

Transportation and Aging in Place



Abstract

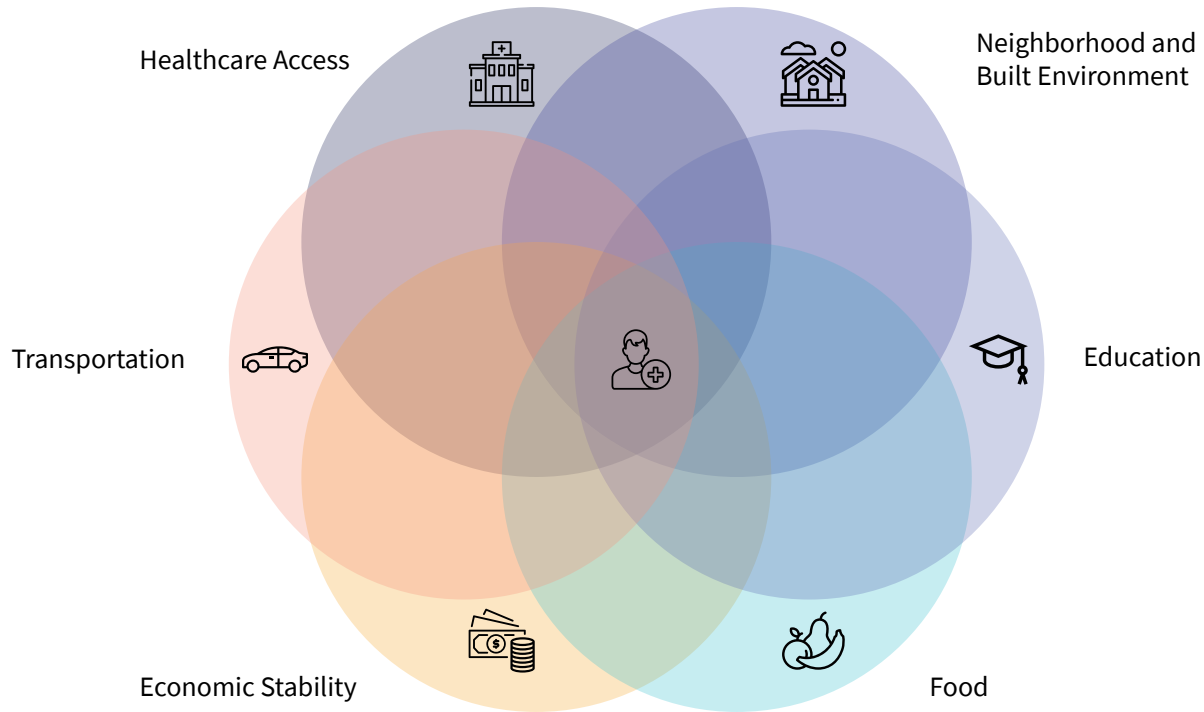
In recent years, there has been an increasing focus on the conditions in the places where people are born, grow, live, work, and age and how these factors affect health risks and outcomes. (WHO). These factors are called the social determinants of health, and as we are learning about their bearing on health equity, we are beginning to see how all social determinants are related to one another.

Older adults are biologically more prone to be in poorer physical and cognitive health than younger adults. Age as a biological determinant of health has social impacts that can affect how you live, learn, play, and work. While almost 90% of American seniors would like to age in the comfort of their own homes, the truth is that aging presents susceptibility to social determinants and any range of barriers as a result.

Seniors who are seeking to maintain some level of independence will always need access to the supports and services required to live as independently as possible. This includes making trips to the grocery store, a doctor's office, or the homes of family and friends. Access to affordable and reliable transportation plays a significant role in public health. And while there are many possible steps worth taking to address the barriers that may come with aging, viable transportation is the keystone of helping seniors age in place.

Challenge

90% of American seniors would like to age in the comfort of their own homes. However, many seniors may not be able to access the supports and services required to live as independently as they would like.

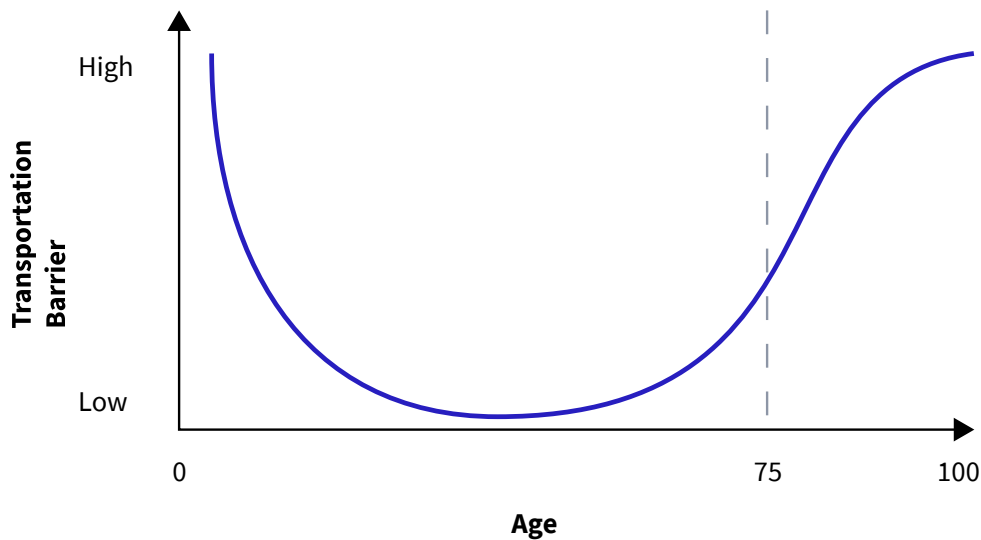


While there are many social determinants of health, this image illustrates their related nature. Where a person is likely to experience one barrier, it is likely they are also experiencing other barriers too.

Introduction

Nearly every American senior wants to age in place. According to [AARP](#), almost 90 percent of people over the age of 65 want to stay in their homes for as long as possible, and 80 percent believe their current residence is where they will always live. However, aging in place is contingent on many things that come as a result of advancing in years. As we age, we experience health problems with greater frequency. Chronic conditions like cardiovascular disease, cancer, and dementia become more common. As health declines and friends and spouses pass away, seniors are much more prone to social isolation and loneliness. And while any possible combination of these things can happen, the mobility to independently address such conditions, or access everyday necessities and pleasures become a considerable challenge that can grow with each passing day.

This cascading effect illustrates how social determinants of health are all related to each other: where an individual experiences one barrier, it is likely that they are also experiencing other barriers, or that they will experience some combination of them later on. Age is a biological determinant of health — it's static. No matter what we do, we cannot reverse the course of aging. Conversely, transportation is an example of a dynamic social determinant of health. When utilized appropriately, transportation can help more people age in the comfort of their own homes by helping them access the goods, services, and communities that are necessary for good quality of life.



Where age is static, transportation is dynamic. The image above generally illustrates where transportation barriers are highest; usually when people are both younger and older.

Background

The common thread that underpins transportation barriers for seniors is mobility. Mobility affords us with the independence to live as we choose. The ability to move freely and easily is something that many of us take for granted, and few think twice about hopping behind the wheel to head to the grocery store, or to go visit friends and family. Mobility can play a huge difference in simple activities like walking around the corner to buy food from a convenience store — a simple task that can become a significant challenge when using the assistance of a wheelchair or a walker. If you consider that the overwhelming majority of seniors want to age in their own homes, then preserving mobility is the challenge of maintaining the level of independence to do so.

Think of this reality as it pertains to driving. Many seniors experience trouble with hearing, vision, aching joints and muscles, and slower reaction times, any of which can limit or rule out driving altogether. Because of these factors, seniors are more likely to restrict their driving in bad weather, at night, or on high-speed roads than are

younger people. And where more active modes of transportation are available to younger people, such as bicycling or walking, seniors frequently experience mobility impairment due to the same factors keeping them from driving a motor vehicle. As seniors experience health problems at a higher frequency, it's likely that the same issues can restrict one's ability to address them. Health ailments are inevitable, but they create a cycle in which the independence to address those ailments is progressively hindered.

In urban settings, public transportation presents itself as a solution. Still, while there are laws in place to ensure that every form of public transit is ADA accessible, the plain truth is that it isn't always the most realistic or practical option. In an article for AgingCare, Dr. John Connolly, President, and CEO of Castle Connolly Medical, shares the challenges of public transportation for seniors:

“Public transportation is the most obvious choice for seniors in good health who decide they no longer want to risk driving. It is one of the most affordable modes of transportation and can provide non-drivers with a relative sense of independence.

Public transportation includes bus and rail systems with fixed routes, stops and schedules. Bigger cities usually have sophisticated public transportation systems that can take travelers to almost any location.

“Public transportation, however, does have limitations for seniors. To use public transit, most people must walk to and from bus or train stops, adhere to strict schedules, wait outside for pickup and be able to navigate stairs. Therefore, this is not always appropriate for older people, especially those who have limited mobility and/or have difficulty planning and following a schedule.” (Connolly; [Aging Care](#))

And what about seniors living in rural areas? According to the [Census Bureau](#), “More than 1 in 5 older Americans live in rural areas, many concentrated in states where more than half of their older populations are in rural areas.” Distance alone can be a barrier in these parts of the country. Consider the fact that the average trip for medical or dental appointments in rural settings is over

[9 miles longer](#) than it is in an urban setting. In a rural setting, transportation is perhaps an even greater social determinant of health because the proximity to public transportation resources is not as commonly available as they are in urban settings. Without access to your own vehicle, traveling long distances can be its own unique challenge and even more so if you are a senior that has given up driving. According to Rural Health Information Hub, seniors are among the populations that could benefit the most from increased access to transportation:

“Rural communities have a higher percentage of adults over the age of 65 compared to other parts of the country. Older adults in rural areas primarily use personal automobiles for transportation. This puts them at risk of social isolation if they become unable to drive and cannot access other transportation options. A national study found that rural older adults scored lower in social functioning measures than urban adults, and would therefore be prone to social isolation. The authors



suggested that rural older adults may benefit from increased social programming and community participation, which may require access to transportation. While older rural adults may qualify for medical transport through Medicare, options for non-essential transportation are more limited.” ([RHIHub](#))

This leads us to the problem of social isolation and loneliness. As a result of mobility loss, seniors face a greater challenge living happy, healthy, and fulfilled lifestyles. “In 2004, a study found that seniors age 65 and older who no longer drive make 15 percent fewer trips to the doctor, 59 percent fewer trips to shop or eat out, and 65 percent fewer trips to visit friends and family, than drivers of the same age” (DeGood; [Aging in Place, Stuck Without Options](#)). According to an article published by the NIH, seniors are more susceptible to social isolation and loneliness than other age demographics, which can lead to many different morbidities:

“Research has linked social isolation and loneliness to higher risks for a variety of physical and mental conditions: high blood pressure, heart disease, obesity, a weakened immune system, anxiety, depression, cognitive decline, Alzheimer’s disease, and even death.

“People who find themselves unexpectedly alone due to the death of a spouse or partner, separation from friends or family, retirement, loss of mobility, and lack of transportation are at particular risk.” ([NIH](#))

And for some American seniors, a lack of transportation can amount to missing out on the bare necessities. According to [Feeding America](#), 5.5 million seniors are food insecure as of 2017. With senior food insecurity varying by state, some areas of the country are more prone to food insecurity than others. These areas, called food deserts, where access to fresh food and produce is scarce,

are frequently accompanied by a lack of transportation to get to areas that do. For the same reasons shared above, a lack of mobility can be a barrier to accessing the most essential needs, and with roughly 10,000 people becoming seniors every day, the number of food-insecure seniors will likely increase as well — by 2030, there will be more 65-and-older residents living in the United States than children ([AARP](#)).

Unfortunately our healthcare system has yet to move beyond a “sick care” system. The way the model works today is that the system is not incentivized to keep people well, but to treat people when they are sick. And while this approach to treatment will always be necessary, many senior patients could avoid illnesses and

diseases if they received preventive, or [proactive](#) care. Telemedicine and at-home primary care can help with preventive care but are dependent upon a senior’s confidence using technology and what is available in their given geographic area. A key piece of developing a proactive approach is leveraging transportation to anticipate the challenges that come as a result of aging, and empowering more seniors to age in place through eliminating the transportation barrier for the aging population.

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Kevin DeGood,
Aging in Place, Stuck without Options

Solution

Overall, most people view care management as access to a clinical or hospital setting. But according to a report by VirtualHealth, redefining the future of healthcare will require looking beyond the horizon of how we currently see care management:

“Coordinated care that is built on a whole-person approach to care management is an essential part of redefining the future of healthcare. An integrated, patient-centered strategy recognizes the link between physical, behavioral, and social health and equips care teams with actionable insights into all risk factors, resulting in improved outcomes and lower costs.” ([VirtualHealth](#))

In the same report, VirtualHealth shares that seniors are the ones who typically face a barrier with the availability and access to “community-based resources and transportation options.” As a real-world example of this whole-person care approach, the state of California launched 25 test Whole Person Care programs in 26 counties designed to assist the Medicaid population in 2016. “Active referrals” are included in the program, where social workers make and attend appointments, and provide transportation assistance and follow-up. Researchers at UCLA conducted an analysis of the program and concluded that it has improved coordinated care for people insured by Medicaid:

“The data highlighted the value of continued investment in developing needed structure for care coordination, focusing on patient-centered practices that engage vulnerable patients and leveraging resources and partnerships to address limited availability of permanent housing. The program breaks down some of the barriers in our fragmented health care system and could pave the way for future models of care.” ([UCLA](#))

In “Addressing the Needs of Older Adults,” a guide published by West Health and UC Irvine School of Medicine, we are introduced to this approach as it relates to seniors:

“There is a growing body of research supporting evidence that addressing social needs leads to improved health outcomes and lowered costs. For instance, common unmet social needs that older adults may face include, transportation to medical appointments, socialization opportunities, assistance obtaining or preparing healthy meals, and help paying for basic necessities, such as utilities, rent and medications. It is necessary to ensure patients have their basic needs met, such as shelter and nutrition, before chronic medical conditions can be adequately treated.” ([Addressing the Needs of Older Adults](#))

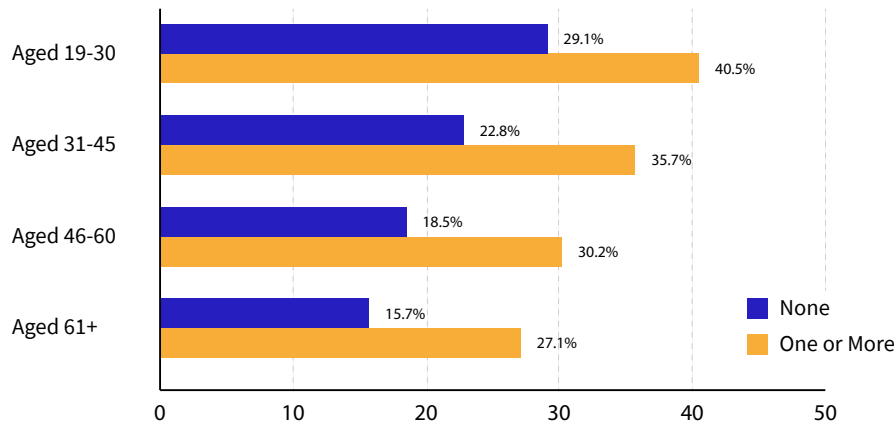
Transportation is the common denominator for a whole-person approach to care. A whole-person approach is needed to help seniors age in place because it accounts for the social determinants of health. Transportation can be directly related to how seniors access medical appointments, attend social opportunities, access food, pay for their utilities and rent, and access vital services like the pharmacy. Access to viable transportation is the foundation of helping seniors age in place.

Transportation and Access to Healthcare

This past October, Kaiser Family Foundation [shared](#) that in 2020, 33% of the 3,148 Medicare Advantage plans are going to offer some kind of transportation benefit. Though the average American visits the doctor four times a year, in most cases seniors spend an average of 17 days at the doctor per year, and patients managing a chronic condition can face up to 50 ([Forbes](#)). Transportation as a supplemental benefit, covering the number of rides it takes for seniors to get to and from their appointments can play a significant role in helping seniors independently manage their own healthcare.

As patients age, even one no-show substantially increases attrition

Practice attrition percent by number of no-show appointments per patient, by age group



Patients that had at least one no-show in the 18-month period before the current appointment have a higher attrition rate than patients who had no-shows in the 19-month period before the current appointment.

Source: athenahealth

Sample: ~3.5million visits of 2.5 million patients to 1,626 providers across 249 contexts.

Researchers at the USC Center for Body Computing (USC CBC) at the Keck School of Medicine recently conducted a study where they provided free rides for study participants to medical and non-medical destinations delivered through rideshare. The goal of the study was to see if better access to transportation could reduce social isolation and measure the overall impact on the participants’ health over three months:

“Ninety-three percent of patients used the Lyft rides to access medical care and a significant number learned to use smartphone apps and a telephone concierge service to do so. While visiting their doctors counted for a third of all rides (31%), the seniors used the remaining rides to get to fitness, social and leisure activities, and reported that this improved their perceived quality-of-daily-life (92%).” [\(USC CBC\)](#)

And according to a study by [athenahealth](#), as people age, even one no-show to a medical

appointment significantly increases attrition: “For patients ages 31-45, 46-60, and 61-plus ... attrition rates for those with one or more no-shows—when compared to their peers with no no-shows—went up by 57, 63, and 73 percent respectively.” Simply getting seniors to their medical appointments can improve outcomes, especially as it relates to recurring follow-up appointments for managing chronic conditions. And if getting to a medical appointment is a challenge, then it’s likely that accessing the pharmacy for receiving important medications is as well.

Transportation and Access to Social Opportunities

Much has been made of the negative health effects that loneliness and social isolation can have on people. Due to a lack of mobility, seniors are perhaps most vulnerable to the health risks that come as a result. In the study “Transportation Mobility And Social Isolation In Community-Dwelling Older Adults” researchers in Canada noted that driving status was a “significant



predictor of social isolation, with non-drivers scoring significantly higher [for social isolation and loneliness] than drivers.” ([Dobbs](#))

Without access to transportation, many seniors are left powerless to address social isolation and loneliness. The participants in the study from USC CBC shows that when seniors are given a viable form of transportation, the other two-thirds of rides were to access fitness, social, and leisure activities which led to an improved perception of quality-of-life.

A 2018 [study](#) conducted in the United Kingdom followed over 18,000 people for more than a decade. In the study, seniors were given access to free bus passes to see the impact that the increased use of public transportation has on depressive symptoms. The study concluded: “Free bus travel is associated with reductions in depressive symptoms and feelings of loneliness among older people. Transportation policies may increase older people’s social engagement and consequently deliver significant benefits to mental health.”

In any case, where viable transportation is used as an interventional solution, the findings are promising that transportation can play a significant role in helping seniors access better social engagement. A potential solution for older adults who can’t access fixed-route public transit is to use paratransit¹ to get out of the house and into their communities.

Due to the limitations of public transportation, paratransit was designed to inherently expand access for people with a mobility barrier. Point-to-point service options can make the experience of

¹ According to the National Aging and Disability Transportation Center (NADTC), “The Americans with Disabilities Act (ADA) requires public transit agencies that provide fixed-route service to provide ‘complementary paratransit’ service to people with disabilities who cannot use the fixed-route bus or rail service because of a disability. The ADA regulations specifically define a population of customers who are entitled to this service as a civil right. The regulations also define minimum service characteristics that must be met for this service to be considered equivalent to the fixed-route service it is intended to complement.” For more, visit [NADTC](#).

public transit much friendlier for seniors who might be using a walker, or a wheelchair. Paratransit is also beginning to see a shift towards the on-demand industry. In April of 2019, MassDOT and the MBTA [announced](#) a pilot program that would increase access to its paratransit program through a partnership with Lyft and Uber, indicating that there is a growing need and opportunity to serve seniors greater access to social wellness.

Transportation and Access to Food

According to the HHS Rural Task Force Report, “Elders in rural areas (about a quarter of all elders) are more likely to reside alone, near or at the poverty level, and suffer from a chronic condition or physical disability.” For rural seniors suffering from food insecurity, these issues can determine how someone can take care of the problem for themselves. In 2016, it was estimated that 8.6 million seniors over the age of 60 faced hunger, with the numbers of food insecure seniors expected to increase through 2050 ([America’s Health Rankings](#)). And according to a study published in the Journal of Nutrition, lack of transportation is a key reason why seniors may have difficulty obtaining food:

“The inability to obtain the right foods for health is a new element specific to elders. Common to each of these components were dimensions of severity, time and compromised food choice. Although money is a major cause of food insecurity, elders sometimes have enough money for food but are not able to access food because of transportation or functional limitations, or are not able to use food (i.e., not able to prepare or eat available food) because of functional impairments and health problems.” ([Wolfe](#))

Therefore, transportation poses a helpful solution in helping seniors access healthy food, either transporting seniors to places where they can get food, or by transporting food to seniors’ homes.



Conclusion

Ultimately, if the common thread that underpins transportation barriers for seniors is mobility, then the most logical solution would be to meet seniors with a viable transportation solution that helps them at their level of mobility. Even for seniors that are already facing declining health or a loss of independence, offering a viable form of transportation can empower seniors to access critical supports and services and can make a world of difference for seniors who wish to age in place

When seniors lack transportation, it's a barrier that can have extreme consequences for health and wellness. When seniors do have access to transportation, it helps them live happily and healthily, and allows them to successfully age in place. Though all social determinants are related to each other, few have the ability to play such a significant role in affecting all of them the way that transportation can.

As more organizations seek to address the social determinants of health, a whole-person approach is needed to help seniors age in place. A few key changes must happen in order to support aging in place for everyone. More organizations will need to pilot more Whole Person Care programs or systems that provide transportation options as a means for accessing the supports and services required to live as independently as possible. Additionally, more organizations will need to collaborate and foster strong partnerships to fight for health equity cohesively: this means large health systems working closely with MA plans, local food banks, smaller clinics, local recreational and community centers, transportation authorities and providers, and beyond.



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