

Telehealth Usage: Trends among a Rural Population with Chronic Conditions

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Key Takeaways

- Telehealth has emerged as a common modality of accessing healthcare, including for the management of chronic disease.
- Between 2022 and 2025, telehealth was used for approximately 5 to 8 percent of chronic condition visits among members living in non-rural areas and 3 to 5 percent of chronic condition visits among members living in rural areas.
- Members living in rural areas used telehealth less often than members living in non-rural areas across each of the 15 chronic conditions studied and all insurance types, demonstrating that many rural communities still face challenges receiving care virtually.

Overview

Since the COVID-19 pandemic, telehealth has become a common modality of accessing care, including for the management of chronic disease. This paper examines patterns of telehealth utilization for outpatient evaluation and management (E/M) visits among individuals with chronic conditions, with a focus on differences in care patterns between health plan members living in rural and non-rural areas.

Background

Although telehealth utilization declined after the initial 2020 surge during the COVID-19 pandemic^{1,2} it remains elevated relative to pre-pandemic levels.³

Telehealth has demonstrated value in chronic condition management,⁴ including diabetes,⁵ hypertension,⁶ and other cardiometabolic conditions,⁷ as well as mental healthcare.⁸ It reduces access barriers such as provider shortages, transportation, and travel time, which are particularly relevant for people living in rural areas with limited provider availability.^{9–11}

Despite these advantages, people living in rural areas experience higher chronic disease burden,¹² but lower telehealth uptake compared to people living in urban areas.¹³ Limited evidence exists on how telehealth utilization for chronic conditions has evolved post-pandemic, particularly among people living in rural versus non-rural areas.¹⁴ To address this gap, we evaluated trends in telehealth utilization by health condition in rural and non-rural areas following the initial spike in telehealth use in 2020.



Members living in rural areas have greater health needs, but lower telehealth use.

Data and Methods

Using administrative claims data from Elevance Health-affiliated health plans, we constructed a sample of adults 18 years and older who were enrolled in commercial, Medicare Advantage, Medicare Supplement, or Medicaid plans.

The sample was limited to members with at least one year of continuous enrollment between January 1, 2021 and June 30, 2025, who had at least one of 15 chronic conditions (Appendix Table 1) defined as either one inpatient admission or two outpatient and/or emergency department (ED) visits with a corresponding diagnosis code during the study period. While technically not a chronic condition, we included diagnosis codes related to dietary counseling and surveillance due to their connection with obesity management. Behavioral health conditions were excluded from this analysis because telehealth use in behavioral healthcare has already been extensively studied in the existing literature.¹⁵

Members with a cancer diagnosis, a history of organ transplant, or missing data on census tract of residence were excluded from the sample. Rural residence was defined using the Rural-Urban Commuting Area (RUCA) codes¹⁶ definition of rurality (Appendix Table 2) based on the census tract of residence on the date of a member's first visit for the chronic condition of interest.

A visit for each condition was defined as an outpatient E/M visit with a diagnosis code for the condition during the study period. The outcome of interest was the percentage of visits for each condition that was conducted via telehealth. Patterns were analyzed separately for members in commercial, Medicare Advantage or Medicare Supplement (Medicare), and Medicaid plans.

Results

The study population consisted of 11.5 million members, with 7.9 million commercial members, 1.6 million Medicare (Medicare Advantage and Medicare Supplement) members, and 2.0 million Medicaid members (Table 1). 18.7 percent of the commercial population, 23.2 percent of the Medicare population, and 19.7 percent of the Medicaid population were classified as living in rural areas.

Table 1
Sample Size by Insurance Type, Rurality, and Telehealth Use

	Commercial	Medicare	Medicaid	Total
Non-Rural				
Telehealth Non-User	4,711,631	872,245	1,150,344	6,734,220
Telehealth User	1,685,480	322,464	495,540	2,503,484
Rural				
Telehealth Non-User	1,207,227	294,095	323,580	1,824,902
Telehealth User	268,617	67,545	80,196	416,358
Total Members	7,872,955	1,556,349	2,049,660	11,478,964

Among the study population the mean age was 50.4 years, and 55.6 percent were female (Table 2). The largest proportion of members lived in the South region (34.9%), with about a quarter living in each of the Midwest (24.6%) and West (23.6%) regions and the smallest proportion living in the Northeast (17.0%). The most prevalent conditions in the sample were hyperlipidemia (57.7%), obesity (54.0%), and hypertension (53.9%).

There were 211.7 million total outpatient E/M visits and 14.5 million telehealth visits with a diagnosis code for the 15 chronic conditions during the study period. Each member had on average 3.5 years of enrollment, 22.0 E/M visits, and 1.3 telehealth visits during the study period.

Table 2
Demographic Characteristics

	Commercial		Medicare		Medicaid		Total
	Non-Rural	Rural	Non-Rural	Rural	Non-Rural	Rural	
Total Population	6,397,111	1,475,844	1,194,709	361,640	1,645,884	403,776	11,478,964
Length of Enrollment (Years)	3.5	3.5	3.4	3.3	3.3	3.2	3.5
Any Telehealth Use	26.4%	18.2%	27.0%	18.7%	30.1%	19.9%	25.4%
Age	47.9	48.3	71.3	69.6	44.3	43.4s	50.4
Female	52.4%	52.9%	60.2%	58.4%	64.3%	64.9%	55.6%
SES Index							
1st Quartile	11.8%	31.2%	17.2%	35.7%	32.7%	45.7%	20.0%
2nd Quartile	19.5%	40.2%	21.4%	38.9%	26.1%	38.4%	24.7%
3rd Quartile	29.8%	22.9%	27.9%	19.8%	24.5%	14.3%	27.0%
4th Quartile	38.9%	5.7%	33.6%	5.6%	16.8%	1.5%	28.3%
Utilization (Per Member Per Year)							
Total Outpatient Services	16.6	15.6	28.1	27.2	32.9	32.3	20.9
Outpatient E/M Visits	5.8	5.6	9.0	8.9	7.5	8.1	6.5
Telehealth Visits	0.3	0.2	0.6	0.4	0.6	0.4	0.4
Inpatient Admissions	0.1	0.1	0.3	0.3	0.2	0.2	0.1
Emergency Department Visits	0.2	0.3	0.4	0.5	0.7	0.8	0.3
Region							
Midwest	21.6%	29.8%	32.5%	42.0%	19.0%	37.3%	24.6%
Northeast	20.1%	13.0%	15.3%	12.3%	14.5%	1.5%	17.0%
South	33.7%	43.2%	24.3%	34.9%	37.2%	45.5%	34.9%
West	24.7%	14.0%	28.0%	10.9%	29.3%	15.7%	23.6%
Conditions							
Atherosclerotic Heart Disease	6.7%	7.1%	25.1%	26.7%	7.3%	8.5%	9.4%
Chronic Pain	10.5%	11.3%	17.6%	21.4%	20.1%	22.8%	13.4%
COPD	2.3%	3.8%	15.1%	22.2%	7.3%	12.3%	5.5%
Diabetes	18.1%	20.2%	33.3%	35.0%	25.3%	24.3%	21.7%
Diet	7.3%	8.3%	3.8%	6.0%	14.7%	12.6%	8.3%
GERD	19.9%	24.4%	29.2%	35.1%	23.1%	30.1%	22.8%
Hyperlipidemia	56.1%	53.2%	81.7%	78.7%	49.0%	44.1%	57.7%
Hypertension	47.7%	54.9%	81.2%	82.7%	51.1%	53.8%	53.9%
Hypothyroidism	14.5%	15.4%	22.8%	24.2%	12.3%	14.6%	15.5%
Knee Pain	14.3%	13.7%	19.7%	18.0%	15.3%	15.5%	15.1%
Low Back Pain	21.6%	23.3%	24.3%	25.6%	23.2%	27.5%	22.7%
Obesity	52.5%	54.8%	48.5%	49.1%	62.4%	60.5%	54.0%
Obstructive Sleep Apnea	15.8%	17.3%	15.9%	18.2%	11.2%	14.6%	15.4%
Radiculopathy	13.5%	13.7%	16.4%	16.0%	11.9%	14.5%	13.7%
Spondylosis	9.6%	10.0%	20.4%	20.5%	10.6%	13.1%	11.4%
Elixhauser Comorbidity Index (ECI)	1.6	1.7	3.1	3.2	2.3	2.4	2.0

Note. SES Index=socioeconomic status (4th quartile is the top 25% of SES), E/M=evaluation and management, COPD=chronic obstructive pulmonary disease, Diet=dietary counseling and surveillance, GERD=gastroesophageal reflux disease. SES index is derived from American Community Survey data.¹⁷ Means are provided for all continuous and count variables (i.e., length of enrollment, age, all utilization metrics, and ECI). Telehealth Visits are a subset of Outpatient E/M Visits which are a subset of Total Outpatient Services.



Telehealth use is consistently lower among rurally located members.

Telehealth in both rural and non-rural areas surged during the COVID-19 pandemic; while our study does not include peak utilization in 2020, telehealth use remained high at the start of the study period. 18.5 percent of E/M visits for the non-rural Medicaid population, 16.7 percent for the non-rural commercial population, and 15.0 percent for the non-rural Medicare population were through telehealth in January 2021 (Figure 1). The percentage then leveled off across all conditions and insurance types to approximately 3 to 8 percent of visits (depending on the population), with the exception of one smaller spike in January 2022 which may be attributable to the surge in COVID-19 cases during the Omicron wave.

Across all insurance types and conditions, the percentage of visits conducted via telehealth was consistently higher for members living in non-rural areas compared to members in rural areas. During the study period, 4.6 percent of visits by members living in rural areas were telehealth while 7.5 percent of visits by members living in non-rural areas were telehealth. Overall, Medicare members utilized a lower percentage of telehealth visits (5.6%) compared to commercial (7.0%) and Medicaid (7.9%) members.

Figure 2 shows the percentage of telehealth visits by condition, insurance type, and rurality. The highest percentage of telehealth visits was among non-rural commercial members for obstructive sleep apnea (14.3%) followed by non-rural Medicaid members (12.7%), also for obstructive sleep apnea. Atherosclerotic heart disease had the lowest percentage of telehealth visits with between 2.2 and 2.8 percent for members living in rural areas and between 4.4 and 5.1 percent for members living in non-rural areas.

Across the study period, members living in rural areas tended to utilize telehealth less often than members living in non-rural areas within each condition and insurance type. Across conditions, the group of members with the highest rates of telehealth varied; for example, non-rural Medicaid members utilized telehealth for hyperlipidemia at the highest rate while non-rural commercial members utilized telehealth for chronic pain at the highest rate. Overall, Medicaid members living in non-rural areas had the highest rates of telehealth utilization for nine of the 15 chronic conditions (60%) while commercial members living in non-rural areas had the highest rates for five (33%) and Medicare members living in non-rural areas just one (7%). Members living in rural areas, regardless of insurance type, did not have the highest rates of use for any of the chronic conditions.

Across conditions, similar telehealth patterns were observed with an initial spike in telehealth visits in 2021 followed by a leveling off in 2022 to 2025, with members living in rural areas utilizing a lower percentage of telehealth visits within each insurance type (Figure 3). One exception was dietary counseling and surveillance, which did not have as large a spike at the beginning of the study period and did not have a large decline after 2021 in the percentage of telehealth visits for commercial or Medicaid members.

Figure 1

Telehealth Visit Percent by
Rurality and Insurance Type

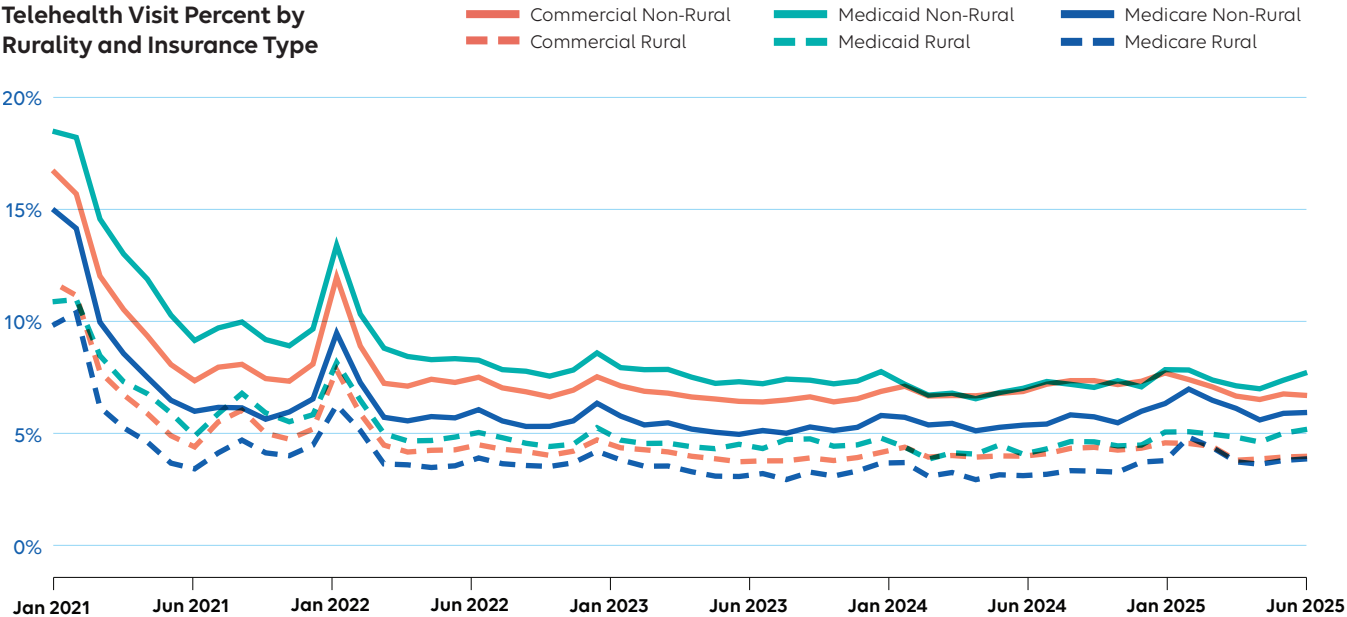
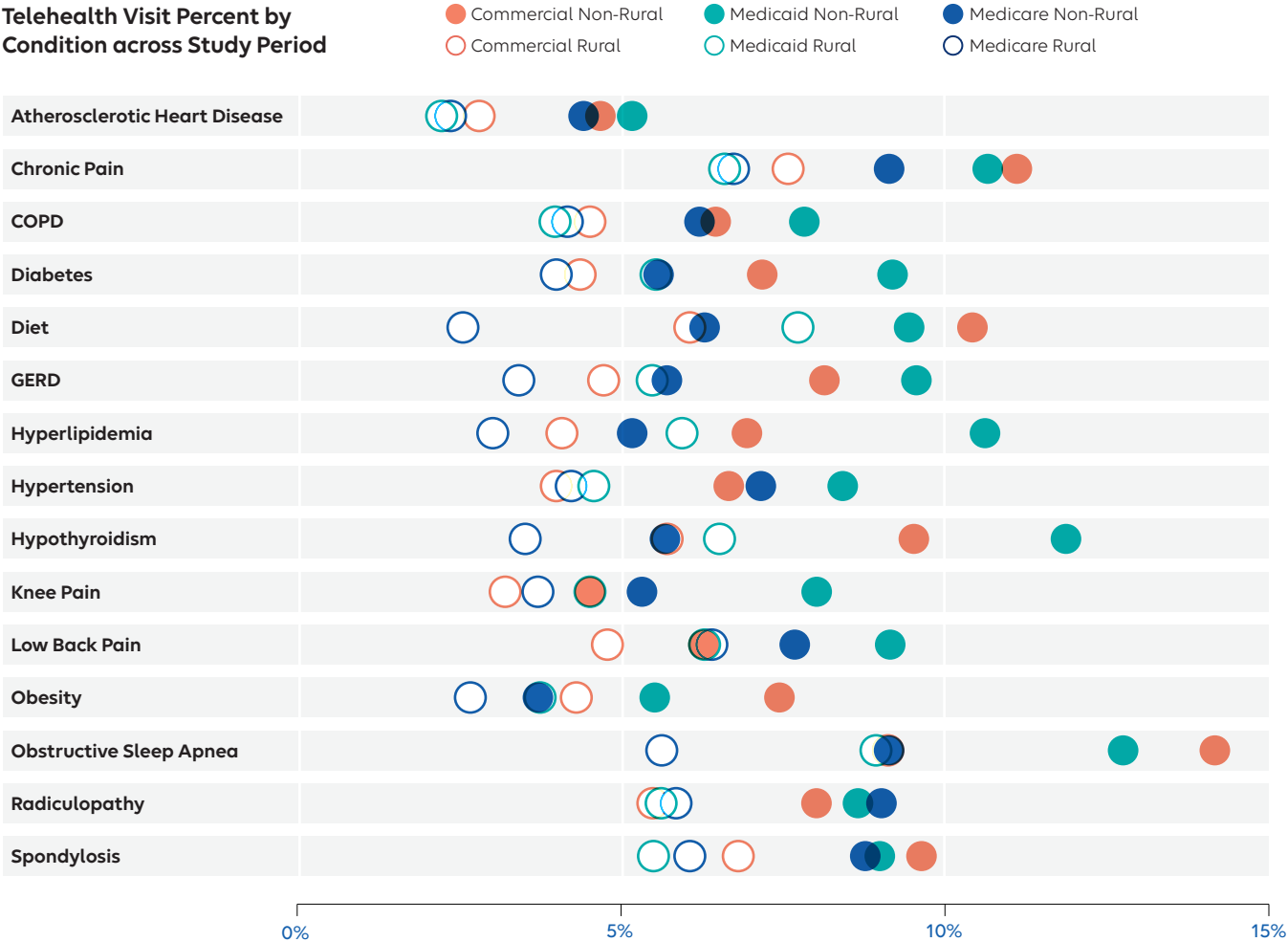


Figure 2

Telehealth Visit Percent by
Condition across Study Period



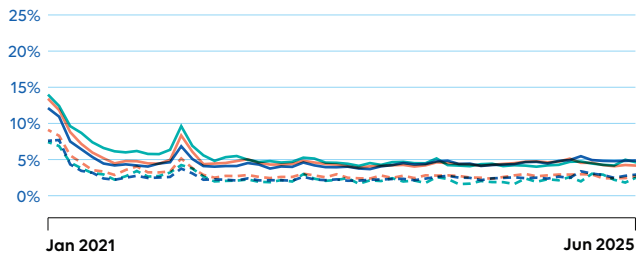
Note. COPD=chronic obstructive pulmonary disease, Diet=dietary counseling and surveillance, GERD=gastroesophageal reflux disease.

Figure 3

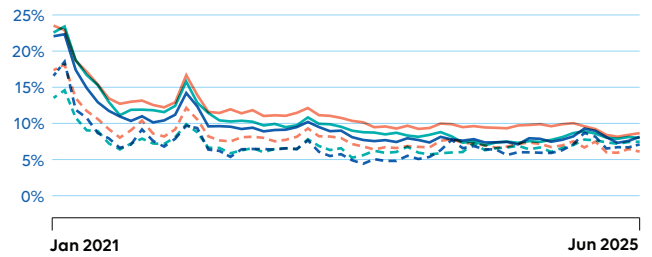
Telehealth Visit Percent by Rurality, Insurance Type, and Condition

Commercial Non-Rural Medicaid Non-Rural Medicare Non-Rural
Commercial Rural Medicaid Rural Medicare Rural

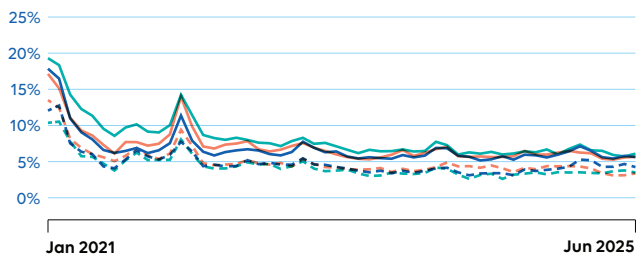
Atherosclerotic Heart Disease



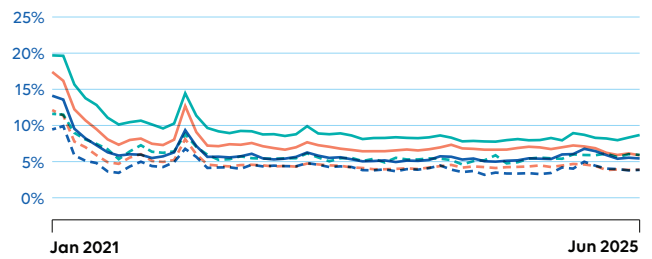
Chronic Pain



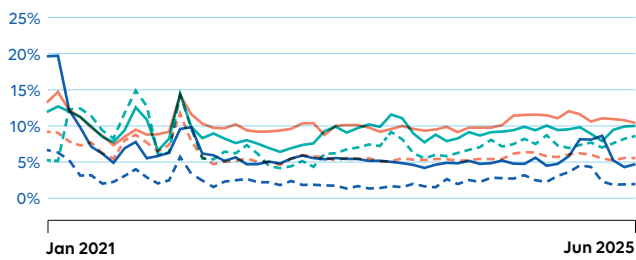
COPD



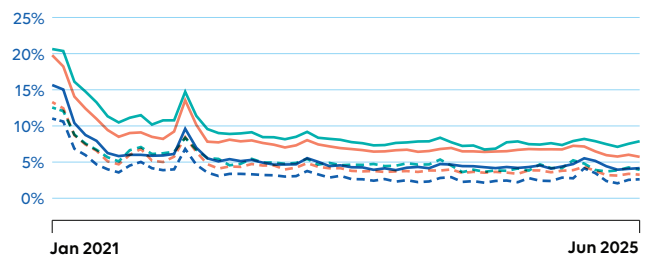
Diabetes



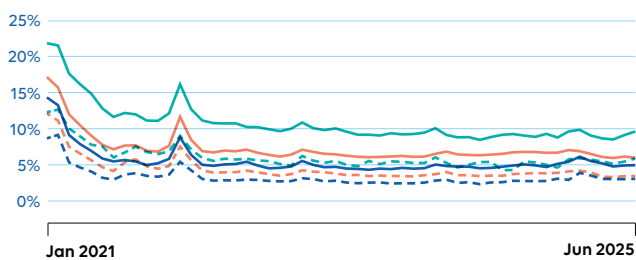
Diet



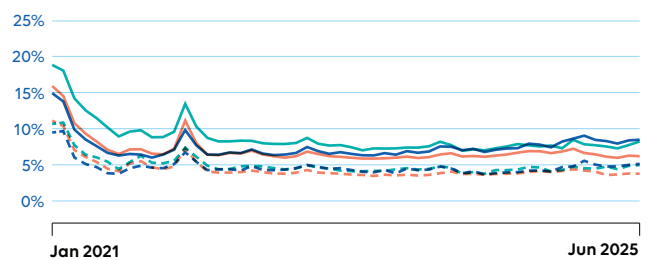
GERD



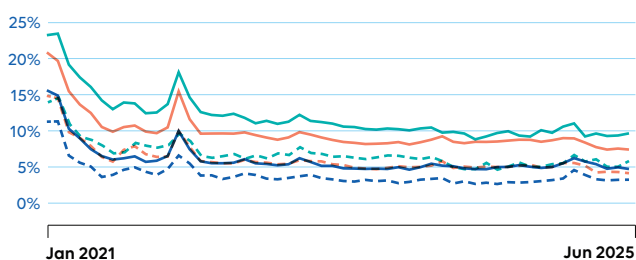
Hyperlipidemia



Hypertension



Hypothyroidism



Knee Pain

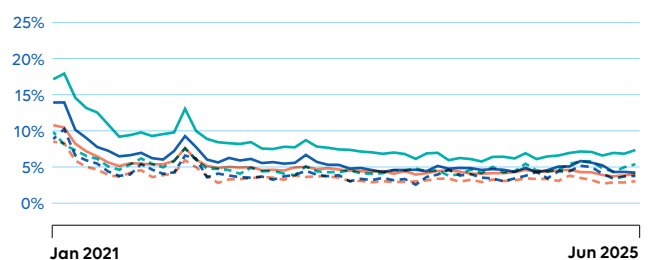
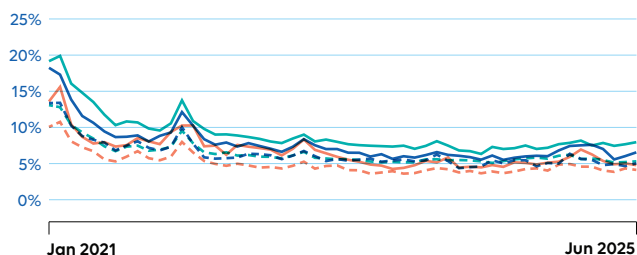


Figure 3 (continued)

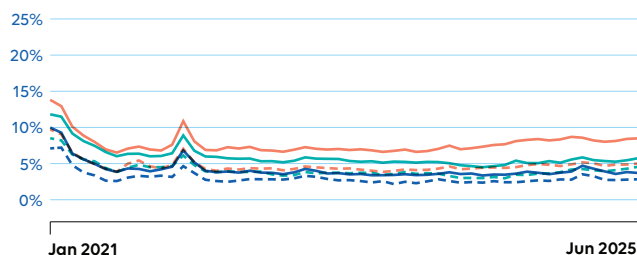
Telehealth Visit Percent by Rurality, Insurance Type, and Condition

Commercial Non-Rural Medicaid Non-Rural Medicare Non-Rural
Commercial Rural Medicaid Rural Medicare Rural

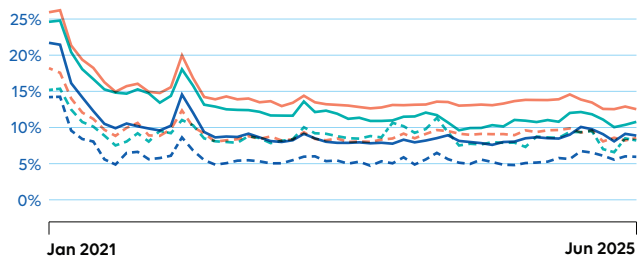
Low Back Pain



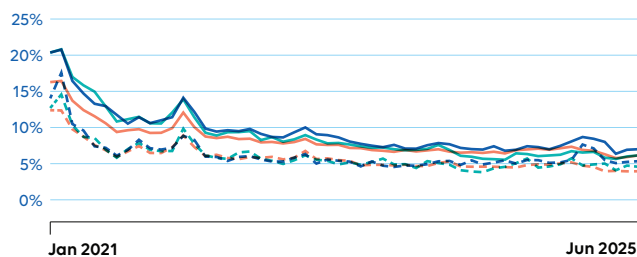
Obesity



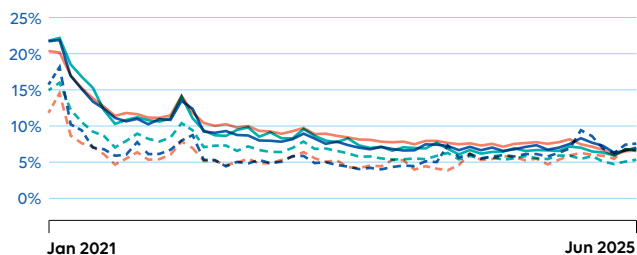
Obstructive Sleep Apnea



Radiculopathy



Spondylosis



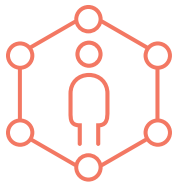
Note. COPD=chronic obstructive pulmonary disease, Diet=dietary counseling and surveillance, GERD=gastroesophageal reflux disease.

Discussion

Across 15 common chronic conditions, telehealth utilization surged during the COVID-19 pandemic and subsequently attenuated. Between 2022 and 2025, telehealth was used for approximately 5 to 8 percent of chronic condition visits among members living in non-rural areas and 3 to 5 percent of chronic condition visits for members living in rural areas, depending on insurance type. Notably, telehealth use was consistently lower among people living in rural areas across all conditions and insurance types, highlighting persistent geographic disparities.

Despite the potential for telehealth to mitigate access barriers, lower uptake in rural areas merits further study to determine contributing factors. For instance, people living in rural areas were disproportionately represented in lower socioeconomic status quartiles, which may contribute to reduced telehealth engagement due to barriers such as device availability, internet availability and affordability, and lower digital and health literacy. These findings reinforce the importance of addressing other factors associated with health alongside healthcare delivery innovations. Policies focused solely on expanding telehealth availability may be insufficient without broader investments in digital infrastructure, member support services, and related resources.

Differences across insurance types may further reflect variation in healthcare access, patient demographics, and care coordination needs. Medicare members demonstrated higher prevalence of cardiometabolic conditions and higher overall healthcare utilization, which points to opportunities for telehealth-supported care management. Members enrolled in Medicaid showed elevated rates of obesity, dietary counseling utilization, and emergency department use. However, we also observe higher rates of telehealth utilization among Medicaid members for obesity and dietary counseling. Accordingly, tailored telehealth strategies that account for population-specific characteristics and clinical complexity may be necessary to maximize effectiveness across health plan types.



Telehealth improves access broadly, but opportunities remain to boost use in rural areas.

Conclusion

While telehealth has demonstrated potential to improve convenience, access, and continuity of care, these findings illustrate the need to better understand the underlying factors that shape utilization patterns in rural areas.

Policymakers, health plans, and other stakeholders should consider the unique resource limitations and healthcare needs of rural communities when designing and implementing policies and programs to help reduce, rather than widen, disparities in telehealth adoption.

Appendix

Table 1: Condition Code List

Condition	ICD-10 Codes
Atherosclerotic Heart Disease	I25.1x
Chronic Pain	G89.4, G89.29
Chronic Obstructive Pulmonary Disease	J44.x
Diabetes	E10.9, E10.65, E10.29, E10.319, E11.9, E11.65, E11.42, E11.29, E11.319
Dietary Counseling and Surveillance	Z71.3, Z71.82
Gastroesophageal Reflux Disease	K21.9, K21.0
Hyperlipidemia	E78.x
Hypertension	I10, I11.x, I12.x, I13.x
Hypothyroidism	E03.9, E03.4, E03.8
Knee Pain	M25.56x
Low Back Pain	M54.5x
Obesity	E66.x, E66.01, E66.09, Z68.xx
Obstructive Sleep Apnea	G47.33, G47.30
Radiculopathy	M54.1x
Spondylosis	M47.x

Table 2: Rural Classification

RUCA Code Classification Description	Category
1. Metropolitan core: Primary flow is within an urban area (UA) of 50,000 or more people (metro UA)	Non-Rural
2. Metropolitan high commuting: Primary flow is 30 percent or more to a metro UA	Non-Rural
3. Metropolitan low commuting: Primary flow is 10 percent to 30 percent to a metro UA	Non-Rural
4. Micropolitan core: Primary flow is within an urban area of 10,000 to 49,999 people (micro UA)	Rural
5. Micropolitan high commuting: Primary flow is 30 percent or more to a micro UA	Rural
6. Micropolitan low commuting: Primary flow is 10 percent to 30 percent to a micro UA	Rural
7. Small town core: Primary flow is within an urban area of 9,999 or fewer people (small town UA)	Rural
8. Small town high commuting: Primary flow is 30 percent or more to a small town UA	Rural
9. Small town low commuting: Primary flow is 10 percent to 30 percent to a small town UA	Rural
10. Rural area: Primary flow is to a tract outside an UA	Rural

Endnotes

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