RHRPC
UH Rural Health Research and Policy Center

The Impacts of Transportation and Travel Access on Rural Health in Hawai‘i

Part 2: Stakeholder Insights

University of Hawai‘i (UH) Rural Health Research and Policy Center

June 25, 2025

John Desfor, MPH; Keilyn Kawakami, PhD, MPH; Monica Ho; Diana M V Shaw, PhD, MPH, MBA; Amy Ma; Tetine Sentell, PhD; Aimee Malia Grace, MD, MPH

UNIVERSITY of HAWAI‘I® SYSTEM

This project has been funded in part through each of the following: grant No. GE1HS47344 from the U.S. Health Resources and Services Administration (HRSA); the Hawai‘i State Department of Health (HI DOH) Office of Primary Care and Rural Health; and HMSA Foundation.

Project Overview

The University of Hawai‘i (UH) Rural Health Research and Policy Center (RHRPC) was established in 2022 to translate community health needs into policy solutions. Key partners in our work have included the Hawai‘i State Rural Health Association, Office of Primary Care and Rural Health at the Hawai‘i State Department of Health (HI DOH), the Hawai‘i/Pacific Basin Area Health Education Center, Provider Shortage Crisis Task Force, and the Pacific Basin Telehealth Resource Center. Some of the community health needs identified to date that have formed the basis for RHRPC's work include the appropriateness of federal formulas for Hawai‘i, such as in determining Medicare reimbursement rates and Health Professional Shortage Area (HPSA) designations and loan/scholarship awards, as well as the need for exemption of certain medical services from the state's General Excise Tax (GET).

Additionally, RHRPC has heard loudly and clearly from the community that transportation/travel access is one of the most important barriers to adequate health care, particularly in rural areas. Transportation is an important economic and social determinant of health (SDOH), impacting both individual and community health.[1] Upstream policy decisions in this area significantly impact downstream health outcomes.[2] For example, patients' access to reliable transportation can impact the ability to attend doctors' appointments or reach an emergency room, thereby impacting acute, primary/preventive, and specialty care. In a non-contiguous state like Hawai‘i, where those on neighbor islands must often travel on airplanes across the ocean to access care, long travel times, airline unreliability, and travel/financial burdens challenge health care access and negatively impact health outcomes.

In 2024, RHRPC embarked on a multi-part project to study these issues through conducting a literature review; hearing directly from stakeholders about how transportation challenges impact rural health in Hawai‘i; and then leveraging these insights to develop policy options to address the challenges. The completion of this project, entitled "The Impacts of Transportation and Travel Access on Rural Health in Hawai‘i," is presented in four parts. Part 1 is a literature review regarding the impacts of travel and transportation access on rural health, both nationally and in Hawai‘i. Part 2 is a report of our Stakeholder Insights from 40 interviewees in such fields as health care, transportation services, and insurance. Part 3 is a compilation of policy options to address transportation and travel access barriers and improve rural health in Hawai‘i. Finally, Part 4 is a sub-report outlining specific issues and policy options regarding maternal-fetal telehealth.

[1] Lane, Leigh, Brandy Huston, and Chris Danley. *Connecting Transportation and Health: A Guide to Communication and Collaboration.* National Cooperative Highway Research Program, April 2019. https://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25Task105/NCHRP25-25Task105Guidebook.pdf.
[2] Ibid.

Executive Summary

Transportation plays a critical role in whether a person is able to obtain necessary healthcare services.[3] Lack of transportation can lead to delayed medical care, financial burdens, and poor health outcomes.[4] The purpose of this qualitative project was to identify the specific transportation-related barriers to accessing healthcare services in Hawai‘i, with an emphasis on rural communities and maternal health, and identify potential policy solutions to address these challenges.

Forty key informants were identified through purposive sampling,[5] which was dependent on their occupation, experiences with healthcare and/or transportation, and their relationship to RHRPC. Additional key informants were recruited to participate in interviews using a snowball sampling technique.[6] These interviewees included healthcare providers, transportation service providers, insurance providers, government representatives, and community-based organizations.

Key informants were asked to participate in semi-structured individual interviews to better understand barriers to care and identify potential policy solutions to improve transportation and travel access in rural areas. RHRPC developed a series of interview questions that were utilized to identify transportation effects on health/healthcare access, barriers to achieving adequate transportation solutions, and the different needs between urban and rural areas. The interviews were conducted between January and July 2024. Following completion of the interviews, interview notes taken by RHRPC team members were condensed and used to conduct a rapid qualitative analysis.[7] This methodology was utilized as it ensures quick, efficient, and accurate interpretations of the data, therefore not delaying actionable results, potential policy solutions, and stakeholder buy-in.

Results were categorized into four themes which were informed by site visits and community meetings, field observations, and in-depth research of existing literature and data. The four themes included EMS, NEMT, insurance coverage, and maternal fetal health. Additional topics that were discussed that did not fit into the four themes included telehealth, provider burden, and workforce shortages.

Interviewees noted the scarcity of emergency vehicles and helicopters/airplanes leading to unavailable and untimely EMS/transport, inadequate emergency care during transport, EMS overutilization and emergency room (ER) capacity, staffing issues (pilots, EMS crew, and ER), insurance reimbursement issues, problems with having a singular helicopter EMS company

---

[3] Syed, Samina T., Ben S. Gerber, and Lisa K. Sharp. “Traveling Towards Disease: Transportation Barriers to Health Care Access.” *Journal of Community Health* 39, no. 1 (December 13, 2014): 976–993. https://doi.org/10.1007/s10900-013-9681-1.

[4] Wolfe, Mary K., Noreen C. McDonald, and G. Mark Holmes. “Transportation Barriers to Health Care in the United States: Findings From the National Health Interview Survey, 1997–2017.” *American Journal of Public Health* 110, no. 6 (June 2020): 815–822. https://doi.org/10.2105/AJPH.2020.305579.

[5] Palinkas, Lawrence A., Sarah M. Horwitz, Carla A. Green, Jennifer P. Wisdom, Naihua Duan, and Kimberly Hoagwood. “Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research.” *Administration and Policy in Mental Health and Mental Health Services Research* 42, no. 5 (September 2015): 533–544. https://doi.org/10.1007/s10488-013-0528-y.

[6] Oregon State University, Division of Research and Innovation. “Snowball Sampling.” https://research.oregonstate.edu/ori/irb/policies-and-guidance-investigators/guidance/snowball-sampling.

[7] Prevention Research Center at UMass Chan Medical School, “Rapid Qualitative Analysis.” https://www.umassmed.edu/prc/resources/rapid-qualitative-analysis/.

(Hawai‘i Life Flight), and expenses to fly patients inter-island or across the U.S.-Affiliated Pacific Islands.

Interviewees also discussed the reliability and consistency issues with Mokulele Airlines (flight delays/cancellations make it difficult to reschedule healthcare appointments/surgeries and can put a strain on healthcare providers and patients alike), additional transportation challenges facing people in poverty and experiencing homelessness, public transportation unreliability or inaccessibility for rural communities, limited on-ground transportation options for neighbor islands residents who visit O‘ahu or Maui for healthcare services, and air and on-ground transportation scheduling issues.

Interviewees shared information about complex insurance protocols and untimely prior authorization requirements leading to difficulty in booking transportation, communication challenges when transportation coordination is outsourced to third parties by insurance companies, and insufficient non-governmental insurance to cover/reimburse transportation costs.

Others discussed the limited access to prenatal services and the challenge of having to fly to O‘ahu or Maui for care and delivery, high-risk pregnancies requiring relocation to O‘ahu or Maui via EMS/helicopter, women in poverty and mothers experiencing homelessness facing additional transportation challenges, and overall limited OB care access across the state.

Throughout the interviews, it was found that without access to reliable transportation, rural residents across the state will continue to face delayed diagnoses, inconsistent treatment, and higher rates of preventable health complications, therefore leading to increased health disparities. Interviewees determined that public health strategies and innovative policy options must address these disparities through interventions that integrate healthcare access with transportation infrastructure planning.

Introduction

Transportation access plays a critical role in healthcare delivery, particularly in rural areas of Hawai‘i, where geographic isolation and infrastructure limitations create significant barriers to medical services.

Part 1 of this series presented a literature review that examined the impact of transportation challenges on emergency medical services (EMS), non-emergency medical transportation (NEMT), and insurance coverage, with a particular focus on maternal-fetal (MF) health. Delays in EMS response times, limited trauma centers, and a single emergency air ambulance provider exacerbate disparities in emergency care, while unreliable airline services and high costs make routine medical travel burdensome for rural residents. Many patients, including pregnant women with high-risk conditions, must relocate to O‘ahu or Maui for specialized care, often facing financial hardship and emotional strain. While Medicaid provides some NEMT coverage, private insurance policies frequently do not, leaving many to bear the full cost of inter-island travel, lodging, and caregiving responsibilities. The findings highlight the urgent need for policy solutions to address these challenges.

To better understand specific challenges for rural communities in Hawai‘i related to transportation and travel access, as well as to glean ideas for policy solutions to address these issues, RHRPC met with stakeholders across the state to hear directly about challenges and opportunities.

Methodology

Key informants were asked to participate in semi-structured individual interviews to better understand barriers to care and identify potential policy solutions to improve transportation and travel access in rural areas. RHRPC developed a series of interview questions that were utilized to identify transportation effects on health/healthcare access, barriers to achieving adequate transportation solutions, and the different needs between urban and rural areas.

These questions (see Appendix A) were modified slightly based on the category of the interviewee (i.e., healthcare provider, MF medicine provider, physician, neighbor island organization, transportation provider, public sector organization, and/or insurance organization), and were also refined as interviews were conducted as needs arose, utilizing feedback from our partners and interview experience. The interviews were conducted between January and July 2024.

The interviewees were identified through purposive sampling depending on the interviewee’s occupation, salient experiences with transportation and rural health, and their existing relationship with RHRPC (such as through previous or existing partnerships, or individual connections). The snowball sampling recruitment technique was used in addition to

purposive sampling as many interviewees had several ideas for other stakeholders that should be included.[8,9]

During each interview, thorough field notes were taken in a bullet point format. One RHRPC team member (JD) conducted each interview and asked questions while the other team member(s) (when available) would solely take notes. Direct transcriptions were not created for this research project.

After completing the interview portion of the project, condensing team members' field notes, and discussing the main themes, the RHRPC team began the analysis. A rapid qualitative analysis was the chosen methodology for analysis. A rapid qualitative analysis is a specific research method that facilitates quick and efficient results utilizing the existing data,[10] which were stakeholder interview notes. Rapid qualitative analyses are designed to avoid excessive time consumption, which would delay actionable results.[11]

Through a random number generator, the interviews were split evenly into three sections (A, B, and C). Sections were then assigned to each of the three team members who did the coding analysis (JD, MH, KK). Each coder thoroughly read through all the field notes taken from each semi-structured interview in their section.

Four main themes were identified in the early interview stages: EMS, NEMT, Insurance Coverage, and MF Health. These themes were informed by site visits and community meetings, field observations, and in-depth research of existing literature and data. During each reviewer's read-through, the coder highlighted findings that fit into one of the four main themes.

In addition, if there were other relevant findings that did not fit into one of the four main themes, the coder would flag the excerpt to identify the subcategory during a full team meeting after coding was completed. Several new subcategories were thereby identified, including: telehealth, public transportation, mobile care, homelessness/poverty, primary and preventive care, provider travel, provider burden/burnout, workforce shortages, caregiver(s), airlines, prenatal care, patient barriers, data collection, and weather. Subcategories did not explicitly fit into one of the four main themes, but were important and could potentially play a role when discussing possible cross-cutting solutions.

After completing the full analysis with color coding, each coder would then identify one quote or main idea for each of the four themes (if applicable) that was derived from the interview. The coder would then insert the quote/main idea from the interview into the coding matrix (Figure 5: Rapid Qualitative Analysis Matrix (Transportation and Healthcare) - RHRPC Example). After all the coders had completed their sections, the team met to compare matrices and come to concordance on any discrepancies. After the meeting, a final matrix was created to demonstrate all the main quotes, ideas, and sub-themes. The final matrix was also broken down by stakeholder type (e.g., healthcare providers, neighbor island organizations, transportation

[8] Oregon State University. 2010. "Snowball Sampling." https://research.oregonstate.edu/ori/irb/policies-and-guidance-investigators/guidance/snowball-sampling.
[9] Stratton, SJ. "Purposeful Sampling: Advantages and Pitfalls." Prehospital and Disaster Medicine. 2024;39(2):121-122. doi:10.1017/S1049023X24000281
[10] Prevention Research Center at UMass Chan Medical School, "Rapid Qualitative Analysis." https://www.umassmed.edu/prc/resources/rapid-qualitative-analysis/.
[11] Ibid.

providers, public sector organizations, and insurance providers) to compare and contrast findings among the interviewees.

Figure 5: Rapid Qualitative Analysis Matrix (Transportation and Healthcare) - RHRPC Example

Interviewee	EMS	NEMT	Insurance	MF	Sub-themes
Healthcare Provider (Maternal and Fetal Health Provider)	"There is delayed timing in getting things moving from the planning side, and not enough availability of emergency airplanes and helicopters."	"Personal transportation can be unreliable, and public transportation is not adequate across the entire island."	"Insurance is the biggest issue regarding transportation." Timely insurance optimization is a problem, they do not authorize and/or book transportation fast enough	Remote monitoring and other telehealth options are the best way to address limited access to MF Care due to transportation issues	Telehealth, Prenatal Care, Workforce Shortage, Public Transportation

Findings

Forty interviewees participated in this project and were classified under seven different categories as described above. Several interviewees were part of multiple categories and were labeled under each category. The interviewees included 26 healthcare providers, eight MF medicine providers, 10 physicians, six transportation providers, and representatives from 15 neighbor island organizations, six public sector representatives (including governmental representatives), and three insurance organizations. Findings are shared below, by key topic areas of EMS, NEMT, insurance coverage, and MF health.

Emergency Medical Services (EMS)

Thirty out of the 40 interviewees discussed EMS. There were several common findings in regard to EMS, including scarcity of emergency vehicles and helicopters/airplanes leading to unavailable and untimely EMS/transport, inadequate emergency care during transport, EMS overutilization and limited emergency room (ER) capacity, staffing issues (pilots, EMS crew, and ER), insurance reimbursement issues, problems with having a singular helicopter EMS company (Hawai‘i Life Flight), and expenses to fly patients inter-island or across the U.S.-Affiliated Pacific Islands.

Many participants found issues with the current state of EMS provision in Hawai‘i, ranging from county contracts to inter-island transfer systems to private air ambulance companies. Overall, the consensus in these interviews was that there are too many delays in EMS operations, leading to poorer health outcomes.

One respondent said:

"There is delayed timing in getting things moving from the planning side and not enough availability of emergency airplanes and helicopters."

-Maternal health physician

A focus on air ambulances was a common thread among interviewees. Many participants discussed the critical shortage of air ambulance services, which impacts the timely transport of patients needing urgent care. Hawai‘i Life Flight is the primary air ambulance provider, but there are issues with surge capacity, crew fatigue, and mandatory no-fly times due to pilot rest regulations. These factors were mentioned as a reason for delays in transporting patients, especially during surges. Interviewees discussed how those delays directly resulted in worsened health outcomes for those with emergent health issues.

A minority of participants, particularly those on O‘ahu, mentioned the challenges that traffic presents for transporting patients via ground ambulance to Honolulu, while others on Hawai‘i Island described limited ambulance fleet size, limited number of hospitals, and large travel distances as a barrier to quality care. However, the majority of participants focused on the need to improve inter-island emergency medical transportation.

Interviewees also highlighted significant gaps in public sector funding and infrastructure that affect EMS response times. One state governmental official noted that EMS operations are often underfunded by counties and state agencies, particularly in rural and underserved areas. Funding restrictions limit the number of EMS units and the scope of services available, which means that some regions have fewer ambulances and rely on neighboring areas during high-demand periods.

One interviewee described how these challenges affect residents in American Samoa, a U.S. territory in the Pacific that shares many linkages with Hawai‘i. The challenges related to emergency healthcare access there are particularly severe, reflecting issues seen across the U.S.-Affiliated Pacific Islands. Emergency services are limited by the geographic isolation of these islands, where access to advanced care often requires transport to Hawai‘i or the U.S. mainland. However, air transportation—essential for critically ill patients—remains costly, infrequent, and constrained by limited emergency air providers, leading to delays in emergency transfers. In cases of medical crises, the lack of nearby specialized facilities means that even non-life-threatening conditions can escalate due to delayed access to care. This interviewee also noted that emergency air services in American Samoa and other Pacific Islands suffer from the same funding and resource limitations seen in Hawai‘i’s rural islands, where state subsidies are sparse, and local EMS agencies lack the capacity to fully serve isolated communities. One interviewee noted that this highlights the need for federal support in building a coordinated emergency infrastructure that includes subsidized inter-island air transport in jurisdictions that need it, additional funding for EMS units, and workforce incentives to place emergency care providers in these underserved regions.

Some interviewees discussed the issues stemming from a lack of coordination between counties, given that each county operates its own EMS contracts and systems. Some are run by the county fire department, while others are operated by independent contractors or separate EMS departments. This can lead to a lack of synergy between systems and less efficient utilization of funding and resources. One respondent said that:

"Those in rural areas in neighbor islands can sometimes wait up to two hours for EMS to arrive."

-Rural health provider

Interviewees also discussed how EMS in Hawai‘i is uniquely challenged by the state's geographic separation of islands. In particular, transporting patients between islands is costly, often necessitating air travel for advanced care on O‘ahu or Maui. One interviewee pointed out that emergency air services are critical for serious cases but are often hampered by factors such as weather, limited availability of pilots, and high costs. This creates a vulnerability where response times to emergencies on isolated islands can be unpredictable, further exacerbating health risks.

Non-Emergency Medical Transportation (NEMT)

Thirty-nine out of the 40 interviewees discussed NEMT. There were several common findings in regard to NEMT, including: Mokulele Airlines reliability and consistency issues (flight delays/cancellations make it difficult to reschedule healthcare appointments/surgeries and can put a strain on healthcare providers and patients alike), additional transportation challenges facing people in poverty and experiencing homelessness, public transportation unreliability or inaccessibility for rural communities, limited on-ground transportation options for neighbor islands residents who visit O‘ahu or Maui for healthcare services, and air and on-ground transportation scheduling issues.

Interviewees discussed how NEMT in Hawai‘i is essential for access to routine healthcare, preventive services, and continuity of care, especially for populations in rural and remote areas. However, many of the interviewees shared that NEMT in Hawai‘i is unreliable, under-resourced, and often inaccessible to residents of rural and neighbor island communities.

There were a variety of sub-categories found within this theme that were mentioned multiple times by participants, which are shared as follows:

Public Transportation

Many interviewees emphasized that limited public transportation infrastructure in rural areas significantly affects residents' ability to access healthcare, a recurring challenge that clearly

impacted many stakeholder groups. For example, one community organizer noted that on Oʻahu, communities outside of Honolulu such as Waipahu and ʻEwa face pronounced difficulties with public transportation due to infrequent and unreliable public transit schedules. This challenge is compounded by the long travel times required for patients who depend on buses to reach urban centers like Honolulu for specialized care. For individuals without personal vehicles, this lack of accessible public transit means missed or delayed appointments, which multiple interviewees claimed leads to disruptions in healthcare continuity and worsening health outcomes. One healthcare provider said:

"Personal transportation can be unreliable, and public transportation is not adequate across the entire island [of Oʻahu]."

–Healthcare provider on Oʻahu

This issue is particularly acute on neighbor islands where public transportation services are sparse or nonexistent. Some Kauaʻi stakeholders, for instance, noted that while public transit serves main towns adequately, it does not extend into the most remote communities, leaving residents who do not own personal vehicles without any viable transportation option at all. Such limited access has a cascading effect, especially for elderly patients or those managing chronic illnesses, as they are unable to attend regular follow-ups or preventive care appointments. One hospital manager highlighted that for some patients, transportation delays are so severe that providers must find alternative solutions, such as organizing volunteer rides or deploying mobile health clinics to bridge the gap.

Interviewees mentioned that another significant barrier relates to the accessibility of public transportation for vulnerable populations, such as those with disabilities or the houseless community. Some interviewees mentioned that Medicaid transportation services for unsheltered patients often fail because many taxi companies refuse to serve individuals without stable addresses, leaving public transit as the only option. However, the physical demands of accessing bus stops—often located far from healthcare facilities—can deter patients who are elderly, disabled, or managing acute illnesses.

These gaps in public transportation not only hinder individual healthcare access but also place a greater strain on emergency services. As one EMS professional noted, when patients cannot rely on public transit for non-urgent care, they often resort to calling emergency services or visiting emergency rooms for issues that could have been managed with routine outpatient care. This misallocation of resources further exacerbates the systemic strain on Hawaiʻi's healthcare infrastructure.

Airline Service

Interviewees discussed how air travel plays a critical role in healthcare access across Hawai‘i’s islands, especially for patients living on neighbor islands who require specialized care which is often available only on O‘ahu, and sometimes on Maui. However, reliance on airlines as a primary mode of medical transportation introduces significant barriers, including cost, scheduling limitations, and accessibility issues. Many interviewees highlighted the difficulties patients face when depending on commercial airlines for routine and urgent healthcare needs.

One of the most pressing challenges interviewees discussed was the unreliability of inter-island flights. Some airline representatives acknowledged that delays and cancellations, more common with smaller carriers like Mokulele Airlines, have caused patients to miss critical appointments and surgeries. These issues are exacerbated during peak travel times, holidays, or inclement weather, leaving patients stranded or forcing them to reschedule care, sometimes for months. Some patients even resort to what can be dangerous sea travel in small privately-owned boats. Patients traveling for dialysis, prenatal care, or high-risk medical procedures are especially vulnerable to these disruptions.

Another major issue brought up by interviewees was the financial burden of airfare. Medicaid generally covers air transportation for eligible patients, but the booking process often involves third-party agencies, which, as noted by those on the island of Lāna‘i, can be slow, stressful, and inefficient. For patients with Medicare or private insurance, airfare is rarely covered, forcing many to pay out-of-pocket for travel to receive necessary care. Differences in insurance coverage create disparities, as those without the means to afford flights may delay or forego treatment altogether. Additionally, policies requiring advanced booking for insurance covered flights limit flexibility, making it difficult for patients to respond to short-notice appointments or rescheduled procedures.

Accessibility is also a concern. Many interviewees described how small planes used for inter-island travel can be physically challenging for patients with disabilities or mobility issues. Narrow doorways, steep or stepped ramps, and limited space onboard make it difficult for individuals requiring wheelchairs or medical equipment to travel safely. Some airlines offer limited accommodations, but these are not always sufficient or consistently available.

Mobile Care Units

Interviewees discussed how mobile care units have emerged as an innovative and targeted solution to address transportation barriers, particularly for residents in remote or underserved areas. These units provide healthcare services directly within communities, reducing the need for patients to travel long distances to access care. One care coordinator emphasized the effectiveness of mobile care units in reaching populations that face significant transportation challenges, such as those in rural areas or without reliable personal transportation. This interviewee noted that mobile units have been especially beneficial in delivering basic primary

care, medication delivery, and preventive services, addressing a critical gap in healthcare accessibility. One respondent said:

> *"Bring[ing] care to people versus making them travel is more effective."*
>
> *-Community healthcare provider*

The implementation of mobile care units has also highlighted their potential for addressing healthcare disparities. For example, interviewees mentioned that on Kaua'i, mobile units funded by federal grants have allowed healthcare providers to bring essential services to remote homesteads and underserved areas. These units not only provide clinical care but also facilitate community engagement and build trust with patients who may otherwise avoid traditional healthcare settings. However, these successes come with limitations. Many programs are constrained by temporary grant funding and logistical challenges, such as staffing shortages and vehicle maintenance.

Mobile care units have also been employed to address emergency needs, such as in the aftermath of the Lahaina wildfires on Maui. Some providers described how mobile clinics played a critical role in delivering urgent care and mental health support to displaced individuals when traditional healthcare facilities were inaccessible. This demonstrates the flexibility and adaptability of mobile units in responding to both routine and crisis healthcare needs.

However, interviewees consistently pointed out that while mobile care units offer a valuable stopgap solution, their long-term sustainability depends on consistent funding and operational support. For instance, participants noted that gas costs for operating these units can exceed $1,500 weekly, and maintaining vehicles often requires specialized services available only in urban centers. These logistical hurdles have prevented many programs from expanding their reach or maintaining operations over time. Moreover, mobile units are often staffed by a limited number of providers (often the same individuals providing in-office services), which potentially reduces the amount of in-office services. Lastly, there is the potential for a restriction of the scope of services offered due to lack of equipment or licensure.

Provider Burden

Interviewees discussed how the responsibility of organizing NEMT often falls disproportionately on healthcare providers, creating a significant administrative burden that interferes with their ability to focus on clinical duties. Interviewees across the board highlighted how the inefficiencies and complexities of NEMT coordination consume valuable time and resources, ultimately affecting both providers and patients.

One hospital administrator described how coordinating transportation for patients involves navigating a fragmented system of insurers, third-party transport companies, and

patients themselves, many of whom lack the resources or knowledge to manage their own transportation needs. This process often requires extensive back-and-forth communication to confirm eligibility, schedule rides, and address logistical issues such as timing and accessibility. For example, Medicaid transportation services mandate prior authorization for rides, requiring providers to submit documentation verifying the medical necessity of appointments. This time-consuming process detracts from direct patient care and increases the risk of patients missing appointments due to delayed approvals or logistical mishaps.

In addition to dealing with insurers, providers often face challenges with transportation vendors. As described by an outpatient health care administrator, third-party agencies contracted to arrange transportation can be inefficient, failing to confirm bookings or provide timely updates to patients and providers alike. This unreliability forces providers to step in to resolve issues on short notice, adding to their workload and creating unnecessary stress. Furthermore, smaller, independent transport providers, which are critical in rural areas, may lack the administrative infrastructure to handle the volume of NEMT requests, exacerbating delays.

Several interviewees pointed out that the administrative burden disproportionately affects healthcare staff in rural and underserved areas, where provider resources are already stretched thin. In these settings, a single case manager or office staff member may be responsible for coordinating transportation for dozens of patients, leaving little time for other essential tasks such as care coordination or follow-up. This strain contributes to burnout and job dissatisfaction among healthcare workers, further jeopardizing the quality and availability of care.

Insurance Coverage

Thirty-two out of the 40 interviewees discussed insurance coverage of medically-related transportation. There were several common findings in regard to insurance, including complex insurance protocols and untimely prior authorization requirements leading to difficulty in booking transportation, communication challenges when transportation coordination is outsourced to third parties by insurance companies, and insufficient non-governmental insurance to cover/reimburse transportation costs. Several interviewees suggested improving provider reimbursement in rural communities, the need for insurance companies to take more responsibility in assisting and covering transportation needs for members, and the need to streamline the process for accessing transportation services while improving the reimbursement process. One respondent stated that:

“Insurance is the biggest issue regarding transportation.”

-Rural physician

According to interviewees, the issues faced by providers and patients regarding insurance reimbursement and coverage for NEMT stemmed from different types of payers, leading to issues in accessing care across rural areas of Hawai‘i.

Medicaid/Medicare Coverage

Interviewees said that while Medicaid provides statutorily-required NEMT benefits for qualifying patients, critical limitations within both Medicaid and Medicare reimbursement pathways create significant barriers to healthcare access, particularly for rural and isolated populations in Hawai‘i. Numerous interviewees highlighted these challenges, with one insurance provider specifically noting that Medicare coverage for NEMT is highly restrictive. Unlike Medicaid, which offers broader transportation benefits, Medicare only covers transportation in narrowly-defined circumstances, such as when deemed medically necessary for dialysis or specific treatments. This leaves many Medicare beneficiaries, often elderly or disabled individuals, without coverage for routine travel to primary care appointments, follow-ups, or specialist visits, forcing them to pay out of pocket or forgo care altogether.

Interviewees said that Medicaid patients, while benefiting from broader coverage of NEMT, still face substantial barriers due to administrative hurdles and geographic constraints. An outpatient health care administrator described how patients requiring flights for medical appointments often encounter delays caused by slow approval processes or third-party booking agencies contracted by Medicaid. These agencies are frequently inefficient, leading to late or incomplete arrangements that jeopardize patients' ability to receive care on time. One participant said:

“Medicaid covers transportation but uses a third party travel agent, which causes stress and anxiety because patients have no control over their itinerary, and the travel is not booked in a timely manner.”

-Rural healthcare provider

Interviewees shared that patients also face significant gaps in Medicaid coverage for related travel expenses. While Medicaid might cover the cost of a flight to O‘ahu or Maui for a specialist appointment, it can exclude costs for related ground transportation to and from the airport, accommodations for extended overnight stays, travel companions, childcare for parents needing to travel, and other related expenses. This creates a logistical and financial burden on patients who lack the resources to cover these additional costs. Providers reported that such limitations frequently lead to missed appointments and disrupted care continuity, particularly for patients managing chronic conditions that require frequent follow-ups.

Additionally, Medicaid’s prior authorization requirements add to the barriers patients face. One obstetric (OB) physician highlighted instances where pregnant patients with high-risk conditions requiring weekly prenatal visits encountered delays because of prolonged prior authorization processes. These delays not only place patients at risk but also create an additional

administrative burden for providers, who must frequently verify medical necessity and navigate a complex approval system for each transportation request.

Participants also shared that the lack of sufficient transportation providers willing to contract with Medicaid further exacerbates the problem. Many small transport providers are hesitant to participate due to low reimbursement rates and administrative challenges, reducing the availability of NEMT services in rural areas. A health care provider noted that this results in patients being forced to rely on informal arrangements, such as family members or community volunteers, which are not always reliable or sustainable.

Private Insurance Coverage

Many interviewees discussed how private insurance coverage for NEMT is often even more limited than Medicaid and Medicare, creating significant barriers for patients who rely on private plans to access healthcare services. Many interviewees noted that private insurers often exclude transportation benefits entirely or provide them under restrictive conditions that fail to meet the needs of patients living in rural or isolated areas. This creates disparities, as patients with private insurance are frequently left with fewer covered transportation options compared to those covered by public programs. A respondent stated:

"Insurers should take more responsibility for transportation and advocating for people's transportation."

-Healthcare provider on Hawai'i Island

One physician highlighted that most private insurance plans in Hawai'i do not cover transportation for routine or preventive care, leaving patients to bear the full cost of travel. This is particularly challenging for patients on neighbor islands who must travel inter-island for specialized care or diagnostic services. Even when private insurance plans offer limited NEMT benefits, they often require significant out-of-pocket expenses, such as copays or deductibles, which deter patients from using these services.

Maternal-Fetal (MF) Health

Twenty-five out of the 40 interviewees discussed MF health. There were several common findings in regard to MF health, including high-risk pregnancies requiring transport to O'ahu or Maui via EMS/helicopter, high-risk and rural pregnancies relocating to O'ahu or Maui to give birth, limited access to prenatal care services leading to the need for EMS, women in poverty and mothers experiencing homelessness facing additional transportation challenges, and limited OB care access across the state. Several interviewees shared that MF health providers have been relying on telehealth to provide services due to the existing transportation issues and that there is

a need to increase doula/community-based programs in rural communities to mitigate EMS use and reliance.

MF health in Hawai‘i presents a unique challenge, particularly for patients requiring specialized prenatal and high-risk pregnancy care. Due to the limited availability of OB specialists on all neighbor islands, pregnant patients often need to travel to O‘ahu, imposing both financial and logistical burdens.

Prenatal Care

Multiple interviewees said that accessing prenatal and high-risk pregnancy care in Hawai‘i poses significant challenges for patients living on neighbor islands and rural areas. These services often require weekly appointments and frequent monitoring, particularly in late-term pregnancies or for individuals with complex medical conditions. Interviewees consistently emphasized that the geographic separation of specialized MF healthcare facilities (that exist only on O‘ahu) from outer islands creates substantial barriers for expectant mothers.

One OB physician highlighted cases where pregnant patients on islands like Moloka‘i and Lāna‘i were required to travel inter-island multiple times per month to access care from specialists or to undergo diagnostic tests unavailable locally. One respondent said:

“There are unique mobility issues for low-income women and women living outside of transit-rich areas.”

-Community organization representative

Participants described how frequent inter-island trips place an enormous financial and logistical burden on patients and their families, particularly as insurance coverage often fails to fully accommodate such travel needs. For example, public insurance may cover the cost of a flight but not reimburse for lodging, meals, or ground transportation between the airport and medical facilities. Patients with private insurance frequently face even greater gaps, as many plans exclude transportation benefits altogether. This leaves families to shoulder significant out-of-pocket costs, which can quickly become unaffordable.

Interviewees noted that the cost and inconvenience of these trips often lead patients to delay or avoid necessary appointments, posing serious risks to both maternal and fetal health. High-risk pregnancies, such as those involving gestational diabetes, preeclampsia, or fetal growth concerns, require consistent monitoring to prevent complications. Delayed or missed appointments can result in conditions going undetected or untreated, leading to preventable adverse outcomes.

In addition to financial strain, interviewees noted that logistical challenges exacerbate access issues. Interviewees noted that travel arrangements for prenatal appointments are often complicated by unreliable flight schedules, particularly for smaller airlines serving neighbor

islands. Weather-related delays, limited seating availability, and the need to book flights far in advance create additional stress for pregnant patients. For those with limited mobility or other health issues, navigating airports and ground transportation systems can further complicate the journey.

Travel Burden and OB Physician Workforce Shortages

Interviewees discussed how the lack of MF health specialists on islands such as Molokaʻi and Lānaʻi has created a substantial provider burden, leaving other healthcare professionals to manage growing patient loads with limited resources. This issue is particularly acute on Lānaʻi, where there are no birthing facilities, forcing all pregnant patients to travel to Maui or Oʻahu to give birth. For patients with high-risk pregnancies on other neighbor islands, relocating to Oʻahu or Maui weeks or even months before their due date is often necessary to ensure access to specialized care. This relocation requirement adds significant logistical and financial strain on patients and their families, including securing temporary housing, arranging transportation, and managing separation from loved ones. These challenges frequently result in delayed or inadequate care, further adding to the demands placed on already overburdened local providers.

One care coordinator noted that workforce shortages on these islands contribute to long wait times for prenatal appointments and other MF care services. OB providers are stretched thin, often managing a volume of patients that exceeds their capacity. This situation leads to professional burnout, as healthcare workers struggle to deliver high-quality care while grappling with limited resources and the need to coordinate complex travel arrangements for their patients.

Participants said the workforce shortages are also compounded by the lack of incentives to attract and retain MF health specialists in rural and neighbor island communities. Many healthcare professionals prefer to work in urban centers where resources, support systems, and professional opportunities are more abundant. These factors have left smaller islands dependent on visiting specialists or telehealth consultations, which, while helpful, cannot fully substitute for in-person care. For high-risk pregnancies requiring procedures like ultrasounds, non-stress tests, or emergency interventions, the absence of local specialists creates additional costs, delays and increased health risks.

Interviewees also noted that relocation to Oʻahu or Maui for high-risk pregnancies places additional strain on providers in urban centers. Hospitals and specialists in Honolulu must absorb the influx of patients from neighbor islands, further increasing their caseloads and contributing to systemic inefficiencies. These relocations also highlight the inequities faced by patients who lack the financial or logistical means to leave their home islands. Families that cannot afford extended stays on Oʻahu are at a higher risk of poor MF outcomes, as they may delay relocation or skip essential monitoring due to cost and accessibility barriers.

Additional Themes

In addition to the four main themes, sub-themes were identified by the coders that were particularly relevant to the transportation challenges and were mentioned multiple times across interviews.

Telehealth

Interviewees discussed how telehealth has emerged as a critical tool for improving healthcare access across Hawai‘i, particularly for patients in rural and remote areas where transportation barriers often prevent timely access to care. The interviews highlighted the growing role of telehealth in bridging gaps in primary care, prenatal services, and chronic disease management. While telehealth was recognized as not a complete substitute for in-person visits, participants shared that its use has been transformative in delivering care to underserved communities, reducing the need for inter-island travel, and alleviating some provider burden.

One physician emphasized that telehealth is especially valuable for managing routine follow-ups and providing consultations for stable patients. For example, pregnant patients who need regular monitoring for conditions such as diabetes can use telehealth to discuss test results and adjust treatment plans without traveling long distances. Additionally, telehealth has allowed specialists on O‘ahu and Maui to reach patients on neighbor islands, offering guidance to local providers or directly consulting with patients through virtual appointments. This approach not only reduces logistical challenges but also expands access to specialized care that might otherwise be unavailable.

Despite these advantages, interviewees noted that challenges remain in fully realizing telehealth’s potential. Limited internet connectivity on neighbor islands and in rural areas poses a significant barrier, particularly for video-based consultations that require high-speed internet. Multiple interviewees highlighted that some patients lack access to reliable devices or the digital literacy needed to navigate telehealth platforms, further widening the gap for underserved populations. Providers also noted that telehealth is not suitable for all types of care, such as diagnostic imaging, physical examinations, or procedures that require in-person evaluation.

Another challenge interviewees noted is the reimbursement landscape for telehealth services. While Medicaid and some private insurers expanded telehealth coverage during the COVID-19 pandemic, several interviewees expressed concerns about the long-term sustainability of these policies. Physicians noted that in the past, reimbursement rates for telehealth consultations were often lower than for in-person visits, which disincentivizes providers from adopting telehealth as a primary mode of care. Recent telehealth parity laws have eliminated this concern in Hawai‘i, codified under Hawai‘i Revised Statute Act 226 (16) "Relating to Telehealth.”[12]

[12] Pacific Basin Telehealth Resource Center. n.d. “Hawai‘i Policies and Regulations.” https://www.pbtrc.org/policies-and-regulations/state-of-hawaii-policies-and-regulations/.

More details about telehealth and MF health may be found in Part 4 of this series of reports.

Provider Burden

Interviewees described how healthcare providers in Hawai‘i are frequently tasked with arranging patient transportation, coordinating with insurers, and managing administrative responsibilities that detract from patient care. One interviewee emphasized that this burden disproportionately affects providers in rural settings, where fewer staff are available to share these duties. This added workload contributes to burnout and job dissatisfaction, and it hinders the quality of care provided to patients.

Workforce Shortages

Participants noted that the shortage of healthcare workers is a persistent barrier to effective healthcare delivery across the islands of Hawai‘i. One health provider noted that Hawai‘i struggles to attract healthcare workers to rural and isolated areas, largely due to the high cost of living, limited local training opportunities, and a lack of competitive financial incentives. This workforce gap results in overburdened providers, delayed patient care, and limited access for patients, especially for those in rural and remote areas of the state. As such, even when transportation is available, wait times for existing services can be long and access can be challenging.

Discussion

The findings in this report highlight the significant challenges that transportation and travel barriers impose on healthcare access in rural Hawai‘i, particularly regarding EMS, NEMT, insurance coverage, and MF health. These barriers contribute to delayed medical care, increased financial burdens, and poorer health outcomes for residents of geographically isolated areas, in addition to significant stress, uncertainty, and tremendous logistical challenges. The findings of our stakeholder interviews demonstrate the multifaceted nature of transportation as a critical determinant of health.

One of the most pressing issues shared by our stakeholders was the lack of adequate emergency and non-emergency transportation services. In rural Hawai‘i, EMS response times are prolonged due to limited air and ground transport resources, which can lead to life-threatening delays in critical medical situations. Moreover, NEMT services remain unreliable and inefficient, particularly on neighbor islands where air travel is often the only means to access specialized care. The inconsistency of inter-island flights, exacerbated by limited airline providers and high costs, further widens the healthcare access gap. To summarize from the interviews, addressing these systemic issues requires a comprehensive approach that includes expanding air and ground

ambulance services, integrating rideshare and other programs for NEMT, and improving infrastructure for public transit in rural areas.

Health insurance policies also play a critical role in exacerbating transportation-related healthcare disparities. Medicaid is currently the only insurer mandated to cover NEMT services, yet administrative inefficiencies and complex approval processes often delay care and many associated costs are left uncovered. Meanwhile, Medicare and private insurers rarely provide coverage for medical travel, leaving many patients with significant out-of-pocket expenses. Expanding insurance coverage to include transportation benefits, particularly for rural residents requiring frequent medical travel, could significantly reduce financial burdens and improve overall healthcare access.

MF health outcomes are particularly affected by transportation barriers. Many high-risk pregnancies require frequent specialist visits and, in some cases, relocation to O‘ahu or Maui for delivery. The financial and logistical challenges of inter-island travel force many expectant mothers to either delay care or endure long, stressful journeys. Implementing policies to expand telehealth, provide subsidized patient housing and accommodations for families, and incentivize healthcare providers to travel to rural areas could improve MF health outcomes and alleviate strain on the existing medical transport system.

Public health was at the core of interview discussions, as transportation access is a fundamental determinant of access to health services. Without reliable transportation, residents of rural and underserved communities face delayed diagnoses, inconsistent treatment, and higher rates of preventable health complications. Public health strategies were discussed to address these disparities through policy interventions that integrate healthcare access with transportation infrastructure planning. This includes investing in mobile clinics, enhancing telehealth capabilities, and ensuring that transportation policies prioritize vulnerable populations, such as elderly residents, low-income families, and those with chronic conditions. Many discussed how adequate access to primary care is a significant public health intervention, given that adequate prevention can obviate the need for more acute or specialty services that may not be easily accessible.

It should be noted that there are research limitations of this project, which primarily stem from methodological constraints and contextual challenges. First, the reliance on field notes rather than direct transcriptions for a large portion of the interviews may have resulted in the omission of nuanced details or specific phrasing from interviews, potentially affecting the depth of the qualitative analysis. The rapid qualitative analysis framework, while efficient, emphasizes actionable results and may sacrifice the granularity and depth typical of more comprehensive qualitative methodologies. Additionally, the use of purposive and snowball sampling, while effective in targeting relevant stakeholders, might have introduced selection bias by favoring individuals already connected to the research network or those referred by initial interviewees. These limitations should be considered when interpreting the findings and applying them to broader contexts.

Conclusion

The findings in this analysis of 40 stakeholder interviews underscore the significant role that transportation and travel access plays in accessing health care in rural Hawai‘i. Persistent barriers in EMS, NEMT, and insurance coverage create systemic challenges that disproportionately impact residents of geographically isolated communities. These transportation limitations contribute to delayed care, financial strain, and increased health risks, particularly for those requiring specialized services such as MF care. While innovative solutions such as telehealth and mobile care units have helped mitigate some challenges, they are not sufficient substitutes for a well-integrated, reliable medical transportation system. Across the interviews, it was clear that addressing these issues requires a coordinated approach that brings together healthcare providers, transportation authorities, insurers, and policymakers to develop sustainable, long-term solutions that prioritize access for all patients, regardless of geography.

APPENDIX A: Questions for Stakeholder Interviews

Questions for Consideration: (GENERAL)

- Do you think that transportation is a significant issue affecting health outcomes and health care access for your patient population? If so, why?
- Can you share more with us about how transportation is used for health care services in your area?
- What do you see as the greatest barriers to quality, accessible and affordable transportation for health needs in your area and in Hawai‘i as a whole?
- What unique solutions have you come across that address transportation needs for healthcare?
- How do the transportation needs of rural residents / those on neighbor islands differ from those on O‘ahu / urban areas?
- What potential solutions would you recommend for improving transportation for health needs? How could RHRPC work to implement those solutions? Who are the critical partners we would need to work with?
- Do you have others that you feel we should talk to? Patients, providers, staff who might be able to provide additional insight?

Questions for Consideration: (INSURANCE)

- Do you think that transportation is a significant issue affecting health outcomes and health care access for your patient population? If so, why or why not?
- Do you think that transportation is a significant issue affecting providers traveling to neighbor islands to provide health care services? Why or why not?
- Can you share more with us about how transportation is used for health care services in your area of coverage?
- What do you see as the greatest barriers to quality, accessible and affordable transportation for health in Hawai‘i as a whole?
- What unique solutions have you come across that address transportation needs for healthcare?
- Can you explain how your organization addresses reimbursement for travel and transportation related to health needs for patients who have to travel to other islands for care? For providers traveling to other islands to provide care? Do you feel it is adequate? What improvements, if any, would you like to see in the future?
- What potential solutions would you recommend for improving transportation for health needs? How could RHRPC work to implement those solutions? Who are the critical partners with whom we would need to work?
- How does maternal health fit into the issues we have discussed? Do you provide special/separate coverage for these instances?
- Can you think of any other individuals to whom we should talk who might be able to provide additional insight?

Questions for Consideration: (TRANSPORTATION SERVICE PROVIDER)

- Do you think that transportation is a significant issue affecting health outcomes and health care access for people in Hawai‘i? Patients seeking care and providers providing care? What programs does your company have to better serve the rural communities to ensure they have access to health care services on other islands? Do you offer special rates? What barriers do you face to provide better rates for health care providers and patients? Do you participate in the federal subsidy program? If not, why? Are there policies, laws, regulations that create barriers to providing better services?
- Can you share more with us about how your organization uses/provides transportation for health care services in your area?
- What do you see as the greatest barriers to quality, accessible and affordable transportation for health needs in your area and in Hawai‘i as a whole?
- What unique transportation solutions have you come across that address transportation needs for healthcare specifically for rural, remote areas?
- How do the transportation needs of rural residents / those on neighbor islands differ from those on O‘ahu / urban areas? How do your services or special programs address these transportation needs?
- What would be needed for you to provide service to remote areas such as Hāna, Lāna‘i, or Moloka‘i, if you are not doing so already or what changes can you make to better serve such areas? Are there policy or regulation changes that are needed? If so, what are they?
- What potential solutions would you recommend for improving transportation for health needs? How could RHRPC work to implement those solutions? Who are the critical partners with whom we would need to work?
- Have you heard of instances of pregnant people needing special accommodations for transportation? How have you handled those issues?
- Can you think of any other individuals to whom we should talk who might be able to provide additional insight?

Questions for Consideration: (STATE OR FEDERAL AGENCY/DEPARTMENT/REPRESENTATIVE)

- Do you think that transportation is a significant issue affecting health outcomes and health care access for those you serve? If so, why?
- Can you share more with us about how transportation is used for health care services?
- What do you see as the greatest barriers to quality, accessible and affordable transportation for health needs in your area and in Hawai‘i as a whole? Patients seeking care and providers providing care?
- What unique solutions have you come across that address transportation needs for healthcare?

- How do the transportation needs of rural residents / those on neighbor islands differ from those on O‘ahu / urban areas?
- What potential solutions would you recommend for improving transportation for health needs? How could RHRPC work to implement those solutions? Who are the critical partners with whom we would need to work?
- How does maternal health fit into these issues? Are there regulations or laws you have seen or advocated for that address maternal/fetal health transportation access in particular?
- Can you think of any other individuals to whom we should talk who might be able to provide additional insight? Patients, providers, staff?