

PCC 2022
EVIDENCE REPORT

Relationships Matter

How Usual is Usual Source
of (Primary) Care?

Prepared by  pcc primary care
collaborative

 ROBERT
GRAHAM
CENTER

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Dear Colleagues,

At the heart of many innovations in primary care is cultivating a stronger relationship between individuals and the primary care clinicians who care for them. The evidence base is clear that *Relationships Matter* and where they exist, patients are healthier, care is more equitable, and costs are curbed.

Unfortunately, not everyone seeking to establish such relationships finds it easy to do so. There are long wait times to get into practices and to get care, lack of after-hours and weekend appointments, jobs that do not provide sick leave, and financial barriers, to name a few impediments.

Increasingly, practices are enhancing access and communication via portals and telehealth but demand for primary care is outstripping supply, or what is available is not meeting patient needs. Retail pharmacies and urgent care offer access and convenience to primary care services, filling gaps. At least one survey showed that those seeking services in such settings would prefer an ongoing relationship with a clinician or a care team, but more research is needed.

The National Academies of Science Engineering and Medicine (NASEM) report defines primary care as a common good, recommending that all individuals have a usual source of care, and laying out strategies for public and private payers to support such relationships.

The Primary Care Collaborative's 2022 Evidence Report shows declines in usual source of care across all ages, races/ethnicities, and insurance types since 2000, with a slight upturn in 2020. The report also shows more pronounced declines over the last five years for younger adults (18-34), those over 65, and individuals who have dual coverage (Medicare/Medicaid). Non-Hispanic Black and Hispanic Americans have lower usual source of care rates than their White counterparts, even after controlling for other factors.

There is no easy fix to re-establishing and strengthening these essential bonds between individuals, communities, and primary care – the fragility of which likely affected our nation's resiliency when the pandemic hit and led to poorer outcomes. Solving this problem will take changes to payment and benefit design, new investment in primary care and workforce policies, and creative care delivery solutions that leverage technology and data.

We must re-double our efforts, learning from Federally Qualified Health Centers (FQHCs) and primary care innovators who are in underserved communities with very low usual source of care and are reversing declines.

The heart of primary care is stressed; it urgently needs our collective commitment to reverse course so we can achieve Better Health for *all* communities.



Kind regards,

A handwritten signature in black ink that reads "Ann C. Greiner". The signature is fluid and cursive.

Ann Greiner
President and CEO
Primary Care Collaborative

Executive Summary

THE CONTEXT

Research confirms the benefits to individuals of having a usual source of care (USC) — as a person or place that you can turn to with a health issue or concern — and generally considered primary care.

This robust evidence base documents better population health outcomes, more equitable care, and lower cost of care across all demographic groups who have an ongoing relationship with primary care.^{1,2} An ongoing relationship — often considered the “secret sauce of primary care” — can enable clinicians to better know and understand their patients’ needs and preferences, to build trust and rapport, and may result in higher patient satisfaction.^{3,4}

There are recent externalities that may be influencing USC trends, including:

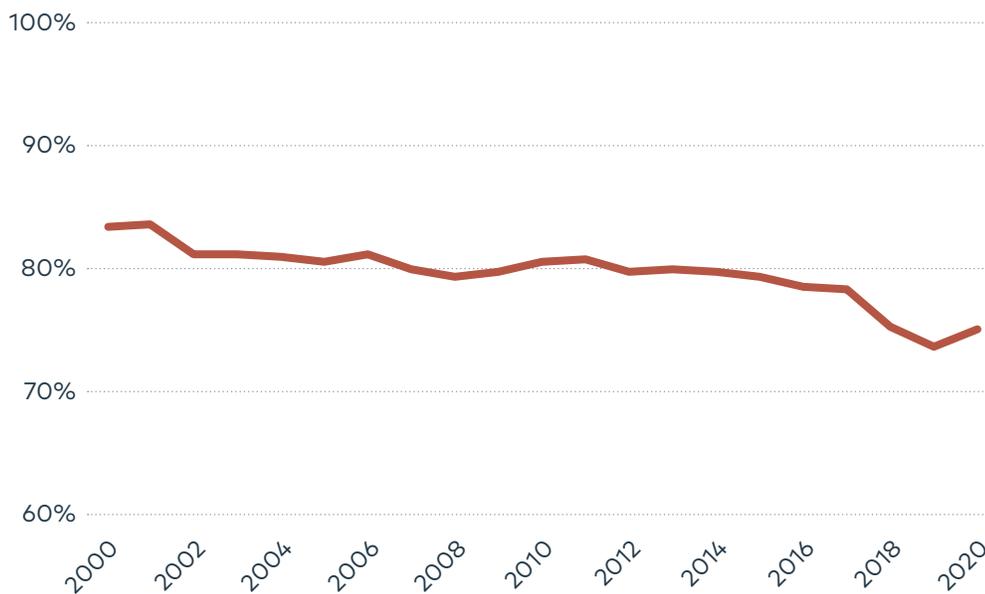
- The continued implementation of the Affordable Care Act (ACA), which expanded coverage for the commercially insured and Medicaid — conceivably enhancing demand for USC.
- A rapid rise in employers offering high-deductible health plans, which can pose a financial barrier to people getting primary care services beyond screenings, perhaps decreasing the uptake of USC.
- A maldistribution of primary care, with growing shortages in under-resourced urban and rural communities, undermining the supply of primary care and contributing to individuals’ inability to find and retain primary care.
- The rise of alternative sources of primary care services — including urgent, retail, and digital — that affect where individuals are getting care and may substitute for a USC.
- The negative effects of the pandemic on the primary care platform — with estimated losses in 2020 of \$15 Billion — resulting in early retirements and career changes.⁵ Simultaneously, patient demand for primary care increased.

TRENDS IN USUAL SOURCE OF CARE (USC)

Despite some factors that may enhance USC, the 2022 Primary Care Collaborative (PCC) Evidence Report shows that the percentage of Americans with an ongoing primary care relationship has been declining, falling 10% between 2000-2019, from 84% to 74%. In 2020, there was a slight uptick in USC to 75%, potentially attributable to the pandemic. It is not known if this will be a one-time increase or a change in trend.

FIGURE 1

Percent of U.S. Population with a USC



Data Source: Analyses of Medical Expenditure Panel Survey, 2000-2020.

Notes: HAVEUS42 and LOCATN42 were combined to construct a two-category USC measure. No USC includes respondents not having a USC and those who reported emergency department as the USC. Adjusted for gender, female, education, race-ethnicity, region, insurance coverage, and income.

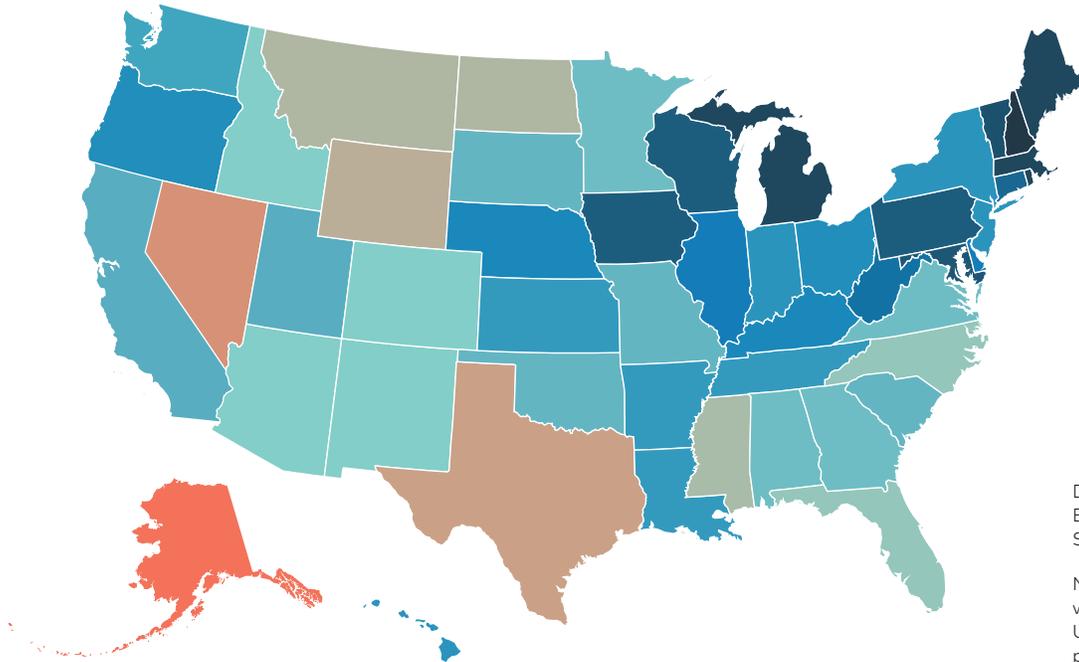
Much of the data reported in the PCC's 2022 Evidence Report is from the Agency for Healthcare Research and Quality's (AHRQ) 2000-2020 Medical Expenditure Panel Survey. Other data sources include the 2019 Behavioral Health Risk Factor Surveillance System and the 2019 National Health Interview Survey.

There has been a shift in where individuals seek their USC, with those who define a person as their USC declining and those who report a facility as their USC increasing. Due to a change in the way that the question was asked, however, the survey does not allow for comparisons over time. In addition, it is not clear if people might identify a team providing care as a facility or a person within a facility.

The PCC report shows that states vary considerably in USC, with data from 2020 demonstrating a spread of 27%. The states with high rates — up to 84% — are in the upper Northeast and pockets of the Midwest. The lower rate states — as low as 57% — are concentrated in the Southeast and Southwest, particularly non-Medicaid expansion states, and include Alaska, Nevada, and Wyoming.

FIGURE 2

Percent of Population with a USC



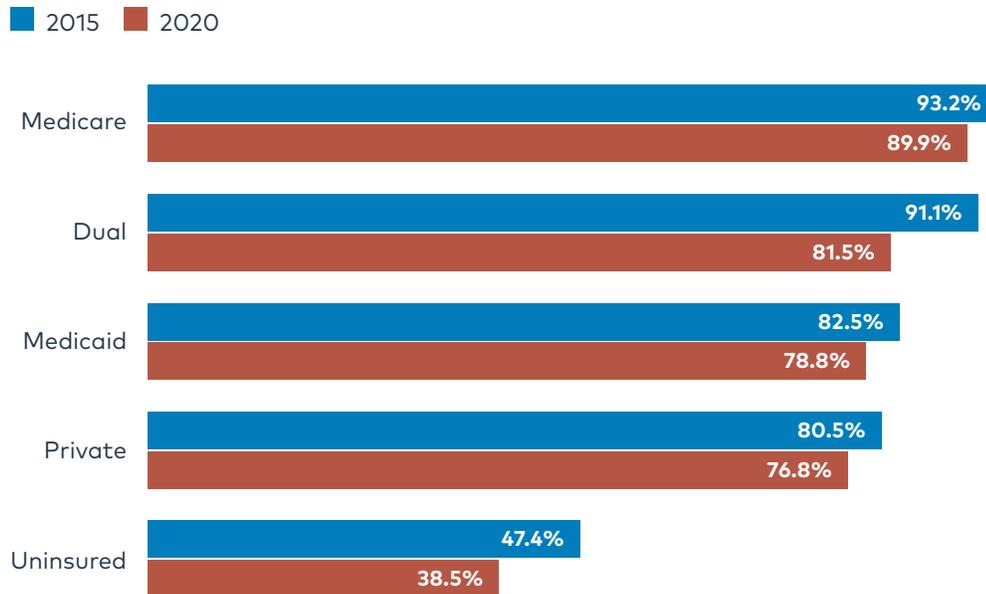
Data Source: Analyses of Behavioral Health Risk Factor Surveillance System, 2019.

Notes: The variable PERSDOC2 was used to create a two-category USC measure to examine percent population with and without USC.

Insurance type matters, with those on Medicare and both Medicare/Medicaid having the highest rates of USC, followed by those with Medicaid and those with commercial insurance. Except for the uninsured, these trends are likely related to health, given that patients with more medical conditions are more likely to have a regular clinician. For the uninsured, it is not necessarily fewer health conditions, but instead the lack of insurance coverage and costs that are barriers to having a USC.

ABBREVIATED TABLE 1

Trends in Percent U.S. Population with USC by Payer Type



Source: Analyses of Medical Expenditure Panel Survey, 2015 and 2020. Full results in Appendix Table 4.

There is also a more recent, concerning trend in USC in two, disparate age cohorts. There was an increase in younger people, age 18 – 34, having no USC, from 38% in 2014 to 46% in 2019, an 8%-point swing. For those over 65, between 2014 – 2019 there was a 60% increase in the percentage of those without a USC: from 5.9% to 9.7%.

The younger population may favor the access and convenience that the growing prevalence of retail, urgent, and telehealth outside of an established relationship provide, not wanting to wait days, weeks, or months for an appointment. This cohort may also consult the internet for advice and answers. How much of this care-seeking pattern will remain in place as this cohort ages is an important future research question. On the upper end of the age span, the increase in no USC is surprising, given that more seniors are in Medicare Advantage plans, which typically have a higher rate of USC than traditional Medicare.

As with all demographic groups, there has been a decline in USC rates for non-Hispanic Black and Hispanic individuals, but both groups were starting from lower levels than White Americans.

More specifically, in 2019:

- Hispanic individuals had a 66% higher rate of no USC (34.3%), compared to their White counterparts (20.7%)
- Non-Hispanic Black individuals had a 37% higher rate of no USC (28.4%), compared to their White counterparts (20.7%)

Racial, ethnic, and cultural differences also influence where patients seek care. A recent study showed that concordance between patients and clinicians in all three areas increases the use of preventive care services.⁴⁶ However, Non-Hispanic Black adults and Hispanic adults are less likely than their White counterparts to report racial and ethnic concordance with medical provider.⁴⁶ Cultural and language differences between patient and clinician can lead to misunderstanding and miscommunication and discourage individuals from seeking regular care.^{28,47}

When holding all other demographic variables constant — including age, insurance type, poverty, region, and income — the odds of having a USC is still lower for Non-Hispanic Black and Hispanic populations. The location of where populations receive their care also varies, with Black and Hispanic populations more likely to receive care in the Emergency Department or in a facility than from a person.

Taken together, these differences across racial/ethnic groups are concerning and may be contributing to ongoing and persistent health inequities, inequities that were made worse during the pandemic.

POTENTIAL SOLUTIONS

In recent years, primary care has been leveraging technology and teams to provide more ready access to primary care and to strengthen an ongoing patient-clinician relationship. These innovations include implementing patient portals to enhance bi-directional communication, offering telehealth and telephonic visits, and building out teams to provide more points of contact to primary care.

To date, these innovations to enhance the value proposition for primary care have not been sufficient to overcome structural barriers. Policies that could make a difference include:

1. Change How and How Much We Pay Primary Care

Both public and commercial payers should be investing more in primary care and paying through a hybrid payment model — predominantly capitated with some fee-for-service — as called for by the 2021 NASEM report.⁶ Despite robust conversations about value-based payment in primary care and in other parts of the health system, the dominant way primary care is paid remains fee for service. Investment, calculated as the percentage of primary care spend as a percentage of total cost of care, is a dismal 5-7 cents on the dollar.⁷

Paying more and differently can support primary care building out teams to provide more access and more comprehensive services, support longer visits for patients who need more attention, promulgate creative ways of delivering care not tied to a visit, and attract and retain clinicians in primary care. Primary care teams, where all members are working to bring their talents and expertise, may be able to provide care that is more timely, individualized, and able to meet an array of patient needs.

2. Incentivize Selection and Remove Financial Barriers to Primary Care

With nearly half of those with commercial insurance (46%) in PPO plans that do not require primary care to gain access to specialist services,⁸ employers need to take steps to make it easy and worthwhile for employees to select and retain a USC. Some employers have provided financial incentives for employees to select a primary care practice and/or to get wellness visits, while others assign a primary care clinician. Covered California, for example, has coupled such policies with consumer education about the benefits of a regular source of care, no co-pays or deductibles for annual primary care wellness visits, and primary care visits that are generally not subject to a deductible.^{9,10}

A justified critique of assigning a patient to a practice, more prevalent in Medicaid plans and on some ACA exchanges, is that this kind of plan matchmaking may engender patient distrust and clinician backlash. There are approaches to mitigate these effects, including allowing the patient to change primary care practices at any time and leveraging demographic data to make sure there is geographic, racial/ethnic, and language concordance between a patient and their clinician.

Another challenge is the percentage of commercially insured individuals in high-deductible health plans (HDHPs) — hovering around 30% in recent years¹¹ — that may provide a financial barrier to primary care services beyond routine screenings. Employers with an appreciation for primary care have established on-site or near-site primary care clinics for their employees to get care outside of the HDHP or have entered direct contracting arrangements to provide primary care services. More recently, a policy change was made that will enable HDHPs paired with Health Savings Accounts to cover the provision of chronic care services on a pre-deductible basis, which could have a favorable future effect.¹²



Throughout the report, quotes from real patients have been used to highlight findings from the data. These narratives were collected by and used with the permission of [Patients for Primary Care](#) (P4PC). P4PC formed in 2022 to center the voices of patients in the movement to revitalize primary care. P4PC is a national network of community members telling our stories to help raise awareness of the need for greater investment in primary care to ensure healthier futures for our communities. P4PC partners with the Primary Care Collaborative and other organizations in educational and advocacy efforts. We invite community members to join our movement for high-quality primary care for all! Visit us at www.P4PC.org to watch videos of our stories, share your own story, and join our network of primary care patient activists.



One of the things that really worries me about primary care is burnout and short staffing and how hard they're working and how much they're giving, but yet they're losing staff. They're losing front office staff and nursing staff and [face an] inability to recruit good providers. In a [rural] community like ours, if there's not good primary care, we simply don't have access. We can't go down the road to get it. And so I want my primary care office to be vibrant. I want it to be fully staffed. I want it to be well funded. And I don't want to have to worry about them quitting and giving up because this is an unsustainable position.

Maret is a third-generation farmer and former educator living in eastern Colorado. Her family's primary care clinician for many years was a nurse practitioner working at a rural clinic operated by a large health system.

3. Workforce Policies to Attract, Retain, and Diversify Primary Care

In addition to policies that support team-based care, there needs to be more effective approaches to diversifying the workforce so that it better matches patient race/ethnicity and to attract more students to select the specialty of primary care and practice in underserved areas.

Unfortunately, the U.S. has made almost no progress over four decades in the representation of non-Hispanic Black and Hispanic students in medical school.¹³ Most analysts agree that pathway programs that focus on recruiting racial/ethnic minorities into the health professions earlier in the education pipeline have the best track record and should be the focus.¹⁴

To attract students to select primary care and address primary care workforce maldistribution, federal and state loan forgiveness programs focused on primary care clinicians practicing in rural and underserved areas¹⁵ could be made more generous, particularly¹⁶ as there is an average differential in earnings between primary care and subspecialists of approximately \$100,000 a year.¹⁷

And finally, efforts to train primary care clinicians in teams in community settings where people "work and live," as recommended by the NASEM report, should be expanded. The evidence suggests that residents who train in rural and underserved settings, such as community health centers (CHCs), are much more likely to practice in such settings.^{18,19} One analysis found that if academic health centers were held to the same rate as CHCs for training physicians, Medicare could save \$1.28 Billion. These savings could be used to train additional primary care clinicians to serve in rural and underserved areas.²⁰

Introduction

In their 2021 report, *Implementing High Quality Primary Care in the United States*, the National Academies of Science, Engineering, and Medicine (NASEM) recommended that every “individual in the United States should have the opportunity to have a usual source of primary care.”⁶ This recommendation is grounded in the strong evidence that a USC, particularly a longitudinal one, improves access to healthcare, reduces healthcare costs, increases patient and provider satisfaction, and results in better population health outcomes.^{4,21,22,23} Despite the known benefits of having a USC, fewer U.S. residents have a USC than they did 20 years ago.²⁴

One in five U.S. residents has no usual source of healthcare, and those that do are increasingly naming a facility, like a clinic, hospital, or Emergency Department, over a clinician.¹ USC also differs by age. About a third of millennials, the nation’s largest population cohort, did not have a regular doctor, whereas only 15% of the population between age 50 to 64 did not.²

The decline in USC is linked to several factors. For millennial patients and younger, there is some evidence that the access and convenience that retail or urgent care settings provide matter more than clinician continuity.²⁵ For other patients, especially those who are uninsured or underinsured, the challenge of finding a regular clinician who is taking new patients can be burdensome and may lead to delays in care.²⁶ In the 2020 Evidence Report, *Primary Care Spending: High Stakes, Low Investment*, the Primary Care Collaborative (PCC) reviewed research suggesting that high cost-sharing rates for primary care services in private insurance were associated with decreasing utilization.⁷ And for some, it is mistrust in the medical system²⁷ or cultural barriers²⁸ that prevents them from relying on or obtaining a USC. These are just some of the barriers that patients may face when trying to establish a continuous relationship with a USC.

One in five U.S. residents has no usual source of healthcare, and those that do are increasingly naming a facility, like a clinic, hospital, or Emergency Department, over a clinician.

International comparisons of ten high-income countries show that the U.S. is among the poorest performing when it comes to having access to a USC. Specifically, Americans are the second least likely to have a regular doctor or place to go for care and least likely to have a longstanding relationship with a primary care provider.²⁹ This lack of a USC may, in part, explain the poor health outcomes in the U.S. when compared to other high income countries;³⁰ in countries with better access to primary care, health outcomes are better.³¹ Given the importance of USC to health outcomes, it is imperative to understand the current state of USC in the U.S. on a national and state level and to examine trends by demographics, income, insurance status, geography, and type of USC.

This report has three sections:

- In **Section 1**, what is known to date on USC will be reviewed.
- In **Section 2**, an analysis using national Medical Expenditure Panel Survey (MEPS) data is presented. This analysis examines trends in USC at the national and state level, and considers factors such as race, income, age, and insurance status on the likelihood of having a USC.
- **Section 3** concludes the report with a discussion of the policy implications of expanding USC, including the barriers that must be overcome to do so.

SECTION 1

Literature Review

TYPES OF USUAL SOURCE OF CARE AND TRENDS OVER TIME

A usual source of care (USC) can mean a person, a facility or both. Studies have examined what most Americans consider to be their USC. Liaw et al.²⁴ used Medical Expenditure Panel Survey (MEPS) data from 1996-2014 to determine the proportion of the U.S. population stating they have: 1) no USC; 2) a person as their USC; 3) a facility as their USC; or 4) a person within a facility as their USC. Overall, the researchers found that the proportion of the population with no USC increased by 10% over 18 years. During this same period, those reporting a facility as their USC increased by 18%, whereas those naming a person as USC decreased by 43%. Younger people tended to identify a facility as their USC, whereas older people were more likely to identify a person as their USC. In addition, having a USC varied with demographics; individuals who are uninsured, are young adults, are Hispanic, and have less than a high school education are all less likely to have a USC.²⁴

Not having a USC is also related to increased emergency department (ED) use. One study found that among Medicaid enrollees without a USC, 21.6% had half or more of their ambulatory visits in EDs, compared to 8.1% of those who had a USC.³² Among the uninsured in that study, the rate difference was similar: 24.1% of those without a USC were seen in the ED vs. 8.8% of those with a USC. The difference persisted even in patients with private insurance, although the rates were much smaller: 7.8% vs. 5.0%. Reducing nonemergent ED use does not just depend on having a USC; other studies have shown that characteristics of the USC also matters. Villani and Mortensen²¹ found, for example, that lower nonemergent ED visit rates were associated with patients who had USCs that were geographically closer, offered provider-patient language concordance, and had after-hours visit availability. The impact of type of USC has also been studied, and there is a difference in outcomes between having a person as USC versus a facility as USC: Among low-income individuals living at less than 200% of the federal poverty limit, those with no USC, with a person in a facility USC, or facility-only USC were more likely to have ED visits than those with a person as a USC.¹⁰

DEMOGRAPHIC FACTORS AND USUAL SOURCE OF CARE

Usual Source of Care and Age

ADULTS

Patients who have a USC are more likely to have preventive care across the age spectrum than those who don't. In adults, having a USC is associated with improved receipt of preventive services (cervical cancer screening, clinical breast exam, mammogram, prostate cancer screening, and flu shot).²² In another study, having no USC was negatively associated with receiving smoking cessation advice.³³ Patients with a USC report higher quality of care and more patient-centered communications,⁴ as well as more attention to their social needs (ranging from government assistance to transportation and housing).³⁴ A 2022 study among older adults found those with a USC were more likely to say their care preferences were considered, more likely to have preventive care, and less likely to have certain high-risk biomarkers present.³⁵ Young adults are more likely to receive flu vaccine, STD screening, cholesterol screening, and counseling if they have a USC.³⁶

Adults with chronic health conditions also seem to have better outcomes if they have a USC. For example:

- Patients who had had an acute myocardial infarction in the previous year were at increased risk of death if they had no USC compared to those who had a strong USC.³⁷
- Those with chronic kidney disease and a clinic as their USC had lower risks of hospitalization and death than those who used either an ED or urgent care center for their care.³⁸
- Statistically significant differences in hypertension control were found between those who had a USC and those without a USC.³⁹
- Patients who lacked a USC were more likely to have unmet needs for mental health services.⁴⁰

CHILDREN

Young children have the highest rate of USC across surveys that include children, yet insurance coverage and familial patterns of utilization can impact USC uptake and healthcare utilization in children.

Parental uptake of USC can impact their children's utilization of healthcare, independent of whether the children themselves have a USC. Studies have found that children with a USC but a parent or parents with no USC are more likely to have unmet needs, including an insurance coverage gap, an unmet medical or prescription needs, and no yearly dental visits, compared with children with a USC whose parent(s) also had a USC.⁴¹ Furthermore, for children with a USC, negative parental attitudes towards the benefits of having a USC have been found to negatively impact their children's receipt of preventive services.⁴²

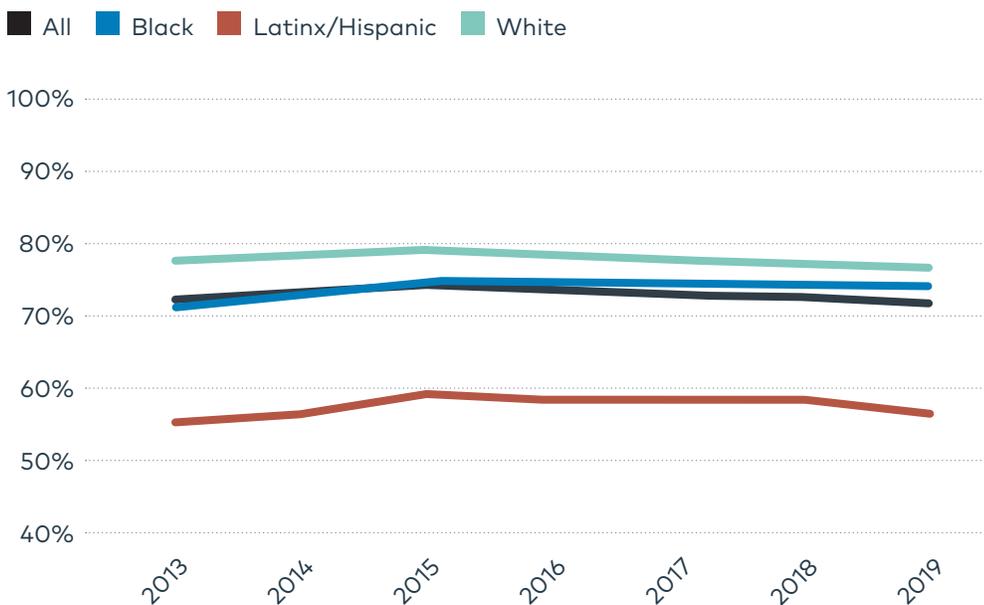
Insurance coverage is another potential barrier to uptake of USC for some children. A Kaiser Family Foundation (KFF) analysis found that access to care for children with special needs varies by type of insurance coverage.⁴³ Children with special healthcare needs with private coverage were more likely to report a usual source of sick care and preventive care, and slightly more likely to report at least one preventive visit in the past year than children with Medicaid/CHIP alone and those with both Medicaid/CHIP and private coverage.⁴³

Usual Source of Care and Race/Ethnicity

Disparities in USC across race and ethnicity narrowed after implementation of Affordable Care Act (ACA) coverage expansions, but they persist. Analyses conducted by the Commonwealth Fund using the Behavioral Risk Factor Surveillance System (BRFSS) indicate the share of Black and Hispanic adults with a USC — defined as a personal doctor or other healthcare clinician such as a health clinic where someone would usually go if they were sick — rose almost 4% between 2013 and 2019. Yet improvement on this key measure stalled for Black and Hispanic adults after 2016 and is attributed primarily to a stall in state Medicaid expansion efforts. White adults are still the most likely to have a USC among the three groups, but White adults have also experienced a slight decline in USC since 2019.⁴⁴

Racial disparities in USC uptake may also be due to medical mistrust. One study found that differing rates of use of EDs for USC between Black adults and White adults was attributed to medical mistrust.²⁷

Percentage of U.S. Adults Ages 18–64 Who Reported a Usual Source of Care, by Race/Ethnicity



Data: Behavioral Risk Factor Surveillance System (BRFSS), 2013–2019.

Source: Jesse C. Baumgartner, Sara R. Collins, and David C. Radley, Racial and Ethnic Inequities in Health Care Coverage and Access, 2013–2019 (Commonwealth Fund, June 2021). <https://doi.org/10.26099/spz0-mk34>

In a 2022 report, *Person-Centered Care: Why Taking Individuals' Care Preferences Into Account Matters*, Tavares et al.⁴⁵ explored large disparities in older adults' healthcare experiences based on race, income, and other demographic factors.

One third of older adults reported their preferences were never or only sometimes considered, with Hispanic patients twice as likely and Black patients three times as likely to say the system does not account for their preferences. When preferences were ignored, older adults were more likely to go without care and report lower satisfaction with their care.³⁵

Having a USC had a moderating effect on the role of race and income on whether care preferences were never considered. Having a USC made it more likely that care preferences were considered, more likely that care was received, and less likely that certain high-risk biomarkers would be present.

The analysis found having a USC "weakens the associations between being a person of color and reporting that one's care preferences were never considered."⁴⁵ Having a USC can decrease the likelihood of never having care preferences taken into account among those with lower income and poverty.



Primary care is important for...bridging the gap between the inequities in the community and my community – [African American] people like me... when you develop that relationship, it can break those fears because now you have your trust in this doctor. Once you know that somebody is taking care of you, that's all you need. That's all that's important. And I really think it's that simple.

Nina is a transplant recipient and cancer survivor living in San Francisco, CA. Her primary care clinician is a physician assistant working at a county-operated family health center.





“

I really value having my primary care doctor as a quarterback to sort of run the place, to help me understand who are the best specialists... I have a pacemaker. I've been to urologist, an ear, nose, and throat [doctor]...[He] stays in touch with what they are finding and dealing with, because it helps him understand what I may need in other areas going forward. So I think that's been very valuable and helpful."

Ray is a retired US Army officer and Medicare beneficiary, living in North Carolina. His primary care clinician is a family physician in private practice.

THE ROLE OF INSURANCE IN USUAL SOURCE OF CARE

Insurance matters, but workers also need time off to get needed care. In a June 2022 *Health Affairs* article, Hegland and Berdahl found that job flexibility plays a role in USC and likelihood of workers having an office-based visit in the past year.⁴⁸ Both job flexibility and access to paid sick leave were positively associated with having an office-based visit in the past year, after controlling for demographic factors including insurance status. Black and Hispanic workers, as well as low-wage workers broadly, are less likely to have job flexibility and access to paid sick leave, highlighting persistent structural barriers that contribute to inequity in having a USC.

Private Insurance

In at least one study,²⁴ those with private insurance were no more likely to have a USC than those covered by Medicaid. However, the same analysis found that those with private insurance and a USC were more likely to have a person as a USC compared to those with Medicaid and a USC.^{7,49}

Medicare

Medicare coverage improves access to USC in some racial/ethnic groups (e.g., Hispanic patients) and not in others (e.g., Black patients), according to at least one study.⁵⁰ With enrollment in Medicare Advantage (MA) approaching 50% of all Medicare beneficiaries, it is important to understand any differences in access, USC, and preventive care between beneficiaries enrolled in MA and those in traditional Medicare.

A 2022 literature review conducted by researchers at the KFF looked at various outcomes between enrollees in MA and traditional Medicare, including measures of USC and access.⁵¹ Looking across multiple studies using data from multiple national surveys, they found “Medicare Advantage (MA) enrollees were more likely than those in traditional Medicare to report having a USC.”⁵² Moreover, one study found MA enrollees were more likely to report a primary care clinician as their regular source of care than beneficiaries in traditional Medicare.⁵³ A 2021 analysis of Medicare Current Beneficiary Survey data conducted for The Commonwealth Fund found that MA enrollees are “more likely than those in traditional Medicare to have a treatment plan, to have someone who reviews their prescriptions, and to have a regular doctor or place of care.”⁵⁴

Studies of high-need Medicare beneficiaries confirm higher rates of access and USC for those enrolled in MA. In one study using the Medicare Current Beneficiary Survey from 2015 through 2018 to examine access and quality measures for people under 65 enrolled in Medicare due to disability, Johnston, et al. found “comparing MA and traditional Medicare among beneficiaries with disabilities, those in MA had significantly better rates of access to a USC (90.2% vs. 84.9%).”⁵³

Medicaid

The Medicaid and CHIP Payment and Access Commission (MACPAC), which advises Congress on Medicaid and CHIP Policy, analyzed access to care and USC for Medicaid beneficiaries using the National Health Interview Survey. Most Medicaid enrollees had a USC in 2019, but they were less likely to have a USC compared to adults with private coverage (85.6% compared to 90.2%). While Medicaid enrollees were as likely as those with private coverage to have seen a general doctor in the past 12 months, they were more likely to have received counseling from a mental health professional than those with private insurance, and less likely to have had a dental exam, a flu shot, or an eye exam.⁵⁵



...[My daughter] Kayla was diagnosed as having fussy baby syndrome. She actually didn't have that. She actually had cerebral palsy...So for me to get a [primary care] doctor that can recognize that and give her the right test and for her to be recommended to the right specialist, actually, I would say kind of saved her life.”

Monifa lives near Oakland, California. Her daughters are cared for by a general pediatrician working at a Federally Qualified Health Center.



Changes in insurance plan, either by choice or due to eligibility changes, known as churn, can result in gaps in coverage that disproportionately affect Medicaid beneficiaries.^{56,57} Frequent changes in insurance plans make it difficult to maintain a USC as insurers cover different subsets of providers. Coverage gaps are associated with decreases in access to primary care and increases in ED visits, and a change in primary care clinician.⁵⁷

Insurance, or lack thereof, also influences where and how patients receive care. Those who are uninsured are less likely to access a USC and more likely to seek care only when absolutely necessary.⁵⁸ Studies show that in states that have expanded Medicaid there is greater access to primary care.⁵⁹ However, one analysis indicates that adult Medicaid patients are concentrated among a small number of primary care physicians. In contrast, researchers found children enrolled in Medicaid received care from a larger proportion of pediatricians, with little difference between pediatricians located in Medicaid expansion states and those located in non-expansion states.^{7,49,60}

Patient Preference and Usual Source of Care

Aside from age, race, and insurance coverage, patient preference also impacts uptake of USC. Older studies using the Medical Expenditure Panel Survey show that most adults who lacked a USC two decades ago did so by choice, with 72% of those without a USC responding that they had "no preference to have one."⁶¹ More recent studies confirm this finding with 80% of patients in the no USC group preferring not to have a USC.⁶²

For some patients, it is ease of access that is preferred over continuity, resulting in lower rates of USC. Younger and healthier adults increasingly avail themselves of more convenient accessible care.²⁵ As a result, these patients are increasingly seeking care from urgent care, retail clinics,⁶³ and even EDs.⁶⁴ Many urgent care clinics offer greater flexibility, as well as competitive, often lower, pricing.⁶³ As the retail market in medicine grows it will be important to track USC trends and how the tradeoff between convenience and continuity impacts the delivery of healthcare and its effect on health outcomes.

SECTION 2

Usual Source of Care Analysis

Trends, State-level Variations, and Special Populations for Consideration

INTRODUCTION: WHAT WE KNOW AND KEY QUESTIONS

As presented in Section 1, a large body of literature has confirmed the benefit of having a USC. Yet, past analysis of the Medical Expenditure Panel Survey from 1996-2014 by Liaw et al. has shown that not only is the percentage of patients who report a USC decreasing, but there is also a shift away from having (or listing) a person as a USC.²⁴ The likelihood of having a USC also varies based on race, age, income, gender, and insurance status.²⁴

Much has changed in healthcare since 2014, including complete implementation of the ACA, continued Medicaid expansion, and the COVID-19 pandemic. All of these changes had the potential to change the availability and accessibility of a USC for communities in the U.S.

For example:

- Did expanding coverage through widespread implementation of the ACA result in an increase of the population with a USC, or did demand outpace supply, resulting in an overall decrease in the availability of USC?
- Did expanding Medicaid result in more people with a USC?
- Did the pandemic keep people away from a USC, or did it encourage those who previously did not seek care to find a clinician whom they could turn to for COVID-19-related advice?

Using updated data over the last decade, this analysis examines whether the trends initially explored in the Liaw et al. analysis persist. Importantly, this analysis also examines state-level uptake of USC and explores potential reasons for variation. Finally, it investigates USC at a granular level, in order to understand potential disparities, relationship to key patient outcomes, implications, and potential solutions.

METHODS

Three data sources were used in assessing USC in the U.S. population: the 2000-2020 Medical Expenditure Panel Survey, a nationally representative survey of civilian, non-institutionalized populations; the 2019 Behavioral Risk Factor Surveillance System (BRFSS), a national survey of adults; and the 2019 National Health Interview Survey (NHIS), a national survey on health of civilian, non-institutionalized populations. MEPS was used for most of the analysis presented, though BRFSS was used in the state-level analysis and NHIS was used for associations with wellness visits.

In the MEPS data, USC is determined by the following question: "Is there a particular doctor's office, clinic, health center, or other place that you usually go to if you are sick or need advice about your health?" Those who answered "yes" were then asked two additional questions that clarify whether the patient perceives the USC to be a person, facility (office or ED), or person in a facility. Using these questions, we created four categories: no USC; person; person in facility; and facility.

If a patient answered yes to USC, they are also asked about the location of their USC and whether it was in an outpatient office, in the hospital but not ED, or in the ED. Different from past studies using MEPS analysis for USC,²⁴ if a patient answered that they had a USC, but that the USC was in the ED, we placed them in the no USC category. Of note, retail or urgent care centers are not differentiated from traditional locations of USC and neither is receiving services via telehealth. Also, although the question in MEPS asks, "doctor's office," nurse practitioners (NPs) and physician assistants (PAs) are included in the calculations for USC as well.

In 2018, the MEPS questionnaire was changed. Starting that year, MEPS introduced a clarifying question to differentiate a person as USC from a person in facility/facility USC. Because of this change, direct comparisons in *type* of USC from before 2018 to after cannot be made.

RESULTS

Usual Source of Care Trends

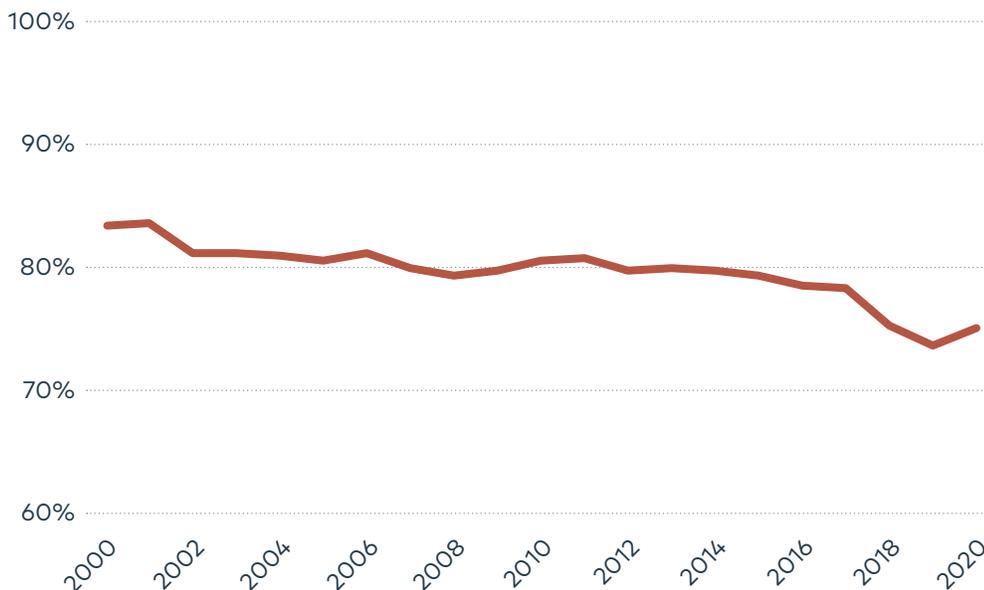
WHAT IS NEW SINCE 2014?

- There is a continued decrease in percent of the population reporting a USC — a 10% decline between 2000-2019 — with a possible upturn during the pandemic that should be tracked.
- There continues to be a decrease across all demographics in patients reporting a personal clinician as their USC.
- The proportion of those aged 65 years and above reporting no USC has increased by two-thirds, though this group remains the most likely to have a USC.
- For Hispanic patients, facility USC is no longer the most likely category to be reported; it is now *no USC*.

Using MEPS data, the proportion of the population reporting a USC over the last two decades was analyzed (Figure 1). Any respondents who reported having the ED as their USC or who responded that they had no USC were categorized into the “no USC” group. From 2000-2019, the percentage of the population that reported a USC fell 10%, from 84% to 74%. In 2020, there was a slight increase in those who reported a USC, to 75%.

FIGURE 1

Percent of U.S. Population with a USC



Data Source: Analyses of Medical Expenditure Panel Survey, 2000-2020.

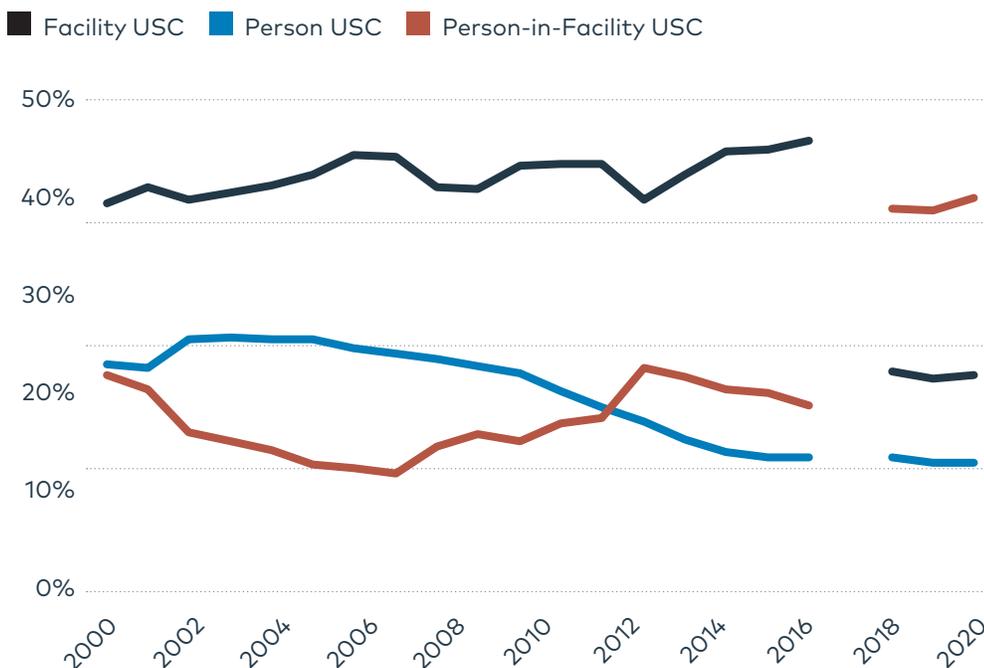
Notes: HAVEUS42 and LOCATN42 were combined to construct a two-category USC measure. No USC includes respondents not having a USC and those who reported emergency department as the USC. Adjusted for gender, female, education, race-ethnicity, region, insurance coverage, and income.

Compounding this concerning trend of a decrease in USC is the shift away from a person as a USC (Figure 3). The percentage of the population that reported a facility as their USC rose, while the percentage that reported a person as their USC fell. This finding may reflect a growth in team-based care,⁶⁵ resulting in patients identifying a team (perhaps represented by facility) as opposed to a person as their USC. Or, this finding may reflect the rise in consolidation in healthcare and the loss of small and solo practices nationwide.⁶⁶ Given the benefits of a continuous relationship with a primary care clinician, this trend of moving away from a personal clinician and towards a facility for primary care could be concerning, particularly if these facilities do not provide continuous relationship with a team.

Although USC uptake is decreasing nationwide, there may be some demographic differences in the populations impacted. Descriptive analyses demonstrate differences in the distribution of demographic characteristics by type of USC. (Figure 1). Nearly half (46%) of the population aged 18-34 reported no USC in 2019, up from 38% found in 2014 by Liaw et al.²⁴ This age group is traditionally healthier than older patients, which may explain the lack of USC; healthier populations have fewer reasons to regularly seek medical care and perhaps are more likely to consult “Dr. Google” for medical advice when needed.⁶⁷ Furthermore, this is a population that is more transient in their employment and thus may not always have steady insurance coverage; this is particularly true above the age of 26 when the ability to stay on their parents’ health plan, as provided in the ACA, ends.⁶⁸

FIGURE 3

Percent of Population with a USC by Type of USC



Data Source: Analyses of Medical Expenditure Panel Survey, 2000-2019.

Notes: HAVEUSC42 (Have a usual source of care), PROVTY42 (Provider type), LOCATN42 (Provider location) were combined to create a four-category USC measure. No USC includes respondents who reported not having a USC and those who reported emergency department as the USC. In 2018 the question stem changed which is noted by a break in the data. Adjusted for gender, female, education, race-ethnicity, region, insurance coverage, and income.

On the other end of the age spectrum, compared to data from 2014, the percent of patients >65 without a USC increased by 65% (5.9% vs 9.7%). Nonetheless, this age group still has the highest proportion of individuals who reported a USC. Steady insurance coverage through Medicare for this population as well as a higher healthcare need as patients age are potential explanations for high USC, but factors affecting the decline since 2014 are not clear and should be further examined.

Although there was an increase in the percent of individuals reporting no USC in all race categories and with all insurance types since 2014, Black and Hispanic individuals along with those who have Medicaid or are Uninsured continue to have the highest rates of no USC. Different from data in 2014, where facility USC was the most commonly reported "type" for all races, in 2019 the highest "type" of USC for Hispanic patients was "no USC" (28.8% in 2014; 34% in 2019).

Compared to the findings from Liaw et al., the largest jump in USC type across all demographic variables was "person in facility." In fact, there seems to be a shift away from facility since the 2014 analysis for all age groups towards "person in facility." This may be due to changes in the way the USC questions were asked beginning in 2017 (see Methods) but should be followed as more data emerge from future surveys.

In 2019, Black and Hispanic individuals along with those who have Medicaid or are Uninsured continue to have the highest rates of no USC.

TABLE 2

Distribution of Demographic Characteristics by USC Type

Characteristics	All		No USC		Person, USC		Person in Facility, USC		Facility, USC		p-value
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Gender											
Male	12,932	48.9	3,464	28.0	1,639	12.9	4,906	37.3	2,923	21.8	<0.001
Female	14,120	51.1	2,996	21.3	1,883	14.0	6,097	42.9	3,144	21.8	<0.001
Age in Years											
0-17	6,266	22.5	725	10.6	733	12.2	2,826	47.1	1,982	30.2	<0.001
18-34	5,299	22.7	2,443	46.2	418	8.9	1,273	23.6	1,165	21.4	<0.001
35-49	4,915	18.8	1,649	32.6	490	10.9	1,587	33.2	1,189	23.3	<0.001
50-64	5,264	19.3	1,135	20.8	816	16.8	2,364	44.9	949	17.5	<0.001
65 and older	5,308	16.7	508	9.7	1,065	20.4	2,953	55.6	782	14.3	<0.001
Education											
Less than high school	6,510	21.7	1,963	31.1	811	12.8	2,481	37.3	1,255	18.8	<0.001
High school diploma/GED	6,486	21.3	1,425	21.2	719	11.5	2,499	39.2	1,843	28.1	<0.001
Post high school	14,056	57.0	3,072	23.4	1,992	14.5	6,023	41.6	2,969	20.6	<0.001
Race/Ethnicity											
Non-Hispanic, white	14,605	60.1	2,834	20.7	2,179	14.7	6,786	45.1	2,806	19.5	<0.001
Non-Hispanic, Black	3,850	12.0	1,055	28.4	419	11.6	1,465	36.2	911	23.8	<0.001
Non-Hispanic, other	2,339	9.4	562	25.3	345	15.1	867	35.2	565	24.3	0.067
Hispanic	6,258	18.5	2,009	34.3	579	9.9	1,885	29.3	1,785	26.5	<0.001
Census Region											
South	10,265	38.2	2,808	27.5	1,203	12.0	4,002	39.6	2,252	20.8	<0.001
Northeast	4,057	16.8	880	24.0	767	18.6	1,692	39.2	718	18.2	<0.001
Midwest	5,776	21.0	1,043	18.6	833	15.5	2,632	45.4	1,268	20.4	<0.001
West	6,954	24.0	1,729	25.6	719	10.4	2,677	37.0	1,829	27.0	<0.001
Insurance Coverage											
Private	12,781	55.5	3,196	25.4	1,608	13.0	5,035	38.9	2,942	22.7	<0.001
Medicaid	6,283	19.3	1,392	23.2	657	11.4	2,368	37.5	1,866	27.9	<0.001
Medicare	4,917	16.0	458	9.3	986	20.4	2,764	56.2	709	14.0	<0.001
Dual	1,139	3.0	147	13.3	186	16.8	589	50.9	217	18.9	<0.001
Not insured	1,932	6.3	1,267	65.7	85	4.8	247	13.6	333	15.9	<0.001
Income											
≤100% FPL	4,525	11.7	1,270	29.3	460	11.4	1,673	36.6	1,122	22.8	<0.001
100-124% FPL	1,396	4.3	342	25.5	149	10.8	540	37.5	365	26.2	0.067
125-199% FPL	3,879	12.9	953	25.9	491	12.8	1,512	38.6	923	22.7	0.418
200-399% FPL	7,693	29.0	1,965	27.1	987	13.0	3,042	38.6	1,699	21.3	0.025
≥400% FPL	9,559	42.1	1,930	21.1	1,435	14.8	4,236	43.0	1,958	21.1	<0.001

State Variation in Usual Source of Care

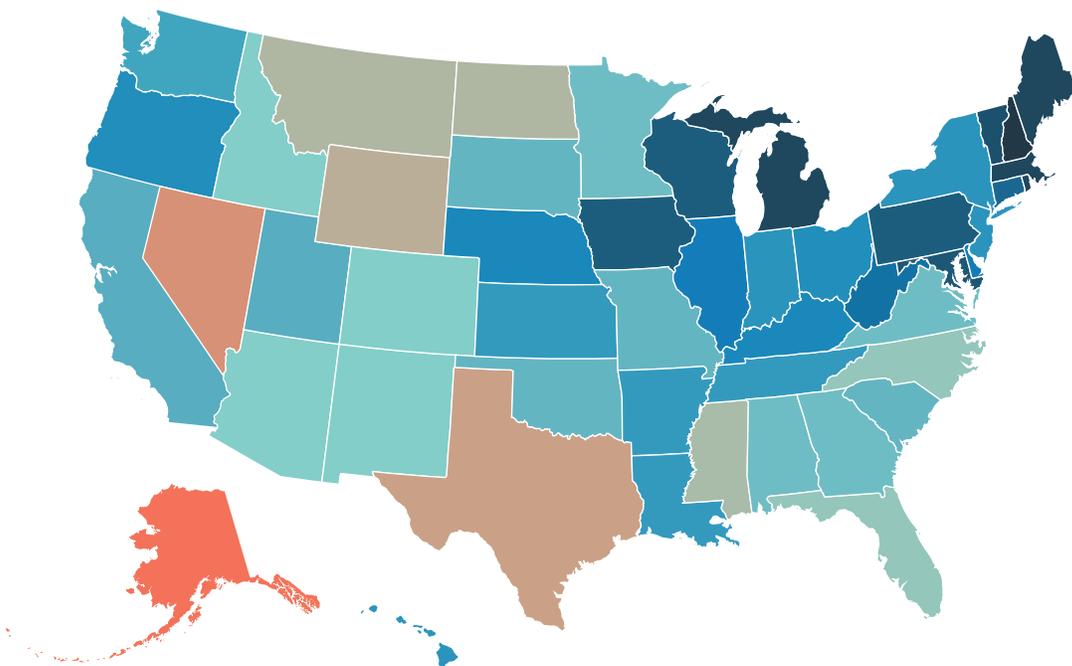
SUMMARY

- Examination of USC on a state level demonstrates great variation, with 88% of the population in some states reporting a USC and only 66% of other states reporting a USC.
- Having a USC and primary care physician supply are not always correlated, signaling that factors outside of supply are impacting uptake of a USC on the state level.

Factors at the state level such as clinician supply, payer mix, and Medicaid expansion could impact a person’s ability to have a regular healthcare provider. Using the most recent reported year (2019) of BRFSS to identify state-level data on USC, the percentage of the population per state reporting a USC was calculated. Figure 2 demonstrates that states such as Alaska, Texas, Nevada, and Wyoming had the lowest rates of reported USC. The Southeast, particularly the non-Medicaid expansion states, also had among the lowest levels of USC. Conversely, many of the states in the upper Northeast had among the highest rates of USC.

FIGURE 2

Percent of Population with a USC



Data Source: Analyses of Behavioral Health Risk Factor Surveillance System, 2019.

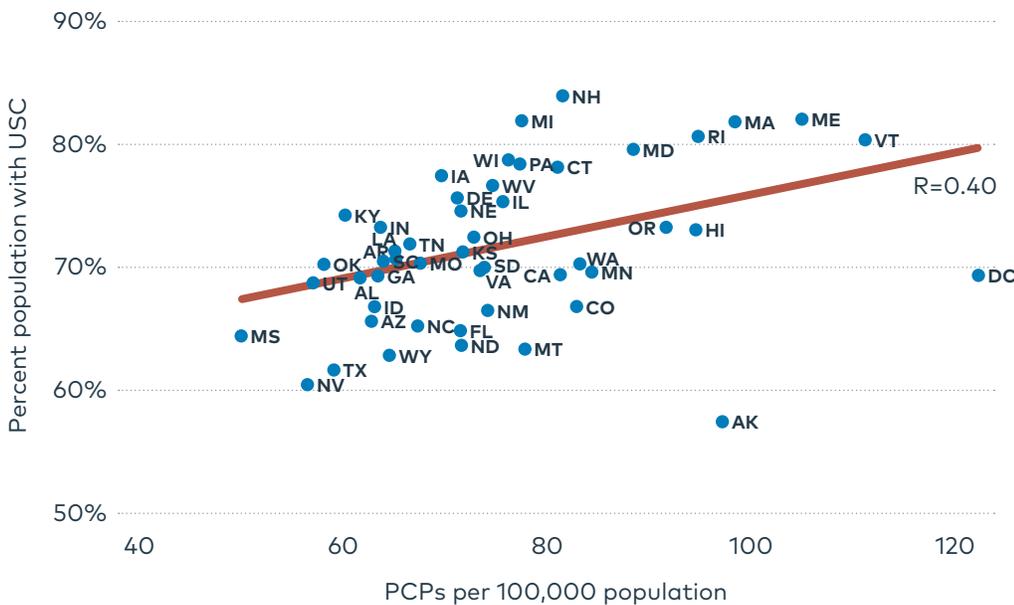
Notes: The variable PERSDOC2 was used to create a two-category USC measure to examine percent population with and without USC.

Factors at the state level such as clinician supply, payer mix, and Medicaid expansion could impact a person's ability to have a regular healthcare provider.

Besides insurance coverage for the population, one potential explanation for variation in USC by state could be the supply of primary care clinicians. The Area Health Resource File for 2019 was used to calculate the supply of primary care physicians (PCPs) by state. The supply of PCPs was used as a proxy to examine primary care supply, since NPs and PAs working in primary care are not delineated in the Area Health Resource File. Figure 4 does demonstrate that there is an association between PCP density and percent population with a USC, but a state-by-state examination shows that there is variation in this pattern and outliers exist (Figure 5).

FIGURE 4

Percent of Population with a USC vs. PCPs per 100,000 Population by State



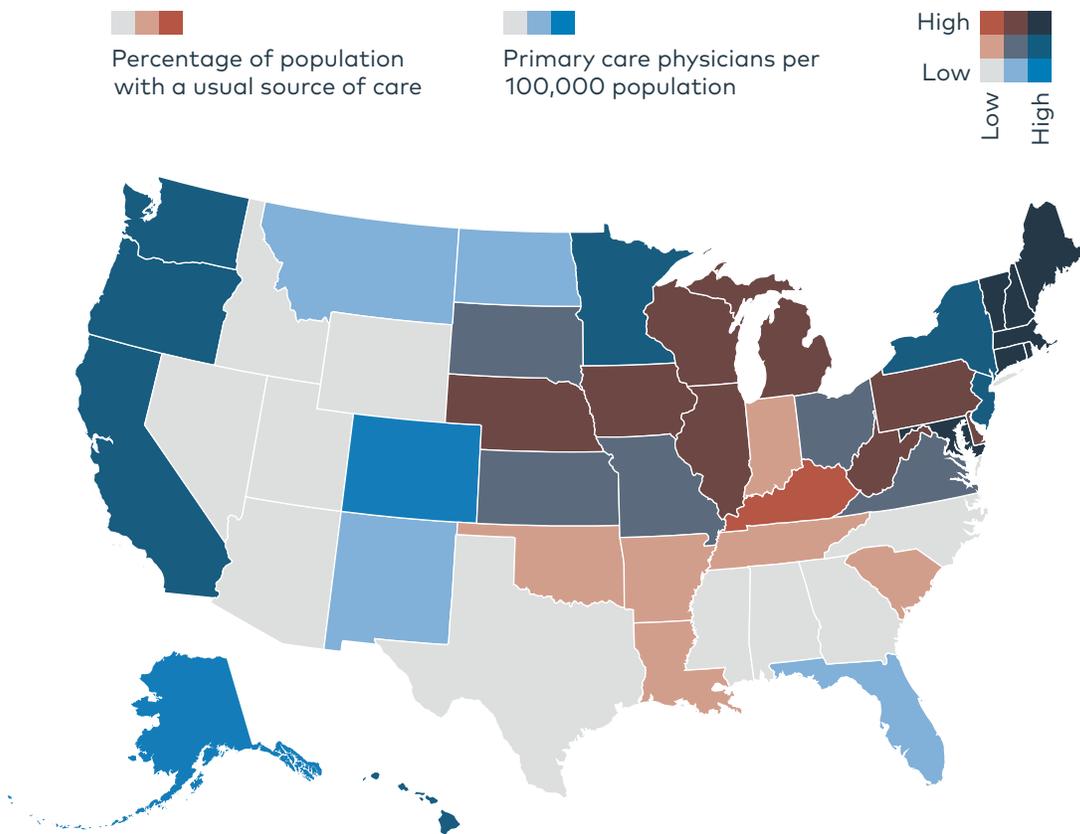
Data Source: Analyses of Behavioral Health Risk Factor Surveillance System (2019), the Area Health Resource File (2019) for number of primary care physicians and the American Community Survey (2019) for state population counts.

Notes: USC and no USC derived from the variable PERSDOC2 provided in BRFSS 2019. States derived from the state variable provided in the BRFSS public-use file. New Jersey not included in the BRFSS 2019 public-use file, hence USC data for New Jersey derived from the BRFSS 2018. The data on number of primary care physicians (family medicine, general practice, internal medicine, pediatrics, osteopaths) obtained from the AHRF 2019 file. The state-level population estimates were extracted from the ACS 1-year estimates. U.S. totals exclude data from the territories.

For some states, such as Texas and Nevada, as well as states in the upper Northeast, PCP density may be responsible for the patterns of USC uptake by state. As expected from low levels of USC, Texas and Nevada also have low PCP density. Similarly, in the upper Northeast, where high levels of USC were found, there are high levels of PCP density. Yet states like Alaska, Minnesota, and Colorado seem to be outliers with high PCP density but low USC. On the other hand, Kentucky stands out as a state where PCP volume is low, but percent reporting USC is high. In these states where supply of PCPs does not seem to be contributing to USC rates, there may be intrastate variation in population needs, demographics, and payer mix that drive the findings. County-level analyses could clarify factors that are contributing to USC uptake in these states.

FIGURE 5

Percent Population with USC vs. PCPs per 100,000 population



Data Source: Analyses of Behavioral Health Risk Factor Surveillance System (2019), the Area Health Resource File (2019) for number of primary care physicians and the American Community Survey (2019) for state population counts.

Notes: USC and no USC derived from the variable PERSDOC2 provided in BRFSS 2019. States derived from the state variable provided in the BRFSS public-use file. New Jersey not included in the BRFSS 2019 public-use file, hence USC data for New Jersey derived from the BRFSS 2018. The data on number of primary care physicians (family medicine, general practice, internal medicine, pediatrics, osteopaths) obtained from the AHRF 2019 file. The state-level population estimates were extracted from the ACS 1-year estimates. U.S. totals exclude data from the territories.

Usual Source of Care and Health Equity

SUMMARY

- Race impacts odds of having a USC when holding all other factors constant. Specifically, Hispanic, and non-Hispanic Black patients have a lower likelihood of having a USC compared to White patients. Hispanic and non-Hispanic Black patients are over-represented in the group that reports the ED as the location for their USC.
- Insurance matters. Medicare and dual-eligible patients have a higher likelihood of having a USC than privately insured patients. Uninsured patients have a lower chance and Medicaid patients have the same chance of having a USC as privately insured patients.

Having a USC is associated with higher levels of health equity³¹ regardless of whether the care is characterized by supply of primary care physicians, a relationship with a source of primary care, or the receipt of important features of primary care. The evidence also shows that primary care (in contrast to specialty care and is central to addressing health inequities in the U.S. In the following section, we present a series of analyses to analyze the demographic characteristics associated with USC. In Table 3, MEPS data from 2019 were used to investigate the characteristics associated with having a USC. For each demographic category (i.e., gender, age, race), the chance of having a USC compared to a reference category were calculated, holding all other variables constant.

For example, using male as the reference category, the likelihood of having a USC for females was calculated holding age, race, education, income, insurance type, and region constant. In Figure 6, we use the same type of methodology, but this time to calculate the chance of having a facility USC compared to a person USC. By doing this we can determine the demographic factors that make someone more or less likely to have a personal clinician as their USC.

Finally, in Table 4, we analyzed where respondents received their care if they reported having a USC: ambulatory clinic, hospital outpatient department, or ED. As opposed to the rest of the analysis where respondents were excluded from the “have USC” group if they reported the ED as their USC, for this analysis we included patients who reported using the ED.

TABLE 3
Patient Characteristics Associated with Usual Source of Care

Characteristics	Have a Usual Source of Care	
	Odds Ratio	95% Confidence Interval
Gender		
Male		
Female	1.45**	(1.35 - 1.56)
Age in Years		
0-17		
18-34	0.15**	(0.12 - 0.17)
35-49	0.26**	(0.22 - 0.30)
50-64	0.42**	(0.35 - 0.51)
65 and older	0.44**	(0.33 - 0.59)
Education		
High school diploma/GED		
Less than high school	1.15*	(1.00 - 1.32)
Post high school	1.11*	(1.00 - 1.24)
Race-Ethnicity		
Non-Hispanic, white		
Non-Hispanic, Black	0.78**	(0.67 - 0.92)
Non-Hispanic, other	0.87	(0.72 - 1.06)
Hispanic	0.68**	(0.59 - 0.79)
Census region		
South		
Northeast	1.03	(0.78 - 1.37)
Midwest	1.54**	(1.25 - 1.89)
West	1.08	(0.90 - 1.30)
Insurance coverage		
Private		
Medicaid	1.11	(0.97 - 1.27)
Medicare	2.34**	(1.80 - 3.03)
Dual	2.16**	(1.67 - 2.80)
Not insured	0.26**	(0.22 - 0.31)
Income		
≤100% FPL		
100-124% FPL	1.16	(0.91 - 1.47)
125-199% FPL	1.25*	(1.03 - 1.51)
200-399% FPL	1.17*	(1.00 - 1.37)
≥400% FPL	1.50**	(1.24 - 1.81)
Constant	5.44**	(4.17 - 7.10)
Observations	27,052	

Data Source: Analyses of Medical Expenditure Panel Survey, 2019.

Notes: USC Type, a four-category measure combined from HaveUS42, Provty42 and Locatn42. No USC includes No USC and those who reported Person in Facility, and Facility on Provty42 and Hospital, ED as the USC on Locatn42, ** p<0.01, * p<0.05

Race/Ethnicity and Usual Source of Care

As previously discussed, descriptive results demonstrated that Hispanic patients and non-Hispanic Black patients were the highest represented groups in the no USC category (Table 2). Hispanic patients had a 65% higher rate of no USC (34.3 %) compared to their White counterparts (20.7%). Non-Hispanic Black patients had a 37% higher rate of no USC (28.4%), compared to White individuals. When holding all other demographic variables constant (age, insurance, poverty, region, income), the odds of having a USC is still lower for Non-Hispanic Black (OR 0.78, 95% CI .67-.92)* and Hispanic patients (OR 0.68, 95% CI 0.59-.079). Furthermore, Non-Hispanic Black patients (OR 1.33, 95% CI 1.04-1.71) and Hispanic patients (OR 1.31, 95% CI 1.05-1.64) are over 30% more likely to have a facility (as opposed to a person) USC than non-Hispanic White individuals (Figure 6).

When examining the *location* where respondents received their USC, non-Hispanic Black patients and Hispanic patients were over-represented in the ED (Table 4). While non-Hispanic Black patients are 12.3% of the U.S. population, they were 20% of the population that uses the ED for their USC. Similarly, while Hispanic patients are 18.5% of the population, they were 33% of the population that used the ED for their USC. Not only are the benefits of having a USC clear, but the benefits of having a person as a USC seem to outweigh those of using a facility, and the benefits of having a clinic as opposed to the ED for the location of one's USC have also been demonstrated.^{38,69}

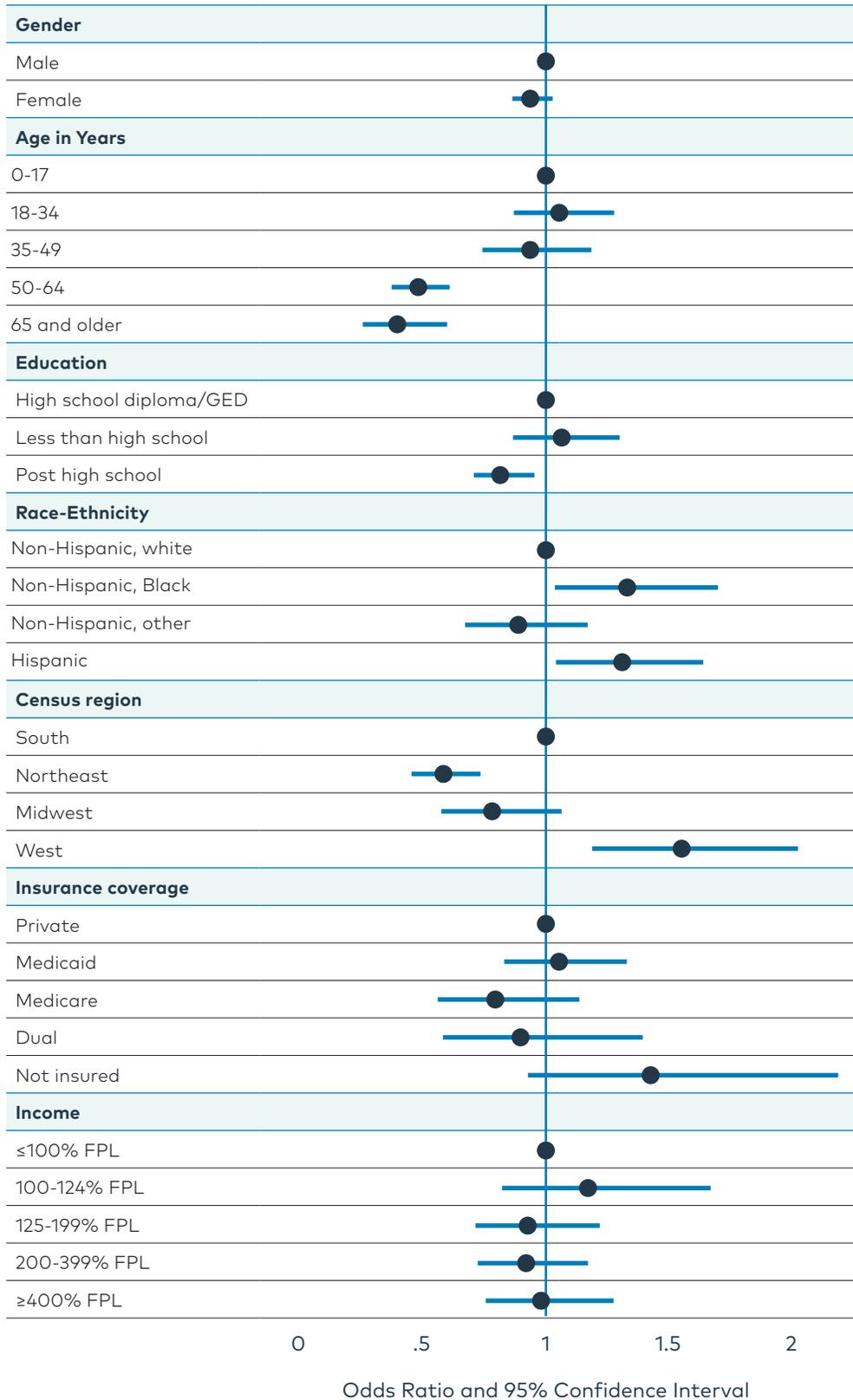
Taken together, these findings are concerning and may be contributing to the widening gap of healthcare disparities in the U.S. Understanding what is driving this lower uptake of USC, and specifically a person USC, in non-Hispanic Black and Hispanic populations is an essential component of addressing health disparities. Factors that may be contributing to these findings, such as racism in healthcare,^{70,71} higher representation of non-Hispanic Black and Hispanic patients in medically underserved areas,⁷² mistrust of the medical system,²⁷ and financial barriers to care, should be explored.⁷³

While non-Hispanic Black individuals are 12.3% of the U.S. population, they were 20% of the population that uses the ED for their USC.

* OR represents the Odds Ratio. An OR less than 1 represents a lower odds, and OR greater than 1 represents a higher odds. CI represents the confidence interval, or the range of values that are observed in the sample.

FIGURE 6

Factors Associated with Likelihood of Having Facility USC versus Person USC



Data Source: Analyses of Medical Expenditure Panel Survey, 2019.

Notes: USC Type, a four-category measure combined from HaveUS42, Provty42 and Locatn42. No USC includes No USC and those who reported Person in Facility, and Facility on Provty42 and Hospital, ED as the USC on Locatn42, ** p<0.01, * p<0.05

Insurance Coverage and Usual Source of Care

It has long been demonstrated that financial barriers and lack of insurance or appropriate coverage are associated with reduced healthcare utilization.⁷³⁻⁷⁵ Table 2 also demonstrates that those without insurance are the highest group in the no USC category. Over time, this trend does not seem to have changed. Figure 7 shows that from 2000-2020, the uninsured continue to have the lowest rates of USC and the Medicare population the highest. Of the insured, privately insured populations have the lowest rates of USC. When holding demographic variables constant, Table 3 shows that the uninsured have a much lower chance of having a USC than those with private insurance (OR 0.26, 95% CI 0.22-0.31). But those with Medicare and dual-eligible beneficiaries had a much higher chance of having a USC than those with private insurance (Medicare OR 2.34, 95% CI 1.80-3.03, Dual OR 2.16, 95% CI 1.67-2.80). This is likely because these patients have higher rates of chronic disease and greater overall healthcare needs, making them more likely to seek care

An important group to consider when examining the impact of insurance on USC is Medicaid beneficiaries. Compared to privately insured individuals, the odds of having a USC for Medicaid beneficiaries is not statistically different (Table 3).** Furthermore, when examining the type of USC, there is no statistical difference in the odds of using a facility USC as opposed to a person USC between Medicaid beneficiaries and the privately insured. These findings are interesting given reports of the lack of physicians who take Medicaid in many states.⁷⁶ The success of the health center program in improving access to care for Medicaid patients may partially explain the discrepancy between Medicaid acceptance by physicians, and the odds of having a USC for Medicaid patients in this study.⁷⁷

Looking at the data slightly differently and examining the *location* where all patients report getting their care, a different story emerges. In Table 4 those who report the ED as their USC are no longer excluded from the data and the location for USC for all respondents is examined. This time, Medicaid beneficiaries were disproportionately represented in the ED; they are 19.2% of the population but 38.5% of the population using the ED as the location of their USC (Table 4). Given that this is a medically vulnerable population, the potential lack of continuity and access that use of the ED signifies, could be particularly troublesome for their health.

** Note this finding differs from MACPAC's finding reported in "Access in Brief: Adults' Experiences in Accessing Medical Care, November 2021. This may be the result of using different data sets which ask the USC question differently, and using different statistical methods.

TABLE 4
Distribution of Patient Demographics Among Respondents Who Reported Having USC (3 Types) by Location

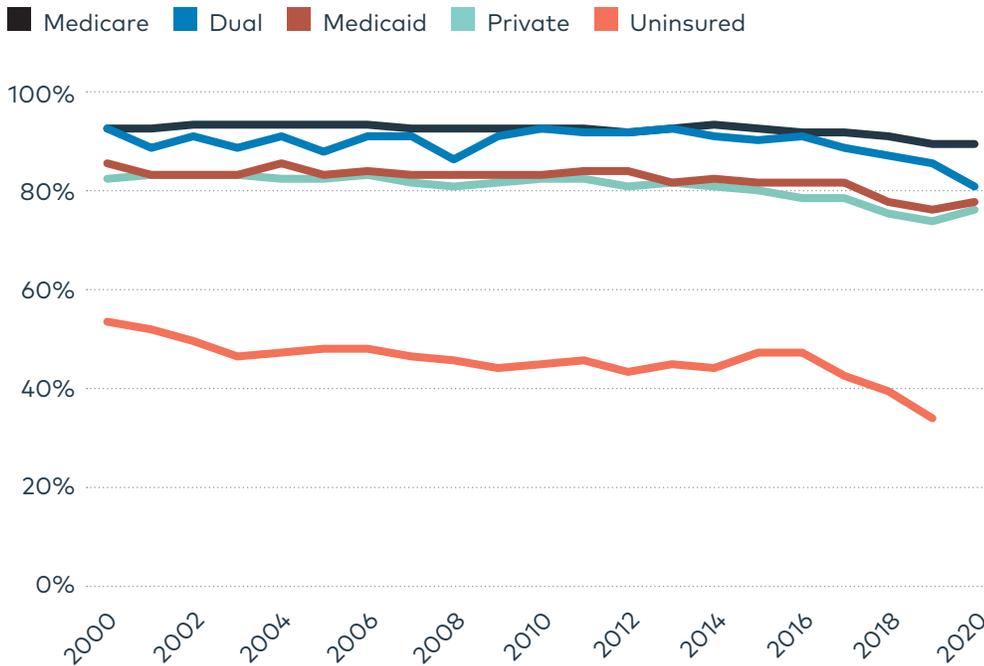
Characteristics	Weighted Frequencies		Ambulatory Clinic		Hospital Outpatient Dept.		Emergency Department	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Gender								
Male	160,438,309	49.0	3,916	45.1	2,573	47.7	48	56.5
Female	166,958,384	51.0	4,846	54.9	2,908	52.3	44	43.5
Age in Years								
0-17	73,727,901	22.5	2,176	25.3	1,436	25.5	17	16.8
18-34	74,014,196	22.6	1,008	13.7	825	16.9	31	35.0
35-49	60,895,613	18.6	1,239	15.1	987	19.2	24	29.1
50-64	62,784,113	19.2	1,935	22.7	1,066	19.1	9	8.9
65 and older	53,365,824	16.3	2,404	23.2	1,167	19.2	11	10.2
Age missing	2,609,046	0.8						
Education								
Less than high school	69,333,979	21.2	1,888	19.7	1,413	23.3	29	26.7
High school diploma/GED	71,910,871	22.0	1,964	19.9	1,220	20.4	22	24.5
Post high school	186,151,843	56.9	4,910	60.4	2,848	56.3	41	48.9
Race/Ethnicity								
Non-Hispanic, white	195,488,622	59.7	5,509	68.1	2,754	55.3	28	34.8
Non-Hispanic, Black	40,181,245	12.3	1,112	10.2	771	12.5	20	19.2
Non-Hispanic, other	31,270,321	9.6	729	8.8	507	10.5	11	9.9
Hispanic	60,456,506	18.5	1,412	12.9	1,449	21.8	33	36.1
Census Region								
South	123,618,384	37.8	3359	39.3	1,510	27.1	31	35.4
Northeast	55,606,889	17.0	1647	19.4	460	9.2	19	18.6
Midwest	67,846,622	20.7	1866	22.5	1,606	26.5	17	19.1
West	77,715,752	23.7	1890	18.8	1,905	37.2	25	26.9
Region missing	2,609,046	0.8						
Insurance Coverage								
Private	179,577,104	54.9	4,052	54.1	2,524	53.4	24	32.6
Medicaid	62,808,196	19.2	1,802	17.4	1,410	21.3	42	38.5
Medicare	52,164,106	15.9	2,246	22.5	1,075	18.1	9	9.2
Dual	9,980,812	3.0	455	3.6	272	4.0	4	3.2
Other public	2,252,171	0.7					13	
Not insured	20,614,305	6.3	207	2.3	200	3.2		16.5
Income								
≤100% FPL	38,503,317	11.8	1,253	10.2	892	11.5	32	29.6
100-124% FPL	14,187,888	4.3	395	3.6	292	4.8	3	3.2
125-199% FPL	42,582,818	13.0	1,221	12.5	904	14.6	10	10.8
200-399% FPL	95,561,706	29.2	2,425	28.3	1,590	29.0	25	30.3
≥400% FPL	136,560,964	41.7	3,468	45.3	1,803	40.1	22	26.1

Data Source: Analyses of Medical Expenditure Panel Survey, 2019.

Notes: USC Type, a four-category measure combined from HaveUS42, Provty42 and Locatn42. No USC includes No USC and those who reported Person in Facility, and Facility on Provty42 and Hospital, ED as the USC on Locatn42, ** p<0.01, * p<0.05

FIGURE 7

Percent U.S. Population with USC by Insurance Coverage



Source: Analysis from MEPS
2000-2020

Associations Between Usual Source of Care and Healthcare Utilization

The 2019 National Health Interview Survey, which includes data on wellness visits, was used to examine associations between "routine check-ups" and USC. The odds of having a routine checkup, where preventive screenings and immunizations are typically ordered or administered, was significantly higher for patients with a USC (OR 3.09, 95% CI 2.78-3.43), even after adjusting for demographic factors, self-reported health status, and number of office-based visits (OR 2.85, 95% CI 2.56-3.18) (Table 5).

When looking at ED visits and hospitalizations, the results are slightly more complicated. Using the MEPS data, those with a USC had a higher likelihood of ED visits (OR 1.64, 95% CI 1.46-1.84) and hospital admissions (OR 2.12, 95% CI 1.79-2.52). This phenomenon may be explained by the fact that healthier patients are less likely to have a USC⁶⁷ and also less likely to use the ED. Similarly, patients with multiple comorbidities are more likely to have a USC, but also more likely to end up in the ED. In fact, when controlling for demographic factors, self-reported health status, and number of office visits to examine whether it is having a USC or other factors that are impacting ED use, the association between ED use and USC is no longer significant.

TABLE 5
Association between USC and Use of Healthcare services

		Odds ratio	95% Confidence Interval	Adjusted Odds ratio	95% Confidence Interval
Routine Check-up/ Wellness Visit	No USC				
	USC	3.09**	(2.78 - 3.43)	2.85**	(2.56 - 3.18)
Any ED Visit	No USC				
	Have USC	1.64**	(1.46 - 1.84)	1.09	(0.97 - 1.23)
Any Hospital Admission	No USC				
	Have USC	2.12**	(1.79 - 2.52)	1.06	(0.87 - 1.28)

Data Source(s): Analyses of National Health Interview Survey, 2019. Adult Survey for wellness visit and Medical Expenditure Panel Survey, 2019 for ED visits and Hospital Admission. Controlled for age, gender, race-ethnicity, region, income, education, insurance, health status and , number of office-based visits (ED and Hospital admissions only)

LIMITATIONS

There are several limitations to consider in the analysis in Section 2. First, the sources used patient – or parent-reported data. Patients themselves may have trouble recalling important details about their USC or may not understand the questions. Second, there was a break in the MEPS data in 2018 where the USC questions were changed. For this reason, direct comparisons between the pre-2018 and post-2018 data may not be reliable. Nonetheless, trends over the last two decades regarding the USC seem to be consistent, and it is unlikely that the way the question is now asked impacted those trends. Third, for the preventive care associations, the NHIS data were used instead of MEPS, because MEPS stopped reporting preventive care from 2017 onwards. Similarly, for the state maps, we used BRFSS data on USC and not MEPS, since MEPS did not provide state-level data in their public use files. Finally, although nurse practitioners and physician assistants are an important component of the primary care workforce, they are not well represented in the data. This may be because patients are not aware that their clinician is an NP or PA and report them as a physician instead. More accurate data collection regarding clinician type will be important in understanding the entire team’s contribution to USC for patients.

CONCLUSION

These findings taken together point to the fact that both USC and person USC are on the decline. For some populations, this may be more consequential. Most of the data points to less USC for non-Hispanic Black and Hispanic patients. Where these populations do have a USC, the USC is less likely to be a person and they tend to be seen in the ED as opposed to an outpatient clinic.

The age differences seen in USC deserves attention. It is unclear if the lack of USC in the 18-34 age group is a product of their current health and lifestyle needs, or if it is a life-long trend. If this move away from USC in the young is a trend, will it result in a change in the landscape of primary care delivery or is it in response to the rise of alternative sources of care such as retail clinics^{78,79} and the proliferation of medical advice on the internet? On the other end of the age spectrum, while most individuals over 65 do have a USC, there has been a near doubling in the percentage of those who do not and a 10% USC decline for those with Medicare/Medicaid coverage dual coverage. It is unclear what is contributing to these troubling trends.

It is unclear if the lack of USC in the 18-34 age group is a product of their current health and lifestyle needs, or if it is a life-long trend.

Finally, the data reported here is only through 2020. Continuing to track USC during and after the COVID-19 pandemic will be important to understand if patient attitudes about and need for a USC have shifted and if existing race/ethnicity disparities in USC were further exacerbated by the pandemic. It will also be critical to understand how primary care office closures and over-run hospitals and EDs, as well as the pivot to telehealth may have affected the ability of Americans to avail themselves of their USC.

SECTION 3

Potential Solutions to Declines and Disparities in Usual Source of Care

Given significant differences across demographic groups in USC, as well as differences across public and private insurance, there is no single solution to addressing the 10% decline in USC and persistent disparities in race and ethnicity. Young and healthy populations may value the access and convenience that retail clinics provide over establishing an ongoing relationship with primary care,⁸⁰ although we need further research to understand whether the reported USC decline in young adults will hold as this population ages and what the implications are for their health and well-being.

The types of solutions fall into four main categories:

- Enhancing the value proposition for having a USC;
- Reforming how and how much primary care is paid to support better access to a USC;
- Changing health plan design to facilitate establishing and maintaining a USC; and
- Putting workforce policies in place that attract and retain primary care clinicians and that increase the diversity of the workforce.

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ENHANCING THE VALUE PROPOSITION FOR USUAL SOURCE OF CARE

Primary care practices are making changes to enhance communication, access, and convenience, which may contribute to an enhanced value proposition for USC. They are incorporating patient portals to allow more patient contact without requiring a visit. They have broadened care modalities including video and phone (particularly during the COVID-19 pandemic). And a more limited set of practices have built out teams that proactively reach out to patients and/or provide more ready access.

Patient portals may support ongoing patient-clinician relationships and engagement; questions can be easily answered, lab results and next steps can be shared, and communication can flow bi-directionally without a visit.^{81,82} Increasingly, it appears that practices are taking steps to provide hybrid care, with both in-person and remote visits. These were supported by health plan design changes and Medicare rule changes during the COVID-19 public health emergency.⁸³

Telehealth has enabled access to mental health services and routine chronic care visits, and surveys suggest that this is popular both with patients and clinicians.⁸⁴ The future is hybrid for primary care,^{85,86} but financing needs to be aligned. The ideal solution is to pay for such care in a prospective payment instead of creating a parallel virtual-fee schedule, which adds complexity, perpetuates undervalued primary care services, and undermines effective team building. The choice of modality should be driven by clinician and patient preference and clinical appropriateness, not payment levels.⁸⁷

Primary care practices are making changes to enhance communication, access, and convenience, which may contribute to an enhanced value proposition for USC.

These innovations in primary care need to continue to be scaled up; however, the value proposition may still not be enough to overcome the tradeoffs and barriers patients face when they are considering establishing or maintaining a USC. More research is needed to understand what younger and healthier adults want from primary care, as their USC percentage is low and fell 8% between 2014 and 2019. Also, we need to know why the percentage of older Americans with no USC rose — 5.9 % to 9.7% — during this same period and why the percentage of those with dual coverage and no source of care increased nearly 10%.

This research needs to be coupled with policy efforts to address structural issues that are an impediment to a USC. Our analysis indicates that while insurance coverage increases the likelihood of having a USC substantially, disparities remain across race, ethnic groups, and income level even among those with insurance coverage. Moreover, privately insured survey respondents are more likely to lack a USC, followed closely by Medicaid beneficiaries, when compared to those with Medicare or with both Medicare and Medicaid coverage. (See Figure 7).

From the primary care perspective, the value proposition for increasing USC may not be strong enough for practices to take steps that will enhance the relationship if they are not adequately compensated for communication outside of the visit, for virtual visits, or to support a broader care team.

Finally, USC should become a standard metric for the federal government, states, and employer coalitions in measuring the health of the primary care platform. A private sector effort is underway at the Robert Graham Center, with support from Milbank Memorial Fund and the Physicians Foundation, to establish such a scorecard. Their intent is to include USC in that report. Given the range of USC across states — from 66 to 88% — state leaders should understand how this metric may vary by county, insurance product/status, and demographic group, and the implications for their populations.

PAYMENT REFORM: CHANGING HOW WE PAY AND HOW MUCH WE PAY

The first recommendation in the 2021 NASEM primary care report focuses on payment as a key lever to strengthen, transform, and increase the supply of primary care.⁶ More robust primary care across all geographies is one mechanism to support USC. Specifically, NASEM and other experts recommend moving primary care to hybrid payment,^{88,89} a mix of prospective and fee-for-service payment, and through this mechanism, investing more in primary care.

There is considerable room for innovation in primary care payment. According to a recent American Medical Association (AMA) survey, 70% of physician revenue came from fee-for-service in 2020 — a percentage virtually unchanged since 2012, and capitated payments as a percentage of revenue grew very modestly over this period.⁹⁰ Further, U.S. investment in primary care is 5-7%, considerably lower than the spending by high-income European counterparts.⁹¹ Primary care payment rates also differ across payers, with PCPs in Medicaid receiving, on average, a third less than those providing care to Medicare beneficiaries^{92,93} and those providing care to the commercially insured receiving a premium of 30% over Medicare rates.⁹⁴ There is evidence that increasing provider rates in Medicaid leads to increases in the number of clinicians taking Medicaid patients,⁹⁵ which could enhance USC for low-income populations and ethnic/racial minorities.

Primary care innovators who are paid via hybrid or capitated payments through direct contracting with employers, accountable care organization (ACO) entities, MA contracts and other arrangements are incentivized to achieve better patient outcomes.⁹⁶ In some cases, they are building out teams to provide more comprehensive services, leveraging virtual and other technologies to increase access and convenience, enhancing their connection to patients via longer visits, more patient touches, and group visits, and offering care navigation and referral services, among other care delivery reforms.^{97,98}

There are some data to suggest that these innovations enabled by payment reforms are resulting in higher levels of USC. A KFF analysis⁵¹ of 62 studies comparing MA and traditional Medicare did not find many differences overall; however, beneficiaries enrolled in MA plans were between 0.9% and 4.0% more likely to have a USC, depending on the study, year, and data, than their counterparts in traditional Medicare. They also were more likely to receive preventive care, including wellness visits, vaccines, and screenings.⁵¹

There are little available data beyond organizational websites to know if primary care innovators focused on the commercial population are also enhancing USC. Many emphasize that they have more frequent patient interactions. Firefly, an all-virtual primary care platform, states that they average 48 clinical touches a year.⁹⁹

In addition to the population health, equity, and cost reduction benefits of a USC, an ongoing relationship is a necessary underpinning of hybrid/capitated payment. Clinicians need to be responsible for the management of a panel of patients who are attributed to them under such payment models with accountability measures in place to track outcomes.

Both public and private sector leaders must offer new opportunities for primary care practices to pivot to hybrid payment, align their efforts, and commit to greater investment through these models. While welcome, current, and anticipated models from CMS through its Center for Medicare and Medicaid Innovation are not sufficient to substantially move the needle on payment reform. Medicare should consider a hybrid option within the Medicare Shared Savings Program, for example.¹⁰⁰ Medicare ACOs already serve 11 million beneficiaries, and their performance improves with experience in the program, making it an ideal way to innovate and attract more primary care practices to form and join ACOs. Similarly, CMS should collect data and permit more research on the link between primary care hybrid/capitated models in MA and key patient outcomes.

Federal Medicaid leaders should consider what they can do to encourage payment innovation at the state level. Our analysis indicates Medicaid enrollees are less likely to have a USC than any other insured group we analyzed. Also, more employers should learn from the California Quality Collaborative, a partnership between Purchaser Business Group on Health and the Integrated Healthcare Association, who signed an memorandum of understanding with six health plans to expand investment in primary care and improve access to advanced primary care through aligned alternative payment models.¹⁰¹

CHANGING BENEFIT DESIGN TO SUPPORT USUAL SOURCE OF CARE

Private and public purchasers should ensure plan design features do not impede the ability of all enrollees to select a primary care clinician during open enrollment, find one that meets their individual needs, and establish and maintain regular access to care.

To encourage enrollees to select a USC, provider directories must be up to date, provide information on language and race/ethnicity concordance, and offer a number of practices taking new patients close to a patient's home or office. These operational policies, however, are unlikely to be sufficient for all enrollees. Purchasers can use nudges from behavioral economics, such as incentives for establishing a USC and getting appropriate screenings or other preventive care. Some purchasers assign a primary care clinician if a patient does not select one after multiple reminders and sufficient time. This is obviously less than ideal, but it is recommended if the patient is not locked in and can later shift to a primary care clinician of choice within the network.

Purchasers such as Covered California require their health plans to assign patients to a primary care clinician across all product types, including PPOs, which can be changed by the patient at any time. They have coupled such policies with consumer education about the benefits of a regular source of care, no co-pays or deductibles for annual primary care wellness visits, and primary care visits that are generally not subject to a deductible payment.^{9,10}

Our analysis suggests that people in lower income households are less likely to have a USC than those in higher income households. Employers are testing creative solutions to remove financial barriers to getting primary care for patients who are in high deductible health plans which, by law, cover primary care screenings on a pre-deductible basis but require patients to pay out-of-pocket for any other primary care services until they hit their deductible. Some employers are offering on- or near- worksite clinics or direct primary care offerings to incentivize employees to get needed prevention and chronic care management services. In 2019, other employers, together with consumer advocates and primary care clinicians, won regulatory changes that allow pre-deductible coverage of chronic condition care in high-deductible plans with health savings accounts.¹⁰² In a subsequent survey, 29% of employers with 200 or more employees and 48% of employers with more than 5,000 said they "changed the services or products that individuals with chronic conditions could receive without first meeting their deductibles."¹⁰³

WORKFORCE POLICIES TO ATTRACT, RETAIN, AND DIVERSIFY PRIMARY CARE

In addition to changes in payment policies, there are an array of policies to enhance the diversity of the healthcare workforce so that it better matches patient race/ethnicity, attract more students to select primary care specialties and practice in underserved areas, and support interdisciplinary team-based care so that practices can most effectively and efficiently provide comprehensive primary care services.¹⁴

Unfortunately, the U.S. has made no progress over four decades in the representation of non-Hispanic Black and Hispanic students in medical school,¹³ although 2021 did see an increase in Black students enrolling.¹⁰⁴ More effective ways to address this issue may enhance the relationship between patients and their primary care clinicians and boost USC for these populations. Most analysts agree that pipeline or pathway programs that focus on recruiting racial/ethnic minorities into the health professions have the best track record and should be the focus, along with greater support of historically black colleges and universities (HBCUs).¹⁴

To attract students to select primary care and address primary care workforce maldistribution, federal and state loan forgiveness programs focused on primary care clinicians practicing in rural and underserved areas¹⁵ could be made more generous, particularly¹⁶ as there is an average differential in earnings between primary care and subspecialists of approximately \$100,000 a year.¹⁷

Pipeline or pathway programs that focus on recruiting racial/ethnic minorities into the health professions have the best track record and should be the focus, along with greater support of HBCUs.

Finally, efforts to train primary care clinicians in teams in community settings where people “work and live” as recommended by the NASEM report should be expanded. The evidence suggests that residents who train in rural and underserved settings such as CHCs are much more likely to practice in such settings.^{18,19} In 2022, the Federal Government identified \$174 million^{105, 106} in new funding to support community health centers in training primary care clinicians in rural and underserved communities; this is positive, but it pales in comparison to the over \$10 billion that Medicare spends to support hospital-based graduate medical education programs, which produce relatively too many specialists. One analyst found that if academic health centers were held to the same rate as CHCs for training physicians, Medicare could save \$1.28 billion. These savings could be used to train additional primary care clinicians to serve in rural and underserved areas.²⁰

References

1. Jetty A, Green L, Bazemore A, Petterson S. Fewer Americans Report a Personal Physician as Their Usual Source of Health Care. *afp*. 2015;92(12):1053-1053.
2. Fronstin P. Consumer Engagement in Health Care Among Millennials, Baby Boomers, and Generation X: Findings from the 2017 Consumer Engagement in Health Care Survey. *SSRN Journal*. Published online 2018. doi:10.2139/ssrn.3160059
3. Weiss GL. Patient Satisfaction with Primary Medical Care Evaluation of Sociodemographic and Predispositional Factors: *Medical Care*. 1988;26(4):383-392. doi:10.1097/00005650-198804000-00007
4. Finney Rutten LJ, Agunwamba AA, Beckjord E, Hesse BW, Moser RP, Arora NK. The Relation Between Having a Usual Source of Care and Ratings of Care Quality: Does Patient-Centered Communication Play a Role? *Journal of Health Communication*. 2015;20(7):759-765. doi:10.1080/10810730.2015.1018592
5. Basu S, Phillips RS, Phillips R, Peterson LE, Landon BE. Primary Care Practice Finances In The United States Amid The COVID-19 Pandemic: Study estimates the potential impact of COVID-19 on operating expenses and revenues of primary care practices. *Health Affairs*. 2020;39(9):1605-1614. doi:10.1377/hlthaff.2020.00794
6. Committee on Implementing High-Quality Primary Care, Board on Health Care Services, Health and Medicine Division, National Academies of Sciences, Engineering, and Medicine. *Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care*. (McCauley L, Phillips RL, Meisner M, Robinson SK, eds.). National Academies Press; 2021:25983. doi:10.17226/25983
7. Kempster A, Greiner A. *Primary Care Spending: High Stakes, Low Investment*. Primary Care Collaborative; 2020. https://www.pcpc.org/sites/default/files/resources/PCC_Primary_Care_Spending_2020.pdf
8. *2021 Employer Health Benefits Survey - Summary of Findings*. KFF; 2021. Accessed October 24, 2022. <https://www.kff.org/report-section/ehbs-2021-summary-of-findings/>
9. Covered California™. Primary Care Physician. Accessed October 24, 2022. <https://coveredca.com/members/primary-care-physician/>
10. Covered California™. *2021 Patient-Centered Benefit Designs and Medical Cost Shares*. Covered California™ <https://www.coveredca.com/pdfs/2021-Health-Benefits-table.pdf>
11. KFF. *2021 Employer Health Benefits Survey - Section 8: High-Deductible Health Plans with Savings Option*. KFF; 2021. Accessed October 24, 2022. <https://www.kff.org/report-section/ehbs-2021-section-8-high-deductible-health-plans-with-savings-option/>
12. IRS. Additional Preventive Care Benefits Permitted to be Provided by a High Deductible Health Plan Under § 223. Published online 2019. <https://www.irs.gov/pub/irs-drop/n-19-45.pdf>
13. Morris DB, Gruppuso PA, McGee HA, Murillo AL, Grover A, Adashi EY. Diversity of the National Medical Student Body — Four Decades of Inequities. *N Engl J Med*. 2021;384(17):1661-1668. doi:10.1056/NEJMs2028487
14. Taylor KJ, Ford L, Allen EH, Mitchell F, Eldridge M, Caraveo CA. *Improving and Expanding Programs to Support a Diverse Health Care Workforce: Recommendations for Policy and Practice*. The Urban Institute; 2022:77. <https://www.urban.org/sites/default/files/2022-05/Improving%20and%20Expanding%20Programs%20to%20Support%20a%20Diverse%20Health%20Care%20Workforce%20.pdf>
15. McGurran B, Young J. Student Loan Forgiveness for Healthcare Workers – Forbes Advisor. Forbes Advisor. Published April 21, 2022. Accessed October 24, 2022. <https://www.forbes.com/advisor/student-loans/loan-forgiveness-healthcare-workers/>
16. Inman R. List of Each State with Medical Loan Forgiveness Programs. Financial Residency. Published June 4, 2019. Accessed October 24, 2022. <https://financialresidency.com/list-of-each-state-with-medical-loan-forgiveness-programs/>
17. Stewart H. Physician salary report 2022: Physician income rising again. Weatherby Blog. Published May 19, 2022. Accessed October 24, 2022. <https://weatherbyhealthcare.com/blog/annual-physician-salary-report>
18. Russell DJ, Wilkinson E, Petterson S, Chen C, Bazemore A. Family Medicine Residencies: How Rural Training Exposure in GME Is Associated With Subsequent Rural Practice. *Journal of Graduate Medical Education*. 2022;14(4):441-450. doi:10.4300/JGME-D-21-01143.1
19. Morris CG, Johnson B, Kim S, Chen F. Training Family Physicians in Community Health Centers: A Health Workforce Solution. *Health Services Research*. 2008;40(4):271-276.
20. Chen C, Chung Y, Petterson S, Bazemore A. Changes and Variation in Medicare Graduate Medical Education Payments. *JAMA Intern Med*. 2020;180(1):148. doi:10.1001/jamainternmed.2019.4429
21. Villani J, Mortensen K. Nonemergent Emergency Department Use Among Patients With a Usual Source of Care. *J Am Board Fam Med*. 2013;26(6):680-691. doi:10.3122/jabfm.2013.06.120327
22. Kim MY, Kim JH, Choi IK, Hwang IH, Kim SY. Effects of Having Usual Source of Care on Preventive Services and Chronic Disease Control: A Systematic Review. *Korean J Fam Med*. 2012;33(6):336-345. doi:10.4082/kjfm.2012.33.6.336
23. Bazemore A, Petterson S, Peterson LE, Bruno R, Chung Y, Phillips RL. Higher Primary Care Physician Continuity is Associated With Lower Costs and Hospitalizations. *Ann Fam Med*. 2018;16(6):492-497. doi:10.1370/afm.2308
24. Liaw W, Jetty A, Petterson S, Bazemore A, Green L. Trends in the Types of Usual Sources of Care: A Shift from People to Places or Nothing at All. *Health Serv Res*. 2018;53(4):2346-2367. doi:10.1111/1475-6773.12753
25. Boodman SG. For millennials, a regular visit to the doctor's office is not a primary concern. *The Washington Post*. https://www.washingtonpost.com/national/health-science/for-millennials-a-regular-visit-to-the-doctors-office-is-not-a-primary-concern/2018/10/05/6b17c71a-ae3f-11e8-9a6a-565d92a3585d_story.html. Published October 6, 2018. Accessed June 6, 2022.
26. Gotlieb EG, Rhodes KV, Candon MK. Disparities in Primary Care Wait Times in Medicaid versus Commercial Insurance. *J Am Board Fam Med*. 2021;34(3):571-578. doi:10.3122/jabfm.2021.03.200496
27. Arnett MJ, Thorpe RJ, Gaskin DJ, Bowie JV, LaVeist TA. Race, Medical Mistrust, and Segregation in Primary Care as Usual Source of Care: Findings from the Exploring Health Disparities in Integrated Communities Study. *J Urban Health*. 2016;93(3):456-467. doi:10.1007/s11524-016-0054-9
28. Chang E, Chan KS, Han HR. Effect of Acculturation on Variations in Having a Usual Source of Care Among Asian Americans and Non-Hispanic Whites in California. *Am J Public Health*. 2015;105(2):398-407. doi:10.2105/AJPH.2014.301950

29. FitzGerald M, Gunja MZ, Tikkanen R. Primary Care in High-Income Countries: How the United States Compares. *The Commonwealth Fund*. doi:10.26099/xz8y-3042
30. Schneider EC, Shah A, Doty MM, Tikkanen R, Fields K, Williams II RD. Mirror, Mirror 2021: Reflecting Poorly. *The Commonwealth Fund*. doi:10.26099/01dv-h208
31. Starfield B, Shi L, Macinko J. Contribution of Primary Care to Health Systems and Health. *Milbank Q*. 2005;83(3):457-502. doi:10.1111/j.1468-0009.2005.00409.x
32. Liaw W, Petterson S, Rabin DL, Bazemore A. The impact of insurance and a usual source of care on emergency department use in the United States. *Int J Family Med*. 2014;2014:842847. doi:10.1155/2014/842847
33. Tilert TJ, Chen J. Smoking-Cessation Advice to Patients With Chronic Obstructive Pulmonary Disease: The Critical Roles of Health Insurance and Source of Care. *American Journal of Preventive Medicine*. 2015;48(6):683-693. doi:10.1016/j.amepre.2014.11.016
34. Nguyen KH, Trivedi AN, Cole MB. Receipt of Social Needs Assistance and Health Center Patient Experience of Care. *Am J Prev Med*. 2021;60(3):e139-e147. doi:10.1016/j.amepre.2020.08.030
35. Center for Consumer Engagement in Health Innovation. The State of Person-Centered Care: 2014-2018. Center for Consumer Engagement in Health Innovation. Published March 22, 2022. Accessed October 24, 2022. <https://www.healthinnovation.org/resources/publications/tracking-progress-on-person-centered-care-for-older-adults-how-are-we-doing>
36. Lau JS, Adams SH, Irwin CE, Ozer EM. Receipt of Preventive Health Services in Young Adults. *J Adolesc Health*. 2013;52(1):42-49. doi:10.1016/j.jadohealth.2012.04.017
37. Spatz ES, Sheth SD, Gosch KL, et al. Usual Source of Care and Outcomes Following Acute Myocardial Infarction. *J Gen Intern Med*. 2014;29(6):862-869. doi:10.1007/s11606-014-2794-0
38. Toth-Manikowski SM, Hsu JY, Fischer MJ, et al. Emergency Department/Urgent Care as Usual Source of Care and Clinical Outcomes in CKD: Findings From the Chronic Renal Insufficiency Cohort Study. *Kidney Medicine*. 2022;4(4):100424. doi:10.1016/j.xkme.2022.100424
39. Dinkler JM, Sugar CA, Escarce JJ, Ong MK, Mangione CM. Does Age Matter? Association Between Usual Source of Care and Hypertension Control in the US Population: Data From NHANES 2007-2012. *American Journal of Hypertension*. 2016;29(8):934-940. doi:10.1093/ajh/hpw010
40. Jones E, Lebrun-Harris LA, Sripipatana A, Ngo-Metzger Q. Access to Mental Health Services Among Patients at Health Centers and Factors Associated with Unmet Needs. *Journal of Health Care for the Poor and Underserved*. 2014;25(1):425-436. doi:10.1353/hpu.2014.0056
41. DeVoe JE, Tillotson CJ, Wallace LS, Angier H, Carlson MJ, Gold R. Parent and Child Usual Source of Care and Children's Receipt of Health Care Services. *The Annals of Family Medicine*. 2011;9(6):504-513. doi:10.1370/afm.1300
42. Belletiere J, Chuang E, Hughes SC, Quintanilla I, Hofstetter CR, Hovell MF. Association Between Parental Barriers to Accessing a Usual Source of Care and Children's Receipt of Preventive Services. *Public Health Rep*. 2017;132(3):316-325. doi:10.1177/0033354917699831
43. Williams E, Musumeci M. Children with Special Health Care Needs: Coverage, Affordability, and HCBS Access. KFF. Published October 4, 2021. Accessed October 24, 2022. <https://www.kff.org/medicaid/issue-brief/children-with-special-health-care-needs-coverage-affordability-and-hcbs-access/>
44. Baumgartner JC, Collins SR, Radley DC. Racial and Ethnic Inequities in Health Care Coverage and Access, 2013-2019. *The Commonwealth Fund*. Published online 2021. doi:10.26099/SPZO-MK34
45. Tavares J, Cohen M, Hwang A, Hawes F. *Person-Centered Care: Why Taking Individuals' Care Preferences into Account Matters*. Center for Consumer Engagement in Health Innovation; 2022:1-19. <https://www.healthinnovation.org/resources/publications/body/Person-Centered-Care-Report-Why-it-Matters.pdf>
46. Gonzalez D, Kenney GM, McDaniel M, O'Brien C. Racial, Ethnic, and Language Concordance Between Patients and Their Usual Healthcare Providers. The Urban Institute. Published March 23, 2022. Accessed September 9, 2022. <https://www.urban.org/sites/default/files/2022-03/racial-ethnic-and-language-concordance-between-patients-and-providers.pdf>
47. Galanti GA. An introduction to cultural differences. *West J Med*. 2000;172(5):335-336.
48. Hegland TA, Berdahl TA. High Job Flexibility And Paid Sick Leave Increase Health Care Access And Use Among US Workers: Study examines the effect of job flexibility and paid sick leave on health care access and use among US workers. *Health Affairs*. 2022;41(6):873-882. doi:10.1377/hlthaff.2021.01876
49. Collins SR, Radley DC, Baumgartner JC. State Trends in Employer Premiums and Deductibles, 2010-2020. *The Commonwealth Fund*. Published online 2022. doi:10.26099/M5DT-5F70
50. Wallace J, Jiang K, Goldsmith-Pinkham P, Song Z. Changes in Racial and Ethnic Disparities in Access to Care and Health Among US Adults at Age 65 Years. *JAMA Intern Med*. 2021;181(9):1207-1215. doi:10.1001/jamainternmed.2021.3922
51. Ochieng N, Biniek JF. Beneficiary Experience, Affordability, Utilization, and Quality in Medicare Advantage and Traditional Medicare: A Review of the Literature - Report. KFF. Published September 16, 2022. Accessed October 24, 2022. <https://www.kff.org/report-section/beneficiary-experience-affordability-utilization-and-quality-in-medicare-advantage-and-traditional-medicare-a-review-of-the-literature-report/>
52. Lee C. A Review of 62 Studies Finds Few Big Differences Between Traditional Medicare and Medicare Advantage on a Variety of Measures. KFF. Published September 16, 2022. Accessed October 24, 2022. <https://www.kff.org/medicare/press-release/a-review-of-62-studies-finds-few-big-differences-between-traditional-medicare-and-medicare-advantage-on-a-variety-of-measures/>
53. Johnston KJ, Wen H, Pollack HA. Comparison of Ambulatory Care Access and Quality for Beneficiaries With Disabilities Covered by Medicare Advantage vs Traditional Medicare Insurance. *JAMA Health Forum*. 2022;3(1):e214562. doi:10.1001/jamahealthforum.2021.4562
54. Jacobson G, Cicchiello A, Sutton J, Shah A. Medicare Advantage vs. Traditional Medicare: How Do Beneficiaries' Characteristics and Experiences Differ? *The Commonwealth Fund*. Published online 2021. doi:10.26099/YXQ0-1W42
55. MACPAC. Access in Brief: Adults' Experiences in Accessing Medical Care. Medicaid and CHIP Payment and Access Commission (MACPAC). Published November 2021. Accessed October 24, 2022. <https://www.macpac.gov/publication/access-in-brief-adults-experiences-in-accessing-medical-care/>
56. Short PF, Gaefe DR, Schoen C. Churn, Churn, Churn: How Instability of Health Insurance Shapes America's Uninsured Problem. The Commonwealth Fund. Published November 2003. https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_issue_brief_2003_nov_churn_churn_churn_how_instability_of_health_insurance_shapes_americas_uninsured_problem_short_churn_688.pdf
57. Sommers BD, Gourevitch R, Maylone B, Blendon RJ, Epstein AM. Insurance Churning Rates For Low-Income Adults Under Health Reform: Lower Than Expected But Still Harmful For Many. *Health Affairs*. 2016;35(10):1816-1824. doi:10.1377/hlthaff.2016.0455



58. Tolbert J, Orgera K, Damico A, 2020. Key Facts about the Uninsured Population. KFF. Published November 6, 2020. Accessed September 9, 2022. <https://www.kff.org/uninsured/issue-brief/key-facts-about-the-uninsured-population/>
59. Brown EA, White BM, Jones WJ, Gebregziabher M, Simpson KN. Measuring the impact of the Affordable Care Act Medicaid expansion on access to primary care using an interrupted time series approach. *Health Research Policy and Systems*. 2021;19(1):77. doi:10.1186/s12961-021-00730-0
60. Neprash HT, Zink A, Gray J, Hempstead K. Physicians' Participation In Medicaid Increased Only Slightly Following Expansion. *Health Affairs*. 2018;37(7):1087-1091. doi:10.1377/hlthaff.2017.1085
61. Viera AJ, Pathman DE, Garrette JM. Adults' Lack of a Usual Source of Care: A Matter of Preference? *The Annals of Family Medicine*. 2006;4(4):359-365. doi:10.1370/afm.557
62. Stransky ML. Two-Year Stability and Change in Access to and Reasons for Lacking a Usual Source of Care Among Working-Age US Adults. *Public Health Rep*. 2017;132(6):660-668. doi:10.1177/0033354917735322
63. Chang JE, Brundage SC, Chokshi DA. Convenient Ambulatory Care – Promise, Pitfalls, and Policy. *N Engl J Med*. 2015;373(4):382-388. doi:10.1056/NEJMhpr1503336
64. Chou SC, Venkatesh AK, Trueger NS, Pitts SR. Primary Care Office Visits For Acute Care Dropped Sharply In 2002–15, While ED Visits Increased Modestly. *Health Affairs*. 2019;38(2):268-275. doi:10.1377/hlthaff.2018.05184
65. Jabbarpour Y, Jetty A, Dai M, Magill M, Bazemore A. The evolving family medicine team. *Journal of the American Board of Family Medicine*. 2020;33(4):499-501.
66. Jetty A, Petterson S, Jabbarpour Y. Proportion of Family Physicians in Solo and Small Practices is on the Decline. *J Am Board Fam Med*. 2021;34(2):266-267. doi:10.3122/jabfm.2021.02.200457
67. STATISTICAL BRIEF #32: Reasons for Lacking a Usual Source of Care: 2001 Estimates for the U. S. Civilian Noninstitutionalized Population. Accessed August 31, 2022. https://meps.ahrq.gov/data_files/publications/st32/stat32.shtml
68. Bureau UC. Adults Age 26 Had Highest Uninsured Rate Among All Ages, Followed By 27-Year-Olds. Census.gov. Accessed September 9, 2022. <https://www.census.gov/library/stories/2020/10/uninsured-rates-highest-for-young-adults-aged-19-to-34.html>
69. Wilson KM, Klein JD. Adolescents Who Use the Emergency Department as Their Usual Source of Care. *Archives of Pediatrics & Adolescent Medicine*. 2000;154(4):361-365. doi:10.1001/archpedi.154.4.361
70. Rhee TG, Marottoli RA, Van Ness PH, Levy BR. Impact of Perceived Racism on Healthcare Access Among Older Minority Adults. *American Journal of Preventive Medicine*. 2019;56(4):580-585. doi:10.1016/j.amepre.2018.10.010
71. Powell W, Richmond J, Mohottige D, Yen I, Joslyn A, Corbie-Smith G. Medical Mistrust, Racism, and Delays in Preventive Health Screening Among African-American Men. *Behavioral Medicine*. 2019;45(2):102-117. doi:10.1080/08964289.2019.1585327
72. Kim SJ, Peterson CE, Warnecke R, Barrett R, Glassgow AE. The Uneven Distribution of Medically Underserved Areas in Chicago. *Health Equity*. 2020;4(1):556-564. doi:10.1089/heaq.2020.0023
73. Parikh PB, Yang J, Leigh S, et al. The Impact of Financial Barriers on Access to Care, Quality of Care and Vascular Morbidity Among Patients with Diabetes and Coronary Heart Disease. *J Gen Intern Med*. 2014;29(1):76-81. doi:10.1007/s11606-013-2635-6
74. DeVoe JE, Tillotson CJ, Wallace LS, Lesko SE, Angier H. The Effects of Health Insurance and a Usual Source of Care on a Child's Receipt of Health Care. *Journal of Pediatric Health Care*. 2012;26(5):e25-e35. doi:10.1016/j.pedhc.2011.01.003
75. Rabin DL, Jetty A, Petterson S, Froehlich A. Under the ACA Higher Deductibles and Medical Debt Cause Those Most Vulnerable to Need Needed Care. *Journal of Health Care for the Poor and Underserved*. 2020;31(1):424-440. doi:10.1353/hpu.2020.0031
76. Assessing Physician Acceptance of Medicaid Patients Using State Health Compare. SHADAC. Published August 25, 2022. Accessed October 14, 2022. <https://www.shadac.org/news/14-17-physician-Mcaid-SHC>
77. Shin P, Sharac J, Rosenbaum S. Community Health Centers And Medicaid At 50: An Enduring Relationship Essential For Health System Transformation. *Health Affairs*. 2015;34(7):1096-1104. doi:10.1377/hlthaff.2015.0099
78. Abara NO, Huang N, Raji MA, Kuo YF. Effect of Retail Clinic Use on Continuity of Care Among Medicare Beneficiaries. *J Am Board Fam Med*. 2019;32(4):531-538. doi:10.3122/jabfm.2019.04.180349
79. Burkle CM. The Advance of the Retail Health Clinic Market: The Liability Risk physicians May potentially Face when supervising or Collaborating With Other Professionals. *Mayo Clinic Proceedings*. 2011;86(11):1086-1091. doi:10.4065/mcp.2011.0291
80. Levine DM, Linder JA, Landon BE. Characteristics of Americans With Primary Care and Changes Over Time, 2002-2015. *JAMA Internal Medicine*. 2020;180(3):463-466. doi:10.1001/jamainternmed.2019.6282
81. Antonio MG, Petrovskaya O, Lau F. The State of Evidence in Patient Portals: Umbrella Review. *J Med Internet Res*. 2020;22(11):e23851. doi:10.2196/23851
82. Primary Care Collaborative. Patient Portals: How can they impact primary care? <https://www.pcpcc.org/sites/default/files/resources/Issue%20Brief%20Final.pdf>
83. Telehealth.HHS.gov. Telehealth policy changes after the COVID-19 public health emergency | Telehealth.HHS.gov. Telehealth.HHS.gov. Published August 10, 2022. Accessed October 24, 2022. <https://telehealth.hhs.gov/providers/policy-changes-during-the-covid-19-public-health-emergency/policy-changes-after-the-covid-19-public-health-emergency/>
84. Hoff T, Lee DR. Physician Satisfaction With Telehealth: A Systematic Review and Agenda for Future Research. *Quality Management in Health Care*. 2022;31(3):160-169. doi:10.1097/QMH.0000000000000359
85. Orrange S, Patel A, Mack WJ, Cassetta J. Patient Satisfaction and Trust in Telemedicine During the COVID-19 Pandemic: Retrospective Observational Study. *JMIR Hum Factors*. 2021;8(2):e28589. doi:10.2196/28589
86. Antall P. Telehealth and the Future of Hybrid Care. Oliver Wyman. Published October 2020. Accessed October 24, 2022. <https://www.oliverwyman.com/our-expertise/perspectives/health/2020/oct/the-future-of-hybrid-care.html>
87. Berenson R, Shartz A. The Mismatch of Telehealth and Fee-for-Service Payment. *JAMA Health Forum*. 2020;1(10):e201183. doi:10.1001/jamahealthforum.2020.1183
88. The Commonwealth Fund. Strengthening Primary Care Through a Hybrid Payment Model and Fee Schedule Reform. The Commonwealth Fund. Published October 23, 2021. Accessed October 24, 2022. <https://www.commonwealthfund.org/grants/strengthening-primary-care-through-hybrid-payment-model-and-fee-schedule-reform>
89. Koller CF. Primary Care Payment Reform: Go Hybrid. Milbank Memorial Fund. Published May 13, 2021. Accessed October 24, 2022. <https://www.milbank.org/2021/05/primary-care-payment-reform-go-hybrid/>
90. Rama A. Policy Research Perspectives: Physician Compensation Methods: The Combination of Salary and Bonus Continues to Dominate through 2020 as Physicians are Increasingly Paid by Multiple Methods. Published online 2022. <https://www.ama-assn.org/system/files/2020-prp-physician-compensation-methods.pdf>

91. OECD. *Focus on Spending on Primary Care: First Estimates*. OECD; 2018. <https://www.oecd.org/health/health-systems/Spending-on-Primary-Care-Policy-Brief-December-2018.pdf>
92. Mann C, Striar A. How Differences in Medicaid, Medicare, and Commercial Health Insurance Payment Rates Impact Access, Health Equity, and Cost. *The Commonwealth Fund*. Published online August 17, 2022. doi:10.26099/C71G-3225
93. KFF. Medicaid-to-Medicare Fee Index. KFF. Published July 12, 2017. Accessed October 24, 2022. <https://www.kff.org/medicaid/state-indicator/medicaid-to-medicare-fee-index/>
94. Congressional Budget Office. *The Prices That Commercial Health Insurers and Medicare Pay for Hospitals' and Physicians' Services*. The Congressional Budget Office (CBO); 2022. <https://www.cbo.gov/system/files/2022-01/57422-medical-prices.pdf>
95. MACPAC. *Physician Acceptance of New Medicaid Patients: Findings from the National Electronic Health Records Survey*. Medicaid and CHIP Payment and Access Commission (MACPAC); 2021:1-14. <https://www.macpac.gov/wp-content/uploads/2021/06/Physician-Acceptance-of-New-Medicaid-Patients-Findings-from-the-National-Electronic-Health-Records-Survey.pdf>
96. Somashekar G. Investment & Innovation in Primary Care: An Update and Call to Action. HARVARD MEDICAL SCHOOL PRIMARY CARE REVIEW. Published August 20, 2020. Accessed October 27, 2022. <https://info.primarycare.hms.harvard.edu/review/investment-innovation-primary-care>
97. Landon BE, Weinreb G, Bitton A. Making Sense of New Approaches to Primary Care Delivery: A Typology of Innovations in Primary Care. *NEJM Catalyst Innovations in Care Delivery*. Published online May 9, 2022. Accessed October 24, 2022. <https://catalyst.nejm.org/doi/full/10.1056/CAT.22.0032>
98. Ney E, Berger E, Fry S. Primary Care 2030: Innovative Models Transform the Landscape. Bain. Published July 11, 2022. Accessed October 24, 2022. <https://www.bain.com/insights/primary-care-2030/>
99. Greenberg J. Firefly's Blueprint for Reimagining Technology. Firefly Health. Published June 6, 2019. Accessed October 24, 2022. <https://www.firefly.health/post/firefly-healths-blueprint-for-reimagining-technology>
100. Greiner A, Pham HH, Gaus C. An Option For Medicare ACOs To Further Transform Care. *Health Affairs Forefront*. Published online July 15, 2022. doi:10.1377/forefront.20220713.922286
101. PBGH. California Providers and Health Plans Sign Agreement to Expand Investment and Increase Access to Advanced Primary Care > PBGH. Purchaser Business Group on Health (PBGH). Published July 26, 2022. Accessed October 24, 2022. <https://www.pbgh.org/ca-payers-sign-agreement-to-increase-access-to-advanced-primary-care/>
102. MacPherson A. Multi-Stakeholder Coalition Applauds the Release of Updated U.S. Treasury Guidance to Ensure Access to Critical Services and Drugs for the Chronically Ill. Published online July 17, 2019. https://static1.squarespace.com/static/5e583a2544d97f413cf8190e/t/5ed11a6202ae51475736a695/1590762082263/Smarter+Health+Care+Coalition_CDMA+Treasury+Guidance_Press+Release+7-17-19.pdf
103. Claxton G, Rae M, Young G, et al. *Employer Health Benefits 2020 Annual Survey*. KFF; 2020:1-214. <https://files.kff.org/attachment/Report-Employer-Health-Benefits-2020-Annual-Survey.pdf>
104. Association of American Medical Colleges (AAMC). Medical School Enrollment More Diverse in 2021. AAMC. Published December 8, 2021. Accessed October 24, 2022. <https://www.aamc.org/news-insights/press-releases/medical-school-enrollment-more-diverse-2021>
105. HHS. HHS Announces Availability of \$19.2 million to Expand Training of Primary Care Residents in Rural and Underserved Communities. HHS.gov. Published February 3, 2022. Accessed October 24, 2022. <https://www.hhs.gov/about/news/2022/02/03/hhs-announces-availability-19-2-million-expand-training-primary-care-residents-in-rural-underserved-communities.html>
106. HHS. HHS Awards Over \$155 Million to Expand Training for Primary Care Residents in Underserved and Rural Communities. HHS.gov. Published July 1, 2022. Accessed October 24, 2022. <https://www.hhs.gov/about/news/2022/07/01/hhs-awards-over-155-million-dollar-to-expand-training-for-primary-care-residents-in-underserved-rural-communities.html>

Appendix

DATA SOURCES

1. The Medical Expenditure Survey (MEPS) 2016-2019 public-use data is available for free at https://www.meps.ahrq.gov/mepsweb/data_stats/download_data_files.jsp. The MEPS is a nationally represented survey of US civilian non-institutionalized populations. The survey provides national estimates of healthcare services utilization and costs in the US. The data were collected based on self-reported responses. The data were derived from the consolidated files. Details are described elsewhere. www.meps.ahrq.gov.
2. Behavioral Risk Factor Surveillance System, 2019 public-use data is available for free at https://www.cdc.gov/brfss/annual_data/2019/pdf/overview-2019-508.pdf. Centers for Disease Control and Prevention in collaboration with all 50 states and the District of Columbia conducts ongoing health-related telephone surveys. Data on health-related risk behaviors, chronic health conditions, and use of preventive services are collected from the noninstitutionalized adult population (≥ 18 years) residing in the United States. In addition, health status, healthy days/health-related quality of life, and healthcare access are also included. Each year, states administer modules of core questions on several health factors, including demographics, health status, and chronic disease diagnoses, and in addition, choose to participate in optional modules. The proportion of adults reporting personal doctor by the state was estimated.
3. American Medical Association Masterfile 2020 is proprietary data that is updated every quarter. It includes current and historical data for more than 1.4 million physicians, residents, and medical students in the United States. The AMA Physician Masterfile includes their age, gender, self-reported specialty, practice address, type of medical degree (MD or Doctor of Osteopathic Medicine, DO), practice type, specialty, and home address. The Robert Graham Center geo-codes the addresses in the file and ran readily matches the addresses of the other geographic data.
4. National Health Interview Survey (NHIS) 2019 public-use data is available for free at <https://www.cdc.gov/nchs/nhis/data-questionnaires-documentation.html>. The NHIS is a large nationally representative cross-sectional survey of the civilian, non-institutionalized, US population conducted by the Centers for Diseases Control and Prevention, and the National Center for Health Statistics. NHIS provides national estimates of health status, healthcare access, health behaviors, conditions, and disability. The data were derived from the Sample Adults files to evaluate the factors associated with USC and wellness visits.
5. American Community Survey, 2016-2020 five-year summary files public use data available at https://www2.census.gov/programs-surveys/acs/summary_file/2020/data/5_year_entire_sf/. This is a demographic survey program conducted by the United States Census Bureau. Summary files provide estimates for social, economic, housing, and demographic data for a single geographic area. ACS is the main source of comparable, quality information about the people in all our communities. The data are used to primarily allocate funding and resources, track demographic changes, plan for emergencies, and study local communities.

METHODOLOGY

We used the Medical Expenditure Panel Survey (MEPS) data to (1) assess the trends in the usual source of care (MEPS, 2000-2020), (2) assess factors associated with having USC versus no USC (MEPS 2019), (3) evaluate what patient characteristics predict person USC versus a person in facility USC and person USC versus facility USC (MEPS 2019), and (4) investigate the association between ED utilization and hospitalization and the USC (MEPS 2019).

MEASURES

Three variables HaveUS42, Provty42, and Locatn42, were used in defining the USC type. We used responses from HaveUS42 and Locatn42 to construct the dichotomous variable have USC and no USC. No USC category included respondents who reported no USC and those who reported the hospital ED as their USC location. We also created a four-category USC measure using responses from three measures of USC 1. Person USC, 2. Person-in-facility USC, 3. facility USC and 4. No USC.

STATISTICAL ANALYSES

Stata 17.0 was used for all statistical analyses. First, we calculated the percentage of USC by year. Second, we ran summary statistics of all patient sociodemographics (gender, age, race-ethnicity, education, income, insurance coverage, and census region of residence), by USC type. Third, we performed logistic regressions to examine sociodemographic factors associated with having USC and no USC. Fourth, we conducted multinomial regression models to explore patient characteristics associated with the person vs. person-in-facility USC and person vs. facility USC. Finally, we evaluated the association between USC and the outcomes (ED visits and hospitalizations). We also used the National Health Interview Survey to examine the relationship between USC and wellness visits. We adjusted for patient sociodemographic characteristics listed previously in all the regression models.

Using Behavioral Health Risk Factor Surveillance System (BRFSS 2020), American Medical Association (AMA) Masterfile (2020), and American Community Survey (2020) we investigated the association between USC and primary care physicians' density we used First; we calculated the percent of the adult population with USC in each state. We then calculated the total number of primary care physicians (family physicians, general practitioners, pediatricians, and geriatricians) in each state. Then we divided the total counts of primary care physicians by the total population in the state and multiplied the quotient by 100,000 to obtain primary care physicians per 100 000. We used scatterplots to display the relationship between USC and the number of PCP per 100,000.

APPENDIX TABLES

TABLE 6

Factors Associated with Likelihood of Having Person in a Facility USC Versus Person USC and Facility USC versus Person USC

Characteristics	Person in a Facility USC vs.Person USC		Facility USC vs.Person USC	
	Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
Gender				
Male				
Female	1.08*	(1.00 - 1.17)	0.94	(0.86 - 1.03)
Age in Years				
0-17				
18-34	0.69**	(0.57 - 0.82)	1.05	(0.87 - 1.28)
35-49	0.78*	(0.63 - 0.96)	0.94	(0.75 - 1.19)
50-64	0.65**	(0.53 - 0.81)	0.48**	(0.38 - 0.61)
65 and older	0.57**	(0.42 - 0.78)	0.39**	(0.26 - 0.60)
Education				
Less than high school				
High school diploma/GED	0.96	(0.81 - 1.13)	1.07	(0.87 - 1.30)
Post high school	0.91	(0.80 - 1.02)	0.82**	(0.71 - 0.95)
Race/Ethnicity				
Non-Hispanic, white				
Non-Hispanic, Black	0.94	(0.77 - 1.15)	1.33*	(1.04 - 1.70)
Non-Hispanic, other	0.70**	(0.55 - 0.89)	0.89	(0.67 - 1.17)
Hispanic	0.84	(0.70 - 1.02)	1.31*	(1.05 - 1.64)
Census Region				
South				
Northeast	0.65**	(0.52 - 0.81)	0.58**	(0.46 - 0.74)
Midwest	0.88	(0.67 - 1.16)	0.78	(0.57 - 1.07)
West	1.14	(0.91 - 1.42)	1.55**	(1.19 - 2.02)
Insurance Coverage				
Private				
Medicaid	1.00	(0.82 - 1.22)	1.05	(0.83 - 1.33)
Medicare	1.18	(0.90 - 1.54)	0.80	(0.56 - 1.14)
Dual	1.25	(0.91 - 1.71)	0.90	(0.58 - 1.39)
Not insured	0.94	(0.62 - 1.42)	1.42	(0.93 - 2.19)
Income				
≤100% FPL				
100-124% FPL	1.05	(0.76 - 1.45)	1.17	(0.82 - 1.67)
125-199% FPL	0.94	(0.74 - 1.18)	0.93	(0.71 - 1.22)
200-399% FPL	0.93	(0.75 - 1.15)	0.92	(0.73 - 1.17)
≥400% FPL	0.97	(0.77 - 1.22)	0.98	(0.75 - 1.27)
Constant	4.91**	(3.57 - 6.73)	2.61**	(1.85 - 3.67)
Observations	14,892		9,993	

Source: Analyses of Medical Expenditure Panel Survey, 2019. USC Type, a four-category measure combined from HaveUS42, Provty42 and Locatn42. No USC includes No USC and those who reported Person in Facility and Facility on Provty42 and Hospital, ED as the USC on Locatn42, ** p<0.01, * p<0.05

TABLE 7

Factors Associated with ED Use and USC

Variables	Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
No USC				
Have USC	1.64**	(1.46 - 1.84)	1.09	(0.97 - 1.23)
>200% FPL				
<200% FPL			1.32**	(1.18 - 1.48)
Excellent				
Very Good			1.11	(0.98 - 1.26)
Good			1.50**	(1.33 - 1.70)
Fair			2.36**	(1.99 - 2.80)
Poor			3.58**	(2.84 - 4.53)
# Office-based physician visits - 0				
# Office-based physician visits 1-3			2.10**	(1.85 - 2.37)
# Office-based physician visits 4-9			3.12**	(2.70 - 3.61)
# Office-based physician visits 10-1000			5.34**	(4.57 - 6.24)
South				
North East			0.94	(0.82 - 1.07)
Midwest			1.07	(0.95 - 1.22)
West			0.87*	(0.76 - 0.99)
Male				
female			1.04	(0.96 - 1.14)
Private				
Medicaid			2.04**	(1.76 - 2.37)
Medicare			1.54**	(1.20 - 1.99)
Dual			1.92**	(1.50 - 2.46)
Uninsured			1.27*	(1.03 - 1.57)
White, Non-Hispanic				
Black, Non-Hispanic			1.15*	(1.01 - 1.30)
Other, Non-Hispanic			0.82*	(0.69 - 0.98)
Hispanic			0.81**	(0.71 - 0.94)
<12 Years				
HS/GED			0.78**	(0.69 - 0.89)
Post HS			0.79**	(0.70 - 0.88)
0-17				
18-34			1.32**	(1.12 - 1.54)
35-49			1.09	(0.92 - 1.30)
50-64			1.02	(0.86 - 1.21)
65 or more			1.01	(0.77 - 1.33)
Constant	0.12**	(0.11 - 0.13)	0.04**	(0.04 - 0.06)
Observations	26,741		26,741	

Source: Analyses of Medical Expenditure Panel Survey, 2019. USC Type, a four-category measure combined from HaveUS42, and Locatn42. No USC includes No USC and those who reported and Hospital, ED as the USC on Locatn42. ** p<0.01, * p<0.05

TABLE 1
Trends in Percent US population with USC by Payer type

Year	Private	Medicaid	Medicare	Dual	Uninsured
2000	83.4	86.1	93.4	93.4	54.0
2001	84.0	84.1	93.8	89.2	52.3
2002	83.9	83.9	94.0	91.6	49.8
2003	84.3	84.3	93.9	89.4	47.0
2004	83.1	86.3	93.8	92.0	47.9
2005	83.0	84.3	93.9	88.4	48.3
2006	83.8	84.7	94.1	92.2	48.2
2007	82.4	83.8	93.6	92.0	47.0
2008	81.6	84.0	93.4	87.4	46.2
2009	82.6	83.7	93.1	91.5	44.7
2010	83.3	84.0	93.3	93.3	45.5
2011	83.2	84.8	93.3	92.5	45.8
2012	82.0	85.1	92.9	92.4	43.6
2013	82.4	82.5	93.5	93.1	45.1
2014	81.4	82.8	94.2	92.2	44.5
2015	80.5	82.5	93.2	91.1	47.4
2016	79.4	82.2	92.4	91.7	47.2
2017	79.4	82.1	93.0	89.3	43.0
2018	76.1	78.2	91.9	87.7	39.7
2019	74.6	76.8	90.7	86.7	34.3
2020	76.8	78.8	89.9	81.5	38.5

Source: Analyses of Medical Expenditure Panel Survey , 2000-2020

TABLE 8

USC % by State 2020

State	State_abbrev	STFIPS	PCPper100kpop	USC_pct
Alabama	AL	01	62	69
Alaska	AK	02	97	57
Arizona	AZ	04	63	66
Arkansas	AR	05	65	71
California	CA	06	82	69
Colorado	CO	08	83	67
Connecticut	CT	09	81	78
Delaware	DE	10	71	76
District of Columbia	DC	11	123	69
Florida	FL	12	72	65
Georgia	GA	13	64	69
Hawaii	HI	15	95	73
Idaho	ID	16	63	67
Illinois	IL	17	76	75
Indiana	IN	18	64	73
Iowa	IA	19	70	77
Kansas	KS	20	72	71
Kentucky	KY	21	60	74
Louisiana	LA	22	65	71
Maine	ME	23	105	82
Maryland	MD	24	89	80
Massachusetts	MA	25	99	82
Michigan	MI	26	78	82
Minnesota	MN	27	85	70
Mississippi	MS	28	50	64
Missouri	MO	29	68	70
Montana	MT	30	78	63
Nebraska	NE	31	72	75
Nevada	NV	32	57	60
New Hampshire	NH	33	82	84
New Jersey	NJ	34	83	73
New Mexico	NM	35	74	67
New York	NY	36	82	73
North Carolina	NC	37	68	65
North Dakota	ND	38	72	64
Ohio	OH	39	73	72
Oklahoma	OK	40	58	70
Oregon	OR	41	92	73
Pennsylvania	PA	42	78	78
Rhode Island	RI	44	95	81
South Carolina	SC	45	64	70
South Dakota	SD	46	74	70
Tennessee	TN	47	67	72
Texas	TX	48	59	62
Utah	UT	49	57	69
Vermont	VT	50	111	80
Virginia	VA	51	74	70
Washington	WA	53	83	70
West Virginia	WV	54	75	77
Wisconsin	WI	55	76	79
Wyoming	WY	56	65	63



About the Primary Care Collaborative

Founded in 2006, the Primary Care Collaborative (PCC) is a not-for-profit multi-stakeholder membership organization dedicated to advancing an effective and efficient health system built on a strong foundation of primary care and the patient-centered medical home. Representing a broad group of public and private organizations, the PCC's mission is to unify and engage diverse stakeholders in promoting policies and sharing best practices that support growth of high-performing primary care and achieve the "Quadruple Aim": better care, better health, lower costs, and greater joy for clinicians and staff in delivery of care.

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