ROADS TO WELLNESS

A SYSTEMS ANALYSIS OF CRUCIAL LINKS BETWEEN TRANSPORTATION AND HEALTH IN WEST VIRGINIA

WestVirginiaUniversity.

Bridge Initiative for Science and Technology Policy, Leadership, and Communications

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This policymaker's guide is a product of West Virginia University's (WVU) Bridge Initiative for Science and Technology Policy, Leadership, and Communications, and Marshall University's Division of Community Health in the Department of Family Medicine at the Joan C. Edwards School of Medicine.

WVU's Bridge Initiative identifies challenges and opportunities facing West Virginia and provides a bridge between the science and technology expertise of WVU faculty and staff and West Virginia's national, state, and local policymakers. In our work, we gather the views of stakeholders throughout the state to ensure we are making recommendations that serve the needs of West Virginians. This work supports WVU's critical land-grant mission to lead "transformation in West Virginia and the world through local, state, and global engagement."

The Division of Community Health at Marshall's Joan C. Edwards School of Medicine is comprised of experts engaged in eight focus areas, including chronic disease management, coalition building, a community health worker program, expanded school mental health support, substance use disorder response, as well as program evaluation and data analytics. Staff work to improve health outcomes across eight Appalachian states, with a particular focus on West Virginia.

The project leadership team would like to thank the West Virginians who served on the advisory committee (Appendix A), joined the roundtables (Appendix C), contributed as survey respondents (Appendix D), and participated in the West Virginia Rural Health Association town halls for their valuable time, insights, and perspectives. We would also like to thank the staff of the model organizations throughout Appalachia who responded to our requests for additional information on their programs.

In addition, we want to thank the many West Virginia University students (Appendix A) who supported the Bridge Initiative in collecting quantitative and qualitative data and writing the Science and Technology Notes that summarized and synthesized information for the advisory committee and roundtable meetings as well as the policymaker guide.

Appreciation goes to the Claude Worthington Benedum Foundation for essential financial support that strengthened qualitative and quantitative data analysis and fostered meaningful community engagement, leading to the development of policy options that, if enacted, can ultimately advance the health of West Virginians.

Cover Photo Credits: View of New River Gorge from Grandview (National Park Service)

EXECUTIVE SUMMARY

West Virginians seeking health and medical care currently face significant challenges due to the combination of high rates of chronic health conditions and the state's limited transportation options, particularly in rural and underserved communities. Many patients struggle to attend regular appointments and access essential healthcare services due to lengthy travel distances, a shortage of healthcare providers, inadequate public transit systems, and poor broadband connectivity. These issues can lead to missed appointments, delayed care, and worsening health outcomes, hindering not only individual well-being but also the state's economic vitality.

Stakeholders throughout West Virginia—patients, healthcare providers, transportation organizations, and community groups—have emphasized the urgent need for solutions. Public input revealed overwhelming support for targeted strategies such as providing mobile health services, delivering essential items to patients' homes, and ensuring reliable contact with transportation planners. Other high-priority measures include building robust community-based transit options, training healthcare workers and community health workers to assist with transportation logistics, and broadening loan repayment programs to attract and retain medical professionals.

A range of policy options emerged from stakeholder roundtables, focusing on four key themes: coordinating and creating transportation programs; refining Medicaid Non-Emergency Medical Transportation; expanding insurance coverage and telehealth reimbursement; and strengthening financial incentives to reduce workforce shortages. While promising, each option must be weighed against the following criteria: effectiveness, efficiency, equity, and political acceptability. Implementation will require careful coordination, sustainable funding, and attention to rural infrastructure needs such as broadband expansion.

Given the complexity, the report recommends convening state officials from both transportation and healthcare agencies to develop a comprehensive implementation plan. This plan should identify priority areas, engage a broad set of organizations, ensure clear communication channels, set measurable goals, and establish an iterative review process for continual improvement. By undertaking these steps, West Virginia can build a more integrated, responsive system that ensures patients with chronic health conditions have the reliable transportation they need to achieve better health outcomes and a higher quality of life.

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1. INTRODUCTION

The Roads to Wellness (RTW) project brought together experts and multi-sector stakeholders from throughout West Virginia to develop a policymaker guide that provides options to address the following question: What actions, if any, should policymakers take to respond to concerns that insufficient transportation options are reducing the quality and quantity of healthcare received by West Virginians with chronic health conditions?

The policymakers to whom the answer to this question is addressed are leaders in a wide range of organizations, including federal, state, and local governments, as well as for-profit and non-profit organizations. Both healthcare and transportation are intertwined with all of these organizations in complex systems of funding and providing services to West Virginians.

Transportation and health are multifaceted issues. West Virginians who need emergency care during a heart attack, for example, are impacted by existing transportation systems in different ways than West Virginians who have chronic health conditions (CHC), such as congestive heart failure, diabetes, chronic obstructive pulmonary disease (COPD), and chronic mental health conditions, like depression and anxiety. In this study, we focus on CHCs because they impact the greatest number of West Virginians. In some cases, West Virginians face the highest rates of these health challenges in the U.S.

FUNDING AND LEADERSHIP

This project, funded by the Benedum Foundation, is jointly led by West Virginia University's (WVU) Bridge Initiative for Science and Technology Policy, Leadership, and Communications and Marshall University's Division of Community Health in the Department of Family Medicine at the Joan C. Edwards School of Medicine.

Project leaders include Dr. Joan Centrella, Director, Bridge Initiative for Science and Technology Policy, Leadership, and Communications; Dr. Deb Koester, Assistant Professor and Director, Division of Community Health, Marshall University; and Dr. Deborah D. Stine, Study Director, Consultant to WVU, and Founder of the Science & Technology Policy Academy. Additionally, an advisory committee of health and transportation experts provided guidance on study activities and content at 5 meetings throughout the year. A list of committee members can be found in Appendix A, along with a full list of project staff.

STUDY GOALS AND ACTIVITIES

The RTW project had five main objectives:

1. Develop an evidence-based stakeholder consensus that West Virginia policymakers can use to improve transportation-health policies and strategies.
2. Increase collaboration among transportation and health experts and stakeholders.
3. Identify transportation-health-related systemic and structural inequities.
4. Enhance knowledge of transportation-health challenges and opportunities.
5. Provide clear pathways for future transportation-health initiatives.

To achieve the goals above, the RTW project team undertook the following activities:

- ➢ Hosted three virtual roundtable discussions with West Virginia transportation and health stakeholders and policymakers to brainstorm policy options.
- ➢ Developed a systems analysis that identified the key health and transportation activities throughout West Virginia to enhance understanding of the existing network.
- ➢ Wrote five Science and Technology (S&T) Notes that brought together the available information and data for West Virginia as background for the roundtable discussions.
- ➢ Gather additional information on the roundtable policy options by identifying existing organizations in West Virginia and other Appalachian states that implemented these ideas to understand how they operated and

- Described the existing transportation and health systems through a graphical logic model that brought together the inputs, activities, outputs, and outcomes and the potential enhancement of that model should policymakers decide to implement potential options.
- Synthesized the information above into this policymaker guide, providing a strategic plan for actions that West Virginia policymakers could take to respond to concerns about insufficient transportation options, which potentially reduce the quality and quantity of healthcare received by West Virginians with chronic health conditions.

The results of this information and data collection can be found in Chapter 2 on West Virginia Challenges in Healthcare and Transportation.

STAKEHOLDER PERSPECTIVES

The Roads to Wellness (RTW) project team gathered stakeholder perspectives through roundtables, town hall meetings of transportation and health experts, and individual conversations with patients and their family members.

Roundtables

The RTW project brought together a group of about 30 experts and multi-sector stakeholders, with expertise in health and/or transportation from across West Virginia in three virtual roundtable discussions held April 10–11, 2024. A list of participants can be found in Appendix A, and the results of the roundtable discussions can be found in Chapter 3 on West Virginia Opportunities in Healthcare and Transportation. Each roundtable had a specific focus, as described below.

ROUNDTABLE 1: HEALTH ON THE MOVE: BRIDGING TRANSPORTATION AND CARE THROUGH TELEMEDICINE, MOBILE CLINICS, AND INTEGRATED MODELS IN WEST VIRGINIA

The "Health on the Move" roundtable participants explored the critical role of transportation in healthcare delivery to West Virginians with chronic health conditions (e.g., congestive heart failure, diabetes, COPD, depression, and anxiety).

Participants discussed policy options that could provide opportunities to enhance the use of **telemedicine,** offering a viable alternative for patients in remote areas of West Virginia by eliminating the need for physical travel; **mobile clinics,** serving West Virginia communities with limited transportation options and bringing essential healthcare services directly to those in need; **integrated care models,** partnering with transportation organizations to facilitate diverse and flexible patient care settings (e.g., Uber, Lyft); and other actions to respond to the insufficient local healthcare workforce, providing improved primary and specialty care.

By exploring these critical elements of healthcare in West Virginia, this roundtable highlighted innovative strategies and policy initiatives aimed at leveraging transportation to enhance healthcare access and delivery to bridge transportation and care.

ROUNDTABLE 2: COUNTRY ROADS TO PREVENTION: INTEGRATING TRANSPORTATION FOR ENHANCED POPULATION AND COMMUNITY HEALTH IN WEST VIRGINIA

The “Country Roads to Prevention” roundtable participants delved into how transportation options for West Virginians (or the lack thereof) directly impact population and community health, particularly through the lens of health promotion and disease prevention strategies.

Participants discussed the pivotal role of transportation in facilitating primary prevention efforts, such as enabling consistent access to health check-ups, screening tests, and vaccinations. Also explored was the critical importance of secondary prevention, where consistent and cost-effective transportation options can be lifesaving; these options can ensure that individuals with existing health conditions receive timely care and management, thereby avoiding complications and preventing the worsening of their conditions.

Ultimately, this roundtable shed light on policy options and practical measures that could strengthen the ties between transportation and healthcare, ultimately supporting community-wide health and wellness for all West Virginians.

ROUNDTABLE 3: BRIDGING THE HEALTH DIVIDE: THE INTERSECTION OF TRANSPORTATION AND HEALTH EQUITY IN WEST VIRGINIA

The "Bridging the Health Divide" roundtable participants explored how West Virginians' access to transportation is a fundamental social determinant of health, impacting health equity across various communities. (The U.S. Department of Health and Human Services defines social determinants of health as "conditions and environments in which people are born, live, learn, work, play, worship, and age.") Participants examined the challenges of accessibility in rural areas of West Virginia, where scarce transportation options can severely limit access to essential healthcare services, nutritious food, and opportunities for physical activity, further entrenching health disparities. Discussions focused on the critical role that reliable transportation plays in economic stability, emphasizing its essential role in securing employment and, by extension, healthcare access for West Virginians.

The roundtable also addressed intersections with education, including literacy and digital literacy, and with West Virginians' ability to navigate transportation and healthcare systems.

By examining these aspects of healthcare in West Virginia, this roundtable identified potential policies and practical measures to address social determinants of health through transportation solutions intended to break down barriers and move towards greater health equity for all West Virginians.

Stakeholder Feedback

The team collected anecdotal feedback from stakeholders on the potential policy options identified during the roundtable discussions. This feedback was collected through surveys, interviews, and a discussion at the West Virginia Rural Health Association annual meeting in November 2024.

More detailed information about the methods used and the results are provided in Appendix D and discussed in Chapter 5.

Additionally, throughout this policymaker guide, you will see boxes with anecdotes and other quotes from interviews that reflect the real-world experiences of West Virginians in their attempts to access transportation to healthcare appointments.

EVALUATION CRITERIA FOR POLICY OPTIONS

When analyzing the policy options identified and prioritized by roundtable participants, the RTW team gathered information and data to assess those options for policymakers' consideration using the "4E" criteria (see Figure 1-1 on next page).

One critical evaluation criterion is **effectiveness:** the degree to which the societal goal is likely to be achieved. If a policy is not effective, a case cannot be made for public investment. However, policymakers need to evaluate more than effectiveness alone to decide whether or not to proceed with a policy.

Policymakers and the public also need to decide if the price is worth the payoff, for which they must understand the policy's **efficiency:** the cost to implement the policy relative to its potential for achieving the societal goal. Public resources are always limited, so they must be used wisely.

Another criterion for assessing policy options is **equity:** the fairness of the policy relative to the distribution of benefits and burdens once the policy is implemented.

Related to equity, **ease of political acceptability** is the degree of support and opposition to the policy—not only by policymakers but also by members of the public and interest groups. The ease of political acceptability impacts the likelihood of the policy ever being enacted into law as well as the degree to which it is implemented.

By synthesizing this "4E analysis," together, policymakers and the public can develop a holistic and balanced perspective that can enhance their decision-making. This, in turn, can lead to policies that are more likely to be sustainable on a long-term basis, should they meet societal needs.

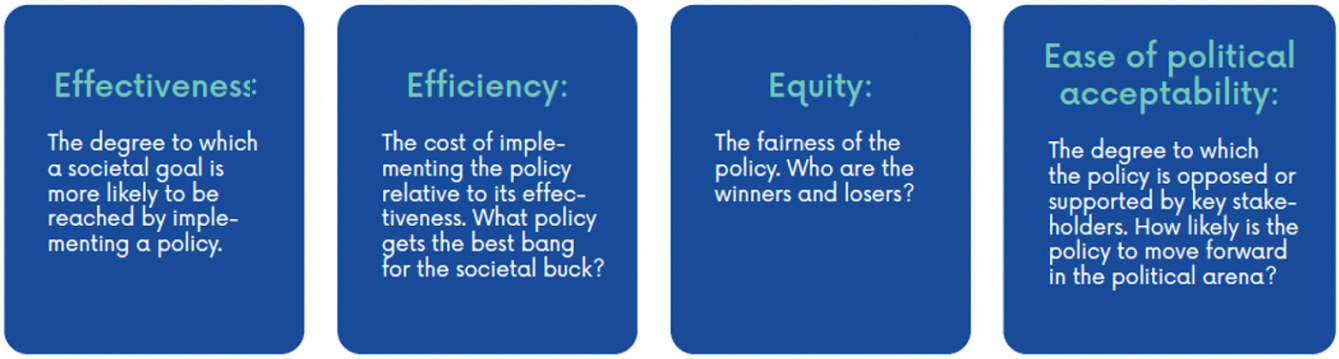


Figure 1-1: Criteria Used to Analyze Potential Policy Options (West Virginia University, 2024; Stine, D., *From Expertise to Impact: A Practical Guide to Informing and Influencing Science and Technology*, 2024.)

STRATEGIC PLAN FRAMEWORK

Based on all of the perspectives, information, and data described above, in Chapter 5, we propose the framework for a strategic plan to address the question with which this chapter opened:

What actions, if any, policymakers should take to respond to concerns that insufficient transportation options are reducing the quality and quantity of healthcare received by West Virginians with chronic health conditions?

The strategic plan framework provides prioritized direction, resource allocation, and specific options for the broad array of West Virginia policymakers who influence transportation and public health policies in the state.

2. CHALLENGES IN HEALTHCARE AND TRANSPORTATION IN WEST VIRGINIA

This chapter brings together information about the challenges West Virginians face at the intersection of transportation and healthcare. Some West Virginians, particularly those in rural and underserved communities, lack access to personal vehicles, public transit systems, nearby medical facilities and healthcare providers, and internet access to utilize telehealth alternatives. West Virginia's rugged terrain exacerbates all of these challenges.

FREQUENT TRANSPORTATION TO MEDICAL APPOINTMENTS FOR WEST VIRGINIANS WITH CHRONIC HEALTH CONDITIONS

West Virginians have significantly higher rates of multiple chronic health conditions (CHCs) compared with other Americans (see Figure 2-1). According to the Partnership to Fight Chronic Disease, a non-profit focused on healthcare spending, over half a million West Virginians (28.5% of the population) have two or more CHCs.

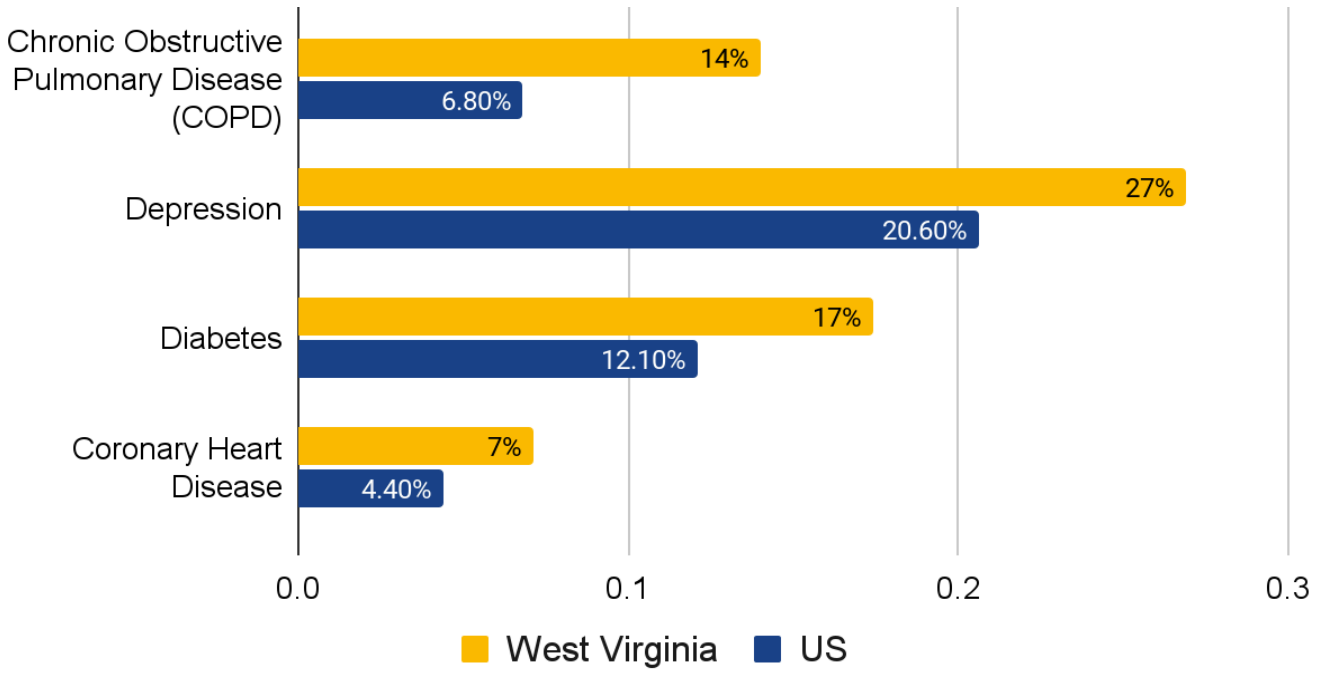


Figure 2-1: Median Prevalence of Chronic Health Conditions in West Virginia Population Relative to the United States Population, 2022 (West Virginia University/Marshall University Roads to Wellness Study, 2024; Centers for Disease Control and Prevention [CDC] Behavioral Risk Factor Surveillance System [BRFSS])

Patients with CHCs require a vast individualized care network that increases in complexity with each additional condition (Figure 2-2). Individuals with one chronic condition require nearly twice as many medical visits per year (11.7) as patients without a chronic condition (6.6), and that ratio increases with each additional health condition.

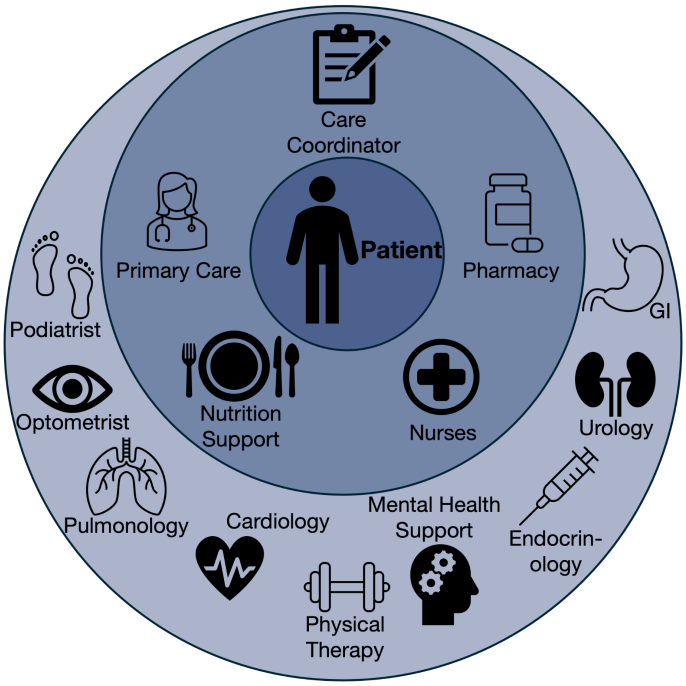


Figure 2-2: Care Network for a Patient with Chronic Conditions (West Virginia University/Marshall University Roads to Wellness Study, 2024)

Regular appointments are critical for managing existing conditions and early intervention in developing conditions. Patients with diabetes, COPD, and coronary heart disease, for example, are recommended to see a primary care provider at least 2–4 times per year.

Transportation is a well-established community driver of health linked to numerous rural health disparities; this is the case for many West Virginians with CHCs, particularly those in rural areas, who face a number of transportation challenges that may prevent them from receiving necessary medical care. Lack of transportation access (including public transit and personal vehicles) may lead West Virginians to forgo healthcare services or management altogether.

BOX 2-1: REAL WORLD CHALLENGES: RELIABILITY, COORDINATION, ACCESSIBLE ALTERNATIVES

BACKGROUND

Mrs. A lives with her husband in a remote area of McDowell County without internet access. She has limited income, poor health, poor literacy, and no internet access. She also uses a wheelchair.

Dr. Z is Mrs. A's primary care provider. She would like to see Mrs. A four times a year to effectively manage her chronic health condition and symptoms.

Dr. Z noticed that she had not seen Mrs. A in ten months, though Mrs. A had been scheduled for appointments consistently.

Some of Mrs. A's medication refills required blood work, which would now be long past due. Dr. Z began to worry that Mrs. A would run out of important medications, so she began to investigate to find out why Mrs. A had been missing her appointments.

Dr. Z found out that Mrs. A faced several transportation challenges:

RELIABILITY

Mrs. A's husband used to take her to appointments, but since his car broke down, the family was left with no vehicle, forcing Mrs. A to seek alternative transportation. Upon investigation, Dr. Z discovered that Mrs. A's husband canceled the appointments at the last minute when their Modivcare transportation did not arrive. This happened at least four consecutive times.

COORDINATION OF SERVICES

After learning the reason for Mrs. A's absence, Dr. Z filed a formal complaint with Modivcare. She was told that the drivers had never arrived to pick up Mrs. A for her recent appointments because they could not find her home.

ACCESSIBLE ALTERNATIVES

Mrs. A did not know there were any other NEMT services available in her area because Modivcare was the only one she had seen in advertisements.

Dr. Z looked into alternate transportation options on behalf of Mrs. A and was able to coordinate with STAT EMS, another NEMT provider, to get Mrs. A to future appointments on time.

Lack of Public Transit in 17 West Virginia Counties

West Virginia's public transit providers do not cover the entire state, which limits healthcare access for many West Virginians. According to a 2023 West Virginia Office of the Legislative Auditor report, 17 of West Virginia's 55 counties do not have access to regular public transit services, and ridership has decreased where services are available since the COVID-19 pandemic began.

Figure 2-3 (right) indicates the availability of public transportation providers in urban and rural areas. The gray areas are where no public transportation options are available.

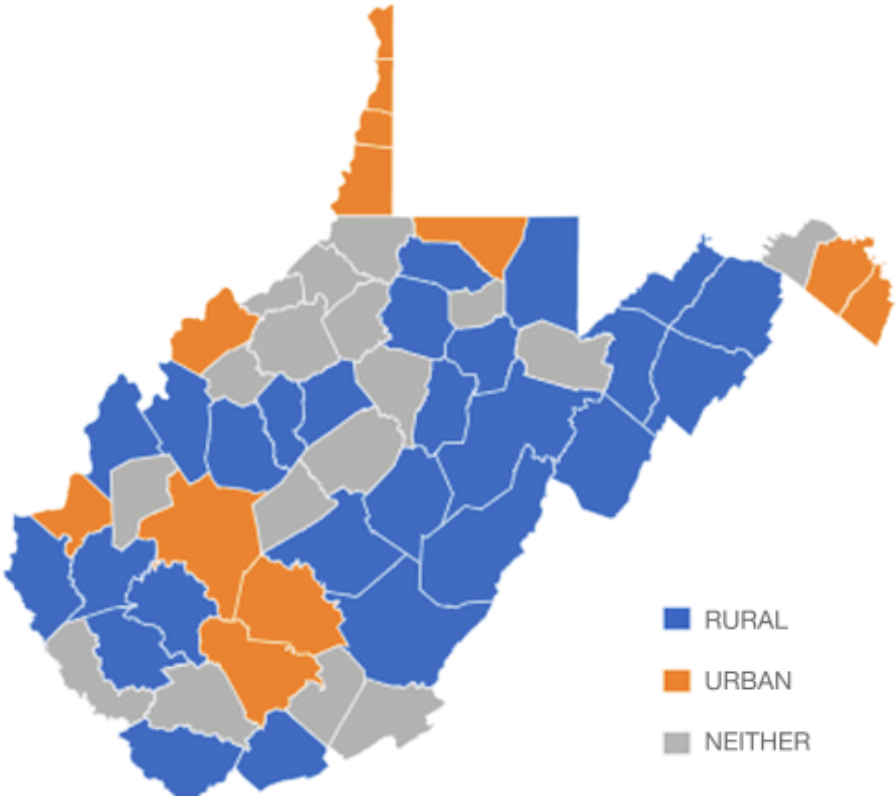


Figure 2-3: Types of Transit Authority in Each West Virginia County, 2022 (West Virginia Office of the Legislative Auditor)
Note: For county name abbreviations, see Figure 2-4 below.

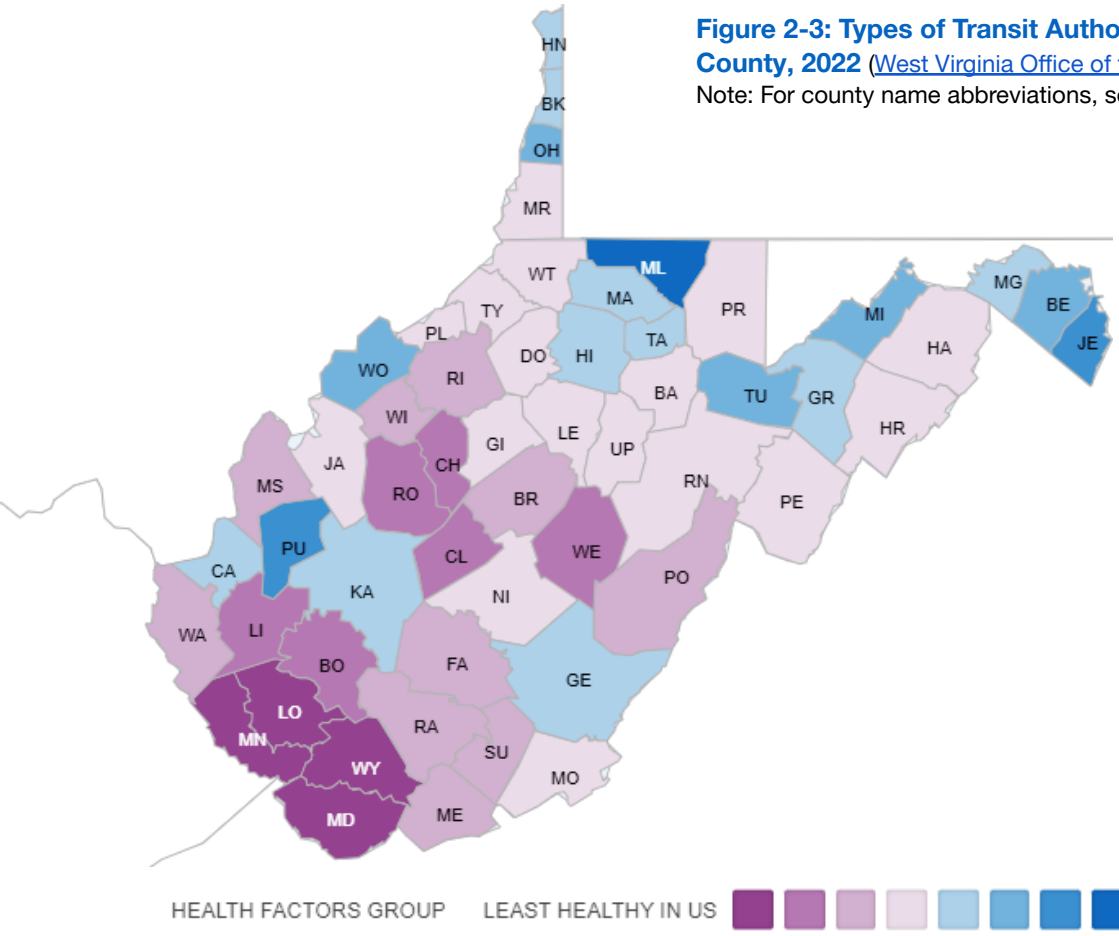
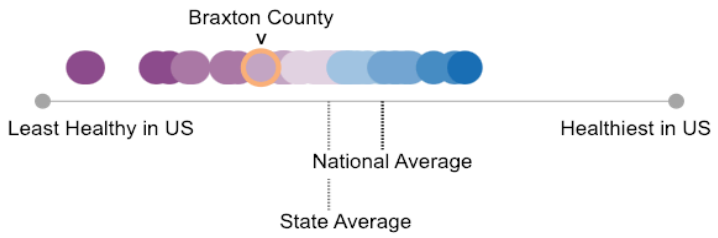
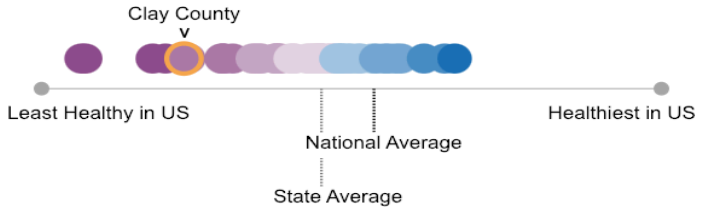
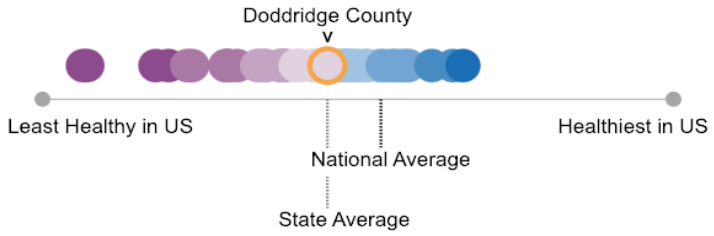
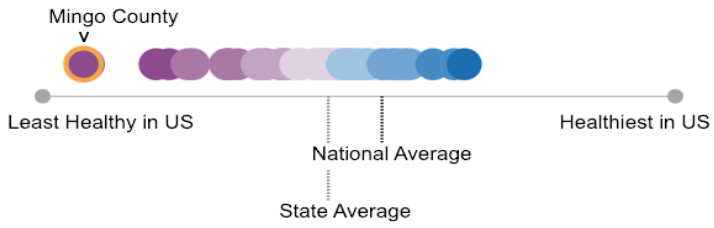


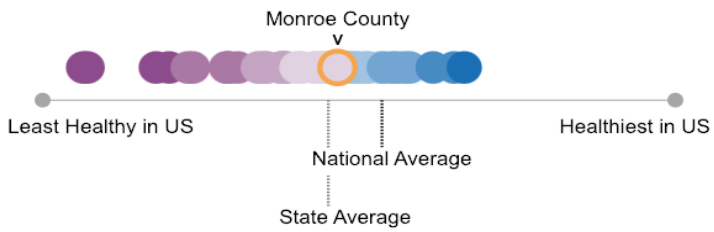
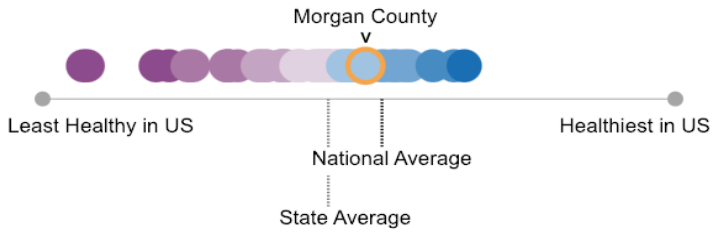
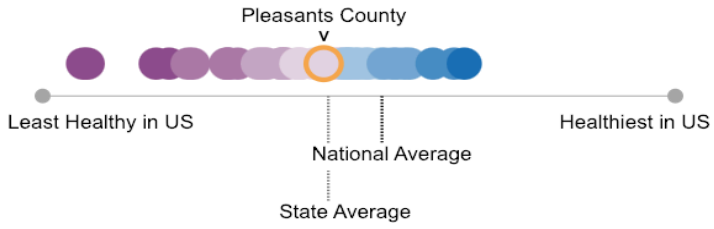
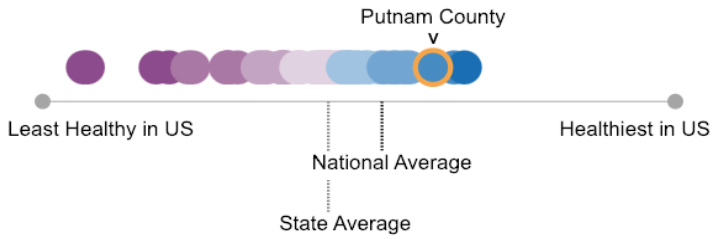
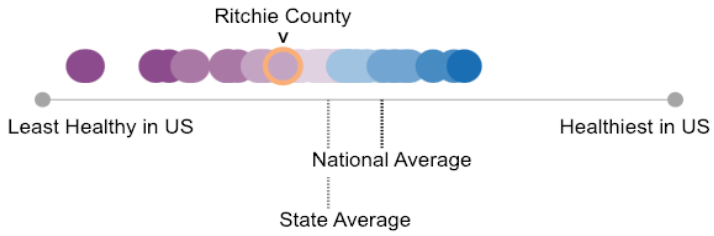
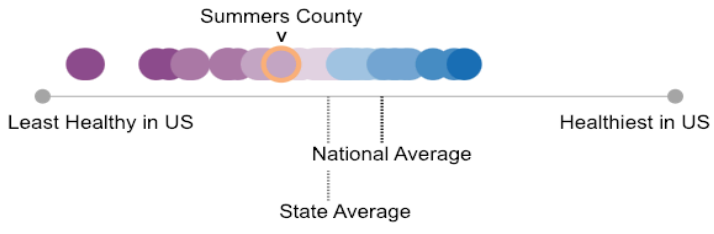
Figure 2-4 (left) shows the degree to which West Virginians are healthy by county. It is possible to observe the overlap between the two maps, for example, when looking at McDowell and Wyoming Counties, where patients facing transportation hurdles are more prone to being hospitalized or resorting to emergency care services.

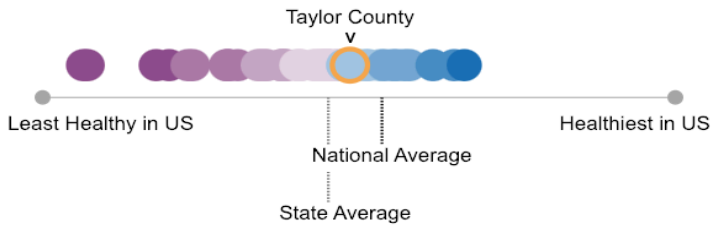
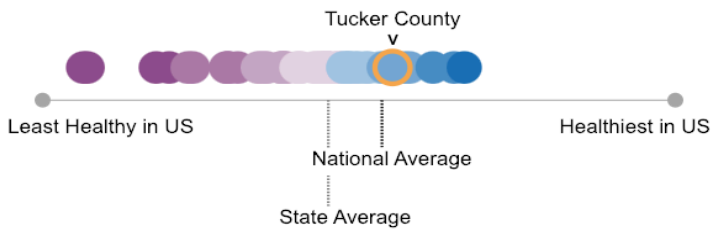
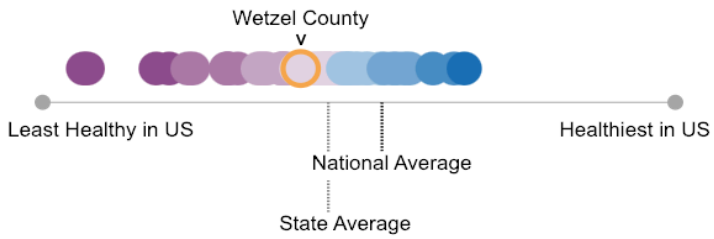
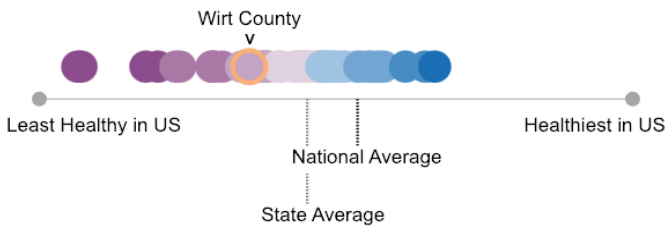
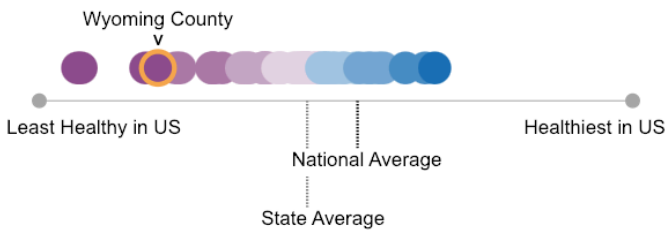
Figure 2-4: West Virginia Health Factors Map, by County, 2024 (County Health Rankings, 2024.)
Note: Table 2-1 provides a list of all WV counties and abbreviations used on this map.

Table 2-1 (below) combines information from the previous two figures, highlighting the West Virginia counties that do not have public transit options, as well as their populations and health statuses. Based on this data, 12.8% of the West Virginia population (231,365) resides in these counties. 5.9% live in counties where the population is less healthy than most West Virginians. Of the 15 counties in the table, the following counties without transit fall into this category: Braxton, Clay, Mingo, Ritchie, Summers, Wetzel, Wirt, and Wyoming.

Table 2-1: Population and Health Status of West Virginia Counties Without Public Transit, 2024
Data Sources: The West Virginia counties without public transit information were collected from the West Virginia Department of Transportation. The West Virginia population information was collected from the United States Census Bureau. The West Virginia health status by county information was collected from the County Health Rankings.

WEST VIRGINIA COUNTY WITHOUT PUBLIC TRANSIT	POPULATION (2024)	HEALTH STATUS, BY COUNTY, 2024
Braxton (BR)	12,447	
Clay (CL)	8,051	
Doddridge (DO)	7,808	
Mingo (MN)	23,568	

Monroe (MO)	12,447	
Morgan (MG)	17,063	
Pleasants (PL)	7,653	
Putnam (PU)	57,440	
Ritchie (RI)	8,444	
Summers (SU)	11,959	

Taylor (TA)	16,705	
Tucker (TU)	6,762	
Wetzel (WT)	14,442	
Wirt (WI)	5,194	
Wyoming (WY)	21,382	

According to the U.S. Department of Transportation, even when public transportation is available to West Virginians, there are several challenges involved:

> *West Virginians who take public transportation spend an extra 76.7% of their time commuting and non-White households are 4.9 times more likely to commute via public transportation. 30.9% of transit vehicles in the state are past useful life.*

Some of these challenges will hopefully be mitigated by investments related to the Bipartisan Infrastructure Law, due to which West Virginia is expected to receive approximately $195 million over five years to improve public transportation systems throughout the state.

BOX 2-2: THOUGHTS FROM THE FRONTLINE OF TRANSPORTATION AND HEALTHCARE IN WEST VIRGINIA: TRANSPORTATION RELIABILITY

"[Patients] often say that the bus schedule cannot get them at the time they need and that Modivcare does not show up when they say they will or call. The patients often get transportation through case managers. [I would like it] if Modivcare came when they were supposed to rather than not showing up or calling the patient."

Lack of Private Vehicle Access for About 8% of West Virginians

About 8% of West Virginia's households do not own a vehicle, which means private transportation is not always an option. Due to health challenges, some individuals may not be able to drive even if they own a vehicle. For example, one national poll found that about 1 in 5 people over 65 do not drive, nor do over 80% of younger people with disabilities. The poll also found that about 50% of older adults in rural areas indicate that they do not have good, affordable transportation options and lack a place they can go to find transportation options. Figure 2-5 (right) provides an assessment of transportation insecurity for each West Virginia county.

Table 2-2: West Virginia Transportation Insecurity, by Vulnerability (US DOT Transportation Community (TC) Explorer, accessed December 11, 2024.)

Transportation Insecurity

50%

35% of 546 tracts	35% of 1.8M residents
Destination Access Vulnerability	50%
Vehicle Access Vulnerability	47%
Transportation Cost Burden	47%
Traffic Fatality Burden	54%

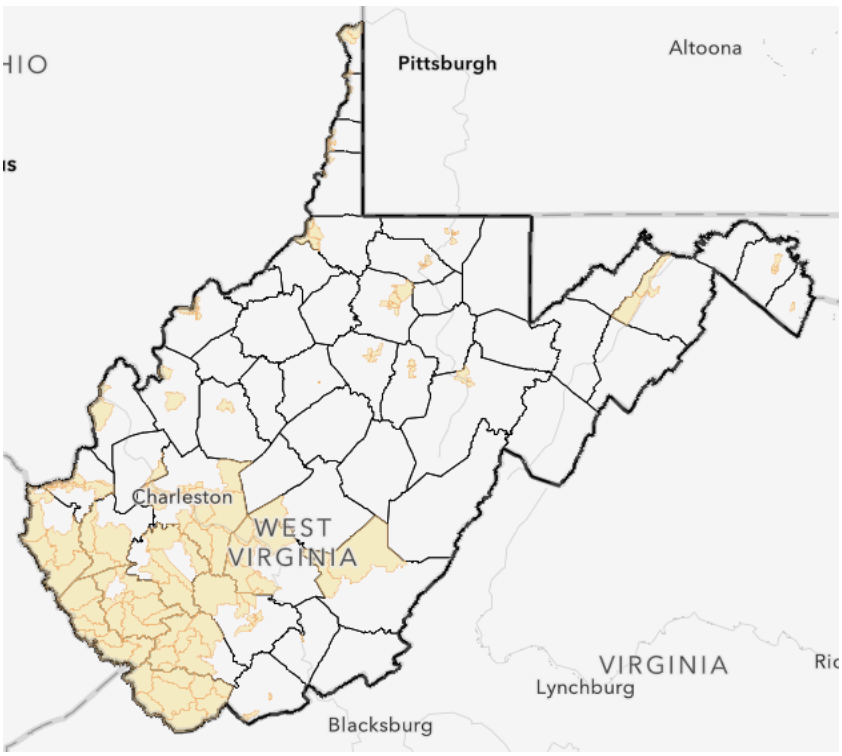


Figure 2-5: Transportation Insecurity, by West Virginia County (US DOT Transportation Community (TC) Explorer, accessed December 11, 2024.)
Note: Areas in yellow have high transportation insecurity as determined by the U.S. DOT.

Transportation insecurity is defined by the U.S. Department of Transportation as "The disadvantage experienced when people are unable to get to where they need to go to meet the needs of their daily life regularly, reliably, affordably, and safely." As shown in Table 2-2, West Virginia has an overall transportation insecurity of 50%. It is based on four criteria:

1. "Destination Access Vulnerability measures access to essential destinations, such as public transit, medical facilities, education, groceries, and jobs. Higher scores reflect project areas where residents have less access to essential destinations within 30 minutes of driving, walking, or biking.

2. Vehicle Access Vulnerability measures whether residents in the project area have access to a vehicle and/or have the ability to drive. Higher scores reflect project areas where households are less likely able to drive to essential destinations.

Note that high scores in both Vehicle Access Vulnerability and Destination Access Vulnerability indicate a disadvantage.

3. **Transportation Cost Burden** measures the share of income that households in the project area spend on daily transportation. Higher scores reflect project areas where households spend a higher percentage of their income on transportation.

4. **Traffic Fatality Burden** measures traffic fatalities (both motorist and non-motorist) using the NHTSA's Fatality Analysis Reporting System (FARS) data for 2018–2022. Higher scores reflect project areas with a higher number of traffic fatalities."

BOX 2-3: THOUGHTS FROM THE FRONTLINE OF TRANSPORTATION AND HEALTHCARE IN WEST VIRGINIA: LACK OF PERSONAL TRANSPORTATION

"Family members find it difficult to travel to patients and loved ones due to lack of personal transportation. This is particularly challenging when the patient needs to be transferred from one facility to another and that facility is sometimes two or three hours away. A WVU shuttle to and from sister hospitals used to be available but is no longer available. Patients and families found this extremely helpful and comforting. [Patients need] transportation options to specialty services not available locally."

Rural Terrain and Increased Transit Time

West Virginia's rural terrain can lengthen travel times to medical providers, presenting another unavoidable challenge that many of the state's residents must face when seeking healthcare.

Many homes in West Virginia are not located within a 30-minute drive of a primary care provider (Figure 2-6). In the map on the right, the areas represents areas of the state where there are zero primary care facilities within a 30-minute drive; respectively, the red, pink, and white represent areas with one, two, or more than two facilities within a 30-minute drive.

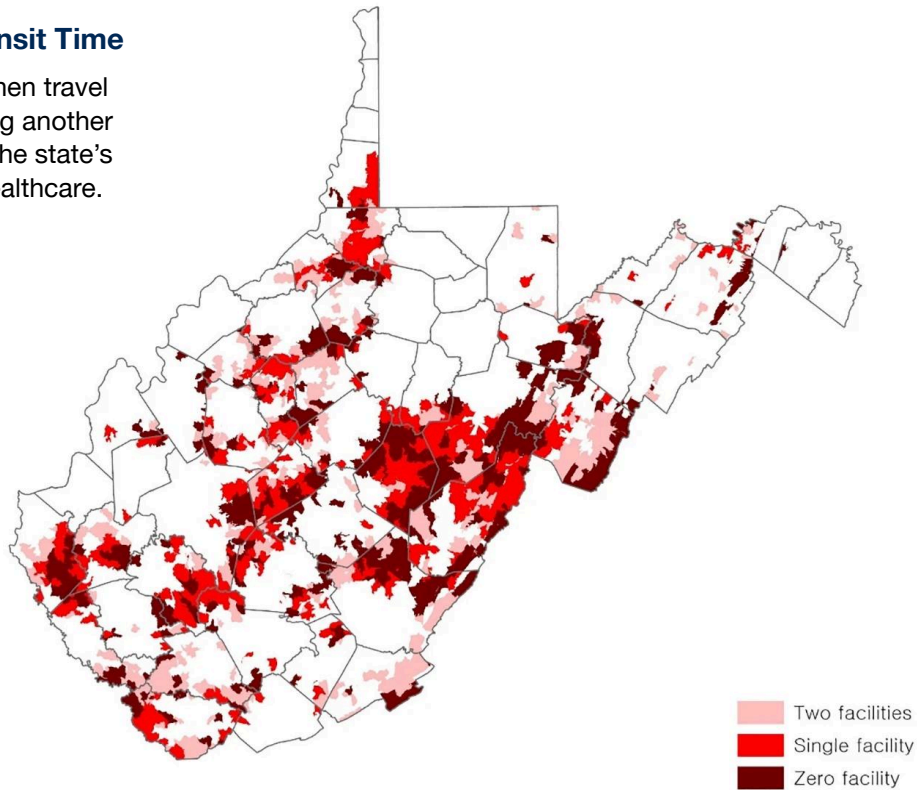


Figure 2-6: Primary Care Facilties Located within a 30-minute Drive Time
(Challenging terrains: socio-spatial analysis of Primary Health Care Access Disparities in West Virginia, 2022.)

Ineffective Non-Emergency Medical Transportation Services for Rural Residents

Two existing programs that may provide assistance with transportation are Medicaid and Medicare. Eligibility for Medicaid is determined by income, while eligibility for Medicare is determined by age or disability. Individuals may have healthcare support under both Medicaid and Medicare.

The federal government manages Medicare, while states manage Medicaid. In 2021, about 25% of West Virginians (the second-highest percentage in the United States) were on Medicare. Approximately 26.2% of West Virginians (the sixth-highest percentage in the United States) are enrolled in Medicaid as of 2023. Of the 25% of West Virginians on Medicare in 2021, about 21% were eligible for both Medicare and Medicaid.

Despite West Virginia's relatively small population, it had the nation's sixth-highest number of annual Non-Emergency Medical Transportation (NEMT) ride days and the nation's thirteenth-highest proportion of beneficiaries who used NEMT services in 2021. West Virginia's Medicaid transportation broker, Modivcare, provides free NEMT services, but the policy limits mileage reimbursement to 125 miles or within 30 miles of state borders for medically necessary trips. Additionally, Modivcare, which has an "F" rating from the Better Business Bureau, has been criticized for reported wait times, failure to fulfill reservations, and staffing shortages. As a result of inconvenient schedules, infrequent service, and the need to match transit and medical schedules, many rural West Virginians elect to pay out-of-pocket rather than utilize the free service.

BOX 2-4: REAL WORLD CHALLENGES: PROVIDER SHORTAGE, LACK OF COVERAGE, RELIABILITY, AND COORDINATION

BACKGROUND

Mr. C is a McDowell County resident with limited transportation access and a chronic health condition (CHC). He recently experienced complications due to his CHC, requiring a visit to a specialist as soon as possible.

Several challenges stood in his way, however:

PROVIDER SHORTAGE

The earliest available appointment with the necessary specialist was two months out in Morgantown, WV, which is a five-hour drive from Mr. C's home.

LACK OF COVERAGE

Earlier appointments were available in Roanoke, VA or Pikeville, KY, which are each about a two-hour drive from Mr. Cƌs home, but WV Medicaid would not cover an out-of-state provider.

RELIABILITY

Roundtrip transportation to the specialist in Morgantown was arranged through Modivcare. However, on the day of Mr. C's appointment, his ride did not arrive. Modivcare arranged for an alternate driver, who was an hour away, to pick up Mr. C. Due to these delays, GPS estimated that they would arrive 20 minutes after Mr. C's appointment time.

COORDINATION OF SERVICES

Mr. C contacted the specialist's office to inform them of the delay. He was told that if he was more than 15 minutes late, he may not be seen. Arriving 20 minutes late, Mr. C was turned away.

Mr. C had to reschedule his appointment after spending 10 hours in the car, and the earliest available date was 3 months out.

MEDICAL PERSONNEL SHORTAGES

With significantly higher rates of numerous chronic health conditions than the national average, access to healthcare providers is a critical concern for many West Virginians, yet the state faces a shortage of healthcare providers, including doctors and nurses. Figure 2-7 illustrates the prevalence of federally designated medically underserved areas (i.e.,areas in which there are shortages of primary care health services) throughout West Virginia. Of the state's 55 counties, 53 are designated as Healthcare Provider Shortage Areas by the U.S. Health Resources and Services Administration (HRSA).

According to HRSA, a Healthcare Provider Shortage Area (HPSA) is determined through the calculation of the population-to-provider ratio, the percentage of the population below 100% of the Federal Poverty Level, and travel time to the nearest source of care outside of the HPSA designated area. HPSAs can be geographic areas, populations (low-income, homeless, or migrant individuals), or facilities. Based on information from HRSA, most of the West Virginia counties are classified as geographic or low-income population HPSAs.

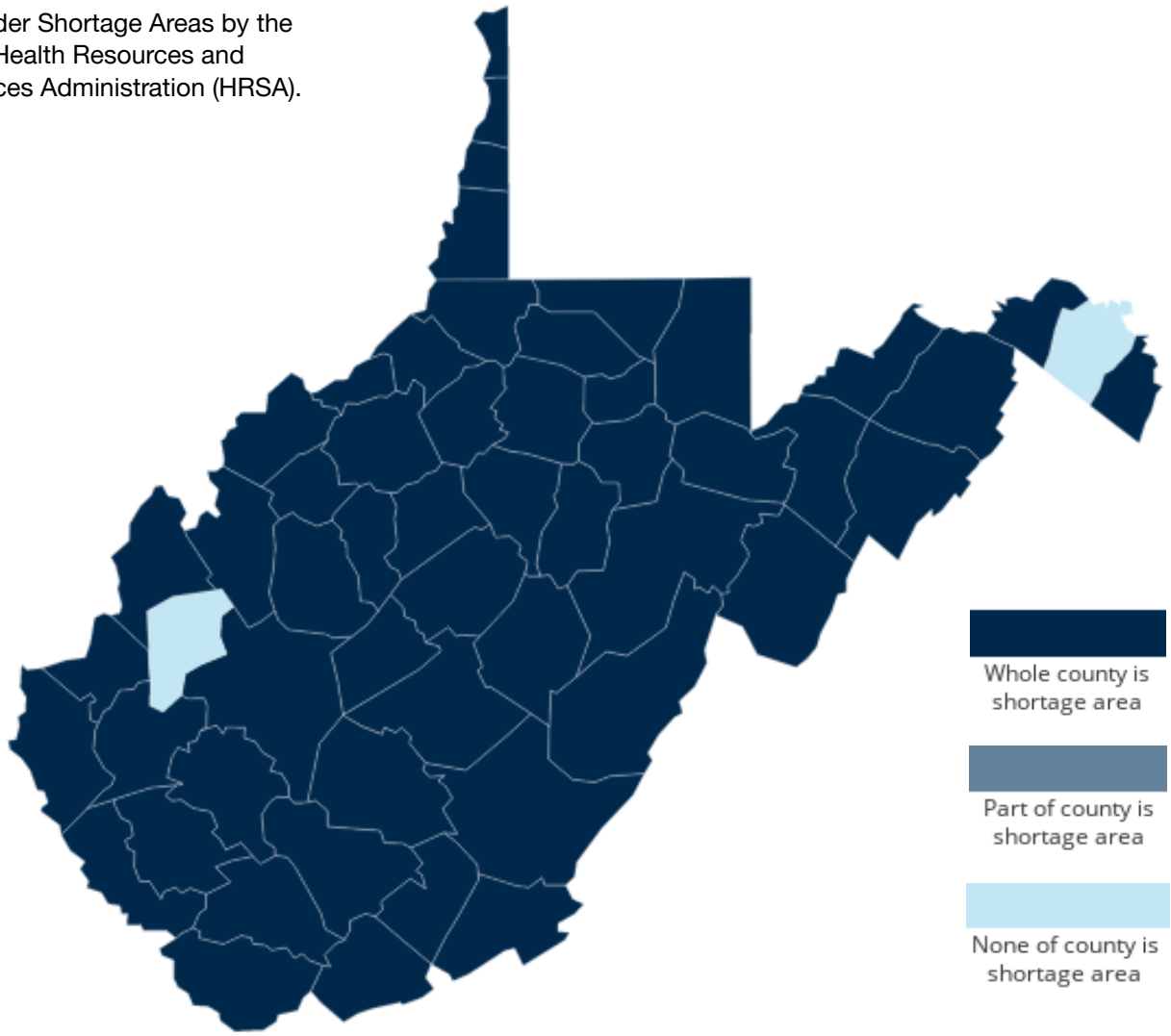


Figure 2-7: Federally Designated Medically Underserved Areas in West Virginia (Rural Health Information Hub, 2024.)

Medical facility shutdowns in West Virginia are also a concern. Even if physicians and healthcare providers are available in a region, there may not be a hospital or other healthcare facility nearby for them to staff.

The red areas in Figure 2-8 indicate that many West Virginians have limited access to healthcare providers. The areas in red and orange indicate low or medium-low access to healthcare, respectively, whereas the areas in yellow and green indicate medium, medium-high, or high access.

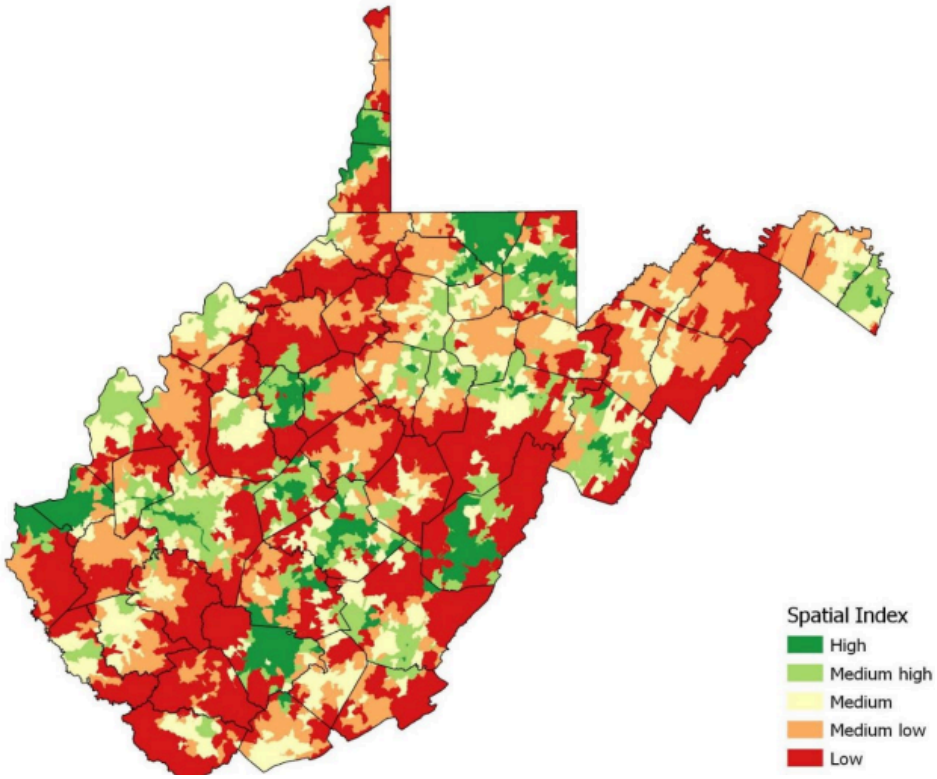


Figure 2-8: Attribution of Population with Low or Medium-Low Access (Challenging terrains: socio-spatial analysis of Primary Health Care Access Disparities in West Virginia, 2022.)

Given West Virginia's aging population, the demand for healthcare providers is likely to increase. The Robert Graham Center, a healthcare think tank, projects the following for West Virginia regarding primary care physician demand:

- "Overall population is declining, but substantial aging of the population will lead to increased demand for primary care physicians.
- An increasing number of people gaining access to health insurance will require more primary care physicians.
- Increased demand for primary care physicians may be concentrated in counties in the eastern half of the state along the Virginia border, due to high rates of elderly population and potential increase in access to health insurance."

Nursing professions throughout the state have a 19.3% vacancy rate. These vacancies result in reduced capacity at hospitals and contribute to facility closures in a state where the majority of counties are already designated as medically underserved areas. Personnel shortages have also been reported in medical laboratories, diagnostic imaging, and respiratory therapy staff in West Virginia.

The shortage of healthcare providers can result in fewer preventive services, delayed diagnoses, and longer waits for care. Many West Virginians face lengthy travel times to their healthcare providers because few local healthcare options exist. Travel is particularly challenging for patients in rural areas that lack a vehicle or public transit options. Mountainous terrain and hazardous weather conditions can also lengthen travel time.

Furthermore, if a patient is late or misses appointments due to travel challenges, regardless of fault (e.g., last-minute driver cancellation), they may have to wait months for another appointment, perhaps exacerbating their chronic health condition. Examples of the challenges some West Virginians face are illustrated in the Real-World Anecdote boxes throughout this chapter.

ADDRESSING CHALLENGES PRESENTED BY MEDICAL PERSONNEL SHORTAGES

One way policymakers respond to nationwide challenges presented by healthcare provider shortages is by helping recent graduates pay off the debt they accrue while pursuing their healthcare degrees. West Virginia is competing with other states who face similar challenges.

The average medical student debt for West Virginia graduates in 2023 was $191,890, while the average physician pay in West Virginia is near the lowest in the nation. This likely contributes to the decreasing percentage of West Virginia medical school graduates who remain in the state (Figure 2-9). The situation may improve over time if trends in recent years continue.

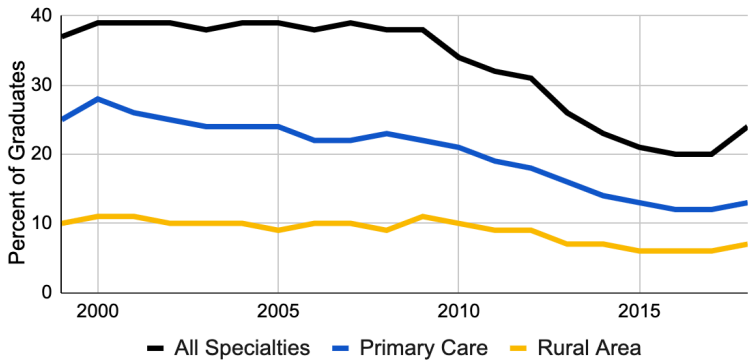


Figure 2-9: West Virginia Medical School Graduates (%) Practicing in West Virginia, 5-year Average
(WV Health Sciences and Rural Health Report, 2023)

BOX 2-5: REAL WORLD CHALLENGES: PROVIDER SHORTAGE, PERSONAL AVAILABILITY, AFFORDABILITY, AND CONSOLIDATION OF PROCESSES

BACKGROUND

Mr. B is an 80-year-old single man with three adult daughters. He lives in a low-income senior apartment building in Mason County, WV. He has diabetes and COPD with blood clots complicating his breathing. He is able to drive himself to the local hospital and his local primary care provider. However, specialty care appointments require transportation to Charleston, Huntington, or Parkersburg, WV, which are all about an hour away.

J, Mr. B's daughter is an elementary school teacher who has a medically complex child still living at home. She lives in Jackson County, WV and helps transport her father to medical appointments.

Mr. B is trying to make an appointment with a pulmonologist, but faces several challenges.

PROVIDER SHORTAGE

There is no pulmonologist available locally. Those that are available nearby do not have openings for another six months or longer, and Mr. B does not want to wait this long to be seen.

PERSONAL AVAILABILITY

The drive to Charleston, Huntington, or Parkersburg is too complicated for Mr. B, but his daughter J is the only one who lives nearby to take him to appointments. She cannot take off work during the first week of school when the first appointment for Mr. B is available.

AFFORDABILITY

Mr. B cannot afford to pay someone to take him to the first available appointment, so he must delay care due to his daughter's limited availability.

CONSOLIDATION OF PROCESSES

Mr. B and his daughter J have been applying for waivers for in-home care and transportation reimbursement. However, the Aged and Disabled Waiver they submitted was rejected four times due to doctors' errors on forms.

Mr. B is approved and on the waitlist for care but is told that the average wait is six months.

TELEHEALTH ACCESSIBILITY BARRIERS IN RURAL WEST VIRGINIA

Telehealth is "the use of electronic information and telecommunication technologies to support long-distance clinical health care, patient and professional health-related education, health administration, and public health."

As shown in Figure 2-10, there are three main types of telehealth services:

1. Synchronous: Patient corresponds with a physician over video or phone.

2. Remote Monitoring: The patient has a medical device that monitors aspects of their health at home and automatically sends their health data to their physician.

3. Asynchronous: Patient visits a care facility and has appointments such as follow-ups over video or phone.

Studies show that telehealth increases patient attendance at scheduled appointments by as much as 20%. Although telehealth utilization in the U.S. has increased since the start of the COVID-19 pandemic, patients in West Virginia face unique challenges due to the lack of broadband access across many parts of the state.

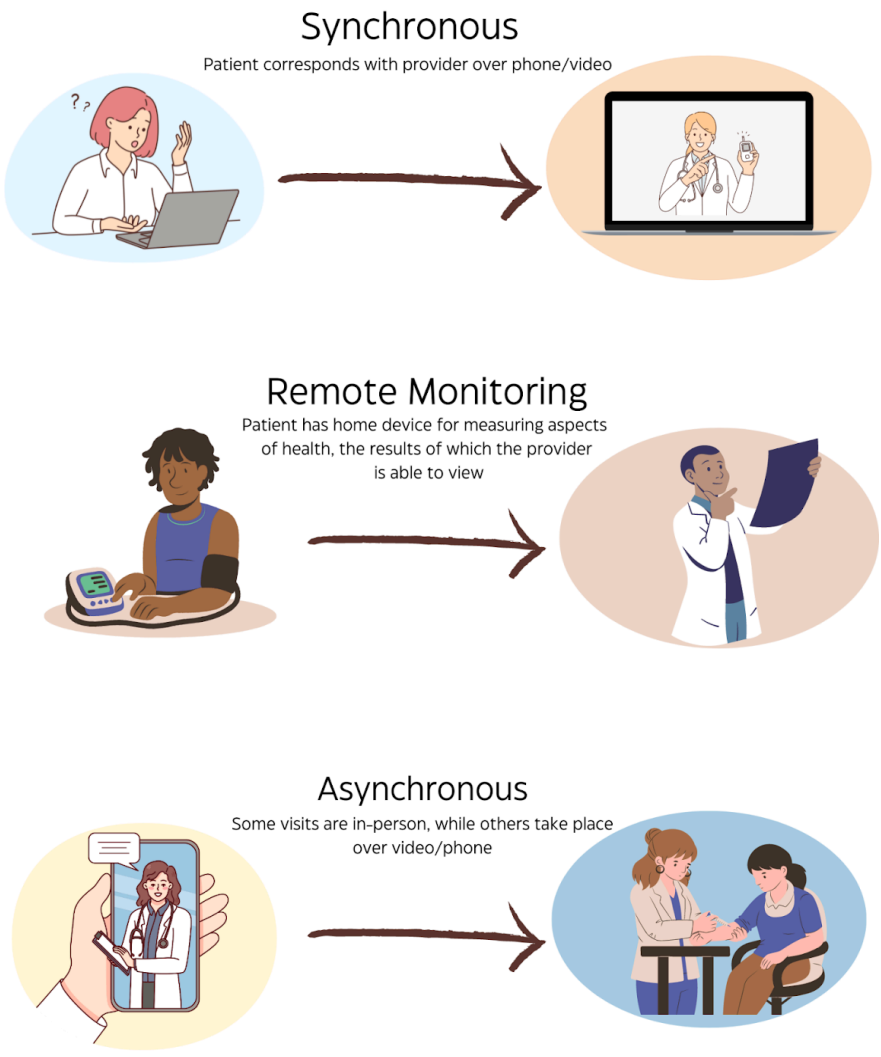


Figure 2-10: Telehealth Communication Options
(West Virginia University/Marshall University Roads to Wellness Study, 2024)

West Virginia is ranked 50th in terms of internet availability in the United States. As illustrated in Figure 2-11, accessibility varies by county, but a large portion of the state lacks reliable access. Recent funding initiatives have been established to improve broadband access in West Virginia, but this process will take time.

Considering the high levels of poverty across the state, internet access is not affordable for many West Virginians even if it is available in their area. Some experts also cite digital literacy as a concern for moving forward with telehealth. With all of these challenges, asynchronous telehealth models (e.g., messaging through online portals) may be the best option in many cases.

Limited Broadband Serviceable Locations

Broadband serviceable locations (BSLs) are business or residential sites where broadband can be installed. To be considered fully served under this survey, BSLs must have access to download speeds >100 Mbps and upload speeds > 20 Mbps.

In the map below, the darker green areas indicate a greater percentage of BSLs in each county that are fully served. The lighter green indicates areas where a lower percentage of the population is fully served.

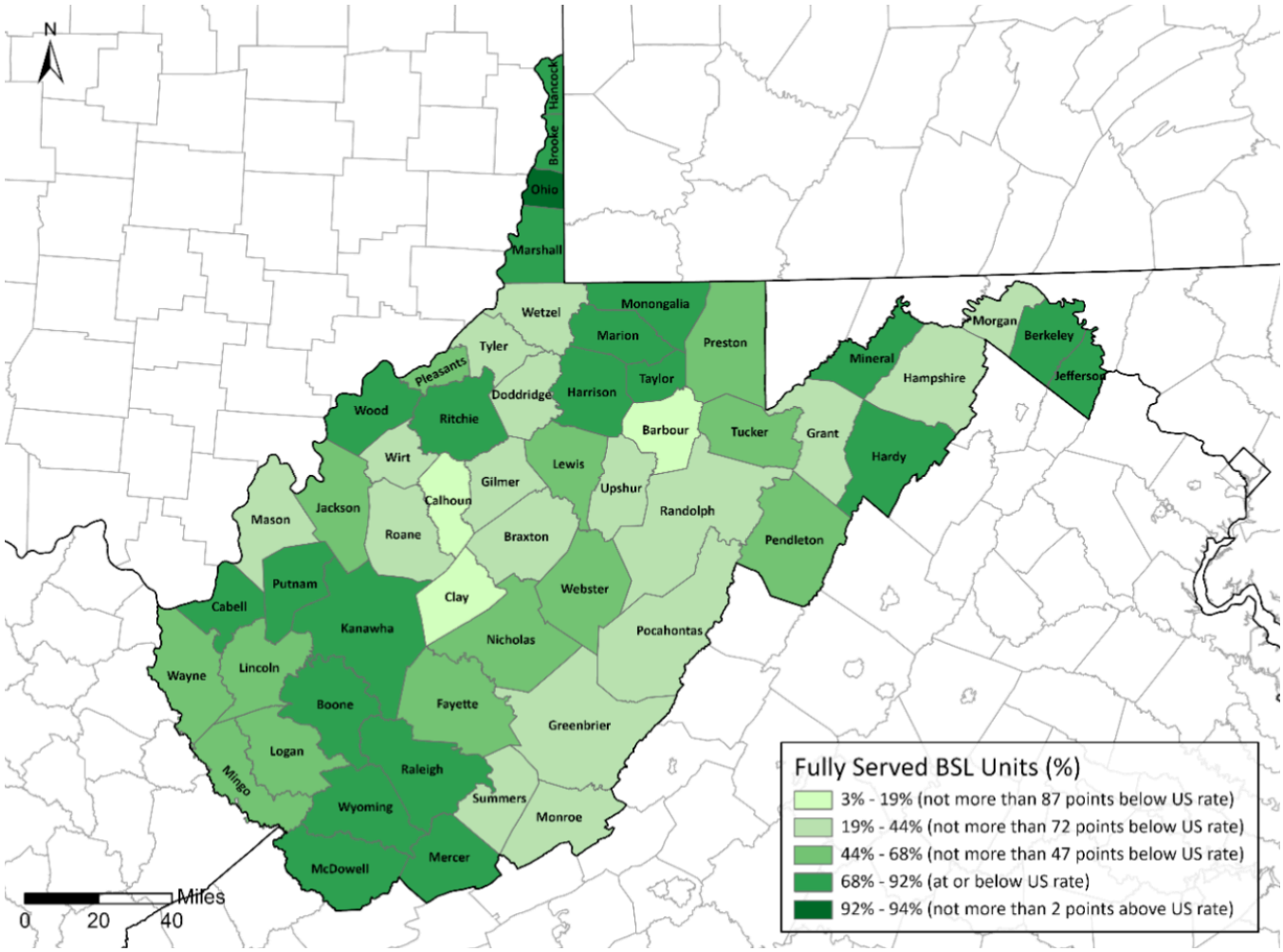


Figure 2-11: Broadband Accessibility in WV by County (Satellite Broadband Accessibility in West Virginia, 2024; Calculated using December 31, 2022, National Broadband Data Collection Availability Data provided by the Federal Communications Commission.)

BOX 2-6: REAL WORLD CHALLENEGES: DRIVING ABILITY, PHONE AND INTERNET ACCESS, AND LACK OF COMMUNITY HEALTHCARE SERVICES

BACKGROUND

Mr. L is a McDowell County resident with an intellectual disability, two chronic health conditions (CHCs), as well as cancer, requiring multiple medical appointments each month. He lives by himself and does not drive. He uses public transportation to get to his brother, Mr. R, who lives an hour away.

Mr. R takes his brother, Mr. L, to medical appointments, but sometimes, it's tricky to coordinate transportation and get Mr. L to his appointments on time.

The following challenges are involved:

INABILITY TO DRIVE

If the bus is late, Mr. L could be late for his appointment, which may lead to refusal of care.

LACK OF PHONE AND INTERNET ACCESS

Mr. L does not own a telephone or have internet access in his home. Therefore, he cannot be notified when an appointment has been canceled. He might travel for hours just to find out his appointment has to be rescheduled.

LACK OF COMMUNITY HEALTHCARE SERVICES

Mr. L typically walks long distances to meet other needs (e.g., groceries, laundry, etc.). If there were more healthcare services available in his community (a walkable distance from his home), or if he could walk to a mobile medical van, Mr. L would have an easier time getting treatment for his CHCs, and his brother would not need to take time away from work to get Mr. L to his appointments.

CONCLUSION

This chapter discussed transportation and access barriers that particularly affect West Virginians who require frequent medical appointments, including those with chronic health conditions. Barriers include a lack of public transit in many parts of West Virginia—a particular concern for those without private vehicles—and a shortage of healthcare providers in the state, which can lead residents to face lengthy travel times or wait months for appointments. Further, health issues and related stress may be exacerbated when appointments are missed due to issues with accessing transportation.

In addition to the lack of public transit and medical providers throughout the state, West Virginia's Non-Emergency Medical Transportation (NEMT) services are often inadequate for rural residents, leading many to pay out-of-pocket for transportation or to forgo healthcare services.

The state's rugged terrain and lack of broadband access further complicate healthcare delivery, including telehealth services. Telehealth is not a widely available option for many West Virginians due to limited internet connectivity and/or digital literacy challenges.

In sum, considering the range of challenges to healthcare access in West Virginia, innovative solutions and policies will be necessary to improve healthcare access and outcomes for West Virginians with chronic health conditions.

3. OPPORTUNITIES IN HEALTHCARE AND TRANSPORTATION IN WEST VIRGINIA

Enhancing the access and reliability of transportation—one of the seven identified Vital Conditions for Health and Well-Being—has the potential to improve West Virginians' health outcomes and reduce healthcare costs for patients, providers, and taxpayers. For instance, utilizing Medicaid Non-Emergency Medical Transportation (NEMT) services led to an average monthly savings of $1,300 per individual by reducing Medicaid expenses linked to the increased use of more intensive or frequent healthcare services.

In 2018, West Virginia developed a state rural health plan to address rural health disparities. Since then, the COVID-19 pandemic has changed healthcare practices, particularly telehealth practices. Such changes warrant the development of an updated strategic plan.

The following are the central themes of the potential policy options proposed by the stakeholder roundtables mentioned in Chapter 1:

Theme 1: Coordinating existing and establishing new transportation programs/ services.

Theme 2: Modifying WV Medicaid Non-Emergency Medical Transportation (NEMT) delivery model.

Theme 3: Expanding Medicare, Medicaid, and private insurance support/reimbursements

Theme 4: Increasing financial incentives to respond to physician, advanced practice provider, nurse, and community health worker shortages.

For each of the themes above and for the related potential policy options that were developed within each theme, the Roads to Wellness team looked for existing models in West Virginia and other Appalachian states to assess the effectiveness, efficiency, and equity of these types of programs. The results of this information- gathering activity have been categorized by theme and are discussed throughout the remainer of this chapter.

THEME 1: COORDINATING EXISTING AND ESTABLISHING NEW TRANSPORTATION PROGRAMS/SERVICES

During the roundtable discussion, several potential policy options emerged. Many options involved enhancing the coordination of existing services that provide transportation for West Virginians to reach their medical appointments, and others suggested the need to establish new services. These options include the following:

- Implement regional and/or statewide mobility management program(s) and coordinator(s).
- Establish public-private partnerships funded by healthcare organizations, health payers, community-based organizations, and local businesses to provide and coordinate transportation services for patients to-and-from medical facilities.
- Expand public transit to currently unserved areas by implementing a coordinated fare and schedule system for public transit (e.g., collaborating to serve multiple counties with a single-day bus service to expand the use of existing transportation assets).
- Establish grant-based pilot programs to provide transportation services.
- Incentivize community transportation resources (e.g., church vans, senior centers), delivery of nutritious food and medicine, and home-based care models (e.g., remote home monitoring, home-recovery programs).

Implementing A Mobility Management Program

Roundtable participants emphasized the need to establish a regional and/or statewide mobility management program with state or regional coordinators who would assist West Virginians in reaching their medical appointments.

With the limited number of medical facilities in West Virginia, providing access to appropriate physician offices would likely involve crossing county lines and traveling throughout the state in many cases.

Mobility management is a strategic approach to optimizing the coordination and utilization of transportation resources. It focuses on improving access to mobility for all individuals, especially those who are underserved or have special transportation needs. Mobility management programs integrate various transportation services including public transit, paratransit (public service for people with disabilities who cannot use the fixed-route public bus or rail service), ride-sharing, and Non-Emergency Medical Transportation (NEMT), ultimately aiming to create a seamless, efficient, and user-friendly network.

As described by the National Center for Mobility Management, mobility management programs enhance transportation services by connecting clients to the most suitable options. Practitioners focus on staying informed about local services, sharing their knowledge, and fostering partnerships among stakeholders. They empathize with clients to advocate for better services, design and plan customized solutions, and ensure sustainable launches through careful testing and feedback. This approach encourages innovation, sustainability, and responsiveness to community needs.

Despite its many advantages, however, implementing a mobility management program involves several challenges, including the need for substantial initial investments, potential resistance from existing transportation providers, and the complexity of coordinating diverse services and stakeholders.

As shown in Figure 3-1 (right), the implementation of mobility management includes two parts:

Part 1 involves connecting people to transportation options to get to their destination, which includes not only medical care but also other public needs such as employment and schools.

Part 2 involves working with partners to understand the public's needs and creating services that respond to those needs. In the case of healthcare, potential partners include medical care coordination services as discussed in the next section.

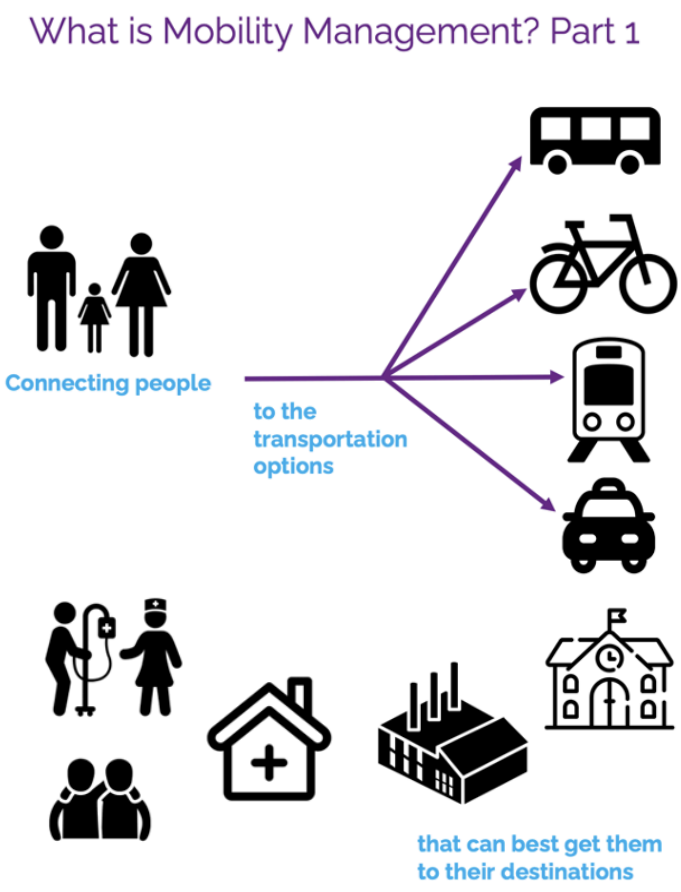


Figure 3-1: What is Mobility Management?
(National Center for Mobility Management, 2018)

Pairing with Medical Care Coordination

Mobility management programs are often paired with medical care coordination (MCC), a healthcare service that coordinates providers across specialties to achieve more efficient care for each patient, including those with increased healthcare needs due to chronic health conditions. In addition to connecting each patient's providers to improve care, these networks can aid in appointment scheduling, medication management, and financial aspects of care. Some may also offer housing assistance and MMS, but these services are not required, and options may be limited or unavailable in the patient's location.

Many individual healthcare systems in West Virginia have implemented some version of MCC into their practice. Studies have shown that this practice increases patient satisfaction and outcomes while requiring less time per provider. For example, Marshall Health's Chronic Care Management program currently provides support to patients with chronic health conditions, and the West Virginia Department of Human Services Bureau for Medical Services operated the Diabetes Health Home—a type of MCC program—which benefitted diabetic Medicaid members in 14 counties until its discontinuation in June 2024.

By consolidating medical records and promoting communication between providers and specialists, patients ultimately receive better healthcare when MCC is implemented. MCC also decreases emergency department visits and inpatient hospital stays and helps patients transition between care settings with greater satisfaction.

MCC may assist with more efficient scheduling for appointments in addition to reducing redundant testing and visits. As a result, patients spend less time away from work and other responsibilities, and their need for transportation—a critical determinant of healthcare participation—decreases. For example, instead of attending four appointments on separate days, MCC may enable scheduling appointments back-to-back on the same day. Consider that transportation needs include any of the following:

- Access to an operational vehicle, rideshare, or public transportation.
- Ability to safely operate a vehicle or someone willing to provide transportation.
- Money for fees (parking, rideshare, or bus ticket), gas, insurance, and vehicle maintenance.
- Vehicle accessibility (the ability to get in and out of a vehicle safely, and transport mobility equipment).

Currently, there are no state policies that specifically cover MCC for West Virginians with chronic health conditions. Federally, Medicare covers patients with two or more health conditions. Additionally, Aetna Better Health of West Virginia, a Medicaid plan provider, offers optional MCC for all patients. It is unclear if MCC is consistently offered for those with private insurance or those without any insurance coverage.

BOX 3-1: THOUGHTS FROM THE FRONTLINE OF TRANSPORTATION AND HEALTHCARE IN WEST VIRGINIA: TRANSPORTATION COVERAGE AND SCHEDULING SUPPORT

"As a home healthcare provider, [I find] there are patients with transportation barriers that could use additional resources to maintain their appointments and get the care they need. [These include] more available options, better coverage for transportation, and ease of scheduling."

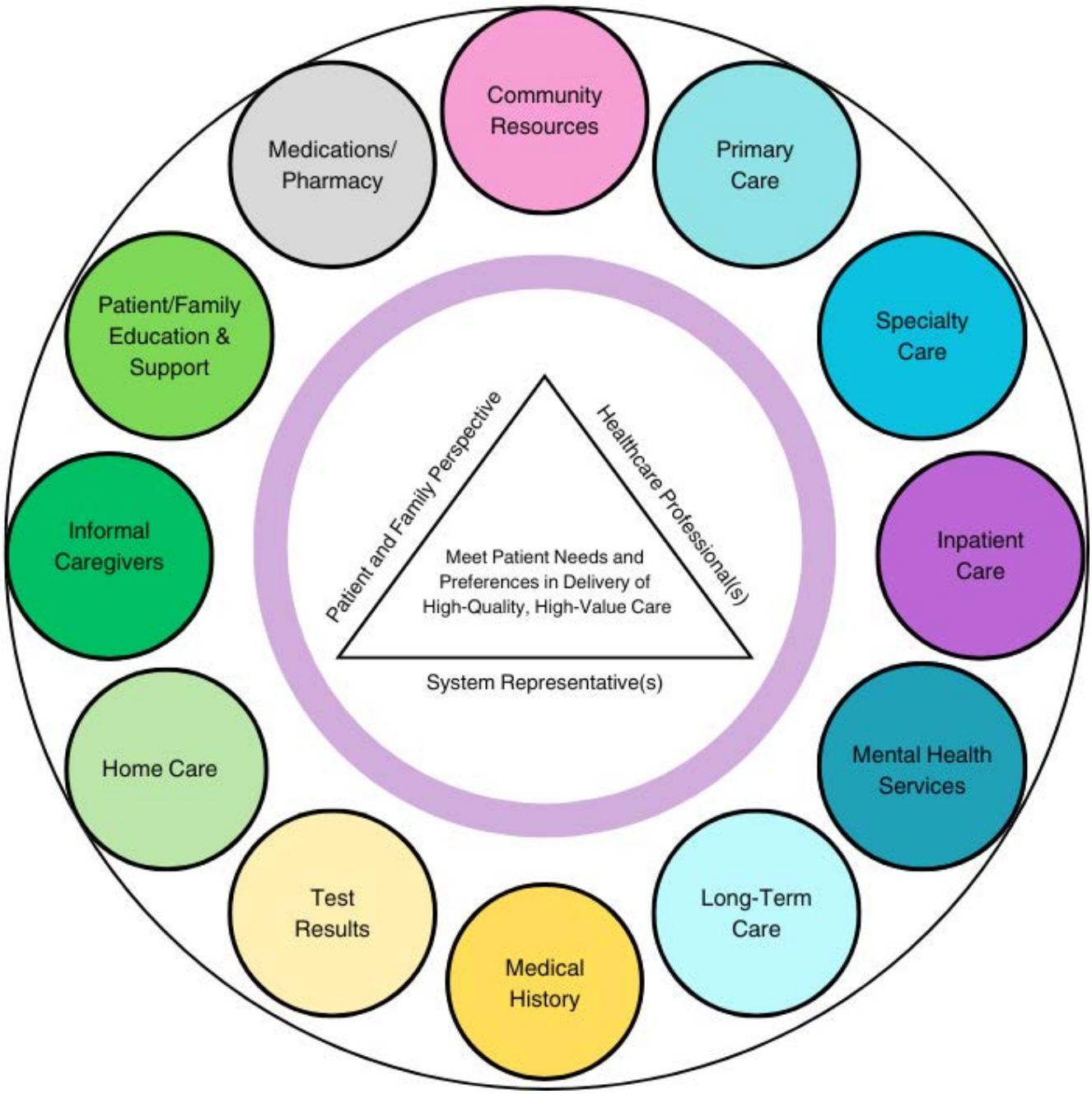


Figure 3-2: What is Medical Care Coordination (MCC)? (adapted from U.S. Health and Human Services Agency for Healthcare Research and Quality)

The table below outlines examples of mobility management programs that focus on working with medical care coordinators and that could serve as a model for a West Virginia program.

Table 3-1: Illustrative Mobility Management Programs Focused on Healthcare (West Virginia University/ Marshall University Roads to Wellness Study, 2024) Note: Opportunities and Challenges information based on interviews.

PROGRAM	OVERVIEW	OPPORTUNITIES AND CHALLENGES
Mountain Empire Transit (Virginia)	Mountain Empire Transit (MET) in Southwest Virginia provides curb-to-curb, demand-responsive transportation for all ages, including those with disabilities. MET has 60 staff members, an annual budget of $2.9 million, and facilitates around 200,000 trips annually.	Mountain Empire Transit (MET) faces challenges in securing the 20% match required for their funding and recruiting drivers. However, the introduction of a microtransit app presents an opportunity to enhance cost-effectiveness and service efficiency. The microtransit project, approved by the Food and Drug Administration (FDA), has already facilitated over 143,000 trips, highlighting its potential for broader implementation.
Mobility Management (Ohio)	The Mobility Management program in Northeast Ohio, overseen by the Richland Transportation Advisory Committee, involves representatives from various government and social service agencies. It coordinates transportation for disabled, elderly, or disadvantaged individuals by managing routes, facilitating communication among stakeholders, and identifying new partnerships. The program addresses transportation gaps and barriers, ensuring safe, reliable, and affordable services.	The program is shifting from a trip-brokering focus to a more community-centered approach, which promises better-tailored solutions. However, challenges remain in bridging the transportation gaps for seniors and aligning the diverse needs of different organizations involved. Additionally, redesigning the program to be more community-focused while maintaining efficient service delivery poses a significant challenge.
West Virginia 211 (West Virginia)	West Virginia 211 (WV 211)is a comprehensive, free, and confidential helpline operated by the United Ways in West Virginia, designed to connect individuals with a wide range of health and human services. Available 24/7, WV 211 assists residents in finding local resources for financial assistance, food programs, healthcare, mental health services, and more. The service is accessible via phone, text, or online chat, and maintains a robust database of over 12,000 services across the state.	The WV 211 program offers significant opportunities, such as expanding awareness and utilization through partnerships with organizations like the Ad Council and United Way Worldwide, which have launched campaigns to promote the helpline. However, the program faces challenges, including ensuring consistent access across different communication platforms and maintaining comprehensive, up-to-date resource information.

BOX 3-2: MISSOURI HEALTH FOUNDATION MOBILITY MANAGEMENT PILOT PROGRAM: REAL WORLD CASE STUDY

"In 2014, Leo Haralson's big toe turned black, a casualty of his battle with diabetes. A veteran and a former software developer for the U.S. Navy, he had insurance through both Medicare and the Veterans Affairs Department, so getting good health care shouldn't have been a problem. But after the toe was amputated, he developed an infection that spread to his bones. Haralson needed daily oxygen treatments at a hospital to halt the infection.

Haralson and his wife, 65, motorcycle enthusiasts originally from Wisconsin, had retired to southern Missouri, seeking a warmer climate and a home in the middle of the country so they could drive off in any direction. They built their dream home on the outskirts of the town of Mountain View, named for its commanding view of the Ozarks. But his wife could no longer drive, and with his foot in bandages, Leo couldn't either. The hospital was 30 miles down Highway 60 from his home, and the local transit provider has bus service only on Wednesdays. Without a way to get to the hospital every day for a month, Haralson faced losing his leg—and his ability to live independently...

The current system puts the burden of navigating those options and schedules on patients, even as they are struggling with illness and symptoms like pain, confusion, and fatigue. In Missouri, we have found that when getting a ride isn't simple and affordable, patients will forgo care. And that means that their conditions can worsen until they become acute and result in an ambulance ride to the ER instead—the most expensive option of all.

Clearly, the existing system doesn't work well for anybody. Patients are overwhelmed and often give up. Doctors and hospitals lose time and revenues because of "no-shows." And ambulance companies are transporting patients who didn't know whom else to call—and then don't get paid if an insurance company or Medicaid decides it wasn't an actual emergency...

As a healthcare consultant and the executive director of the Missouri Rural Health Association, I helped develop a program to test whether there was a better way. We got seed money to hire a "mobility coordinator" who could arrange rides for patients who needed them. Our program, called HealthTran, trained clinic and hospital staff to ask patients at the time they made appointments whether they needed a ride. And if they did, they alerted the HealthTran coordinator who would contact them, assess their transportation needs, and figure out a cost-effective solution.

Leo Haralson was one of HealthTran's first patients. In his case, the coordinator determined that because of his infection, he needed private rides from his home in Mountain View to Ozarks Medical Center in West Plains, 30 miles away. She arranged 70 rides for him at a cost of $6,000. That wasn't cheap, but it paid off. The hospital benefited by being able to bill Medicare $13,000 for the oxygen treatments and avoiding penalties for hospital readmission. Medicare saved the cost of a leg amputation and possible transfer to a nursing home.

As always in health care, a key question is, "Who pays"? What HealthTran learned is that it's actually cost-effective for clinics and hospitals to provide the service at no cost to the patients because providing rides reduced the number of no-shows.

Here was how it played out at one hospital system: In just 17 months, HealthTran provided 2,470 rides for patients receiving services, at a cost of just over $66,000. Including staffing, the total cost of coordinating and paying for transportation was approximately $95,000, an average of$33 per ride. These patients resulted in over$730,000 in payments to the hospital and its clinics. In short, for every $1 invested in transportation, the hospital earned $7.68 in reimbursement."

Source: "Why doctors should consider giving their patients a ride: Our Missouri pilot project showed that free trips to the doctor pay off for everyone," Suzanne Alewine, Missouri Rural Health Association, Politico, 2017

Establishing Public-Private Partnership Funding for Mobile Healthcare and Transportation to Stationary Healthcare Services

Medical organizations can play a crucial role by partnering with federal and state governments, community-based organizations, federal (Medicare/Medicaid) and private health insurance, and local businesses to fund and offer in-kind healthcare-related mobility services. These efforts include bringing healthcare services directly to the community and providing transportation options to ensure people can access healthcare facilities and return home safely. For example, mobile healthcare services like Virginia's Health Wagon deliver medical care, diagnostic services, and preventive healthcare directly to patients with chronic health conditions in their communities through specially equipped vehicles or mobile units, enhancing access to healthcare, especially in underserved areas.

Further, hospitals can provide services that help patients get to and from their homes to the medical facility. Kentucky's Taylor Regional Hospital's Hospitality Van Service, for example, offers "a free hospitality van service to individuals who need a ride to treatment, testing or appointments."

Retirement communities, assisted living facilities, and nursing homes offer ways for their residents to get out and about, sometimes at additional cost. Faith-based organizations rely on volunteers covered by a liability insurance policy but still face distance, geography, and volunteer availability. These programs pool resources and leverage community support to provide free or low-cost transportation to medical appointments, treatments, and other healthcare services. Fundraising events and sponsorships help sustain these efforts, highlighting the importance of innovative funding strategies and community involvement in maintaining and expanding these vital services. One option for grant support is formula funding provided to each state through the U.S. Federal Transit Administration's Section 5310 support for Enhanced Mobility of Seniors & Individuals with Disabilities. In West Virginia, the program is administered by the West Virginia Department of Transportation's Division of Multimodal Facilities on a competitive basis with 80% federal funding and a 20% match requirement.

Table 3-2: Illustrative Public-Private Partnership Funded Mobile Medical Facilities (West Virginia University/Marshall University Roads to Wellness Study, 2024.) Note: Opportunities and Challenges info. is based on interviews.

PROGRAM	OVERVIEW	OPPORTUNITIES AND CHALLENGES
Health Wagon (Virginia)	Grant-funded organization that provides free mobile and on-site healthcare services in the Appalachian region, focusing on Southwest Virginia. It partners with local businesses and healthcare organizations to offer transportation as part of its outreach efforts. Staffed by 56 employees, Health Wagon bills insurance to cover costs while offering a wide range of services, including pharmacy, dental care, and eye care.	Despite the various healthcare services provided, the lack of public transportation in the region limits accessibility for those who rely on it. Funding challenges persist, as does the need for sustainable financial models to support free services**.** Their budget was recently cut by the Virginia legislature due to concerns about executive compensation.
Taylor Regional Hospital's Hospitality Van Service (Kentucky)	Provides free transportation for individuals who need rides to medical appointments, treatments, or tests (approximately 300 per month). Supported by community-based organizations contributing $80 monthly for gas and maintenance, the hospital covers driver's salaries and raises funds through events like an annual golf tournament, which has raised up to $40,000. The service facilitates nearly 4,900 trips annually, covering over 80,000 miles.	With consistent funding, the hospital can potentially increase the number of vans and extend services to more areas. However, maintaining a stable budget is challenging, as funding fluctuates yearly based on donations and event proceeds, and the program does not serve Medicaid patients, potentially leaving out users who might need transportation assistance.

BOX 3-3: THOUGHTS FROM THE FRONTLINE OF TRANSPORTATION AND HEALTHCARE IN WEST VIRGINIA: EXPANDING TRANSPORTATION OPTIONS ACROSS STATE BORDERS

"I have had several patients who had to cancel, reschedule, and or change doctors because of limited transportation. [We need] more transportation options in the Eastern Panhandle of West Virginia and transportation to bordering states... Many patients have specialists in Maryland and Virginia."

Expanding Transit Options in Underserved Areas

Two potential policy options are focused on expanding transportation options available to patients: 1) Expand public transit to currently unserved areas by implementing a coordinated fare and schedule system for public transit (e.g., collaborating to serve multiple counties with a single-day bus service to expand the use of existing transportation assets; and 2) Establish grant-based pilot programs to provide transportation services.

The table below provides five examples of non-profit organizations that expand the public transit options available in a region. While TriRiver Transit (West Virginia) focuses on all residents, the other illustrative programs in the table focus on seniors.

Table 3-3: Illustrative Non-Profit Transit Service Expansion Programs (West Virginia University/Marshall University Roads to Wellness Study, 2024.) Note: Opportunities and Challenges info. is based on interviews.

PROGRAM	OVERVIEW	OPPORTUNITIES AND CHALLENGES
TriRiver Transit (West Virginia)	TriRiver Transit is a non-profit organization that provides safe, reliable, and low-cost transportation to residents of Lincoln, Logan, Boone, and Mingo Counties in West Virginia. Established in 2000 with service in one county, it now serves four counties and transports approximately 120,000 passengers annually with a team of 36 employees. The service is essential for 96% of its passengers who have no other means of transportation. Travelers pay $1 each time they board a bus and $2 for curb-to-curb service. Those with a medical card may be able to ride for free. The system is flexible, providing "paratransit services to individuals with disabilities who are unable to use the fixed route" and a route deviation bus service, where "passengers can request to be picked up or dropped off up to 3/4 of a mile off the bus route" for an additional $2 fee.	Funding is the primary challenge, as securing additional resources is crucial for sustaining and expanding operations. Without sufficient funding, the organization cannot extend services to every county or operate on all days of the week, which limits its ability to meet the growing transportation needs of the community.

SMiles (Senior Miles) (Tennessee)	Blount County, Tennessee's SMiles Transportation is a membership-based pilot program designed to provide essential transportation services to seniors in the community. Seniors participating in the program pay $25 per year and are required to purchase four $6 round-trip rides. The system is “senior-friendly” based on the following principles: “Available; Acceptable; Accessible; Adaptable; Affordable.” They provide door-through-door service, which includes “help with groceries and assist riders when entering and exiting vehicle, house, and destination.” Operated by a small team of two employees and supported by 272 volunteers, SMiles has significantly impacted the county by serving 521 clients and facilitating 47,000 trips. In 2024, the program served 170 clients.	SMiles faces significant challenges, such as the aging of senior drivers and the difficulty in recruiting new volunteers, which could impact its ability to maintain current service levels. Effective awareness campaigns are needed to attract more volunteers and secure ongoing community support to meet the growing demand for senior transportation services.
Knox County Assisted Volunteer Transportation (Tennessee)	Tennessee’s Knox County Assisted Volunteer Transportation program provides essential transportation services to elderly citizens, facilitating visits to doctors, grocery stores, pharmacies, senior centers, and more. Operating on an annual budget of $210,000, funded partially by FTA 5310 federal funding, the program charges small fares, employs two full-time and three part-time staff, supplemented by volunteers, and supports 200 riders.	By expanding its volunteer base and increasing awareness about the program, it can better meet the transportation needs of its community. However, challenges include difficulties in recruiting volunteer drivers, which strain the program's capacity to serve all its riders.
Neighbor to Neighbor (South Carolina)	South Carolina’s Neighbor to Neighbor (N2N) Program is a non-profit organization that provides essential transportation services to seniors. The program is staffed by 11 employees and supported by 175 volunteers who use their own vehicles and insurance. Located in a rapidly growing retirement area, N2N served 1,329 individuals last year and offered 10,175 services.	Challenges include a persistent shortage of volunteers and the need for stable funding. Additionally, reaching underserved rural areas remains difficult.
Wirt County Senior Citizens Center (West Virginia)	The Wirt County Senior Citizens Center provides essential transportation services at little or no cost to residents over 60, enabling them to access medical appointments, pharmacies, grocery stores, and other locations. Funded partially by a $24,000 grant and supplemented by donations, the center employs four staff members and serves around 200 people annually. As the sole provider of transportation in the county, it plays a critical role in supporting seniors who have no other means of travel.	Addressing challenges related to vehicle maintenance and insurance coverage is crucial for the program’s sustainability. Finding consistent and reliable funding sources remains a significant hurdle, but overcoming it would allow the center to continue providing vital services and potentially expand its reach within the community.

BOX 3-4: REAL WORLD EXAMPLE OF AN EXPANDED NON-PROFIT TRANSIT ORGANIZATION SUPPORTING PATIENT TRANSPORTATION NEEDS

SMiles is a membership fee-based pilot program in Blount County, Tennessee, designed to provide essential transportation services to seniors in the community. Mrs. D, for example, requires long-term, twice-weekly treatment for a chronic illness. Unfortunately, her family is unable to provide transportation for these crucial appointments. Instead, Mrs. D reaches out to SMiles to get transportation. Similarly, Mr. W, an elderly individual living alone, requires short-term treatment three times a week due to complications from a chronic illness. SMiles supports them as well.

The Bureau of Senior Services in West Virginia works with about 140 local organizations and groups to meet the needs of older West Virginians. One example is Wirt County Senior Citizen's Center which provides free transportation to and from destinations for seniors. Mr. B, an elderly man with a chronic illness, is transported by the senior center three to four times per month to doctor's appointments. Because Mr. B is on oxygen and in a wheelchair, he is unable to use public transit or other private transportation options. The senior center vans, however, are wheelchair accessible and his only transportation method he has available to access his critical medical services.

Incentivizing Community Transportation Resources and Home-Based Care Models

Leveraging existing community transportation resources, such as church vans, school buses, and other non-medical transit options, for healthcare purposes may bridge transportation gaps that many patients face. This approach can both transport patients to medical appointments and facilitate the delivery of essential items, such as prescriptions, medical equipment, and nutritious food, directly to patients' homes.

A related option is to implement home-based care models for chronic disease management that can reduce the need for patients to leave their homes for medical appointments. These models can help patients adhere to treatment plans, monitor symptoms consistently, and avoid complications that typically worsen without close monitoring.

For example, remote patient monitoring (RPM) involves using digital devices and technology to monitor patients' health data outside clinical settings, allowing healthcare providers to track symptoms, adherence, and treatment effectiveness in real-time, enabling early intervention and personalized care. Examples of RPM technologies include wearable devices for continuous heart rate monitoring in heart disease patients, bluetooth-enabled spirometers for COPD patients to track lung function, and blood glucose monitors for individuals with diabetes. Studies on RPM indicate a reduction in adverse health events by 38% among chronic disease patients.

A related option is structured home recovery programs that provide hospital-level treatment and monitoring in a patient's home, using coordinated visits, telehealth, and remote monitoring to manage conditions like heart disease, COPD, and diabetes. They often include scheduled nurse or therapist visits, remote monitoring for vitals, and on-demand virtual consultations. A study of one program found they reduced readmissions among COPD and heart disease patients by 44% drop.

IMPLEMENTATION CHALLENGES

Implementing community-based transportation resources and home-based care models for healthcare presents several challenges:

- Coordinating non-medical transportation assets like church vans or school buses requires navigating logistical complexities, including scheduling, compliance with healthcare privacy regulations, and ensuring the availability of drivers trained to assist patients safely.
- Liability issues may arise for both the healthcare provider and the organization supplying the transportation; insurance requirements and liability concerns may deter some from participating.
- Remote patient monitoring (RPM) and structured home recovery programs depend heavily on technology infrastructure, which may be challenging to establish in low-income or rural areas due to limited internet access and patients' comfort with technology.

These programs depend on the availability of healthcare personnel, which, as described earlier, is limited in West Virginia. Additionally, funding constraints can be a significant hurdle, as implementing home-based care models and RPM requires initial investment in devices, training, and ongoing support for patients. Finally, data security and privacy are crucial, especially with digital health monitoring tools and home care. Health organizations must ensure robust cybersecurity measures are in place, often adding complexity and cost to deployment.

Table 3-4 (below) provides real-world examples of these strategies. Economic incentives that enhance the capacity of organizations like FaithLink, Good Shepherd Caregivers, Faith in Action, and Wirt County Senior Citizens Center, could ensure broader and more reliable access to necessary services for seniors and underserved populations.

Table 3-4: Illustrative Use of Non-Medical Transit Assets in West Virginia (West Virginia University/Marshall University Roads to Wellness Study, 2024.) Note: Opportunities and Challenges info. is based on interviews.

PROGRAM	OVERVIEW	OPPORTUNITIES AND CHALLENGES
FaithLink (West Virginia)	FaithLink is a non-profit organization that operates on grants and donations. It is staffed by three employees and supported by 23 volunteer drivers. The organization provides essential transportation services to 175 individuals annually, focusing on medical appointments. While volunteers use their personal vehicles, the staff is provided with organizational vehicles.	The primary challenge is finding enough volunteers to meet the demand. Additionally, securing consistent funding through grants and donations is essential for maintaining and expanding its services, ensuring that more citizens can access necessary transportation.
Good Shepherd Caregivers (West Virginia)	Good Shepherd Caregivers is a community-based volunteer organization serving elderly and disabled residents in Jefferson County, West Virginia. Its annual budget is approximately $180,000, funded primarily through grants and donations. The program provides essential transportation services, averaging 200 trips per month, primarily for medical appointments, including dialysis and chemotherapy.	Good Shepherd Caregivers faces a significant challenge in the aging out of current volunteers and the difficulty in attracting new ones, as well as securing ongoing funding.

Faith in Action (West Virginia)	Faith in Action in Huntington, West Virginia, operates with a $75,000 annual budget funded through donations, fundraising, and senior services grants. With a team of 30 volunteers, one full-time, and one part-time employee, the organization serves approximately 65 individuals annually. The program provides transportation for shopping, outings, and medical appointments, fostering one-on-one relationships between volunteers and clients.	Program challenges include the physical requirements for clients to access transportation and the need for more volunteers and funding to sustain and grow the program to meet increasing demand.
Wirt County Senior Citizens Center (West Virginia)	The Wirt County Senior Citizens Center provides essential transportation services at little or no cost to residents over 60, enabling them to access medical appointments, pharmacies, grocery stores, and other locations. Funded partially by a $24,000 grant and supplemented by donations, the center employs four staff members and serves around 200 people annually. As the sole provider of transportation in the county, it plays a critical role in supporting seniors who have no other means of travel.	Addressing challenges related to vehicle maintenance and insurance coverage is crucial for the program's sustainability. Finding consistent and reliable funding sources remains a significant hurdle, but overcoming it would allow the center to continue providing vital services and potentially expand its reach within the community.

BOX 3-5: THOUGHTS FROM THE FRONTLINE OF TRANSPORTATION AND HEALTHCARE IN WEST VIRGINIA: THE SERIOUS IMPLICATIONS OF TRANSPORTATION INACCESSIBILITY

"I work for an aging and disability resource center [in West Virginia]. I receive most of the resource calls first. My heart aches for these people who can't get transportation.

I had a guy tell me he was going to die if he could not find transportation to his appointments because he was in need of transportation. I had a lady call, and she had to spend the night in the hospital waiting room because she had been discharged that night and there was no transportation available until 8 the next morning.

And so many other calls from people who can't get transportation either because of where they live, the hours, stretcher needs, they can't afford it, or the transportation is booked. I sincerely hope that one day someone comes up with a solution for transportation needs."

THEME 2: MODIFYING WV MEDICAID NON-EMERGENCY MEDICAL TRANSPORTATION DELIVERY MODELS

Non-Emergency Medical Transportation (NEMT) refers to a transportation service that helps individuals get to and from medical appointments, including doctor's visits, therapy sessions, and other non-emergency healthcare services. NEMT is particularly important for individuals who do not have access to reliable transportation, such as the elderly, disabled, or those with low incomes. Key features of NEMT include the following:

- **Accessibility:** Vehicles are often equipped to accommodate wheelchairs and other mobility devices, ensuring that individuals with physical disabilities can travel safely and comfortably.
- **Service Variety:** NEMT can include various modes of transportation, such as vans, ambulances, and sedans, depending on the patient's needs.
- **Coverage:** Medicaid and other health insurance plans support NEMT, making it affordable for those who qualify.
- **Scheduling:** Trips are usually scheduled in advance, but some services may offer same-day transportation for urgent, non-emergency needs.
- **Safety:** Drivers are typically trained in first aid and CPR, and vehicles are maintained to high safety standards.

According to the National Council of State Legislatures (NCSL), states may provide their Medicaid-supported NEMT services via the following methods:

- **In-House:** Paying for NEMT on a fee-for-service basis.
- **Managed Care:** Contracting with managed care plans to provide NEMT/other services.
- **Broker:** Arranging for transportation brokers to manage the benefit.
- **Mixed:** Combination of in-house, managed care, and broker models within one state.

Federal Medicaid policy provides coverage of NEMT services (based on income) for beneficiaries who need assistance getting to medical appointments, as long as these services are deemed medically necessary. Medicare, for which eligibility is based on age, does not cover NEMT, but some individuals on Medicare are also eligible for Medicaid, and some Medicare Advantage plans (Part C) offered by private companies like Aetna, Humana, or United Healthcare may include transportation services.

The federal Medicaid program delegates the operation of NEMT services to West Virginia Medicaid, which requests proposals to provide NEMT services and selects a contractor. Since 2018, Modivcare, an NEMT broker that operates nationally, has provided services in West Virginia.

Modivcare has about 20 subcontractors throughout the state that provide transportation services to West Virginians who are eligible for Medicaid and face transportation challenges. Each of those subcontractors then contracts with drivers to provide transportation for patients. As with any contracted service, there can be challenges along the way that result in canceled or delayed transportation as well as lengthy wait times due to a shortage of drivers.

Current Process from the Patient Perspective

As illustrated in Figure 3-3, there are several steps involved in arranging transportation for a patient with a chronic health condition to attend their medical appointments. Currently, patients or their caregivers can request NEMT services from the authorized transportation broker (Modivcare). They must make a request at least five days prior to the appointment, except in cases of emergency or hospital discharge. Requests are reviewed based on the patient's Medicaid eligibility and inability to access public transportation or mileage reimbursement. Once a request is approved, the transportation broker coordinates the logistics, assigning an appropriate vehicle and driver to accommodate the patient's specific needs (e.g., wheelchair access). Patients receive confirmation of arrangements, including pickup time, location, and type of vehicle.

On the day of the appointment, the scheduled transportation service arrives to pick up the patient and ensures that they reach their medical appointment safely. After the appointment, the NEMT service provides transportation back to the patient's home, completing the service. Services are

typically “curb to curb,” not “door to door,” which can be challenging for some patients who need help departing from and returning to their homes. Rural residents, for example, may reside a substantial distance from the “curb” (e.g., where their mailbox might be located).

POTENTIAL POLICY OPTIONS

During the roundtable discussions, participants identified several potential policy options that would help patients using NEMT services:

- Modify West Virginia’s existing Medicaid NEMT delivery model to a regional or mixed model.
- Promote the hiring of local drivers for NEMT service
- Increase the number of trips covered annually by West Virginia Medicaid.

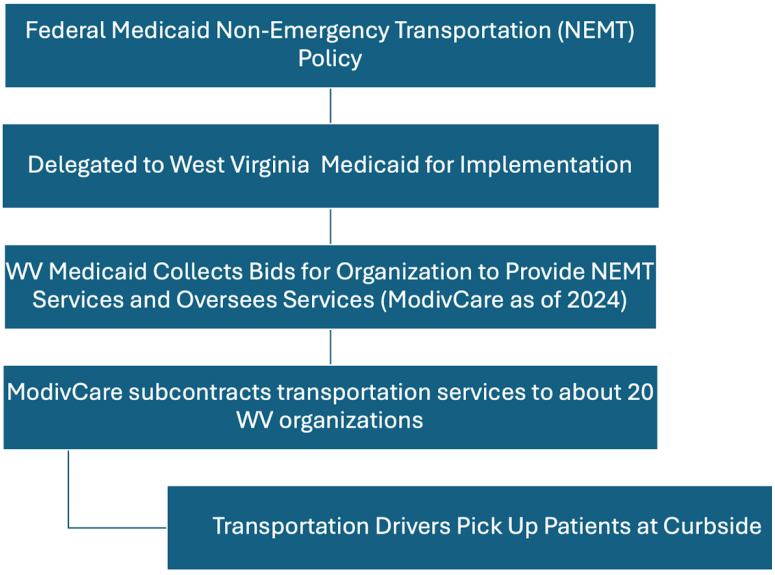


Figure 3-3: How Non-Emergency Transportation (NEMT) Works in West Virginia (West Virginia University/Marshall University, Roads to Wellness Study, 2024)

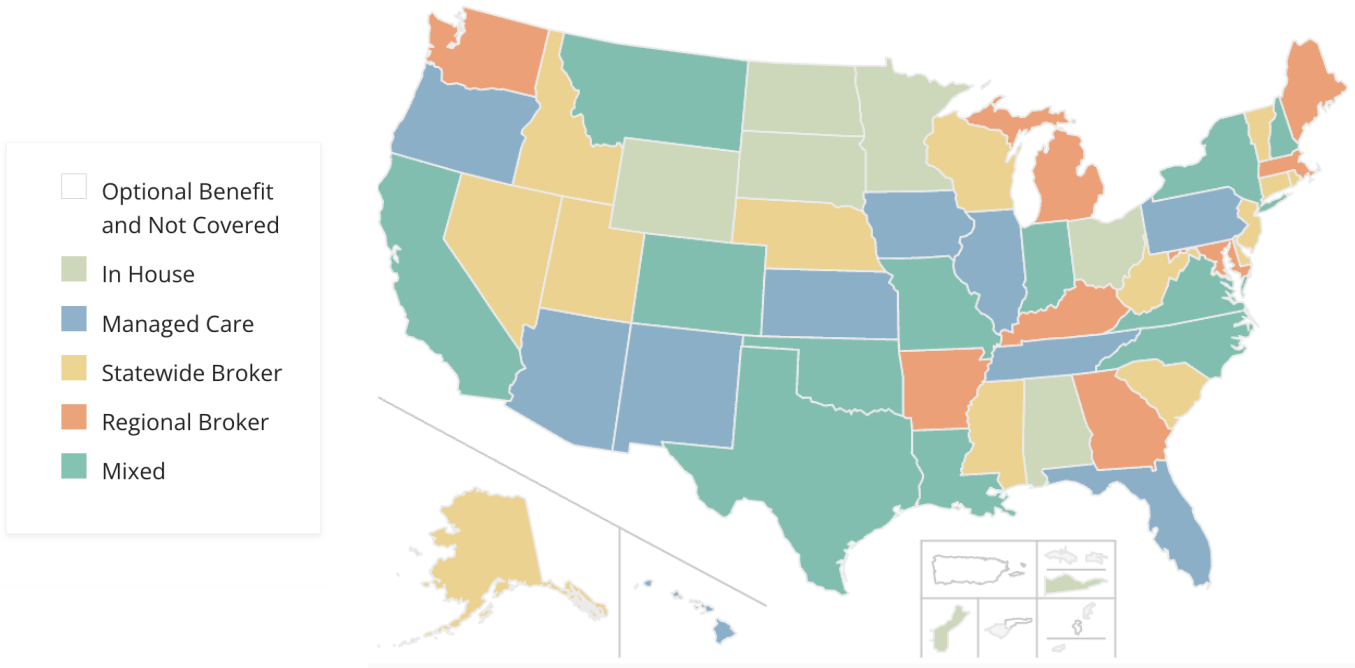


Figure 3-4: Non-Emergency Medical Transportation (NEMT) Models (NCSL, 2024)

As illustrated in Figure 3-4, states vary in terms of which models they use to support NEMT services. In the next section, we outline the advantages and disadvantages of different NEMT models and provide suggestions from roundtable participants about which model might work best for West Virginia.

Switching from Statewide to Regional or Mixed NEMT Model

Roundtable participants believe that the regional broker model would work better for West Virginia than the current state-wide model for several reasons, including the following three:

1. While the state-wide model emphasizes uniform service delivery across the entire state, the regional model focuses on local adaptability and responsiveness.
2. While the state-wide models streamline administration under a single entity, regional models offer greater flexibility to address local needs; however, regional models may involve higher administrative complexity and costs due to multiple contracts.
3. While the state-wide model may offer more consistent but less tailored services, regional models may provide higher quality and more accessible services in diverse regions by addressing specific local conditions.

Kentucky uses the regional broker approach as opposed to West Virginia, which has a single statewide broker. This NCSL description provides an overview of how it works:

> *Kentucky has operated under a regional broker system, the Human Service Transportation Delivery program, since the 1990s. Regional Transportation Brokers operate in 16 regions, and each broker operates a call center for NEMT eligibility determination and trip authorization. The broker system is supported through capitated funding. Each broker receives a lump sum of funding based on the Medicaid consumer headcount of each region.*

While the mixed model approach offers significant benefits in terms of accuracy and policy relevance for NEMT in West Virginia, it also poses challenges that need to be carefully managed for successful implementation. Table 3-5 provides an overview of the advantages and disadvantages of this model.

Table 3-5: Advantages and Disadvantages of Regional NEMT Models (West Virginia University/Marshall University Roads to Wellness Study, 2024.)

ADVANTAGES	DISADVANTAGES
Enhanced Accuracy: Mixed models can account for both individual-specific and region-specific variations, leading to more accurate predictions of NEMT needs and service utilization across diverse areas within the state.	**Complexity and Resources:** Implementing mixed models requires significant expertise, computational resources, and data collection efforts. This can be a challenge for states with limited resources or technical capacity.
Policy Tailoring: The ability to distinguish between different regions allows policymakers to design more targeted NEMT policies and investments, addressing specific local requirements and conditions.	**Data Demands:** High-quality, detailed data on individual health needs and regional healthcare attributes are necessary for accurate modeling. Inadequate data can lead to less reliable results and potentially misguided policy decisions.
Comprehensive Analysis: Mixed models can incorporate various data sources and levels of decision-making, providing a holistic view of factors influencing NEMT choices, from individual health needs to regional healthcare infrastructure.	**Interpretation Challenges:** The complexity of mixed models can make it difficult for policymakers and stakeholders to interpret the results and implications, potentially leading to misunderstandings or misapplication of the findings.
Flexibility: This approach can adapt to changes in healthcare trends and emerging data, making it suitable for dynamic planning in response to new developments or policy shifts.	**Initial Costs:** The setup costs for developing and validating a mixed model can be substantial, requiring investments in technology, training, and data infrastructure, which may be a barrier for states with constrained budgets.

BOX 3-6: THOUGHTS FROM THE FRONTLINE OF TRANSPORTATION AND HEALTHCARE IN WEST VIRGINIA: THE NEED FOR MORE COMMUNITY TRANSPORTATION OPTIONS

"Often MotivCare cancels due to not having a driver and often the night before a scheduled appointment. Those in the community who do not have Medicaid struggle to find transportation at all. The local PVT [private vehicle transportation] is a month out for reservations. The local senior center is often at least two weeks out and only available to the aging population.

Transportation is a daily issue in this PCP [primary care physician] office. I had a patient just yesterday have to cancel their needed stress test due to MotivCare canceling. This not only affected the patient but also the RT department because they have to pay $400 upfront for the nuclear tracer. Then this company lost $3,000 [of income] on that test [due to the transportation cancelation]. This is an issue for all stakeholders.

Any help with transportation options would greatly benefit our patients in this rural community. It would be nice if the community had churches that would offer a shuttle service. It would be nice if we had more PVT bus options and drivers."

Recruiting Local NEMT Drivers

ADVANTAGES

West Virginia has a unique topography and is not necessarily easy for someone outside of a given region to navigate a vehicle to a patient's residence. As a result, local drivers are often better suited for NEMT services due to their intimate knowledge of the area, including the quickest and safest routes, local traffic patterns, and specific locations of medical facilities. This familiarity can significantly reduce travel time and increase punctuality, ensuring that patients arrive on time for their medical appointments.

Local drivers are also more likely to understand and respect the unique needs and concerns of their community, fostering a sense of trust and comfort among passengers. Their established presence in the community also allows for more personalized and responsive service, which is crucial for the vulnerable populations typically reliant on NEMT. Drivers who are invested in their local area may go the extra mile to provide compassionate and reliable service, leading to higher satisfaction rates and improved overall patient outcomes.

West Virginia could consider implementing a program similar to Tennessee's managed care NEMT model. (Managed care plans have a contract with the state to provide NEMT and other services.) Recruitment campaigns for these programs highlight the benefits of becoming a driver (e.g., flexible hours and the opportunity to serve the community). The state also offers subsidies and grants to local transportation companies that hire local drivers. These financial incentives help reduce costs associated with training and certifying drivers.

DISADVANTAGES

While local drivers can offer many benefits for NEMT services, such as intimate knowledge of the area, quicker routes, and a stronger community connection, there are also several potential disadvantages to consider. These include limited availability, especially in rural areas, inconsistent training and service standards, and higher operational costs. Additionally, scalability issues may arise, making it difficult to expand services quickly. The reliability of local drivers can vary due to personal or economic factors, and there is a potential for bias, leading to unequal treatment of passengers. Further, over-reliance on local knowledge might prevent drivers from using efficient technology like GPS.

BOX 3-7: THOUGHTS FROM THE FRONTLINE OF TRANSPORTATION AND HEALTHCARE IN WEST VIRGINIA: NEED FOR MORE LOCAL TRANSPORTATION COORDINATORS AND PROVIDERS

"Families have told me that my role as a Resident Service Coordinator* helped their loved one make appointments. I schedule rides, give reminders, and navigate their back and forth."

I would like additional local transport providers. [Transportation] providers should have additional training to address the ableism and classism which I have witnessed towards patients who do not ride or not have supports who provide transportation.

[There should also be] transportation support for recipients of the Specified Low-Income Medicare Beneficiary [SLMB] and Qualified Medicare Beneficiary (QMB) programs who do not have the Aged and Disabled Waiver (ADW)."

*This Resident Service Coordinator works in affordable housing communities to connect residents to supportive services and resources. Mostly elderly or disabled individuals who do not qualify for other support services.

Increasing Annual NEMT Trips Supported by West Virginia Medicaid

Another option suggested by roundtable participants was to increase the number of trips covered annually by West Virginia Medicaid. Today, West Virginia policy limits mileage reimbursement to 125 miles or within 30 miles of state borders for medically necessary trips. As discussed earlier, this can pose a challenge for West Virginians given the lengthy travel time to reach appropriate medical care facilities, which may well be over 125 miles from their home.

THEME 3: EXPANDING MEDICARE, MEDICAID, AND PRIVATE INSURANCE SUPPORT/ REIMBURSEMENTS

Medicaid is a joint federal and state program that provides health coverage for low-income individuals and families, while Medicare is a federal program that primarily offers health insurance to individuals aged 65 and older and to some younger people with disabilities.

West Virginia ranks fourth and second in the nation in terms of the percentage of people on Medicaid and Medicare, respectively, so both serve a large number of residents.

However, both Medicaid and Medicare also face challenges in addressing the needs of West Virginians, leading to the following options proposed by roundtable participants:

- Expand telehealth reimbursement policies to cover audio-only visits.
- Enhance the education and financial support for peer support specialists and community health workers so they are certified to provide peer support for patients suffering from depression.
- Provide additional financial support and training for community health workers so they can provide transportation services and arrange transportation for the patients they service. During transportation, they can also provide educational support focused on the prevention of chronic health conditions.
- Require all health insurance plans in West Virginia to include care coordination as a benefit to minimize patients' transportation burden. Educate healthcare organizations and providers about new regulations allowing reimbursement for care coordination of patient transportation if they are covered by Medicare or Medicaid.

Expanding Telehealth Reimbursement Policies to Cover Audio-only Visits

Federal Medicaid and Medicare programs provide reimbursements for video-based telehealth visits but not audio-only telehealth visits. West Virginians who lack reliable broadband internet connection (e.g., for video visits), digital health literacy, and multiple transportation options may not be able to access the healthcare they need.

Reforming Medicaid and Medicare policy to include reimbursement for audio-only visits would allow healthcare providers to receive reimbursement for telehealth visits at the same amount they receive for in-person visits.

Implementing the policy to reimburse audio-only telehealth visits under Medicaid and Medicare faces several challenges: First, existing laws and regulations are primarily designed to support video-based telehealth, necessitating significant changes to accommodate audio-only visits. Second, it is more challenging to verify the identity of patients and ensure the legitimacy of audio-only visits compared to video visits. Third, ensuring that audio-only visits receive equitable reimbursement as in-person or video visits requires a detailed assessment of cost structures and resource utilization. Fourth, audio-only visits may lack the comprehensive visual component necessary for thorough medical evaluations and diagnoses. Addressing these challenges requires collaborative efforts among policymakers, healthcare providers, and regulatory bodies to ensure that the policy change effectively enhances healthcare access while maintaining service, quality, and integrity.

Enhancing Education and Training of Current Caregivers to Provide Peer Support for Depression

Many West Virginians suffer from depression and anxiety, yet West Virginia, like many states, lacks access to mental health professionals. Peer support specialists and community health workers have regular access to patients but need further education and financial support so they can be certified to provide peer support for patients suffering from depression.

Peer support specialists (PSS) offer the unique ability to offer aid to individuals with substance use disorders based on their own lived experiences. As a result, they can offer insight, resources, and a level of understanding different from that of a healthcare professional. Additional advantages relative to healthcare providers include the following:

1. Improved accessibility to mental health support, especially in underserved areas
2. Cost-effectiveness, as training peer specialists is less expensive than hiring additional professionals
3. Empathy and relatability through their lived experiences, fostering trust and encouraging patient engagement

However, there are also disadvantages to the use of PSS, including limited training, which may restrict their ability to handle complex cases, legal and practical limitations on the interventions they can provide, and challenges in establishing consistent certification and regulatory standards. Addressing these challenges requires significant investment in education and regulatory infrastructure to ensure quality and effective mental health support.

Currently, WV Medicaid only covers PSS for substance use disorder-related care. Greater expansion of Medicaid policies would ensure that more West Virginians could access care for mental illness, including depression. This is vital, as mental health has become a primary concern in rural populations.

Additionally, though Medicaid offers reimbursement for substance use disorder PSS, these policies do not reimburse telehealth operations or mileage for the specialist en route to the patient. In other words, the current Medicaid policy in West Virginia only offers coverage of the transportation from the patient's location to the facility, and the Peer Recovery Support Specialist is required to fund transportation to the patient.

Providing Financial Support and Training for Community Health Workers (CHWs) to Assist or Provide Transportation Services

According to the American Public Health Association Community Health Worker section:

> *A community health worker [CHW] is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery… A community health worker also builds individual and community capacity by improving health literacy and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support, and advocacy.*

Figure 3-5 provides more information on CHW activities:

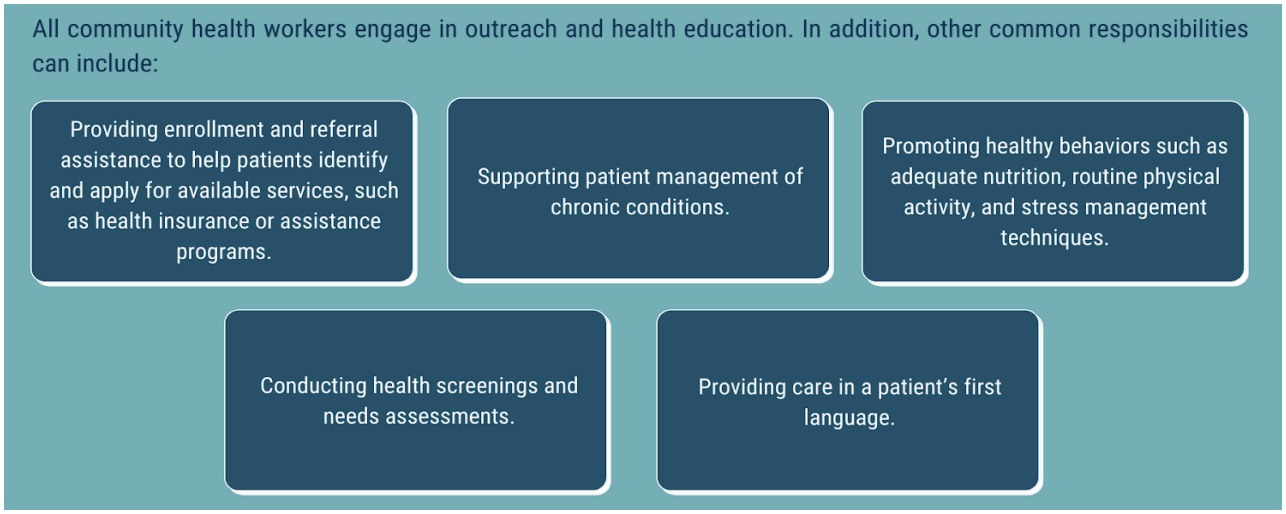


Figure 3-5: Common Community Health Worker Responsibilities (Michigan League for Public Policy, 2021)

According to the U.S. Bureau of Labor Statistics, the median pay for CHW was $48,200 per year (or $23.17 per hour) in 2023. Educational requirements are a high school diploma and short-term on-the-job training. The projected percent change in employment from 2022 to 2032 is 14%, higher than the average growth rate for all occupations at 3%.

National Institutes of Health studies show that CHWs are effective in the following ways:

- **Enhancing Access and Utilization of Healthcare Services:** CHWs improve access to and increase the use of healthcare services, including preventive screenings, leading to better overall health outcomes and reduced reliance on emergency and specialty care.
- **Improving Health Outcomes and Adherence:** By fostering better understanding and communication between community members and healthcare providers, CHWs help improve adherence to health recommendations and promote healthier behaviors.
- **Strengthening Connections between Communities and Healthcare Systems:** CHWs enhance communication and understanding between community members and health and social service systems, bridging gaps and ensuring more effective and culturally sensitive care delivery.

The question, therefore, is whether it is possible to add transportation support to assist or provide transportation services.

FACILITATING TRANSPORTATION FOR PATIENTS

A National Academy of Sciences, Engineering, and Medicine (NASEM) workshop report titled Exploring Data and Metrics of Value at the Intersection of

Health Care and Transportation: Proceedings of a Workshop provides several illustrations of how CHWs helped facilitate patient transportation:

- **Identification of Transportation Barriers:** CHWs can play a crucial role in identifying patients who face transportation barriers that prevent them from accessing healthcare services. These barriers can include lack of access to a vehicle, high transportation costs, or limitations in public transportation infrastructure.
- **Coordination with Transportation Services:** CHWs can work to coordinate transportation services for patients, particularly in rural or underserved areas. This can involve arranging for non-emergency medical transportation (NEMT) services or coordinating with local transit agencies to ensure patients have reliable means to reach their medical appointments.
- **Development of Tailored Transportation Solutions:** CHWs can help in developing transportation solutions tailored to the specific needs of their community. This could include organizing shuttle services, arranging for volunteer drivers, or setting up partnerships with ride-sharing services like Uber Health.
- **Patient Education and Support:** CHWs can educate patients on how to use available transportation options, ensuring they understand how to schedule rides, navigate public transit routes, and utilize transportation vouchers or subsidies provided by healthcare programs.

Additionally, NASEM workshop participants identified the following benefits when CHWs helped patients with their transportation needs:

- **Reduction of Missed Appointments:** By providing or arranging transportation, CHWs help reduce the number of missed medical appointments, which is crucial for managing chronic health conditions and improving overall health outcomes.
- **Cost-Effectiveness and Preventative Care:** Ensuring that patients have transportation to their medical appointments can prevent more costly emergency room visits and hospital admissions by enabling timely and preventative care.
- **Integration with Broader Social Determinants of Health:** CHWs address transportation as one of the key social determinants of health, recognizing that access to transportation is essential for equitable healthcare access and overall community health.
- **Sustainability and Long-term Impact:** CHWs can contribute to the sustainability of transportation programs by helping to secure funding, fostering community partnerships, and continuously assessing the effectiveness of transportation solutions to meet evolving patient needs.

BOX 3-8: REAL WORLD EXAMPLE OF A COMMUNITY HEALTH WORKER SUPPORTING PATIENT TRANSPORTATION NEEDS

A community health worker played a crucial role in overcoming transportation barriers for a 3-month-old child with retinoblastoma who required transport from Scranton, Pennsylvania (PA) to a specialist in Philadelphia, PA. The challenge the patient faced was that existing transportation services in Pennsylvania could not cross county lines, making the journey complicated and unreliable. The community health worker leveraged local contacts to arrange a limousine service to ensure the child reached the hospital. In another situation, the same worker arranged free transport for a patient stranded at a doctor's office when the para-ambulance failed to return to bring them home.

Source: NASEM, 2016

However, relying on CHWs for transportation support for patients with chronic health conditions (CHCs) presents several challenges that can limit the effectiveness of this approach. One of the primary challenges is the resource intensity required to coordinate transportation, especially in rural or underserved areas where public transit is limited or nonexistent. CHWs may need to spend significant time and effort arranging rides, which can detract from their other responsibilities, such as health education and patient advocacy.

Additionally, there is often a lack of sustainable funding to support transportation initiatives, making it difficult to maintain consistent services over time. Another challenge is ensuring that CHWs are adequately trained and equipped to navigate complex transportation systems, which may involve coordinating with multiple agencies or handling emergency situations.

Furthermore, liability concerns can arise when CHWs are directly involved in transporting patients, as healthcare organizations must ensure that all legal and safety standards are met. Finally, cultural and language barriers can complicate communication between CHWs, patients, and transportation providers, potentially leading to misunderstandings and missed appointments.

THEME 4: INCREASING FINANCIAL INCENTIVES TO RESPOND TO PHYSICIAN, ADVANCED PRACTICE PROVIDER, NURSE, AND COMMUNITY HEALTH WORKER SHORTAGES

As discussed earlier, West Virginia, along with other states, is facing healthcare worker shortages. Some of these shortages occurred before the COVID-19 pandemic and are even worse now.

The roundtable participants identified several policy options that could help respond to this shortage, including the following:

- Providing financial incentives for licensed primary care providers to gain additional training to decrease the need for specialist referrals and increase available care in communities.
- Increasing financial incentives and expanding existing student loan repayment program eligibility to include critical professions like nursing.

Providing Financial Incentives for Licensed Healthcare Providers to Gain Additional Training to Decrease the Need for Specialist Referrals and Increase Available Care in Communities

To enhance the availability of care in communities and reduce the reliance on specialist referrals, offering financial incentives for licensed healthcare providers to pursue additional training is a policy option for consideration. By equipping primary care providers with advanced skills and knowledge, they can handle a broader range of medical issues, thus decreasing the need for specialist intervention. This not only improves access to care for patients, particularly in underserved areas but also alleviates pressure on the healthcare system by optimizing the use of existing resources. Financial incentives serve as a motivating factor for providers to invest time and effort in further education, ultimately fostering a more versatile and capable healthcare workforce.

One possible model for providing this education is Project ECHO (Extension for Community Healthcare Outcomes), an innovative model of healthcare education and delivery designed to increase access to specialty care in underserved and remote areas. Launched in 2003 in New Mexico, Project ECHO connects primary care providers with specialists through a hub-and-spoke knowledge-sharing network. The “hub” consists of specialists and experts who guide and mentor the “spokes,” or community-based healthcare providers, using video conferencing technology.

Through regular virtual clinics, these sessions allow local providers to discuss complex patient cases with specialists, receive feedback, and learn best practices for managing various health conditions. The model emphasizes “moving knowledge, not patients,” enabling local providers to develop expertise in treating conditions that would typically require a referral to a specialist.

This approach improves patient outcomes, reduces geographic and economic barriers to care, and empowers local providers to deliver high-quality healthcare within their communities. The WVU School of Medicine's Project ECHO has been successfully replicated across the globe, addressing a wide range of medical and social issues. Project ECHO (Figure 3-6) uses video conferencing to connect primary care providers with specialists to improve care in various fields, including HepC/HIV, chronic pain, psychiatry, and more. Funded by the West Virginia Clinical and Translational Science Institute and partners, the program offers free education and case consultations. Sessions provide expert guidance and didactic presentations to enhance local healthcare capabilities.

Figure 3-6: Project Echo Hub and Spoke Model (Project Echo)

Potential challenges in implementing Project ECHO throughout West Virginia include a lack of reliable internet access and limited video conferencing capabilities in remote or underserved areas. Additionally, maintaining consistent provider engagement and retention can be difficult, given the heavy workloads of local healthcare providers. Sustaining their long-term participation may require ongoing motivation and incentives.

Securing adequate funding is another critical challenge, as the initial setup, training, and operational costs need a sustainable financial model, especially in resource-constrained settings. Furthermore, fostering effective interdisciplinary collaboration between specialists and community providers can be complex, as differences in clinical practices and communication styles may hinder the development of a cohesive learning environment.

Increasing Financial Incentives and Expand Existing Healthcare Student Loan Repayment Program Eligibility to Include Critical Professions Like Nursing

Increasing the number of healthcare providers may reduce the current delay of care for West Virginians, office and hospital closures, and burnout among healthcare providers. An increase in medical centers and physician offices throughout the state can reduce transportation needs among West Virginians seeking care for chronic health conditions, where regular visits to physicians and specialists are needed.

West Virginia's Health Sciences Service Program (HSSP) "is a loan repayment program (not a financial aid scholarship) for health professions students interested in practicing in underserved communities in West Virginia. The program makes approximately 15 awards each academic year to students enrolled in West Virginia healthcare education degree programs, awarding $30,000 for medical and dental students and $15,000 for students training to become nurse educators, nurse midwives, nurse practitioners, occupational therapists, pharmacists, physical therapists, physician assistants, clinical psychologists, public health practitioners, and clinical social workers.

Awards are made based on a competitive application process and the recommendations of an advisory committee. Funds are provided to participants once they begin practicing and provide documentation regarding their educational loan balances.

Table 3-6: Loan Repayment Incentives for Medical Providers in Kentucky and West Virginia

PROFESSION	KY HWLRP MAX REPAYMENT	WV HSSP MAX REPAYMENT	MEDIAN DEBT AT GRADUATION (U.S.)
Physician	$100,000	$30,000	$250,995
Dentist	$100,000	$30,000	$286,000
Pharmacist	$100,000	$15,000	$167,711
Nurse Practitioner	$60,000	$15,000	$154,083
Mental Health Specialist	$60,000	$15,000	$30,000– $120,000
Physician Assistant	$60,000	$15,000	$112,500
Registered Nurses	$40,000	$0	$47,321
Physical Therapists	$0	$15,000	$142,489

The challenge with the HSSP program, as illustrated in Table 3-5, is that other states such as neighboring Kentucky award much higher amounts than West Virginia. For example, Kentucky's Healthcare Worker Loan Relief Program (HWLRP), established in 2022, provides loan repayment for healthcare workers serving rural areas for at least two years. Another program established the same year is the Kentucky Healthcare Workforce Collaborative (HWC), a $10 million initiative that provides grants to public universities and community and technical colleges to expand healthcare-related programs. Both programs were in response to Kentucky's Governor issuing an executive order declaring its nursing shortage a state of emergency. These greater resources provide graduating students who participate in the Kentucky program with the opportunity to pay off their student debt in a few years rather than eight or more years.

In addition, the Kentucky program includes registered nurses—an occupation in higher demand than physicians but not included in West Virginia's program. The West Virginia program also makes 15 awards per year which is not very high given the shortages in all of these occupations. West Virginia is likely competing with other states in Appalachia for the limited number of health professionals who are willing to work in the state's rural areas.

West Virginia has other programs designed to respond to the healthcare worker shortage. For example, beginning in 2016, West Virginia granted nurse practitioners full practice authority, meaning they can diagnose and treat conditions as primary care providers. In 2024, the West Virginia legislature passed HB 4768 to grant in-state medical school tuition to non-residents who commit to an equal number of years of practice in rural, medically underserved areas of the state.

Implementing the potential programs may be challenging. Securing sufficient and sustainable funding may be a hurdle along with ensuring equity and fairness in the distribution of incentives, as it involves balancing the needs of various healthcare professions and regions, with the potential for some critical areas or demographics to be overlooked. Moreover, these programs do not guarantee long-term retention or adequate workforce distribution, as participants may still gravitate towards urban areas or leave the state after fulfilling their loan obligations, leaving underserved communities at risk of continued shortages.

One option to increase financial incentives for healthcare practitioner recruitment is to utilize a portion of the recent opioid settlement funds to fund medical residency and loan repayment programs for providers willing to serve in West Virginia, with a focus on those serving the communities hit hardest by the opioid crisis. There is precedent for this practice, as Oklahoma currently funds physicians practicing in underserved areas through the Tobacco Settlement Endowment Trust.

4. ANALYSIS OF POTENTIAL POLICY OPTIONS

On September 13, 2024, the Roads to Wellness advisory committee reviewed and analyzed the policy options identified during the roundtable discussions based on the information and analysis in the previous chapters, the logic models (Appendix E) describing the current situation in West Virginia, systems analysis of interested parties at the intersection of transportation and health, and the 4E analysis (described in Chapter 1) of policy options.

Advisory committee members prioritized the roundtable's proposed policy options using an Impact-Effort Matrix (IEM), also known as an action priority matrix. (See Figure 4-1.) The IEM is a visual tool used to prioritize tasks, projects, or ideas based on their potential impact and the effort required to implement them. As illustrated below, the IEM is a 2x2 grid with two axes: impact on one side and effort on the other, creating four quadrants.

1. **High impact, low effort (Potential Home Runs):** These tasks are considered high priority and are often called "quick wins." They offer a major impact for not much effort.
2. **High impact, high effort (Worth the Effort?):** These tasks also offer significant rewards, but they come with greater complexity and effort.
3. **Low impact, high effort (Not Worth the Effort):** These tasks are considered low priority and prompt a discussion about whether the team should proceed at all.
4. **Low impact, low effort (Potential Quick Wins):** These tasks demand minimal effort, but they should not be the top priority.

The first question that the advisory committee focused on was the overall broad thematic categories for the policy options. Among the members, there was not a consensus on the degree of effort required for different activities; however, all members agreed that fixing West Virginia's transportation system needed to occur first.

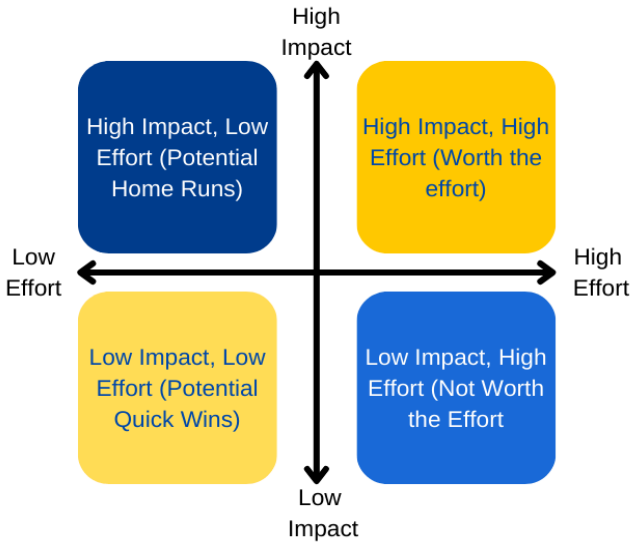


Figure 4-1: Impact-Effort Matrix (West Virginia University, 2024)

For example, even if a mobility management program is implemented, the desired societal goals cannot be reached if there are no transportation assets to whom patients can be referred.

After discussion about the reasons for the different perspectives, the advisory committee agreed that the following were likely to have the highest impact relative to the effort needed:

Theme 2: Modifying WV Medicaid Non-Emergency Medical Transportation (NEMT) Delivery Model

Theme 1: Coordinating Existing and Establishing New Transportation Programs/Services.

There was not a consensus on the degree of impact or effort on Themes 3 and 4:

Theme 3: Expanding Medicare, Medicaid, and Private Insurance Support/Reimbursement Policy Options

Theme 4: Increasing Financial Incentives to Respond to Physician, Advanced Practice Provider, Nurse, and Community Health Worker Shortages

The advisory committee then ranked the policy options concerning each theme. The top two actions identified for each theme are provided in Table 4-1 in order of overall theme ranking. Together, these provide a ranked strategy of possible policy options West Virginia policymakers can consider.

Table 4-1: Policy Options Ranked (within Themes 1–4)

THEME (IN PRIORITY ORDER)	TOP POLICY OPTIONS WITHIN EACH THEME	ADDITIONAL NOTES
Theme 2: Modifying WV Medicaid Non-Emergency Medical Transportation (NEMT) Delivery Model	1. Switch from statewide to regional or mixed NEMT model. 2. Recruit local EMT drivers.	The advisory committee members noted that changing the annual number of trips covered by Medicaid (Option 3) would not be successful without local drivers, which factored into their prioritization (Option 2).
Theme 1: Coordinating Existing and Establishing New Transportation Programs/Services.	1. Implement a mobility management program. 2. Establish public-private partnership funding for mobile healthcare and transportation to stationary healthcare services.	The advisory committee members noted that if (Option 1) a mobility management program was established and a public-private partnership funding mechanism could be established (Option 2), then transit options in underserved areas could be expanded (Option 3).
Theme 3: Expanding Medicare, Medicaid, and Private Insurance Support/Reimbursement Policy Options	1. Provide financial support and training for community health workers to assist or provide transportation services. 2. Expand telehealth reimbursement policies to cover audio-only visits.	The advisory members had a slight disagreement on which of these two policies should be labeled first priority (leading to a split vote) but also made a note for consideration about how hard it would be to implement.
Theme 4: Increasing Financial Incentives to Respond to Physician, Advanced Practice Provider, Nurse, and Community Health Worker Shortages	1. Increase financial incentives and expand existing healthcare student loan repayment program eligibility to include critical professions like nursing. 2. Provide financial incentives for licensed healthcare providers to gain additional training to decrease the need for specialist referrals and increase available care in communities.	A key issue that led to the prioritization of this theme was that West Virginia needs more general practitioners than specialists. Therefore, incentivizing general practitioners to become specialists would not be beneficial to the West Virginian's overall health given the health professional shortage.

5. CONCLUSION

West Virginia's high prevalence of chronic health conditions, combined with inadequate transportation options, makes it critical to address the intersection of these issues to ensure that patients receive timely, accessible, and effective care. Chronic illnesses often require frequent appointments, ongoing management, and complex care networks, but many residents-particularly in rural or underserved communities-lack personal vehicles, public transit services, or reliable telehealth alternatives. Lengthy travel times, limited provider availability, and poor broadband connectivity further restrict access, contributing to missed appointments, delayed interventions, and worsening health outcomes.

Another challenge may be the medical system itself. For example, hospital discharge policies may focus on patient medical readiness, sometimes neglecting practical concerns such as how patients will get home. (See Box 5-1 below.) This oversight can leave patients, especially those with chronic conditions, in a predicament if they don't have immediate access to transportation. Without reliable means to travel, patients may also struggle to attend follow-up appointments or access necessary care, potentially exacerbating their health issues.

Hospital and medical practices could instead review their policies related to patient discharge timing and how to manage situations when patients with challenging transportation situations that are no fault of their own. They could also partner with commercial and volunteer transportation options as described in Chapter 3.

Figure 5-1 provides an overview of the complex system that about 30% of West Virginians, particularly those living in rural and underserved communities, face at the intersection of transportation and healthcare. This overview is based on the following assumptions:

- Necessary resources (funding, personnel, materials) will be available and sufficient. The program will have access to skilled and knowledgeable staff.
- Program activities will be implemented as planned without significant disruptions. There will be effective collaboration and coordination among program partners and stakeholders.
- The target population will participate in the program and engage with the activities.
- Participants will be receptive to the program and willing to change their behaviors.

It also considers the following external factors:

- West Virginia's harsh winters, heavy snowfall, or frequent rain, which can cause delays or cancellations of transportation services, making it challenging for patients to reach their appointments
- Economic downturns or budget cuts at the state or federal level, which may reduce financial support and impact service implementation and continuity
- Patient economic status, which affects ability to afford even subsidized transportation services
- Government policies and regulations

West Virginians active in these activities include not only patients and their health providers, but public and private transit systems, foundations, charitable organizations, faith communities, private and public insurers, communities, volunteers, and more. Appendix F provides an in-depth system analysis with more detailed information.

A vast array of federal, state, and local government as well as for-profit and nonprofit organization funding support programs to help West Virginians who need transportation support to receive their healthcare services. Many West Virginians also volunteer their time, perhaps their most valuable resource, to support other West Virginians to achieve better health and longer lives.

Chronic health conditions also impact the entire West Virginia economy. Workers with chronic health conditions may be unable to work or retain their current employment. This situation can impact the state's economic development goals, particularly in regions that face economic challenges and those that are financially disadvantaged. In sum, investments at the intersection of health and transportation have the potential for a high rate of return for West Virginia and its people.

SITUATION

West Virginians with chronic health conditions (CHCs) are often unable to get to their medical appointments due to transportation challenges...

Over half a million West Virginians (28.5% of the state's population) have 2 or more CHCs. Individuals with one CHC require nearly twice as many medical visits as those without a CHC. Some West Virginians, particularly those in rural and underserved communities, lack access to vehicles, public transit systems, nearby medical facilities and personnel, and the internet (which can be used to access telehealth alternatives).

INPUTS

- Public transit funding
- Federal and WV Medicare funding
- Private health insurance
- Foundation grants
- Paratransit vehicles
- Volunteer vehicles
- Rideshare vehicles
- Vehicle and driver insurance
- WV public, private, and volunteer staff
- Scheduling software
- Community partnerships

ACTIVITIES

- Federal Medicaid transportation benefits that provide non-emergency medical transportation (NEMT)
- Public transit systems that offer fixed-route or demand-response services in some WV counties
- Volunteer driver networks that provide transportation services to elderly and disabled individuals in some WV counties
- For- and non-profit organizations that provide transportation in limited areas
- Telehealth services for those with sufficient technology literacy and available and affordable internet access
- Healthcare facility shuttle services operated by hospitals and clinics in limited areas
- Patient navigator programs that help patients manage their healthcare journeys, available in limited areas

OUTPUTS

- NEMT rides provided to patients with CHCs
- Patients with CHCs utilizing public transit services to attend medical appointments
- Volunteer driver trips completed for patients with CHCs
- Rides provided by for- and non-profit organizations
- Telehealth appointments attended by patients with CHCs
- Patients with CHCs transported by healthcare facility shuttles
- Patients with CHCs assisted by patient navigators for transportation coordination

OUTCOMES

Short-term:

- Increased patient and healthcare provider awareness of available transportation services
- Improved patient access to experiences with reliable transportation
- Increased patient utilization of Medicaid transportation benefits, public transit systems, and volunteer driver networks
- Decrease in missed appointments among patients with CHCs
- Higher levels of satisfaction among patients utilizing transportation services
- Improved coordination between transportation services and healthcare providers, resulting in more efficient scheduling of appointments

Mid-term:

- Better management of CHCs due to regular access to medical care and consistent follow-up appointments
- Higher rates of adherence to prescribed treatment plans, medications, and lifestyle changes among patients with CHCs
- Decrease in rates of hospital readmissions for patients with CHCs due to timely and consistent medical care
- Improved quality of life for patients with CHCs, evidenced by better physical and mental health outcomes
- Increased integration and coordination between healthcare providers and transportation services, resulting in more efficient and patient-centered care

Long-term:

- Decreasing incidences of CHCs
- Increasing life expectancy
- Decreasing health disparities
- Increasing regional economic competitiveness
- Increasing return on societal investment for funding spent on health-related transportation

Figure 5-1: Transportation to Healthcare Appointments for West Virginians with Chronic Health Conditions

POTENTIAL POLICY OPTIONS

By improving transportation infrastructure, integrating telemedicine, enhancing community-level services, and supporting the healthcare workforce, policymakers can help connect West Virginians with the care they need and ultimately improve the state's overall health landscape. Stakeholder roundtables developed the potential policy options described here. These options were then reviewed by West Virginian patients, transportation organizations, and healthcare providers. As shown in Table 5-1, there was overwhelming support for each of the potential policy options identified in the final town hall discussion that took place at the West Virginia Rural Health Association meeting in November 2024. These potential policy options fell into four themes:

Theme 1: Coordinating existing and establishing new transportation programs/services.

Theme 2: Modifying WV Medicaid Non-Emergency Medical Transportation (NEMT) delivery model.

Theme 3: Expanding Medicare, Medicaid, and private insurance support/reimbursements.

Theme 4: Increasing financial incentives to respond to physician, advanced practice provider, nurse, and community health worker shortages.

Those with 85% or higher agreement fell into two main categories, described in more detail below.

PATIENT SUPPORT

- Mobile health services available near homes
- Access to essential item delivery (e.g., medicine, medical equipment, healthy food)
- Ability to contact a transportation planner to arrange transportation for their healthcare appointments
- Availability of church vans or community transport near patient's home for transport to medical facilities

HEALTH PROVIDER TRAINING

- Support for community health worker training to assist patients with finding or providing transportation services
- Allow healthcare workers to participate in multiple education loan repayment programs.

Appendix D provides more detailed information on all feedback the team received on possible policy options.

Table 5-1: Support for Potential Policy Options Identified in West Virginia Rural Health Association Town Hall Discussion

POTENTIAL POLICY OPTIONS	"AGREE"/ "STRONGLY AGREE" RESPONSES	"DISAGREE"/ "STRONGLY DISAGREE"/ "NEUTRAL" RESPONSES
1. My patients would find it helpful if they could contact a transportation planner to arrange travel to their healthcare appointments.	85.7%	14.3%
2. My patients would find it helpful if a senior center provided transportation to their medical appointments.	71.4%	28.6%
3. My patients would find it helpful if there was a transportation service that came to their front door, instead of just the curb, and brought them to their medical appointments.	76.2%	23.8%
4. My patients would find it useful if mobile health services were available near their home.	95%	5%

5. My patients would find it helpful if public transit options were available near their home.	76.1%	23.9%
6. My patients would benefit if more transportation options such as community shuttles or church vans were available near their home.	85.7%	14.3%
7. My patients' access to healthcare would increase if audio only medical visits were covered by their medical insurance.	57.1%	42.9%
8. My patients would benefit from changing the existing state-based, Medicaid- supported transportation model (e.g. Modivcare) to a regional or mixed, Medicaid-supported transportation model.	52.3%	47.7%
9. My patients would benefit from hiring local drivers for medicaid-supported transportation services.	57.1%	42.9%
10. My patients would benefit from an increase in the number of trips to medical appointments covered annually by WV medicaid.	57.1%	42.9%
11. My patients would benefit if financial support and training for community health workers to assist with or provide transportation services were available.	95%	5%
12. My patients would benefit from remote health monitoring systems (e.g., heart monitors, glucose monitors, spirometers) to reduce in-person appointments.	70%	30%
13. My patients would benefit from access to essential item delivery (medicine, medical equipment, and nutritious food).	90.5%	9.5%
14. My healthcare professional community would benefit if education and training were available for peer support and depression.	71.4%	28.6%
15. My healthcare professional community would benefit from financial incentives for providers to gain specialty training to increase the availability of local specialists.	81%	19%
16. My healthcare professional community would benefit from expanding healthcare education loan repayment programs to include critical professions like nursing.	81%	19%
17. My healthcare professional community would benefit from allowing healthcare workers to participate in multiple healthcare education loan repayments programs.	95.5%	4.5%

ASSESSING POTENTIAL POLICY OPTIONS

The advisory committee and stakeholders were asked to consider four criteria in their assessment of the potential policy options: effectiveness, efficiency, equity, and ease of political acceptability. These are common criteria used in policy analysis and are defined in Figure 5-2:

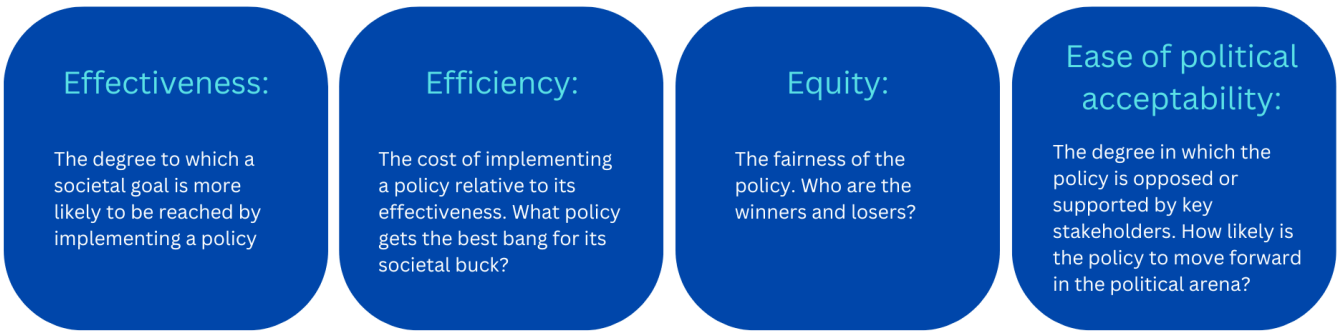


Figure 5-2: Criteria Used to Analyze Potential Policy Options (West Virginia University, 2024; Stine, D., *From Expertise to Impact: A Practical Guide to Informing and Influencing Science and Technology*, 2024.)

Provided below is a discussion of the policy options that summarizes the pros and cons based on analyses in Chapters 3 and 4 as well as Appendix F.

Improving the **effectiveness** of policies aimed at helping West Virginians with chronic health conditions involves strategies such as integrating mobility management programs, providing medical care coordination, expanding telehealth coverage, and boosting provider training. The advantages of such approaches include more timely, coordinated care, better health outcomes, and reduced reliance on emergency services.

Yet, challenges persist. Implementing these measures may involve initial high costs, workforce training needs, and logistical hurdles due to rural terrain, healthcare provider shortages, and technology gaps. Moreover, ensuring that these policies remain adaptable and evidence-based can be difficult, particularly in a state facing shifting demographics and evolving healthcare practices.

BOX 5-1: WEST VIRGINIA VOICES: RELYING ON OTHERS FOR RIDES TO APPOINTMENTS

"Our low-income patients often pay their family/friends/neighbors for rides to their appointments at an astronomical rate. When they aren't able to be seen because of transportation issues, their health can start to decline at a rapid rate, leading to more severe health issues that could have been avoided."

To enhance **efficiency**, potential policies include restructuring NEMT delivery models to a regional or mixed approach, improving telehealth reimbursement systems, and investing in integrated care platforms. These platforms organize and deliver care focused on the whole patient instead of just their specific illness, using technology to improve communication and support clinical decisions. Their team-based approach to healthcare

makes it easier for both patients and healthcare providers to work together and can also incorporate integrated medical transport (IMT) options, ensuring that individuals have reliable access to healthcare services.

Such measures can make the most of limited resources, reduce patient wait times, and support better care coordination—leading to fewer missed appointments and hospital readmissions. However, improved efficiency is not guaranteed if complexity rises, providers resist changes, or data reporting requirements become cumbersome. Additionally, funding and staffing limitations can constrain the ability of organizations to scale these solutions effectively, potentially resulting in only incremental improvements rather than significant systemwide gains.

BOX 5-2: WEST VIRGINIA VOICES: ISSUES WITH SCHEDULED TRANSPORTATION

"Often Modivcare cancels due to not having a driver and often the night before a scheduled appointment. Those in the community that do not have Medicaid struggle to find transportation at all.

The local [private carrier transportation] is a month out for reservations. The local senior center is often at least two weeks out and only available to the aging population.

Transportation is a daily issue in this PCP [primary care physician] office. I had a patient just yesterday have to cancel their needed stress test due to Modivcare canceling. This not only [affected] the patient but also the RT [radiology technician] department because they have to pay $400 up front for the nuclear tracer. Then this company lost $3,000 on that test. This is an issue for all stakeholders."

Achieving greater **equity** may stem from policies that expand Medicare, Medicaid, and private insurance support, broaden telehealth reimbursements to include audio-only formats, and train community health workers and peer support specialists to address mental health needs and transportation challenges.

The benefit is that a more diverse set of patients—regardless of income, geography, or ability—could receive consistent, high-quality care. However, these policies can be stymied if resources are spread thin, leading to a patchwork of coverage options that fail to reach the most vulnerable groups.

Equity initiatives also hinge on addressing infrastructure shortfalls, like broadband access, and ensuring cultural competence and fairness in the distribution of any new services or incentives.

BOX 5-3: WEST VIRGINIA VOICES: GROUPS MOST IMPACTED BY TRANSPORTATION CHALLENGES

"Transportation is a common problem discussed in nearly every community meeting I take part in. It's undoubtedly a problem and has been for quite some time. Those most affected are often impoverished, elderly, or in some way limited, either physically or mentally. These are folks who often cannot advocate for themselves and have been written off by those in power. I hope that this survey and this initiative at large can do something to help address this long-standing issue."

Ease of political acceptability for these societal challenges means having sufficient partners and stakeholders supporting the proposed initiatives for them to take place including healthcare facilities, public and private health insurers, and public and private transit. Strengthening opportunities in healthcare and transportation, for example, often involves forging public-private partnerships, expanding public transit in rural areas, and incentivizing mobile clinics and home-based care models.

These opportunities can optimize existing community resources, leverage technology, and create new care models that reduce travel distances and barriers to care. However, this approach can run into legal, financial, and administrative obstacles, such as liability coverage for volunteer drivers, stable funding for pilot programs, and maintaining quality standards across diverse transportation providers. Without careful oversight and sustained investment, these promising opportunities risk becoming piecemeal solutions rather than long-term systems of support for West Virginians with chronic health conditions.

BOX 5-4: WEST VIRGINIA VOICES: THE NEED FOR PARTNERSHIPS

CHALLENGES

“Access to the internet that is reliable to allow them [patients] to do telehealth.”

— CEO

“Any help with transportation options would greatly benefit our patients in this rural community. It would be nice if the Community had churches that would offer a shuttle service. It would be nice if we had more [private carrier transportation] bus options and drivers.”

— Health Navigator

“Extended route times for our local public bus system. Currently they only run 6am-6pm, Monday-Saturday. An
expansion of routes would also be helpful.”

— Peer Specialist

"It is] difficult for family members to travel to patients/their loved ones due to lack of personal transportation when [the patient] is transferred from one [medical] facility to another, sometimes 2-3 hours away."

— Nurse Practitioner

“I have had several patients that had to cancel, reschedule, and/or change doctors because of limited transportation.”

— Medical Social Worker

OPPORTUNITIES

“Many people [patients] state that if we didn’t come to them, they would not be able to get to care.”

— Mobile Program Coordinator

Families have told me that my role as Resident Service Coordinator helped their loved one make appointments; I schedule rides, give reminders, and navigate their back and forth.”

— Resident Service Coordinator

“I have provided gas cards to people to give to friends and family as incentive to provide rides.”

— Nurse

PRIORITIZATION BASED ON LEVEL OF EFFORT AND IMPACT

As discussed in Chapter 4, the team gathered information on the degree of effort relative to the degree of impact. A similar exercise to what the advisory committee undertook occurred at the WVRHA town hall meeting. Only a small number of participants responded, and of those who did respond, there was no consensus on the degree of effort and impact.

Discussion amongst both the advisory committee and the town hall participants led to the same conclusion – that the intersection of transportation and healthcare is such a complicated system that this study is not sufficient to come to a conclusion.

RECOMMENDATION FOR NEXT STEPS: IMPLEMENTATION PLAN

West Virginia has faced complex situations like the systems described in this policymaker guide before. We believe that the best next step is for the governor to convene transportation and healthcare staff in the West Virginia government to develop an implementation plan focused on the policy options identified in this policymaker guide.

Elements of this implementation plan could include the following steps:

1. **Clarify objectives and desired outcomes** by identifying and prioritizing which patient groups, regions, and healthcare services the plan should support. Collecting both qualitative and quantitative data is important, but so are conversations with patients.

   For example, a research study might ask patients why they missed an appointment and, if due to transportation, conduct a follow-up interview that provides detailed information regarding their transportation challenges, resulting in discussions of possible options to respond to those challenges. A better understanding of this situation from the patient perspective, as illustrated in the boxes throughout this policymaker guide, may help clarify West Virginians' objectives and outcomes.

2. **Engage key organizations**—federal, state, and local agencies, healthcare providers, transportation experts, non-profit groups, businesses, and patient advocates—to gather input, foster buy-in, and encourage cross-sector collaboration.

3. **Assess available resources and gaps,** including current funding streams, existing transportation options, staffing capacities, and technology infrastructure, to inform realistic and effective strategies.

4. **Determine priority actions and sequence them logically,** starting with low-cost measures or pilot initiatives, and then scaling up as evidence of success and additional resources become available.

5. **Establish clear metrics and evaluation criteria**—such as reduced no-show rates, shorter travel times, improved health outcomes, cost savings, and patient satisfaction—to measure performance and track progress over time.

6. **Develop communication channels, outreach strategies, and educational materials** to ensure patients, providers, and communities understand and can fully utilize newly established transportation resources and support systems.

7. **Create an iterative review and refinement process,** regularly evaluating the plan's impact, collecting feedback, addressing emerging challenges, and making data-driven adjustments as conditions change.

APPENDIX A: ADVISORY COMMITTEE MEMBERS AND PROJECT STAFF

ADVISORY COMMITTEE MEMBERS

Stephanie Bowman, NP, CDE, Program Lead, Marshall Community Health Worker Program (until 4/10/2024)

Jacob Bumgarner, PE, Chief Engineer, Special Programs, West Virginia Department of Transportation (began 3/1/24)

Deborah Harris, MA, Manager, Jobs and Hope West Virginia

Wanda Hembree, MD, Chief Medical Officer, Aetna Better Health of West Virginia

Carrie Jeffries, DNP, MPH Ambulatory System Chief Nursing Officer/ System Vice President of Health Centers Operations, Family Care Health Centers (WV) (until 6/27/2024)

Alanna Keller, PE, Deputy Secretary of Transportation/Deputy Commissioner of Highways, West Virginia Department. of Transportation

Cecil Pollard, MA, Assistant Director, Office of Health Services Research, School of Public Health, West Virginia University

Jim Smallridge, RN, Lead Director, Community Development, Aetna Better Health of West Virginia

Kim Tieman, MSW, Vice President and Program Director, Claude Worthington Benedum Foundation

PROJECT STAFF

Joan Centrella, PhD, Director, Bridge Initiative in Science and Technology Policy, Leadership, and Communications

Deb Koester, PhD, Assistant Professor and Director, Division of Community Health, Marshall University

Deborah Stine, PhD, Study Director, Consultant to WVU; Founder, Science & Technology Policy Academy

Moriah Taft, Project Manager, West Virginia University

WEST VIRGINIA UNIVERSITY STUDENTS, POSTDOCS, AND FELLOWS

Brandon L. Gregory, MHA, MS, Population Health, West Virginia University

Kensey Bergdorf-Smith, PhD, West Virginia Science and Technology Policy Fellow

Madison "Darby" Taylor, MPH Candidate, Epidemiology and Biostatistics, West Virginia University

Brady Shrader, PhD Candidate, Political Science, West Virginia University

Peter Krch, MA, Professional Writing & Editing, West Virginia University

Sara Druffner, PhD Candidate, Microbiology, Immunology & Cell Biology, West Virginia University

Robin Oliverio, PhD, Neuroscience, West Virginia University

Josie Strechay, BSJ Candidate, Advertising and Public Relations, West Virginia University

APPENDIX B: ROUNDTABLE INFORMATION

This appendix provides the background information given to the roundtable participants including background information, agenda, and participant list.

Roads to Wellness: A System Analysis of Crucial Links between Transportation and Health in West Virginia

OVERVIEW

The Roads to Wellness project is bringing together experts and multi-sector stakeholders from throughout West Virginia in three virtual roundtable discussions to produce a project report synthesizing the system analysis, logic models, and strategic plan with prioritized policy actions to enhance West Virginians' health by addressing transportation challenges. This project is jointly led by West Virginia University's (WVU) Bridge Initiative in Science and Technology Policy, Leadership, and Communications and Marshall University's Division of Community Health in the Department of Family Medicine at the Joan C. Edwards School of Medicine. This project is funded by the Benedum Foundation.

During the roundtable, participants will brainstorm policy options to respond to the roundtable topics below, then discuss the pros and cons of each identified policy option based on the 4E criteria (effectiveness, efficiency, equity, ease of political acceptability), and then individually prioritize options based on that 4E analysis in an anonymous poll. Science & Technology Notes with background information and some potential policy options based on actions in other Appalachian states are provided for each roundtable topic.

ROUNDTABLES

The RTW project brought together a group of about 30 experts and multi-sector stakeholders, with expertise in health and/or transportation from across West Virginia in three virtual roundtable discussions held April 10–11, 2024. A list of participants can be found in Appendix A, and the results of the roundtable discussions can be found in Chapter 3 on West Virginia Opportunities in Healthcare and Transportation. Each roundtable had a specific focus, as described below.

Roundtable 1: Health on the Move: Bridging Transportation and Care through Telemedicine, Mobile Clinics, and Integrated Models in West Virginia

(Wednesday, April 10, 2024, 1:00 pm - 3:00 pm, Zoom)

The "Health on the Move" roundtable participants explored the critical role of transportation in healthcare delivery to West Virginians with chronic health conditions (e.g., congestive heart failure, diabetes, COPD, depression, and anxiety). Participants discussed policy options that could provide opportunities to enhance the use of…

- telemedicine, offering a viable alternative for patients in remote areas of West Virginia by eliminating the need for physical travel;
- mobile clinics, serving West Virginia communities with limited transportation options and bringing essential healthcare services directly to those in need;
- integrated care models, partnering with transportation organizations to facilitate diverse and flexible patient care settings (e.g., Uber, Lyft); and
- other actions to respond to the insufficient local healthcare workforce, providing improved primary and specialty care.

By exploring these critical elements of healthcare in West Virginia, this roundtable highlighted innovative strategies and policy initiatives aimed at leveraging transportation to enhance healthcare access and delivery to bridge transportation and care.

Roundtable 2: Country Roads to Prevention: Integrating Transportation for Enhanced Population and Community Health in West Virginia

(Thursday, April 11, 2024, 9:00 am - 11:00 am, Zoom)

The “Country Roads to Prevention” roundtable participants delved into how transportation options for West Virginians (or the lack thereof) directly impact population and community health, particularly through the lens of health promotion and disease prevention strategies.

Participants discussed the pivotal role of transportation in facilitating primary prevention efforts, such as enabling consistent access to health check-ups, screening tests, and vaccinations. Also explored was the critical importance of secondary prevention, where consistent and cost-effective transportation options can be lifesaving; these options can ensure that individuals with existing health conditions receive timely care and management, thereby avoiding complications and preventing the worsening of their conditions.

Ultimately, this roundtable shed light on policy options and practical measures that could strengthen the ties between transportation and healthcare, ultimately supporting community-wide health and wellness for all West Virginians.

Roundtable 3: Bridging the Health Divide: The Intersection of Transportation and Health Equity in West Virginia

(Thursday, April 11, 2024, 1:00 pm - 3:00 pm, Zoom)

The “Bridging the Health Divide” roundtable participants explored how West Virginians’ access to transportation is a fundamental social determinant of health, impacting health equity across various communities. (The U.S. Department of Health and Human Services defines social determinants of health as
“conditions and environments in which people are born, live, learn, work, play, worship, and age.”)

Participants examined the challenges of accessibility in rural areas of West Virginia, where scarce transportation options can severely limit access to essential healthcare services, nutritious food, and opportunities for physical activity, further entrenching health disparities. Discussions focused on the critical role that reliable transportation plays in economic stability, emphasizing its essential role in securing employment and, by extension, healthcare access for West Virginians. The roundtable also addressed intersections with education, including literacy and digital literacy, with West Virginians’ ability to navigate transportation and healthcare systems.

By examining these aspects of healthcare in West Virginia, this roundtable identified potential policies and practical measures to address social determinants of health through transportation solutions intended to break down barriers and move towards greater health equity for all West Virginians.

AGENDA

1:00 pm
9:00 am

Welcome, Purpose, Background, and Introductions

Dr. Joan Centrella, Director, Bridge Initiative in Science and Technology Policy, Leadership, and Communications
Dr. Deb Koester, Assistant Professor and Director, Division of Community Health, Marshall University

1:15 pm
9:15 am

Roundtable Goals

Dr. Deborah Stine, Study Director, Consultant to WVU; Founder, Science & Technology Policy Academy

- What actions, if any, should policymakers (e.g., leaders in national, state, local, for-profit, and non-profit organizations) take to respond to concerns that insufficient transportation options are reducing the quality and quantity of healthcare received by West Virginians with chronic health conditions? (e.g., congestive heart failure, diabetes, COPD, depression, and anxiety)

1:30 pm
9:30 am

Brainstorm Policy Options to Roundtable Question Subtopics and Who Should Act

- **Roundtable 1: Bridging Transportation and Care through Telemedicine, Mobile Clinics, and Integrated Models in West Virginia**
  - a. Telemedicine
  - b. Mobile Clinics
  - c. Integrated Care Models (i.e., chronic care management)
  - d. Healthcare Worker Location and Shortage
- **Roundtable 2: Integrating Transportation for Enhanced Population and Community Health in West Virginia**
  - a. Primary Prevention (e.g., consistent access to health check-ups)
  - b. Secondary Prevention (e.g., those with existing health conditions receive timely care)
- **Roundtable 3: Intersection of Transportation and Health Equity in West Virginia**
  - a. Rural transportation scarcity impacts on West Virginians with existing health disparities (e.g., severely limiting access to essential healthcare services, nutritious food, and physical activity opportunities)
  - b. Household economic stability (e.g., securing employment and, by extension, healthcare access)
  - c. Education, including literacy and digital literacy, with the ability to navigate transportation and healthcare systems

2:00 pm
10:00 am

Discuss pros and cons of potential options relative to the 4E's:

- **Effectiveness:** The degree to which a societal goal is likely to be reached.
- **Efficiency:** The cost of implementing the policy relative to its effectiveness.
- **Equity:** The fairness of the policy. Who are the winners and losers?
- **Ease of political acceptability:** The degree to which the policy is opposed or supported by key stakeholders**.**

2:30 pm
10:30 am

Rank the policy options based on the 4E assessment (anonymous poll)

2:45 pm
10:45 am

Final thoughts from each participant

3:00 pm
11:00 am

Adjourn

ROUNDTABLE ATTENDEES

NAME	TITLE	ORGANIZATION
Joanna Bailey	MD	Tug River Health
Sheryn Carey	Director, Health Promotion and Chronic Disease Prevention	WV Bureau for Public Health
Matt Christiansen	State Health Officer	WV Dept of Health Bureau for Public Health
Marian Clowes	Associate Director	Sisters Health Foundation
Jeb Corey	CEO	Link Transportation
Sharon Covert	Executive Director	Alzheimer's Association, WV Chapter
Dan Hager	Executive Director	Ebenezer Medical Outreach, Inc.
Kathy Hill	APRN-BC, Health Officer	Boone County Health Department
Jennie Hill	Executive Director	Laotong Yoga, Inc.
Katie Johnson	Prevention Coordinator	ICE Collaborative/Fayette County Health Department
John Kennedy	Director of School-Base & Behavioral Health Services	West Virginia Primary Care Association
April Knight	State Director	WV 211
Tom Kuhn	M.S., M.H.A., Program Consultant	Partners in Health Network, Inc.
Brittany Lowther	Program Director Routes to Recovery	Recovery Point WV
Joshua McGill	Sr. Director- Transportation	ModivCare
Amanda Morgan	WV Facility Liaison, ModivCare	Modivcare
Teresa Morris	Program Director	Alzheimer's Association, WV Chapter
Abbie Newell	Grant Management Specialist	New River Health Association
Ely Osborne	Public Policy Director	Alzheimer's Association, WV Chapter
Hilary Payne	APHP Program Director	Partners In Health Network
Bill Robinson	Executive Director	WVDOT Division of Multimodal Transportation Facilities - Public Transit
Megan Ross	Epidemiologist 2	WV Division of Health Promotion and Chronic Disease
Rebecca Roth	Director, Office of Policy, Planning, & Research	Bureau for Behavioral Health, WV Dept for Human Services
Cathy Slemp	Public Health	
Jana Stoner	Health Program Officer	Pallottine Foundation of Huntington
Merinda Stricklen	Director, Health and Community Education	FamilyCare Health Centers
Tiffany Summerlin	Smile Express Mobile Dental Program Coordinator	Monongalia County Health Department
Denise Worley	Commissioner	West Virginia Bureau of Senior Services

APPENDIX C: SUMMARY OF POLICY OPTIONS IDENTIFIED DURING ROUNDTABLE DISCUSSION

The Roads to Wellness project brought together experts and multi-sector stakeholders, with expertise in health and/or transportation, from across West Virginia in three virtual roundtable discussions on April 10-11, 2024. Each roundtable had a specific focus (e.g., Health on the Move, Prevention, and the Impact of Social Determinants of Health). The goal of the project is to conduct a system analysis, create logic models, and develop a strategic plan summarized in a final report with prioritized policy actions to enhance West Virginians' health by addressing transportation challenges. This project is jointly led by West Virginia University's (WVU) Bridge Initiative for Science and Technology Policy, Leadership, and Communications and Marshall University's Division of Community Health in the Department of Family Medicine at the Joan C. Edwards School of Medicine. This project is funded by the Benedum Foundation.

During the roundtables, participants identified the following policy options and then discussed the pros and cons based on the 4E criteria (effectiveness, efficiency, equity, and ease of political acceptability). Finally, participants were offered the opportunity to individually prioritize options based on the 4E analysis in an anonymous poll.

Coordinate Existing and Establish New Transportation Programs/Services:

A. Implement regional and/or statewide mobility management program and coordinator(s).
B. Establish public-private partnerships funded by healthcare organizations, health payers, community-based organizations, and local businesses to provide and coordinate transportation services for patients traveling to and from medical facilities.
C. Expand public transit to currently unserved areas by implementing a coordinated fare and schedule system for public transit (e.g., collaborating to serve multiple counties with a single-day bus service to expand the use of existing transportation assets).
D. Establish grant-based pilot programs to provide transportation services. Examples include:
    a. Blount County, Tennessee's membership-based pilot program SMiles Transportation
        i. https://www.blountcaa.org/programs/
    b. South Carolina's Neighbor to Neighbor Program
        i. https://www.n2ncarolinas.org
E. Incentivize the use of existing non-medical transit assets for medical purposes such as church vans and school buses.
F. Incentivize the use of existing non-medical transit assets (e.g., healthy foods, durable medical equipment, and prescriptions) to meet patients' health-related social needs in their homes.

Medicare, Medicaid, Insurance Reimbursements:

A. Expand telehealth reimbursement policies to cover audio-only visits.
B. Enhance the education and financial support for peer support specialists and community health workers so they are certified to provide peer support for patients suffering from depression.
C. Provide additional financial support and training for community health workers so they can provide transportation services and arrange transportation for the patients they service. During that transportation, they can also provide educational support focused on the prevention of chronic health conditions.

D. Require all health insurance plans in West Virginia to include care coordination as a benefit to minimize patients' transportation burden. Educate healthcare organizations and providers about new regulations allowing reimbursement for care coordination of patient transportation if they are covered by Medicare or Medicaid.

WV Medicaid Non-Emergency Medical Transportation Delivery Model:

A. Modify West Virginia's existing Medicaid Non-Emergency Medical Transportation delivery model to a regional or mixed model.
B. Promote hiring local drivers for Non-Emergency Medical Transportation services.
C. Increase the number of trips covered annually by West Virginia Medicaid.

Address Physician, Advanced Practice Provider (e.g., nurse practitioners and physician assistants), Nurse, Community Health Worker Shortages:

A. Provide financial incentives for licensed providers to gain additional training to decrease specialist referrals and increase available care in communities.
    a. e.g., Project ECHO: https://projectecho.unm.edu/
B. Expand existing student loan repayment program eligibility to include critical professions like nursing.
C. Increase existing loan repayment funding for healthcare workers in exchange for an obligation of in-state service.
D. Allow healthcare workers to participate in multiple loan repayment programs.
E. Fund expansion of nurse practitioner residency programs.
F. Increase community health education programs to promote health outside of clinics.
G. Allow healthcare providers, other than physicians, to practice at the top of their license (scope of practice) regardless of practice setting (e.g., stationary and mobile clinics) to increase the available provider pool and reduce the burden on physicians and patients.

APPENDIX D: STAKEHOLDER DATA GATHERING AND ANALYSIS

The “Roads to Wellness” research team gathered input from patients, transportation providers, and healthcare providers across West Virginia about the potential policy options developed during Roundtable Discussions and reviewed by the Advisory Committee. The data gathering did not achieve a sufficient response rate for drawing general conclusions; however, it does offer valuable anecdotal information that is highlighted throughout the policymaker guide.

METHODS

The team designed three different surveys, each intended for a specific population of interest: patients, transportation organizations, and healthcare providers. Questions regarding policy options were structured using “I” statements and included a Likert scale to facilitate visualization of the options for respondents.

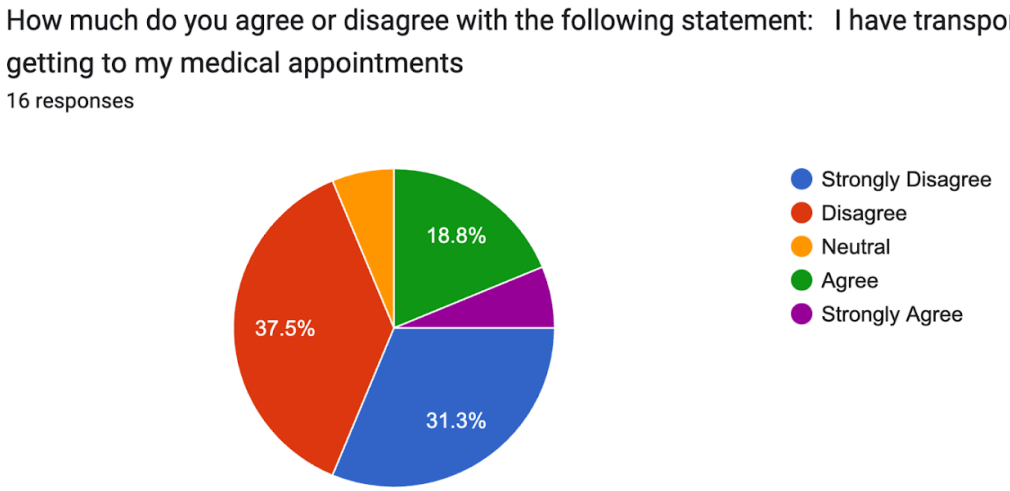
Each of the three surveys also included additional questions about transportation challenges, current transportation services, access to healthcare, and other related topics. All responses were anonymous by default, but respondents were given the option to provide contact information for follow-up.

Our team contacted approximately 133 organizations in West Virginia regarding participation in the survey. Of these, 57 individuals responded: 29 healthcare providers, 16 patients, and 12 transportation providers. Each organization was contacted via email and by phone. Our staff explained the goal of the study and asked if the organization would be interested in participating. If the organization agreed to participate, we collected an email address from an individual representative and sent the survey corresponding with this individual’s identity (i.e., healthcare professional, patient, or transportation provider).

PATIENT SURVEY

In addition to the responses our team solicited from organizations in West Virginia, some patient responses were collected at the “Medicaid Matters: A Community Summit on Healthcare” event on October 1, 2024. These responses were added to the online survey results.

The first question on the patient survey asked whether the respondent agreed with the following statement: “I have transportation challenges getting to my medical appointments.” The results are shown in the chart below.



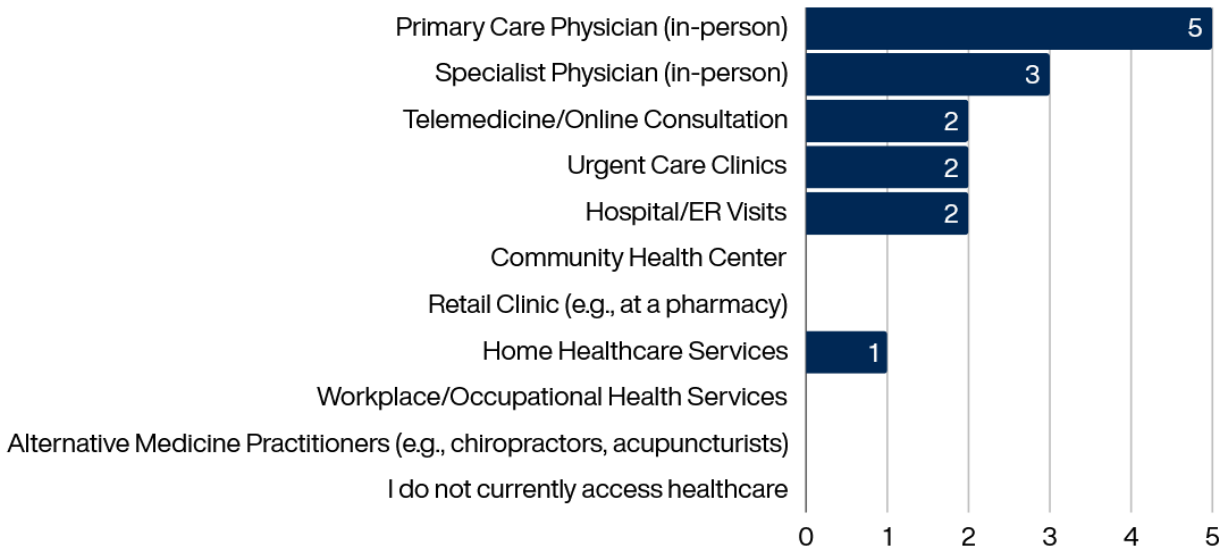
If a respondent did not agree with this first statement, no further questions were provided to that respondent. Of the 16 patient respondents, five continued past this first question.

In addition, respondents to the patient survey were asked the following questions:

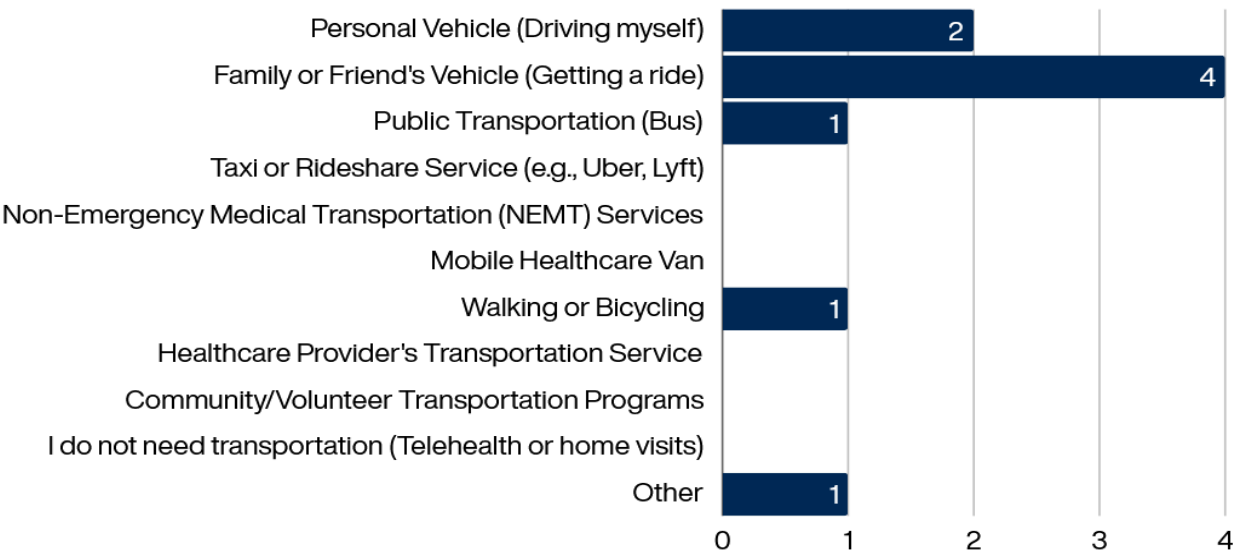
- How do you currently access your healthcare?
- How do you currently get transportation to your healthcare appointments?
- What current transportation challenges do you face when attending medical appointments?

Each of these three questions allowed the respondent to choose more than one option. Responses to these questions are shown in the graphs below.

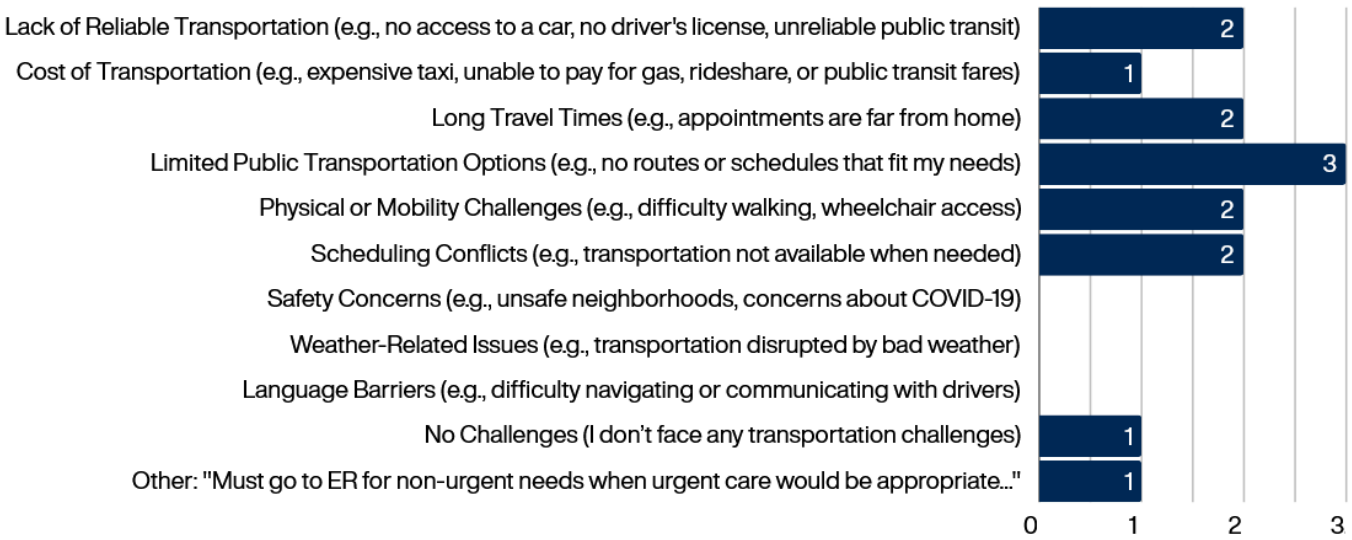
How do you currently access your healthcare? (Please select all that apply.)



How do you currently get transportation to your healthcare appointments? (Please select all that apply.)



What current transportation challenges do you face when attending medical appointments? (Please select all that apply.)



The final two questions of the patient survey were open responses, allowing for the respondent to include any information they thought our team should know or any suggestions they have about how to improve their situation. The following responses were provided:

- "Transportation to urgent care when needed"
- "Need more public transportation options"
- "More available options, better coverage for transportation, ease of scheduling"

TRANSPORTATION PROVIDERS SURVEY

The survey designed for transportation providers followed a similar format to that of the patient survey. Preliminary information was collected by multiple choice selection and included questions such as the following:

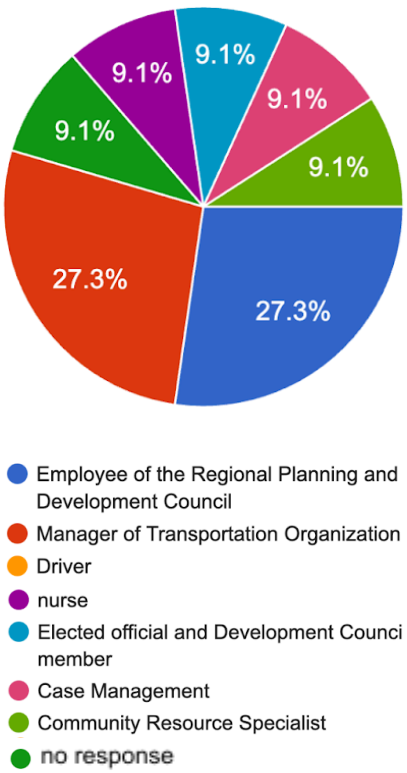
- What is your role in your organization?
- How long have you been working in this field in West Virginia?

Questions allowing multiple selections were also included in this survey to encourage more thorough and accurate responses. These questions included the following:

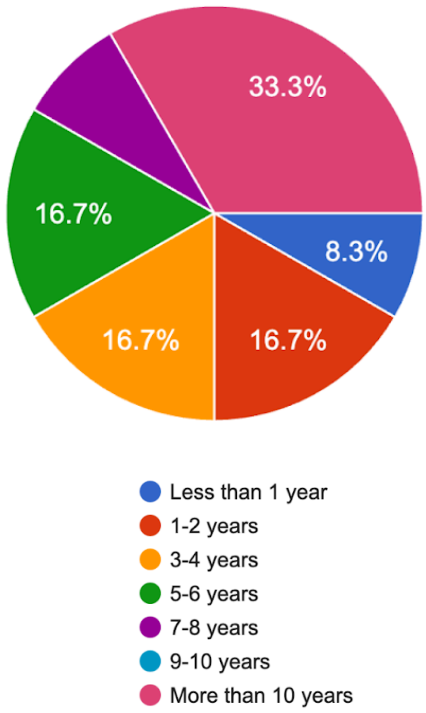
- What services does your transportation organization offer?
- What challenges does your organization face?
- What current transportation challenges does your clientele tell you they face?

Responses to these questions are shown in the graphics on the following pages.

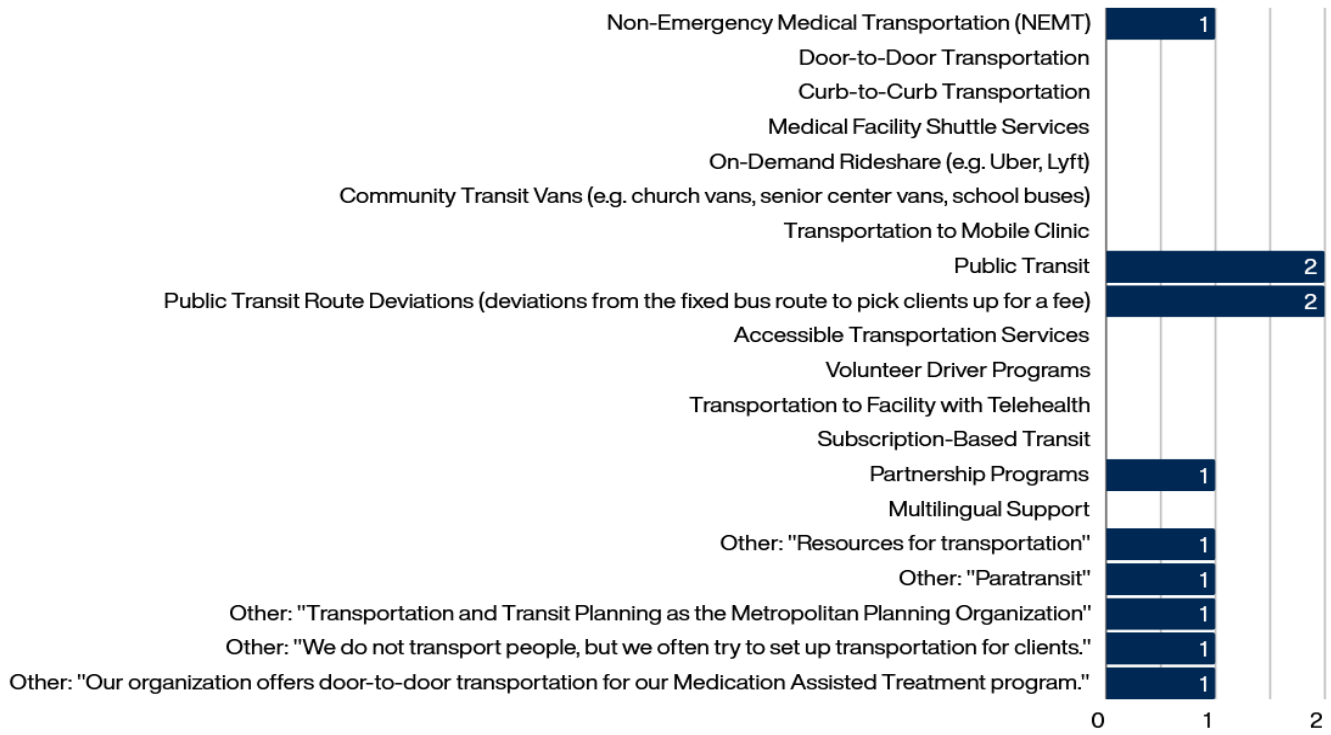
1. What is your role in your organization?



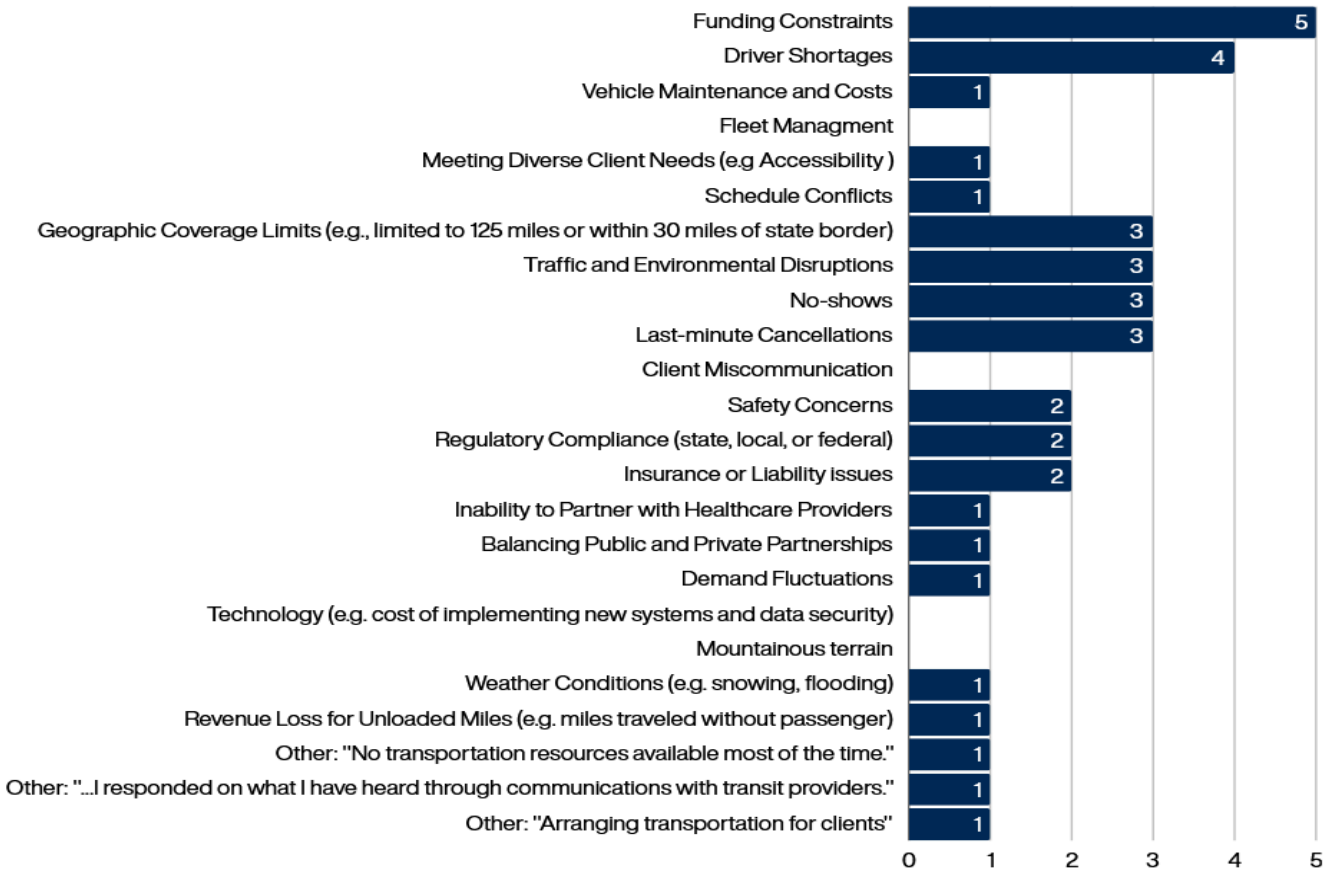
2. How long have you been working in this field in West Virginia?



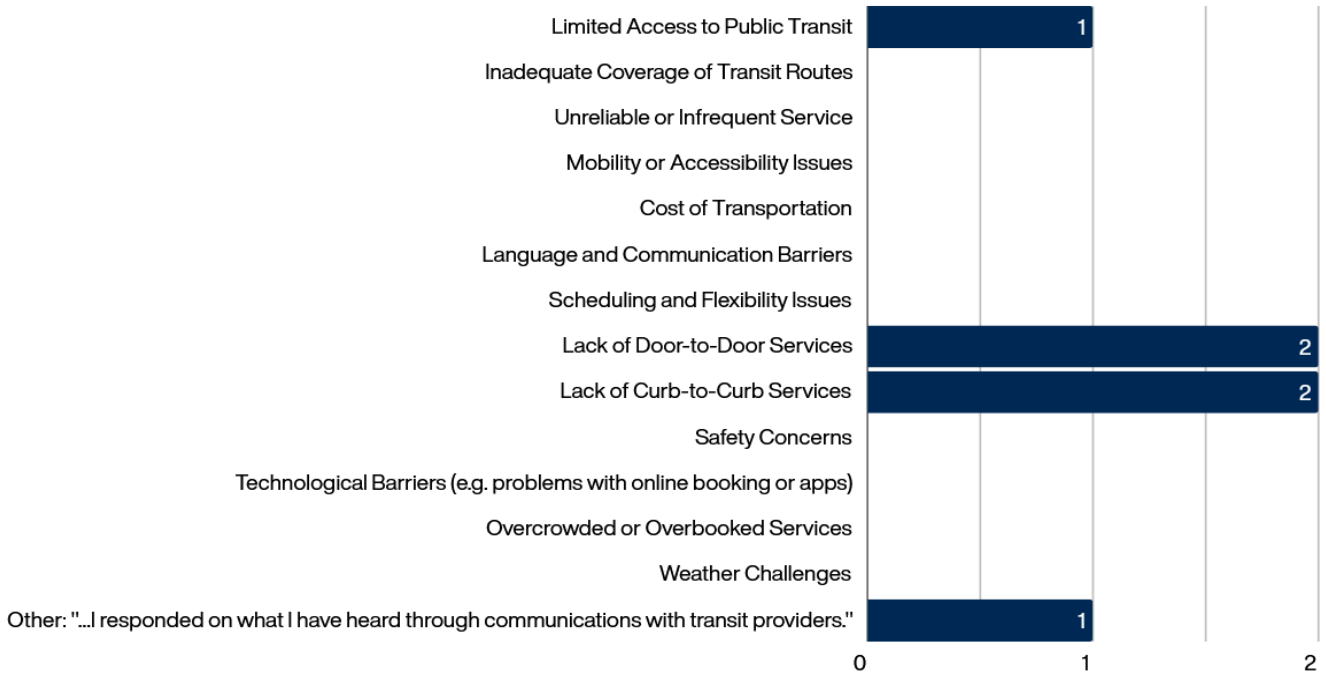
What services does your transportation organization offer? (Please select all that apply.)



What challenges does your organization face? (Please select all that apply.)



What current transportation challenges does your clientele tell you they face? (Please select all that apply.)



The final two questions of the transportation provider survey were open responses, allowing the respondent to include any information they thought our team should know or any suggestions they have about how to improve their situation. The following responses were provided:

- "I receive most of the resource calls first. My heart aches for these people who can't get transportation. I had a guy tell me he was going to die if he could not find transportation to his appointments because he needed transportation. I had a lady call, and she had to spend the night in the hospital waiting room because she had been discharged that night, and there was no transportation available until 8 the next morning. And so many other calls from people who can't get transportation either because where they live, the hours, stretcher needs, they can't afford it, or the transportation is booked. I sincerely hope that one day someone comes up with a solution for transportation needs."
  – Disability Resource Officer
- "Transportation is a common problem discussed in nearly every community meeting I take part in. It's undoubtedly a problem and has been for quite some time. Those most affected are often impoverished, elderly, or in some way limited, either physically or mentally. These are folks who often cannot advocate for themselves and have been written off by those in power. I hope that this survey and this initiative at large can do something to help address this long-standing issue."
  – Case Manager
- "Our low-income patients often pay their family/friends/neighbors for rides to their appointments at an astronomical rate. When they aren't able to be seen because of transportation issues, they can start to decline at a rapid rate leading to more severe health issues that could have been avoided."
  – Community Resource Specialist
- "24/7 hours, more coverage area, more on-demand rides"
- "Give patients a reduced bus fare"
- "Financial health in covering fares or free transportation to medical appointments and places of employment (so they can better pay for medical aid)"
- "Coordination with mobility managers and healthcare providers, long service hours, ride shares"
- "An increase in taxi services that could somehow be paid for by the state. There are many clients who can't use Uber or Lyft due to no phone service or having Wifi only phones.

HEALTHCARE PROVIDER SURVEY

The healthcare provider survey split the potential policy options into policy options related to patients and policy options related to healthcare providers to allow for easier distinction between options when filling out the survey. The healthcare professional survey followed a format similar to the previous two surveys, gathering preliminary information about the respondents' positions and the states in which they currently serve.

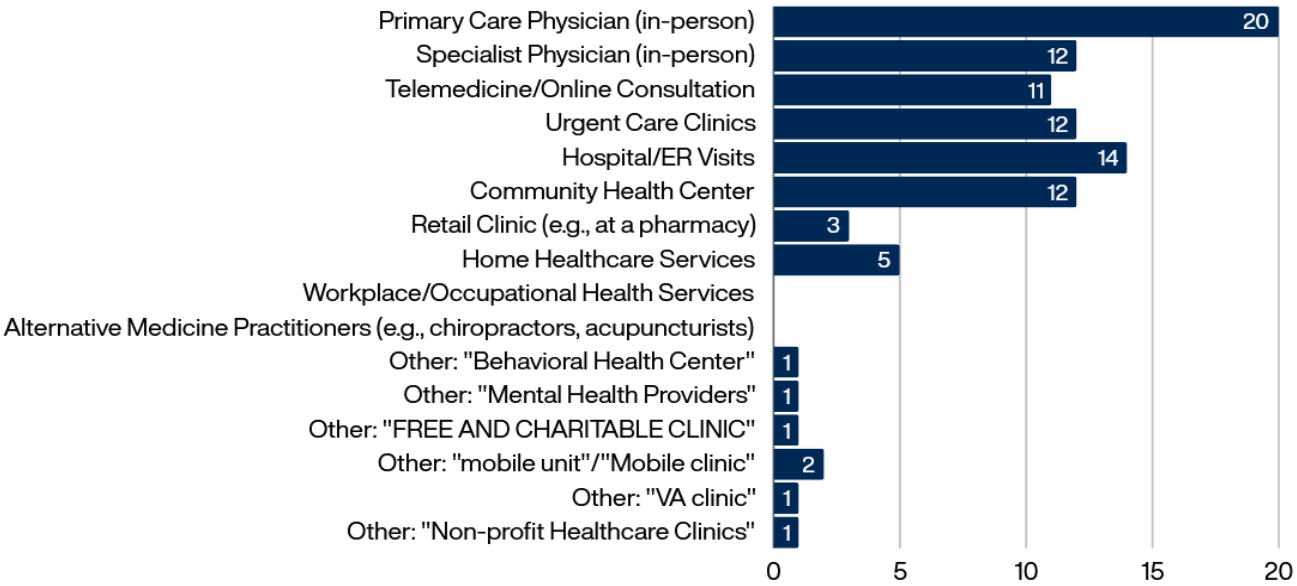
Of the 29 total healthcare providers that responded to our survey, 28 reported that they practice in West Virginia, while one reported that they provide services in both West Virginia and Ohio. We received four responses from nurses, three from nurse practitioners, two from peer specialists, two from pharmacy technicians, two from individuals with unspecified roles, and one from each of the following roles: Front Office Manager/MA, Chief Operations Officer, Family houseing mentor, Resisdent Service Coordinator, Resource coordinator/social work, Pharmacist, LICSW/Addiction Counselor, Local Agency WIC Director, Finance - Controller, CEO, project director/ state grant prevention, Medical Social Worker, Dental Hygenist/Mobile Program Coordinator, Case manager, Community Health Worker, and Health Navigator.

The survey also included a multiple-selection option for the following questions:

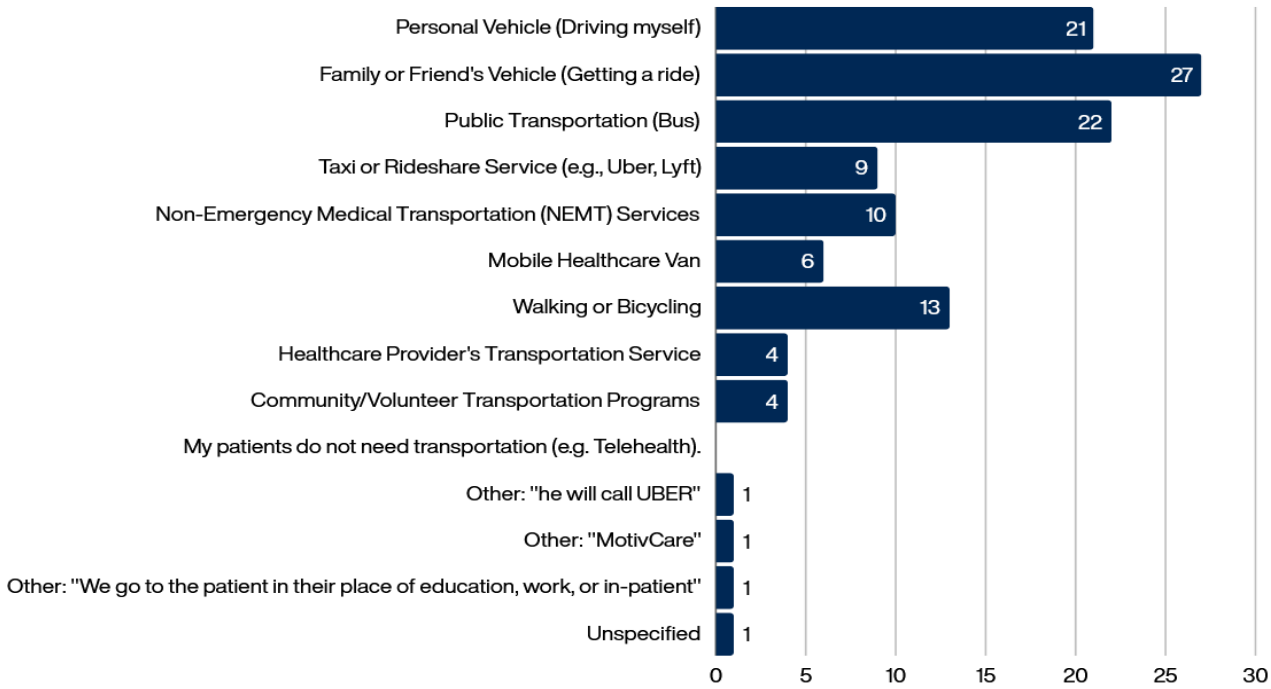
- "How do your patients currently access their healthcare?"
- "How do your patients currently get transportation to their healthcare appointments?"
- "What current transportation challenges do your patients face when attending medical appointments?"

Responses to these questions are shown in the graphics below.

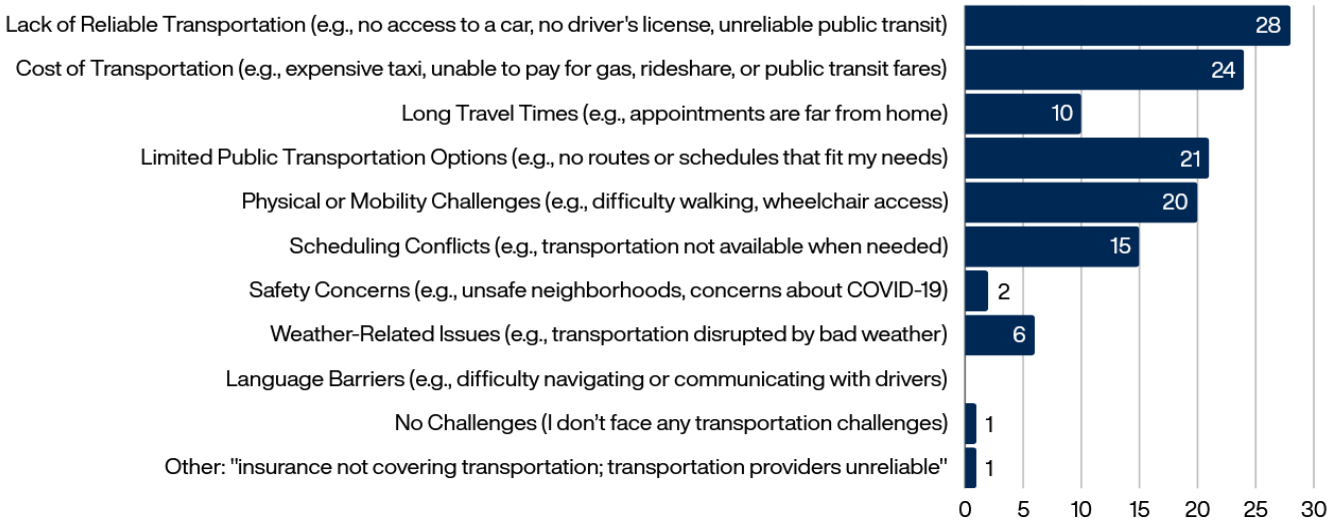
How do your patients currently access their healthcare? (Please select all that apply.)



How do your patients currently get transportation to their healthcare appointments? (Please select all that apply.)



What current transportation challenges do your patients face when attending medical appointments? (Please select all that apply.)



The final three questions of the survey were open responses, allowing the respondents to include personal stories regarding transportation access or any suggestions they have about how to improve the situation. To the question, **"What other services or options would help your patients with transportation to their medical appointments?"** the following responses were provided:

- "If ModivCare came when they were supposed to rather than not showing up or calling the patient"
- "Transport coverage for SLMB/QMB recipients w/o ADW. Additional local transport providers"

  "If ModivCare actually was reliable and held accountable for when they don't show up"
- "Home health the covers social support issues, like social worker visits for elderly and people with substance use issues"
- "More availability and access"
- "Access to internet that is reliable to allow them to do telehealth" –CEO
- "Reliability of state supported transportation services"
- "Called the local VA in Charleston several times and in person to assist… Requests were ignored"
- "Any help with transportation options would greatly benefit our patients in this rural community. It would be nice if the community had churches that would offer a shuttle service. It would be nice if we had more PVT [private carrier transportation] bus options and drivers." – Health Navigator
- "Transportation options to specialty services not available locally"
- "We need to have transportation for last minute situations"
- "More transportation options in the Eastern Panhandle of WV and transportation to bordering states like MD and VA. Many patients have specialists in MD and VA"
- "Higher pay and benefits for drivers"

To the question, **"Do you have any personal stories of healthcare transportation challenges that your patients have mentioned?"** the following responses were provided:

- "Extended route times for our local public bus system. Currently they only run 6am-6pm, Monday-Saturday. An expansion of routes would also be helpful." – Peer Specialist
- "Patients cannot afford taxis or buses"

- "They often say that the bus schedule cannot get them at the time they need and that Modivcare does not show up when they say they will or call"
- "Providers canceling at the last minute for a specialist appointment"
- "Modivcare not showing up, not calling to explain why they didn't show up. This could cause extra cost to clients with no show to appointment"
- "We also have a huge problem moving people who are without housing to shelters and places that provide homeless services from our rural area"
- "Need to book too far in advance. Buses stop at 4pm"
- "Many times Modivcare arranges ride then doesn't come day of to pick up (last minute cancellations)"
- "Uber is extremely expensive and creates limited times of meeting appointments"
- "Often Modivcare cancels due to not having a driver and often the night before a scheduled appointment. Those in the community that do not have Medicaid struggle to find transportation at all. The local PVT [private carrier transportation] is a month out for reservations. The local senior center is often at least two weeks out and only available to the aging population. Transportation is a daily issue in this PCP [primary care physician] office. I had a patient just yesterday have to cancel their needed stress test due to Modivcare canceling. This not only [affected] the patient but also the RT [radiology technician] department because they have to pay $400.00 up front for the nuclear tracer. Then this company lost $3,000 [of income] on that test [due to the transportation cancelation]. This is an issue for all stakeholders." – Health Navigator
- "Difficulty for family members to travel to patients/their loved ones due to lack of personal transportation when needed transferred from one facility to another, sometimes 2-3 hours away" – Nurse Practitioner
- "There should be immediate transportation for patients that healthcare facilities change appointments and ask if they can come in earlier than their original appointment."
- "I have had several patients that had to cancel, reschedule, and/or change doctors because of limited transportation" – Medical Social Worker
- "Many people state that if we didn't come to them, they would not be able to get to care" – Dental Hygienist/Mobile Program Coordinator
- "I am regularly told that my patients are stranded by local Modivcare providers and that it is unreliable service with minimal communication or customer service."

Finally, to the question, **"Do you have any personal stories of ways that your patients were able to overcome their healthcare transportation challenges with the assistance of a non-profit organization?"** the following responses were provided:

- "The patients often get transportation through Telamon case managers"
- Families have told me that my role as Resident Service Coordinator helped their loved one make appointments; I schedule rides, give reminders, and navigate their back and forth
- "I have provided gas cards to people to give to friends and family as incentive to provide rides" –Nurse
- "Creativity on the part of the clinical staff"
- "They gave up"
- "WVU shuttle to and from sister hospitals used to be available and is no longer. Patients and families found this extremely helpful and comforting"
- "Relying on the partnership of other recipients of the 5310 Transportation Grant (offered through the Department of Transportation) has been beneficial but it needs to not be the only alternative. Oftentimes those calls come in an emergent situation, and while we are able to band together, we can avoid putting those patients through the stress of being stranded, or the pressure of potentially being dropped from a medical provider simply because their appointment attendance is tenuous due to transportation."

STAKEHOLDER SURVEY OPINION ON POSSIBLE POLICY OPTIONS

Patients, transportation organizations, and healthcare providers were asked the degree to which they agreed, disagreed, or were neutral on statements related to each potential policy option. The results of these analyses are presented below.

Patient Policy Option Survey Results

The analysis of policy options revealed that all participants facing transportation challenges and who completed the survey either agreed or strongly agreed with the potential policies. The most strongly supported policy options included the following:

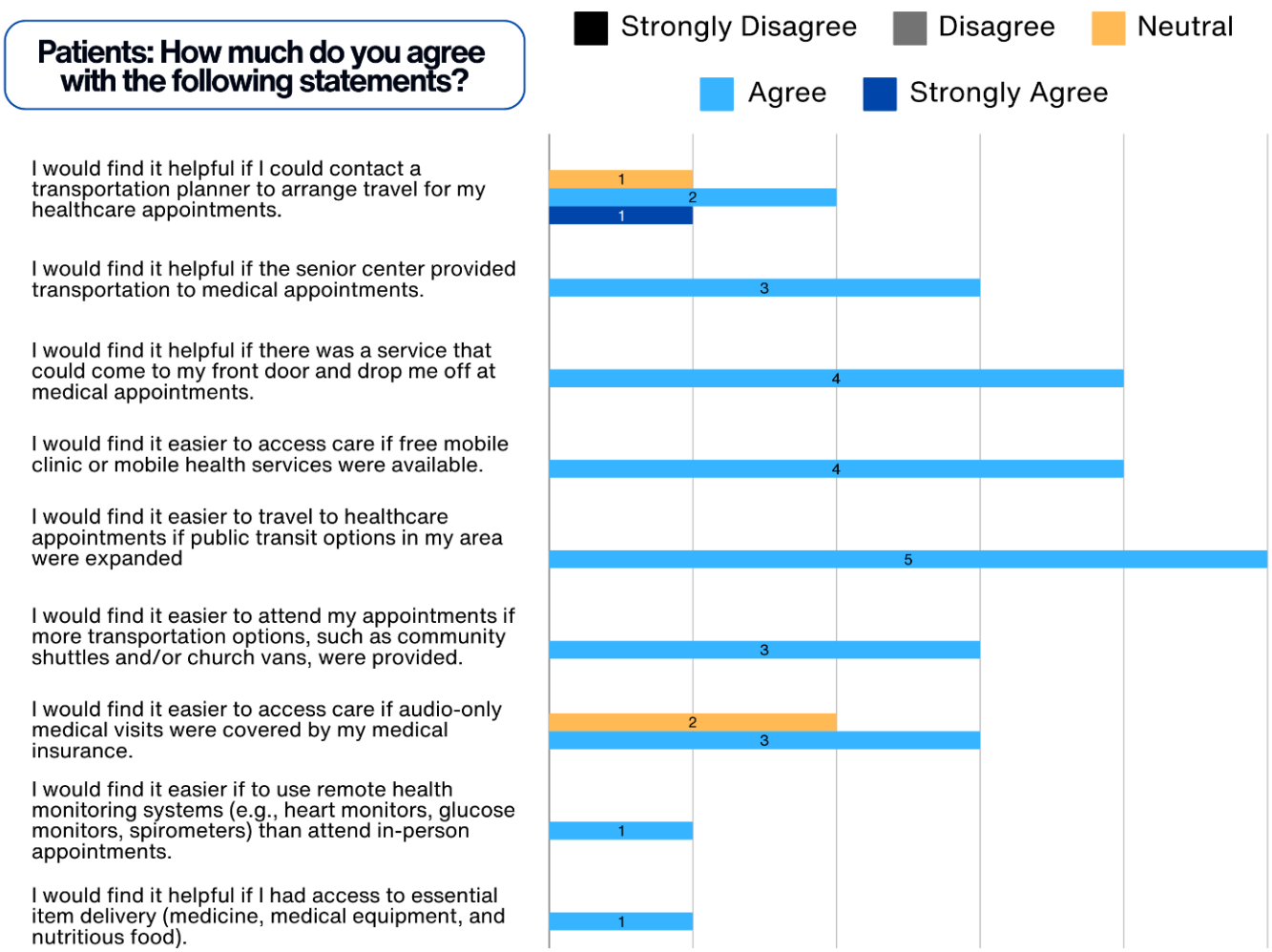
I would find it easier to…

- ➢ travel to healthcare appointments if public transit options in my area were expanded.
- ➢ access care if free mobile clinics or mobile health services were available
- ➢ attend appointments if more transportation options, such as community shuttles and church vans, were provided.

I would find it helpful if…

- ➢ a service could come to my front door and take me to medical appointments.
- ➢ the senior center provided transportation to medical appointments.

More detailed results are displayed in the graphic below.



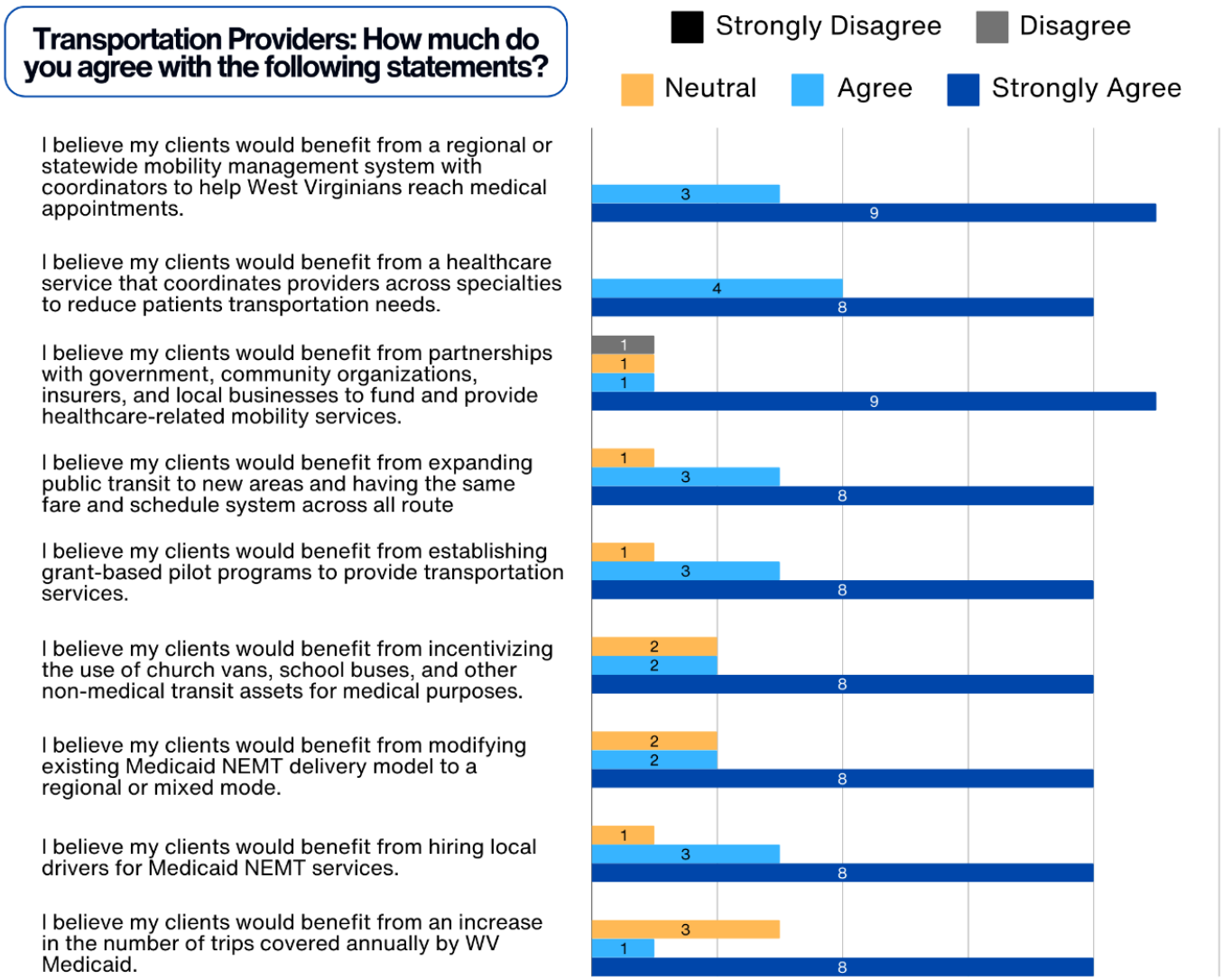
Transportation Organization Policy Option Survey Results

As shown below, most survey participants from West Virginia transportation organizations agreed or strongly agreed with all potential policies. The most strongly supported policy options included the following:

I believe my clients would benefit from…

- ➢ a regional or statewide mobility management system with coordinators to help West Virginians reach medical appointments.
- ➢ partnerships with government, community organizations, insurers, and local businesses to fund and provide healthcare-related mobility services.
- ➢ a healthcare service that coordinates providers across specialties to reduce patients' transportation needs.
- ➢ hiring local drivers for Medicaid NEMT services.
- ➢ expanding public transit to new areas and having the same fare and schedule system across all routes.

More detailed results are displayed in the graphic below.



Healthcare Professional Community Policy Option Survey Results

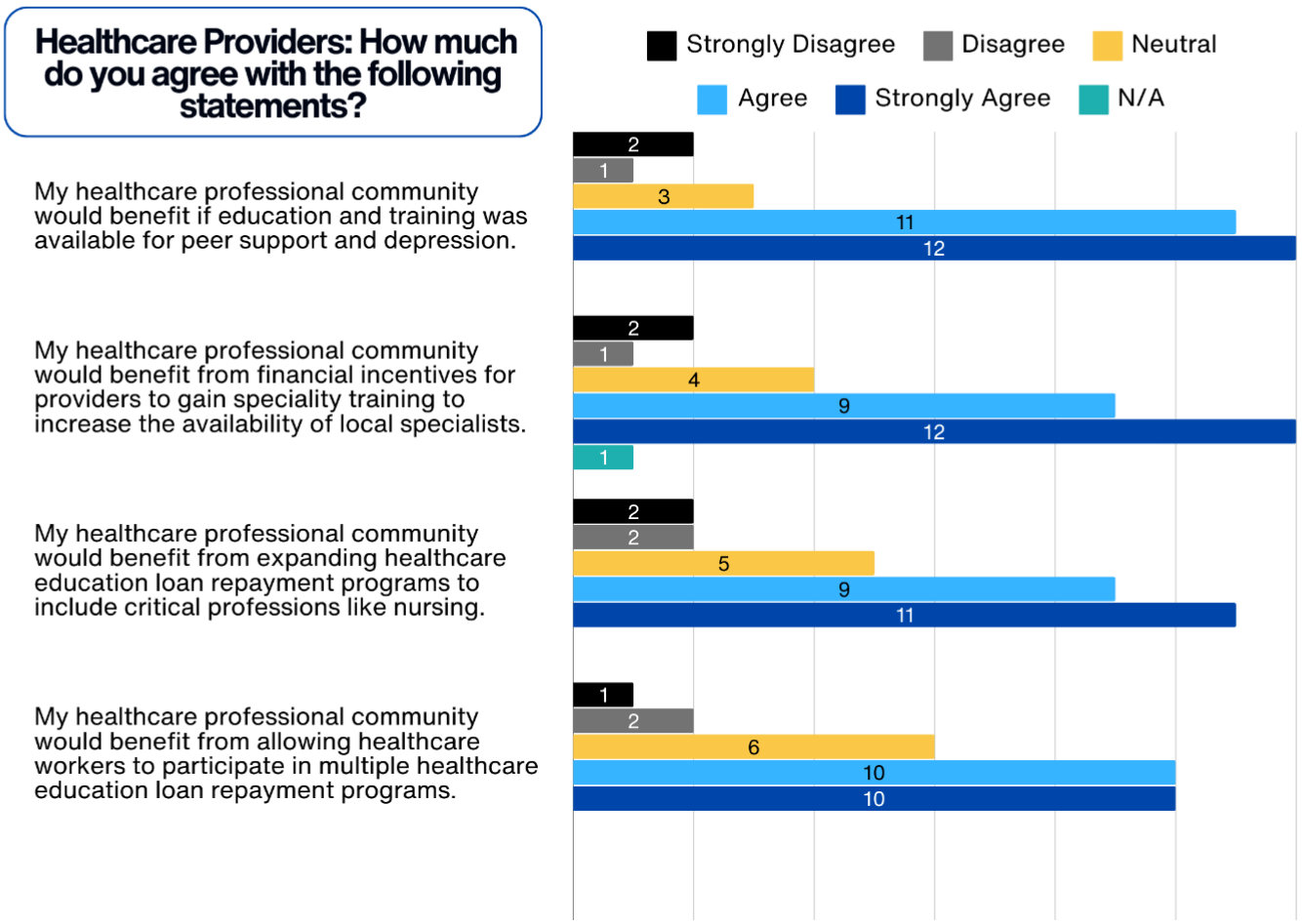
Healthcare providers were asked to respond to questions related to both the patients and themselves. Responses are outlined below.

ON HEALTHCARE COMMUNITY PREFERENCES

As illustrated below, most of the healthcare professional participants either agreed or strongly agreed with the following statements regarding potential policy option:

- My healthcare professional community would benefit if education and training was available for peer support and depression.
- My healthcare professional community would benefit from financial incentives for providers to gain speciality training to increase the availability of local specialists.
- My healthcare professional community would benefit from expanding healthcare education loan repayment programs to include critical professions like nursing.
- My healthcare professional community would benefit from allowing healthcare workers to participate in multiple healthcare education loan repayment programs.

More detailed results are displayed in the graphic below.

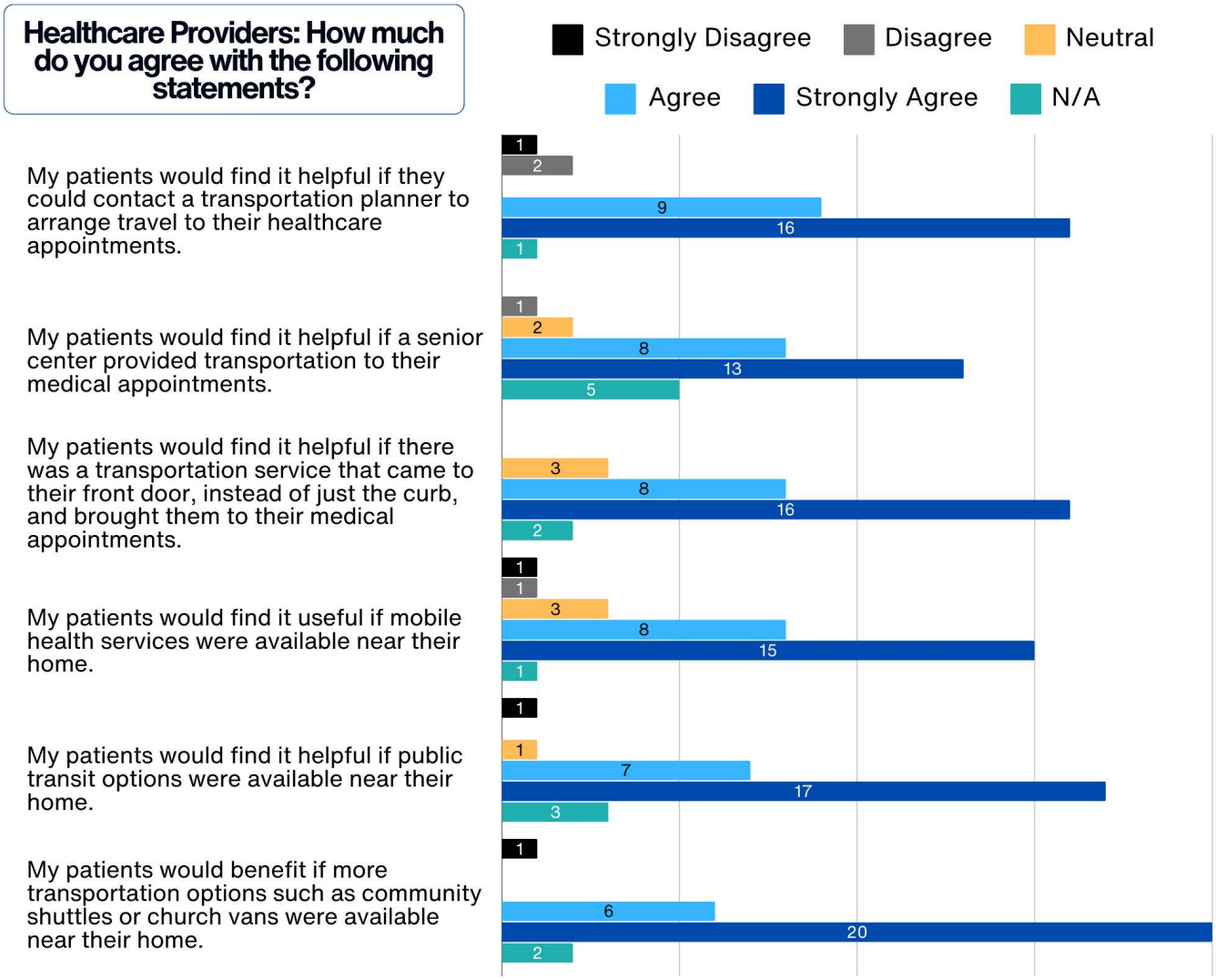


ON LIKELY PATIENT PREFERENCES

As illustrated below, most of the participants either agreed or strongly agreed with the following statements regarding potential policy options:

- My patients would benefit if more transportation options such as community shuttles or church vans were available near their home.
- My patients would find it helpful if public transit options were available near their home.
- My patients would find it helpful if they could contact a transportation planner to arrange travel to their healthcare appointments.
- My patients would find it helpful if there was a transportation service that came to their front door, instead of just the curb, and brought them to their medical appointments.
- My patients would find it useful if mobile health services were available near their home.

More detailed results are displayed in the graphic below, which continues onto the next page.



My patients access to healthcare would increase if audio only medical visits were covered by their medical insurance.

My patients would benefit from changing the existing state-based Medicaid-supported transportation model (e.g. Modivcare) to a regional or mixed Medicaid-supported transportation model.

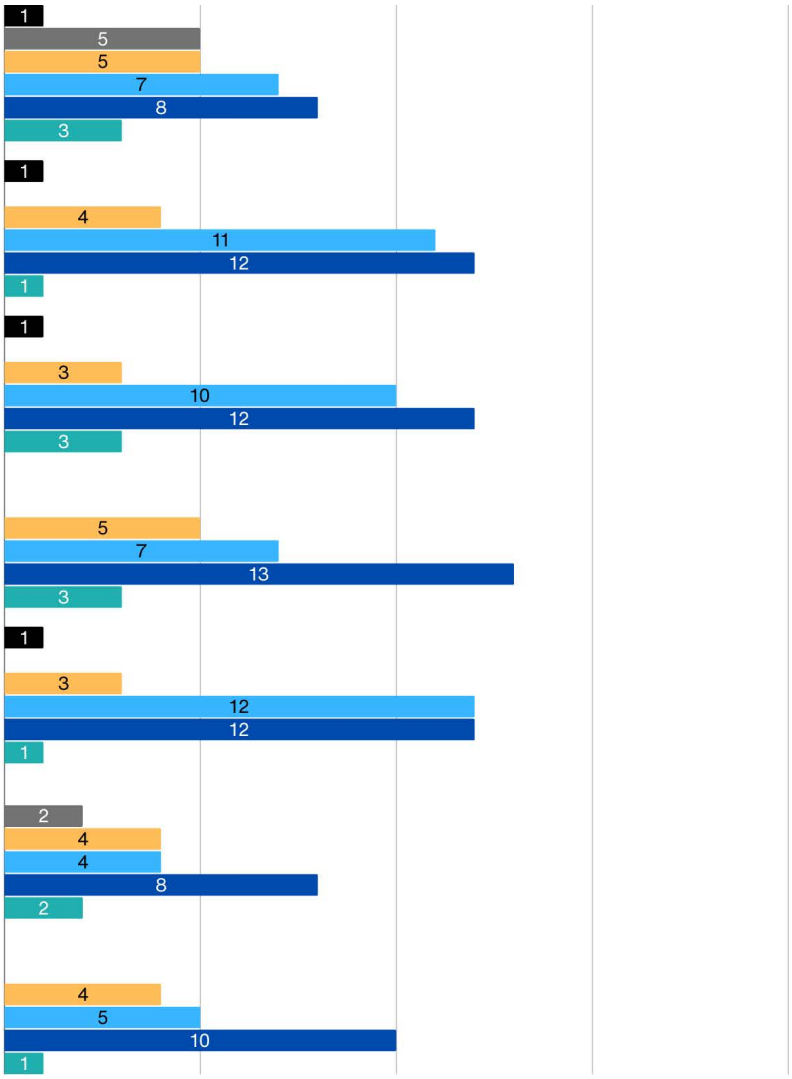
My patients would benefit from hiring local drivers for Medicaid- supported transportation services.

My patients would benefit from an increase in the number of trips to medical appointments covered annually by WV Medicaid.

My patients would benefit if financial support and training for community health workers to assist with or provide transportation services were available.

My patients would benefit from remote health monitoring systems (e.g., heart monitors, glucose monitors, spirometers) to reduce in-person appointments

My patients would benefit from access to essential item delivery (medicine, medical equipment, and nutritious food).



WEST VIRGINIA RURAL HEALTH ASSOCIATION (WVRHA) CONFERENCE RESULTS

The research team also went to the 32nd Annual West Virginia Rural Health Association Conference, held November 13–15, 2024 at Glade Springs Resort, to seek input on the potential policy options. 21 people attended, provided verbal comments during the discussion, and responded to the policy option survey; nine responded to the prioritization survey. Provided below are some quotes from discussions of each of the themes.

Theme 1: Coordinating Existing and Establish New Transportation Programs/Services

Key points identified during the discussion include the following:

- Given the state's challenging terrain, with winding and mountainous roads, it is crucial to ensure vehicles are capable of navigating these conditions.
- Inclusive planning requires detailed data on mobility levels to accommodate both wheelchair-bound and non-wheelchair-bound individuals, enabling equitable access through community-supported transport options.
- Patient-centered approaches, such as door-to-door services, to effectively meet individual needs should be a priority in West Virginia.

Quotes from the discussions are highlighted below to further illustrate the points above.

- “I think whatever the solution is—and I think each of these has great merit—we really do have to think about, in this case, the patients’ needs, which is door-to-door."
- “And if you've ever traveled in West Virginia on a [winding] curvy road, you know… any big camper cannot do that.”
- “It is the people who are not wheelchair-bound, not motorized chair[-bound], that can get into a van from the church or the Lions Club and go, you know? I think that level of data might help you balance the decisions.”

Theme 2: Modifying WV Medicaid Non-Emergency Medical Transportation Delivery Model

Key points identified during the discussion include the following:

- The long-term financial viability of West Virginia's Non-Emergency Medical Transportation (NEMT) program is challenged by higher-than-expected costs due to the state's complex geography and routing demands.
- The current reimbursement structure creates financial disincentives by failing to compensate drivers for travel to pick up patients or for return trips, potentially impacting the quality and availability of services.

Quotes from the discussions are highlighted below to further illustrate the points above.

- “I've also heard, I don't know if it's true, that the contracts [for the NEMT provider] come up next year. What's going to happen then? Because I've also heard that it was much more costly to run the program in West Virginia than they had anticipated due to the geography and routing and the time.”
- “I think one of the examples we heard… is that the reimbursement that you get covers actually the transport of the patient from the location they're at… to the provider or whatever that service is and back. So, for example, if there's a patient in Boone County… [drivers] don't get reimbursed until they get to them… [and] don't get reimbursed for the trip back.”

Theme 3: Expanding Medicare, Medicaid, and Private Insurance Support/Reimbursements

Key points identified during the discussion include the following:

- Transportation reimbursement models should account for time spent beyond driving, including travel to pick-up locations, wait times, and navigating difficult terrain.
- Expanding eligibility to include trained and certified community members, such as family or friends, with financial incentives could help address transportation gaps while leveraging local resources.
- Adopting flexible approaches, like certification models used in childcare, may create more sustainable and inclusive transportation solutions.

Quotes from the discussions are highlighted below to further illustrate the points above.

- "So, if it's expanded so that state [or] community health worker[s] or others can assist, you have [made] that available as a viable service to work and not necessarily as tightly regulated as healthcare. [R]eligious services would also be really significant."
- "My husband does work in medical transport to treatment facilities from the jail, and he doesn't always get reimbursed for his time."
- "And that builds up the business model on what's needed for the person. You know, with childcare, we didn't have enough childcare centers, so we started certifying family home care… Maybe we need to start certifying the drivers of friends and families that would be reimbursed to do transport."

Theme 4: Increasing Financial Incentives to Respond to Physician, Advanced Practice Provider, Nurse, and Community Health Worker Shortages

Key points identified during the discussion include the following:

- Expanding the scope of practice for healthcare providers is complex, requiring careful consideration of licensing, training, and potential resistance from various professional groups.
- Integrating training on social determinants of health, such as transportation, into healthcare education can help providers address patients' needs holistically, reducing referrals and improving local access to care.
- By equipping providers with skills to navigate social needs, they can overcome hesitation and engage more effectively with patients' comprehensive challenges.

Quotes from the discussions are highlighted below to further illustrate the points above.

- "Number one [expanding the scope of practice] is a sticky, sticky situation."
- "Maybe it's just—and I am speaking as a provider…how social needs are not assuming these frameworks. We look at them and go, 'well, I'm not going to ask about that, because if I open that can of worms, I got to manage the worms.' And I don't know how to handle worms and so I don't even ask.'"

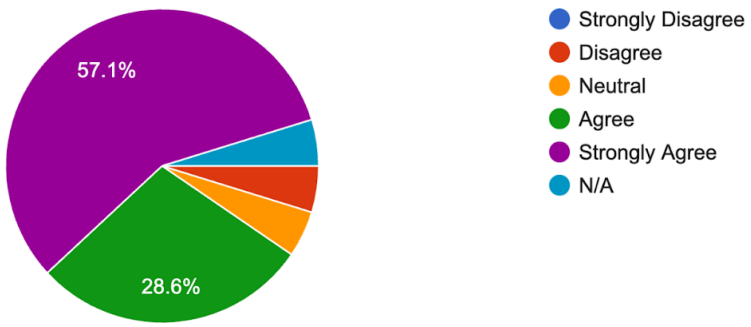
POTENTIAL POLICY OPTIONS IDENTIFIED

Research team representatives, Dr. Joan Centrella, Dr. Deborah Koester, and WVU MPH candidate Madison "Darby" Taylor attended the 32nd annual West Virginia Rural Health Association Conference in November 2024. The research team led a town hall-style meeting to collect input on the potential policy options. Dr. Centrella began the session by presenting the Roads to Wellness Project's purpose and methodology. Darby Taylor then presented policy options to gather information about how the policy options should be prioritized. The presentation was broken down and a discussion was held for each theme. Dr. Deb Koester then helped facilitate discussion among audience members and took thorough notes regarding their input. Overall the session was quite successful and we received valuable input from experts in the field regarding the potential policy options. The graphics that follow further illustrate our team's findings.

POTENTIAL POLICY OPTIONS	"AGREE"/ "STRONGLY AGREE" RESPONSES	"DISAGREE"/ "STRONGLY DISAGREE"/ "NEUTRAL" RESPONSES
1. My patients would find it helpful if they could contact a transportation planner to arrange travel to their healthcare appointments.	85.7%	14.3%
2. My patients would find it helpful if a senior center provided transportation to their medical appointments.	71.4%	28.6%
3. My patients would find it helpful if there was a transportation service that came to their front door, instead of just the curb, and brought them to their medical appointments.	76.2%	23.8%
4. My patients would find it useful if mobile health services were available near their home.	95%	5%
5. My patients would find it helpful if public transit options were available near their home.	76.1%	23.9%
6. My patients would benefit if more transportation options such as community shuttles or church vans were available near their home.	85.7%	14.3%
7. My patients' access to healthcare would increase if audio only medical visits were covered by their medical insurance.	57.1%	42.9%
8. My patients would benefit from changing the existing state-based, Medicaid- supported transportation model (e.g. Modivcare) to a regional or mixed, Medicaid- supported transportation model.	52.3%	47.7%
9. My patients would benefit from hiring local drivers for medicaid-supported transportation services.	57.1%	42.9%
10. My patients would benefit from an increase in the number of trips to medical appointments covered annually by WV medicaid.	57.1%	42.9%
11. My patients would benefit if financial support and training for community health workers to assist with or provide transportation services were available.	95%	5%
12. My patients would benefit from remote health monitoring systems (e.g., heart monitors, glucose monitors, spirometers) to reduce in-person appointments.	70%	30%
13. My patients would benefit from access to essential item delivery (medicine, medical equipment, and nutritious food).	90.5%	9.5%
14. My healthcare professional community would benefit if education and training were available for peer support and depression.	71.4%	28.6%
15. My healthcare professional community would benefit from financial incentives for providers to gain specialty training to increase the availability of local specialists.	81%	19%
16. My healthcare professional community would benefit from expanding healthcare education loan repayment programs to include critical professions like nursing.	81%	19%
17. My healthcare professional community would benefit from allowing healthcare workers to participate in multiple healthcare education loan repayments programs.	95.5%	4.5%

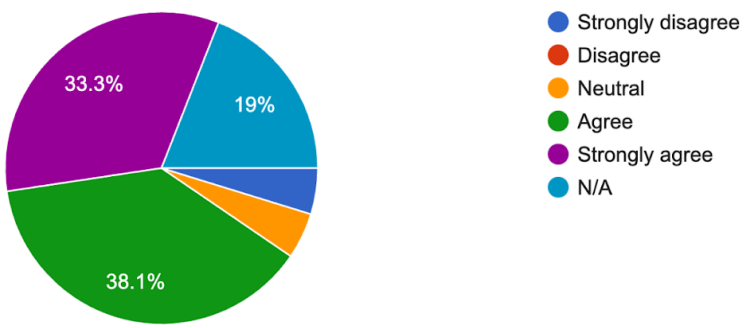
1. My patients would find it helpful if they could contact a transportation planner to arrange travel to their healthcare appointments.

21 responses



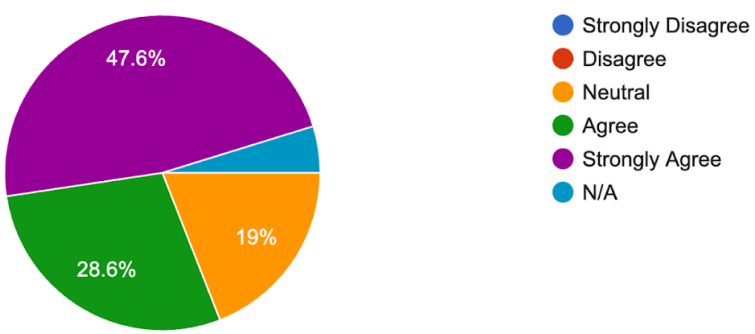
2. My patients would find it helpful if a senior center provided transportation to their medical appointments.

21 responses



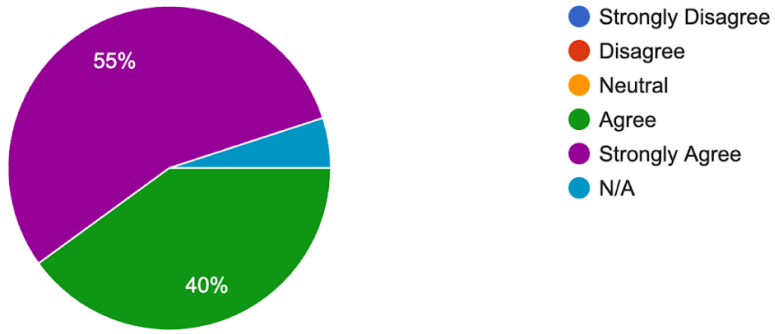
3. My patients would find it helpful if there was a transportation service that came to their front door, instead of just the curb, and brought them to their medical appointments.

21 responses



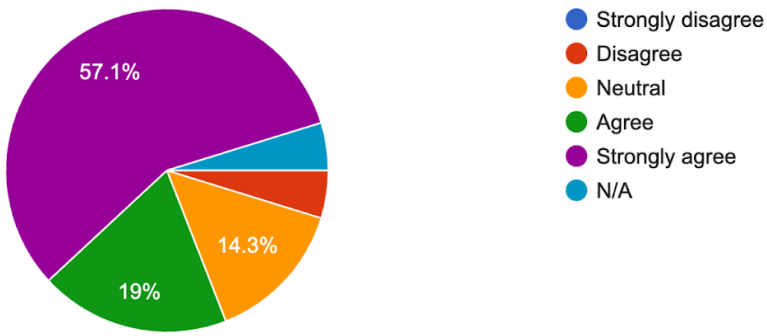
4. My patients would find it useful if mobile health services were available near their home.

20 responses



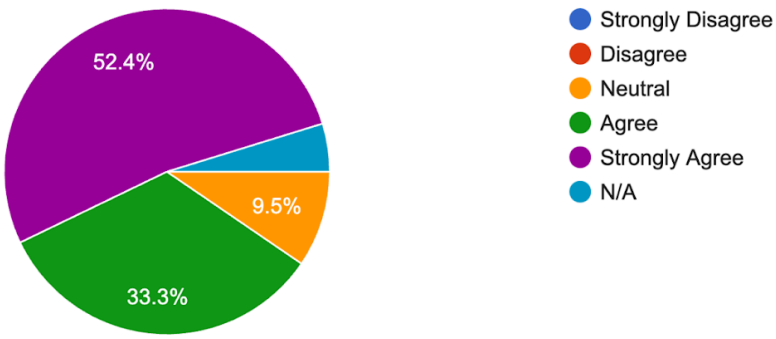
5. My patients would find it helpful if public transit options were available near their home.

21 responses



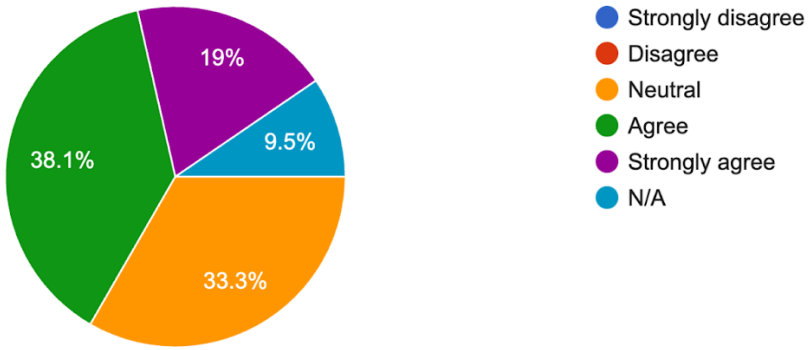
6. My patients would benefit if more transportation options such as community shuttles or church vans were available near their home.

21 responses



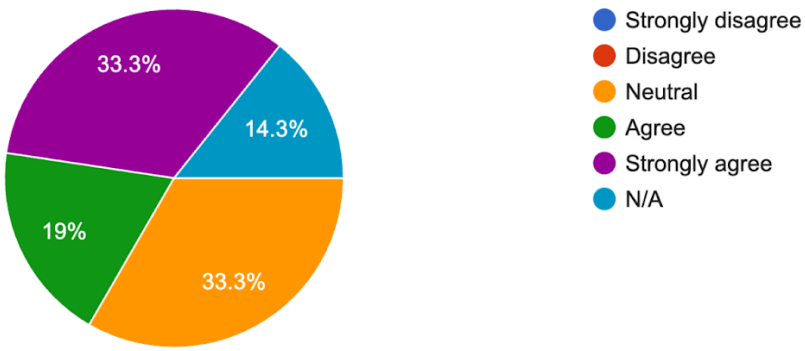
7. My patients access to healthcare would increase if audio only medical visits were covered by their medical insurance.

21 responses



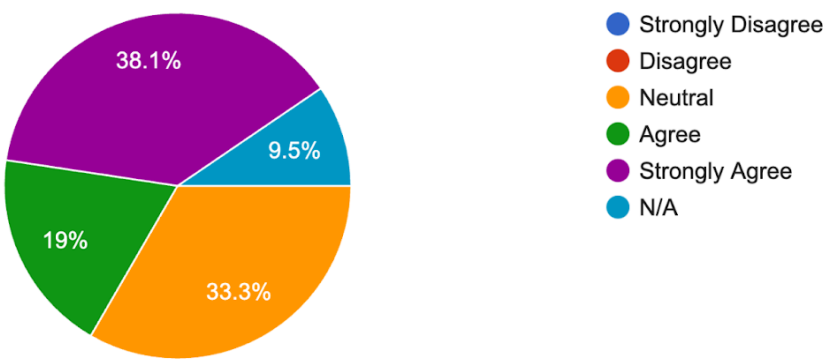
8. My patients would benefit from changing the existing state-based Medicaid-supported transportation model (e.g. Modivcare) to a regional or mixed Medicaid-supported transportation model.

21 responses



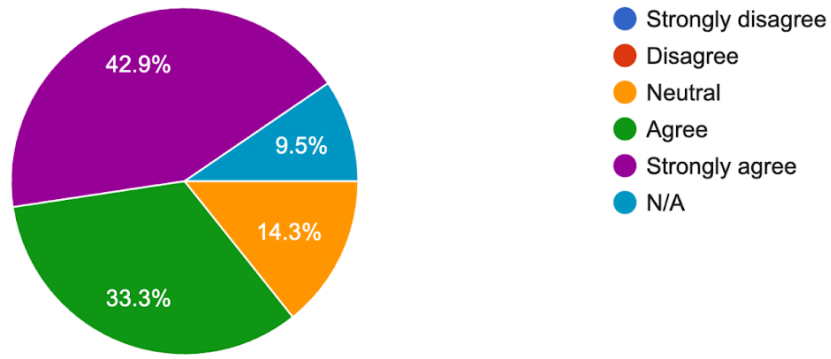
9. My patients would benefit from hiring local drivers for Medicaid-supported transportation services.

21 responses



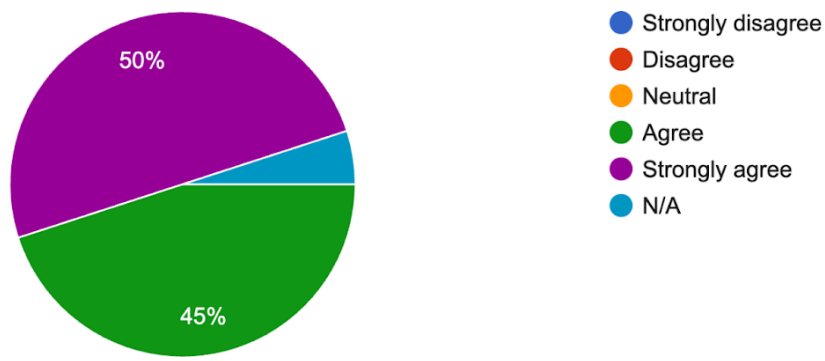
10. My patients would benefit from an increase in the number of trips to medical appointments covered annually by WV Medicaid.

21 responses



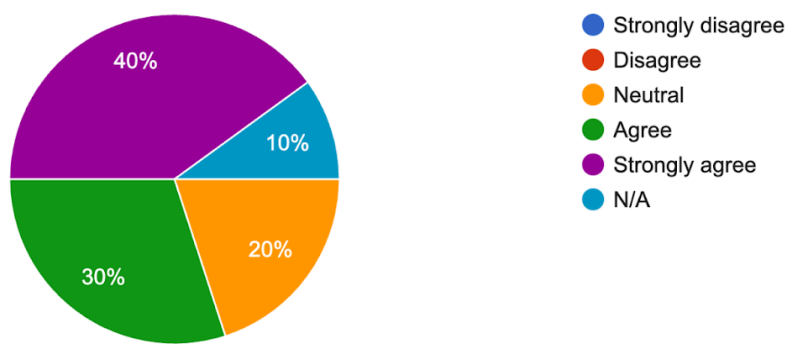
11. My patients would benefit if financial support and training for community health workers to assist with or provide transportation services were available.

20 responses



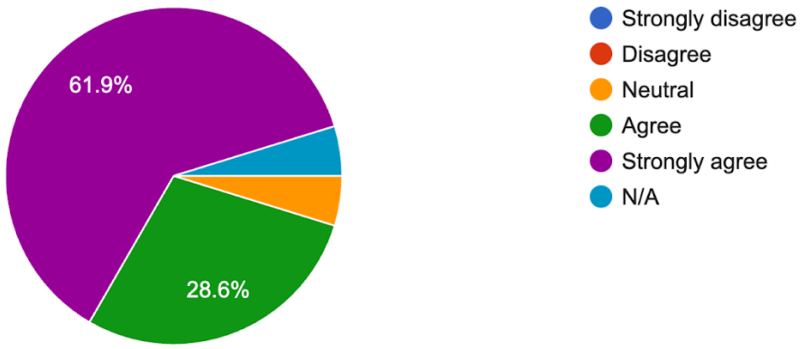
12. My patients would benefit from remote health monitoring systems (e.g., heart monitors, glucose monitors, spirometers) to reduce in-person appointments.

20 responses



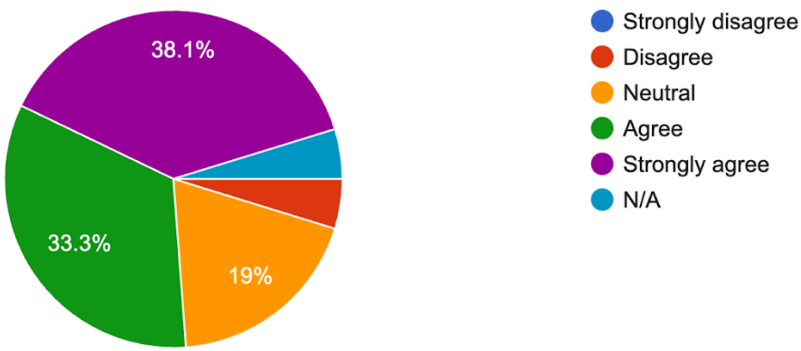
13. My patients would benefit from access to essential item delivery (medicine, medical equipment, and nutritious food).

21 responses



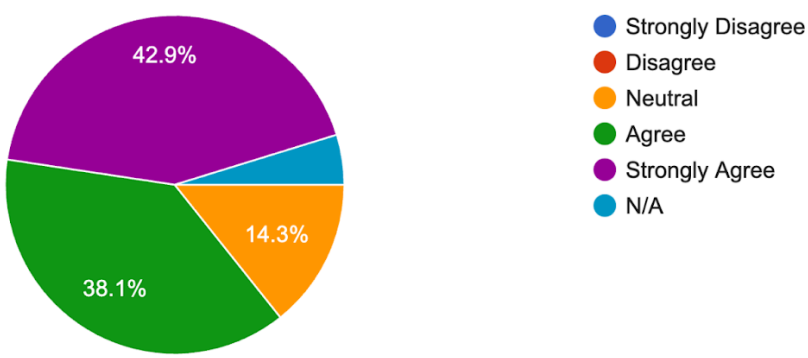
14. My healthcare professional community would benefit if education and training was available for peer support and depression.

21 responses



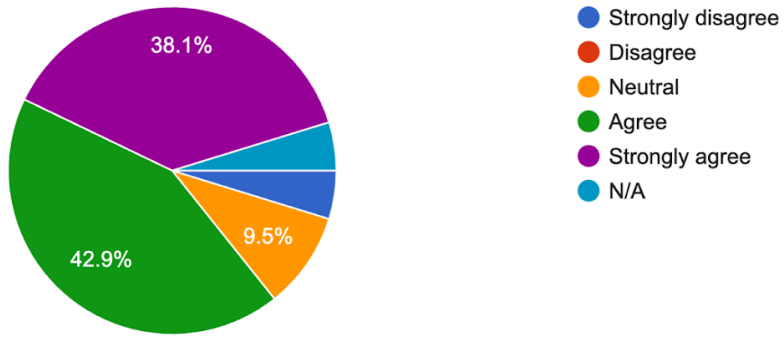
15. My healthcare professional community would benefit from financial incentives for providers to gain speciality training to increase the availability of local specialists.

21 responses



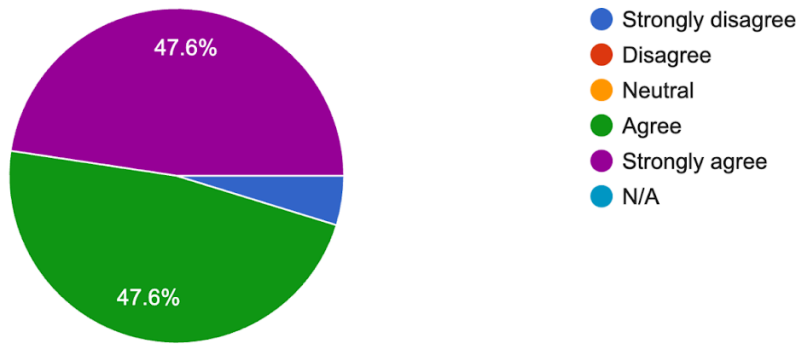
16. My healthcare professional community would benefit from expanding healthcare education loan repayment programs to include critical professions like nursing.

21 responses

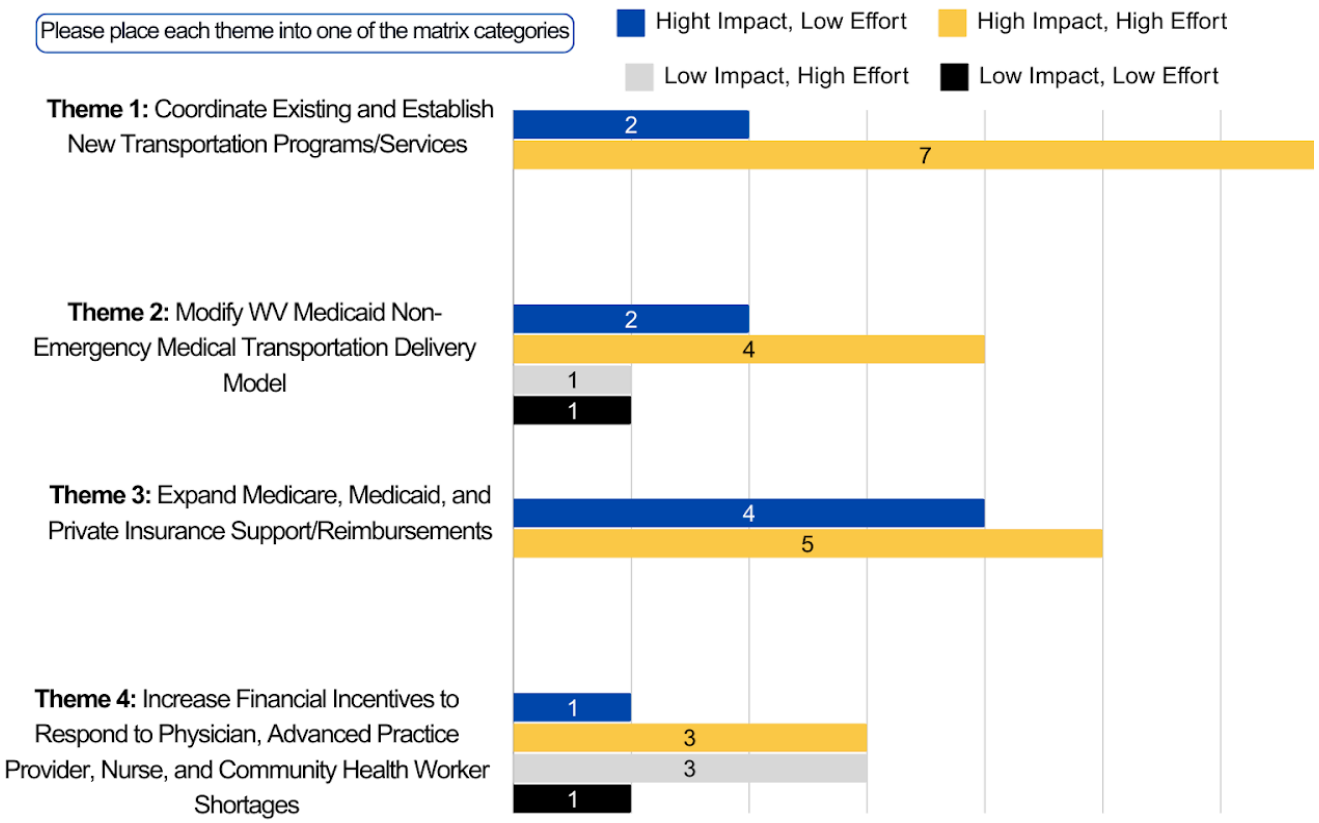


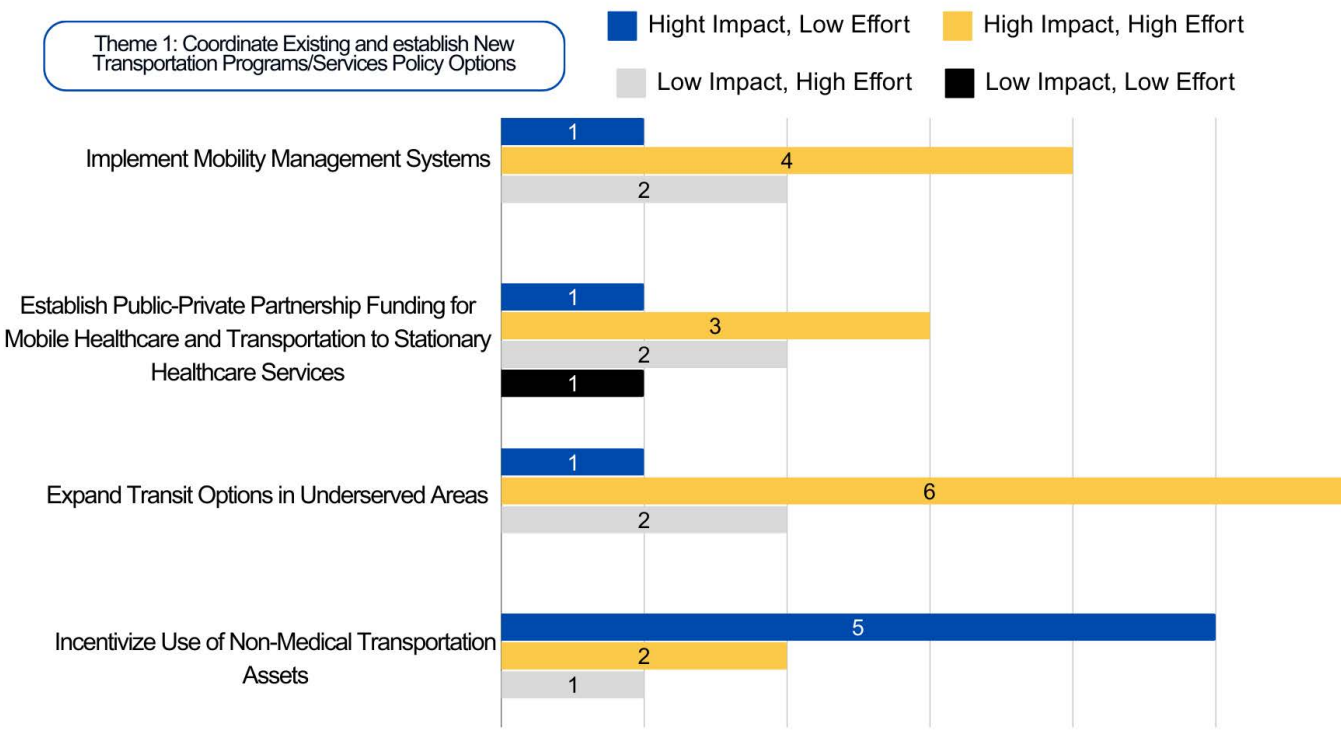
17. My healthcare professional community would benefit from allowing healthcare workers to participate in multiple healthcare education loan repayment programs.

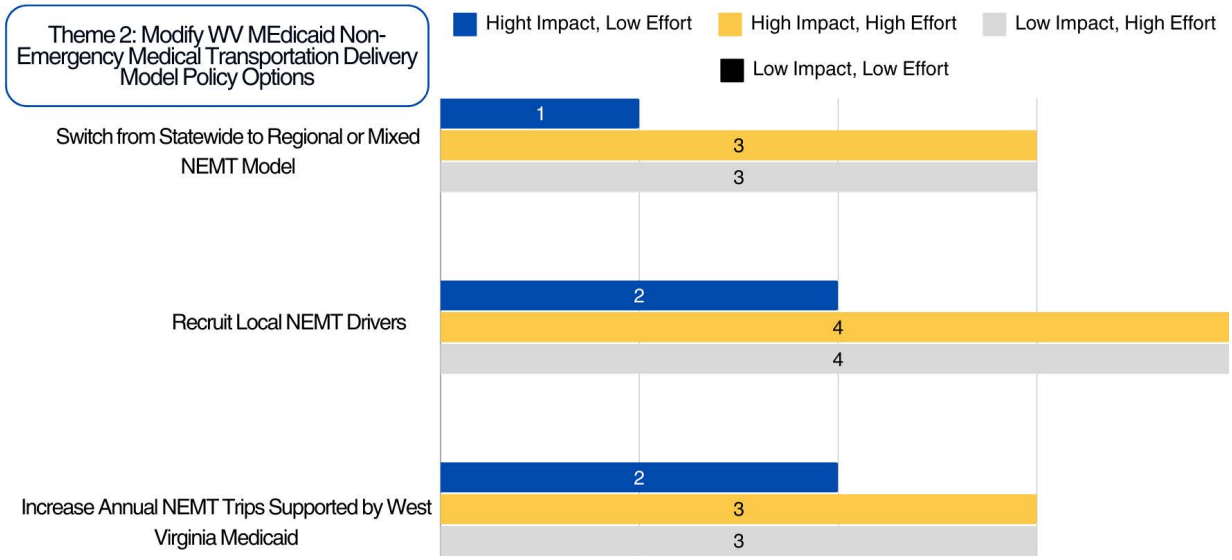
21 responses

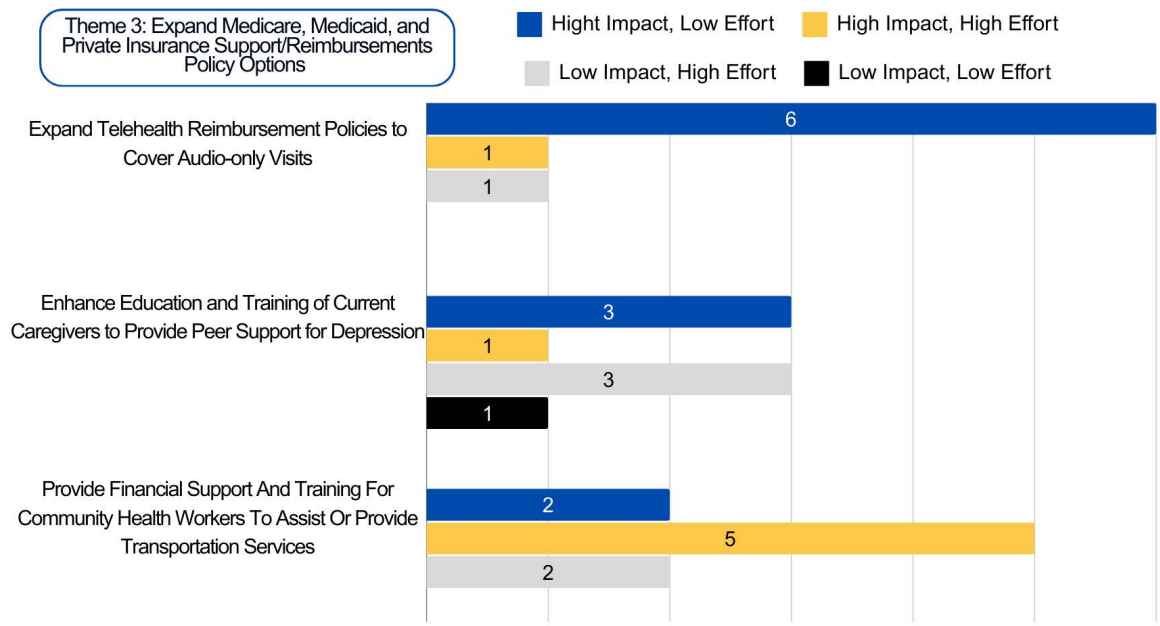


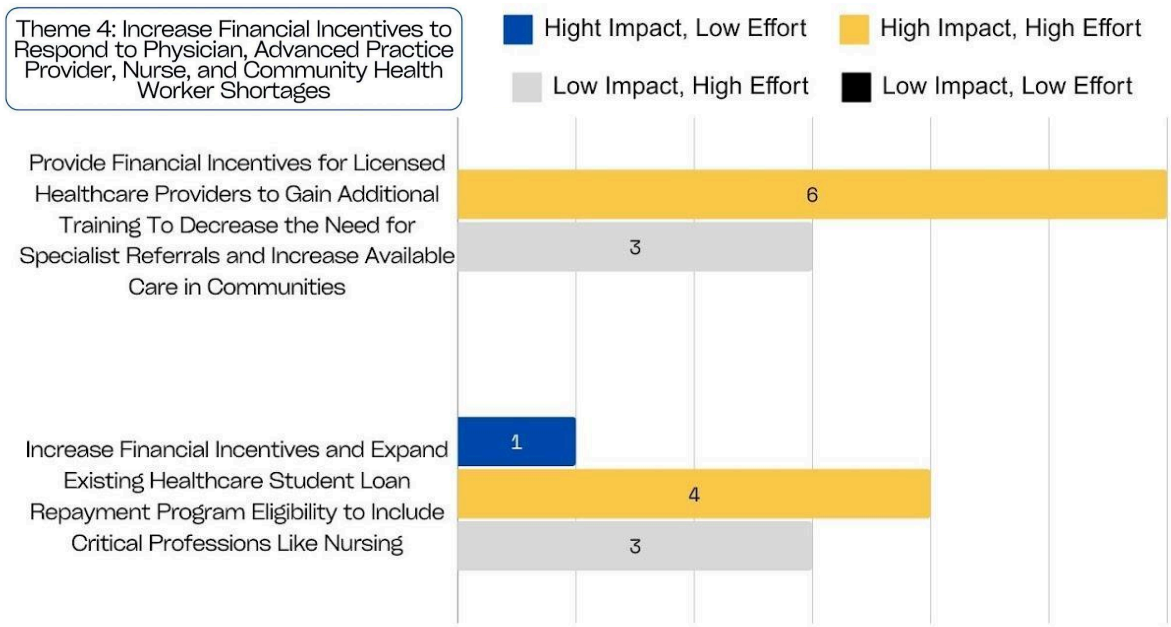
Prioritization survey results for each theme of the policymaker guide and individual components of the themes are shown below.





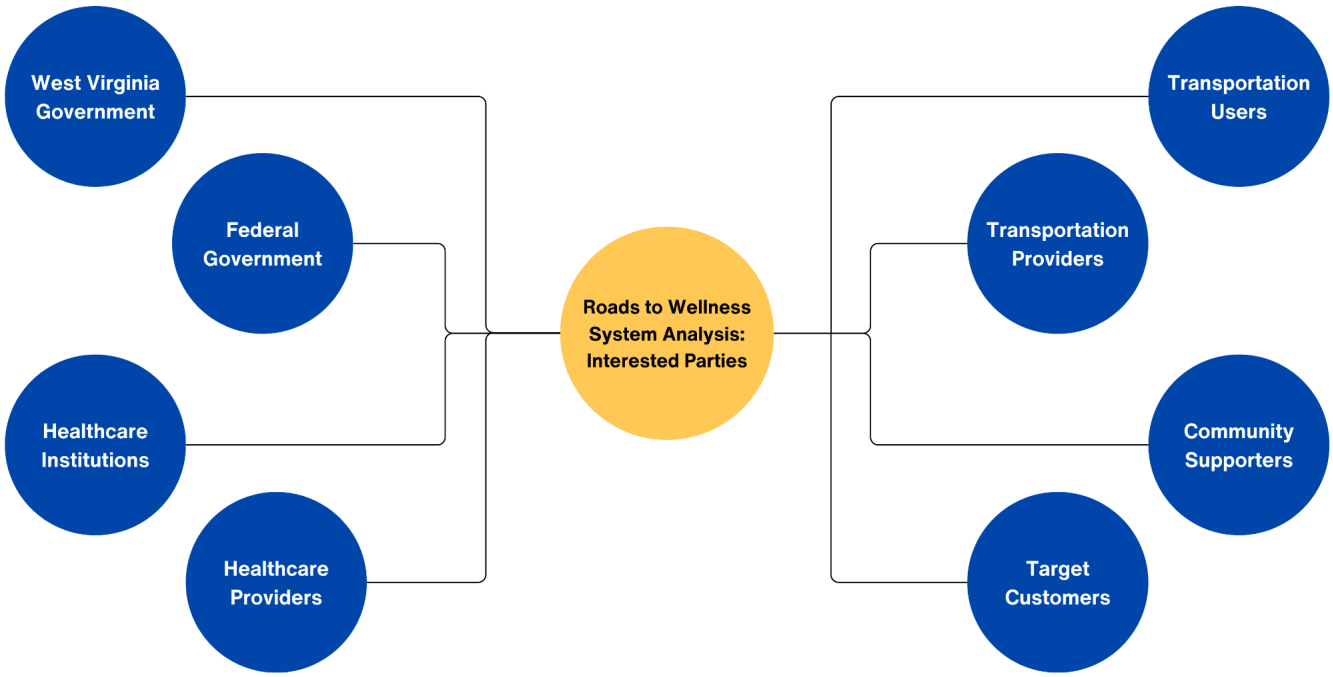

Theme 2: Modify WV MEdicaid Non-Emergency Medical Transportation Delivery Model Policy Options
Hight Impact, Low Effort
High Impact, High Effort
Low Impact, High Effort
Low Impact, Low Effort
Switch from Statewide to Regional or Mixed NEMT Model
1
3
3
Recruit Local NEMT Drivers
2
4
4
Increase Annual NEMT Trips Supported by West Virginia Medicaid
2
3
3

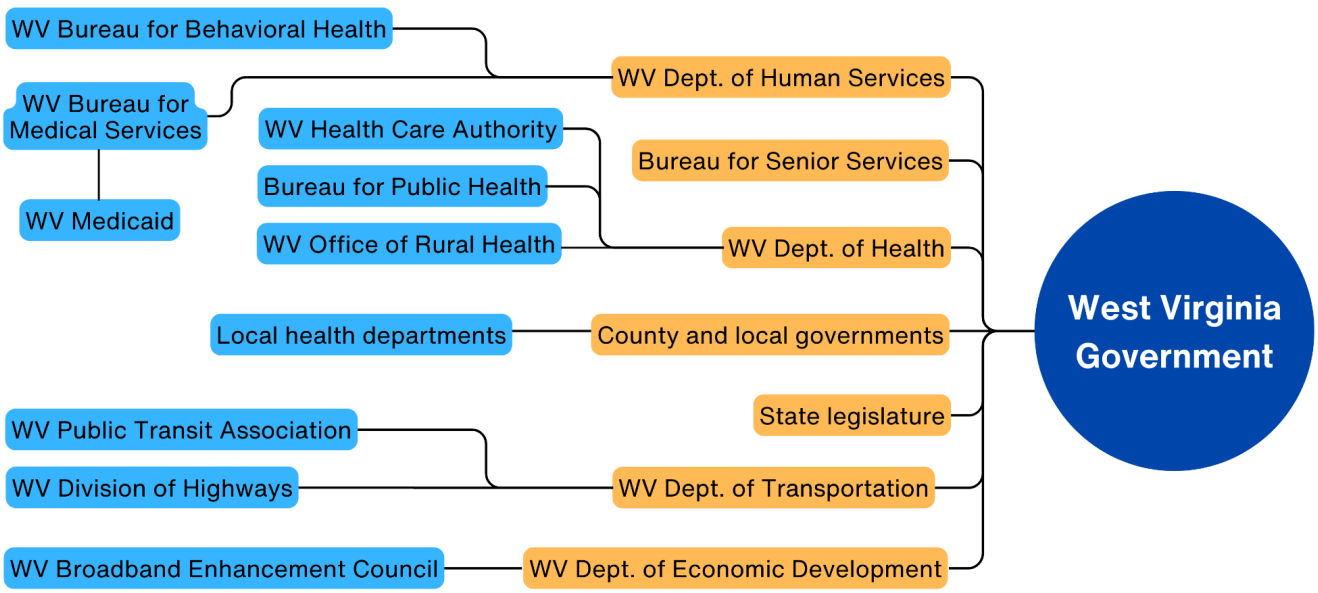

Theme 3: Expand Medicare, Medicaid, and Private Insurance Support/Reimbursements Policy Options
Hight Impact, Low Effort
High Impact, High Effort
Low Impact, High Effort
Low Impact, Low Effort
Expand Telehealth Reimbursement Policies to Cover Audio-only Visits
6
1
1
Enhance Education and Training of Current Caregivers to Provide Peer Support for Depression
3
1
3
1
Provide Financial Support And Training For Community Health Workers To Assist Or Provide Transportation Services
2
5
2

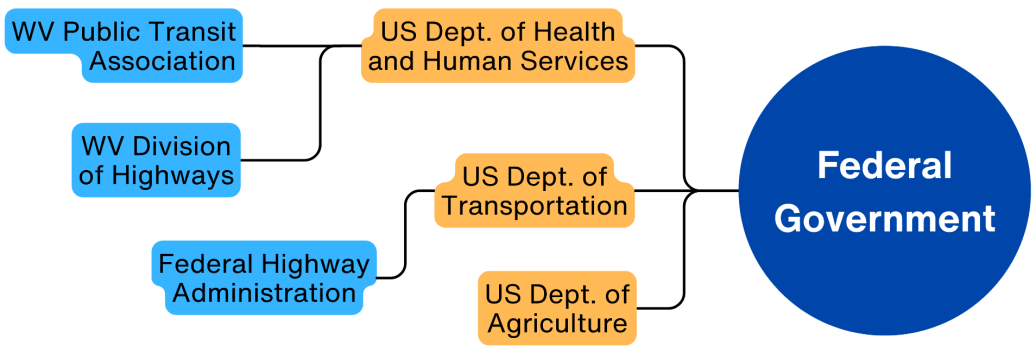

Theme 4: Increase Financial Incentives to Respond to Physician, Advanced Practice Provider, Nurse, and Community Health Worker Shortages
Hight Impact, Low Effort
High Impact, High Effort
Low Impact, High Effort
Low Impact, Low Effort
Provide Financial Incentives for Licensed Healthcare Providers to Gain Additional Training To Decrease the Need for Specialist Referrals and Increase Available Care in Communities
6
3
Increase Financial Incentives and Expand Existing Healthcare Student Loan Repayment Program Eligibility to Include Critical Professions Like Nursing
1
4
3

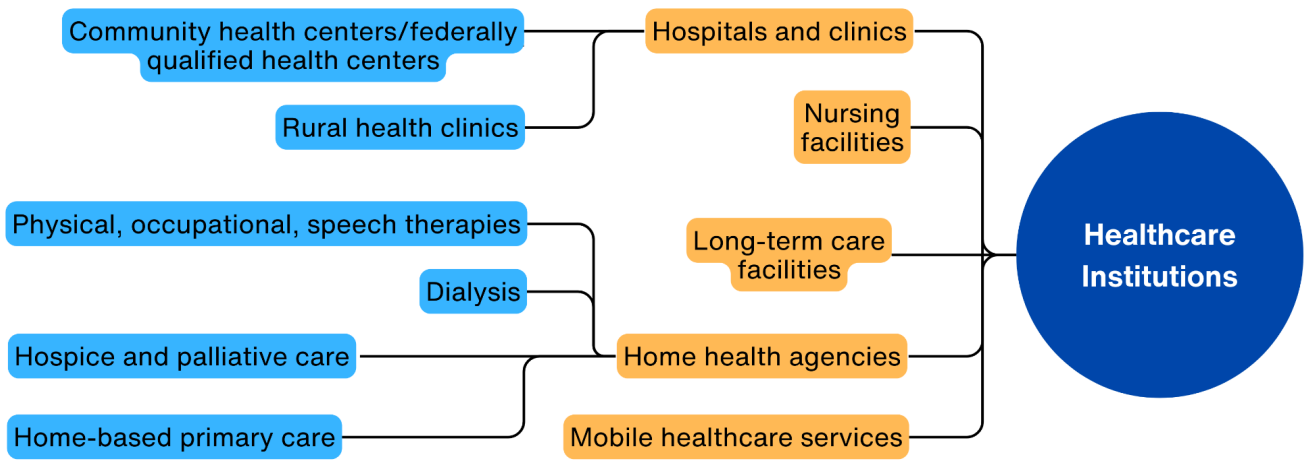
APPENDIX E: SYSTEMS ANALYSIS OF INTERESTED PARTIES

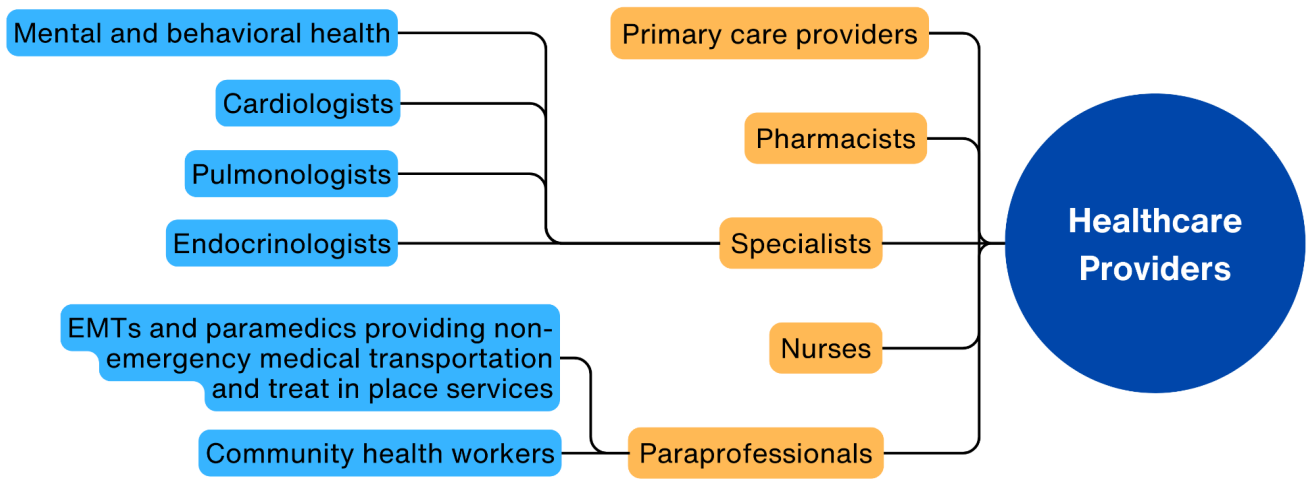
The following systems analysis identifies all the interested parties that are part of the complex system that influences the ability of West Virginians with chronic health conditions to reach their medical appointments. A simple model is presented below and is further elaborated on the pages that follow.

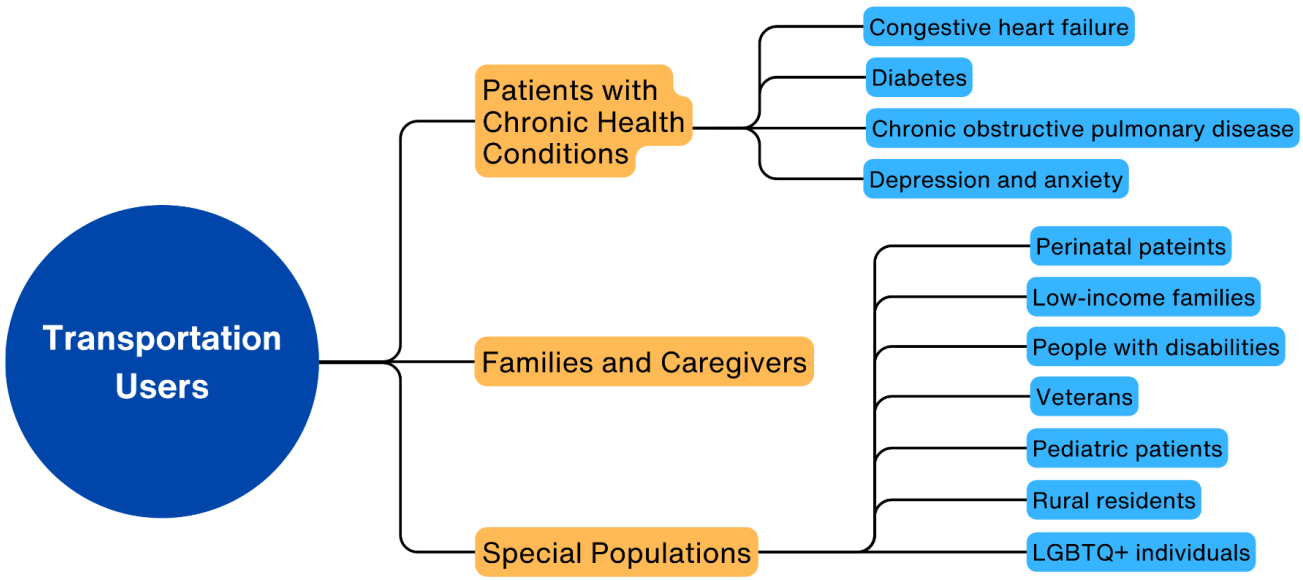


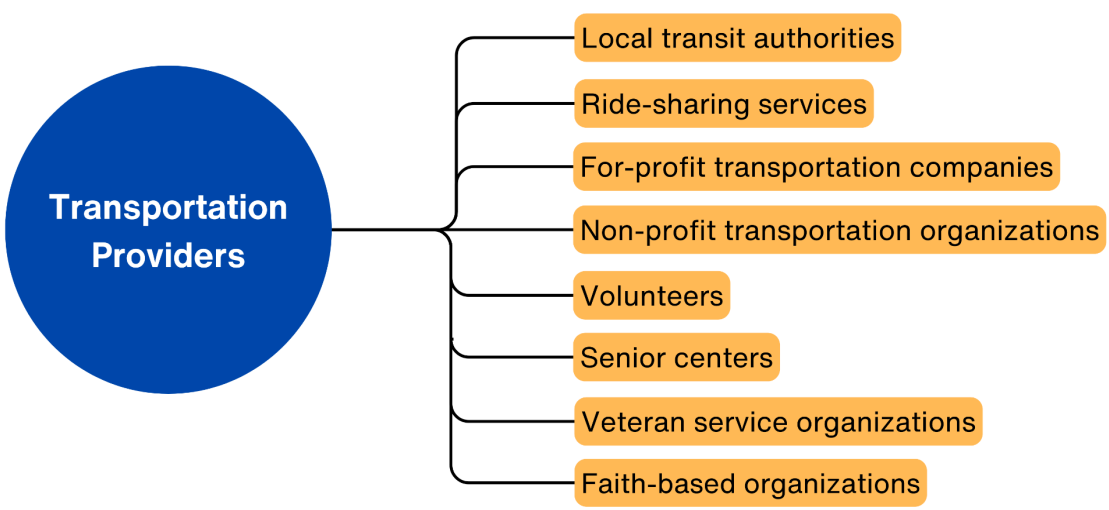

WV Bureau for Behavioral Health
WV Dept. of Human Services
WV Bureau for Medical Services
WV Health Care Authority
Bureau for Senior Services
Bureau for Public Health
WV Medicaid
WV Office of Rural Health
WV Dept. of Health
West Virginia Government
Local health departments
County and local governments
State legislature
WV Public Transit Association
WV Division of Highways
WV Dept. of Transportation
WV Broadband Enhancement Council
WV Dept. of Economic Development

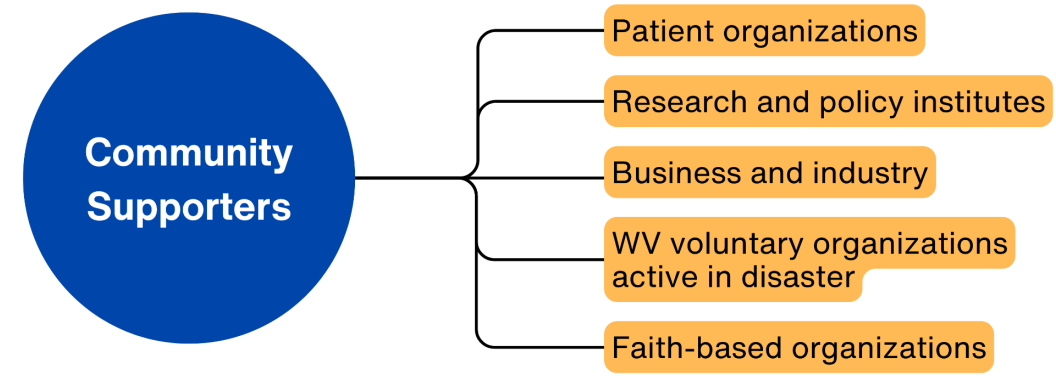

WV Public Transit Association
US Dept. of Health and Human Services
WV Division of Highways
US Dept. of Transportation
Federal Government
Federal Highway Administration
US Dept. of Agriculture

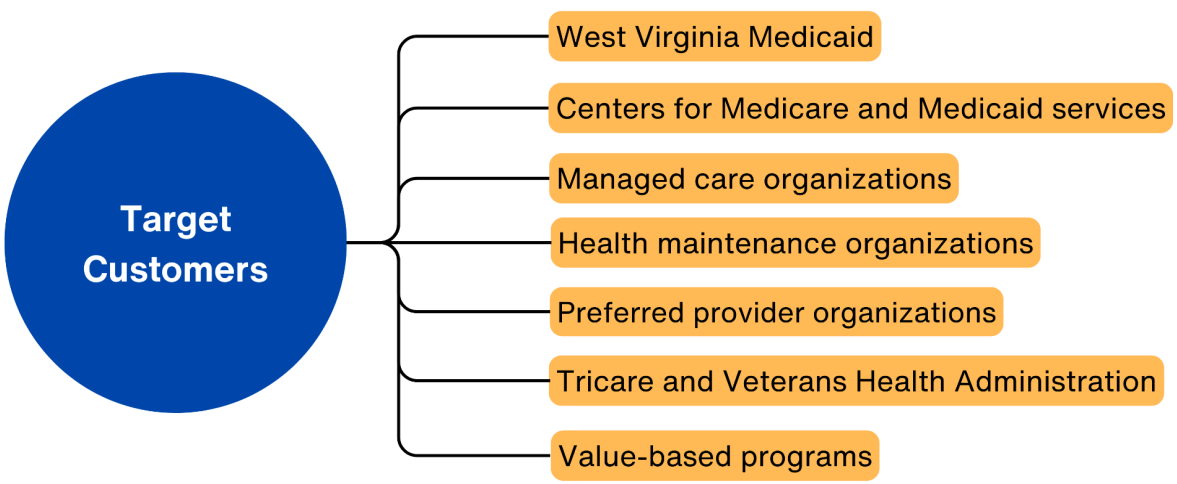

Healthcare Institutions
Hospitals and clinics
Nursing facilities
Long-term care facilities
Home health agencies
Mobile healthcare services
Community health centers/federally qualified health centers
Rural health clinics
Physical, occupational, speech therapies
Dialysis
Hospice and palliative care
Home-based primary care


Healthcare Providers
Primary care providers
Pharmacists
Specialists
Nurses
Paraprofessionals
Mental and behavioral health
Cardiologists
Pulmonologists
Endocrinologists
EMTs and paramedics providing non-emergency medical transportation and treat in place services
Community health workers


Transportation Users
Patients with Chronic Health Conditions
Congestive heart failure
Diabetes
Chronic obstructive pulmonary disease
Depression and anxiety
Families and Caregivers
Special Populations
Perinatal pateints
Low-income families
People with disabilities
Veterans
Pediatric patients
Rural residents
LGBTQ+ individuals

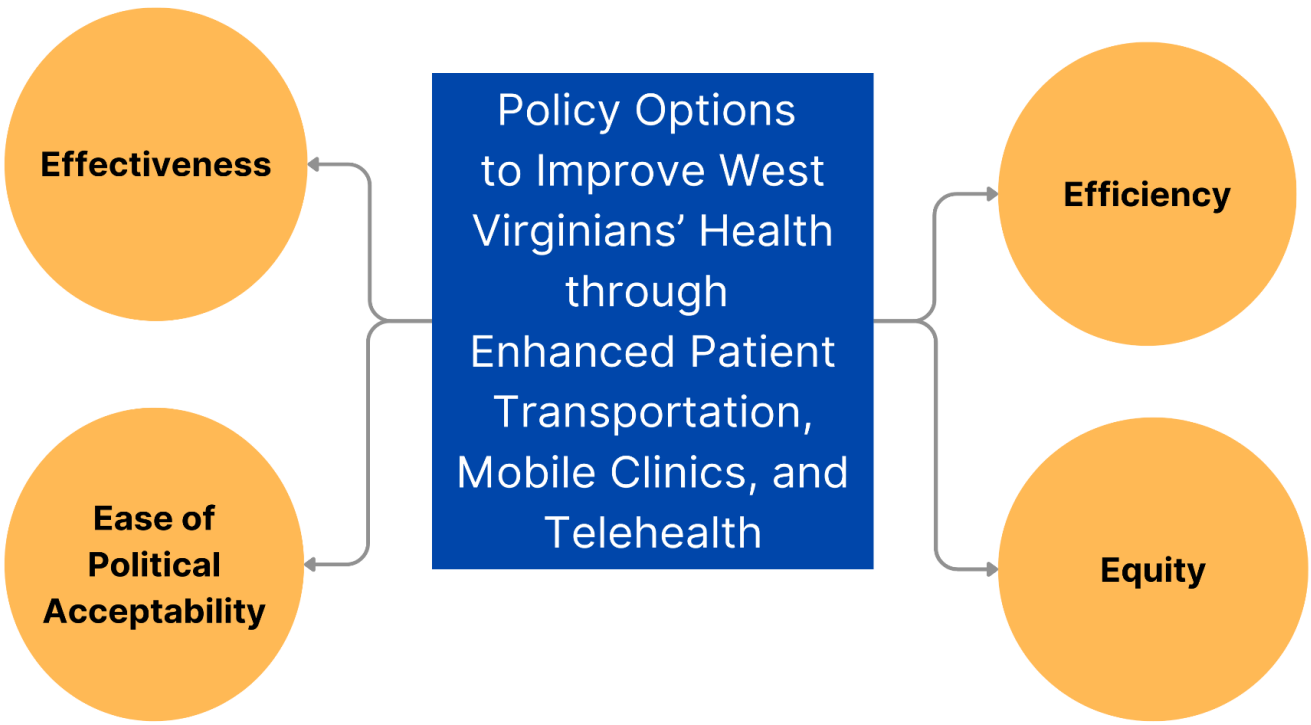

Transportation Providers
Local transit authorities
Ride-sharing services
For-profit transportation companies
Non-profit transportation organizations
Volunteers
Senior centers
Veteran service organizations
Faith-based organizations

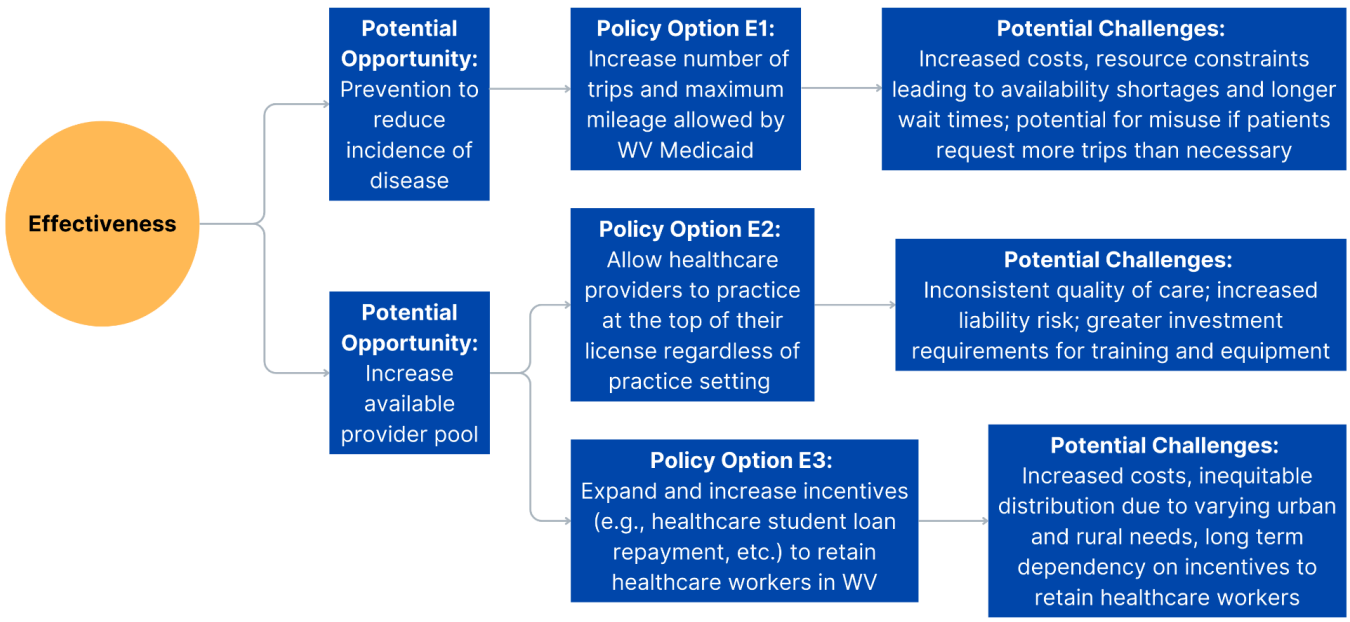

Community Supporters
Patient organizations
Research and policy institutes
Business and industry
WV voluntary organizations active in disaster
Faith-based organizations

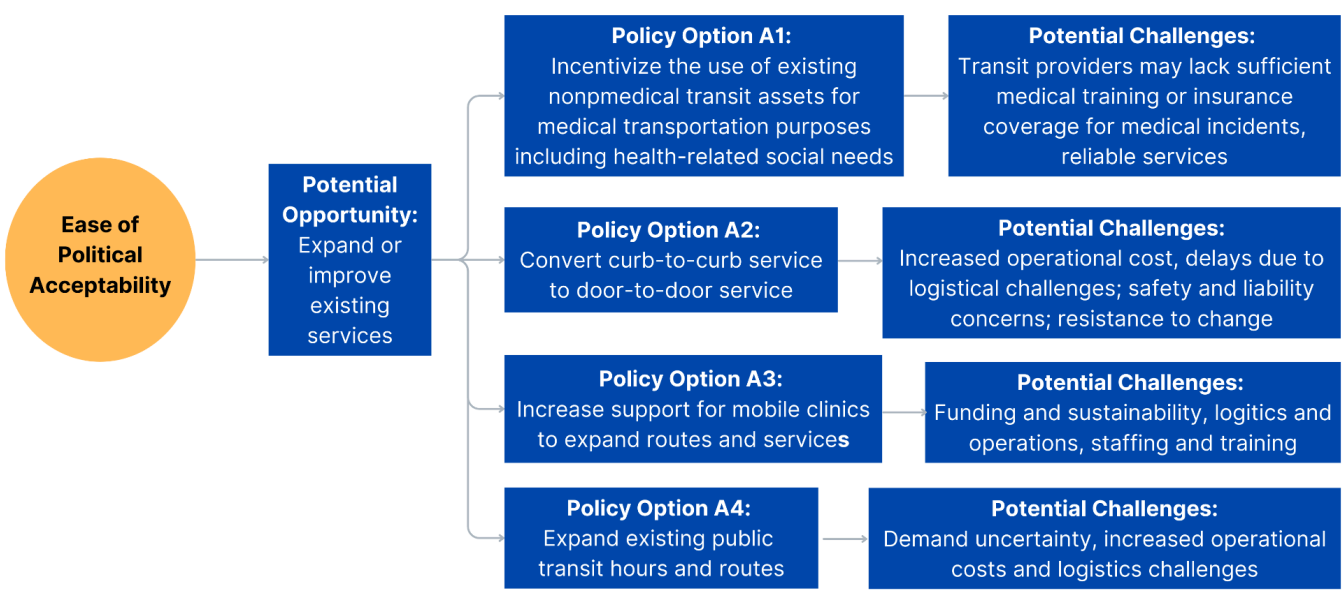

Target Customers
West Virginia Medicaid
Centers for Medicare and Medicaid services
Managed care organizations
Health maintenance organizations
Preferred provider organizations
Tricare and Veterans Health Administration
Value-based programs

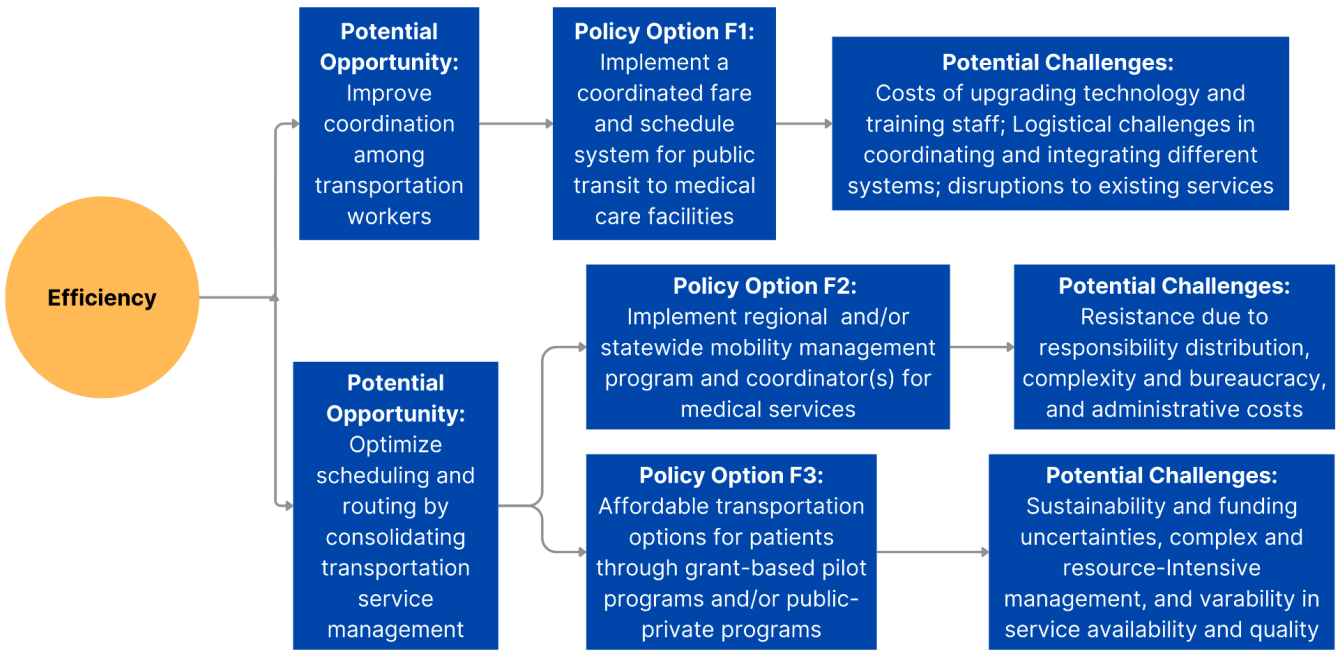
APPENDIX F: SYSTEMS ANALYSIS OF POTENTIAL POLICY OPTIONS

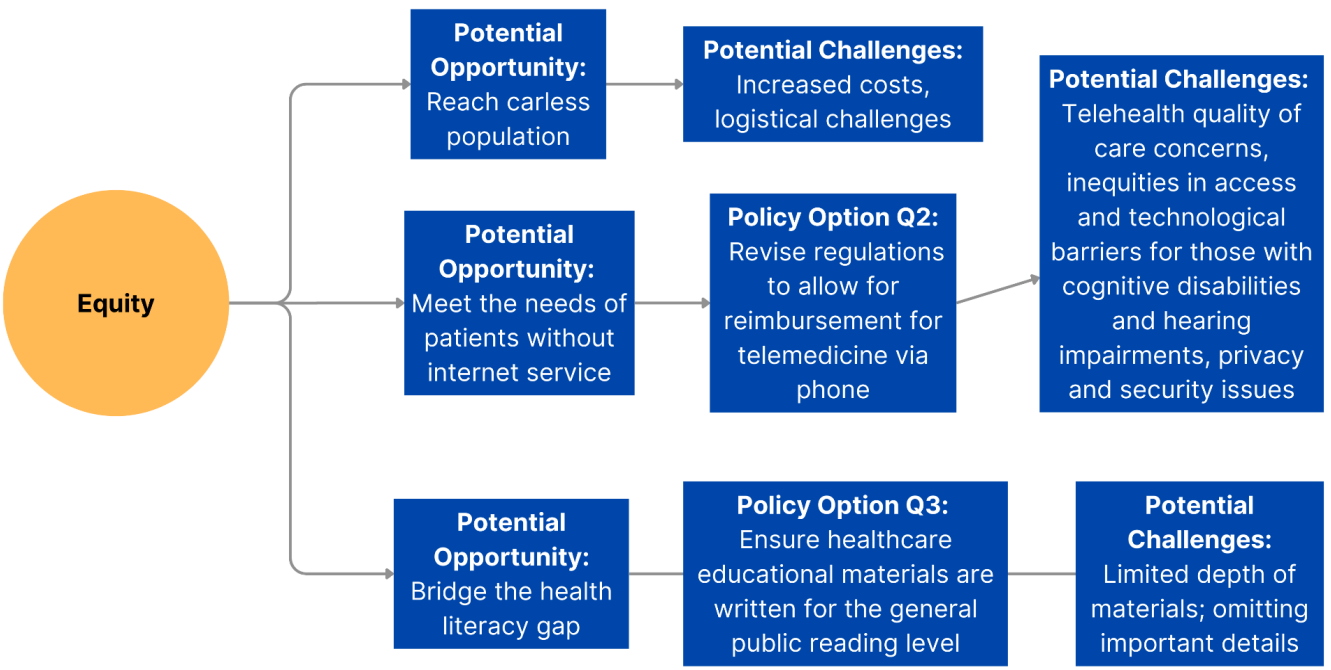
The following systems analysis analyzes the opportunities and challenges related to the policy options identified early in the process based on the 4E framework described in this policymaker guide (see Figure 5-2): effectiveness, efficiency, equity, and ease of political acceptability. A simple model is presented below and is further elaborated on the pages that follow.




Effectiveness
Potential Opportunity: Prevention to reduce incidence of disease
Policy Option E1: Increase number of trips and maximum mileage allowed by WV Medicaid
Potential Challenges: Increased costs, resource constraints leading to availability shortages and longer wait times; potential for misuse if patients request more trips than necessary
Potential Opportunity: Increase available provider pool
Policy Option E2: Allow healthcare providers to practice at the top of their license regardless of practice setting
Potential Challenges: Inconsistent quality of care; increased liability risk; greater investment requirements for training and equipment
Policy Option E3: Expand and increase incentives (e.g., healthcare student loan repayment, etc.) to retain healthcare workers in WV
Potential Challenges: Increased costs, inequitable distribution due to varying urban and rural needs, long term dependency on incentives to retain healthcare workers


Ease of Political Acceptability
Potential Opportunity: Expand or improve existing services
Policy Option A1: Incentivize the use of existing nonpmedical transit assets for medical transportation purposes including health-related social needs
Potential Challenges: Transit providers may lack sufficient medical training or insurance coverage for medical incidents, reliable services
Policy Option A2: Convert curb-to-curb service to door-to-door service
Potential Challenges: Increased operational cost, delays due to logistical challenges; safety and liability concerns; resistance to change
Policy Option A3: Increase support for mobile clinics to expand routes and services
Potential Challenges: Funding and sustainability, logitics and operations, staffing and training
Policy Option A4: Expand existing public transit hours and routes
Potential Challenges: Demand uncertainty, increased operational costs and logistics challenges


Efficiency
Potential Opportunity: Improve coordination among transportation workers
Policy Option F1: Implement a coordinated fare and schedule system for public transit to medical care facilities
Potential Challenges: Costs of upgrading technology and training staff; Logistical challenges in coordinating and integrating different systems; disruptions to existing services
Potential Opportunity: Optimize scheduling and routing by consolidating transportation service management
Policy Option F2: Implement regional and/or statewide mobility management program and coordinator(s) for medical services
Potential Challenges: Resistance due to responsibility distribution, complexity and bureaucracy, and administrative costs
Policy Option F3: Affordable transportation options for patients through grant-based pilot programs and/or public-private programs
Potential Challenges: Sustainability and funding uncertainties, complex and resource-Intensive management, and varability in service availability and quality


Equity
Potential Opportunity: Reach carless population
Potential Challenges: Increased costs, logistical challenges
Potential Opportunity: Meet the needs of patients without internet service
Policy Option Q2: Revise regulations to allow for reimbursement for telemedicine via phone
Potential Challenges: Telehealth quality of care concerns, inequities in access and technological barriers for those with cognitive disabilities and hearing impairments, privacy and security issues
Potential Opportunity: Bridge the health literacy gap
Policy Option Q3: Ensure healthcare educational materials are written for the general public reading level
Potential Challenges: Limited depth of materials; omitting important details