



**FROM GROUND TO AIR: CONNECTING NONEMERGENCY MEDICAL
TRANSPORTATION IN RURAL UTAH**

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ABSTRACT

Sufficient transportation is essential to supporting medical care in rural communities. Due to spatial barriers, or the lack of health facilities or pharmacies, patients often find themselves paying a high cost for medical care. For patients needing multiple medical appointments, transportation barriers may cause delays in their care or missed appointments. This paper analyzes literature that addresses nonemergency medical air transport and healthcare disparities among rural communities across three themes: geographic barriers, transportation costs for patients and health providers, and access to medication and medical supplies. The research is then supplemented, compared and contrasted with six interviews conducted with state and public agencies to gather local opinions on the role that non-emergency medical air transport currently and could potentially play in bridging the medical gap in rural communities. .

While it is impossible to accurately generalize all rural towns in Utah, there are similar challenges faced and recurring patterns. For example, many communities have learned to cope with medical transportation challenges by adopting community-oriented solutions and utilizing new technologies like telehealth. In addition, rural clinics have been instrumental in filling healthcare gaps. However, these services are limited, which brings attention to the greater potential for more frequent and cheaper non-emergency air transport systems to build capacity in rural healthcare. From both the literature and interviews, it was concluded that provider-to-patient care could potentially be enhanced using medical delivery drones to supplement traditional medical practices—especially in improving provider-to-provider tasks like transferring time-sensitive medications, blood samples, or lab tests. Furthermore, flights already in use for rural clinics could be maximized and more cost-effective if contracts were split among other community or public agencies. Future studies should identify how non-emergency medical air transport could be best integrated into the medical system, existing infrastructure, and future policies.

INTRODUCTION

Rural towns across the nation struggle getting quality health services. Transportation is a large factor in accessing regular health care, and the lack of mobility can lead to negative health outcomes. Distance to healthcare facilities determines what access patients have to health services, especially among many rural and underserved towns. External factors such as geographic challenges, like terrain, lack of infrastructure, and weather can make traveling difficult, too. In addition, recurring factors impacting patients in rural areas are proximities to healthcare facilities, travel costs (by vehicle), and lack of access to medications. This may be particularly difficult for patients needing frequent care or check-ups. Despite these challenges, however, community interventions and non-emergency air transportation services have, thus far, been able to fill in gaps.

This paper will focus on the potential for non-emergency air transport options to reduce transportation barriers for patients in rural Utah. This includes the possibility of doctor-to-patient

and medical resource transportation. Since emergency air transport is not a transportation service for regular patient care, it will not be considered in this paper. The study will explore these identified barriers and the effectiveness of non-emergency medical air transport and any other community solutions that supplement healthcare access via ground transportation.

Geographic Barriers and Proximity to Hospitals :

Proximity to hospitals significantly impacts how often patients are able to meet their healthcare needs via physical appointments. Barriers like access to a vehicle, the geography, and a low socioeconomic status can ultimately be harmful to an individual's health. These barriers have caused missed appointments, missed medication fills, and inevitably caused a longer recovery/treatment, thus accumulating higher medical costs (Syed et al., 2013). The effects could especially be felt for patients who have more frequent appointments.

Geography is also a major challenge in connecting infrastructure to these remote areas. For example, one study found that rural residents were not able to get timely access to medication in the Appalachian Mountains in Virginia due to their mountainous terrain and harsh winters (Gardner, 2016). The study showed how medical delivery drones helped to expand this medical support to more rural residents but did not address any community adaptations to ground travel. Nor did it explore alternatives or supplements to medical air delivery or offer suggestions on how to make nearby existing infrastructure more efficient (i.e. current roads, bus programs, etc.) since air travel may not always be plausible. In Canada, non-emergency air transport has been implemented as challenges in the healthcare system have been exacerbated by their large geography and limited funding. Some of these challenges include low retention of healthcare professionals, poor distribution of specialist doctors and lack of healthcare supplies (Safaei, 2011). Programs like the Care Cruiser Program, Hope Air, and Connections programs showed the potential of these services in rural communities, which frequently benefitted a wide variety of patients and users (Safaei, 2011). The case of Canada explained more of the patient experience through the health provider perspective, showing that internal weaknesses in the healthcare system can prevent the capacity for health services in rural areas.

Costs for Patients and Providers:

Lack of access to a vehicle makes treatment and obtaining medication more expensive, especially with recurring costs and longer travel times (Kripalani et al., 2008; Syed et al., 2013). Patients managing chronic illnesses with these cumulative travel times and costs can have large financial burdens causing them to skip or stop medications or medical appointments altogether (Kripalani et al., 2008; Wallace et al., 2006). This disproportionately affects individuals in lower income households, rural communities, the elderly population, unemployed workers, uninsured individuals, and/ or those who do not have the physical ability to drive or own a car (Kripalani et al., 2008; Syed et al., 2013). Access to non-emergency care can reduce the risk of emergency medical situations by improving access to frequently needed preventative healthcare and treatments (Wallace et al., 2006).

Enabling policies and subsidized transportation options can help to reduce costs. Public transit could potentially be a viable option as many people rely on transit services to travel to health facilities to reduce travel costs (Safaei, 2001). However, fares may still be too costly and could still present a significant barrier unless heavily subsidized by the government. Transit services in Boston, described by James et al., is the main mode for patients without personal vehicles or ability to drive (James et al., 2014). However, with high fares this, too, might be a costly choice and may not be as applicable to the rural towns that are not as dense or developed as cities. Both studies from Safaei (2001) and James et al. (2014) show the dependence on other modes of transportation aside from a personal vehicle and highlight the different barriers that could come from policy changes.

Access to Medications and Medical Supplies

In addition to providers, pharmacies can be just as difficult to travel to. One study by Kripalani et al. (2008) asked patients about their actions after they had been discharged from a hospital. Among a variety of challenges, transportation to a pharmacy (cost and wait times) and access to frequent medication counseling affected their recovery regimen. This was largely dependent on which modes they had access to, as well as where they lived in relation to a pharmacy. In a study from Levine et al., on stroke survivors, some patients were unable to afford the medication due to frequent transportation costs. Without regular access to medication and medical management, patients had a higher risk for another stroke (Levine et al., 2007). The study showed that transportation can play a factor in medication non-adherence and could potentially lead to more health problems for patients in rural towns.

Interventions and Adaptations to Transportation Barriers

One form of non-emergency medical air transportation that could be instrumental in bridging the rural-medical gap are medical drones. There are already numerous examples of where medical drone deliveries were able to help expand medical resources to rural towns quickly regardless of geographic barriers. A medical delivery test flight to the Appalachian Mountains in Virginia provided insight on how medical drones could reach out to underserved rural communities in the U.S to improve their health care (Gardner, 2016). The test flight managed to deliver 20 packages across a geographically challenging location but also identify gaps in facilitation and sustainable use (Gardner, 2016). It also opened the door for integrating this function with humanitarian organizations and started conversations about improving the community's economic development with this technology (Eichleay et al., 2019). So, in many ways the introduction of this technology is also changing other aspects of their community other than health care.

According to Mitton et al. (2011), there are four main health categories of solutions affecting access to health services in rural areas: organization, telehealth/ ehealth, medical air transport, and public health education. The authors highlighted several ways that access to quality healthcare could be promoted in addition to non-emergency medical transportation. Their review focused on preventative care and strengthening healthcare training within rural towns, and discussed other solutions taken to avoid insufficient transportation systems or far distances, such as telehealth and ehealth. Although limited in use, the method can be extremely effective for more visual appointments (i.e. dermatology, mental health, ENT (ears, nose, and throat) checkups) (Mitton et al., 2011; Syed et al., 2013). In addition, they discussed how the disorganization with who can get medically air transport can play a role in increasing costs and should only be resorted to as a last option. Like owning a car, this mode is limited by its financial constraints (Mitton et al., 2011). Future studies should follow-up with the drone test cases and investigate how plausible it is to integrate it into rural communities and existing air transportation systems.

METHODS

Participants:

I conducted six one-on-one interviews with various health and transportation agencies across Utah. These agencies were selected based on their frequent work with rural communities and/or have a role in facilitating health programs within these communities. All participants were in collaboration with one or more agencies, universities, and/ or community groups to provide health services to rural communities. A total of five offices were contacted, The Utah Department of Transportation's (UDOT) Division of Aeronautics, The Utah Department of Health's Integrated Services Program (ISP), Office of Primary Care and Rural Health (OPCRH), Rural & Underserved Utah, Training Experience (RUUTE), University of Utah Health, and Utah Center for Rural Health in partnership with Southern Utah University. Six people were interviewed in total, with two

interviews coming from the UDOT Division of Aeronautics since there were two different approaches to medical-related air travel. Two of the interviewees were in collaboration with educational programs like RUUTE and Utah Center for Rural Health.

List of Interviewees:

- Clint Harper and Paul Wheeler- Utah Department of Transportation (UDOT), Division of Aeronautics
- Eric Christensen- The Utah Department of Health's Integrated Services Program (ISP)
- Holli Mills - Office of Primary Care and Rural Health (OPCRH) (UDOH)
- Reed Esparanza- Rural & Underserved Utah, Training Experience (RUUTE- student program at the University of Utah)
- Terry Holden- University of Utah Health
- Rita Osborn- Utah Center for Rural Health, Rural Health Association in partnership with Southern Utah University

Materials and Procedures:

These interviews varied from thirty minutes to an hour. These were conducted in-person and via phone. Voice recordings were used to reference key points.. To better understand their coordination with health care providers and their patients, I asked questions regarding the services each organization provided and their research within Utah's rural populations. In addition, I asked about their current ground and air capabilities in getting to patients or vice versa. This helped create a better understanding of what the barriers may be across different regions and locations. As there are many ways to define "rural," they were each asked how they defined their service areas. The last two questions helped to explore opportunities or improvements participants saw in their work:

1. What role does your office play in improving rural health?
2. How do you determine which areas to serve?
3. What health/ healthcare challenges do these communities face?
4. What transportation methods have you used, what benefits and limitations do you face with that?
5. What barriers are there to transport medical freight/ resources to hospitals, clinics, patients, etc.?

RESULTS

Patients face many challenges when travelling to get health services. This can vary on their time availability, physical ability, access to a car, and much more. All the interviewees addressed some concern in patient transport from rural areas to the nearest health facility, or to get more specialized care typically only available in the Salt Lake Metropolitan Area. Terry Holden, with the University of Utah Health's program for orthopedic and pediatric care explains patients will travel most of the day to get the services they need. For instance, Holden mentions, "Blanding to the closest Primary Children's is about eight hours away, each way, even with good weather." The travel time can span from two to over eight hours roundtrip, depending on whether patients are seeing primary care physicians or specialists (R. Osborn, phone call, January 28, 2020).

Agency's usage of "rural" is defined by their individual organization, the U.S. Census, the state or federal definition, or a combination of these. Regardless of how it is defined, common metrics are distance to the nearest hospital, distance from Salt Lake Metropolitan Area, or total travel time (H. Mills, personal interview, February 10, 2020). Under this criteria, most of Central and Southern Utah, as well as some areas of Northern Utah were defined as rural—with limited access to health professionals and ability to address medical needs. However, the classification system continues to adapt as hospital closures or other local community changes may qualify some areas as service areas that were not classified before (H. Mills, 2020).

Lack of capacity, hospital closures, and location-specific challenges also impacted health outcomes. Osborn, Esparanza, and Mills all mentioned rural hospitals closing locally and nationally, sometimes from financial limitations or a lack of practicing doctors/specialists in the area. In addition to this shortage, some areas may have a need for specific specialists. Reed Esparanza from RUUTE gives this example: “St. George has a lot of issues with depression and suicide and opioid addiction, this is especially hard with the transgender community since they face a lot of stigma and lack support. Logan is more of a mining and agricultural area, so they have people who are impacted by the chemicals used in that work, which requires different specialists,” (R. Esparanza, 2020). This shortage exceeds their capacity to help patients and may even turn away some patients due to high demand, also known as “practice is full.” (H. Mills, personal interview, February 10, 2020). Programs from state universities, like RUUTE and other partnerships at Southern Utah University, Dixie State University, Snow College, and some extensions of Utah State University are helping to build retention in health professionals through youth education and student clerkships.

Weather and terrain were challenges for patients driving to get health services. Dirt roads and harsh winters can make driving long distances more dangerous and much slower. Mountain passes in Utah are dangerous to travel through, especially in Carbon Country during heavy rains or snowstorms (H. Mills, personal interview, February 10, 2020). Other external factors that prevented patients from traveling are personal and financial constraints, such as having no sick leave time off, changing doctors, childcare, and lack of access to a functioning car. “The barriers are across all ages and socioeconomic groups” and can be even more taxing for patients that have regular appointments and checkups (R. Osborn, phone call, January 28, 2020).

Weather also creates challenges for providers. UDOT Aeronautics often fly doctors to rural clinics, although this is dependent on the weather and clarity of the skies (C. Harper and P. Wheeler, personal interview, February 24, 2020). Mobile services established in Salt Lake, the Fourth Street Clinic, could only provide services in the summer to avoid the snow storms and icy road conditions. Therefore, clinics in Southern Utah, San Juan, and Grand County are limited to the summer months. Although these are preventive services, seasonal employees at the national parks may not have time to get this care when they are at work (H. Mills, personal interview, February 10, 2020).

In response to these transportation challenges, community solutions have been established to provide more frequent services in underserved areas. Family, friends, and neighbors would drive each other to hospitals or clinics, request trips online, or donate to others in the community to buy gas cards (T. Holden, phone call, November 5, 2020). Services from private firms like Angel Flight, which accommodates patient air transport, and the Mad Freight app (a platform for users to send things, or get rides, with people traveling to the same destinations or direction) (R. Osborn, phone call, January 28, 2020). So, people have been using it to take care of their transportation needs to and from the Salt Lake metropolitan area. On-demand microtransit services like Dial-A-Ride in St. George enable individuals over sixty to use these services for personal and medical errands since most users are not capable of driving themselves to those destinations safely (R. Osborn, 2020). Hospitals in San Juan County, like Blanding and Monticello, established a mobile MRI machine system to share resources with one another (H. Mills, 2020). These community-based transportation efforts helped to fill in the gaps and found adaptable systems to help residents with medical needs.

Health providers still serve patients in rural areas but have limitations on how consistently and frequently they can assist them. Regarding the orthopedic, pediatric, and ISP rural health clinics, Terry Holden and Eric Christensen spoke about the program’s limitations to providing care, saying that sometimes clinics are a “hit or miss” (T. Holden, 2020). Although the program is

functioning, it is not always consistent or as frequent as needed for the patients. Furthermore, there are many variations in time and locations and lack of staffing. Despite the long travel, “some health care specialists could only see five or six kids per day” since diagnosis and testing can take most of the day for children with special needs (E. Christensen, 2020). In response, their organization tries to do clinics twice a month in places like Price, Richfield, St. George, Cedar City, Riverton, Blanding, Vernal, and Moab.

On the other hand, the costs associated with travel for providers was also a barrier to providing consistent patient care in rural areas. Christensen and Holden all mentioned that rural clinics and hospitals were at risk of reducing services or cutting the program completely. Transportation and other operation costs were too high to sustain their work. Sometimes planes were not fully occupied yet cost a prohibitively large amount of money (E. Christensen, 2020) (T. Holden, 2020). But while the amount to purchase a plane trip (about \$1,200) was much higher than the cost of driving to underserved areas, both modes were necessary to their work as there are trade-offs on both sides (Christensen, 2020). When traveling by car, for example, in addition to the cost of time, expenses for travel and hotel accommodations accumulated, too. Many providers preferred that they pay their specialists for their time working with patients rather than time spent on driving. So, in some ways, flying was more efficient for their needs. (T. Holden, 2020) (E. Christensen, 2020). Their time and vehicles were most utilized when they could fit in extra passengers and additional medical equipment. UDOT Aeronautics did not have any low capacity aircraft to fit the needs of the clinic providers (C. Harper and P. Wheeler, personal interview, February 24, 2020). So, filling up the planes was the only option, and it was suggested that the planes could be occupied with more health professionals or individuals from other rural-focused organizations travelling from Salt Lake to rural towns (C. Harper and P. Wheeler, 2020) (E. Christensen, 2020). However, avoiding too many trips, whether by car or plane, will be cost efficient in the long run and help sustain the clinics.

The cost of medication and resources within rural areas is expected to go down with the integration of medical delivery drones, or UAS (Unmanned Aerial Systems), and better plane services. Patients may wait a few days or more to receive their medication at their local pharmacy via delivery truck (H. Mills, personal interview, February 10, 2020). Terry Holden expressed some interest in medical delivery drones for her operations at the orthopedic and pediatric clinics. For instance, some medications are more time-sensitive, like Botox injections usually used for joint, spinal, and muscle conditions in children, since they must be frozen, diluted, and administered as soon as possible. So, for air travel, the cost for refrigeration could decrease and would take less time to be transported to health professionals at the rural clinics. Other use cases could be transferring lab tests, blood samples, defibrillators, etc. to speed up medical testing and services among providers and patients, which could drive down costs and increase frequent services in other aspects of the healthcare (C. Harper and P. Wheeler, personal interview, February 24, 2020).

All interviewees talked about the capabilities of telehealth working parallel to their line of work. Telehealth, a system providing health services through online/ video consultation, may be implemented in several ways to reduce the number of trips to rural areas. The RUUTE program uses platforms, like Zoom, to interact with their patients more often and quicken diagnoses. This works out well for students who cannot drive there often because of classes (R. Esparanza, personal interview, February 19, 2020). Also, telehealth can have other uses such as work for uses like consultation, medication counseling, dermatology examinations, pre- and post- operations care, etc. but cannot replace physical assessments, therapy, or other in-person tasks (T. Holden, phone call, November 5, 2020). Therefore, Harper and Wheeler see medical drone deliveries to be supplementary to assessments made over telehealth. Once assessments and instructions have been explained to the patient, the necessary equipment or medication can be delivered directly to the

patient or to the nearest health facility. They mentioned it could be a good opportunity and a barrier for the aging population since individuals may not have access to broadband, a computer/ tablet, or information on how to use telehealth (C.Harper and P. Wheeler, 2020). For the most part, the interviews provided consistent information that gave insight on transportation challenges and opportunities for the rural towns on both the patient and provider experience in transportation. While not every interviewee had experience with medical air travel, everyone had expertise on addressing the rural medical gap. Geography and cost seemed to be the biggest issue for all groups and for their patients regardless of their decision to travel by air or ground. Considering the challenges faced by providers and patients, telehealth and medical drone delivery stand as promising, complementary tools to improve access to medication and medical resources. While each of these technologies have their strengths and weaknesses, ultimately, they can both serve an important role in bridging the gap between rural patients and healthcare providers.

DISCUSSION

People in rural communities face similar transportation challenges across Utah. Both ground and air travel have their benefits and downsides in addressing these challenges. Although non-emergency air medical transport has the potential to provide an efficient service in terms of time efficiency, cost savings, and the ability to deliver time sensitive medical resources across rough terrain, it is a very expensive means of transportation. From the research it is apparent that while non-emergency air medical transport can be a critical component in the solution—it is not a comprehensive solution.

Geographic Barriers and Proximity to Hospitals

Geographic barriers are a significant issue for patients in rural areas. Patients had difficulties driving through mountainous terrain in the winter and the long distances to get to the nearest health facilities. Inadequate roads infrastructure, or road conditions, like ice or dirt made the ground travel much slower, too. Some trips were much longer, especially if they had to find specialist doctors who were usually in the Salt Lake Metropolitan area hours away.

The proximity to hospitals may be widened due to internal issues with the rural health care system, causing hospital closures. Although hospital closures do not happen often in Utah, travel times can be stretched even longer for patients to get medical care when there are closures (Mills). Low retention of specialists and doctors and low budgets for rural hospitals also lessen the capacity to help patients. In addition to the lack in nearby hospitals patients are also faced with hospitals who lack the ability to take many patients or provide specialty care. This can often cause patients to have to travel further to find care.

Utah has gravitated towards air transportation to avoid challenges with the mountainous terrain and inadequate infrastructure. They found that trips were faster and it allowed doctors to see more patients within the day. The partnership between the UDOT Division of Aeronautics, University of Utah Health, and the Utah Department of Health reduced travel times by flying doctors to and from these rural clinics, bypassing all the terrain challenges. Like the Canadian medical air transportation, providers and patients can get better connected through regular non-emergency air travel. However, despite long travel times being cut in half, air travel may not always be the most cost-efficient method.

Costs for Patients and Providers:

Rural patients bear immensely high travel costs on top of their medical expenses. For patients with access to a vehicle, they may pay more for longer trips, may have to leave work, and lose out on time and money to drive to the nearest hospital or clinic. Patients with a vehicle may have to wait longer for medical services, at the expense of their health. Also, some patients may not have

the ability to drive due to their health conditions. Medical expenses can add up over time if they continuously miss appointments and may turn their situation into a medical emergency.

Utilizing on-demand microtransit services and other community-based solutions has helped patients reduce their travel costs. Although traditional transit systems do not work as well in rural areas, microtransit could improve service and reduce fares for all riders. One example from the interviews pointed out that in St. George, seniors are driven to their medical appointments via the Dial-A-Ride van services. Also, national online platforms like the Mad Freight app have reduced expenses for patients travelling to Salt Lake County or the nearest hospital. Other temporary solutions may be asking family or community members for a ride or a gas card donation.

Health providers also struggle to sustain their services to rural towns due to high travel costs. In Utah, for trips to rural clinics, providers sometimes are not able to fill the planes to max capacity since their staff is small. However, they would still need to pay the expenses to use the flight service. This ends up being a process costing thousands of dollars while providing services to very few patients in rural clinics. Unlike the example in Canada, there are no federally subsidized medical air transport programs in Utah. So, most of the costs come directly from the state or university budgets, causing cuts in the frequency of services, reducing the number of medical staff, or utilizing telehealth methods for assessments. Despite Canada already implementing medical air transport systems, they still face similar issues with low budgets and staff to assist them.

Access to Medications and Medical Supplies

Access to medication and medical supplies are aspects of patient care that extend beyond patients traveling to their appointments. Like hospitals, pharmacies may be difficult to access, too. According to Holli Mills, pharmacies are not as scarce in Utah but are also not as well stocked, so getting medication to local pharmacies by delivery truck may take days or even weeks to restock and the variety of medications may be limited. Depending on the type of medication, some may be more urgent to deliver, like lab samples or more perishable, temperature-sensitive medications.

Medical drone deliveries of time-sensitive medications could help both providers and patients. In the literature review and interviews there was a concern for medication non-adherence, due to high travel costs, lack of access to the medication, or high cost of the medication itself. Medication non-adherence in the long-term could cause other health issues and increase the need for more medical care. By delivering these medications by air, they could reach pharmacies and patients faster than ground travel. The size and operation of the drone would be less expensive than plane or truck delivery and could deliver medical packages quicker, at a lower cost to patients. Over time, this could decrease medication costs altogether. Drone deliveries may also benefit providers in other medical tasks, such as transferring lab tests, blood samples, surgical tools, small medical devices, etc. This could mean getting lab test results and medical processes done faster.

Interventions and Adaptations to Transportation Barriers

In addition to the community-based solutions, rural communities in Utah have used telehealth to fill in gaps within their medical system. Telehealth is a major benefit to connecting health providers and patients remotely. Patients can get the counseling and assessments they need without traveling which saves the health providers the cost of driving or flying to do the initial appointments or visual/ verbal assessments through telehealth. However, in contrast to the literature, telehealth alone is not capable of fulfilling all the needs of patients—especially physical medical tasks, like therapy, testing, etc. According to Terry Holden, rural clinics for orthopedic care are not significant beneficiaries from telehealth methods.

Although not currently implemented in Utah, case studies have shown success in nonemergency air travel and medical drones. The medical drone technology could potentially expand health services from provider-to-patient, provider-to-provider, or provider-to-testing laboratory. This

adaptation could save time and increase operations and services to rural communities. The medical air transport system in Canada worked well due to the variety of providers utilizing them. Current operations in Utah include Angel Flight, a non-profit organization of volunteers who fly patients to fulfill non-emergency medical trips. It is sometimes not a consistent service but can support gaps in getting patients to and from health facilities. Other potential adaptations could be maximizing existing plane trips to the rural clinics by partnering with other health professionals, health volunteer groups, or university medical programs to fill in vacant seats in the plane and strengthening services going to rural communities. This would drive down costs for providers, while sustaining more services for patients.

CONCLUSION

The lack of fast and reliable transportation has a significant impact on how rural towns in Utah get access to medical care. Utah's harsh winters and mountainous terrain can pose significant barriers to getting high quality care for rural communities. The reliability of transportation for both patients and health providers can make or break the stability of rural clinics. Access to medications and other medical supplies could also be improved by faster travel, especially for time-sensitive medications or tools. Increasing transportation services that reduce travel times and offer multiple travel options could drive down the costs for both patients and providers.

Considering patterns in rural health care and transportation, non-emergency air transportation is a promising way to address the rural medical divide, but should work in parallel with other ground travel options. From the patient's perspective, air travel could decrease geographical barriers, shorten trips, and increase medication access. From the provider's perspective, mobility can be increased, travel times decreased, total number of trips reduced, and the ability to obtain medications and medical supplies for their patients improved. Non-emergency air travel is promising to improve healthcare access to rural towns, but must be supplemented with other solutions, like telehealth and community efforts. Future studies could identify how non-emergency medical air transport could be most effectively integrated into the existing infrastructure and legal landscape.

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