Rural Population Research Network

A USDA supported multi-state research project on the causes and consequences of demographic change in rural America

Access to Services Diminishes in Rural America as Populations Age

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Population Aging and Local Economies

Population decline and aging are increasingly common challenges facing many communities across the rural United States. Over recent decades, many nonmetropolitan counties have experienced major demographic transitions due to long term net out-migration of young adults and their children, net in-migration of older populations (in some retirement destinations), and aging in place of populations left behind. For example, about two-thirds of nonmetropolitan counties have experienced declines in population since 2010. The average median age in these counties was 41.5 years in 2010, a six-year increase since 1990 and over three years greater than the median age in metropolitan counties.

Population aging in nonmetropolitan America has a distinct geographic pattern (Figure 1). In 1990, it was most prominent in the Great Plains and Upper Great Lakes. In 2010, population aging had spread from these two regions to include much of Appalachia, the Midwest, and significant parts of the Mountain West. In our research, we are particularly interested in nonmetropolitan counties with "extreme population aging" (Figure 2). These 327 counties (shown in orange) had a median age of 46.5 or more in 2010.

KEY FINDINGS

- The number of service-providing establishments in nonmetropolitan counties declines as local populations become increasingly old.

- Services tend to increase during the initial transition from a young to moderately-old county population but decline during later stages of "extreme population aging", which is currently affecting many rural communities.

- Loss of services is geographically clustered and more severe in remote rural counties that are not adjacent to a metropolitan area.

- Loss of services tends to also occur in counties with declining populations, whether or not they are also aging.
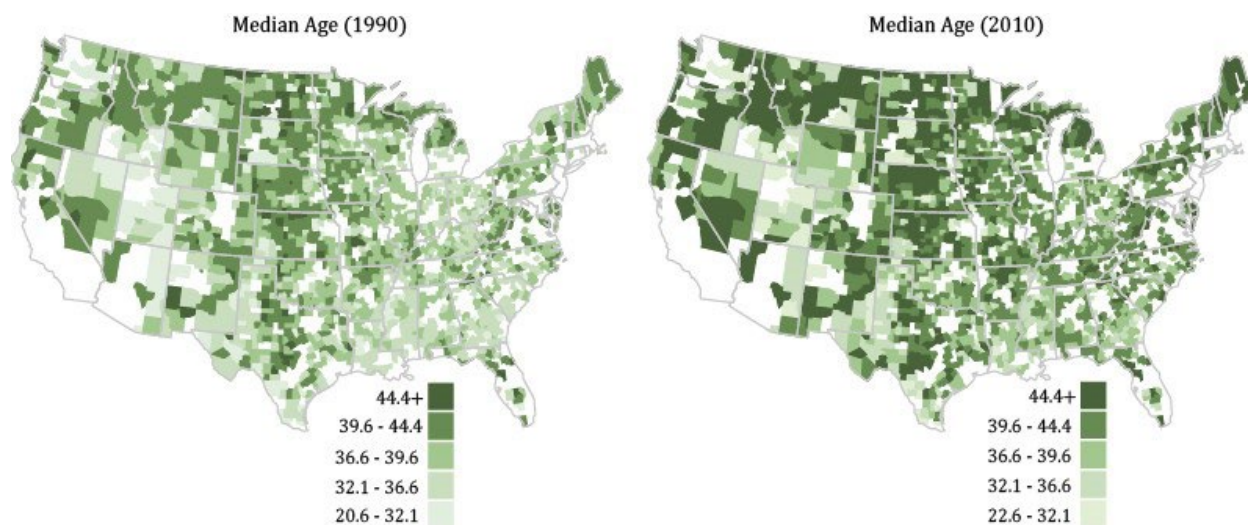
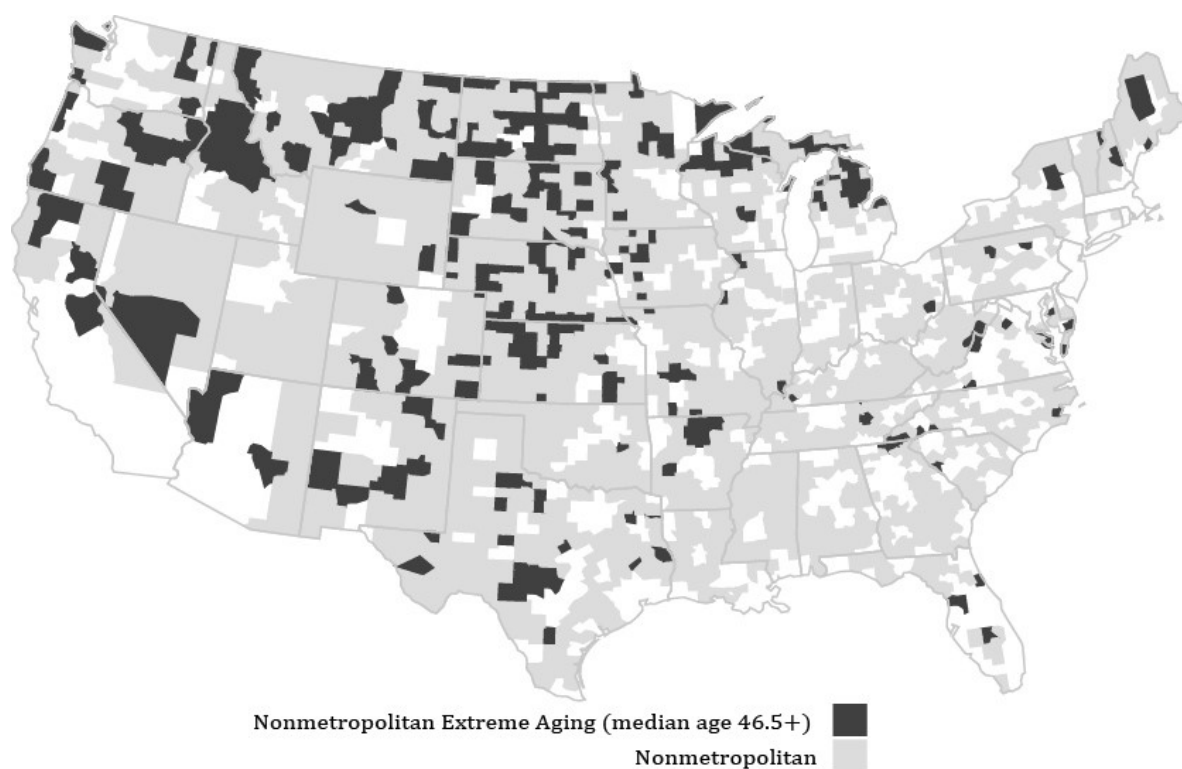Figure 1: County Median age, Nonmetropolitan Counties, 1990 and 2010

Figure 2: Extreme Aging Nonmetropolitan Counties, 2010

Despite widespread aging of rural communities, most researchers and policymakers have focused exclusively on the social and economic impacts of changing population size. Our research shows that local economies in the rural United States are also affected by changes in their age structure. This relationship is complex and exhibits a non-linear pattern. Access to services at the county level increases during initial shifts from very young to moderately-old populations (Figure 3). But, as populations age further—specifically, beyond a median age of approximately 45 years—the total number of service-providing establishments in a county tends to decline. Diminishing service access likely undermines the quality of life among remaining (and disproportionately old) residents, and limits prospects for future community development in counties affected by extreme aging.
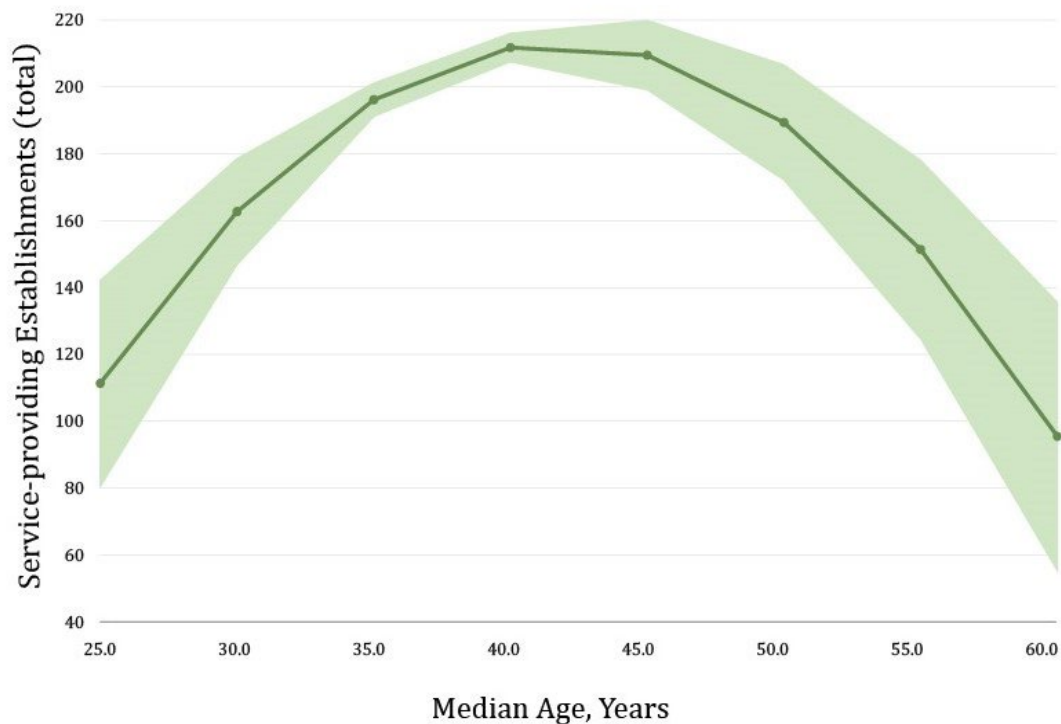
Figure 3: Estimated Number of Service-providing Establishments (total) by County Median

Aging Effects by Sector

The effect of county-level aging varies in strength across different sectors of service-providing establishments. Household and personal services is the only service sector in which age structure does not significantly affect the number of establishments. While we are not completely certain why this occurs, it is possible that older populations still use many of these services, and that they are therefore the last establishments to leave as populations become extremely old. It is also possible that many rural counties did not have many personal and household services to begin with, so there was little room for change.

Declines in service availability associated with extreme aging are steepest for health and educational services. As counties move from a median age of approximately 38 to 48, the average number of health and educational service establishments falls from 51 to 16. On the one hand, reductions in the number of educational institutions may not be a major problem in aging communities since population aging is associated with declines in the share of residents in school ages. On the other hand, reductions in the quantity of education-providing institutions may correspond with declines in the quality of schooling. Such a pattern would have negative consequences for the youth growing up in aging communities, and may contribute to further out-migration of younger populations and other conditions that reinforce the process of extreme population aging. High quality educational opportunities facilitate economic development—therefore, disinvesting in education may be financially necessary but problematic for increasingly old communities.

The negative effect of aging on the number of healthcare establishments—such as doctor's offices, dental practices, and home healthcare firms—is almost certainly problematic. Sharp declines in healthcare-providing establishments translate into less local access to care for many of the oldest populations in the rural United States. This pattern may reflect the low profit margins associated with serving older populations, but is at clear odds with the high

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healthcare needs of these populations. However, it should be acknowledged that if smaller firms consolidate and form fewer, but larger providers, the loss of individual firms might not lead to a reduction of services. In fact, access might improve.

Spatial Dimensions

The relationship between aging and access to services varies geographically across the rural United States in two important ways. First, service-rich and service-poor counties are geographically clustered. Some rural populations are situated in increasingly larger areas of low service availability. They face limited access to services in both their county of residence and in neighboring areas. Increasing distances to essential services is a particularly difficult challenge for older populations whose geographic mobility may be limited by lack of public transportation and/or diminished ability to drive their own automobile.

Second, the strength of the relationship between aging and local service access depends on whether a given nonmetropolitan county is adjacent to a metropolitan area. The "aging effect" is strongest in non-adjacent counties: Initial increases in median age have a disproportionately large positive effect in these places, but those same nonadjacent counties also experience a sharper decline in service availability when they experience extreme aging relative to comparable metropolitan-adjacent counties. Ironically, remoteness can be a source of both advantage and vulnerability. Of course, these geographic patterns may reflect other factors. For example, case studies currently under way suggest that the effects of demographic change are contingent on the organizational and institutional contexts of rural places. For instance, a strong leader in the position of director of the local senior center or county office for the aging may be effective in securing services for older residents in even the most remote rural communities.

Our analysis confirms prior findings that population change affects access to services. The total number of serviceproviding establishments in a given nonmetropolitan county increases by approximately 1.5 for every 100-person increase in population. However, our research also shows that net of changes in population size, counties with extreme aging tend to lose establishments that provide a wide range of services.

Conclusion

Our findings show that the populations living in and around counties experiencing extreme aging may face challenges accessing the services they depend upon for daily life. Large shares of these older populations are in older age groups themselves, but youth and working-age adults also live and work in these places. The adverse changes in economic structure that we observe are likely to affect the quality of life of all persons living in extreme aging communities, although perhaps in different ways. If such conditions decrease the likelihood of a county retaining younger populations, they may also promote additional population aging and decline, and have further negative social, economic, and political effects for affected communities.

Policymakers and community development practitioners should be concerned about changes in population size and also take careful note of local aging dynamics. In particular, local and state level policymakers should be aware that older persons who reside in aging places may be increasingly isolated from essential services such as health and other kinds of professional services. They may be able to reduce this isolation by adopting technology such as telemedicine, and providing public transportation to regional service centers as conveniently and inexpensively as possible. Moreover, like the nation as a whole, nonmetropolitan areas are characterized by increasing economic inequality, and

policymakers should be sensitive to the needs of low-income residents of aging communities.

Demographic trends such as aging rarely reverse course quickly. Extreme aging is therefore likely to persist as a challenge to community development in rural America for the foreseeable future. Building on the research described here, we are conducting in-depth case studies in a diverse set of rural communities that are currently experiencing extreme aging. Our goal is to understand the unique ways that the identified statistical relationships are manifested (or not) on the ground and in the lived experiences of community residents, young and old. We expect this approach to provide insight into the causal mechanisms linking aging and service access and to reveal ways that extreme population aging affects other aspects of society (e.g., politics, social inequality, and intergenerational relationships). We also expect that this research will aid in developing policies and programs needed to counter the negative impacts of extreme population aging in rural America.

Data and Methods

Our study examines the effect of changing median age on the number of service providing establishments at the county level between 1990 and 2010. County establishment counts are derived from the Bureau of Labor Statistic's Quarterly Census of Employment and Wages (QCEW). Counties represent the lowest-level geography for which QCEW data are available across the United States. Establishment counts are defined as the average number of establishments over each of the first three years of each intercensal period (e.g., average 1990-1992 counts for the 1990 measure), which reduces the effect of idiosyncratic year-to-year fluctuations. We construct counts for the following categories of services: education; health; business and professional services; leisure and hospitality; and household and personal services. We define the total count of service providing establishments as the sum of these categories. Covariates are derived from the 1990-2010 Decennial Censuses and the 2008-2012 American Community Survey 5-year estimates. We construct a county-decade dataset using observations from 1990, 2000, and 2010. We restrict our analytic sample to nonmetropolitan counties in the 48 contiguous states using a fixed metropolitan-nonmetropolitan delineation based on the 2000 Census. Analytically, we estimate a series of linear regression models predicting establishment counts (total and by sector) as a function of median age, population size, a set of time-varying control variables, and county- and year fixed effects.

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