

Appalachian Elder Care and Housing Factors

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Abstract

The U.S. is undergoing a demographic change that raises questions about resources, programs, and community planning for seniors. The Appalachian region is not exempt from this trend; census data from the past several decades indicates that the region is also aging and will need to plan for this population change and its corresponding needs. In particular, factors such as economic insecurity, isolation, and aging locale have profound effects on the wellbeing of seniors. This paper enumerates the population change in the Appalachian region over the past several decades and discusses the effects of the aforementioned factors on senior health. Using this context, this paper then introduces different models of senior living that can improve quality of life. Specifically this writing focuses on the elder co-housing model because its design and practicality serves as a positive alternative model for senior living in the Appalachian area.

1. INTRODUCTION & DEMOGRAPHICS

In Appalachian Virginia, over 20% of the population is 65 years or older, 6% greater than that portion of the population in the rest of the state [1]. Between 1980 and 2018, the older adult portion of the population in Appalachian Virginia nearly doubled. By 2050, over a third of the population is expected to be age 65 and over [1]. Examining this population trend on a county level yields even higher results. For example, Smyth County, a transitional county within Appalachia's South Central region, has an older adult population that has steadily increased over the past few decades. Unlike other counties with cities or college towns, such as Washington County or Montgomery County, Smyth county's population exemplifies trends in rural Appalachian counties: a slowly decreasing overall population with an increasing senior portion of the population. Furthermore, as seen in the following data tables, the aging population of the area is not a new trend, but one that has continued for the last several decades. Consequently, the following data emphasizes the importance of examining the quality of life for older adults in Appalachian counties such as Smyth County and of considering factors that influence their quality of life.

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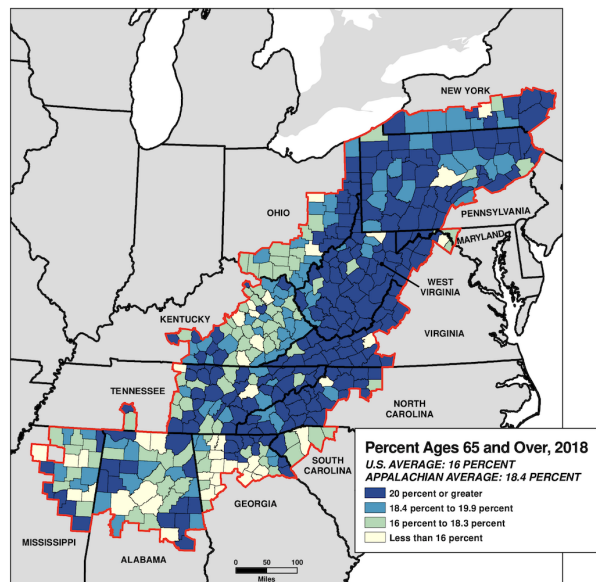


Figure 1: Percent of Population in the Appalachian Region Ages 65 and Over, July 1, 2018. Full credit to Pollard and Jacobsen [1, pg. 18 Figure 2.4].

Although the older adult population growth rate varies from decade to decade, the population data clearly shows that Appalachia and Smyth County follow national trends toward an aging population. Demographic changes such as these will mean an increase in retiring workers, age-related health issues, and a larger population of seniors seeking affordable housing and senior services. Counties in

Table 1: US Census and American Community Survey Data [2, 3, 4, 5, 6]

Year	Locale	Total Population	Population 65+	% Population 65+	Net Population 65+ growth / 10yrs
1980	VA Appalachian Region	662,205	71,318	10.8%	–
1980	Smyth County, VA	33,366	4,237	12.7%	–
1980	Town of Marion, VA	–	–	–	–
1990	VA Appalachian Region	643,481	85,614	13.3%	+20.0%
1990	Smyth County, VA	32,370	4,892	15.1%	+15.5%
1990	Town of Marion, VA	6,630	1,147	17.3%	–
2000	VA Appalachian Region	674,739	97,181	14.4%	+13.5%
2000	Smyth County, VA	33,081	5,404	16.3%	+10.5%
2000	Town of Marion, VA	6,349	1,312	20.7%	+14.4%
2010	VA Appalachian Region	689,625	112,687	16.3%	+16.0%
2010	Smyth County, VA	32,283	5,760	17.8%	+6.6%
2010	Town of Marion, VA	6,032	1,141	18.9%	–13.0%
2018	VA Appalachian Region	675,050	135,951	25.8%	+20.6% ¹
2018	Smyth County, VA	31,059	6,503	20.9%	+16.1% ¹
2018	Town of Marion, VA	5,787	1,287	22.2%	+11.6% ¹

¹ Projection for growth over ten years assuming linear change consistent with that seen from 2010 to 2018.

this region will have to address concerns of retirement funding, aging populations, and affordable housing. Consequently, it is an ideal time for counties mirroring these trends to invest in partnerships to develop senior housing that can promote senior quality of life within the county and town limits [1].

2. CONSIDERING DETERMINANTS OF HEALTH

Promoting quality of life for older adults first requires a holistic examination of the person’s residence, community, and access to resources by analyzing their social determinants of health: “the conditions in the environments in which people are born, live, learn, work, play, worship and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks” [7]. This analysis includes resource availability, opportunity access, public safety, social support, transportation options, and community-based resources. There are

also physical determinants such as the community layout, crime, natural environment, and physical barriers. All of these factors have a daily and long-term effect on a person’s health and wellbeing. In order to preserve or improve quality of life, it is necessary to evaluate the surrounding determinants of health and gauge their positive or negative effects, as well as any changes that are in order that could benefit a person and the community [8].

While social determinants of health vary in each community, this paper examines a select few because of their well-documented effect on seniors. Research has demonstrated that social determinants such as accessibility, social support, and socioeconomic conditions have a profound effect on older adult health and quality of life. Consequently, they form an important context for aging policy and for considering housing options for older adults in the U.S. Communities and residential options should ideally create safe, affordable, and community-oriented locations where individuals can live without losing access to affordable housing options,

daily resources such as food, medical care, and community services, and social support. In order to discuss the ideals of elder housing, it is necessary to understand the challenges frequently encountered by the senior population that negatively impacts quality of life and health outcomes. A senior's living situation can compound or diminish the effect of these challenges depending on the design of the residence or facility.

2.1. Senior Poverty

In 2016, the National Council on Aging (NCOA) reported that over 25 million U.S. seniors over 60 were economically insecure. On average, female seniors receive less in Social Security benefits, thereby reducing their annual income and their ability to meet housing, medical, and food expenses. Additionally, NCOA found that thousands of seniors wanted to work but were unemployed for half or more of 2014. A third of senior households had either no money left over each month, was in debt at the end of each month, or owed money on a mortgage or home equity line of credit. Almost 3 million senior households experienced food insecurity [9]. Several factors can lead to senior poverty. Taking breaks from work for caregiving for children, parents, or other family members reduces lifetime earnings which results in lower Social Security benefits as well as lower current earnings and savings rates. Inadequate wages can lead to lower lifetime savings, impairing finances once an individual retires. Higher healthcare and housing costs as one ages adds financial duress to these situations, leaving seniors at risk for homelessness or poor quality housing situations because of an inability to improve their current home or move to one with better accommodations or care. In this way the mental, physical, and financial stress of senior poverty constrain retirement and care options as older adults age.

Economic insecurity can in turn lead to food insecurity, where seniors lack the ability to obtain necessary nutrition and food to maintain a healthy and active lifestyle [9, 10]. Research indicates that food insecure seniors have worse health outcomes, including a higher rate of diabetes, more reports of depression, ADL limitations, higher blood pressure, and other respiratory and health-related issues [11]. These outcomes in turn mean higher medical ex-

penses for seniors themselves, additional caregiving needs, further need for medical transportation, and if they are eligible, higher costs to the Medicare program. In this way, poverty can increase the cost of living for seniors while also causing poorer health outcomes; limited financial resources decreases access to nutritional food, creating a domino effect of health issues that may require a senior to visit medical professionals at a higher rate, thereby increasing medical expenses and furthering the initial financial stress.

As previously mentioned, food insecurity also has a debilitating effect on senior mobility and cognitive function by reducing ADL activities. An ADL is an Act of Daily Living, such as bathing, dressing, eating, and toileting [12]. A limitation in this category can have a profound impact on a person's independence and need for care; not only because additional care may be needed, but also because government entities and retirement facilities often evaluate a senior's ability to care for themselves by measuring ADLs. The National Foundation to End Senior Hunger (NFESH) conducted research in 2010 showing that food insecurity in seniors, regardless of marital status, had a consistent, significant correlation with at least one ADL limitation [11]. This association demonstrates the importance of addressing senior poverty; the presence of economic insecurity can deprive seniors of a healthy lifestyle that supports independent living.

An additional consequence of economic insecurity is the risk of homelessness. In 2010, the Homelessness Research Institute estimated that homelessness for seniors 65 and over would double by 2050 [10]. The accumulating factors of rising housing costs, higher than average medical expenses, and stagnating wages leave an increasing number of seniors at risk for situations leading to homelessness [10]. Given this context for the current senior population, affordable housing options are in great demand. According to the Homelessness Research Institute, "Ten older adults await affordable housing for every unit of supportive housing that becomes available through the Section 202 Supportive Housing for the Elderly program" [10]. The queue for senior housing in this government program is 1000% times the units available. Given that rate, imagine the demand for housing as the U.S.'s senior population continues to climb in the coming decades of the 21st century.

2.2. Isolation

While economic insecurity poses significant challenges to senior health, it is also important to acknowledge the impact of social interaction on health. For seniors, social isolation can pose as serious a health threat as poverty and food insecurity. In N4A's policy priorities for 2020, the organization emphasizes the importance of addressing social isolation and loneliness among older Americans because they increase the risk of heart disease, depression, cognitive decline, and premature death [13]. Additionally, isolated living situations can lead to an increased likelihood of dementia, which in turn can create significant medical, housing, and caregiving costs. Older adults living alone are particularly at risk of social isolation; as an individual ages, mobility outside of the home becomes more challenging, and it is easier to navigate the "control center" of a familiar residence. This can prompt an older adult to retreat from activities away from home such as errands, social events, neighborhood activities, and exercise. As a result, there is a negative impact on their health and mobility because the risk of cognitive decline goes up and the access to physical activity declines.

Social isolation can also increase the need for paid care or institutionalization, resulting in an additional medical expense as well as unwelcome or frustrating adjustments to daily living [14]. But social isolation has ripple effects that hold consequences for government budgets and communities also. Research conducted by AARP in 2017 reported that "Medicare enrollees with limited social connections cost the program an average of \$1,608 more per year than more socially connected seniors" [15]. Given that Medicare provides significant support for low income seniors, this connection poses a challenge both fiscally as well as programmatically. This intersection reveals a subset of seniors at-risk to higher rates of dementia, caregiving, and medical costs that would benefit from community and housing solutions addressing such risk factors. Humans are innately social beings, and that need does not diminish as a person ages. In fact, one could argue that as the aging process affects a senior's next stage of life, that individuals need additional social interaction in order to validate their personhood in the face of physical, caregiving, and cognitive changes. Social isolation has a well-documented

effect on senior health and mortality; in order to properly consider how to support senior and senior living initiatives, acknowledging the need for continued social interaction and connectivity is vital to preserving quality of life for older adults [16].

3. AGING IN PLACE

The economic, health, and social challenges of aging highlight the need for policy and community initiatives that support this growing portion of the U.S. population. The work needed in this area is widely known among policymakers, advocates, and seniors. And today's seniors have decided opinions about how and where they want to age. In 2018, nearly 80% of surveyed adults 50 and over expressed a strong desire to remain in their current communities and homes as they age [17]. The desire to age in place is even stronger in rural communities. In the same survey, AARP found that nearly 75% of rural adults wished to remain in their current communities and homes [17]. The recent data indicates that the currently aging baby boomer generation strongly desires and plans to age in place over the next several years. Given the size of this generation, and its ongoing effect on the national demographics, this majority opinion has ramifications for policymakers, local government entities, the healthcare sector, and long term care facilities. There may have to be a shift in these sectors in order to match the consumer demand vocalized by baby boomers approaching retirement age.

Advocacy organizations such as N4A are responding to the priorities of seniors and have developed policy priorities for 2020 that emphasize rethinking long term care models and options [13]. Their policy priorities also emphasize creating communities where seniors have ease of access and mobility to continue engaging in their physical and social community easily. This advocacy also matches opinions vocalized by seniors; the AARP survey shows that, of the two, seniors would prefer to remain in their community instead of their current residence. 68% of adults agreed that they really desired to remain in their community, as opposed to 63% agreeing that they really desired to remain in their current residence. Interestingly, rural adults showed an almost equal amount of desire to remain in community and current residence; 72% strongly or somewhat agreed on staying in community while

73% strongly or somewhat agreed on staying in current residence [18]. Note two main takeaways. First, a noticeable majority of older adults overall desire to stay in their current community and housing locations. Such a strong preference will affect the landscape of those communities and of the amenities necessary for residents. Second, rural adults hold these opinions at even higher rates. This is a significant opinion for counties in Appalachia such as Smyth County. Given the current and estimated future senior population in that area, this could mean that several thousand seniors wish to remain in the county and their residences as long as possible. Consequently, this could predicate an increase in demand for in-home health, affordable senior housing options, and a community layout with easily accessible transportation, side walks, street lighting, etc. The ongoing challenge is the fiscal feasibility of maintaining a community accessible to seniors while preserving affordability.

4. AFFORDABLE HOUSING ALTERNATIVES

As the senior population in the U.S. and the Appalachian region increases, the existing disruptions to senior quality of life discussed in this paper will impact a growing number of residents. The potential ripple effects are numerous, because a growing portion of the population may encounter poor health and quality of life, leading to a greater cost in terms of Medicare funding, caregiving hours, risk of homelessness, and medical expenses to the individuals. Since the senior population's welfare has implications for communities, local economies, and government entities, addressing core issues such as senior poverty, food insecurity, housing, and isolation can increase the quality of life across a region and across public and private sectors. The interconnectedness of these issues requires public private partnerships to craft innovative solutions that preserve quality of life for this population. Partnerships that align these adjoining interests can produce beneficial programming, housing options, and other ideas to make care and resources more accessible across a region. Specifically, such partnerships can produce innovative long term care models that house seniors in an affordable, independent setting. Models such as elder co-housing communities, as described below, can incorporate preferences of staying within a community while

offering affordable options that reinforce social networks so that residents can age independently as a community instead of moving to nursing homes.

Assisted living facilities and nursing homes have long held reputations for poor quality of life and expensive care [19]. The associations and stereotypes of these types of long term care models are arguably reinforced as the COVID-19 pandemic continues in 2020. In several developed countries, the rates of infection and covid-related deaths are exponentially higher in retirement communities than in other communities [20]. The full impact of the pandemic on retirement communities and seniors has yet to be known, but with the current effects alone the industry may experience change in the next decade. Interested clientele may also quantifiably change as well. Current baby boomers, generation x'ers, and millennials with family members in retirement facilities have seen flaws in the pandemic care and been disallowed from visiting family members there. With the facilities' preexisting reputations, future generations may have a decreased interest in these long term care models and seek alternative models where individuals can have more autonomy over their care, visitors, and medical decisions.

The number and vocabulary of these alternative models have steadily increased in the recent decades. Research into solutions such as home-care robots and universal design may offer solutions that can assist seniors in comfortably ageing in place. Additionally, as of the early 2000s, elder villages started appearing across the country. These networks, composed of senior neighborhood households, allow seniors to connect and pool transportation, errand, and social resources as they decide to age in their own homes while creating a supportive, local network. A more organically produced model is a Naturally Occurring Retirement Community (NORC). A NORC exists when "a community that has naturally developed a high concentration of older residents, because seniors tend to either remain in or move to these communities when they retire [8]." This community is not bound together by organizational structure or agreement, as in the case of the elder village model. Instead, the presence of an NORC implies the presence of community characteristics that promote a good quality of life such as accessibility, public amenities, transportation, safety, etc [8]. There is also the elder co-housing model. While the elder village and NORC

models utilize existing homes and neighborhoods, elder co-housing involves new development and structures in order to design a neighborhood that encourages community building among its members. In addition to individually owned or rented housing units, elder co-housing communities also feature a common space that all members share for meetings, community meals, events, or events for outside organizations. Some co-housing communities, in addition to homes for sale, offer rented homes in order to offer affordable housing options to seniors in the area.

5. THE ELDER CO-HOUSING MODEL

The elder co-housing model in particular offers a number of benefits to the Appalachian region. The physical design of each community is flexible, allowing for modifications according to the demand of residing seniors, available land, transportation, and local amenities. The model provides an opportunity to create new development, infusing an area with new senior-specific housing that can meet an area's needs. In the case of rural counties in Appalachia, elder co-housing can be used to develop housing that can provide for a growing portion of the population. As previously discussed, surveyed rural older adults feel even stronger than urban and suburban older adults about aging in place and community. Elder co-housing communities provide the opportunity to remain in a chosen region or town instead of moving to a nursing home or other retirement facility. The model strives to accommodate this desire by recreating the feel of a neighborhood village where residents simultaneously have small, maintainable personal space and a neighborhood network for friendship and assistance. These types of developments could also meet the needs of lower income seniors; the model is flexible in terms of funding sources. Some elder co-housing communities are funded by an initial group of seniors investing the capital. In other cases, nonprofit and government funding create the ability to subsidize housing and offer units at affordable rental rates. Due to these advantages of the elder co-housing model, these communities have the potential to create quality housing solutions for lower-income rural seniors.

There is already a burgeoning trend of elder co-housing in the US. Elder co-housing communities

are characterized by a group of seniors who establish a community of agreement and neighborhood support together. By consulting architects, local governing bodies, and legal aid, they construct a plan for a new development and invest the finances necessary to construct residences for each individual or couple. The financing mechanisms for these communities vary depending on the resources of the individuals and entities involved. Future research will focus on financial models that can support the accessibility of these communities for rural older adults. Communities typically have shared ideologies or goals in order to establish a purposeful and comfortable place to age. The community is run by an HOA that collects dues from each resident and a series of committees composed of residents tasked with different areas of maintenance and management. These dues pay for shared utilities, food, insurance, and other living expenses. There are already thirteen communities across the U.S., with several more in development [21]. The compelling aspects of this long term care model include extensive common space for shared meals and resident activities, a resident-participatory process for all community decisions, shared utilities and housing expenses; and a neighborhood designed specifically to encourage social interactions between residents while maintaining individual space [22].

6. CONCLUSION AND FUTURE WORK

Elder co-housing communities offer a practical solution to senior housing concerns that can face rural communities. Given the health risks associated with isolation and economic insecurity, elder co-housing presents a solution that can minimize such concerns by offering a care model with social interaction, autonomy, group meals, and affordable, maintainable housing. Due to the design flexibility, the scale and number of units can vary depending on demand and funding. Developing an elder co-housing community generates new senior housing, benefiting markets where there is already a dearth of these housing options. Some current communities offer select units on a rental basis for low income seniors, demonstrating the flexibility of the models in accommodating a range of socioeconomic backgrounds in residents. Most importantly, elder co-housing communities enable residents to

remain in their home communities and to continue to participate in the region and with their neighbors. Since this is a priority for rural seniors, this long term care model could prove a useful addition in the Appalachian region. In a future paper, we will explore the design elements, financial structure, and development process of elder co-housing in order to present in detail a community model for the region.

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