



## **NRHA Policy Paper: Rural America's Senior Citizens: Considerations for Transportation, Healthcare Access, Connectedness, Nutrition and Economics**

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### **I. Overview of rural America's senior population**

In 2018, there were 52 million Americans aged 65 years or older.<sup>1</sup> By 2030, the population of Americans aged 65 or older will double to 77 million, or 21 percent of the U.S. population. This unprecedented growth is attributed to longer life spans and the aging baby boomer generation – one of the largest generational groups in the United States. This is especially important to rural America because older adults disproportionately live in rural areas. Approximately 25 percent of Americans older than 65 live in a small town or rural area. In some states, the percentage is much higher.<sup>2</sup>

Though not specific to the elderly, many characteristics differentiate the rural population from their urban counterparts. The most recent census data suggests rural Americans are more likely to be married, more likely to have served in the military, and more likely to own their home. While some rural residents had lower rates of poverty, rural citizens were less likely to have obtained a bachelor's degree. A lower median household income is another rural characteristic.<sup>3</sup>

Rural Americans experience significant health disparities when compared to their urban counterparts, starting with rural-urban life expectancy. In 2014, life expectancy in the United States was 77 years of age for rural nonmetro males and females, noticeably lower than that of urban nonmetro (77.2), small metro (78.3), medium metro (78.9), and large metro (80.0) areas.<sup>4</sup> People in rural areas also report lower health-related quality of life than people in urban areas.<sup>5</sup> As rural residents age, chronic health conditions may contribute to deteriorating quality of life if not managed adequately.<sup>6</sup>

The challenges of providing health care to an isolated and geographically diverse population also impact the health disparities of rural residents. Risk factors include lower socioeconomic status as well as occupational, behavioral, and environmental concerns that contribute to transportation, health care access, and nutrition issues. These challenges contribute to rural residents' higher prevalence of heart disease, hypertension, high cholesterol, arthritis, and depressive symptoms when compared to their urban counterparts.

### **II. Health-related transportation issues for rural Americans over 65**

The national conversation happening around aging in place holds true for older adults living in rural America, and it must not be misunderstood as homebound aging. To understand aging in place, it is important to examine the many aspects associated with



the mobility of older rural adults. Nearly 11 million rural residents age 65 and older must be able to leave their residences in order to access health care and other related services and activities geared to their overall well-being.

## *Rural senior drivers*

Addressing the transportation problems of rural adults starts with a current assessment of those who are driving and their personal vehicle ownership. The Upper Great Plains Transportation Institute (UGPTI) reviewed the 2009 National Household Travel Survey and found that for rural residents age 65 and older, nearly 93 percent of males and 82 percent of females still drive. For rural residents 85 and older, 63 and 40 percent of men and women, respectively, were still driving.<sup>7</sup>

Another data element that might impact the travel needs of older adults is overall vehicle ownership in rural areas. Using data from the 2015 American Community Survey, UGPTI found that about 25 percent of rural households have at least one vehicle and 12 percent have no vehicles.<sup>7</sup>

## *Impact of aging*

In 2012, another analysis by UGPTI noted an additional reality for older rural adults: With age, an increasing percentage of seniors develop health conditions that make travel difficult. The UGPTI study indicated that travel difficulties existed for 20 percent of those age 65 to 74; for those age 75 to 84, nearly 30 percent; and 50 percent for those over age 85.<sup>8</sup>

Additionally, a substantial amount of literature suggested that seniors continue to drive even when it is no longer safe. This leads to another health concern not only for seniors but in terms of overall public safety. Emory University researchers using the Centers for Disease Control and Prevention's injury statistics database found "daily rates of elderly crash-related deaths and injuries are 19 and 712 respectively."<sup>9</sup>

This data leads to another consideration for rural seniors' transportation needs that intersects with the needs of rural citizens with certain types of physical limitations: Acknowledging how quickly those who are independent today will age and become dependent on others, transportation solutions should follow the principles of "universal design" since older adults and younger people with disabilities often require similar accommodations.<sup>10</sup>

## *Other needs*

Trip type is another important consideration when examining the health-related transportation issues of older rural Americans, such as where they go and how far they have to go to access services impacting health and well-being. The UGPTI analysis



demonstrated that nearly 40 percent of rural seniors' personal driving trips were for shopping and errands (entertainment trips excluded) and seven percent were to conduct family and personal business. Further examination of trip types revealed that medical/dental appointments — along with travel for meals — accounted for nearly 20 percent of trips, (7 percent and 13 percent respectively).<sup>8</sup>

Data also shows that transportation challenges impact missed health care appointments. In 2017, Health Outreach Partners surveyed 23 states. Specifically reporting on missed health care appointments, a data element important when examining health outcomes related to delays in seeking/receiving care, the survey found that compared to 35 percent of urban health centers, only 13 percent of rural health centers viewed missed appointments as a serious problem.<sup>11</sup>

The survey also reviewed whether transportation was a serious barrier to health care, finding that “suburban health centers were more likely than urban or rural health centers to indicate missed appointments as a serious problem (52 percent compared to 39 percent and 45 percent, respectively).”

However, the researchers emphasized that a practical lens must be used when reviewing this data since a suburban health center's catchment area often serves a predominantly rural population. Therefore, suburban results could indicate a significant transportation barrier for the rural-based patients.

### *Public transportation options*

What about rural public transportation options? Might older rural adults who are unable to drive utilize public transportation (if they are physically able)? Often rural public transportation is not an option. From the 2017 UGPTI report, two important data points were noted: Only about 25 percent of personal banking sites, grocery stores, and health care services are accessible on rural public transportation routes. Secondly, though 82 percent of rural counties have some level public transportation, this data grossly overestimates actual service since it seldom reflects areas within a county that are completely without public transportation, let alone needed services. County subdivision data is equally problematic since western states have large subdivisions that may not have transportation options.<sup>7</sup>

### *Volunteer-based transportation*

Despite a culture of rural connectedness where often neighbor looks after neighbor, volunteer-based transportation options are not robust in rural areas. The National Aging and Disability Transfer Center polled all users and found only 8 percent of older adults and 27 percent of riders with disabilities used volunteer transportation, which was surprising since “volunteer transportation programs are often created to meet the transportation needs of these populations.”<sup>12</sup>



Another 2017 survey of key informants from 50 states published by the University of Minnesota Rural Health Research Center provides a rural explanation: “Rural populations value stoicism, personal pride, and independence” and will “refuse to ask for assistance and continue to drive, even if their health may make doing so unsafe.”<sup>13</sup>

## *Awareness*

About 20 percent of key informants in the Minnesota nationwide survey mentioned the difficulty of getting the word out on available transportation. If no newspaper, radio, or television was available, there was difficulty raising awareness of transportation options. Even if the transportation option has online sign-up, many rural areas have no internet. For those that do, rural seniors often cannot afford the necessary home connection. The key informants further emphasized that the state of current rural internet broadband access — a key to both modern living and communication expectations — is not adequate for implementation of the numerous health care solutions that could address current service gaps.<sup>13</sup>

## *Geography/topography impacts*

Rural America’s long stretches of remote or frontier landscapes and routes over and around mountains and bodies of water paired with severe and extreme weather all impact potential solutions for transportation. Infrastructure issues also abound. According to the U.S. Department of Transportation TIFIA Rural Project Initiative, “roughly 40 percent of county roads are inadequate for current travel and 38,000 rural bridges longer than 20 feet are structurally deficient.”<sup>14</sup> The Minnesota survey states that “transportation infrastructure was the most frequently cited challenge mentioned among the key informants,” including concerns about roads.<sup>13</sup>

## *Financial support*

According to the 2017 National Center for Mobility Management report, in some rural areas, public funding supports senior transportation provided by nonprofit human services agencies, such as the Council on Aging or an Area Agency on Aging organization.<sup>15</sup> Funding can also come from Title III-B of the Older Americans Act and Section 5310 Transportation for Elderly Persons and Persons with Disabilities Program. The UGPTI report provides some data on transit providers who receive section 5311 Non-Urbanized Area Formula Program funding. Their services are categorized as fixed-route, demand-response, commuter bus, van pool, ferry, and other. Again, this data does not reflect those rural senior citizens who *are not* being reached. Rural boots-on-the-ground stakeholders expressed concern because rural transportation requires all levels of funding.<sup>7</sup> Again, the Minnesota report provides insight around those stakeholders’ concerns centered in funding levels: Nearly 30 percent of informants



expressed concern regarding past or future state and federal transportation budget cuts.<sup>13</sup>

The National Advisory Committee On Rural Health and Human Services also reviewed rural transportation issues. In the committee's 2017 policy brief, the group acknowledged HHS' limitation in regards to addressing transportation support. However, the committee also acknowledged the value of HHS support for existing transportation assistance programs such as the well-proven Medicaid and Community Health Center transportation programs. However, the members still recommended that HHS must include additional options that specifically accommodate the impact of transportation on rural America's health.<sup>16</sup>

### *Philanthropy's role*

Philanthropy organizations that play a stakeholder role in rural health-related transportation issues have additional recommendations. In a comprehensive 2018 report sponsored by CITRIS, the Banatao Institute, and Grantmakers in Aging, rural mobility challenges were described as having the "classic conditions" for philanthropic investment: public policy challenge paired with a "tremendous human need."<sup>17</sup>

The authors elevated their position by emphasizing the link between transportation solutions and technology: Equitable access for rural populations is a basic right and rural populations need equitable access to technology. Their report points out the "abundance of scarcity" in rural areas — especially with respect to financial and technical resources that might support scalable technology implementation and adoption in rural areas. In order to build community resilience, transportation options will need to be diverse and sustainable. The report also suggests that transportation solutions for rural older adults start with changing the discussion from transportation for health needs to viewing transportation as a social determinant of rural health and community vitality.

In its 12-point conclusion, the report suggests that transportation is not a singular problem with a singular solution. The authors also acknowledge that transportation is expensive and unlikely to ever be provided as a free service. These concepts are further tempered by the suggestion that "social entrepreneurship is a potential innovation model to effectively address the transportation needs of older adults while also providing economic and social benefits for rural communities."

### **III. Aging in rural America: Challenges accessing health care**

From a clinical perspective, health care access for rural older adults — or any person — translates into five appointment types: timely outpatient primary care appointments for acute conditions; preventive care; follow-up appointments to assess the stability of



chronic conditions; coordination of care when a problem requires specialty care; and timely access to inpatient services with care coordination at the time of discharge.

According to the Office of Disease Prevention and Health Promotion (ODPHP), access to health care “impacts one’s overall physical, social, and mental health status and quality of life.”<sup>18</sup> Innumerable academic studies and gray literature reports over the past decade have highlighted the consequences associated with health care barriers. These barriers include — but are not limited to — increased morbidity and mortality rates, increased costs for government and commercial insurance payers, and substantial personal financial burdens.

To specifically examine rural access issues for seniors, access must be defined and measured. The ODPHP describes access as “the timely use of personal health services to achieve the best health outcomes,” which includes three steps: gaining entry by ability to pay, accessing the location of health services for acute and chronic care, and developing a relationship with a health care provider.<sup>18</sup>

### *Step one: Ability to pay*

Regarding step one – access by ability to pay – older Americans usually have Medicare as a payer source. Though Medicare enrollment can include patients under 65 years of age, the majority are over 65, a factor that results in Medicare data being used as surrogate to assess the health-related issues of the nation’s seniors 65 years and older.

However, some beneficiaries may have dual eligibility for Medicaid depending on specific circumstances, such as personal income and disabling conditions. For example, a 2014 South Carolina Rural Health Research Center brief looked at a small sample of 2009 beneficiaries for information on dual eligibility. The researchers found that nearly 18 percent of rural beneficiaries were eligible for both Medicare and Medicaid compared to 16 percent in urban areas. Examining the data further, the researchers also noted a difference when considering minority status: In remote rural counties, more than 48 percent of African Americans had dual eligibility.<sup>19</sup>

In addition to Medicare/Medicaid beneficiary data, health care access for rural beneficiaries enrolled in Medicare Advantage (MA) plans can provide access data. Under private management, these plans are designed to offer high-quality care at a lower cost. Because rural populations typically involve fewer beneficiaries than urban areas — and these beneficiaries are considered to be “older, sicker, and poorer” — concerns have been raised that because insurers might have more difficulty spreading risk in rural areas, these lower-cost MA plans may not be offered equally to rural beneficiaries. Using data from the 2012-2013 Medicare Current Beneficiary Survey, researchers at RUPRI Center for Rural Health Policy Analysis examined these issues. Outlining their findings in a 2019 report, the researchers discovered that while rurality did impact beneficiary *participation*, there was no evidence that plans were not offered.



However, the researchers did note one disparity: Urban enrollees “are less likely to pay an additional premium (beyond Medicare Part B) to obtain MA coverage: 42 percent report doing so in urban places, while 54 percent do so in rural places.”<sup>20</sup>

## *Step two: Service location*

The ODPHP’s second step in accessing health care focuses on the location of services. To start, rural hospital closures have had high impact in this arena. In addition to the economic impact those closures have on the communities where rural seniors reside, a 2019 Association of State and Territorial Health Officials Experts blog identified additional health impacts: At the time the comments were posted, 64 percent of the 113 hospitals that had closed since 2010 were considered essential to their communities because of a trauma center designation, its service to vulnerable populations, and distance from other hospitals.<sup>21</sup> Research released in 2019 by University of Kentucky’s Rural & Underserved Health Research Center addresses the latter issue of distance: Hospital closures add an additional quarter hour travel time for rural seniors 64 years and older. This time interval has doubled with additional hospital closures.<sup>22</sup> The time interval also does not include patient unloading time at a destination, which is often a busy urban center that creates an even longer interval before appropriate assessment and active treatment can begin.

Outside of hospital closure information, gaps exist in understanding the specific location of health care services for rural seniors. Researchers at the North Carolina Rural Health Research Program provided a general estimate of how many rural Americans were in areas where care is *absent*. Using the Federal Office of Rural Health Policy’s rural definition and 2017 population data, researchers found that “across the country, there are more than 17 million people who live in rural counties without a rural health clinic (RHC), more than 15 million in rural counties without a federally qualified health center (FQHC), and nearly 4.5 million in rural counties without an acute care hospital.”<sup>23</sup> The absence of these major organizations, long seen as crucial components of rural health’s “safety net,”<sup>24</sup> raises even more concern because nearly 700,000 rural Americans have *none* of these three health care providers: no RHC, no FQHC, and no hospital. Over one-third of these Americans are located in the South Atlantic census division.<sup>23</sup>

According to a recent study from the University of Minnesota’s Rural Health Research Center, despite national surveys measuring access to health care by looking at the usual seven domains (care source, technology options, preventive services, insured status, delays/declined care, financial and transportation barriers), no single survey includes publicly available *geographical* measures, “let alone variation between rural residents.” In order to inform policy, additional survey resources are needed to better understand how rural residents — especially rural older adults — access health care.<sup>25</sup> These data gaps have prompted the Health Resources and Services Administration to review the issue with a referral for information on measuring access to health care in rural communities. Public comments closed Oct. 9, 2019. Of four questions, one



specifically asks, “What other factors are important to consider when identifying core health services in different rural communities, such as current and projected population size, *distance to the nearest source of care*, availability of telehealth, and sustainability of services?”<sup>26</sup>

### *Step three: Patient-provider relationships*

A definition for the patient-provider relationship is not easily located. However, in 2001, the Institute of Medicine defined patient-centered care and suggested that this relationship might be based on care that is respectful of and responsive to individual patient preferences, needs, and values, ensuring that patient values guide all clinical decisions.<sup>27</sup> To have a relationship there needs to be a medical provider in the first place – often the first obstacle in rural America. However, according to 2018 United Health Foundation’s Senior Report, about 94 percent of rural seniors indicate they have one or more individuals they consider their health care provider, compared to almost 96 percent of urban seniors.<sup>28</sup>

Further considering the patient-provider relationship, a surrogate marker for its strength might be rural seniors’ patient satisfaction data. This data can be found in the Centers for Medicare and Medicaid Services’ mandatory Hospital Consumer Assessment of Healthcare Providers and Systems survey. These survey results are publicly available and reflect responses from patients of all ages, not just older patients.<sup>29</sup> A similar report analyzing the 2017 results from 1,100 CAHs was produced by the Flex Monitoring Team at the University of Minnesota. Published in January 2019, this report included performance data on the 10 publicly reported measures. The researchers cautioned interpretation because of small numbers of returned surveys, which might have been impacted by patients who were excluded due to discharge to swing-beds, nursing homes, or hospice care. Despite this, with only three exceptions, the survey found that more than 80 percent of rural nurses and doctors in 45 states were reported as *always* communicating well.<sup>30</sup>

The patient experience measure may also provide information about the quality of a provider-patient relationship. According to the CMS, patient experience — in contrast to patient satisfaction — not only includes communication with doctors but also discussions around medication instructions, care coordination issues, or aspects of clinical care unrelated to an organization’s amenities. Patient experience can be measured by Consumer Assessment of Healthcare Providers & Systems (CAHPS).<sup>31</sup> The 2017 Agency for Healthcare Research and Quality’s CAHPS report includes rural results, though respondent age was not a data point. The total number of respondents from micropolitan, small, and isolated areas were small – just over 6,000 compared to the total of nearly 370,000 respondents. Provider communication, provider rating, care coordination, and office staff interactions all ranked about equal to or even slightly higher than urban providers.<sup>32</sup> Patient satisfaction and experience ratings are not



publicly available for FQHCs or RHCs unless those organizations are part of Accountable Care Organization's reporting infrastructure.

Another important consideration for rural seniors is access to specialty care providers, which is as much a struggle for rural areas as finding enough primary care providers. Again, using MA information, RUPRI researchers reviewed data around specialty care access. Noting in this data base that chronic medical conditions seemed equally present in MA urban and rural beneficiaries, almost 25 percent of urban enrollees perceived specialty referral appointment wait times as being too long, versus the rural enrollee result of about 3 percent.<sup>20</sup>

### *Minority seniors*

In November 2018, CMS released a report that highlighted rural-urban health care access and experiences along with specifics about the actual quality of clinical care received, such as cancer screening, chronic obstructive pulmonary disease testing, influenza vaccination, and management of chronic conditions like blood pressure and diabetes. Several executive committee conclusions highlighted rural issues: In the categories of getting needed care and appointments quickly, Hispanic and white rural Americans fared equal to or better than urban counterparts, while black rural MA enrollees had experiences much worse than their urban counterparts.<sup>33</sup>

### *Telehealth's impact*

In any health care access discussion for any rural age group, telehealth must be addressed. For rural older adults with physical and geographic mobility issues, telehealth meets the goal of care to be "anytime, anywhere." A 2018 AARP Public Policy Institute report listed examples of telehealth interventions, such as those for chronic disease monitoring and management and mental and behavioral health care access, in addition to examples outlining caregiver support benefits.<sup>34</sup>

Not to be overlooked is videoconferencing that gives rural providers clinical support: Telestroke, teleICU, teleER, teleophthalmology, teledermatology, and many additional specialty consultations are available to rural providers caring for rural seniors.

Other telemedicine benefits are financial. For patients/families, these include improved access, reduced travel costs, and preserved wages. For payers, reduced costs for avoided emergency room visits and hospital admissions were economic benefits.

Analyzing data from 2014 through 2016 fee-for-service beneficiary claims, a November 2018 CMS report found that although telehealth use had increased, overall telehealth adoption seemed limited. The most significant growth was noted for beneficiaries 85 years and older. Psychotherapy was the most common service. Though no rural-urban analysis was conducted, services correlated with states that had "large urban areas, many of which are also designed as health professional shortage areas."<sup>35</sup>



There is little controversy around telehealth benefits. Instead, challenges to telehealth have been related to implementation because government and private insurers' coverage policies do not provide reimbursement. That landscape will change more quickly if CMS policy changes and other insurers acknowledge parity issues.<sup>34</sup> Challenges are also related to broadband and technology,<sup>35</sup> along with laws governing communication,<sup>38</sup> a situation also impacted by the prevalence of wireless technology.<sup>40</sup>

A September 2019 report in a letter to the editors of the *Annals of Internal Medicine* echoed these concerns. The authors reviewed data suggesting “that inadequacies in broadband infrastructure have broader consequences than limited internet access. Cost–benefit analyses of broadband and cellphone infrastructure expansions thus should consider the benefits of telemedicine and the pathway to care it provides. Although telemedicine has the potential to address geographic barriers that result from long drive times to receive care, its potential will not be realized until the telecommunications infrastructure improves and public and commercial insurers develop and expand policies to reimburse telemedicine visits from patients' homes, particularly in the most rural counties.”<sup>37</sup>

Yet many experts believe telemedicine should not be considered as the entire answer to health care access issues. As noted by Project ECHO leaders, “telemedicine facilitates one-to-one connection between a clinician and a patient, but it does not necessarily increase capacity of the health care system.”<sup>39</sup> Provider shortages in rural areas will still need to be addressed.

#### **IV. Health impacts of social connectedness of rural seniors**

Social isolation is a mainstream media topic as well as a focal point for organizations advocating for the nation's seniors. Specific themes emerge around the impact of loneliness, social isolation, and social connectedness on an individual's health and well-being. Though these phrases sound similar, their specific definitions are important and usually not emphasized: *loneliness* is the subjective feeling of being alone or desiring more social connectedness; *social isolation* is based on an objective number of contacts; and *social connectedness* includes a sense of caring about others and the reverse, along with the sense of belonging to a community or group.<sup>40</sup>

Experts also note that “not all who are isolated are lonely and not all who are lonely are isolated.” Additionally, though loneliness and social connectedness might have plausible physiological links to disease, research has not confirmed this.<sup>41</sup>

In addition to definitions, experts pointed out the importance of recognizing how loneliness, isolation, and connectedness actually play out in communities, health care organizations, and at the bedside. One expert shared his clinical experience: “People



are languishing in hospitals, languishing in emergency rooms, languishing in nursing homes for lack of adequate social support. Their families and caregivers need support. That definitely makes it a huge issue — and an expensive one.”<sup>42</sup>

## *Health impacts*

Clinical researchers and experts call for caution when reviewing literature that implies links between connectedness and health outcomes without accounting for the impact of chronic disease on a patient’s ability to engage. For example, diagnoses like dementia, arthritis, and chronic obstructive pulmonary disease along with conditions such as significant hearing impairment all have a significant impact on a patient’s ability to engage.<sup>41</sup> Experts suggested that studies must include a baseline risk adjustment for those conditions. It’s also important for research on this topic to include a socioeconomic factors index. The United Health Foundation’s *American’s Health Rankings Senior Report 2018* explored marital status (never married, divorced, separated, widowed), disability, poverty level, and number of individuals per household to assess social isolation *risk* and reported it at the county level, though not specifically by rurality.<sup>28</sup>

In the end, there is little dispute between experts, researchers, and clinicians that social isolation, connectedness, and loneliness are important elements on the list of social determinants of health impacting the health of older rural adults.

## *Rural culture impact*

Culture impacts the perception of loneliness and social isolation, as highlighted in a 2018 Kaiser Family Foundation report.<sup>43</sup> Multi-country meta-analyses are unlikely to be representative of results for those living in the United States or reflective of our health care delivery system or its culture. This lack of universal social isolation assessment becomes important when looking at specific data for older adults — especially older *rural* adults. The University of Minnesota Rural Health Research Center provided some information in a 2019 study based on 2010 through 2011 data from the National Social Life, Health, and Aging Project. Analyzing a population aged 65 and older, researchers found that 97 percent of rural men and women reported having one or more friends.<sup>44</sup> One researcher suggested this should not have been a surprise because single data points likely reflected the inherent connectedness in rural communities.<sup>45</sup>

More information on rural seniors came from a 2016 WWAMI Rural Health Research Center policy brief. Focusing on rural health enrollment outcomes for Medicare patients with a diagnosis of chronic obstructive pulmonary disease, congestive heart failure, pneumonia, and acute myocardial infarction, the brief included information on a home environment assessment. In all three rural designations — large rural, small rural, isolated small rural — slightly more than 30 percent of study’s enrollees with these diagnoses were living alone. Around 50 percent had current caregiver assistance and



almost 40 percent of required no additional assistance. Nearly 10 percent had assistance considered insufficient.<sup>46</sup> These data points provide a glimpse into the home support structure of rural beneficiaries with high-risk diagnoses who are trying to stay out of the hospital and emergency room and away from a nursing home setting.

### *Rural minorities' experience*

In their 2019 study, the Minnesota researchers also discovered that in rural noncore counties, non-Hispanic black residents reported much higher levels of perceived loneliness than those in urban or micropolitan counties. The researchers suggested that further investigation was needed to understand if this also varied by state or region.<sup>44</sup>

### *Economic impact*

A study funded by the AARP Public Policy Institute and the National Institute on Aging at the National Institutes of Health underscored the differences between loneliness and isolation. Analyzing 2006 through 2010 data, the investigators found that “objective isolation is associated with increased Medicare spending, while loneliness’ association appears opposite.” Adjusted data analysis revealed that “loneliness predicted a \$64/month reduction (an estimated –\$764 annually) in Medicare spending, while isolation predicted a \$137/month increase (+\$1643 annually).”<sup>47</sup>

### *Transportation impact*

When discussing social isolation and loneliness as a lack of engagement with humans and activities outside one’s personal space or home, transportation issues surface, as they do with many other issues related to rural health. Especially for rural seniors, transportation issues involve weather conditions, mountains, oceans, distance, and poor road conditions, all in the setting of limitations associated with personal driving skills and lack of public transportation options. In another study, the Minnesota researchers uncovered this theme in a key informant survey gathering perspectives on rural social isolation and loneliness: “Transportation was the most frequently endorsed theme, with key informants discussing ways in which limited transportation availability and infrastructure make it difficult for people to connect with each other across long distances, as well as for providers to reach people and for people to attend events.”<sup>48</sup>

### *Rural vs. underserved*

Advocacy groups are mobilizing to examine solutions for social isolation issues impacting health. AARP is a current sponsor of a National Academies of Sciences, Engineering, and Medicine consensus study in progress on the health and medical dimensions of social isolation and loneliness in older adults. Geared toward providing evidence-based recommendations on translating research into practice within the health care system, the study focuses on those 50 years and older and those who are “among



low income, underserved and vulnerable populations.”<sup>49</sup> Though no rurality is specifically included in the study’s outline, it would be prudent for investigators to include rural populations.

## *Rural solutions*

Because technology has proven to play a substantial role in meeting social needs in rural areas, rural internet and broadband infrastructure must meet demand. One rural psychologist shared her opinion on this particular need for rural seniors: “Despite the increased funding for internet capacity, many rural patients still haven’t been able to afford that technology in their homes. It should be recognized that not having internet services prevents people from communicating the way the rest of modern society is communicating. Again, that can create a sense of isolation.”<sup>42</sup>

Lastly, several experts suggested that existing informal social support structures within rural communities become more formalized, replicating the efforts of programs like those endorsed by the Senior Corps. These programs focus on volunteerism with able seniors helping other seniors. These programs also focus on independent living, which is important since communal living is not a universal solution for older adults.<sup>42</sup>

## **IV. The nutrition status of rural America’s seniors**

Throughout the nation, especially in depressed urban areas and isolated rural settings, residents often struggle to find healthy, affordable groceries. Access to nutritionally sound food is an issue that has plagued rural communities for many years. These “food deserts” disproportionately impact older Americans as the majority of rural communities tend to be “grayer” than urban areas.

Food deserts are generally defined as a “community or neighborhood where residents are unable to purchase nutritious food easily due to distance from a market, price, lack of transportation, and/ or absence of healthy options.” Rural areas are more likely to be classified as food deserts than urban centers since access to fresh fruits and vegetables is more challenging. Although these disparities impact health and quality of life for all rural residents, the elderly segment of the population is especially vulnerable.

Nutrition plays an important role in the health of aging individuals in rural America. Meeting the diet and nutritional needs of older people is crucial for the maintenance of health, functional independence, and quality of life. Older people are vulnerable to malnutrition, which is associated with an increased risk of morbidity and mortality. Increased falls, vulnerability to infection, loss of energy and mobility, poor wound healing, and confusion are also reported consequences of undernutrition.<sup>50</sup> According to the World Health Organization, a majority of the diseases of older people result from



lack of proper diet. Maintaining a proper diet and making healthy lifestyle choices is vitally important to decreasing health issues in aging populations.

As individuals age, they also have an increased likelihood of having one or more chronic diseases, such as respiratory disease, arthritis, stroke, depression, and dementia. These conditions can affect not only their appetite, but their mobility and ability to swallow, factors that can lead to altered food intake and declination of nutritional status.<sup>51</sup>

Medications used in the treatment of chronic illness are another risk factor impacting nutritional status by causing decreased appetite, nausea, diarrhea, reduced gastrointestinal motility, and dry mouth. All of these symptoms prevent older adults from consuming the nutrient-rich foods needed to maintain their overall health.

For rural seniors who prefer to age in place, connecting with needed services to get food into their homes can be challenging. Transportation assistance may be necessary, and if reliable public transportation options are absent, nutrition can be compromised. Sometimes rural residents are forced to rely on fast food restaurants and convenience stores to meet their nutritional needs. The fatty, nutritionally deficient foods obtained from these sources have been known to increase chronic disease complications.

The Nutrition Services Program, authorized under Title III of the Older Americans Act, is an available resource that provides grants to states and U.S. territories to support nutrition services programs for seniors. The purpose of this grant is three-fold. First, it aims to reduce hunger and food insecurity. Second, it promotes the socialization of older individuals. Finally, it establishes a goal of health promotion and well-being by assisting older individuals with their nutrition needs in addition to other direct health needs. These grants are strictly for older people with social and economic needs, including those residing in rural areas.

## **V. Economics and rural older adults**

According to the World Health Organization, research has shown that elderly people who live in rural areas are more likely to have higher poverty rates, lower incomes, and fewer employment opportunities. These individuals are also more likely to live in less adequate and older housing structures than their urban counterparts. Rural areas also have fewer resources than urban areas and are more likely to face physical, social, and economic challenges. This puts rural communities and elders who choose to age in place at a disadvantage in relation to the accessibility of available services and resources.

Another report states the issue in this fashion: “Relative to their counterparts living in urban areas, statistics reveal that rural populations experience risk factors (geographic



isolation, lower socioeconomic status, limited job opportunities) that contribute to health disparities and lower life expectancy. Rural residents receive lower Social Security and pension benefits than their urban counterparts, particularly rural-dwelling females with lower lifetime wages and greater longevity.”<sup>52</sup>

According to the U.S. Census Bureau, rural data shows that Americans have a lower median household income than urban households. Findings from this report indicate that household median income for rural households was \$52,386, which is about 4 percent lower than the median for urban households of \$54,296. Also, about 13.3 percent of families have incomes below the poverty threshold, while about 16 percent of families live below the poverty threshold in urban areas.<sup>53</sup>

A study conducted by the Kaiser Commission on Medicaid and the Uninsured found that rural areas have higher rates of poverty and unemployment as well as lower household incomes compared with urban areas. People living in rural areas are less likely to be in the workforce, more likely to have a disability, and more likely to be low-income than people living in urban areas. Rural elderly often face “double jeopardy,” which represents numerous obstacles as it relates to physical, social, and economic changes, and have few resources available to remedy their plight.<sup>54</sup>

## **VII. Summary**

In summary, the well-being and health care needs of the nation’s rural seniors are impacted by special nutrition needs, the limits of their personal finances, and health care access issues, the majority of which are unrelated to the ability to pay. The common denominator linking these specific determinants of health is the challenge of transportation in rural areas. Many rural seniors have aged out of the ability to drive safely, and friends, family, and public transportation options are often extremely limited.

Additionally, research gaps exist regarding health care access for rural minorities, and no clear understanding exists for the morbidity and mortality resulting from hospital closures necessitating travel to urban centers that result in a delay of care, as well as for seniors who live in areas without rural health clinics, federally qualified health centers, and critical access hospitals.



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