3	11.1	21.2
More than 600%	0.1	1.5	0.1	1.4
Missing data	4.7	3.6	4.7	4.1

**SOURCE** Authors' analysis of data from Medicare claims. **NOTES** All differences among subgroups were significant ( $p < 0.01$ ). Median incomes in ZIP codes of beneficiaries' residence are from census data. Some ZIP codes could not be matched to census data; unmatched ZIP codes were reported as missing data.

and Wyoming (Exhibit 4).

In 2014, states with a telemedicine parity law had a higher rate of telemental health visits, compared to states without such laws (5.9 [95% CI: 5.8, 6.1] versus 4.9 [95% CI: 4.8, 5.0] visits per 100 beneficiaries with any mental illness;  $p < 0.01$ ) (data not shown). However, the rate of growth in telemental health visits per capita from 2004 to 2014 in states with and those without telemedicine parity laws was similar ( $p = 0.11$  for the comparison of growth rates). The eight states with an A grade from the American Telemedicine Association for their telemental health regulatory environments for psychologists had higher rates of telemental health visits (8.1; 95% CI: 7.9, 8.3), compared to the states with lower grades: 4.6 visits (95% CI: 4.5, 4.7) for the thirty-seven states with a B grade, and 4.2 visits (95% CI: 3.9, 4.4) for the six states with C or F grades ( $p < 0.01$ ).

**PROVIDERS** For 93.5 percent of telemental health visits in 2014, the beneficiary and telemental health provider were in the same state (data not shown). The mean distance from the beneficiary's residence to the consulting telemental health provider was 103 miles (twentieth percentile: 17.4 miles; eightieth percentile: 134.7 miles).

Among providers of telemental health visits, 65.3 percent were trained as psychiatrists, 19.9 percent as nurse practitioners, and 8.8 percent as clinical psychologists. Medicare data do not indicate whether the nurse practitioner received specialty training.

In 2014 the mean number of telemental health visits performed by psychiatrists who offered such visits was eighteen. The top 100 clinicians in terms of numbers of telemental health visits accounted for 50.2 percent of all such visits in that year.

**RELATIONSHIP BETWEEN TELEMENTAL HEALTH VISITS AND IN-PERSON MENTAL HEALTH VISITS**  
In 2014 beneficiaries with any mental illness

**CHARACTERISTICS OF TELEMENTAL HEALTH**

## EXHIBIT 2

## Characteristics of rural Medicare beneficiaries with mental illness who received a telemental health visit in 2014

Characteristic	Beneficiaries with any mental illness (n = 1,585,305)		Beneficiaries with serious mental illness (n = 406,795)	
	OR	95% CI	OR	95% CI
<b>AGE RANGE (YEARS)</b>				
Younger than 65	1.85	(1.57, 2.19)	1.68	(1.24, 2.37)
65–74	1.00	(0.87, 1.17)	1.43	(1.07, 1.91)
75–84	0.88	(0.75, 1.03)	1.06	(0.78, 1.44)
85 and older	Ref		Ref	
<b>SEX</b>				
Female	0.95	(0.89, 1.00)	0.96	(0.89, 1.03)
Male	Ref		Ref	
<b>REASON FOR ENTITLEMENT</b>				
Age	0.48	(0.42, 0.53)	0.62	(0.53, 0.73)
End-stage renal disease	0.41	(0.26, 0.64)	0.70	(0.37, 1.32)
Disability	Ref		Ref	
<b>NUMBER OF COMORBIDITIES</b>				
0	Ref		Ref	
1–2	1.00	(0.94, 1.08)	1.03	(0.94, 1.13)
3 or more	0.96	(0.89, 1.04)	0.95	(0.86, 1.04)
<b>RACE</b>				
White	Ref		Ref	
Black	1.27	(1.15, 1.41)	1.11	(0.98, 1.25)
Other	1.26	(1.10, 1.44)	1.34	(1.14, 1.58)
<b>MEDIAN FAMILY INCOME IN ZIP CODE (PERCENT OF POVERTY)</b>				
Less than 200%	8.12	(3.74, 17.65)	10.02	(3.55, 28.35)
200% to less than 400%	8.51	(4.07, 17.94)	10.79	(4.04, 28.8)
400% to less than 600%	4.34	(2.06, 9.16)	5.03	(1.87, 13.49)
More than 600%	Ref		Ref	

**SOURCE** Authors' analysis of data from Medicare claims. **NOTES** Median incomes in ZIP codes of beneficiaries' residence are from census data. Some ZIP codes could not be matched to census data. A small percentage of beneficiaries in these ZIP codes were excluded from the multivariate model, and therefore the sample size for the model is smaller than in Exhibit 1. OR is odds ratio. CI is confidence interval.

who received a telemental health visit had on average 7.5 in-person mental health visits (data not shown). Among patients with any mental illness who received a telemental health visit, 87.3 percent also had an in-person mental health visit.

We had hypothesized that the predominant model of telemental health was that patients receive care from psychiatrists via telemental health and other mental health care via in-person visits. This was not borne out in our results. Patients who received at least one telemental health visit with a psychiatrist had on average 2.8 telemental health visits with a psychiatrist and 2.3 in-person visits with a psychiatrist. We were also curious about whether mental health specialty clinicians were seeing the same patients via in-person visits and via telemental visits. Among clinician-patient "pairs" with a telemental health visit, 25.2 percent also had an in-person visit.

## Discussion

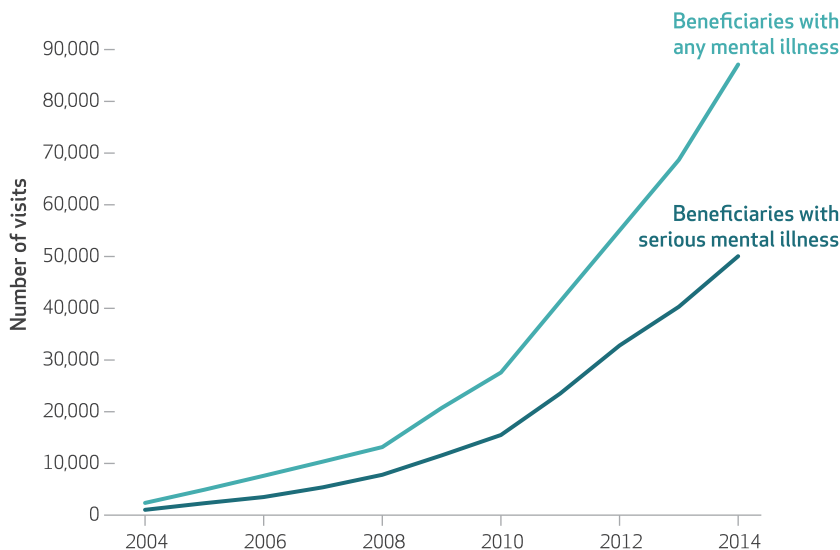
We found that from 2004 to 2014 there was rapid growth nationwide in telemental health use among rural Medicare beneficiaries diagnosed with mental illness. However, the use of telemental health within this population varied dramatically across states and was highly concentrated in terms of both who received that care and who provided it. In 2014 in nine states, the visit rate among rural beneficiaries with a serious mental illness was more than twenty-five visits per 100 beneficiaries, while in four states and the District of Columbia, there were no telemental health visits in our sample. The approximately 3 percent of rural Medicare beneficiaries with a serious mental illness accounted for more than a third of rural beneficiaries who received telemental health visits. Characteristics highly predictive of receiving telemental health included being younger than age sixty-five and living in a poorer community. Just 100 clinicians provided half of all telemental health visits in 2014.

It is unclear what drives the variation in telemental health use across states. Payment and regulatory factors play some role. There was a roughly twofold higher rate of telemental health use in states with a more favorable regulatory environment, compared to states with a less favorable environment, and a 20 percent higher rate of telemental health use in states with telemedicine parity laws than in those without them. However, given the much larger differences observed among states, other factors—such as the supply of providers of in-person visits, the fraction of a state’s residents who live in a rural community, and previous federal and state investments in building a telemental infrastructure—may be even more important.

Telemental health has been promoted as a way to extend mental health specialist care to patients without access to such care in their community, but we found that a relatively small fraction (less than 15 percent) of rural telemental health recipients received mental health specialty care only via telemental health. Thus, telemental health appears to be complementing and supplementing in-person care. While this may improve the care these patients receive, telemental health use does not appear to be greatly expanding the number of rural beneficiaries who receive

**EXHIBIT 3**

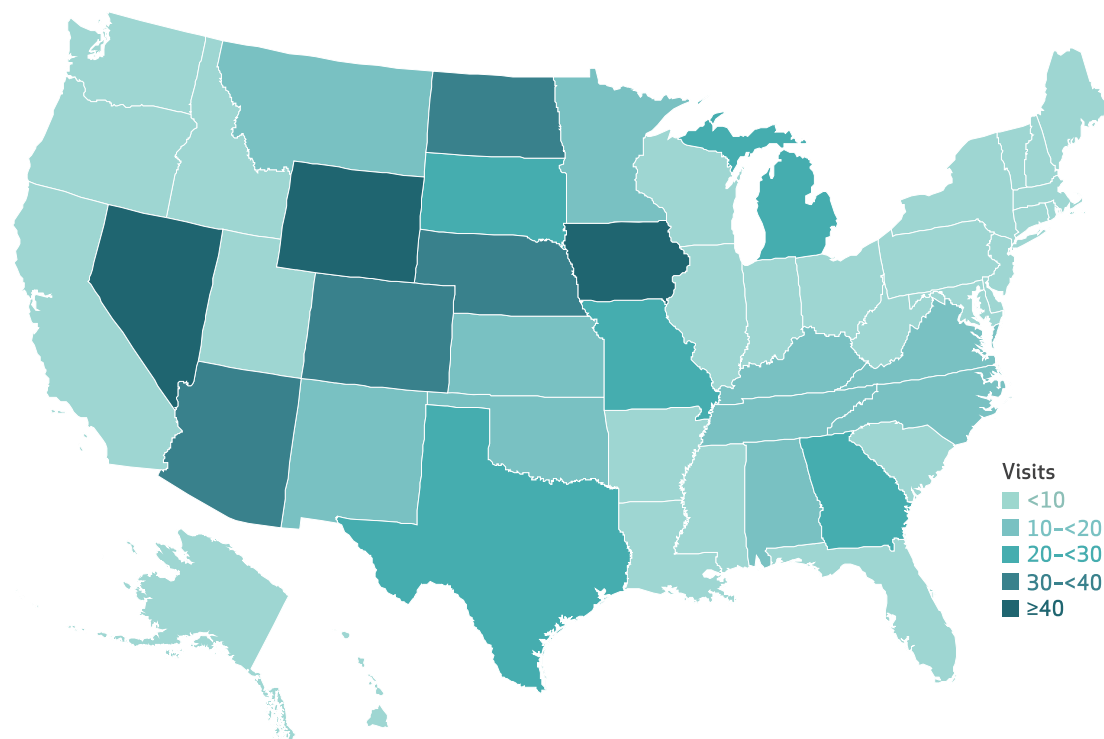
**Number of telemental health visits among rural Medicare beneficiaries with mental illness, 2004–14**



**SOURCE** Authors’ analysis of data from Medicare claims.

**EXHIBIT 4**

**Telemental health visits per 100 rural Medicare beneficiaries with serious mental illness, by state, 2014**



**SOURCE** Authors’ analysis of data from Medicare claims.

any mental health specialty care. The predominant mechanism for obtaining telemental health care may be via an established local mental health provider. Many people might be unable to access telemental health care because they do not receive any in-person care. Future research should explore how access could be expanded to those who do not receive any mental health specialty care.

There is ongoing debate in Congress on whether to expand telemedicine coverage in the Medicare program.<sup>35</sup> Given the importance of Medicare in influencing reimbursement policy among commercial health plans and Medicaid, any change in Medicare policy would likely have a large impact across the entire health system. Also, many people who are disabled as a result of mental illness have Medicare coverage. Our results highlight the fact that under Medicare's targeted approach, telemedicine has primarily served a disadvantaged population: rural, relatively poor beneficiaries with mental illness. Yet probably in part because of this targeted approach, telemental health use among Medicare beneficiaries diagnosed with mental illness is quite low (1.5 percent).

The best method of increasing telemental health use remains unclear. Past proposals were to allow urban Medicare beneficiaries to access telemedicine, to allow visits to occur in a beneficiary's home, and to eliminate the need for a physician to be licensed in the state where the patient is located. Such changes would certainly increase the use of telemental health. However, there is concern that such an expansion could result in the overuse of telemedicine services, which would add to health care costs without

providing compelling clinical benefits. Any payment policy for a new medical technology must find a balance between encouraging high-value care (where patients benefit clinically) and not encouraging low-value care (where there is little or no clinical benefit). With telemedicine, concerns about encouraging low-value care might be particularly salient because of its convenience. In other aspects of health care, one common strategy to discourage low-value care is to increase cost sharing (for example, copayments). However, this approach would be problematic for telemental health: Previous work has highlighted the fact that increasing cost sharing can deter Medicare beneficiaries from receiving necessary care for their chronic illnesses.<sup>36</sup> A more viable option would be targeted expansion of telemental health into urban clinical settings where the patient population has the greatest difficulty accessing specialty mental health care.

## Conclusion

Telemental health use among rural Medicare beneficiaries is growing rapidly and is serving a particularly disadvantaged population of disabled rural beneficiaries. Despite that rapid growth, a relatively small minority of rural Medicare patients with a diagnosis of mental illness receive a telemental health visit, and the rates of use are uneven across the country. Whether—and if so, how—the expansion of telemental health is improving access and outcomes for patients remains unclear, but this early analysis can help guide future policy and regulatory decisions at the state and federal levels. ■

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## NOTES

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