



Transportation to Healthcare Destinations

How A Lifeline for Patients Impacts the Bottom Line for Healthcare Providers

This document outlines the connections between transportation and healthcare, providing context and suggestions that will enable transportation providers to engage in conversations with healthcare agencies and make the case for more collaboration between the two sectors. For this document, two fundamental questions were posed: To what degree is a lack of transportation associated with missed medical appointments? and What do those missed appointments actually cost health systems? In addition to gathering information from literature linking health care and transportation, insight was gained directly from providers and by reviewing information from institutions like the Robert Graham Center who are in the process of gathering non-medical data, (i.e. social, economic, and housing information) from patients for the creation of more comprehensive electronic medical records. The reflections section includes connections made by the literature and some thoughts on ways to weave commentary about social factors that impact health into discussions partners from different sectors might have as they look to positively impact the health of the communities they serve. The document concludes with a resource guide transportation providers can use to begin conversations with the healthcare community.

Even in areas where access to healthcare services is easy, achieving and maintaining good health outcomes is a complicated undertaking because there are many factors that contribute to the health of communities. Improving the frequency and quality of the interaction patients have with the health care provider team can positively impact health. This is especially true for low-income communities who are particularly vulnerable to the negative impacts of poor housing, inadequate education, high rates of unemployment. As health systems pay closer attention to the costs associated with caring for populations of patients, they have had to focus on the non-medical factors that impact health outcomes. Factors like housing, education, employment, and economic development all play a major part. Also on that list is transportation. The focus of the context document is to make the link between transportation and the role it plays in connecting patients to their healthcare providers, medications, and other health-related services.

The Role of Transportation in Poor Health Outcomes

In any population, missed medical appointments (treatment non-adherence) results in poor health outcomes. There are many reasons cited by patients for missing appointments, including not being able to leave work, childcare, and lack of health insurance, but transportation and transport-related challenges remain a significant barrier to accessing care.

This connection between challenges with transportation and the ability to keep medical appointments has been discussed in several studies; although anecdotal evidence abounds, we still do not have comprehensive data to determine the ultimate impact that transportation barriers have on health. However, one report by Syed and colleagues looked at the results of 61 studies that in one way or another had explored the issue of transportation barriers; in those 61 studies, researchers reported that anywhere from 3% to 67% of the population sampled reported a lack of transportation as a barrier to healthcare.¹

Among the findings from those 61 studies are the following:

- A survey of 183 caregivers of children in urban Texas who had at least one medical appointment over a 9-week period found an overall no show rate of 26%. For those with a history of missed appointments, 50% cited transportation problems, and for those who kept appointments, 30% cited transportation issues. Factors associated with missed appointments included not owning a car and not having access to a car.²
- Cancer patients who were significantly less likely to receive first-line chemotherapy lived in neighborhoods that had a higher percentage of households without any vehicle.³
- In one study of 200 children with a history of missed appointments, 51% of parents identified transportation barriers as the primary reason for missing clinic appointments.⁴
- A study of almost 47,000 Medicaid patients demonstrated that when patients were required to receive prior approval for Medicaid-funded transportation, there was an associated reduction in visits for primary care visits at hospital-affiliated healthcare clinics and reduced refilling of prescriptions. Neighborhood health centers partially ameliorated the decline in primary care visits.⁵
- In rural North Carolina, patients who had a driver's license or a friend or family member with access to a vehicle, attended anywhere from 1.5 to 2.3 times as many health care visits for chronic care as those who did not.⁶
- In a study of an urban population in Dayton OH, 30% of respondents indicated that a lack of transportation was one of the barriers to their seeking healthcare.⁷
- One study looked at access to healthcare for those who used public transit to get there. They found that transit accessibility to a hospital, defined as getting to a hospital or clinic in 30 min or less by public transit or ½ mile by foot, varied from 0 to 28%. Additionally, 55% of missed appointments or late arrivals were due to transportation problems.⁸

Benefit of accessing consistent healthcare

Improving the access patients have to providers is an opportunity to improve health outcomes immediately and in the long-term. Patients who spend more time with their healthcare team have better rapport with their providers, greater understanding of their medical conditions, and are likely to be more satisfied with their experience with the provider, making it a relationship they want to maintain.

The Cost of Missed Appointments

Many factors contribute to the high cost of healthcare. When patients miss appointments—whether for primary/preventive care or as follow-up to hospitalization or other acute care (e.g., surgical procedure)—the cascade of events can all lead to higher costs. For example, not following a healthcare provider’s recommended treatment regimen can lead to

- *poorer health outcomes*, especially for those with chronic conditions, which in turn can lead to a more acute complication needing immediate attention and may lead to an emergency department visit or a premature hospital readmissions, both more costly than if the patient had followed through with outpatient or clinic-based appointments
- *diminished ability to closely follow a patient’s condition*. During appointments, not only do healthcare providers treat symptoms of chronic or acute conditions, they also perform necessary diagnostic testing, prescribe or adjust medications, and refer patient to other medical services.
- *lost opportunity for patient education*. Healthcare providers use appointments to build rapport with the patient and educate them on different aspects of their healthcare diagnoses or conditions. It is also the time when providers can ask patients about other non-medical aspects of their life that may be impacting their health and refer them to other supportive services, in essence treating the whole person and not just their disease.
- *financial implications for the healthcare provider*, related to staff time and resources already dedicated to providing a service to the patient which, once the patient doesn’t show, cannot be billed, thus resulting in lost revenue for the provider.

The literature shows a wide variance in cost of missed medical appointments, with health systems reporting missed appointment as accounting for a range of \$150 to %274 in lost revenue per patient. Across a system this adds up quickly. For example, in a health system that treats 1,000 patient visits each year, if 100 (or 10%) of their patients missed appointments each year, this would result in annual revenue losses ranging from \$15,000 to \$27,400. Using the same missed appointment rates, a system that sees 45,000 patients each year would see annual revenue losses of \$675,000 to \$1.2 million each year. Of course, if the no-show rate is higher than 10%, these costs could go much higher.

In addition, it should be noted that these cost estimates only consider the cost of running the clinical unit, and do not take into account the additional cost associated with patients needing to use the emergency department for follow-up (estimated in one study to be 15 times more

expensive than a regular clinic appointment), premature hospital admissions, inadequate management of pain, or missed opportunities to provide education, perform further assessment, and prescribe medication. These indirect costs were highlighted in a 2012 study of primary care visits for diabetic patients in which a correlation was found between “no-shows” (patients who missed appointments) and a greater risk of hospitalization.

Another cost driver that came to light in conversation with practitioners was the issue of the cost of not being able to discharge patients from hospital beds. A night in a hospital can cost much as \$1500, and this is without factoring the cost of ambulance transport, major procedures, or diagnostic testing, so having discharge-ready patients stay beyond their course of treatment is costly. Hospitals need beds for sick patients, wish to avoid spending hospital resources for patients who no longer need hospital-based care, and want to decrease the chance of those “discharge-ready” patients getting sick from an infection acquired while in the hospital. These potential consequences of not being able to discharge patients has led to provide cab-fare or some other transportation option just to get them home.

How Fixing Transportation Can Help

Understanding the needs of patients and how factors like transportation impact their health requires good data. Some of this can be achieved by interviewing patients directly, or by reviewing large volumes of medical records and charts.

Given the range of methods, questions, and settings in which this research is done, it is no surprise that there is a lot of variability in what the research shows. The literature we reviewed described transportation as one of many factors impacting a patient’s access to care. The literature also suggested that improving transportation options would likely serve to decrease missed medical appointments and the many bad outcomes that go along with that. Fixing this not only benefits patients, but also benefits health systems who annually lose millions of dollars because of missed appointments, high emergency department use, and premature hospital readmissions accompanied by heavy fines and reimbursement penalties.

The incentive to address transportation gaps is also driven by the desire of health systems to provide patients with a quality healthcare experience. Moving patients to and from visits is facilitating care, and increases the likelihood of appointments being kept, patients being satisfied, more compliant, better informed about their condition(s), and healthy. With the competition created in markets where patients have the ability to choose their provider or payer, the advantage will go to those that can rise above the competition by providing an attractive suite of services designed to make it easier for patients to access care, medication, and other related services. Healthcare providers might look at the option to cover transportation costs, improve trip coordination, partner with shared-ride providers, or even provide transportation services for clients.

Being able to make the case for transportation as a primary determinant of health outcomes requires more robust data, specifically the kind reflecting the social, economic, and environmental

realities of the poor, minority and rural communities most impacted by health challenges. Data from patients captured it in a reliable way in the growing world of the electronic medical record is already used for researched and to help understand patient populations. It is hoped that over time, as more providers bolster their patient's electronic medical records with inputs related to the broader socioeconomic and environmental factors that directly and indirectly impact health. We reflect on this in the context document as part of our commentary on ways to truly embrace the concept of population health.

New OIG Opinion: Provision of Medical Transportation and “Safe Harbor” Protection from Penalties

The U.S. Department of Health and Human Services, Office of Inspector General (OIG), issued a new ruling on December 7, 2016, covering financial contributions to and provision of non-emergency medical transportation (NEMT). The rule effectively creates a new safe harbor for two types of local transportation: transportation that is provided for patients and shuttle services for patients or others – along a fixed route with a set schedule. This fact sheet is a summary of a detailed rule . The rule makes clear that healthcare providers are allowed to contribute to or provide transportation services within certain parameters without being in violation of regulations against unfair business practices. In essence, the new rule permits healthcare providers—including hospitals, clinics, physician's offices, dialysis clinics, medical laboratories, physical therapists, and the like—to choose to fund by themselves, or in combination with others, local NEMT or shuttle services that may go way beyond NEMT.⁹

Reflection

It is clear that there is transportation barriers have an impact on health outcomes, although the literature shows such variance in how that connection is made that it is hard to be say with certainty that simply improving transportation options will improve health outcomes. It is however indisputable that missed medical appointments carry with them significant cost. Combine this with the fact that hospitals are being heavily penalized for premature readmissions and primary care providers may not be reimbursed if they are unable to show improvements in their patient's medical conditions, and the “missed appointment puzzle” becomes more pressing.

At the root of the best response to this problem is the availability of data collected from patients as they interact with health systems and healthcare providers. For health systems intent on understanding and positively improving the health outcomes of the communities they serve, the data they secure needs to be more than just “medical.” Filling out a patient's profile with relevant socioeconomic factors can

- lead to a more robust understanding of the patient and what the most impactful interventions are for that patient
- tells the healthcare system more about patient experiences, bolstering their ability to enhance the care provided to patients
- puts funding where resources are needed

- informs policy-making, and
- sets a standard for a comprehensive approach to health and healthcare.

This mindset underpins the population health approach to managing patients and the cost of their care. It is a mindset that places a premium on spending more time with patients and getting to know them in a very comprehensive way. This methodology understands the complexity of the factors that impact health, and recognizes that health is more than healthcare. The data systems that support such ventures should be similarly detailed and broad in the data they are capable of gathering. Health systems seeking to work in this way need to ensure that they have payers willing to support the non-medical (i.e. transportation) opportunities to improve health outcomes that the “new data” presents.

What kind of data would need to be collected? The data could run the gamut from determining a patient’s

- primary language and literacy level
- environment in which they live
- family responsibilities and dependents
- employment status, work environment, and work activities
- mobility option (e.g., driver’s license, ownership of motor vehicle (and current insurance), access to rides by others, access to public transportation)

Combining these data with the medical information in a patient’s record, when added to in-depth focused interviews will help piece together the many aspects of people’s lives that influence their health. It will enable clinical operations to better understand patient health behaviors based on information coming directly from clients, and could open the door for the design of health impacting programs *with* clients that they will be more likely to participate in.

Notes

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⁴Silver D, Blustein J, Weitzman BC. Transportation to clinic: Findings from a pilot clinic-based survey of low-income suburbanites. *Journal of Immigrant and Minority Health/Center for Minority Public Health*. 2012;14(2):350–355.

⁵Tierney WM1, Harris LE, Gaskins DL, et al. (2000). Restricting medicaid payments for transportation: Effects on inner-city patients' health care. *Am J Med Sci* Vol. 319(5), pp 326-33. www.ncbi.nlm.nih.gov/pubmed/10830557

⁶Arcury TA, Preisser JS, Gesler WM, et al. (2005). Access to transportation and health care utilization in a rural region. *J Rural Health* Vol. 21(1), pp 31-38. www.ncbi.nlm.nih.gov/pubmed/15667007.

⁷Ahmed SM, Lemkau JP, Nealeigh N, et al. (2001). Barriers to healthcare access in a non-elderly urban poor American population. *Health and Social Care in the Community*, Vol 9(6), pp 445–453.

⁸Roadblocks to health: Transportation barriers to healthy communities. Center for Third World Organizing (CTWO), People United for a Better Oakland (PUEBLO), Transportation and Land Use Coalition (TALC) 2002.

⁹Read the full OIG opinion at <https://www.federalregister.gov/documents/2016/12/07/2016-28297/medicare-and-state-health-care-programs-fraud-and-abuse-revisions-to-the-safe-harbors-under-the>; also, listen to a webinar in which a legal expert helps the audience understand the ramifications of this ruling: “Safe Harbor Regulation and NEMT” at nc4mm.org/ncmm-webinars.

Additional Resources

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