

Measuring Access to Care in National Surveys: Implications for Rural Health

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Key Findings

- Several nationally-representative surveys measure access to health care.
- Access to care is measured across various domains, including usual source of care, use of preventive and wellness care, insurance coverage, delays in and foregone care, financial barriers to care, transportation-related barriers to care, and use of technology to interact with health care providers.
- Of those nationally-representative surveys that measure access, few include publicly-available and detailed measures of rurality. None include access measures that are specific to rural settings.

Purpose

In order to assess the efficacy of health care in meeting the needs of the population and to ensure access to timely, appropriate care, it is important to have nationally-representative measures of access and barriers to health care. Given the unique health care context in rural settings, it is also important to understand whether, and how, access is measured in ways that are salient for rural populations. In this brief, we review access measures included in major national surveys and discuss implications for rural research on access to care.

Background and Policy Context

There has long been a concern about challenges to accessing care in rural communities.¹⁻⁴ This concern, and associated barriers to accessing care, is based on a number of factors, including fewer health care providers in rural areas, relative to urban areas.⁵ It is also borne out by broad, national surveys that ask respondents specific questions about their perceptions of access and barriers to care across a range of issues and experiences.^{4,6,7} Another approach to assessing rural-urban differences in access to care is to measure differences in volume of services used. The Medicare Payment Advisory Commission (MedPAC) did that in a 2012 report and found little difference between rural and urban Medicare beneficiaries.⁸ While useful, looking at volume of services alone does not provide a complete picture on patient experience, health status, timeliness of services, and other barriers to care.

A record share of Americans have health insurance coverage today (91.2% of all individuals in the U.S., as of 2017), much of which comes through public health insurance programs, including Medicare and Medicaid.⁹ Insurance coverage does not guarantee access to health care services, however.^{8,10-12} For care outside of the emergency department, patients must find health care providers willing to treat them, regardless of insurance status. Even among people with insurance coverage, evidence suggests that some providers avoid accepting publicly-insured patients, for many reasons including differences by payer type in reimbursement generosity and administrative complexity.¹³

Patients may also face barriers to accessing health care that transcend insurance coverage. These may be financial, including required copayments or foregone wages while receiving care.¹⁴ Barriers may also be logistical (e.g., transportation to and from the health care provider, difficulty with scheduling) or cultural (e.g., communication challenges, both linguistic and otherwise). Understanding how patients access care and the barriers they face is a critical step toward improving equity in health and health care use.

Most measures of access to care come from health-related surveys. In several national surveys, respondents are asked about patterns in health care use (e.g., where, from whom, and how often they receive care) and reasons for delayed or foregone care. Unlike many outcomes in health services research, administrative claims provide limited insight into questions regarding access. While it is generally possible to observe how an individual utilizes health care services, claims provide no insight into treatment delays, nor information on foregone care. Further, while electronic health record data may offer new ways to measure access, such as the use of telemedicine⁸ or the

interval of time between when patients schedule their appointment and when they see a health care provider, there is no way to distinguish between clinically-appropriate treatment intervals and delays in scheduling that indicate an access issue.

Despite the inclusion of access measures across several national surveys, there is little attention paid to rural-specific methods of measuring access within these surveys. Evidence suggests that there are differences in health care access between rural and urban individuals,^{3,8,15,16} but does not offer suggestions for measures that work particularly well to gauge rural access or determine whether rural

Table 1: Surveys, Populations Studied, and Geographic Measures

Survey Name	Year*	Population Studied	Publicly Available Geographic Measures
Behavioral Risk Factor Surveillance System (BRFSS)	2017	General U.S. civilian, non-institutionalized population	State, County ¹ , MMSAs ¹
National Health Interview Survey (NHIS)	2017	General U.S. civilian, non-institutionalized population	Census region
Medicare Current Beneficiary Survey (MCBS) ²	2016	Medicare beneficiaries	Metro vs. non-metro
Medical Expenditure Panel Survey (MEPS)	2017	General U.S. civilian, non-institutionalized population	Census region
Health and Retirement Study (HRS)	2016	Older adults and their spouses/partners	Census region
National Health & Aging Trends Study (NHATS)	2017	Medicare beneficiaries age 65+ and their spouses/partners	Census division, Rural vs. urban
American Community Survey (ACS)	2017	General U.S. population	Census region, State, County, MSAs/MMSAs, Zip code, Census tract, Block group, District and congressional units, Tribal units ^{3,4}
Current Population Survey (CPS)	2017	General U.S. population	State, MSAs, County ⁵

MMSA=Metropolitan/Micropolitan Statistical Area; MSA=Metropolitan Statistical Areas

*Year indicates the most recent year of data available at the time that we conducted the study. It is the year for which we examined the survey codebook.

¹Available using Selected Metropolitan/Micropolitan Area Risk Trends (SMART BRFSS) data

²Accessing the MCBS including geographic identifiers requires a nominal fee and a data use agreement with the Centers for Medicare & Medicaid Services

³Select variables have geographic restrictions (i.e. only available at the national- or state-level)

⁴24 geographic measures are available; this is not an exhaustive list

⁵Limited county data available, especially for small populations; county-level estimates are unreliable

individuals are more or less likely to access health services. This may be problematic, given the unique health and health care landscape of rural communities, where populations tend to have greater health care needs and use of rural-specific health care entities, such as Critical Access Hospitals and Rural Health Clinics, is important to addressing access issues. Beyond the formal health care system, research also shows that transportation is known to be particularly challenging in rural communities,^{17,18} as is access to broadband Internet and other technologies that might otherwise be helpful to access health care remotely.^{3,19} Certainly, access barriers are not unique to rural areas, however it is important to understand the unique context within which rural residents interact with the health care system in order to reduce barriers and improve overall health. Though previous work has reviewed how access is measured for the broader population,^{20,21} a deeper examination of how access is currently measured

and what gaps remain for rural health research is needed to improve this work.

Approach

In order to identify access measures in large, nationally-representative surveys, we developed a RedCap questionnaire to collect health care access data from eight national surveys for the most recent survey year available for each: the Behavioral Risk Factor Surveillance System (BRFSS), National Health Interview Survey (NHIS), Medicare Current Beneficiary Survey (MCBS), Medical Expenditure Panel Survey (MEPS), Health and Retirement Study (HRS), National Health & Aging Trends Study (NHATS), American Community Survey (ACS), and Current Population Survey (CPS). We focused on those surveys because they represent the largest and most widely-used national surveys with data on health care use and access. We used survey documentation (e.g., ques-

Table 2: Example Survey Questions for Each Access Domain

Domain	Example of Survey Questions ^a
Source of care	"Do you have a usual place for routine care?", "Do you have a health care provider?", "Do you have a usual place for sick care?", "Have you changed your place of care?", or "Does not have a usual source of care."
Frequency of care	"How long has it been since your last doctor's visit?" or "How many times have you've visited a health provider in the past (month/year):"
Health care coverage	"Do you have health care coverage?" or "What type of health insurance do you have?"
Delayed/forgone care	"Have you delayed care in the past (month/year)?" or "Have you gone without care in the past (month/year):"
Cost barriers	"Have you ever gone without your medications due to cost?", "Do you have any outstanding medical bills?", "Have you ever gone without care because you cannot afford medical care?"
Transportation	"How do you usually get to your provider?", "Does someone accompany you due to transportation needs?", "Have you ever delayed care or not received care due to no access to transport/difficulty getting to provider's office?", "How long does it usually take for you to get to your provider?", or "Have you ever delayed care/not sought care because of the time it takes to travel to your provider?"
Technology use	"During the past 12 months have you ever used computers to communicate with a health care provider by email?" or "In the last year, have you gone on the internet or online to contact any of your medical providers (e.g. getting medical advice)?"

^aQuestions represent example items, not exact wording.

tionnaires, codebooks) to identify demographic information and health care access measures present within each of the national surveys.

Table 1 shows what populations are included in each survey. All of the surveys are freely and publicly available; however, very few have publicly-available detailed measures of geography. For example, the NHIS and MEPS include Census region in their publicly-available files; identification of more detailed geography requires going through a U.S. Census Restricted Data Center and having Special Sworn Status. The NHATS is one of the few surveys to include a rural vs. urban measure in publicly-available files.

For each survey, we recorded all measures on health care access for the most recent year of data available, including questions about transportation and technology use related to health care. We also identified the geographic measures available in each survey (see Table 1), including information on rurality. Based on the health care access questions present within each survey, we created seven domain categories: source of care, frequency

of care, health care coverage, delayed/forgone care, cost barriers, transportation, and technology use.

Additionally, we consulted with two national experts in health care access surveys, asking them to examine our domain categories and the national surveys we chose to include. The experts concluded that our examination was inclusive of relevant national surveys that might have relevant health care access measures, and that the domain categories used were standard and comprehensive.

Table 2 provides example survey questions for each of the domains that we identified.

Results

Several large, nationally-representative surveys measure various domains of access to care, as shown in Table 3. The most common measure for access to care was health insurance coverage (insured vs. uninsured and/or type of coverage). The next most common measure was about usual source of care and frequency of care. Of the eight surveys we examined, six asked respondents if they had a usual source of care, either a provider or facility that they normally go to

Table 3: Access to Care Measures in Nationally-Representative Surveys

Survey Name	Source of care	Frequency of care	Health care coverage	Delayed/forgone care	Cost barriers	Transportation	Technology use
Behavioral Risk Factor Surveillance System (BRFSS)	X	X	X	X	X	X	
National Health Interview Survey (NHIS)	X	X	X	X	X	X	X
Medicare Current Beneficiary Survey (MCBS)	X	X	X	X	X	X	
Medical Expenditure Panel Survey (MEPS)	X	X	X	X	X	X	
Health and Retirement Study (HRS)	X	X	X	X	X		
National Health & Aging Trends Study (NHATS)	X	X	X			X	X
American Community Survey (ACS)			X				
Current Population Survey (CPS)			X				

for routine care. Six surveys also asked about frequency of care, either by asking about duration since the last appointment or about the number of appointments in a given time period. Five surveys asked about delays in seeking care and foregone care, five asked about transportation to medical appointments, and five also asked about cost and financial concerns as a barrier to care. Finally, two surveys asked questions about using technology to interact with health care providers.

None of the surveys asked about rural-specific types of care, such as accessing care at a Critical Access Hospital or Rural Health Clinic, although the MCBS asks about use of a "rural health center", though no specific definition of that is provided. And, few of the surveys asked about unmet need for specialty care, although rural residents have more limited access to nearly all types of specialists.^{1,22} The transportation measures, which are particularly relevant in rural settings, tended to be blunt (e.g., a yes/no question about whether or not someone had trouble accessing their health care provider because of transportation), although the MCBS and MEPS asked respondents how long it took to get to their provider. Notably, despite the recent focus on telemedicine and accessing care remotely, there was very little attention paid to the use of technology and telehealth in meeting health care needs. The primary exceptions came from the NHIS and NHATS, both of which asked questions about whether respondents had communicated with their health care provider using technology (email, Internet, etc.) Such communication is not necessarily representative of meaningful telemedicine use, however.

Discussion and Implications

Several large, nationally-representative surveys measure access to health care across different domains, including health insurance coverage, where people usually receive care, barriers to care, delayed and foregone care, transportation and travel distance to care, and use of technology to interact with health care providers. In measuring access to care, there is no one "correct" measure or domain; instead, it is important to understand people's experiences across a range of domains. Surveys asking people a variety of questions about how they use – or encounter barriers trying to use – health care are instrumental in helping researchers and policy-makers alike to understand the various nuances involved in accessing care. These surveys provide essential data on how individuals in the U.S. access (or forego) health care, allowing for well-informed policy interventions to improve access and, ultimately, population health.

However, despite the nationally-representative nature of these surveys, it is difficult to use them to ascertain timely, rural-specific information on access and barriers to health care. Many of the surveys used to measure access to care in the U.S. population do not include publicly-available measures of geography with enough detail to identify rural vs. urban populations, let alone variation within rural residents. This is further compounded by small sample sizes within rural zip codes, Census tracts, or counties, which can make it difficult for individual rural communities to access local data with which they can inform responses to improve access to care. Still, even for those that do include such measures of geography, or that provide access to geographic measures through a secure, restricted process, these surveys are not designed to comprehensively understand unique barriers that rural residents may face in accessing care. Further, given the labor-intensive nature of survey data collection and cleaning, data are often not immediately available for analysis, which can make it difficult to access current information. This may be problematic when trying to assess the immediate impact of a policy or program on access to care.

To fully understand how rural residents interact with health care, and what barriers they may face in doing so, surveys would need to include questions about rural-specific facilities, such as Rural Health Clinics and Critical Access Hospitals. Additionally, given known issues that rural residents face in accessing broadband Internet and other technologies²³ and in addressing transportation challenges,^{17,18} more detailed and nuanced measures about health care use and barriers related to transportation and technology are needed. Questions on transportation should ask not only about distance to health care providers, but about difficulty accessing a reliable vehicle, paid or volunteer driver (for individuals who cannot drive themselves), and road and infrastructure conditions that may present barriers to accessing care safely.¹⁸ While these are certainly issues in urban areas, as well, longer distances between individuals and health care and geographic topography (e.g., mountains, lakes), combined with potentially dangerous road conditions in inclement weather present particular challenges in rural contexts.^{18,24}

More information is needed in a more timely manner on how rural residents access and encounter barriers to health care within their unique contexts in order to have information that is relevant and actionable by rural communities. In particular, more information is needed both on rural-urban differences in access and on differences among rural residents by state, age, and demographic

characteristics. It may not be feasible to collect all of the needed information about rural-specific experiences within the national surveys profiled here, each of which already collects invaluable information to inform policy and research. Rather, additional resources may be required to research ways in which to improve the efficiency, equity, and efficacy of how rural residents access care.

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