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Profile & projections of the 60+
population : Mahoning County, Ohio

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PROFILE & PROJECTIONS OF THE 60+ POPULATION

MAHONING COUNTY OHIO

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<http://www.scripps.muohio.edu/scripps/research/countyreports.html>

FAST FACTS

ABOUT

Mahoning County

and its 60+ Population



WWW.SCRIPPS.MUOHIO.EDU

- Over 22% of Mahoning County's population is age 60+ (or 56,833 individuals)
- By 2020, there will be 67,000 individuals age 60+ in Mahoning County (This is an 18% increase in the 60+ population)
- More than 7 in 10 individuals age 85+ are female
- Disability increases with age: Only 3% of 60-69 year olds have a severe disability, compared to 44% of those 90+
- Nearly one third of individuals age 60+ have at least one disability
- By 2020, over 5,500 individuals age 60+ with a severe disability will reside in Mahoning County
- Over 14% of the age 60+ population live in poverty
- Nearly 13% of individuals age 60+ are racial or ethnic minorities
- Of men age 60+, 72% are married, compared to only 44% of women
- Three in 4 individuals age 60+ have 12 or fewer years of education
- Of women age 60+, 41% live alone, compared to 21% of men



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Preface

During the next 20 years, the national population, as well as the population in Ohio, will grow older. In anticipation of this impending change, we have created this series of reports to help Ohio area agencies on aging, service providers, and other organizations that are not directly involved in aging services to better plan for the needs of the aging population.

The purpose of these reports is to present the unique profile of the **older population (60+)** in each of Ohio's 88 counties and to project the number of older people and the prevalence of disability among this population. Trends and projections are provided for ages 60 and above, because this is the eligibility age for some state and local home care programs. Specific topics explored include disability, poverty, marital status, living alone, and educational attainment among the older population. Throughout the reports, trends are compared according to gender and age group for each county. To provide a better understanding of the county's standing in relation to the rest of the state, population characteristics from each county are compared with corresponding measures of Ohio's older population. In order to provide insight into the direction the county is moving some population trends are also presented.

In preparing this report, we used data from the Census short form, which is available for all residents within each county, and the Census long-form, which is available for a representative sample of county residents. The actual Census count from the Census short-form and the weighted sample counts from the long-form may be slightly different. To preserve privacy and confidentiality of the respondents, the census long-form data is available for geographic units with a minimum population of 100,000. In some cases a large county encompasses several such geographic units while in other cases a few neighboring counties are bundled together to form a geographic unit with 100,000 population. In large counties, the data for education, poverty threshold, living arrangement, marital status and disability rates are for the county alone, while smaller neighboring counties will show identical data, for the above indicators of need for assistance, for the bundled counties. If the data are aggregated for several counties the counties in the collection will be listed in the preface.

Sources used to create all tables and figures are specified.



PROFILE & PROJECTIONS OF THE 60+ POPULATION: MAHONING COUNTY, OHIO

Background

This report illustrates the demographic changes that occurred in Mahoning County between 1990 and 2000, and presents projections of the older population and the number of older adults with disabilities based on these trends. The report also covers other population characteristics that have been shown to be associated with the need for long-term care services among older adults, such as the prevalence of poverty, disability, living alone, lack of education, and being unmarried. County-level data are compared to data on Ohio as a whole in order to show differences or similarities in population characteristics. By examining both demographic patterns and informed projections, counties will be better prepared to address the needs of their aging and disabled populations.

County Overview

Mahoning County is located in the northeastern portion of Ohio, encompassing the city of Youngstown. In 2000, the county population was 257,555. Mahoning County is relatively urban, with 14.4% of the population living in rural areas in 2000, compared to 16.0% in 1990. This represents a decrease of 14.4% in rural population over the ten-year period. With 56,833 individuals age 60 and over, Mahoning County has the 8th largest 60+ population in the state, yet it ranks 4th in proportion of total population that is 60+ (out of 88 counties in Ohio). As shown in the Summary Table, the 60+ population represents 22.1% of the total population in Mahoning County.

Summary Table
Mahoning County, 2000

Total Population Age 60+	56,833
% Population Age 60+	22.1
Population Age 40+	127,539
% Population Age 40+	49.5
% Population 60+ at or Below Poverty Level	14.0
% Population Age 60+ with Self-Care Disabilities	10.9
% Population Age 60+ with at Least one Physical, Mental, Sensory or Self-Care Disability	32.5
% Population 60+ who are White	87.2
% Population Age 60+ who are Married	55.7
% Population Age 60+ who are Living Alone	33.0
% Population Age 60+ who Have Less Than a High School Diploma	33.8

In some instances in this report, data is presented for the population age 40+. This cohort is important to consider when developing projections, because the population age 40+ in 2000 will be age 60+ in 2020. The population that is currently 40+ is also significant because it contains the baby boom generation. As shown in the summary table, 49.5% of the population in Mahoning County is currently over the age of 40.

In the remainder of this report, we explore variables (touched on in the Summary Table) that are related to long-term care needs. Factors related to one’s need for long-term care include disability, income, race and ethnicity, marital and educational status, and living arrangements. The following sections provide detailed analyses of these risk factors according to gender, age group, county/state standing, and ten-year trends.

Population Profile

The total population of Mahoning County decreased by 2.7% between 1990 (264,806 residents) and 2000 (257,555 residents). In contrast, the entire population of Ohio increased 4.7% in the same time. In 2000, 22.1% of the county population was 60+. Table 1 provides a detailed breakdown of the older population in Mahoning County in 2000 by age group and gender.

**Table 1
Population Age 60+, by Gender and Age Group
Mahoning County, 2000**

Age Group	Men		Women		Total
	Number	Percent	Number	Percent	
60-64	5,093	45.9	6,011	54.1	11,104
65-69	4,725	43.9	6,039	56.1	10,764
70-74	5,066	42.3	6,920	57.7	11,986
75-79	4,271	40.3	6,340	59.7	10,611
80-84	2,602	36.4	4,544	63.6	7,146
85-89	1,068	30.5	2,431	69.5	3,499
90-94	338	25.2	1,003	74.8	1,341
95+	69	18.1	313	81.9	382
Total 60+	23,232	40.9	33,601	59.1	56,833
Ohio 60+	823,200	41.9	1,140,289	58.1	1,963,489

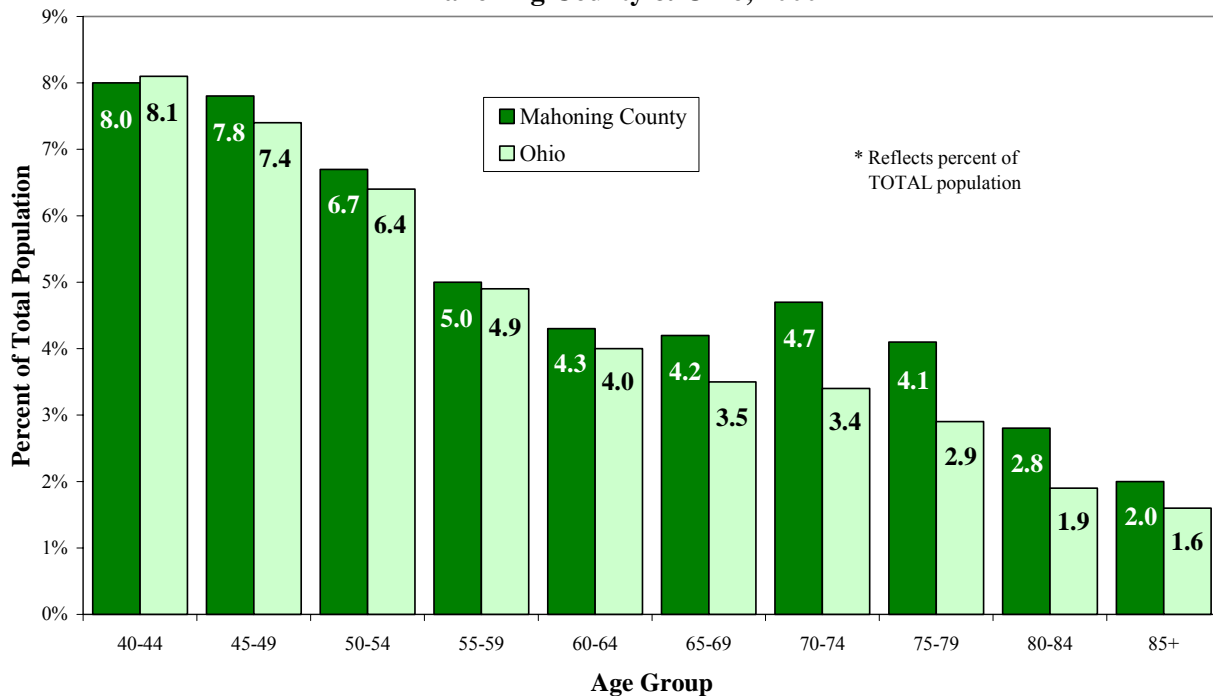
Source: U.S. Census Bureau, 2000 Census of Population: Table P12. SEX BY AGE [49] -

Universe: Total Population

Gender Distribution - The gender distribution of the older population in Mahoning County is similar to that of the state of Ohio. Of the entire county population age 60+, women comprise 59.1% (compared to 58.1% in the state). As shown in Table 1, women outnumber men at all ages over 60; a disparity that increases with each advancing age group. Of particular interest is the gender ratio among the oldest age group. Of the population over the age of 84 in Mahoning County, 71.8% are women. The higher proportion of women among the oldest age group suggests that the population potentially eligible for, and in need of, long-term care services is largely female.

Growth in the Older Population - As shown in Figure 1, there are only slight differences in the population distribution across age groups in the county compared to the state. Although the majority of Ohioans are under the age of 60, the proportion of older adults in Mahoning County (and Ohio) will grow substantially over the next several decades. This growth in the older population is largely a result of the aging baby boomers. Currently ranging from 40 to 59 years of age, this cohort will dramatically impact the age distribution of the older population as they age. The influence of the baby boomers on both county and state populations is evident in Figure 1.

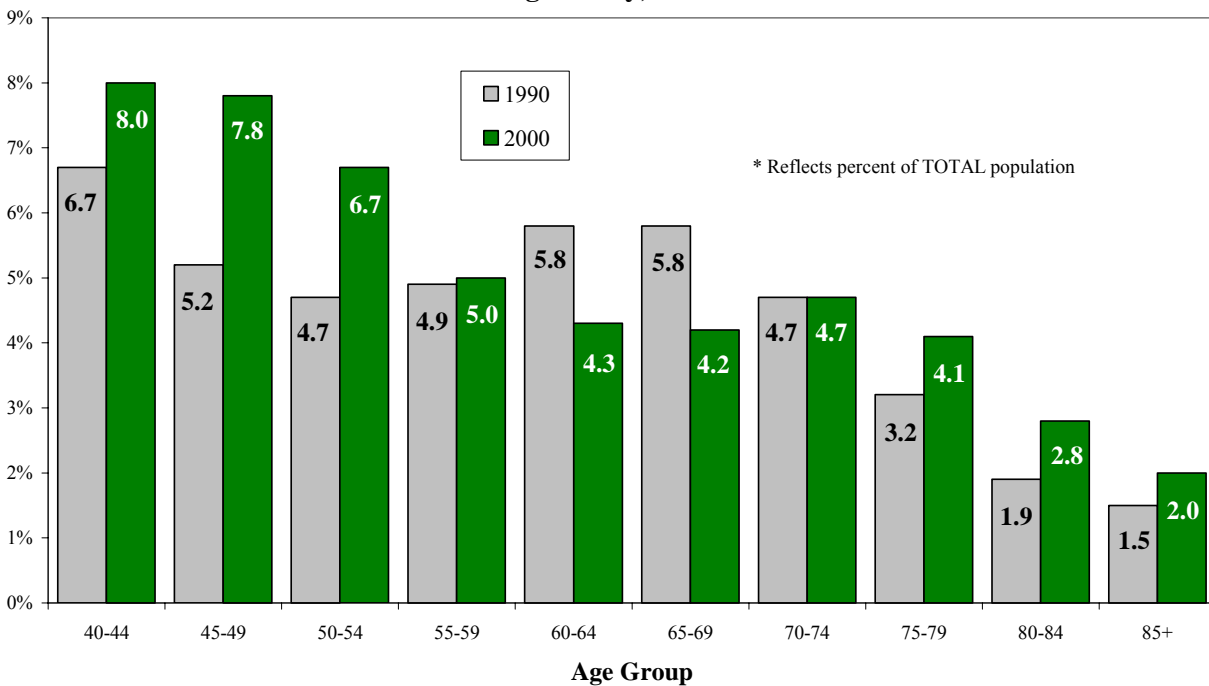
Figure 1
Population Distribution* by Age Group (40-85+)
Mahoning County & Ohio, 2000



Source: U.S.Census Bureau, 2000 Census of Population:P12. SEX BY AGE [49].

The impact of the baby boomers on the age distribution of the 40+ population is also evident when population data from 2000 are compared to data from 1990. As shown in Figure 2, 27.5% of the county population was age 40-59 in 2000, compared to 21.5% in 1990. Also noteworthy is the increase in the population over the age of 85. In Mahoning County, this age group comprised 2.0% of the population in 2000 compared to 1.5% in 1990 (a 33.3% increase in the 85+ population). In Ohio, 1.6% of the population was over the age of 85, compared to 1.3% in 1990 (a 22.8% increase in the 85+ population).

Figure 2
Population Distribution* by Age Group (40-85+)
Mahoning County, 1990 & 2000



Source: U.S. Census Bureau, 1990 Summary Tape File 1 (STF1) P011 & 2000 Census of Population: P12. SEX BY AGE [49].

Another indication that the population in Mahoning County is aging is the increase in median age¹. Between 1990 and 2000, median age increased from 36 years (1990) to 40 years (2000). This increase closely reflects that of the state, where the median age rose from 33 to 36 years in the same period. An increase in median age suggests that the proportion of older adults in Mahoning County is growing. As these segments of the county population reach advanced age, the need for long-term care services may increase.

¹ The **median age** of a population is that age that divides a population into two groups of the same size, such that half the total population is younger, and the other half is older.

Population Projections

This section of the report focuses on the expected growth of the overall older population, and on the growth of the older population who will experience some limitation in their ability to perform basic *activities of daily living* (ADLs) such as bathing, dressing, and preparing meals.

To project the size of the population age 60 and older for the years 2005 to 2020, we began with the population (already born) that has reached at least the age of 40. Using the *cohort component* methodology of population projection (Shryock & Siegel, 1996), we made the following assumptions about both survival and migration rates:

Survival Rate: Ohio's survival rates are based on national projected survival rates. These rates include improvements in national mortality rates, while maintaining deviation from the national rates observed in Ohio in the 2000 Vital Statistics.

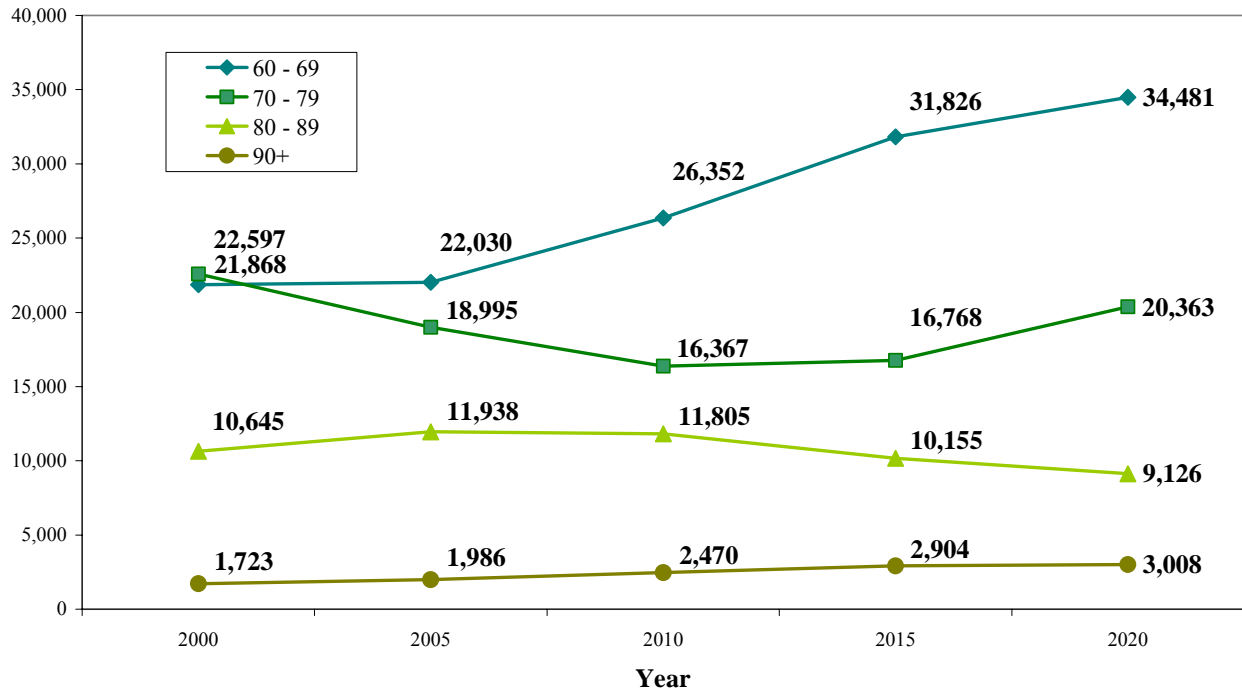
Migration Rate: The 10-year net migration rates were estimated using age-sex counts of each county's population in the 1990 and 2000 Censuses adjusted for the deaths occurring to the age-sex group from April 1, 1990 through March 31, 2000. Of course, in calculating the deaths occurring to an age group, adjustment was made for the group's aging during the decade. The age-sex specific rates of net migration for each county during 1995-2000 are assumed to hold for that county during the period 2000-2005 and 2005-2020. For a more detailed explanation of the procedures used for determining survival or migration rates see the Methodology section.

A beneficial feature of these population projections is the detailed presentation of the 85-89, 90-94, and 95+ age groups (when possible) for the following reasons:

- 1.) The high rate of growth of the population 85 years and over;
- 2.) Rates of disability vary considerably among these age groups;
- 3.) The Federal Interagency Forum on Aging-Related Statistics now recommends that data be presented for ages 85-89, 90-94, and 95+ (<http://www.agingstats.gov/chartbook2000/dataneeds.html>).

The number of Mahoning County residents age 60 and over is expected to increase from a total of 56,833 in 2000 to a projected 66,978 in 2020. As Figure 3 (and Table 1a in the Appendix) illustrates, the greatest increase is expected among the 60-69 year age group (those currently age 40-49). In 2000, there were 21,868 older adults age 60-69 in Mahoning County. By the year 2020, when the bulk of the baby boomers move into this age group, it is expected that there will be approximately 34,481 individuals age 60-69 in Mahoning County. This projection suggests a 57.7% increase in the County population in this age group. The 90+ age group is also expected to increase, from 1,723 in 2000, to 3,008 in 2020 (an increase of 74.6%).

Figure 3
Projections of Population Age 60+, by Year* and Age Group,
Mahoning County

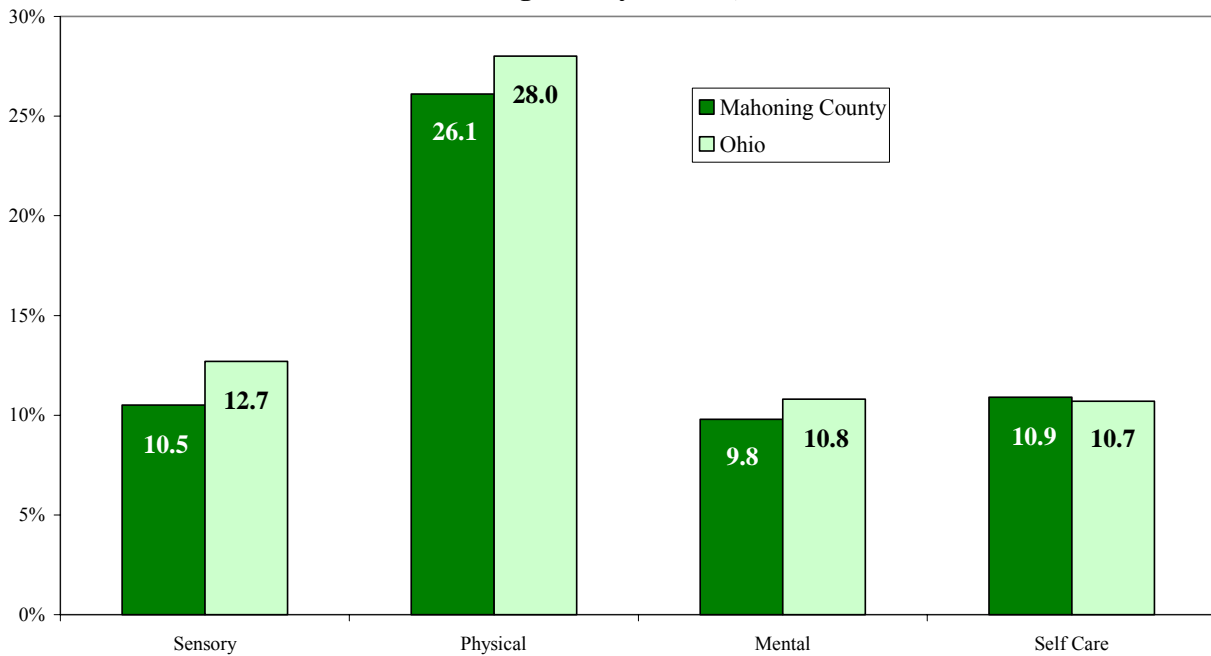


Source: Authors' projections.
 *Year 2000 data are actual population counts.

Prevalence of Disability among the 60+ Population

The rate of disability among the 60+ population in Mahoning County closely mirrors the state of Ohio. In 2000, the most common type of disability reported was physical, followed by self-care, sensory, and mental impairments, respectively (see Figure 4). According to the Census, a physical impairment is defined as a long-lasting condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting or carrying. Sensory impairments include blindness, deafness, or any severe and long-lasting vision or hearing impairment. Mental health impairment is defined as having difficulty learning, remembering or concentrating because of a physical, mental, or emotional condition that lasts 6 months or more. Self-care impairments include difficulty dressing, bathing, or getting around the house as a result of a long-lasting condition (6 months or more). It should be noted that these categories are not mutually exclusive. Respondents could have multiple impairments, which may span more than one disability category. In 2000, 32.5% of the 60+ population in Mahoning County had at least one disability.

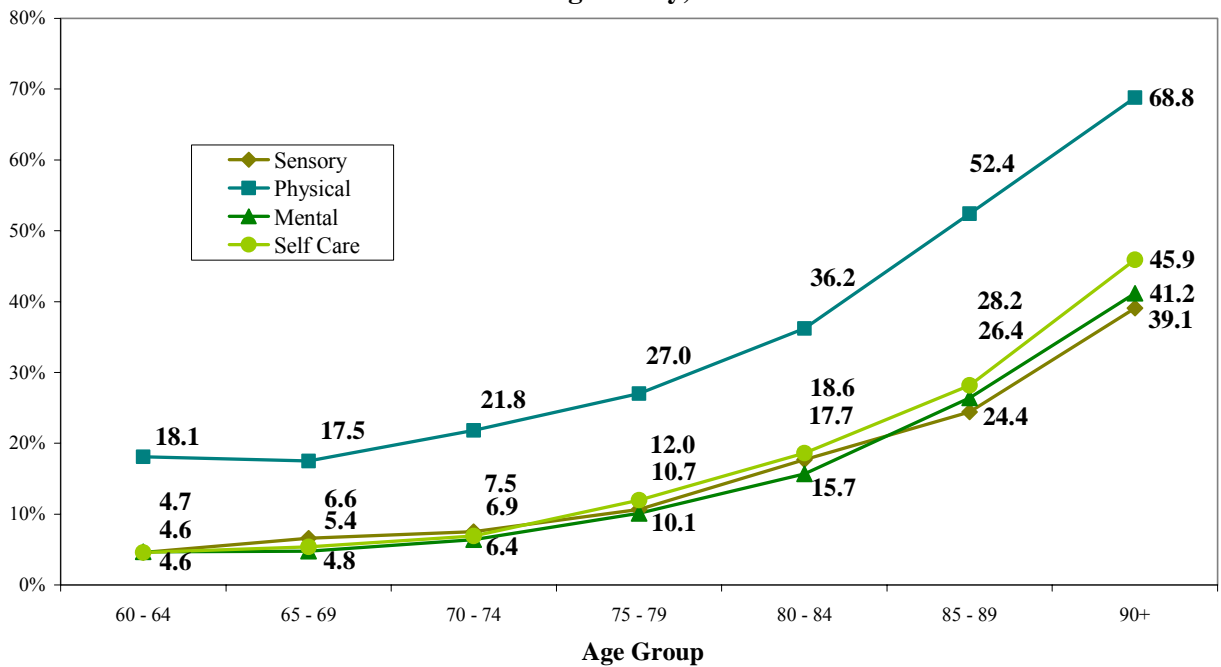
Figure 4
Proportion of Population Age 60+, with Sensory, Physical, Mental and Self-Care Disabilities, Mahoning County & Ohio, 2000



Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

As illustrated in Figure 5, the percentage of individuals reporting sensory, physical, mental and self-care disabilities in Mahoning County steadily increases with age, not surprisingly, with the oldest age group reporting the highest levels in all four types of disability. For example, the proportion of people with physical disabilities increases from 18.1% of the population age 60-64, to 68.8% of the population age 90+.

Figure 5
Disability Among Population Age 60+
by Type of Disability and Age Group,
Mahoning County, 2000



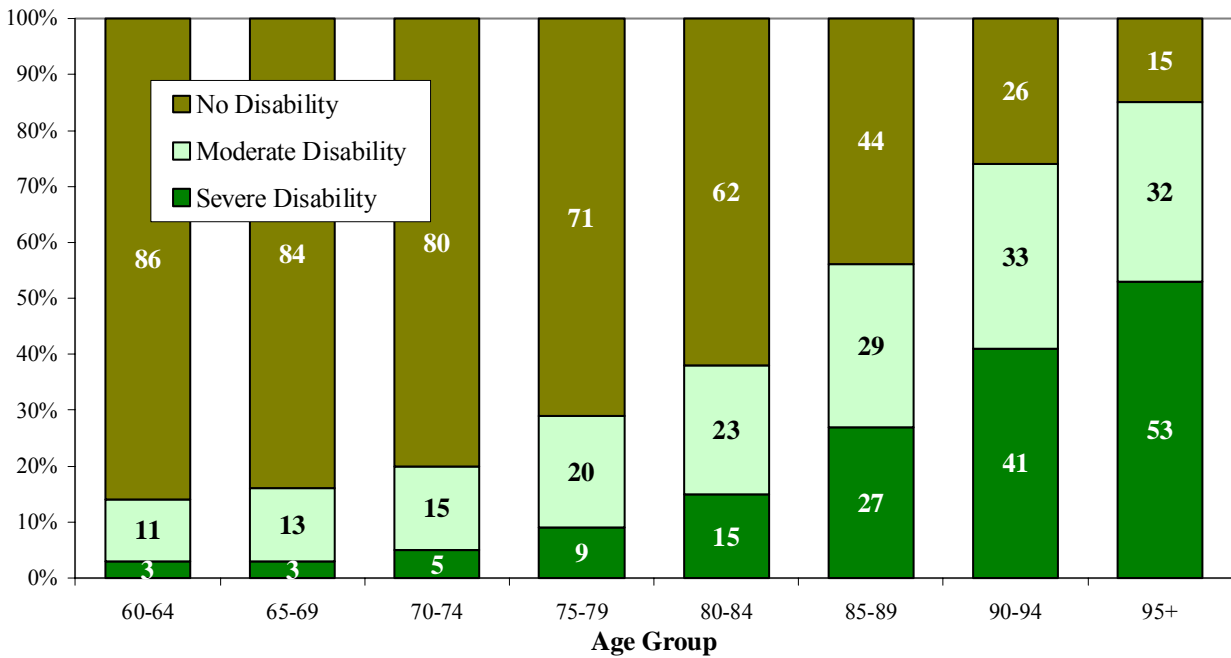
Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

Projections of Population with Disability

In this study, disability is defined as a measure of impairment in Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). Three levels are assigned to this measure: Severe Disability, Moderate Disability, and Little or No Disability. Individuals are classified as moderately disabled if they received assistance in one of the following ADLs: eating, transferring in or out of bed or chair, getting to the toilet, dressing, bathing, or remaining continent; or in at least one of the following instrumental tasks of daily living: walking, shopping, meal preparation, housekeeping, or using transportation or telephone. Severe disability refers to receiving assistance in at least two of the following ADLs: eating, bathing, transferring in or out of bed or chair, getting to the toilet, dressing, or remaining continent, or to having cognitive impairment. The disability rates by sex and age group are assumed to remain the same from 2000 to 2020 as they were in 1995.

The prevalence of disability increases with age. As Figure 6 shows, only 3% of the population age 60-64 have a severe disability, compared to more than half (53%) of the people age 95 and older. Women experience higher rates of severe and moderate disability at every age compared to men of the same age. For more information on the prevalence of disability among men and women by age group, see the Methodology section.

Figure 6
Estimated Percentage Distribution of Total Population
by Disability Status and Age Group, 1995



Source: Mehdizadeh, S.A., Kunkel, S.R., Ritchey, P.N. (2001). *Projections of Ohio's Older Disabled Population: 2015 to 2050*. Oxford, OH: Scripps Gerontology Center, Miami University.

Since the rate of disability by gender and age group was held constant throughout the timeline (see the Methodology section for a more detailed explanation), any fluctuations in the number of persons with disabilities across time are attributed to projected changes in the number of people in each age-gender group. As was discussed in the population projections section (see Figure 3), increases in the 60+ population are expected in the 60-69 and 90+ age groups, while decreases are expected in the 70-79 and 80-89 age groups. Because expected increases in some segments of the 60+ population exceed expected decreases in other segments, the projected number of persons with disabilities is expected to increase from 2000-2020 in Mahoning County (see Table 2 below, and Table 1a in the Appendix). When broken down by age group, projections suggest increases in both moderate and severe disability among the 60-69 and 90+ age groups because of projected increases in these populations. Table 1a in the Appendix provides a breakdown of the projected number of disabled persons for each age group for Mahoning County.

Table 2
Projections of Disability Among Population Age 60+
Mahoning County, 2000*-2020

Year	Total Population	No Disability	Moderate Disability	Severe Disability
2000	56,833	42,014	9,770	5,049
2005	54,949	40,140	9,603	5,206
2010	56,994	41,909	9,738	5,347
2015	61,653	46,061	10,164	5,428
2020	66,978	50,670	10,780	5,528

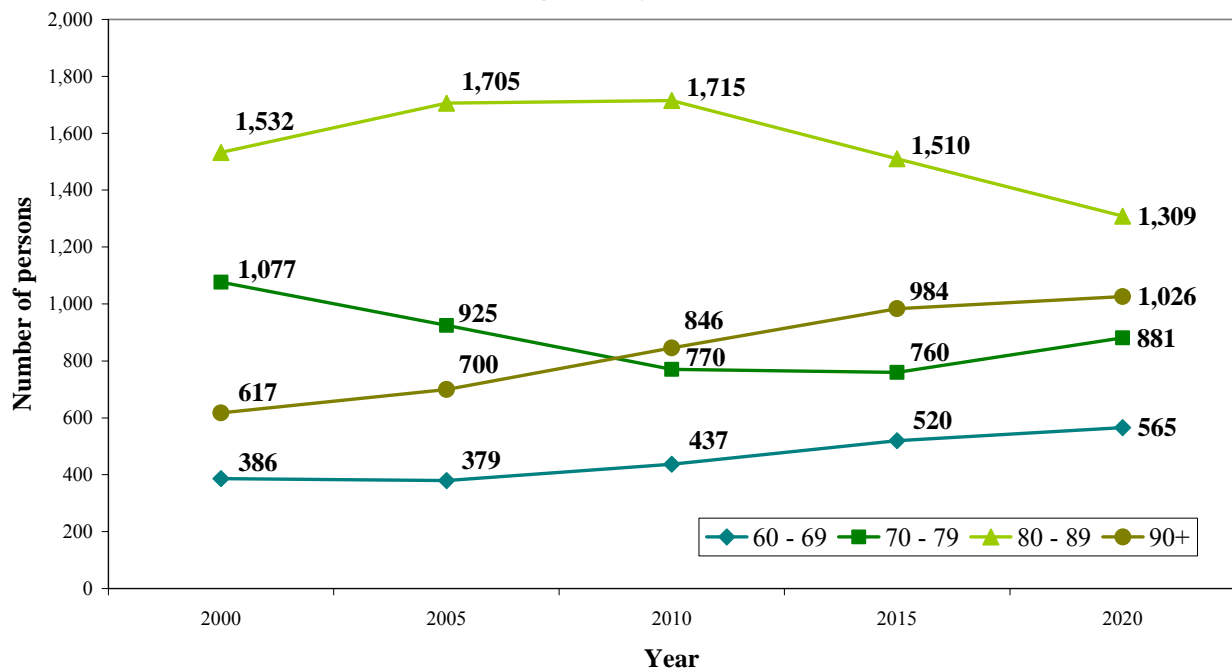
Source: Authors' Projections

* Year 2000 data are actual disability counts, years 2005-2020 are projections.

Figures 7 and 8 (and Tables 2a and 3a in the Appendix) show the projected number of disabled women and men (respectively) in Mahoning County according to age group. Because the rates of disability are assumed to be constant over the future time horizon, projected changes in the number of people with disabilities reflect changes in population composition.

With regard to the older female population, 3,612 were severely disabled in 2000, compared to a projected 3,781 in 2020. Changes in the number of disabled older adults are expected only in age groups where population changes are expected. Figure 7 shows that between 2000 and 2020, a decrease in numbers of severely disabled women is expected among the 70-79 and 80-89 age groups, because of expected decreases in these populations. An increase in numbers of severely disabled women is expected among the 60-69 and 90+ age groups in Mahoning County, as these populations are expected to increase.

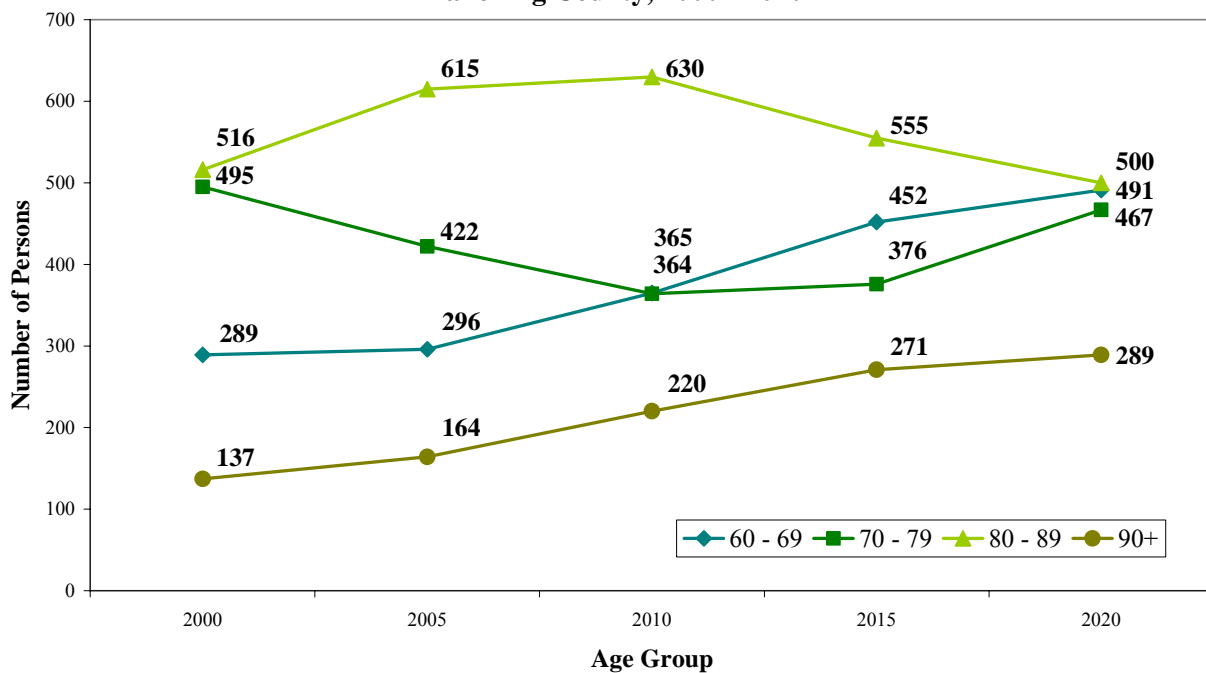
Figure 7
Projections of the Number of Women Age 60+
with Severe Disability, by Age Group,
Mahoning County, 2000*-2020



Source: Authors' projections.
 *Year 2000 data are actual disability counts.

The population with severe disabilities in Mahoning County is largely female. In 2000, a total of 1,437 males age 60 and over were severely disabled (compared to 3,612 females). By the year 2020, it is expected that the number of disabled older men will increase to 1,747 (compared to 3,781 older women). Figure 8 shows that an increase in the number of severely disabled men is expected among the 60-69 and 90+ age groups. Decreases in the number of severely disabled men are expected among the 70-79 and 80-89 age groups in Mahoning County.

Figure 8
Projections of the Number of Men Age 60+
with Severe Disability, by Age Group,
Mahoning County, 2000*-2020



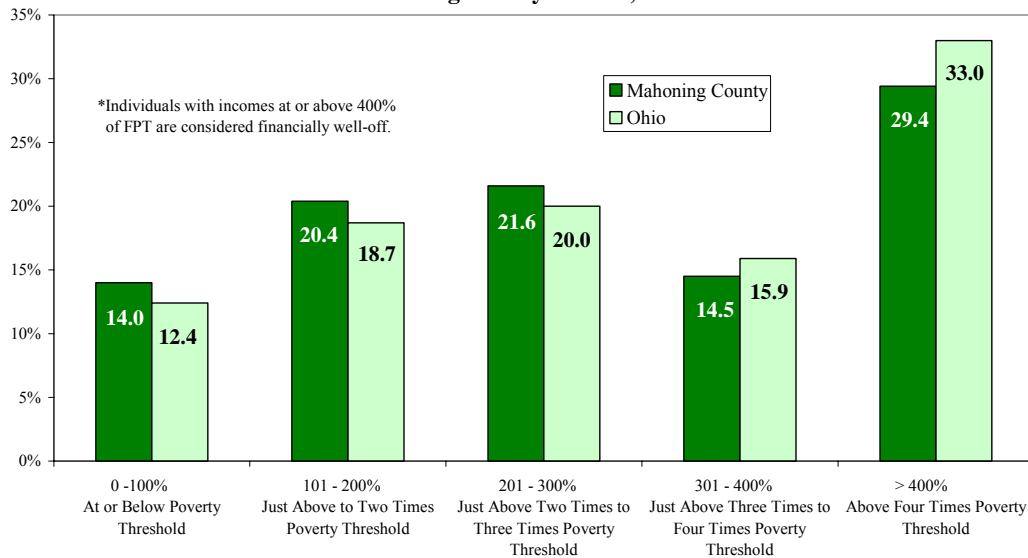
Source: Authors' projections.
 *Year 2000 data are actual disability counts.

Population Characteristics that Could Affect Need for Care

Several variables have been found to be related to the prevalence of disability and the need for long-term care services as one ages. These variables include poverty, racial and ethnic background, marital status, living alone, and educational attainment (http://www.aoa.gov/prof/statistics/future_growth/aging21/Program.asp). In the following sections, these issues are explored in the context of the older population in Mahoning County.

Poverty - Standards for gauging poverty levels are set by the Federal Poverty Threshold², which delineates income levels (or thresholds) that vary by family size, age of householder, and number of related children under 18 years of age. Rates of poverty are typically discussed as percentages of the Federal Poverty Threshold (FPT), for which those with incomes below 100% of the FPT are the most impoverished, and those with incomes above 400% of the FPT are the most economically advantaged. In the following discussion, data regarding individuals with incomes greater than 400% of the poverty level are included for comparison, although these individuals are not considered impoverished. As shown in Figure 9, a significant number of older adults in Mahoning County are potential candidates for state and federal assistance based on income eligibility. In 2000, 56.0% of the 60+ population had incomes below 300% of the federal poverty level. Of this population, 14.0% were living at or below 100% of the poverty level.

Figure 9
Proportion of Population Age 60+ by Poverty Threshold Ratio,
Mahoning County & Ohio, 2000

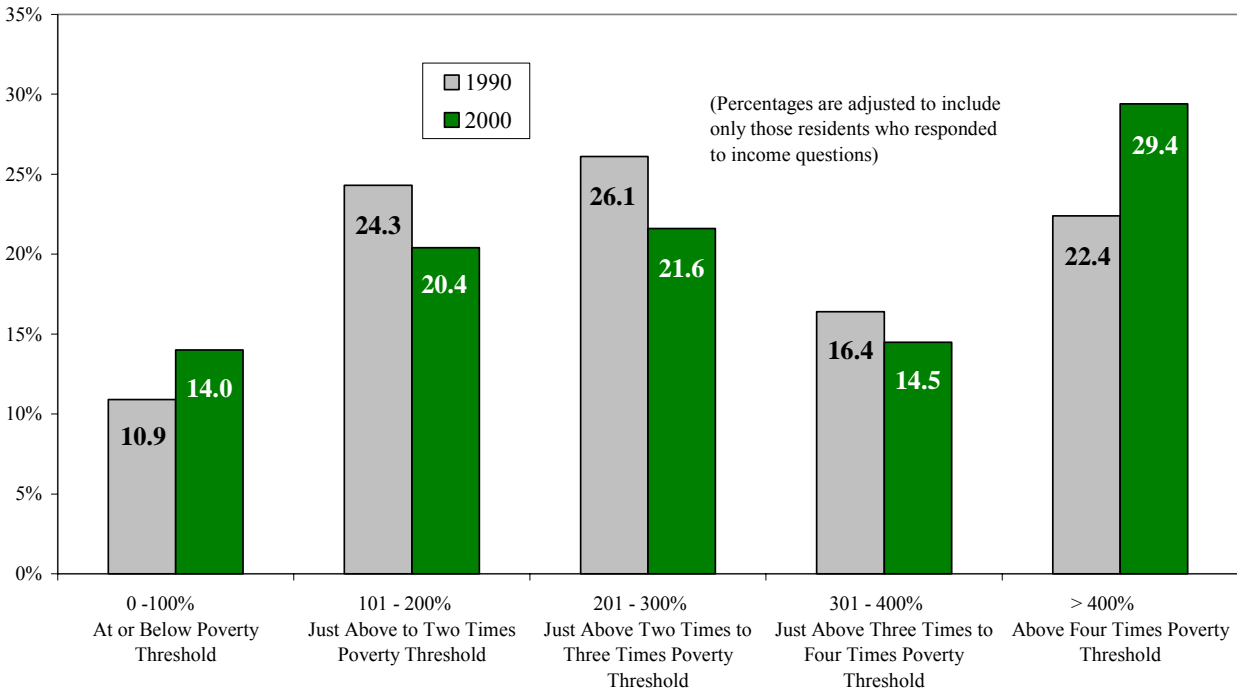


Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

² **Federal Poverty Threshold** - In 2000, the poverty level was \$8,959 for one person under the age of 65, and \$8,259 for an individual over 65. For two person households, the poverty level was \$11,590 if the householder was under 65 and \$10,419 when the householder was 65+. In 1990, the poverty threshold was \$6,800 (annual income) for one person under the age of 65, and \$6,268 for an individual over 65. For two person households, where the householder was under the age of 65, the poverty threshold was \$8,794, and \$7,905 when the householder was 65+. For more information about poverty thresholds, see: <http://www.census.gov/hhes/poverty/threshld.html>

Compared to 1990, there were a higher percentage of older adults at both ends of the poverty scale in Mahoning County in 2000. Figure 10 shows that the percent of adults 60+ living below the poverty level increased from 10.9% in 1990 to 14.0% in 2000. At the other end of the scale, the percent of older adults with incomes over 400% of the poverty level (the most economically advantaged) also increased in this period, from 22.4% in 1990, to 29.4% in 2000. A considerable number of people did not complete income related questions properly in the 1990 Census. As a result, the gap in the percentage of people at or below poverty from 1990 to 2000 may be partially due to this responding pattern.

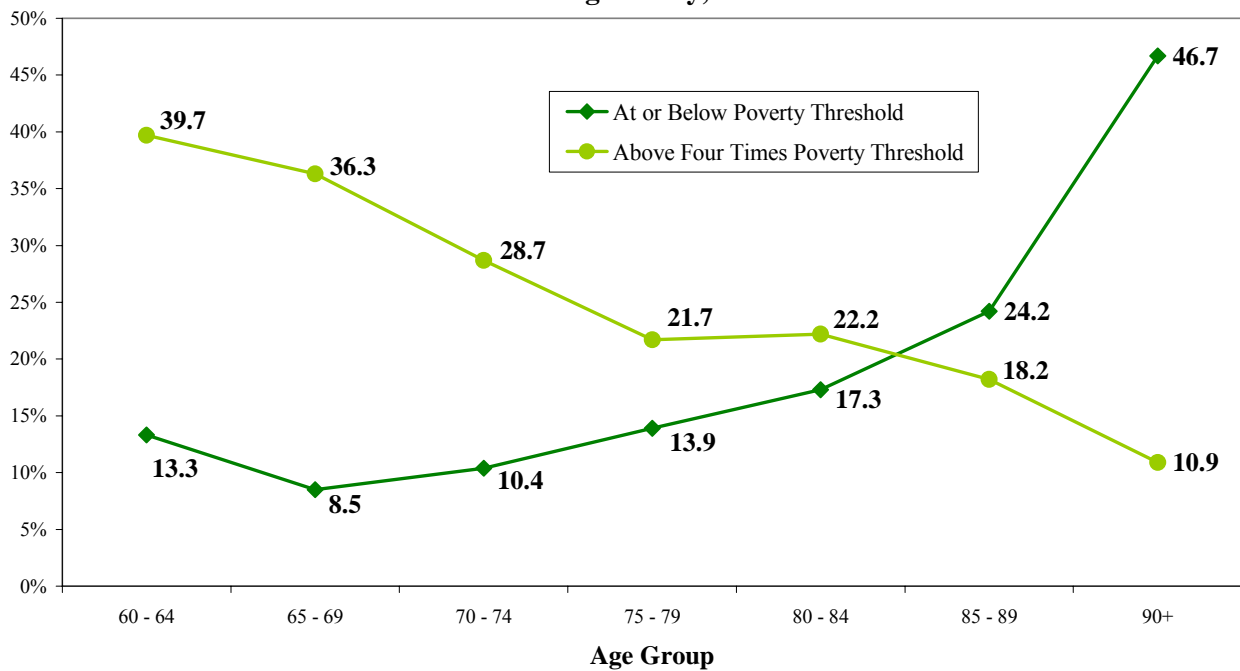
Figure 10
Proportion of Population Age 60+ by Poverty Threshold Ratio,
Mahoning County, 1990 & 2000



Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

A closer examination of poverty rates in Mahoning County reveals striking trends in relation to age. As shown in Figure 11, the percentage of people at or below the poverty level increases dramatically with advancing age. To illustrate, more than one-third (39.7%) of 60-64 year olds reported incomes above four times the poverty threshold (the highest income category), compared to only 10.9% of those in the oldest age group (90+). In contrast, 13.3% of 60-64 year olds fall in the lowest income category, while 46.7% of the 90+ population reported incomes at or below the poverty threshold.

Figure 11
Proportion of 60+ Population in Poverty Compared to Those with Incomes Above Four Times Poverty Threshold, by Age Group, Mahoning County, 2000



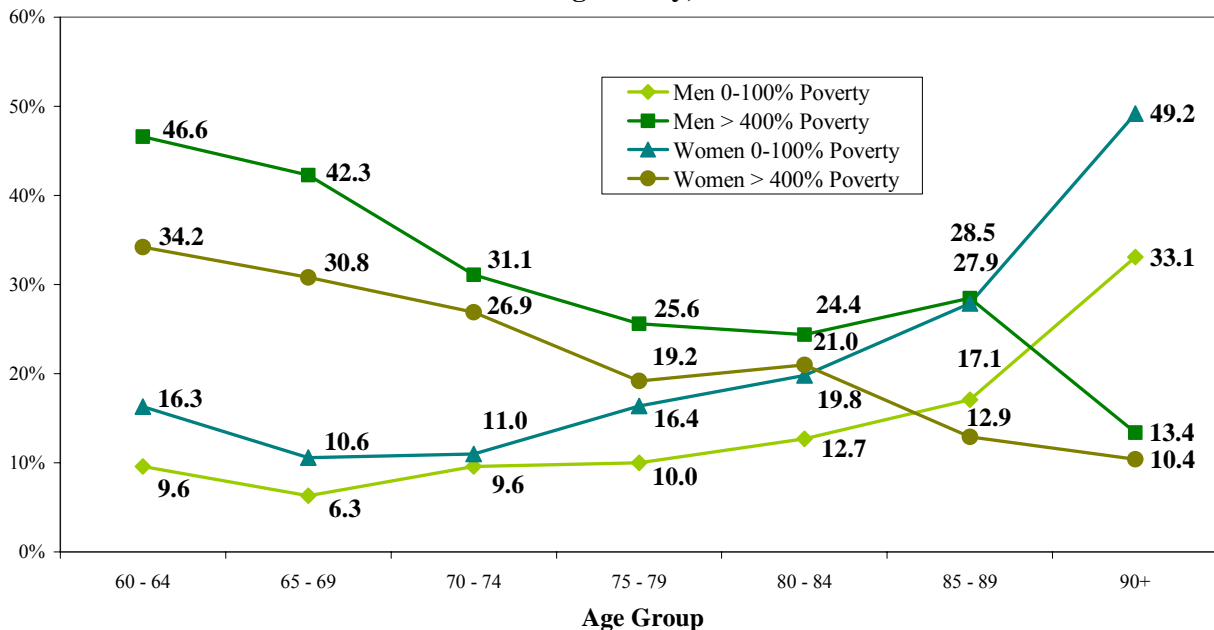
Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

Figure 12 shows a comparison of the most economically disadvantaged income category ($\leq 100\%$ FPT) and the most economically advantaged income category ($> 400\%$ FPT) by gender and age group. In order to show the contrast between the lowest and the highest income groups, the middle income categories have been intentionally left out.

In 2000, 46.6% of men age 60-64 were in the highest income category, while only 13.4% of men 90+ had this level of income. In contrast, only 9.6% of men age 60-64 were in the lowest income category, compared to 33.1% of men age 90+. Figure 12 shows that a fairly stable percentage of older men were classified as having incomes at or below 100% of the FPT from ages 60-84, with a sharp increase in the proportion of men in this income category as they approach the 90+ age group. It appears that age 85-89 is a pivotal point for men, where average incomes drop sharply as they near the 90+ age group.

The pattern of income distribution among older women in Mahoning County is similar to that of older men. One important distinction is that there is a higher proportion of women in the lowest income category ($\leq 100\%$ FPT), and a lower proportion of women in the highest income category ($>400\%$ FPT) at all ages.

Figure 12
Proportion of Population Age 60+,
by Poverty Threshold Ratio*, Age Group, and Gender,
Mahoning County, 2000



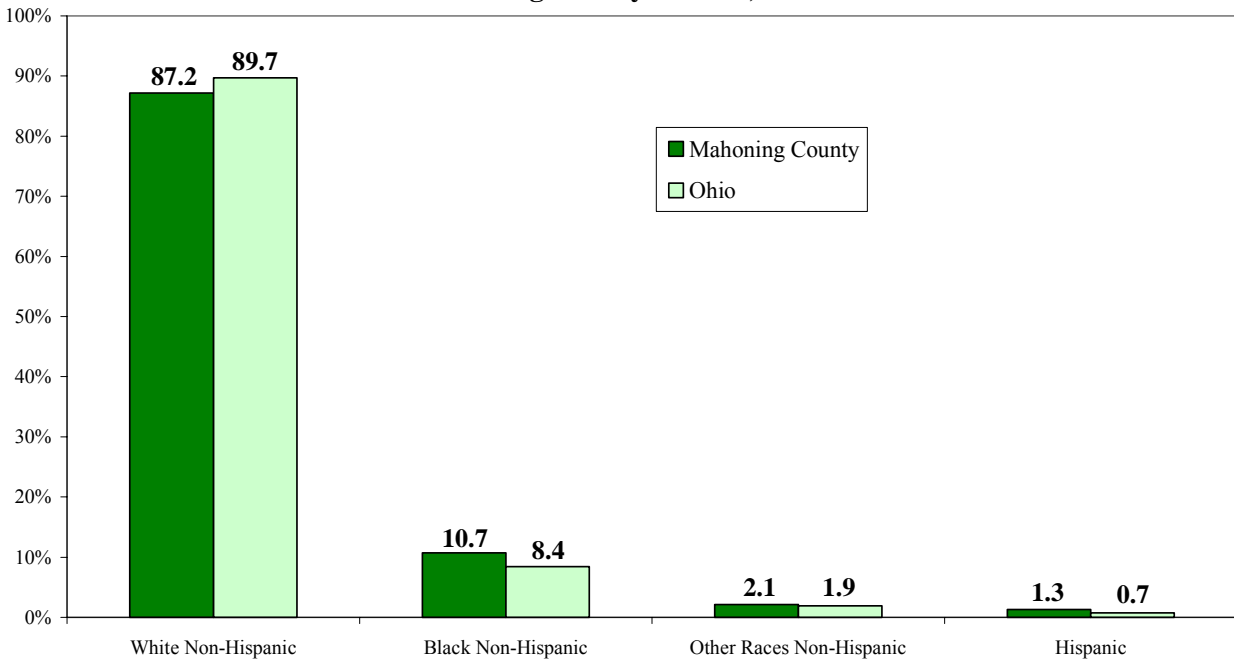
Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

*Middle income groups have been removed in order to show the contrast between the lowest and highest income groups.

Race and Ethnicity

Mahoning County’s older population is more racially and ethnically diverse than the older population in Ohio as a whole. Figure 13 shows that in 2000, 87.2% of the county population (60+) identified themselves as white non-Hispanic, compared to 89.7% of the state population. In the same year, 10.7% of the county population self-identified as black non-Hispanic, compared to 8.4% of the state population.

Figure 13
Race and Ethnic Distribution Among Population Age 60+,
Mahoning County & Ohio, 2000

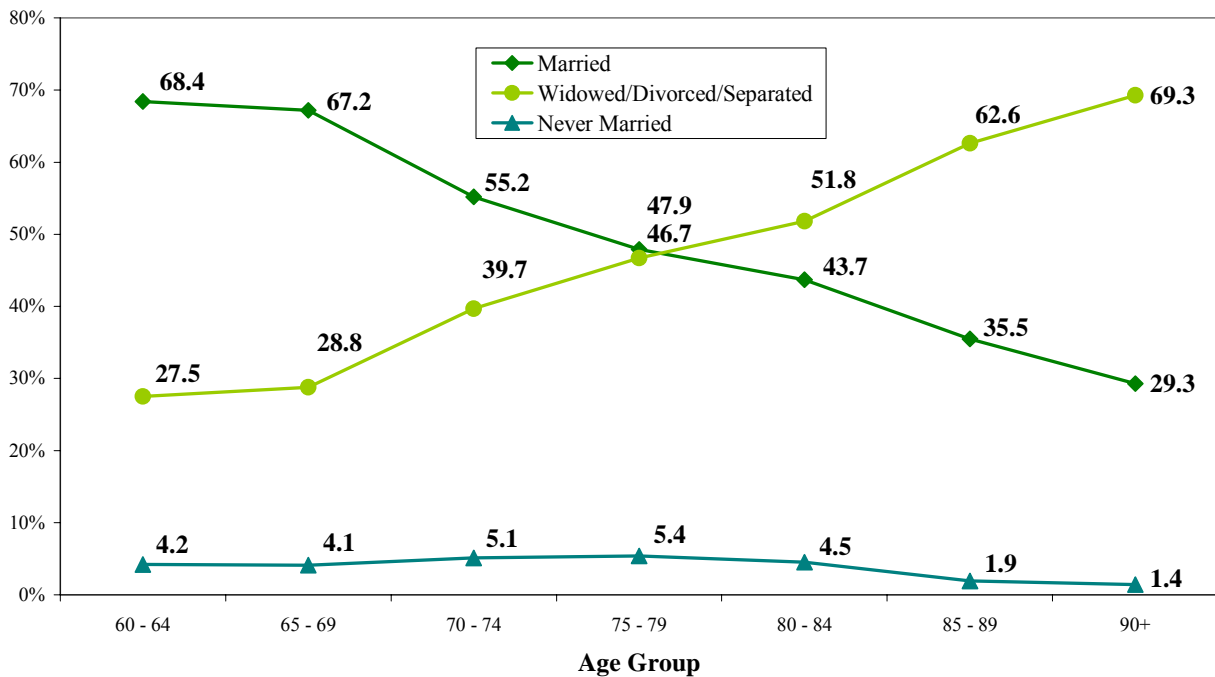


Source: U.S. Census Bureau, 2000 Census of Population: PCT12I, PCT12J, & PCT12H SEX BY AGE.

Marital Status

According to Census data, the percentage of married older adults decreases steadily after age 60. As illustrated in Figure 14, the majority (68.4%) of 60-64 year olds were married in 2000, while 31.7% were single (defined as widowed, divorced, separated or never married). In contrast to 60-64 year olds, the marital status of the 90+ population is nearly the inverse. Among

Figure 14
Marital Status of Population Age 60+, by Age Group
Mahoning County, 2000

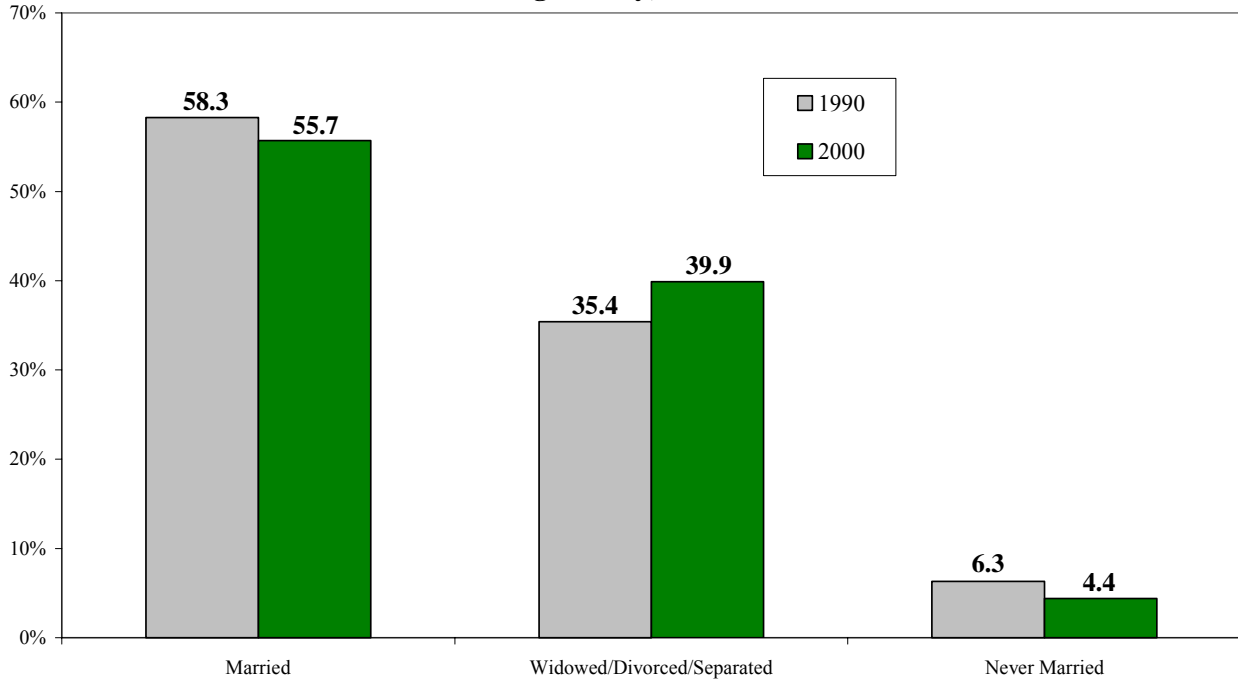


Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

this age group, 70.7% were single in 2000, while 29.3% were married.

Between 1990 and 2000, the percentage of married older adults (60+) in Mahoning County remained fairly stable. In 2000, 55.7% of older residents were married compared to 58.3% in 1990. Similarly, no major changes occurred among the single population (people who were widowed, divorced, separated, or never married). In 2000, 44.3% of the 60+ population was single, compared to 41.7% in 1990 (see Figure 15).

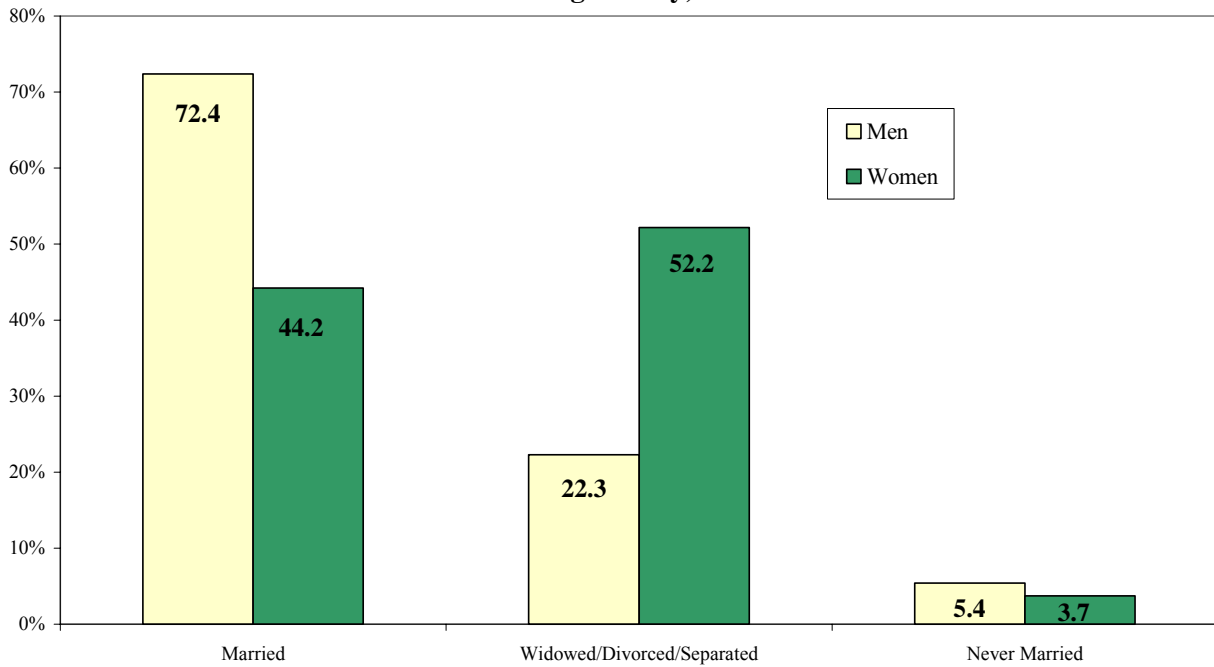
Figure 15
Marital Status Among Population Age 60+,
Mahoning County, 1990 & 2000



Source: U.S. Census Bureau, 1990 and 2000: Public Use Microdata Sample: 5-Percent.

Women above the age of 60 are more likely to be widowed, divorced, or separated than men. Figure 16 shows that 72.4% of men age 60+ in Mahoning County were married in 2000, compared to only 44.2% of women. Because single older adults are more likely than married couples to need outside help or institutional care, the population in Mahoning County that is potentially in need of such assistance is largely female.

Figure 16
Marital Status Among Population Age 60+, by Gender
Mahoning County, 2000



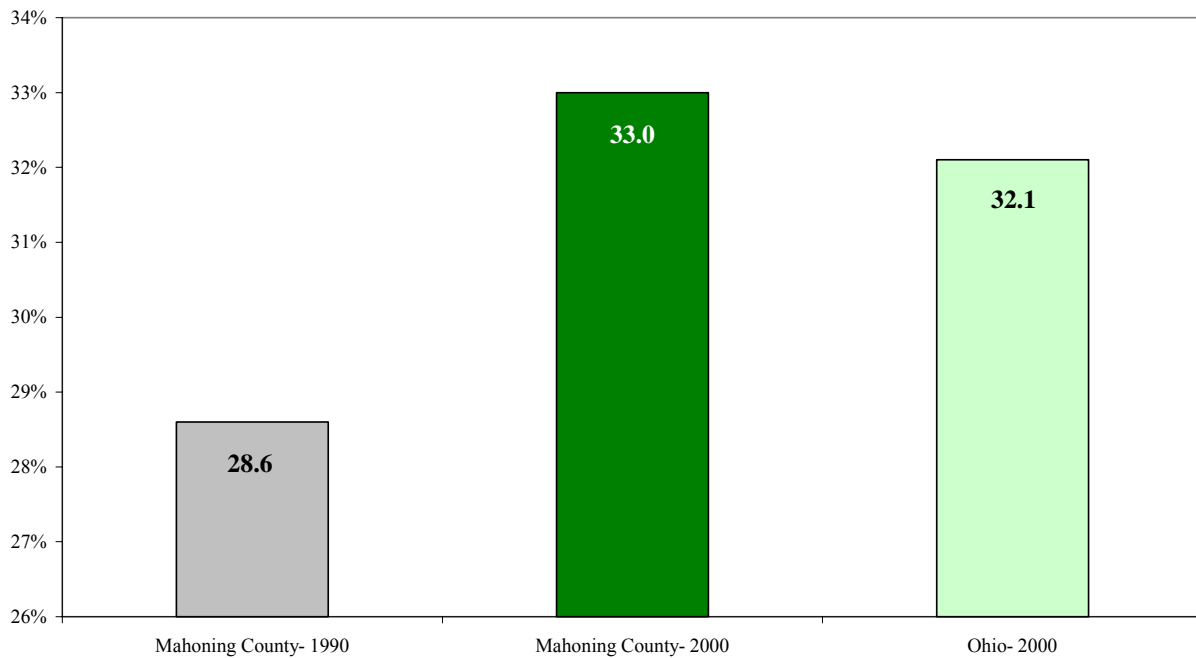
Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

Living Alone

Figure 17 compares the proportion of Mahoning County residents age 60+ who were living alone in 2000 to Ohio, and illustrates the changes that occurred in the county population (60+) living alone between 1990 and 2000.

In 2000, 33.0% of Mahoning County residents age 60+ were living alone, compared to 32.1% of the state population age 60+. The percentage of older adults living alone in Mahoning County has increased since 1990, from 28.6% of the 60+ population to 33.0% in 2000.

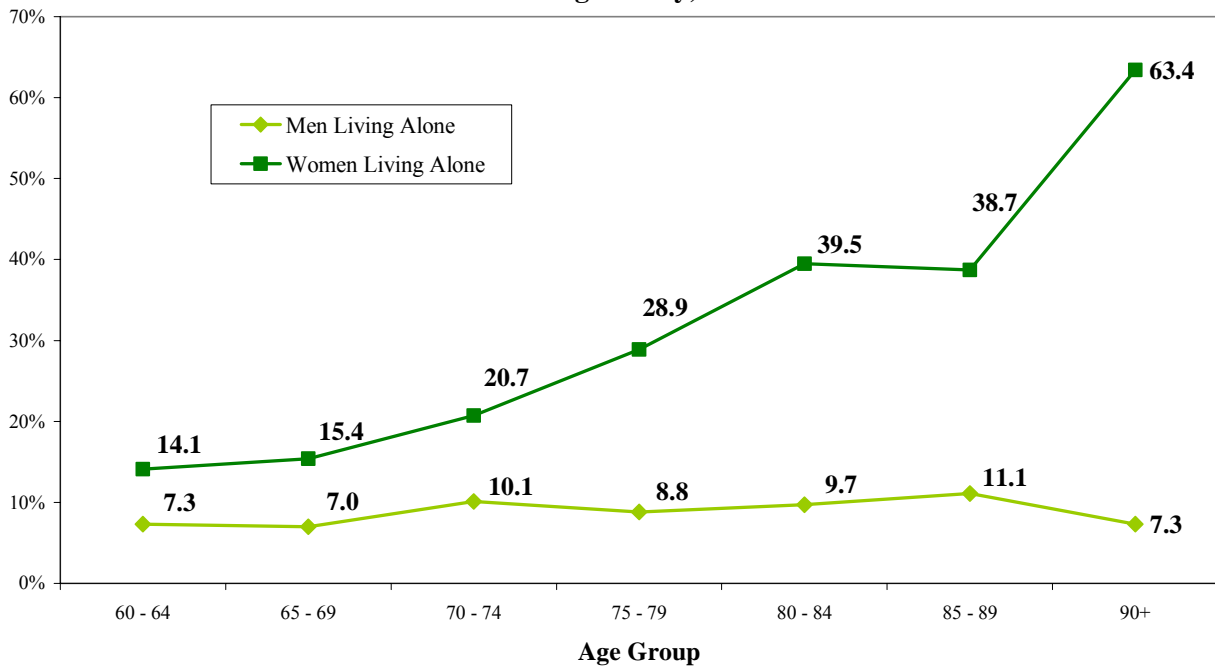
Figure 17
Proportion of Population Age 60+ Living Alone,
Mahoning County, 1990 & 2000, and Ohio, 2000



Source: U.S. Census Bureau, 1990 and 2000: Public Use Microdata Sample: 5-Percent.

Older women are more likely than older men to be living alone in Mahoning County. Figure 18 shows that a higher percentage of women than men are living alone at all ages above 60. While the percentage of men living alone increases only slightly with age, the percent of women living alone increases dramatically with age. Among the 60-64 year age group in 2000, 14.1% of women were living alone, compared to 7.3% of men. Among the oldest age group (90+), 63.4% of women were living alone, compared to only 7.3% of their male counterparts.

Figure 18
Proportion of Population Age 60+ Living Alone,
by Gender, and Age Group,
Mahoning County, 2000

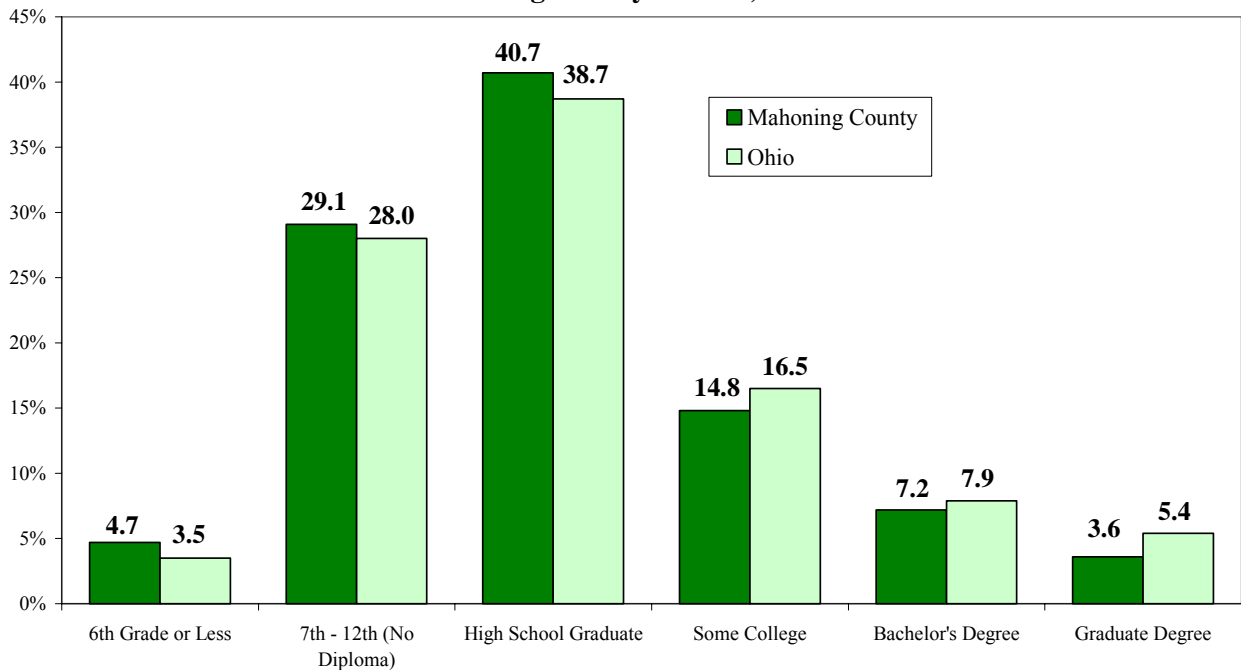


Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

Education

Studies suggest that there is a strong relationship between educational attainment and the prevalence of poverty and disability in old age. Figure 19 shows that the majority of older adults (60+) in Mahoning County have completed 12 or fewer years of school. Over one third (40.7%) of older adults have completed high school, and 33.8% have completed less than 12 years. This suggests that a significant proportion of the older population may be economically vulnerable.

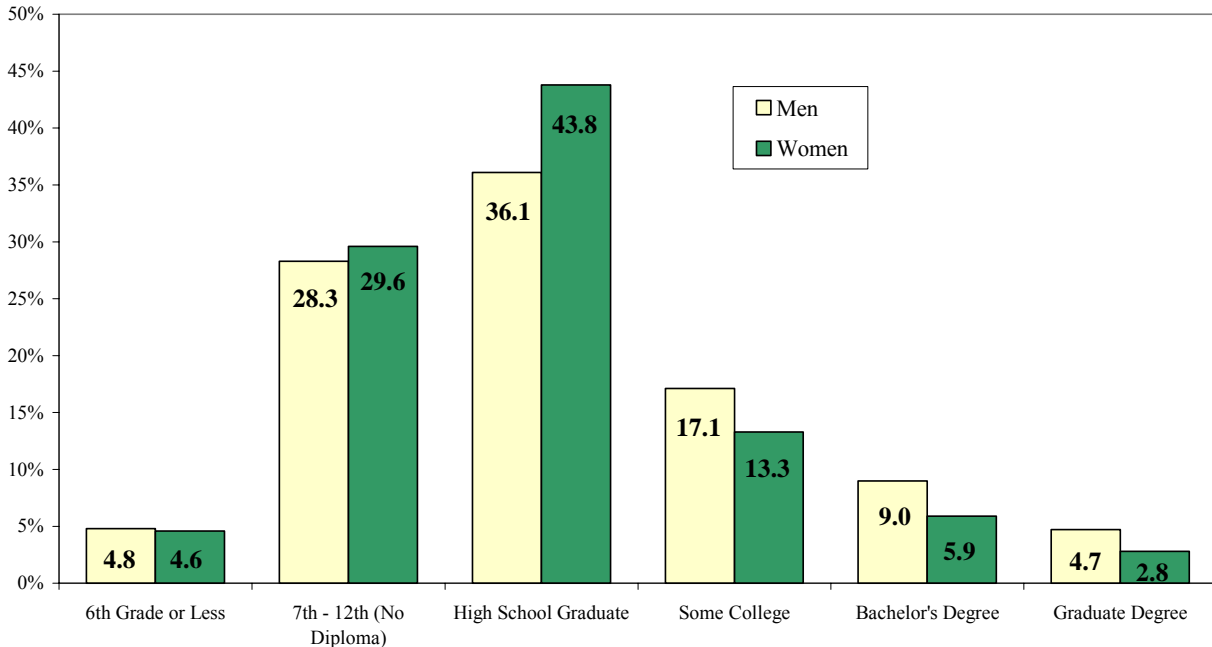
Figure 19
Highest Level of Educational Attainment
Among Population Age 60+
Mahoning County & Ohio, 2000



Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

Figure 20 contrasts the educational attainment of older adults in Mahoning County by gender. Older women are more likely to have only completed high school, while older men are more likely to have pursued and obtained higher degrees. As a whole, the older female population in Mahoning County is less educated than the older male population.

Figure 20
Highest Level of Educational Attainment
Among Population Age 60+, by Gender
Mahoning County, 2000



Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

Summary

This analysis of population trends and projections in Mahoning County, Ohio reveals several important issues with regard to the prevalence of poverty and disability among the older population. Primarily, it is evident that the County population is aging, and the population age 60+ will continue to grow over the next twenty years. More specifically, the so-called "oldest old" (85+) are the fastest growing age group in the County (as well as the state of Ohio). The unprecedented growth in the older population will present the County (and the state) with a number of challenges in the coming years. Among the older population in Mahoning County, levels of disability and poverty increase with age, with the oldest old experiencing the highest rates of both. Also of concern is the preponderance of older women among the oldest age groups, who comprise a majority of the impoverished, disabled and single populations. These women, who are highly economically vulnerable, and are potentially in need of significant personal care assistance, are frequently living alone; a trend that is expected to become increasingly common over the next several decades.

Methodology

Projections of the disabled older population in Mahoning County were calculated in three steps. We developed projections of the county's older population by gender and age groups from 2000 to 2020. We also made estimates of disability rates for the older population by gender and age groups. And, we applied these disability rates to the projected population to project the number of persons with a disability in Mahoning County.

Projection Method - We developed population projections using the "cohort component method" (Shryock & Siegel, 1996). This method involves beginning with actual population counts in gender and age groups, and applying specific rates of change (births, deaths, and migration) to estimate the future population. We projected the population in cycles of 5-year periods through the year 2020. We applied projected survival rates to the beginning population in order to calculate the surviving population for a 5-year period (see following section for an explanation of survival rates). Next, we applied gender and age group specific migration rates to calculate the number of survivors leaving and joining the county population during the five years. The final projected population equals the survived population plus the difference between the number of migrants leaving and joining the county. The projected population at the end of each 5-year period becomes the beginning population for the next 5-year period, and the procedure is repeated over the desired time horizon. We used 5-year age groupings of men and women to make the projections. In order to project the population that will be 60+ in 2020, we began with the population that was 40+ in 2000 (these cohorts, of course, age as they are projected forward).

Survival Rates - To calculate survival rates for the older population in Ohio, we combined projected national mortality rates from the Census with actual mortality rates for the state to develop a trended set of survival rates for 2005-2020. All calculations were done for each gender in 5-year age groups. Using Census projected life tables for 2000, 2005, 2010, 2015, and 2020, we developed 5-year survival rates for the nation (for life tables, see <http://www.census.gov/population/www/projections/natdet.html>). Using Ohio counts of death and counts of population for 2000, we developed survival rates for Ohio for 2000. We then projected the County's survival rates to pattern the expected change for the Nation while maintaining the difference between the County and the Nation that occurred in 2000.

Migration Rates - We computed net migration estimates (i.e., the difference in the number of migrants joining and leaving the county) for the County for each gender in 5-year age groups (beginning with ages 40-44 years old, through 95+). We calculated migration estimates using Census data for 1990 and 2000 and counts of County death from Ohio public use mortality files (Ohio Department of Health, 1990-2000). We "survived" the 1990 County population of each gender and age group by subtracting the deaths from those residing in the county from April 1, 1990 through March 31, 2000. In calculating the deaths occurring to an age group, we adjusted for the group's getting older, or aging, during the decade. We calculated net migration by subtracting this survived population from the 2000 count of the age population (the age group that was 10 years older in 2000 than in 1990). Thus, net migration equals the actual 2000 count minus the survived population (or minus the number of people that would have been in the county had no migration taken place during the decade). The aforementioned set of assumptions which guided our projection methodology garnered specific results. If these assumptions were

changed, it would yield different results. In 2003, the Ohio Department of Development produced a series of population projections for each of Ohio's 88 counties. As their research was based on a different set of assumptions, their numbers differ from ours slightly (<http://www.odod.state.oh.us/research/>).

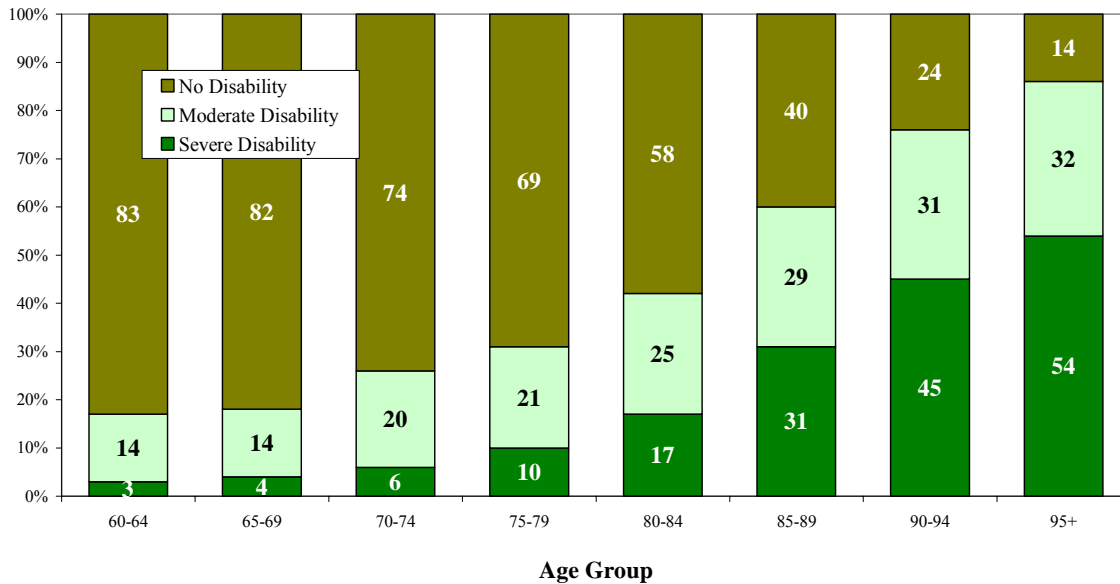
Estimation of Age and Sex Specific Disability Rates for Gender and Age Groups - Disability in this study is defined as a measure of impairment in activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). Three levels were assigned to this measure: Severe Disability, Moderate Disability, and Little or No Disability. Disability rates for the institutionalized and community based older population were calculated separately, weighted by their respective proportions in the population, and then combined.

The community disability rates were calculated using the community portion of the 1994 National Long Term Care Survey (NLTC). Institutional disability rates were calculated using the 1995 National Nursing Home Survey (NNHS). These surveys provided information to calculate the disability rate for the 65+ population. As we defined disability, we relied on individual ADL-IADL item scores. Sample participants were identified as either dependent in performing Activities of Daily Living or independent in order to assign disability status to each individual. Two criteria were used in selecting individual ADL or IADL items to include in the disability scale: 1) items must have similar wording, content, and time span in both surveys; and 2) the scale, and the items used in creating the scale, must be as similar as possible to the items used in calculating the disability measure that we created in our earlier studies of projecting disabled older population of Ohio.

We used 2000 Census data on self-care disabilities and the National Health Interview Survey on Disability, 1995: Phase II Adult Followback as a guide to extend the disability rates established for the 65+ population to the 60-64 age group. We are assuming that the proportion of the population that will become disabled in each gender and age group will remain constant from 1995 (the survey dates) to the year 2020. We acknowledge that there are studies that suggest it could be otherwise.

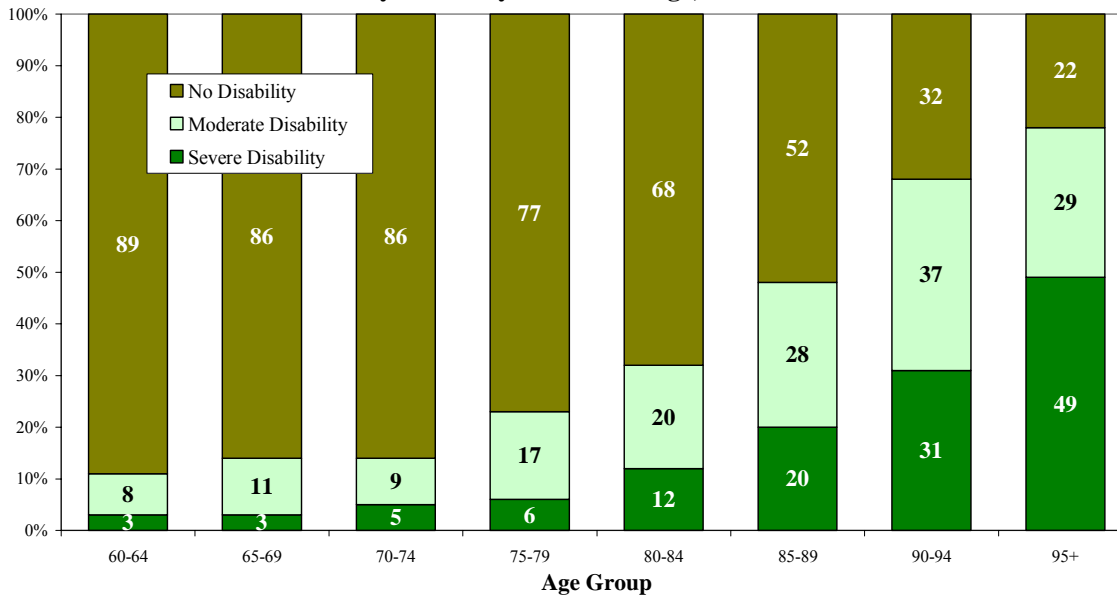
Figures 21 and 22 show the higher rates of severe disability among women of all ages, and the consistent increase in the prevalence of disability with advancing age for both men and women.

Figure 21
Estimated Percentage Distribution of Women
by Disability Status and Age, 1995



Source: Mehdizadeh, S.A., Kunkel, S.R., Ritchey, P.N. (2001). *Projections of Ohio's Older Disabled Population: 2015 to 2050*. Oxford, OH: Scripps Gerontology Center, Miami University.

Figure 22
Estimated Percentage Distribution of Men
by Disability Status and Age, 1995



Source: Mehdizadeh, S.A., Kunkel, S.R., Ritchey, P.N. (2001). *Projections of Ohio's Older Disabled Population: 2015 to 2050*.

References

Administration on Aging (no date). Aging into the 21st century. Retrieved February 27, 2004, from http://www.aoa.gov/prof/statistics/future_growth/aging21/Program.asp

Federal Interagency Forum on Aging-Related Statistics (July 28, 2000). Older Americans 2000: Key Indicators of Well-Being. Retrieved March 3, 2004, from <http://www.agingstats.gov/chartbook2000/dataneeds.html>

Mehdzadeh, S.A., Kunkel, S.R., & Ritchey, P.N. (2001). Projections of Ohio's older disabled population: 2015 to 2050. Oxford, OH: Scripps Gerontology Center, Miami University.

National Center for Health Statistics (1995). *National Nursing Home Survey, 1995*. Hyattsville, MD: United States Department of Health and Human Services.

National Center for Health Statistics (1995). *National Health Interview Survey on Disability, 1995: Phase II, Adult Followback*. Hyattsville, MD: United States Department of Health and Human Services.

National Institute on Aging & Center for Demographic Studies (1994) *National Long Term Care Survey, 1994*. Durham, NC: Center for Demographic Studies, Duke University.

Ohio Department of Development (no date). Ohio County Profiles: Population Projections 2005-2030. Retrieved February 27, 2004, from <http://www.odod.state.oh.us/research/>

Ohio Department of Health (1990-2000) *Ohio Death Statistics*. Columbus, Ohio: Ohio Department of Health.

Shryock, H.S., Siegel, J. S. (1996). *The Methods and Materials of Demography*. Condensed edition by E.C. Stockton. New York: New York, Academic Press.

U.S. Census Bureau (2003). Census 2000 Summary File 1 (SF 1) 100 – Percent Data. Retrieved 2003 from <http://factfinder.census.gov>.

U.S. Census Bureau. (August 2, 2002). National Population Projections, Detailed Files. Retrieved November 5, 2003, from <http://www.census.gov/population/www/projections/natdet.html>

U.S. Census Bureau (no date). Poverty thresholds. Retrieved February 27, 2004, from <http://www.census.gov/hhes/poverty/threshld.html>

U.S. Department of Commerce, Bureau of the Census. CENSUS OF POPULATION AND HOUSING, 1990 [UNITED STATES]: PUBLIC USE MICRODATA SAMPLE: 5-PERCENT SAMPLE [Computer file]. 3rd release. Washington, DC: U.S. Dept. of Commerce, Bureau of the Census [producer], 1995.

U.S. Department of Commerce, Bureau of the Census. CENSUS OF POPULATION AND HOUSING, 2000 [UNITED STATES]: PUBLIC USE MICRODATA SAMPLE: 5-PERCENT SAMPLE [Computer file]. 3rd release. Washington, DC: U.S. Dept. of Commerce, Bureau of the Census [producer], 2000.

Appendix

Table 1a
Projections of Total Older Population by Age and Levels of Disability
Mahoning County, 2000, 2005, 2010, 2015, 2020

Year	Age Group	Total Population	No Disability	Moderate Disability	Severe Disability
2000*	60 - 69	21,868	18,557	2,636	675
	70 - 79	22,597	17,106	3,919	1,572
	80 - 89	10,645	5,943	2,654	2,048
	90+	1,723	408	561	754
	Total Age 60+	56,833	42,014	9,770	5,049
2005	60 - 69	22,030	18,714	2,641	675
	70 - 79	18,995	14,321	3,327	1,347
	80 - 89	11,938	6,631	2,987	2,320
	90+	1,986	474	648	864
	Total Age 60+	54,949	40,140	9,603	5,206
2010	60 - 69	26,352	22,426	3,124	802
	70 - 79	16,367	12,409	2,824	1,134
	80 - 89	11,805	6,479	2,981	2,345
	90+	2,470	595	809	1,066
	Total Age 60+	56,994	41,909	9,738	5,347
2015	60 - 69	31,826	27,085	3,769	972
	70 - 79	16,768	12,775	2,857	1,136
	80 - 89	10,155	5,504	2,586	2,065
	90+	2,904	697	952	1,255
	Total Age 60+	61,653	46,061	10,164	5,428
2020	60 - 69	34,481	29,330	4,095	1,056
	70 - 79	20,363	15,616	3,399	1,348
	80 - 89	9,126	5,015	2,302	1,809
	90+	3,008	709	984	1,315
	Total Age 60+	66,978	50,670	10,780	5,528

Source: U.S. Census Bureau, 2000: Public Use Microdata Sample: 5-Percent.

* Year 2000 data are actual population counts, years 2005-2020 are projections.

Table 2a
Projections of the 60+ Female Population by Age Group and Level of Disability
Mahoning County

<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				Moderate ^a	Severe ^b
2000	60-64	6,011	4,991	854	166
	65-69	6,039	4,975	844	220
	70-74	6,920	5,152	1,353	415
	75-79	6,340	4,318	1,360	662
	80-84	4,544	2,623	1,132	789
	85-89	2,431	983	705	743
	90-94	1,003	242	312	449
	95 +	313	44	101	168
	Total	33,601	23,328	6,661	3,612
<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				Moderate ^a	Severe ^b
2005	60-64	6,477	5,378	920	179
	65-69	5,502	4,533	769	200
	70-74	5,397	4,018	1,055	324
	75-79	5,755	3,919	1,235	601
	80-84	4,815	2,780	1,199	836
	85-89	2,842	1,149	824	869
	90-94	1,151	278	358	515
	95 +	343	48	110	185
	Total	32,282	22,103	6,470	3,709
<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				Moderate ^a	Severe ^b
2010	60-64	7,965	6,614	1,131	220
	65-69	5,953	4,904	832	217
	70-74	4,947	3,683	967	297
	75-79	4,533	3,087	973	473
	80-84	4,441	2,564	1,106	771
	85-89	3,091	1,250	897	944
	90-94	1,402	339	436	627
	95+	407	57	131	219
	Total	32,739	22,498	6,473	3,768

Table 2a Continued
Projections of 60+ Female Population by Age Group and Level of Disability
Mahoning County

<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				<u>Moderate^a</u>	<u>Severe^b</u>
2015	60-64	9,093	7,550	1,291	252
	65-69	7,348	6,054	1,026	268
	70-74	5,381	4,006	1,052	323
	75-79	4,193	2,856	900	437
	80-84	3,550	2,049	884	617
	85-89	2,923	1,182	848	893
	90-94	1,584	383	492	709
	95 +	512	72	165	275
	Total	34,584	24,152	6,658	3,774
<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				<u>Moderate^a</u>	<u>Severe^b</u>
2020	60-64	9,368	7,779	1,331	258
	65-69	8,415	6,933	1,175	307
	70-74	6,676	4,970	1,305	401
	75-79	4,599	3,132	987	480
	80-84	3,329	1,922	829	578
	85-89	2,392	967	694	731
	90-94	1,553	375	483	695
	95 +	615	86	198	331
	Total	36,947	26,164	7,002	3,781

Source: Authors' projections.

^a Moderate disability is defined as received help in at least one of the following activities of daily living: eating, transferring in or out of bed or chair, getting to the toilet, dressing, bathing, remaining continent; or in at least two of the following instrumental activities of daily living: walking, shopping, meal preparation, housekeeping, or using transportation.

^b Severe disability is defined as received help in at least two of the following activities of daily living: eating, transferring in or out of bed or chair, getting to the toilet, dressing, remaining continent, or having cognitive impairment.

Table 3a
Projections of the 60+ Male Population by Age Group and Level of Disability
Mahoning County

<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				Moderate ^a	Severe ^b
2000	60-64	5,093	4,520	425	148
	65-69	4,725	4,071	513	141
	70-74	5,066	4,372	466	228
	75-79	4,271	3,264	740	267
	80-84	2,602	1,777	520	305
	85-89	1,068	560	297	211
	90-94	338	107	128	103
	95 +	69	15	20	34
	Total	23,232	18,686	3,109	1,437
2005	60-64	5,538	4,915	462	161
	65-69	4,513	3,888	490	135
	70-74	3,960	3,417	364	179
	75-79	3,883	2,967	673	243
	80-84	2,890	1,973	578	339
	85-89	1,391	729	386	276
	90-94	414	131	157	126
	95 +	78	17	23	38
	Total	22,667	18,037	3,133	1,497
2010	60-64	7,501	6,658	626	217
	65-69	4,933	4,250	535	148
	70-74	3,813	3,290	351	172
	75-79	3,074	2,349	533	192
	80-84	2,681	1,830	536	315
	85-89	1,592	835	442	315
	90-94	562	177	213	172
	95 +	99	22	29	48
	Total	24,255	19,411	3,265	1,579

Table 3a Continued
Projections of 60+ Male Population by Age Group and Level of Disability
Mahoning County

<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				Moderate ^a	Severe ^b
2015	60-64	8,670	7,695	723	252
	65-69	6,715	5,786	729	200
	70-74	4,198	3,623	386	189
	75-79	2,996	2,290	519	187
	80-84	2,162	1,476	432	254
	85-89	1,520	797	422	301
	90-94	669	211	254	204
	95 +	139	31	41	67
	Total		27,069	21,909	3,506
<u>Year</u>	<u>Age Group</u>	<u>Total Population</u>	<u>Population with No Disability</u>	<u>Population with Disability</u>	
				Moderate ^a	Severe ^b
2020	60-64	8,904	7,903	743	258
	65-69	7,794	6,715	846	233
	70-74	5,753	4,965	529	259
	75-79	3,335	2,549	578	208
	80-84	2,145	1,465	429	251
	85-89	1,260	661	350	249
	90-94	663	209	251	203
	95 +	177	39	52	86
	Total		30,031	24,506	3,778

Source: Authors' projections.

^a Moderate disability is defined as received help in at least one of the following activities of daily living: eating, transferring in or out of bed or chair, getting to the toilet, dressing, bathing, remaining continent; or in at least two of the following instrumental activities of daily living: walking, shopping, meal preparation, housekeeping, or using transportation.

^b Severe disability is defined as received help in at least two of the following activities of daily living: eating, transferring in or out of bed or chair, getting to the toilet, dressing, remaining continent, or having cognitive impairment.