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Original Investigation

Primary Care Access and the Role of Telemedicine for Traditional Medicare Beneficiaries

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Abstract

IMPORTANCE Primary care improves population health, yet access is a challenge in the US. It is unclear how primary care use, access, and access disparities have changed since widespread adoption of telemedicine during the pandemic.

OBJECTIVE To quantify trends in primary care use and determine the role of telemedicine in primary care access and access disparities for traditional Medicare beneficiaries.

DESIGN, SETTING, AND PARTICIPANTS Serial cross-sectional study using 2017-2023 100% claims and administrative data for traditional Medicare beneficiaries continuously enrolled and alive for the given year. Data were analyzed from October 2024 to July 2025.

MAIN OUTCOMES AND MEASURES Primary care visits per beneficiary, primary care access (defined as ≥1 virtual or in-person primary care visit in the year), and primary care continuity (Bice-Boxerman Index).

RESULTS Among 258 324 127 person-years from 2017 to 2023, primary care visit rates decreased from 2.54 per person-year in 2017 to 2.27 per person-year in 2023, and access dropped from 61.9% to 59.8%. In 2023, virtual visits comprised 7% of primary care visits and 14% of beneficiaries who accessed primary care used telemedicine to do so. Disparities in access by race, geography, and income increased slightly from 2019 to 2023, and beneficiaries in historically underserved groups by race, geography, and income who accessed primary care were more likely than others to use telemedicine to do so. Primary care continuity decreased from 0.72 in 2019 to 0.65 in 2023; in 2023, continuity was slightly higher for those using telemedicine for primary care than for those who were not.

CONCLUSIONS AND RELEVANCE This serial cross-sectional study found that across all traditional Medicare beneficiaries, primary care visit rates and access decreased, with virtual visits comprising a small share of previously in-person visits. Access disparities widened while those in underserved groups were more likely than others to use telemedicine for this access. Results suggest that telemedicine plays a small but potentially important role in primary care access.

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Key Points

Question How have primary care access and access disparities changed over time for traditional Medicare beneficiaries, and what is the role of telemedicine?

Findings In this serial cross-sectional study of 258 324 127 beneficiary-years, primary care visit rates declined and access dropped from 62% in 2017 to 60% in 2023, with virtual visits comprising 7% of primary care visits in 2023. Access disparities by race, income, and geography widened between 2019 and 2023, and patients in historically underserved groups were more likely than others to use telemedicine to access primary care.

Meaning Telemedicine plays a small but potentially important role in primary care access overall and in certain populations.

+ Supplemental content

Author affiliations and article information are listed at the end of this article.

Introduction

Primary care is associated with better health outcomes and longer lives,[1-4] yet fewer US residents have accessed primary care over time. Studies using pre–COVID-19 pandemic data showed a decreasing percentage of US residents reporting a usual source of care[5,6] and declines in primary care visit rates across populations.[7-10] Those studies also showed large sociodemographic disparities in primary care access, with those in racial or ethnic minority groups, without a high school degree, or with lower incomes less likely to have this access.[5,6] More recent, survey-based studies suggested that rates of reporting a usual source of care have stagnated[11] or worsened[12] as of 2022, but little beyond this is known about how primary care use and access have evolved in recent years.

In theory, widespread telemedicine adoption since the pandemic may contribute to primary care access by providing additional, potentially more convenient connection points, including for those who are homebound,[13,14] have mobility issues,[15,16] or have rigid work schedules.[17] On the other hand, the digital divide—due to such factors as limited broadband availability in rural areas—may limit these benefits for some adults.[18-20] Results from studies early in the pandemic and largely based at single health systems have differed on whether racial and ethnic minority groups or those living in rural areas had higher or lower overall telemedicine visit rates per capita than others.[21-26] But these studies have not examined primary care specifically nor how telemedicine—as one modality among others—has contributed to primary care access overall or for these groups. There is also no evidence on how continuity of care, a core function of primary care through which some of its benefits are mediated,[27-31] has changed since broader adoption of telemedicine.

It is important to understand recent trends in primary care use and access and the extent to which this access is provided via telemedicine, especially for traditional Medicare beneficiaries for whom there is active policy debate about recent primary care payment reforms[32,33] and whether the broad telemedicine coverage that was established during the COVID-19 public health emergency should be extended beyond December 2027 or made permanent.[34] This study used 2017 through 2023 data to analyze trends in primary care visit use, access, and continuity of care among all traditional Medicare beneficiaries and to assess the extent to which telemedicine was used for this access overall and for populations who historically have had less access to or greater need for primary care.

Methods

Study Data and Population

We used 2017-2023 100% claims and administrative data through the Medicare Virtual Research Data Center for all traditional Medicare beneficiaries who were alive and continuously enrolled each year (eMethods in Supplement 1). This study followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines. Because patient data were deidentified, Mass General Brigham's institutional review board exempted study review and patient consent.

Measures

We examined primary care visits, defined as in-person and virtual problem-based and preventive visits with physicians specializing in internal medicine, family medicine, pediatrics, general practice, geriatrics, or preventive medicine, as well as nurse practitioners and physician assistants practicing primary care. Because nurse practitioners and physician assistants do not have specialties recorded in Medicare data, we imputed primary care specialty using Part D prescribing patterns (eMethods in Supplement 1).[35,36]

Outcomes included primary care visit counts, primary care access (≥1 primary care visit that year), and underlying visit patterns (in-person only, virtual only, or both). We also measured primary

care continuity and ambulatory care fragmentation,[37,38] which are both based on the Bice-Boxerman Index.[39] This index captures the dispersion of a beneficiary's visits in the year across unique clinicians and ranges from 0 (each visit was with a different clinician) to 1 (all visits were with a single clinician). To measure primary care continuity, we calculated the Bice-Boxerman Index using virtual and in-person visits with primary care clinicians specifically. To measure ambulatory care fragmentation, we calculated 1 minus the Bice-Boxerman Index, this time using virtual and in-person visits among all clinicians to capture fragmentation across primary care and other specialties. For these continuity and fragmentation analyses, we restricted to patients with at least 2 relevant visits to maximize generalizability. In sensitivity analyses, we further restricted to those with at least 4 relevant visits[39] to optimize measure stability.

Patient and area characteristics included race and ethnicity (Research Triangle Institute variable[40]); rural-urban residence (Rural-Urban Commuting Area codes); residence in a primary care shortage area (by zip code; eMethods in Supplement 1); Medicaid eligibility (as a proxy for income; eligibility ≥1 mo in the year); and presence of multimorbidity (≥2 conditions in the Chronic Condition Warehouse).[41] Data were analyzed from October 2024 to July 2025.

Analyses

In serial cross-sectional analyses, we described primary care visits per person-year, overall and stratified by visit type (problem-based, preventive) and modality (in-person, virtual). We counted preventive visits cobilled with problem-based visits as preventive visits and reported rates of cobilling. We described primary care visit patterns and access as well as total primary care visits, continuity, and fragmentation, in 2019 (the most recent prepandemic year) and 2023, overall and stratified by patient sociodemographic characteristics. To understand the share of Medicare beneficiaries who ever used telemedicine for primary care since it became widely available, we used a Sankey diagram starting with all unique traditional Medicare beneficiaries enrolled in 2020 to describe those who used a primary care virtual visit in 2020 through 2023.

We used *z* tests to assess differences in disparities between 2019 and 2023 in primary care access and visit rates by dichotomized race and ethnicity (White vs racial and ethnic minority groups), rural-urban setting (metropolitan vs others), primary care shortage area, and Medicaid eligibility. Race and rural-urban variables were dichotomized to aid estimation and interpretation of disparities over time. Race and ethnicity categories are based on Research Triangle Institute codes, which pull from Social Security Administration data. The other or unknown category includes all people whose race could not be sorted into the 5 named categories in Social Security Administration data: Asian, American Indian and Alaska Native, Hispanic, non-Hispanic Black, and non-Hispanic White.

We then built multivariable models focused on 2023. First, to understand predictors of using virtual visits among those who accessed primary care in 2023, we ran person-level logistic regression models among those with any primary care visit in which the outcome was whether the patient had at least 1 virtual primary care visit and the predictors were the above patient and area characteristics, with adjustment for age, sex, number of primary care visits, and Census regions fixed effects (to compare beneficiaries within the same Census regions). Second, to explore the role of telemedicine in primary care continuity, we built a person-level linear model in which the outcome was continuity and the predictor was use of at least 1 virtual primary care visit, adjusting for the same covariates.

Two-sided $P < .05$ was considered significant. We used SAS Enterprise Guide version 7.15 (SAS Institute Inc) and Stata MP version 18 (StataCorp).

Results

We examined 258 324 127 person-years across 2017-2023. Primary care visits declined from 2.54 per person-year in 2017 to a nadir of 2.20 per person-year in 2020, then increased slightly to 2.27 per person-year by 2023 (**Figure 1**). Fewer than 0.1% of all primary care visits were virtual before 2020. In 2020, 17.7% of these visits were virtual, and in 2023, 6.6% were virtual. Problem-based visit rates

declined from 2.33 per person-year in 2017 to 1.95 per person-year in 2023, and annual wellness visit rates grew from 0.21 per person-year in 2017 to 0.32 per person-year in 2023. Among annual wellness visits, 0.10 per person-year were cobilled with a problem-based visit in 2017 and 0.17 per person-year were cobilled in 2023.

Primary care access fell from 61.9% in 2017 and 61.4% in 2019 to 59.8% in 2023 (**Figure 2**). In 2023, of those with any primary care visit, 86% had in-person visits only while 14% had telemedicine visits (1% had virtual only, and 13% had both).

Across all unique Medicare beneficiaries enrolled as of 2020, 26.5% (12 300 500 of 46 440 528) had at least 1 primary care telemedicine visit in 2020-2023. The individuals using telemedicine for primary care changed from year to year (eFigure in Supplement 1).

Primary Care Visit Use and Access and Role of Telemedicine by Subpopulation

Primary care visit rates (**Table 1**) and access (Figure 2) declined from 2019 to 2023 for all examined subpopulations.

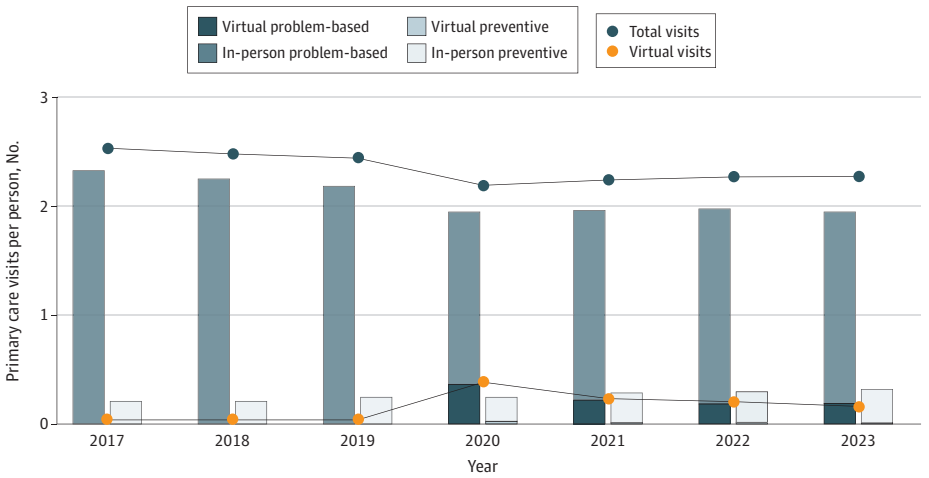
Race and Ethnicity

In 2019, compared with non-Hispanic White beneficiaries, those in most racial and ethnic minority groups had lower primary care visit rates except for American Indian and Alaska Native individuals; in 2023, all minority racial and ethnic groups experienced larger drops in visit rates (Table 1 and Figure 2). Similarly, primary care access was lower at baseline (2019) for all racial and ethnic minority groups than for non-Hispanic White beneficiaries, and these disparities grew in 2023 (51% vs 65% in 2019 vs 47% vs 64% in 2023, $P < .001$). In adjusted analyses, among those who did access primary care, those in most racial and ethnic minority groups (except American Indian and Alaska Native individuals) were significantly more likely than non-Hispanic White patients to use telemedicine to do so (**Table 2**).

Rural-Urban Residence

Compared with metropolitan residents, those living in small town and rural areas had lower primary care visit rates in 2019 and larger visit rate drops in 2023 (Table 1). Nonmetropolitan residents had lower primary care access in 2019 (54% vs 65%) and these disparities increased in 2023 (50% vs 63%; $P < .001$; Figure 2). In 2023, beneficiaries in metropolitan or rural areas who had primary care were significantly more likely to access this care through virtual visits than those in micropolitan or small-town areas (Table 2).

Figure 1. Bar Graph of Primary Care Visits per Person by Visit Type, 2017-2023



Total visit rates were 2.54 per person-year in 2017, nadired at 2.20 per person-year in 2020, and was 2.27 per person-year in 2023. Virtual visit rates were 0 per person-year in 2017 through 2019, peaked at 0.39 per person-year in 2020, and fell to 0.16 per person-year by 2023.

Primary Care Shortage Area

Beneficiaries in primary care shortage areas had lower visit rates than those in nonshortage areas in 2019 and a larger decrease in visit rates in 2023 (Table 1). They had lower primary care access in 2019 and a larger drop in this access in 2023 (55% vs 62% in 2019 compared with 52% vs 60% in 2023, $P < .001$; Figure 2), and were significantly less likely to use telemedicine to access this care (Table 2).

Medicaid Eligibility

Medicaid-eligible beneficiaries had higher primary care visit rates in 2019 but a larger decrease in visit rates in 2023 (Table 1). They were less likely to have primary care access in 2019 and experienced a larger drop in this access in 2023 (59% vs 62% in 2019 compared with 54% vs 61% in 2023; $P < .001$; Figure 2), and those with primary care access were significantly more likely to use telemedicine for this access (Table 2).

Multimorbidity

Beneficiaries with multimorbidity had higher primary care visit rates in 2019 and a smaller drop in visit rates in 2023 (Table 1). They had greater baseline primary care access and a slight increase in this access in 2023 (Figure 2; 82% vs 31% for those with ≤1 chronic condition in 2019 compared with

Figure 2. Bar and Line Graph of Primary Care Access in 2019 vs 2023, Overall and Among Subgroups

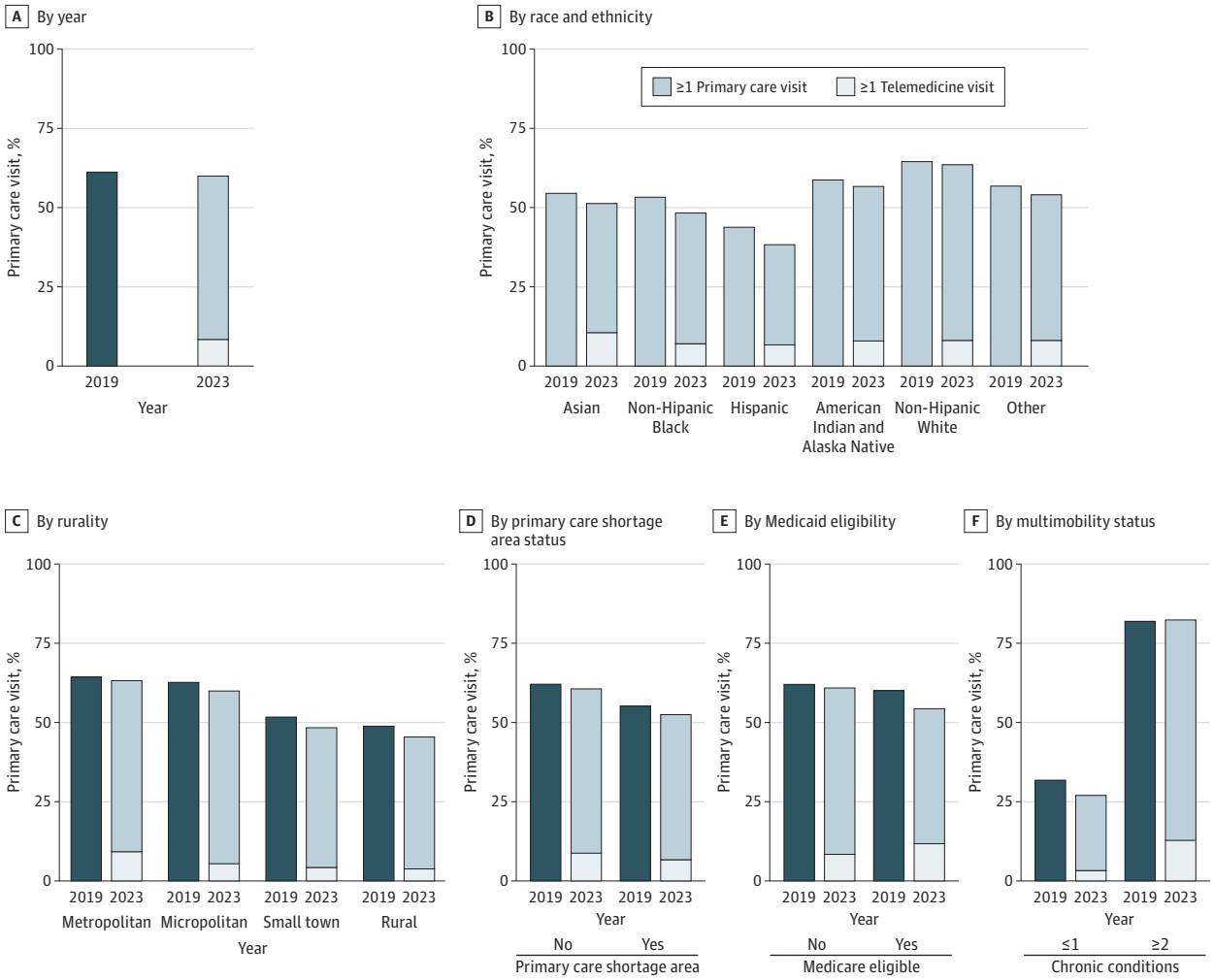


Table 1. Primary Care Visit Rates by Patient Characteristics

Characteristic	Primary care visit rate per capita		% Decline from 2019 to 2023
	2019 (n = 38 419 932)	2023 (n = 34 161 544)	
Race and ethnicity			
American Indian or Alaska Native	2.73	2.48	9.2
Asian	2.44	2.18	10.7
Hispanic	1.92	1.59	17.2
Non-Hispanic Black	2.18	1.92	11.9
Non-Hispanic White	2.55	2.39	6.3
Other or unknown[a]	2.02	1.86	7.9
Rural-urban residence			
Metropolitan	2.57	2.41	6.2
Micropolitan	2.57	2.30	10.5
Small town	2.07	1.78	14.0
Rural	1.85	1.59	14.1
Primary care shortage area			
No	2.47	2.30	6.9
Yes	2.20	1.94	11.8
Medicaid eligibility			
No	2.40	2.26	5.8
Yes	2.69	2.29	14.9
Multimorbidity			
≤1 Chronic condition	0.90	0.72	20.0
≥2 Chronic conditions	3.49	3.33	4.6

[a] Race and ethnicity categories are based on Research Triangle Institute codes, which pull from Social Security Administration data. The other or unknown category includes all people whose race could not be sorted into the 5 named categories in Social Security Administration data.

Table 2. Telemedicine Use by Patient Characteristics Among Beneficiaries With Primary Care Access in 2023

	Telemedicine use	
	Unadjusted, No. (%)	Adjusted, % (95% CI)[a]
All	14.5 (2 951 709)	14.5 (14.4-14.5)
Race and ethnicity		
American Indian and Alaska Native	15.0 (12 485)	12.9 (12.7-13.2)
Asian	21.6 (136 236)	15.8 (15.8-15.9)
Hispanic	18.5 (173 754)	14.7 (14.6-14,7)
Non-Hispanic Black	16.0 (206 520)	15.3(15.2-15.3)
Non-Hispanic White	13.8 (2 308 587)	14.2 (14.2-14.3)
Other or unknown[b]	15.6 (114 127)	15.7 (15.6-15.8)
Rural-urban residence		
Metropolitan	15.7 (2 475 063)	15.4 (15.4-15.4)
Micropolitan	10.1 (242 990)	10.5 (10.5-10.5)
Small town	9.8 (109 426)	10.8 (10.7-10.8)
Rural	9.9 (86 306)	11.4 (11.4-11.5)
Primary care shortage area		
No	14.6 (2 789 758)	14.5 (14.5-14.5)
Yes	12.0 (161 951)	13.2 (13.1-13.2)
Medicaid eligibility		
No	13.6 (2 423 279)	14.0 (14.0-14.0)
Yes	20.5 (528 430)	17.0 (16.9-17.0)
Multimorbidity		
≤1 Chronic condition	12.0 (442 364)	13.4 (13.4-13.5)
≥2 Chronic conditions	15.0 (2 509 345)	14.6 (14.6-14.7)

[a] Adusted models included the presented characteristics as well as age, sex, number of primary care visits, and Census region fixed effects.

[a] Race and ethnicity categories are based on Research Triangle Institute codes, which pull from Social Security Administration data. The other or unknown category includes all people whose race could not be sorted into the 5 named categories in Social Security Administration data.

83% vs 26% in 2023, $P < .001$), and were significantly more likely than those without multimorbidity to use telemedicine to access primary care (Table 2).

Continuity and Fragmentation

Between 2019 and 2023, primary care continuity decreased, and overall ambulatory care fragmentation increased for all groups (**Table 3**). Non-Hispanic White beneficiaries had lower continuity in both years compared with other groups. Primary care continuity and fragmentation varied little across rural-urban residence and shortage area status and by multimorbidity, whereas Medicaid-eligible beneficiaries had higher primary care continuity and slightly lower fragmentation in 2023 than those without this eligibility. In adjusted analyses, use of telemedicine in 2023 was associated with slightly greater primary care continuity (0.67 vs 0.65, $P < .001$; eTable 1 in Supplement 1). In sensitivity analyses restricting to patients with 4 or more visits in the relevant category, primary care continuity was lower and fragmentation higher, but trends and differences between groups were similar (eTable 2 in Supplement 1).

Discussion

From 2017 through 2023, primary care visit rates declined and primary care access dropped from 62% to 60%, with virtual visits making up 7% of all primary care visits in 2023. In 2023, 14% of traditional Medicare beneficiaries who accessed primary care used telemedicine to do so. Disparities in primary care access by race, rural-urban residence, primary care shortage area, and Medicaid eligibility widened over this period, and beneficiaries in historically underserved groups by race, income, and to a small extent by rural status who accessed primary care were more likely than other individuals to use telemedicine.

Table 3. Primary Care Continuity and Ambulatory Care Fragmentation in 2019 and 2023, Overall and by Patient Characteristics

	Continuity of care across primary care visits[a]		Fragmentation of care across all visits[a]	
	2019 (n = 20 857 615)	2023 (n = 18 425 144)	2019 (n = 23 859 202)	2023 (n = 20 721 907)
All	0.72	0.65	0.34	0.40
Race and ethnicity				
American Indian and Alaska Native	0.77	0.74	0.32	0.34
Asian	0.83	0.78	0.24	0.28
Hispanic	0.78	0.73	0.32	0.35
Non-Hispanic Black	0.76	0.70	0.35	0.38
Non-Hispanic White	0.71	0.64	0.35	0.41
Other or unknown[b]	0.73	0.66	0.32	0.38
Rural-urban residence				
Metropolitan	0.73	0.66	0.34	0.39
Micropolitan	0.71	0.64	0.35	0.40
Small town	0.72	0.65	0.35	0.40
Rural	0.73	0.66	0.36	0.40
Primary care shortage area				
No	0.72	0.65	0.34	0.40
Yes	0.73	0.67	0.35	0.40
Medicaid eligibility				
No	0.72	0.65	0.34	0.40
Yes	0.75	0.71	0.36	0.39
Multimorbidity				
≤1 Chronic condition	0.73	0.67	0.32	0.37
≥2 Chronic conditions	0.72	0.65	0.35	0.40

[a] Continuity was calculated using the Bice-Boxerman Index. Fragmentation was calculated using the reverse Bice-Boxerman Index (1-continuity). Analysis was restricted to those with at least 2 primary care visits for continuity and at least 2 total visits for fragmentation.

[b] Race and ethnicity categories are based on Research Triangle Institute codes, which pull from Social Security Administration data. The other or unknown category includes all people whose race could not be sorted into the 5 named categories in Social Security Administration data.

Our results build on prior evidence of long-standing declines in primary care visit rates and access among Medicare beneficiaries and other US populations through 2019[7-10] to show that these declines have continued, especially for historically underserved groups. These trends may be driven by declines in the number of primary care clinicians per capita[2,12,42] available to provide these visits, due in part to fewer trainees entering primary care[12] and primary care physicians leaving practice at higher rates than those in other specialties.[43] Another likely contributor is concurrent changes in primary care delivery, most notably the growing use of asynchronous (ie, between-visit) interactions in primary care.[44,45] Such interactions are largely through patient portal messaging, which is disproportionately done by primary care clinicians[45]; however, prior studies have found disparities in patient portal access by educational level,[46-48] internet access,[46] race,[47-51] and income level.[50,52] Other trends likely contribute, such as synchronous and asynchronous care by nurses, pharmacists, and other clinical team members. Less favorably, a recent survey study showed that primary care practices were less likely to offer extended weekday or weekend hours in 2022-2023 vs 2017-2018.[53] These potential explanations represent both desirable and problematic circumstances. But to the extent synchronous primary care is important to patient care and remains the primary source of financing for primary care clinicians and practices,[54] declining primary care visit rates and access are likely concerning.[8]

Although primary care access disparities increased for some underserved populations, this analysis found that members of those populations who did access primary care were more likely than others to use telemedicine to do so. This was the case for patients in racial and ethnic minority groups, with Medicaid eligibility, and to some extent those in rural (vs suburban or small town) areas, but not so for those living in primary care shortage areas. For example, although beneficiaries with Medicaid eligibility had higher primary care visit rates per capita than non-Medicaid eligible beneficiaries, a smaller share had any primary care visit. Those who did access primary care relied more on telemedicine, likely reflecting the convenience of telemedicine for working adults who may face restrictive work environments or transportation barriers.[55] In support of this hypothesis, a prepandemic health system study found that patients facing in-person visit barriers (eg, paid parking) and those in minoritized racial and ethnic groups were more likely than others to choose a telemedicine visit over an office visit with their primary care physician.[55] Similarly, a recent study found that Humana Medicare Advantage members with low-income status (as well as those with frailty or disability) used telehealth as a greater share of their primary care visits than other members.[56] In contrast, telemedicine seemed to play a smaller role for residents in rural or primary care shortage areas, which maybe because restrictive telemedicine laws require clinicians to be in the same state as the patients, those offering telemedicine are less likely to practice in rural areas,[57] or because connectivity issues in rural areas pose insurmountable barriers.[58,59]

Our findings on primary care use patterns reveal further insights. First, rates of annual wellness visits rose while problem-based visits declined, in parallel with prepandemic studies showing this trend in commercial and other populations.[10,60] These patterns may reflect the tendency for patients and clinicians to prioritize a wellness visit (with no patient cost sharing) over a problem-based visit in a given encounter when either might be appropriate. Importantly, we also found that a large share of annual wellness visits were cobilled with problem-based visits (48% in 2017 and 53% in 2023), but this did not fully explain the decline in problem-based visits (ie, the decline would remain even if each cobilled preventive visit were counted as 2 visits). Our findings contrast with those from a National Health Interview Survey study finding a slight decrease in self-reported wellness visits in 2022, with larger drops for Asian and non-Hispanic Black individuals.[11] Second, the analysis showed that from 2019 to 2023, overall fragmentation increased while primary care continuity decreased and patients who used telemedicine for primary care experienced greater continuity than those who did not. These findings align with that of a survey in which patients reported that telemedicine made it easier to see their own physician[61] and with opinion pieces suggesting the same.[62,63]

While we cannot know how primary care access and disparities would have changed in the absence of telemedicine use, our findings raise the possibility that telemedicine may have buffered the observed declines for populations with less primary care access. In other words, if telemedicine

had not been available, the disparities may have been larger. These results also support the possibility that telemedicine may contribute to access and continuity of care for those who already have a primary care clinician or who live in areas with primary care clinician availability, but that in primary care shortage areas or rural areas in which primary care clinician shortages are starker,[2] the telemedicine modality does not overcome these shortages. To the extent telemedicine contributed to primary care access, Congress could extend and then make permanent the broad telemedicine coverage that was initiated for traditional Medicare beneficiaries during the COVID-19 public health emergency.[34] It will also be important to ease barriers to telemedicine use by clinicians and patients, for instance through liberalization of state-based telemedicine licensing policies, improving incentives for rural physicians to offer telemedicine visits, or expansion of broadband access (eg, through the Health and Human Services Telehealth Broadband Pilot Program).[64]

Given the critical role for primary care in improving outcomes such as longevity, prevention of chronic and acute illnesses, and lower spending on high acuity care,[2,65] the observed declines in primary care access raise concerns about traditional Medicare beneficiaries experiencing worsening care quality and outcomes over time. The finding of a persistent, likely multifactorial decline in primary care visit rates also has more direct implications for primary care financing, in that these visits may be a diminishing source of practice revenue. Taken together with the large and growing mismatch between billable services and the full scope of visit and nonvisit activities needed for practices to provide high-quality primary care,[66] the visit decline suggests an important role for prospective payments to cover this work, for example through the Advanced Primary Care Management Codes recently introduced in traditional Medicare.[32]

Limitations

This study has several limitations. This is a descriptive study that is not designed to estimate the causal effect of telemedicine on primary care access. Although we used 100% national claims and administrative data to study all traditional Medicare beneficiaries—the population affected by upcoming primary care payment and telemedicine policy decisions[32-34]—these results may not generalize to the growing share of older adults enrolled in Medicare Advantage or those with other payers, and we did not examine how compositional shifts over time in traditional Medicare and Medicare Advantage populations may contribute to the observed trends. There is potential for misattribution of race and ethnicity[67] (although the Research Triangle Institute race variable has high validity[68]) and misattribution of primary care shortage areas because these designations are reevaluated every 3 years.[69] We used a standard specialty-based definition of primary care and rigorous methods to identify advanced practice clinicians practicing primary care but did not capture visits by subspecialists who may provide primary care for some patients. Although a standard visit-based definition of primary care access was used, this definition may underestimate access (to the extent care is provided through nonvisit services), may overestimate access (in that 1 visit may not represent adequate access for some patients, although among those with any visit, 20% had only 1 visit), and does not capture other dimensions of access (eg, how long patients have to wait for an appointment). Future work should examine how patients' self-report of access (eg, having a usual source of care) may relate to visit-based and other measures of primary care use, as well as the contributions of specialist care use and asynchronous or otherwise unbilled primary care touch points to the observed trends.

Conclusions

In this national analysis of all traditional Medicare beneficiaries from 2017 through 2023, overall primary care visit rates and access decreased while existing sociodemographic disparities in this access widened. By 2023, telemedicine made up a small share of primary care visits and was disproportionately used by populations with lesser access to primary care. These results likely reflect dynamic shifts in primary care workforce and practice patterns, with important implications for Medicare telemedicine reimbursement and primary care payment reform.

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SUPPLEMENT 1.

eMethods 1. Search strategy for Medline (using PubMed)

eFigure. Sankey diagram showing changes in primary care telemedicine use across years, 2020-2023

eTable 1. Primary care continuity and characteristics of beneficiaries with and without a primary care telemedicine visit in 2023

eTable 2. Continuity of primary care and fragmentation of overall care, sensitivity analysis restricted to patients with at least 4 visits

eReferences

SUPPLEMENT 2.

Data Sharing Statement