



THE HEALTH
EQUITYPROJECT

Advancing Health & Economic Opportunities for All Communities



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GETTING FROM HERE TO THERE:

IMPROVING NON-EMERGENCY MEDICAL TRANSPORTATION FOR THE UNDERSERVED

As the nation emerges from the COVID-19 pandemic, states face budget challenges and struggle to meet increased demand for health, behavioral health, and human services. Under the Biden administration, the Centers for Medicare & Medicaid Services (CMS) has encouraged states to leverage Medicaid to address social determinants of health (SDOH). For example, CMS Administrator Chiquita Brooks-LaSure wrote in *Health Affairs*, “Our approach includes partnering with states to ensure the health care system considers and supports the whole of a person’s needs: physical health, behavioral health, oral health, long-term service and supports, and health-related social needs. We must address longstanding gaps in areas such as behavioral health, as well as explore how Medicaid can contribute to addressing health-related social needs (e.g., nutrition and homelessness or housing instability).”¹

The Health Equity Project, in conjunction with Third Horizon Strategies (THS), is releasing a series of briefs to support policymakers, regulators, providers, and other key stakeholders evaluate investments to bolster health equity and address SDOH. Minimizing SDOH helps achieve health equity: ensuring that everyone has a fair and just opportunity to be as healthy as possible. In December 2021, the organizations published an introduction to the series along with issue briefs on food insecurity and housing instability. This brief focuses on transportation as an important SDOH and suggests strategies that states and key stakeholders can undertake to improve access to Non-Emergency Medical Transportation (NEMT) among Medicaid beneficiaries and Medicaid eligible populations.

The Centers for Disease Control and Prevention (CDC) has included access to transportation as one of the top five SDOH. NEMT, which refers to medically necessary but non-emergency transportation

services for Medicaid beneficiaries, is a required service for state Medicaid programs. However, states continue to face implementation challenges and performance issues, and access to this vital service needs to be expanded.

In January 2021, the Medicaid and CHIP Payment and Access Commission (MACPAC) examined the benefits of NEMT for beneficiaries, and the benefits of improving coordination of NEMT with public transportation and other federally assisted transportation services. MACPAC² found that NEMT is used extensively by a small number of beneficiaries. The most frequent users were older adults and persons with disabilities. Beneficiaries diagnosed with end-stage renal disease (ESRD) use NEMT most frequently, followed by those with intellectual or developmental disabilities and serious mental illnesses. MACPAC also found that while participants are overall positive about NEMT, there were various experiences with using these services and numerous beneficiaries had encountered challenges such as scheduling issues or delays.

The CDC defines “Social Determinants of Health” as “conditions in the places where people live, learn, work, and play that affect a wide range of health risks and outcomes.”

“Transportation barriers” include lack of vehicle ownership or vehicle access, long distances and lengthy travel times to reach needed services, transportation costs, and/or lack of access to public transportation.

Like other SDOH, transportation barriers are interconnected so the presence of one may exacerbate or create other barriers. For example, lack of reliable transportation may contribute to food insecurity or to social isolation.



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INTRODUCTION

Transportation is a key SDOH. Access to reliable transportation impacts the health of all community members, including Medicaid beneficiaries. Vehicle ownership, public transportation access, or publicly-funded NEMT can determine whether a community member can easily access health care and/or other essential services or obtain a prescription from a pharmacy in a timely manner. An individual living in an underserved community, low-income neighborhood, or remote rural area may not have the same level of access to vehicle ownership, bicycle and pedestrian infrastructure, reliable public transit, or destinations within walking distance.

For millions of Medicaid beneficiaries, lack of access to reliable and affordable transportation presents a serious barrier to receiving medical treatment and maintaining their health status.

Missed or delayed medical appointments can lead to poorer health outcomes and increased emergency department (ED) use.³ In a recent survey of NEMT recipients, 58 percent reported that they would not be able to make any medical appointments without NEMT.⁴

These consequences may lead to chronic illness that is not managed according to clinical guidelines, resulting in adverse health outcomes and increased costs as Medicaid beneficiaries seek care in more costly settings rather than primary care.

LITERATURE REVIEW FINDINGS

The literature review revealed that transportation barriers restrict access to health care particularly for lower income people. NEMT can be essential to facilitating access to care for Medicaid beneficiaries.

THS analysts reviewed 20 studies or publications that examined the linkages between transportation challenges and poor health outcomes, and the evidence base around interventions that address transportation needs. They scored 50 percent of the studies as “highly relevant,” meaning they were published in the last four years, appeared in peer-reviewed or otherwise objective publications, had a strong evidence-base, and were clearly linked to measurable outcomes.

A systematic examination of peer-reviewed studies⁵ identified that transportation barriers included vehicle access, geography, and travel burden by time and distance. Notably, nine studies assessed the influence of vehicle access on access to health care, and all found a positive relationship. The review also found racial and ethnic disparities in transportation access; studies that explored health care access and transportation barriers among people of color and Whites suggested that access is superior for Whites even after controlling for socioeconomic status.

One study estimated that at least 3.6 million people miss or delay medical care each year because they lack available or affordable transportation.⁶ Missed or delayed primary care can drive up the cost of care or exacerbate health conditions.

The literature described some promising interventions. For example, in 2017, a pediatric hospital group in Maine determined that posthospitalization appointments (PHA) were often missed due to transportation insecurity. To address this issue, the group implemented a quality improvement project wherein staff were educated about the significance of transportation insecurity and how to assess and document it. The hospital group embedded a list of local transportation resources into discharge instructions and staff provided coaching to families on how to use those resources. Primary

care providers (PCPs) were notified of families who had transportation insecurity and PHAs were audited. As a result of the project, documentation of transportation insecurity assessment increased from one percent to 94 percent and attendance at PHAs improved for all patients.⁷

A study commissioned by the Medical Transportation Access Coalition found that NEMT is a cost-effective part of a care management strategy for people with chronic diseases, resulting in a total positive return on investment of over \$40 million per month (\$480 million annually) per 30,000 Medicaid beneficiaries.⁸

The literature demonstrated that NEMT has been disrupted by the advent of ride-sharing platforms such as Uber and Lyft. Many health systems are using these services to provide transportation benefits to patients and are realizing the efficiencies of using these services

for transportation means. For example, CareMore, an integrated delivery system operating in multiple states, launched a pilot program in 2016 to evaluate the impact of Lyft-based rides on patient experience and costs. Their results pointed to improved timeliness, reduced wait times, high rates of patient satisfaction, and reduced costs, when comparing Lyft to other sources of NEMT.⁹

Rideshare services, which may also offer a lower cost, have been used in some states as an NEMT alternative. Yet some NEMT studies question the efficacy of ride-sharing programs. A University of Pennsylvania study, published in *JAMA Internal Medicine*,¹⁰ found that providing ride-sharing services did not improve the no-show rate for primary care appointments among Medicaid patients in West Philadelphia. The no-show rate among patients offered free rides was 36.5 percent, compared with 36.7 percent for those who weren't offered free rides.

QUANTITATIVE RESEARCH METHODOLOGY



Researchers hypothesized that the financial benefit of NEMT is likely to be shown most clearly in the costs avoided due to increased utilization of lower cost medical services (e.g., primary care appointments). Missed preventive care or routine medical appointments may lead to deviations from clinical guidelines, and this can in turn lead to complications and more costly medical services, such as ED visits and hospitalizations.

Researchers developed a model using claims and social data provided by [Pareto Intelligence](#) and [Algorex Health](#) (respectively). The claims data are derived from Medicare Advantage and commercial insurance products.

Under this model, researchers established the dependent variable as the number of visits to a PCP per 100,000 residents. They established the primary independent control variable using a dataset indicating community access to a PCP per 100,000 residents..

The researchers selected three other independent variables: the number of vehicles per 1,000 residents, the percentage of households with no vehicles, and a proprietary, composite measure called a Transportation Access Score. Developed by Algorex Health, the Transportation Access Score indicates the level of difficulty for communities in accessing reliable transportation.

The Transportation Access Score is made up of the following data elements:

- Public transportation access
- Vehicle ownership
- Driver's license status
- Census block type
- Census block transit rank
- Commute time

The score is established on an ordinal scale ranging from 0-10, with the higher numbers indicating greater risk (or hardship).

All these variables represent zip-code level data.

DATA FINDINGS

The Transportation Access Score variable had a statistically significant relationship with the number of PCP visits at a 95 percent level of confidence. For every one unit increase in the Transportation Access Score (on the ordinal 1-10 scale), PCP visits dropped by 183 (or two percent). This indicates that the higher risk scores are correlated with a decline in primary care utilization.

Further, the independent variable measuring the percentage of households with no vehicle also held a statistically significant relationship with PCP visits.

For every one percent increase in the number of households without a vehicle, PCP visits declined by 59 (or 0.7 percent) per 1,000.

There was no statistically significant relationship between vehicles per capita and PCP visits, though results may be different for individual access to a vehicle as opposed to vehicle ownership.

When omitting the latter variable, the predictive power of the model substantively increased. RSquared (R^2) is a statistical measure that indicates how much variation of a dependent variable is explained by the independent variable(s) in a regression model. When vehicles per capita is omitted in this model, the R^2 is increased from 1.08 to 3.68 percent.

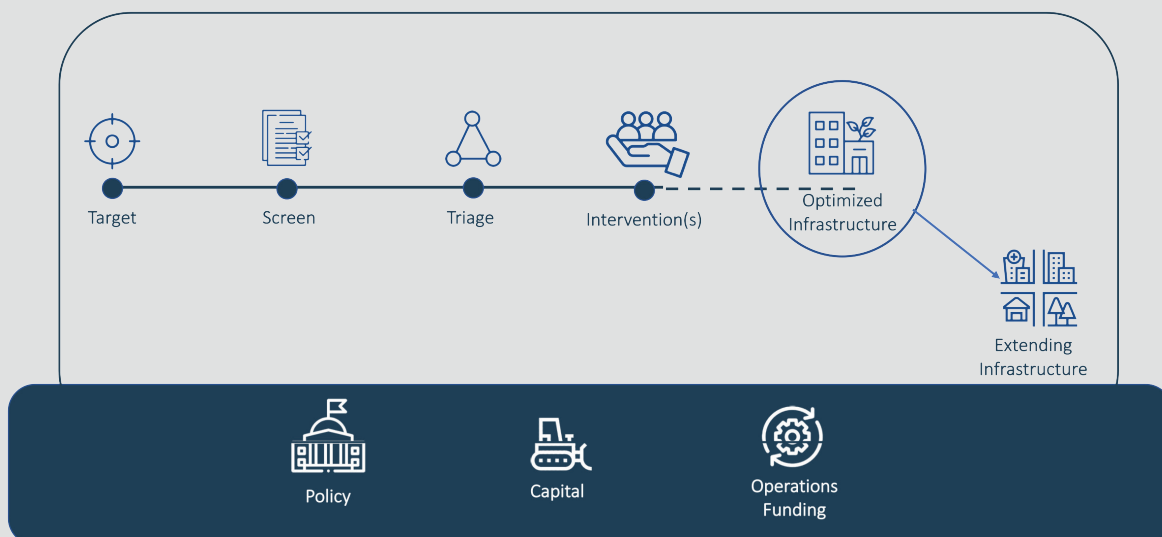
The primary limitation of the data used to conduct this analysis is the omission of Medicaid claims, which researchers hypothesize would show higher coefficients in the above correlations, strengthening the case for investing in NEMT infrastructure and resources that address transportation barriers and consequently enable access to primary care.

STRATEGIES STATES CAN USE TO ADDRESS TRANSPORTATION NEEDS

As described in the issue brief series introduction, researchers developed a framework that enables funding, implementation, and operationalization for such activities. States and other key stakeholders can utilize the activities in this framework to develop thoughtful and innovative approaches that address social gaps demonstrably linked to health outcomes.

Exhibit 1 illustrates the guiding framework for these issue briefs. The framework outlines a pathway of six activities and three foundational levers that govern the way these activities are funded, implemented, and operated. The structural approach to this model encourages states to problem-solve by examining the multi-faceted options at their disposal.

Exhibit 1: SDOH Strategy Framework



The following section provides specific considerations in closing NEMT gaps based on this framework.

Target

When assessing transportation as a barrier to accessing health care or other needed services, states can consider factors such as time and distance to the provider, vehicle ownership, existing transportation infrastructure, and walkability. States should focus on health equity as they determine target populations. As described in the literature review section, studies that explored health care access and transportation barriers among people of color and Whites suggested that access is superior for Whites even after controlling for socioeconomic status. Targeted populations may be determined by geographic community/neighborhood parameters, or by sub-population defined by race and ethnicity, or prevalence of chronic conditions such as diabetes, cardiovascular disease, or obesity. States can also use [Health Professional Shortage Area](#) designations when considering how to target NEMT investments.

Screen

States are increasingly requiring SDOH screening of Medicaid members, whether that be conducted by Managed Care Organizations (MCOs), intermediary care coordination entities, or directly by health care providers. States should ensure that questions assessing transportation needs are included in these screenings.

The Accountable Health Communities Health-Related Social Needs Screening Tool¹¹ offers sample questions that can be incorporated into a Medicaid specific screening tool:

Transportation

In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting things needed for daily living?

☐ Yes ☐ No

The tool also asks a disability related question which has implications for NEMT services.

Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (15 years old or older)

☐ Yes ☐ No

Once states incorporate screening questions such as these, they can then proactively support Medicaid beneficiaries identified as having limited access to reliable transportation with an intervention as described in the subsequent section.

Triage and Care Coordination

States must follow-up on SDOH screening with a systematized approach to triage and care coordination that connects Medicaid members with the NEMT services and needed community resources. States can accomplish this by establishing Primary Care Case Management programs (PCCM), requiring MCOs to

carry out these functions, and/or paying for intermediary organizations designated to engage with these community members. Such intermediaries can include:

Triaging Entities	Examples
Behavioral Health (BH) or Long-Term Services and Support (LTSS) Community Partners	Massachusetts' Community Partners Program ¹²
Community Based Organizations (CBOs)	Oregon Coordinated Care Organizations ¹³
Health Homes	State directed entities operating under Medicaid State Plan Amendment authorization ¹⁴

Care coordinators should be familiar with the state's NEMT policies and procedures so they can assist Medicaid beneficiaries in navigating the system. They can also help prepare the Medicaid beneficiary for what is expected of them, such as being ready on time for pick up or cancelling the ride in advance if anything changes with their appointment.

Interventions

State Medicaid programs already require NEMT, but states can improve the way they structure and manage their NEMT benefit. Research conducted by the Center for Health Care Strategies¹⁵ found NEMT services often adequately meet beneficiaries' needs for transportation to regularly-scheduled or recurring appointments. However, they fall short in addressing time-sensitive needs. In addition, given the size and complexity of NEMT programs, states typically face several obstacles in administering the benefit, such as customer service concerns, limited capacity to respond to unplanned transportation needs, fraud and abuse, and outdated approaches to providing and tracking services.

States can utilize third-party brokerage firms to coordinate transportation for beneficiaries in return for a capitated payment, deliver NEMT directly via fee-for-service reimbursements, or implement a mix of capitated brokerage, direct delivery, and public transit voucher programs as appropriate based on geographic and beneficiary needs.

Hospitals and health systems are important partners for states as they are uniquely positioned to offer NEMT solutions. In Cleveland, three major health systems sponsor a Bus Rapid Transit (BRT) to help patients reach their services.¹⁶ Denver Health Medical Center offers free bus tickets and cab vouchers and has an agreement with Lyft.¹⁷

Ride-sharing options may help states increase the number of transportation providers, and therefore expand access to NEMT overall. In recent years, there has been a proliferation in the use of companies such as Uber and Lyft – also known as “transportation network companies” (TNCs) – as NEMT transportation providers. Lyft has a service called “Lyft Pass for Healthcare”¹⁸ that enables Medicaid beneficiaries and others to request their own rides via their app, providing more flexibility for the patient.

However, as states consider increased use of transportation networks such as Uber or Lyft, it will be important to mitigate barriers of the “digital divide.” Given their heavy reliance on smartphone apps, these networks may have a disparate impact on some of the populations with the greatest need for NEMT, such as older adults, individuals with disabilities or cognitive challenges, and individuals in rural areas or other locations where broadband may be limited.

Alaska’s Medicaid program is unique in that much of the state’s NEMT expenditures are for air transportation to medical services. Requests for NEMT are made to a statewide call center, operated by an administrative services contractor hired by the state. Travel is scheduled with approved air carriers, and providers are paid directly by the state on a fee-for-service (FFS) basis.¹⁹ This may provide a model for replication in other states with large rural areas.

States can loosen restrictions on NEMT to make it more accessible for Medicaid beneficiaries to address related SDOH. For example, people who live in “food deserts,” meaning they lack access to grocery stores that sell fresh and nutritious food, could benefit from states allowing for NEMT to be used for accessing a grocery store. The CDC acknowledges that loneliness and social isolation are linked to poor health.²⁰ People who spend little or no time with friends and family increase their risk for many serious conditions, including heart disease, stroke, dementia, increased substance use, and depression. States can help address loneliness by allowing NEMT to be used by Medicaid beneficiaries to gather with family or friends, attend a religious congregation, or otherwise take part in a social event.

States may benefit from improving coordination of NEMT with public transportation and provide vouchers that allow patients to access public transportation for free or at a reduced cost. Another innovative approach is allowing mileage reimbursements to support patients that have friends or family take them to a medical appointment.

Optimized Infrastructure

State NEMT programs could benefit from requiring brokers, vendors, and/or MCOs to use more technologically advanced data collection systems to improve program oversight and efficiencies through activities ranging from route development, scheduling, providing automated ride reminders to beneficiaries, and determining the least expensive mode of transportation. States may want to consider increasing investments in their own NEMT information technology infrastructure to strengthen existing programs and better understand utilization patterns. GPS tracking and other technologies may help improve timeliness, efficiency, and beneficiary satisfaction with NEMT services.

States may also want to create more opportunities and processes for stakeholder engagement, particularly engagement with NEMT users, to continually gauge satisfaction with the NEMT services and identify opportunities for improvement. Medicaid agencies can create an advisory board or oversight entity to continually monitor the performance of brokers and vendors of NEMT services.

Extending Infrastructure

State Medicaid agencies can partner with public health and local, regional, or state transportation authorities to plan for transportation infrastructure needs that impact Medicaid beneficiaries or Medicaid eligible populations. Public health can play a vitally important role in this discussion by highlight the importance that transportation plays in addressing SDOH and promoting health equity. At the community level, inclusive transportation decision-making, planning, operations, and investment can consider the impact of transportation on improving health by using decision tools like the Transportation Health Impact Assessment Toolkit,²¹ which was developed as part of Healthy People 2020.

Policy

Federal Medicaid regulations, including 42 CFR 431.53,²² require that each state's Medicaid State Plan ensures necessary transportation for clients to and from providers to receive covered services and describes methods that the agency will use to meet this requirement.

The Deficit Reduction Act of 2005²³ granted states greater flexibility in providing NEMT, and final rules issued in 2008²⁴ allowed for states to obtain Medicaid matching funding at the federal medical assistance percentage (FMAP) when administering the NEMT services using transportation brokers.

More recently, the Consolidated Appropriations Act, 2021 (P.L. 116-260)²⁵ codified NEMT requirements into Section 1902(a)(4) of the Social Security Act.

While the federal policy framework described above dictates that states are required to provide NEMT, there is considerable flexibility at the state level. The scope of benefits varies state by state. Further, to qualify for NEMT services, states may require that Medicaid beneficiaries have an unmet transportation need.²⁶ A qualifying unmet need can include:

- not having a valid driver's license,
- not having a working vehicle available in the household,
- being unable to travel or wait for services alone, or
- having a physical, cognitive, mental, or developmental limitation.

NEMT services may be managed and financed through FFS, a third-party broker, or Medicaid managed care. Transportation expenses eligible for federal Medicaid matching funds include a broad range of services, such as taxi cabs, public transit buses and subways, and van programs.

CONCLUSION

Transportation is a key SDOH. Medicaid NEMT can be a valuable resource to ensuring Medicaid beneficiaries can access preventive care, medical appointments, pharmaceuticals, and other primary sources of care. Furthermore, research shows that NEMT can save states money by reducing overall health care costs and improving health outcomes. So, what should states do?

Key actions states can take include:

- Screen for transportation barriers, triage needs, and connect patients with care coordinators or other forms of assistance in navigating NEMT services.
- Explore innovative approaches to meeting transportation needs such as ride-sharing programs and making reimbursement available to family members and friends who provide rides for Medicaid beneficiaries.
- Improve NEMT services through enhanced technological systems, stakeholder engagement processes, and oversight at the state level.
- Augment NEMT through community partnerships (e.g., public health, health and hospital systems, transportation authorities).

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