Access to health care requires that affordable care is not only available but also reachable. Many patients—disproportionately those with low incomes—face transportation barriers, leaving them to forgo or skip health care visits, which can in turn be detrimental to long-term health (Silver, Blustein, and Weitzman 2012; Syed, Gerber, and Sharp 2013).

Private motorized vehicles are the primary form of transportation in the US, but many people—especially those who live in urban areas, have low incomes, or are Black and Hispanic/Latinx—rely on public transit (Clark 2017; Gimie et al. 2022). Research shows that public transportation expansions improve access to health care, especially for people covered by Medicaid (Smith et al. 2021). While substantial increases in the availability of telehealth since the start of the COVID-19 pandemic likely reduced transportation barriers for some types of health care, especially mental health and primary care services, telehealth is not accessible to all adults and cannot substitute for in-person care for all health care needs (Patel et al. 2020; Smith and Blavin 2021; Zhang et al. 2021). More work is needed to understand national patterns in the role of transportation and public transit in access to medical care and, ultimately, the importance of transportation for health equity (Heaps, Abramsohn, and Skillen 2021).

Using June 2022 data from the Urban Institute’s Health Reform Monitoring Survey (HRMS), we examine transportation barriers to health care and the association between public transit accessibility and access to care. We estimate the share of adults who had unmet health care needs or who missed or skipped health care visits in the past 12 months because of difficulties finding transportation, and how these experiences vary by race and ethnicity, family income, disability status, and other characteristics.
We focus on adults without access to a privately owned vehicle. While adults with access to a vehicle may face barriers to transportation because of high gas prices and other expenses (e.g., vehicle maintenance), transportation barriers disproportionately affect adults without access to a privately owned vehicle, many of whom rely on public transit. Among adults without a vehicle, we further assess the association between measures of access to public transit (self-reported and from WalkScore.com) and unmet health care needs. Our key findings include the following:

- Approximately 5 percent of nonelderly adults did not get needed health care in the past 12 months because of difficulty finding transportation, and this experience was more common among adults with low family incomes (i.e., below 138 percent of the federal poverty level [FPL]) (14 percent), adults with disabilities (17 percent), adults with public health insurance coverage (12 percent), and adults without household access to a vehicle (13 percent).

- While 91 percent of adults reported having household access to a vehicle, this figure was substantially lower among Black adults (81 percent), adults with low family incomes (78 percent), adults with a disability (83 percent), and adults with public health insurance (79 percent) or no health insurance coverage (83 percent).

- Adults without access to a vehicle who reported living in neighborhoods with fair or poor access to public transit were significantly more likely to forgo needed health care because of difficulty finding transportation (21 percent) compared with their counterparts reporting excellent, very good, or good, neighborhood access to public transit (9 percent).

- City-level transit scores from WalkScore.com, based on distance to transit stops and frequency of transit service, were less predictive of access to health care than self-reported measures of neighborhood public transportation access.

This evidence demonstrates the importance of public transportation for equitable access to health care, especially for adults who do not own vehicles. For policymakers, these findings highlight a potential return on investments in public transit in the form of improved access to health care, as well as the gaps that may need to be filled by Medicaid coverage of nonemergency medical transportation or expanded access to telehealth when public transit options are limited.

The following sections describe the results of our study and implications for policy. Details on data and methods are included at the end of the brief.

Results

*Five percent of adults reported going without needed health care in the past 12 months because of transportation barriers, and these experiences varied significantly by race/ethnicity, income, disability status, health insurance coverage, rural/urban residence, and household access to a vehicle.*

Figure 1 shows the share of adults who did not get needed health care in the past 12 months because of difficulty finding transportation. Overall, 5 percent of adults reported having had this experience, but responses varied significantly by demographic and socioeconomic characteristics.
Specifically, not getting needed health care because of difficulty finding transportation was significantly less likely among adults with the following characteristics:

- white adults (4 percent) and Asian adults (2 percent) compared with Black and Hispanic/Latinx adults (8 percent and 7 percent)\(^1\)
- adults who have family incomes between 139 and 399 percent of FPL (4 percent) or 400 percent of FPL or more (1 percent) compared with adults who have incomes at or below 138 percent of FPL (14 percent)
- adults who do not have a disability (2 percent) compared with adults who have a disability (17 percent)
- adults who have private insurance (2 percent) compared with adults who have public insurance (12 percent) or no insurance (9 percent)
- adults living in an urban area (5 percent) compared with adults living in a rural area (6 percent)
- adults who have household access to a vehicle (4 percent) compared with adults who do not have access to a vehicle (13 percent)

Given the substantial overlap in characteristics associated with transportation barriers to health care access, we examined these associations in a multivariate regression model (data not shown). We found that having low family income, having a disability, and lacking household access to a vehicle were the strongest predictors of having unmet needs for care because of difficulty finding transportation. Race/ethnicity, type of health insurance coverage, and rural residence did not have a statistically significant association with unmet needs after we accounted for these characteristics.

The patterns in the share of adults who missed or skipped a scheduled health care visit in the past 12 months because of difficulty finding transportation are similar and are provided in figure 2.

Groups that experienced transportation barriers to health care were also generally less likely to have household access to a vehicle.

Demographic and socioeconomic differences in household access to vehicles follow similar patterns as unmet health care needs because of transportation barriers, as shown in figure 3.

- 91 percent of adults reported having household access to a vehicle.
- Black adults were significantly less likely to have access to a vehicle (81 percent) than Hispanic/Latinx adults (87 percent), white adults (94 percent), Asian adults (93 percent), or adults of other races (88 percent).
- Adults with family incomes at or below 138 percent of FPL (78 percent) were significantly less likely to have access to a vehicle than adults with family incomes between 139 and 399 percent of FPL (93 percent) or 400 percent of FPL or more (96 percent).

We also found wide differences in vehicle access between adults with and without disabilities (83 percent versus 92 percent) and between adults with public health insurance coverage and those with private nongroup or employer-sponsored insurance (79 percent versus 95 percent).
FIGURE 1
Share of Adults Ages 18 to 64 Who Did Not Get Needed Health Care in the Past 12 Months Because of Difficulty Finding Transportation, by Selected Demographic and Socioeconomic Characteristics, June 2022

Source: Health Reform Monitoring Survey (HRMS), Urban Institute, June 2022.
FPL = federal poverty level.
Notes: Adults who are Black, white, Asian, or additional races refers to those who are not Hispanic/Latinx. Private health insurance coverage includes employer-sponsored insurance and private nongroup coverage. Urban areas are defined as metropolitan statistical areas.
*/**/*** Estimate differs from reference group (^) at the 0.10/0.05/0.01 level, using two-tailed tests.
FIGURE 2
Share of Adults Ages 18 to 64 Who Missed or Skipped a Scheduled Health Care Visit in the Past 12 Months Because of Difficulties Finding Transportation, by Selected Demographic and Socioeconomic Characteristics, June 2022

Source: Health Reform Monitoring Survey (HRMS), Urban Institute, June 2022.
FPL = federal poverty level.
Notes: Adults who are Black, white, Asian, or additional races refers to those who are not Hispanic/Latinx. Private health insurance coverage includes employer-sponsored insurance and private nongroup coverage. Urban areas are defined as metropolitan statistical areas.
*/**/*** Estimate differs from reference group (*) at the 0.10/0.05/0.01 level, using two-tailed tests.
FIGURE 3
Share of Adults Ages 18 to 64 with Household Access to a Vehicle, by Selected Demographic and Socioeconomic Characteristics, June 2022

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>All adults</td>
<td>91%</td>
</tr>
<tr>
<td>Black</td>
<td>81%</td>
</tr>
<tr>
<td>Hispanic/Latinx</td>
<td>87%**</td>
</tr>
<tr>
<td>White</td>
<td>94%**</td>
</tr>
<tr>
<td>Asian</td>
<td>93%**</td>
</tr>
<tr>
<td>Additional races</td>
<td>88%**</td>
</tr>
<tr>
<td>At or below 138% FPL</td>
<td>78%</td>
</tr>
<tr>
<td>139–399% FPL</td>
<td>93%**</td>
</tr>
<tr>
<td>400% FPL or more</td>
<td>96%**</td>
</tr>
<tr>
<td>Has a disability</td>
<td>83%</td>
</tr>
<tr>
<td>Does not have a disability</td>
<td>92%**</td>
</tr>
<tr>
<td>Public</td>
<td>79%</td>
</tr>
<tr>
<td>Uninsured</td>
<td>83%*</td>
</tr>
<tr>
<td>Private</td>
<td>95%**</td>
</tr>
<tr>
<td>Lives in a rural area</td>
<td>94%</td>
</tr>
<tr>
<td>Lives in an urban area</td>
<td>90%**</td>
</tr>
</tbody>
</table>

Source: Health Reform Monitoring Survey (HRMS), Urban Institute, June 2022.

FPL = federal poverty level.

Notes: Adults who are Black, white, Asian, or additional races refers to those who are not Hispanic/Latinx. Private health insurance coverage includes employer-sponsored insurance and private nongroup coverage. Urban areas are defined as metropolitan statistical areas.

**/*/*** Estimate differs from reference group (*) at the 0.10/0.05/0.01 level, using two-tailed tests.
Because transportation barriers to health care disproportionally affect adults in households without access to a vehicle, we further examined the role of public transportation accessibility in access to health care among this subgroup of adults. Table 1 shows self-reported measures of public transportation accessibility among adults without a vehicle. Thirty-two percent of adults without a vehicle describe their ability to get around their neighborhood without driving to be fair or poor, and this is more common for adults with incomes at or below 138 percent of FPL (36 percent) than adults with higher incomes (27 percent) and among adults with a disability (44 percent) than adults without a disability (26 percent). Thirty-two percent of adults without access to a vehicle describe their access to public transportation in their neighborhood as fair or poor, and this is more common among white adults (39 percent) and Hispanic/Latinx adults (32 percent) than Black adults (22 percent) and among adults with a disability (38 percent) than adults without a disability (29 percent).

**TABLE 1**
Share of Adults Ages 18 to 64 without Household Access to a Vehicle Self-Reporting Fair or Poor Access to Transportation in Their Neighborhood, by Selected Demographic and Socioeconomic Characteristics, June 2022

<table>
<thead>
<tr>
<th>Ability to get around without driving is fair or poor</th>
<th>Access to public transportation is fair or poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>All adults without a vehicle</td>
<td>32</td>
</tr>
<tr>
<td><strong>By race/ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Black^</td>
<td>28</td>
</tr>
<tr>
<td>Hispanic/Latinx</td>
<td>31</td>
</tr>
<tr>
<td>White</td>
<td>35</td>
</tr>
<tr>
<td>Asian</td>
<td>—</td>
</tr>
<tr>
<td>Additional races</td>
<td>—</td>
</tr>
<tr>
<td><strong>By family income</strong></td>
<td></td>
</tr>
<tr>
<td>At or below 138% FPL ^</td>
<td>36</td>
</tr>
<tr>
<td>139% or more</td>
<td>27**</td>
</tr>
<tr>
<td><strong>By disability status</strong></td>
<td></td>
</tr>
<tr>
<td>Has a disability^</td>
<td>44</td>
</tr>
<tr>
<td>Does not have a disability</td>
<td>26***</td>
</tr>
<tr>
<td><strong>By health insurance coverage</strong></td>
<td></td>
</tr>
<tr>
<td>Public^</td>
<td>34</td>
</tr>
<tr>
<td>Uninsured</td>
<td>—</td>
</tr>
<tr>
<td>Private</td>
<td>26</td>
</tr>
</tbody>
</table>

— = Estimates are not shown because of small sample sizes.
FPL = federal poverty level.
Notes: Adults who are Black, white, Asian, or additional races refers to those who are not Hispanic/Latinx. Private health insurance coverage includes employer-sponsored insurance and private nongroup coverage.
*/**/*** Estimate differs from reference group (^) at the 0.10/0.05/0.01 level, using two-tailed tests.
Adults without access to a vehicle who reported fair or poor neighborhood access to public transit were significantly more likely to forgo needed health care because of transportation barriers.

In figure 4, we show that among adults without a vehicle, self-reported fair or poor public transportation accessibility is strongly associated with not getting needed health care because of difficulty finding transportation, even after adjusting for other demographic, socioeconomic, and geographic characteristics, specifically race/ethnicity, family income, disability status, health insurance coverage, rurality, population density, and major metropolitan area of residence.

- 22 percent of adults reporting the ability to get around without driving in their neighborhood is fair or poor did not get needed health care, compared with only 9 percent of adults who reported excellent, very good, or good ability to get around without driving.

- Similarly, 21 percent of adults reporting fair or poor access to public transportation had this experience compared with only 9 percent of adults who reported excellent, very good, or good access to transportation.

The association between public transportation accessibility and missed or skipped scheduled health care visits is similar (figure 5).

**FIGURE 4**

Share of Adults Ages 18 to 64 without Household Access to a Vehicle Who Did Not Get Needed Health Care in the Past 12 Months Because of Difficulty Finding Transportation, by Self-Reported Neighborhood Access to Transportation, June 2022

Source: Health Reform Monitoring Survey (HRMS), Urban Institute, June 2022.

Notes: Estimates are regression adjusted based on race/ethnicity, family income, disability status, health insurance coverage, US Department of Agriculture rural-urban continuum codes, population density, and fixed effects for major metropolitan areas.

***/**/*** Estimate differs from reference group (^) at the 0.10/0.05/0.01 level, using two-tailed tests.
FIGURE 5
Share of Adults Ages 18 to 64 without Household Access to a Vehicle Who Missed or Skipped a Scheduled Health Care Visit in the Past 12 Months Because of Difficulties Finding Transportation, by Self-Reported Neighborhood Access to Transportation, June 2022

Source: Health Reform Monitoring Survey (HRMS), Urban Institute, June 2022.
Notes: Estimates are regression adjusted based on race/ethnicity, family income, disability status, health insurance coverage, US Department of Agriculture rural-urban continuum codes, population density, and fixed effects for major metropolitan areas.
*/**/*** Estimate differs from reference group (^) at the 0.10/0.05/0.01 level, using two-tailed tests.

Measures of distance to and frequency of transit service (i.e., city-level transit scores from WalkScore.com) were less predictive of access to health care compared with self-reported measures of neighborhood access to public transit.

We did not find statistically significant differences in access to health care by transit scores after controlling for race/ethnicity, family income, disability status, health insurance coverage, rurality, and population density (results available upon request).

Discussion

Using nationally representative survey data, this study finds that transportation barriers to health care disproportionately affect Black and Hispanic/Latinx adults and those with low incomes, disabilities, public health insurance coverage, residence in rural areas, and lack of household access to a vehicle. These findings add to the growing body of evidence that inequitable access to transportation
perpetuates disparities in access to health care, highlighting the importance of transportation as a social determinant of health (Stacy et al. 2020).

Public transit systems—which may include buses, subways, rails, light rails, and ferries—are designed to facilitate transportation for the general public. Research has shown public transit systems promote health by reducing air pollution, promoting physical activity, reducing motor vehicle crashes, and increasing access to food, jobs, and recreation (CDC 2013; Heaps, Abramsohn, and Skillen 2021; Litman 2020). Our study finds that access to public transportation is associated with improved access to health care itself—consistent with prior research finding that expansions to public transit systems result in fewer missed appointments (Smith et al. 2021)—suggesting that investments in public transit may be a tool to promote health equity. We find that self-reported access to public transportation is more predictive of access to health care than measures of transit accessibility based on distance to transit stops and frequency of transit service, which may not capture the limitations people face as accurately as their subjective perception of public transportation accessibility. There are also limitations to the transit score measures used in this analysis that could have made it more difficult to detect their association with health care access, as described below.

This analysis provides new evidence on transportation barriers to health care, highlighting the importance of public transit accessibility in promoting equitable access to health care for states, local governments, and other stakeholders to consider when weighing investments in public transit. Policymakers may also consider expanding transportation benefits in health insurance plans—such as the Non-Emergency Medical Transportation benefit in Medicaid, which varies considerably across and within states (Musumeci and Rudowitz 2016)—to include coverage of public transit fares. Additionally, maintaining expanded coverage of telehealth services even when the COVID-19 public health emergency ends may promote access to care for those facing transportation barriers.\(^2\)

Data and Methods

Survey Data

This brief draws on data from the June 2022 round of the Urban Institute’s Health Reform Monitoring Survey (HRMS), a nationally representative internet-based survey of adults ages 18 to 64. For each round of the survey, we draw a stratified random sample of adults from Ipsos’s KnowledgePanel, the nation’s largest probability-based online research panel. Members of the panel are recruited from an address-based sampling frame covering approximately 97 percent of US households, including those without internet access. Panel members are given internet access and web-enabled devices, if needed, to facilitate their participation. We oversample adults in low- and moderate-income households. Survey weights adjust for unequal selection probabilities and are poststratified to the characteristics of the national nonelderly adult population, based on benchmarks from the Current Population Survey and the American Community Survey.\(^3\)
Measures

To measure unmet health care needs because of transportation barriers, access to a vehicle, and self-reported measures of neighborhood transit accessibility, we use the following questions on the HRMS.

Unmet health needs because of transportation barriers

- In the past 12 months, was there a time when you needed health care but did not get it because of difficulties finding transportation? (response options: yes, no)
- In the past 12 months, was there a time when you missed, skipped, or were unable to make it to a scheduled health care visit because of difficulties finding transportation? (response options: yes, no)

Access to vehicles at home

- How many automobiles, vans, and trucks are kept at home for use by members of your household? (response options: none, 1, 2, 3, 4, 5, 6 or more)

Self-reported measures of neighborhood transit accessibility

- How would you rate the following characteristics of your neighborhood? (response options: excellent, very good, good, fair, poor)
  - Your ability to get around without driving
  - Access to public transportation

Transit score measures of public transit accessibility from WalkScore.com

We also draw on publicly available measures of access to public transit from WalkScore.com. Transit scores range from 0 to 100, with lower scores representing limited access to transportation, and are calculated using a propriety algorithm accounting for the proximity of nearby transit stops and frequency of transit service. Transit scores are available for most larger cities and towns, as well as selected unincorporated areas, in each state. We link these transit scores to geographic identifiers for HRMS participants that correspond to county subdivisions or to incorporated or census-designated places. Of the 950 survey respondents without household access to a vehicle, we collected transit scores for 514 respondents in metropolitan areas. Compared with those who did not have available transit scores, adults with transit scores were more likely to live in metropolitan areas with large populations and higher population density.

We assessed the correlation of the self-reported measures of neighborhood transit accessibility and the transit score measures and found weak positive correlations between them (table 2).
TABLE 2
Correlation between Self-Reported Neighborhood Characteristics and Transit Scores among Adults Ages 18 to 64 Without a Vehicle, June 2022

<table>
<thead>
<tr>
<th>Transit score</th>
<th>Self-reported ability to get around neighborhood without driving</th>
<th>Self-reported access to public transit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.31</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Source: Health Reform Monitoring Survey (HRMS), Urban Institute June 2022; WalkScore.com.
Notes: Transit scores range from 0 to 100, with higher scores representing greater walkability and transit access, respectively. Self-reported measures are based on an index of 1 to 5 corresponding to whether the respondent reported poor, fair, good, very good, or excellent.

Analysis

We begin by estimating the share of adults who reported not getting needed health care and the share who reported missing, skipping, or not making a scheduled health care visit in the past 12 months because of difficulties finding transportation. We report each of these measures for all adults and by select characteristics including race/ethnicity, family income as a percentage of FPL, disability status, health insurance coverage type, and rural/urban residence. We also determine whether adults report having access to a vehicle in their homes.

In ensuing analyses, we focus on adults who report not having access to a vehicle at home. We assess neighborhood transit accessibility for these adults. Additionally, we assess how the share who reported unmet health needs because of difficulties finding transportation varies by neighborhood transit accessibility. Estimates of unmet health needs because of transportation issues are regression adjusted based on race/ethnicity, family income as a percentage of FPL, disability status, health insurance coverage at the time of the survey, rurality based on US Department of Agriculture rural-urban continuum codes, population density of the respondent’s census tract, and indicators for 18 large metropolitan areas in the US with at least 20 survey respondents.

Limitations

The HRMS has several limitations, including a low cumulative response rate, and nonresponse bias is likely only partially mitigated by the survey weights. However, studies assessing recruitment for the panel from which HRMS samples are drawn have found little evidence of nonresponse bias for core demographic and socioeconomic measures (Garrett, Dennis, and DiSogra 2010; Heeren et al. 2007). Further, HRMS estimates compare well against federal surveys with larger samples sizes, higher response rates, and stronger designs (Long et al. 2014). Because the HRMS is fielded in English and Spanish, we do not fully capture the experiences of households with adults who speak other languages.

There are also limitations to the transit score measure that may have affected our ability to detect statistically significant associations between this measure and health care access. Because this measure was only available for larger cities and towns in metropolitan areas, we did not observe transit scores for smaller rural communities that likely have limited or no access to public transit. In addition, we did
not obtain scores for neighborhoods within cities, limiting our ability to identify intracity variation in public transit access. It is also possible that some respondents lived near transit with frequent service, but the routes were still insufficient for helping them get to medical appointments. Even if public transit were nearby, the cost may have been prohibitive for some adults—particularly for those with low incomes—or adults may not have been aware of the public transit options available.

Notes

1 Estimates for adults who are white, Black, Asian, or additional races refer to those who are not Hispanic/Latinx.


References


### About the Authors

**Laura Barrie Smith** is a research associate in the Health Policy Center at the Urban Institute. Her current research uses Medicaid claims data to study racial health equity among Medicaid-enrolled children and evaluates the effects of integrated care plans for individuals dually enrolled in Medicare and Medicaid. In other recent work, she assesses disparities in access to telehealth and preventive care during the COVID-19 pandemic, examines the role of public transportation in access to care, and analyzes the impacts of health information technology incentive programs on Medicaid providers and enrollees. She has expertise in using large datasets, such as Medicare and Medicaid claims and electronic health records, in her research. Before joining Urban, Smith worked at the Lewin Group, where she focused on Medicare payment policy evaluations. Smith holds a BA in mathematics from St. Olaf College and a PhD in health services research, with an emphasis in health economics, from the University of Minnesota.

**Michael Karpman** is a principal research associate in the Health Policy Center. His work focuses on the implications of the Affordable Care Act, including quantitative analysis related to health insurance coverage, access to and affordability of health care, use of health care services, and health status. His work includes overseeing and analyzing data from the Urban Institute’s Health Reform Monitoring Survey and Well-Being and Basic Needs Survey. Before joining Urban in 2013, Karpman was a senior associate at the National League of Cities Institute for Youth, Education, and Families. He received his MPP from Georgetown University.

**Dulce Gonzalez** is a research associate in the Health Policy Center. She forms part of a team working on the Urban Institute’s Well-Being and Basic Needs Survey. Gonzalez conducts quantitative and qualitative research focused primarily on the social safety net, immigration, and barriers to health care access. Her work has also focused on the impacts of the COVID-19 pandemic on nonelderly adults and
their families. Before joining Urban, Gonzalez worked at the Georgetown University Center for Children and Families and at the nonprofit organization Maternal and Child Health Access. Gonzalez holds a BA in economics from California State University, Long Beach, and a master’s degree in public policy from Georgetown University.

Sarah Morriss is a research assistant in the Health Policy Center. She analyzes data and provides assistance with questionnaire development for Urban’s Health Reform Monitoring Survey and Well-Being and Basic Needs Survey. She also contributes to policy briefs and papers on topics related to health equity, health care access, and families’ experiences with federal safety net programs. Her research interests include disability and mental health policy issues. Moriss has a bachelor’s degree in economics and public policy from the University of Chicago.
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