Planning for Long-Term Care Services in Kansas Before the Boom

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Planning for Long-Term Care Services in Kansas Before the Boom
Executive Summary

Purpose

Kansas policymakers are planning for a future that will be shaped by increasing numbers of older adults. Researchers at the KU School of Social Welfare, Office of Aging and Long Term Care were asked to assist them in incorporating information about recent and past trends into the planning process. The purpose of this project is to examine the demographic, socioeconomic, market, and policy trends identified nationally by AARP that have influenced and will continue to influence long-term care services in Kansas during the next twenty years. The next twenty years is the period prior to when the baby boomers, people born between 1946 and 1964, will begin accessing long-term care in large numbers. By studying these trends, it will be possible to understand how state long-term care planning might differ from national planning efforts in the next twenty years. This information will make it possible to plan more effectively for future long-term care needs in Kansas. Particular attention is directed towards low-income older adults due to their increased likelihood of using publicly funded long-term care services.

Background

National and state attention has been focused on the projected increase of the older adult population as the baby boom cohort will begin to turn 65 in 2011. An aging population can provide the state with additional resources as well as challenges. As the population ages, there will be a larger number of people needing long-term care services either in the community or a nursing facility. The increase in demand will result in further costs to the state to provide care, especially for low-income older adults, as well as fewer available resources. Thus, it is important for planning efforts to take place that address the increasing demand for and costs of long-term care as well as the changing nature of service delivery so that the available resources can be used effectively to address the needs of a growing population of older adults.

In 2002, AARP published *Before the Boom: Trends in Long-Term Supportive Services for Older Americans with Disabilities*, referred to here as the AARP Before the Boom report. The purpose of the AARP Before the Boom report was to examine specific trends that have already impacted long-term care and to further understand how these trends might continue to impact future long-term care services. The main trends outlined in the AARP Before the Boom report include nursing facility utilization, the demographic population shift, disability rates and their
causes, changing characteristics that will impact caregiving supports, and the changes in long-term care delivery and policy.

Methodology

The AARP Before the Boom report, which focused exclusively on national data, was used as a framework for exploring long-term care trends in Kansas. The fourteen trends highlighted in the AARP Before the Boom report were analyzed using Kansas specific data. A trend-by-trend analysis was completed by examining each trend for Kansas and then comparing this information with the national trends. The data depicted in this report were compiled from a variety of secondary sources. In some instances, it was not possible to compare the state-specific data to national data due to variations in definitions and methodologies. When comparable data were not available, this was noted along with a discussion of how the Kansas trend might be similar or different from the national trend based on the available data.

Trend 1: Nursing Facility Utilization Rates in Kansas Have Declined Substantially in the Past Decade for Older Adults in All Age Groups.

Nursing facility (NF) utilization rates for older adults in Kansas have dropped more in the past decade than national nursing facility utilization rates declined in the past three decades. The decline in Kansas nursing facility utilization rates for adults age 65 and older from 1990 to 2000 was 23.7%. Although Kansas and U.S. nursing facility utilization rates for persons age 65 and older have declined substantially, older adults in Kansas are still utilizing NFs at rates higher than U.S. older adults. In 1999, 5.8% of adults age 65 and over in Kansas were utilizing nursing facility services compared to 4.3% of older adults nationally. The nursing facility utilization rate in Kansas has continued to decline from 1999 to 2004 for adults age 65 and older. Continued efforts to reduce Kansas nursing facility utilization rates to coincide with national rates could provide cost savings to Medicaid.

Trend 2: Over the Next Two Decades the Growth in the Older Adult Population in Kansas Will Incrementally Increase in All 65 and Over Age Groups in Contrast to Nationally Where it Will Shift From the 75 and Older Age Groups to the Younger Old.

The aging of the baby boomers and their potential demand on long-term care services has been the cause for much attention. However, it is not until about 2020 that the oldest baby boomers will turn 75 and thereby cause a potential swell in the demand for long-term care services in Kansas and the United States. From 1990 to 2000, the largest growth in the Kansas
and U.S. older adult population was exhibited by the 75 and older age groups. From 2000 to 2020, the projected growth in the older adult population in Kansas is expected to occur incrementally for all age groups with slightly more growth in the 85 and older age group. Conversely, in the United States, the growth from 2000 to 2020 is expected to be heavily concentrated in the 65 to 74 age group. The incremental population growth for all age groups in Kansas may result in a slow but steady increase in demand for long-term care services from 2000 to 2020, which will be different from the lull that will likely occur nationally. This time can allow Kansas to find ways to incrementally meet the current demands of the older adult population as well as find ways to effectively address the larger increase and change in demand that will occur after 2020.

Trend 3: Disability Rates for Older Adults in Kansas Are Consistently Lower than National Disability Rates.

Disability rates for older adults declined over the past twenty years although the rate of decline was not steady. From 1990 to 2000, Kansas maintained disability rates slightly lower than national disability rates indicating that Kansas disability rates followed a similar rate of decline as nationally. In 2000, 41.5% of non-institutionalized older adults in Kansas had a disability compared to 41.9% of non-institutionalized older adults in the United States. Future disability rates will be affected by the current level of disability in Kansas and U.S. adults younger than 65, increasing educational attainment, and the availability of medical care. Policymakers at the state and federal level can work to further reduce disability rates and activity limitations in the older adult and younger adult population in order to ensure that the number of older adults with disabilities does not increase dramatically as the older adult population increases over the next twenty years.

Trend 4: Increased Educational Attainment Has Reduced Disability Rates Among Older Kansans.

Older adults with a high school diploma and/or college degree have had the greatest declines in disability in the past few decades. Since 1950, the percentage of adults age 65 years or older that graduated from high school has increased dramatically in the United States and in Kansas, resulting in reduced disability rates among older adults. In 2000, 73.7% of older adults in Kansas had at least a high school diploma, which was higher than the national 65.5%. However, Kansas had a smaller percentage of older adults with a bachelor’s degree or higher than nationally, 14.9% and 15.3% respectively. The percentage of Kansas and U.S. adults with
a high school diploma or higher and a bachelor’s degree or higher continues to increase for adults under age 65. As younger adults with high levels of education turn 65 in the next twenty years, disability will continue to decline in the United States and Kansas. Therefore, efforts to lower disability rates among older adults should not be strictly targeted towards older adults because efforts targeted at younger adults in such areas as increasing educational attainment can also affect future disability rates.

Trend 5: Medical Advances Are Creating More Opportunities for Kansans to Live Without Disability in Old Age.

Chronic conditions can limit older adults' daily activities and result in disability. Increased longevity has resulted in more people in Kansas and the United States diagnosed with chronic conditions, but medical advances have made these conditions less debilitating. The number of adults age 65 and older in Kansas and the United States with chronic conditions will likely increase over the next twenty years as the population ages. Further national and state efforts to reduce the disability associated with chronic conditions through prevention, early diagnosis, and treatment could lower the number of older Kansans limited in activities due to their chronic condition. Also, ensuring that medical technology is available for all people including members of racial and ethnic minority groups, older adults living in rural areas, and low-income older adults could further improve disability rates in Kansas and the United States.

Trend 6: Older Kansans with Disabilities Continue to Utilize Privately Funded Nursing Facility Care at Higher Rates than U.S. Older Adults Despite Similar Socioeconomic Improvements.

U.S. older adults with disabilities that are able to pay privately for long-term care are increasingly choosing other alternatives to the nursing facility including home-based services and assisted living. From 1985 to 1999, there was a large decline in private pay NF residents nationally in addition to a small drop in national NF residents with Medicaid. By 1999, 25% of U.S. nursing facility residents 65 years and older paid privately for their care and 60% paid with Medicaid. In contrast, 43% of NF residents age 65 years and older in Kansas paid privately and 43% paid with Medicaid in 1999. Thus, Kansas nursing facilities have a higher proportion of private pay residents than NFs nationally and a smaller proportion of Medicaid residents than NFs nationally. Although the proportion of NF residents with Medicaid as a payment source was smaller than nationally, this does not indicate that Kansas older adults utilized Medicaid-funded nursing facility care less than nationally. In 1999, 2.6% of the older adult population in Kansas
was utilizing Medicaid-funded nursing facility care, compared to 2.4% of the older adult population nationally. Instead, this simply is the result of Kansas older adults utilizing private pay NF care at rates more than twice as high as nationally, 2.6% and 1.1% respectively. In Kansas, private payers are leaving nursing facilities at slightly higher rates than Medicaid residents. If the current trend continues, Kansas nursing facilities could slowly start to mirror U.S. nursing facilities. Therefore, it is important to ensure that those with Medicaid payment for long-term care continue to have the same choices as those paying with private funds.

**Trend 7: The Narrowing Gender Ratio of Older Adults in Kansas Contributed to an Increase in Available Spousal Support and Will Most Likely Continue to Do So Over the Next Few Decades.**

Spousal support is increasing for older adults in Kansas and the United States; however, based on current and past demographic trends, more spousal support might be available in Kansas than nationally. The Kansas and U.S. gender ratio of males to females increased from 1990 to 2000, especially for adults aged 75 to 84. In 2000, the gender ratio for Kansans was slightly higher for adults age 45 to 84, but slightly lower for adults age 85 and older when compared to the United States. Kansas and U.S. adults age 45 years and older also saw declining widowhood rates from 1980 to 2000. In 2000, Kansas males and females had lower widowhood rates than their U.S. counterparts in all age groups. With similar divorce rates in the United States and Kansas, it is not surprising then that Kansas adults age 75 and older are more likely to be married than U.S. adults age 75 and older. As the gender ratio increases, rates of widowhood decrease, and the majority of older adults are married in late life, a greater percentage of older adults, especially women, have access to spousal support. The availability of spousal support could affect future demand for long-term care services and the need for caregiver support programs for male spousal caregivers.

**Trend 8: The Birth Dearth Cohort (Born 1926 to 1945) Has More Adult Children Providing a Larger Supply of Informal Caregivers Than Previous Cohorts in Kansas and the United States.**

The birth dearth cohort (born between 1926 and 1945) in the United States and Kansas has higher fertility rates than the cohort before and after them. This cohort of older adults has fewer women without children and a larger number of children per female. This has translated into a greater availability of informal family caregivers in Kansas and nationally. However, it is hard to predict how much available informal support there will be from adult children of the birth
dearth cohort over the next twenty years due to the competing demands of work and family for women in the baby boom cohort. Therefore, support and respite for caregivers who are adult children will continue to be needed in Kansas and nationally even though the number of available caregivers is larger than ever before. In addition, although the birth dearth cohort will have a large number of adult children to provide informal care, the baby boom cohort will not.

Trend 9: The Older Adult Population in Kansas is Becoming More Diverse and Disparities in Disability and Poverty Among Racial and Ethnic Groups Exist That Could Impact Their Demand for Long-Term Care. In Kansas, Black/African American Older Adults Utilize Community-Based Services and Informal Care More Than White Non-Hispanics but Utilize Nursing Facility Care Similarly

The older adult population in Kansas and the United States is becoming more ethnically and racially diverse; however, Kansas is not as diverse as the United States. In 2000, minority groups made up 6.4% of the older adult population in Kansas compared to 16% nationally. This is projected to increase to 9.8% in Kansas and 24% in the United States by 2020. In Kansas and the United States, older Black/African Americans are more often living below the poverty level than older White non-Hispanics and disability rates among racial and ethnic groups are higher. White non-Hispanic older adults in Kansas and the United States tend to live with spouses more and have less informal support than Black/African Americans who tend to live with family more and have a greater availability of informal support. In Kansas, Black/African Americans and White non-Hispanics utilize nursing facility care at about the same rate per thousand population; however, nursing facility utilization for both groups in Kansas is higher than nationally. Also, in the United States, Black/African American older adults are now utilizing nursing facility services more than White non-Hispanic older adults. In Kansas and the United States, Black/African American older adults are utilizing home health and home and community-based services at higher rates than White non-Hispanic older adults. Particular attention to the differences in informal caregiving and long-term care usage by racial and ethnic minority groups will be ever more important as this population continues to increase in Kansas.
Trend 10: Assisted Living Plays an Important Role in the Array of Long-Term Care Services Available in Kansas and the United States Though Kansas Assisted Living Residents are Less Disabled and a Higher Proportion are Receiving Medicaid Waiver Services Compared to Nationally.

The national expansion of assisted living was also seen in Kansas throughout the 1990s and continuing into the 21st century. Kansas assisted living (AL) and residential health care (RHC) regulations of admission and retention policies are some of the least restrictive in the United States for older adults with specialized care needs. Yet, Kansas ALs and RHCs provide care to a less disabled population than assisted living residents nationally. Assisted living facilities in the United States and Kansas might be replacing NFs for older adults with low levels of disability; however, one-third of all assisted living discharges nationally and in Kansas are to nursing facilities for increased level of care. The majority of AL residents in Kansas and the United States are paying privately for their care. However, the Medicaid Home and Community-Based Service Waiver in Kansas allows for Medicaid-funded services in an assisted living or residential health care facility similarly to other states. The majority (70%) of Kansas AL and RHC facilities accept Medicaid residents, but many facilities limit the number of Medicaid residents they accept. In 2004, about 16.2% of Kansas AL and RHC residents were receiving Medicaid-funded care, which is slightly higher than the percentage of residents nationally (11%).

Trend 11: Home Health Care Utilization and Expenditures in Kansas During the 1990s Closely Reflected the National Expansion and Reduction Caused by Changes in Federal Medicare Policies.

In the United States and Kansas, home health care utilization increased in the early 1990s largely due to an increase in Medicare funding for post-acute nursing services. During this time, the number of home health care clients grew and the number of visits per user nearly doubled. Kansas differed slightly from the United States in the proportion of home health care expenditures paid by public instead of private sources with private payment sources representing a larger proportion of all home health care expenditures in Kansas than nationally. After the passage of the Balanced Budget Act of 1997, Kansas and U.S. utilization of home health care plummeted and expenditures by Medicare, Medicaid, and private sources declined. Throughout the 1990s, there were fewer older adults utilizing Medicare-funded home health care in Kansas than nationally. Policy changes related to Medicare home health care have greatly impacted the availability of this long-term care service that provides professional support to older adults in a home environment. In 2000, additional policy changes stabilized the decline
in home health care, and home health care utilization has remained at approximately the same level since 2000.

**Trend 12: The Nature of Kansas Nursing Facilities is Changing With More Diversification, Specialization, and Medicalization.**

Kansas nursing facilities have adapted their services and bed supply to meet the changing needs of older adults and changes in the long-term care market. Similar to the United States, a growing number of Kansas nursing facilities have expanded to include assisted living services for older adults in addition to their NF beds. However, different from the United States, a larger proportion of Kansas nursing facility beds are designated for dementia special care. In 2004, 8.3% of Kansas nursing facility beds and 5.6% of U.S. nursing facility beds were designated for dementia special care. Also, in Kansas, fewer NF beds are dually certified for Medicare and Medicaid despite comparable increases in dual certification in Kansas and U.S. nursing facilities. In 2004, 78.6% of Kansas nursing facility beds were dually certified compared to 93.1% of U.S. nursing facility beds. These changes in Kansas and U.S. nursing facility beds have resulted in new or expanded roles for NFs in terms of long-term care service provision.

**Trend 13: Kansas Has Begun to Shift A Greater Proportion of Medicaid Long-Term Care Expenditures From Nursing Facilities to Home and Community-Based Services for Older Adults.**

Historically, states have invested more Medicaid dollars into institutional care; however, funding for community-based services has grown recently due to the Medicaid Home and Community Based Service (HCBS) Waivers. Over the past decade, Medicaid spending for all HCBS Waivers has increased in Kansas and nationally. In addition, the proportion of Medicaid expenditures for long-term care has started to shift from institutional care to community-based care in Kansas and the United States. Although spending for all HCBS Waivers has increased as a proportion of Medicaid expenditures, more long-term care Medicaid expenditures are put toward institutional, or nursing facility, services for older adults whereas with younger populations a greater proportion of Medicaid expenditures are for community-based services. Therefore, younger adults with disabilities continue to benefit from the waivers more so than older adults. Yet, enrollment in the HCBS/Frail Elderly Waiver has increased overall from 1997 to 2004. This indicates that increasing numbers of older adults are benefiting from this program and receiving community-based services in the state of Kansas.
Trend 14: Kansas Nursing Facilities are Providing More Medicare-Reimbursed Post-Acute Care Similar to Nursing Facilities Nationally.

Kansas nursing facilities have been increasing the number and percentage of residents receiving Medicare-funded post-acute care over the past decade similar to the United States. Yet, the percentage of residents with Medicare-funded care in Kansas nursing facilities (7.1%) is much lower than in U.S. nursing facilities (12.4%). In addition, the percentage of NF costs paid by Medicare is lower in Kansas (7.7%) than in the United States (11.9%). However, the percentage of the older adult population in Kansas (0.8%) and in the United States (0.7%) that is receiving Medicare-funded nursing facility care is very similar. Medicare-funded NF residents in Kansas and the United States have the shortest average length of stay of all payment sources. In addition, their average length of stay in Kansas and U.S. nursing facilities was very similar in 1999. However, the average length of stay for Kansas NF residents with Medicaid-funded care was almost twice as long as U.S. nursing facility residents, and the average length of stay for Kansas NF residents with private sources of payment was more than twice as long as it was for U.S. residents. Due to shorter average lengths of stay, Medicare-funded residents encompass almost half of all nursing facility discharges, representing the payment source with the most discharges. Distinct from the United States, Kansas private paying NF residents represent a slightly larger percentage of discharges than Medicare-funded residents.

Conclusion

The findings of this report indicate that from now until 2020, Kansas will have an opportunity to address the needs of a growing older adult population prior to the large influx in demand for long-term care that could occur after 2020. The differences in the Kansas and national trends analyzed here point to potential avenues for reform of the Kansas long-term care system. The state has the opportunity to pursue reform options that both increase consumer choice and slow growth in Medicaid spending. These findings and their implications can be shared with providers of long-term care services as well as older adult advocacy groups to help create wider understanding of the trends that will affect Kansas long-term care services during the next twenty years.
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Planning for Long-Term Care Services in Kansas Before the Boom

Purpose

In order to plan for the future, it is important to understand and incorporate information about recent and past trends into the planning process. The purpose of this project is to study the demographic, socioeconomic, market, and policy trends that have influenced and will continue to influence long-term care services in Kansas during the next twenty years. The next twenty years is the period prior to when the baby boomers, people born between 1946 and 1964, will begin accessing long-term care services in large numbers. This report focuses on the recent and past trends surrounding long-term care services for older adults, aged 65 and older, in Kansas and the United States. In addition, this report focuses on the varying characteristics of recent and past cohorts of older adults both in Kansas and the United States, in order to understand how their differing characteristics influence long-term care services. We also examine the differences and similarities between the Kansas and national baby boom cohort because baby boomers will start to have an influence on long-term care when they begin to turn 65 in 2011. By studying these trends, it will be possible to understand how state long-term care planning might differ from national planning efforts in the next twenty years. Particular attention is directed towards low-income older adults due to their increased likelihood of using publicly funded long-term care services.

Planning efforts for long-term care services in Kansas will vary from national planning efforts due to the current demographic structure and long-term care system in the state. In particular, Kansas already has a higher proportion of older adults aged 65 years and older and 85 years and older than the United States. Kansas is a largely rural state with large concentrations of older adults in many rural areas. In addition, Kansas is not as racially and ethnically diverse as the United States although older adults who are members of minority groups are increasing in number. In regards to long-term care, Kansas has a higher than average institutionalization rate especially for private pay older adults as well as a larger nursing facility bed supply per 1,000 older adults compared to the average across the United States. Yet, older Kansans are increasingly utilizing alternative long-term care services such as assisted living and home and community-based care similarly to the United States.

By knowing how Kansas compares with the United States, Kansas policymakers and key stakeholder will be able to understand how trends identified nationally may differ in Kansas. This information will make it possible to plan more effectively for future long-term care needs. Planning efforts can be based on actual data that shows how Kansas has already adapted to
previous changes in demographics and long-term care services and how Kansas has differed from the nation in terms of long-term care service delivery. The information in this report will help state policymakers and key stakeholders prepare for the projected increase in the aging population in Kansas.

**Background**

National and state attention has been focused on the projected increase of the older adult population. The baby boom cohort, born between 1946 and 1964, will begin to turn 65 in 2011, and by 2030 the entire baby boom cohort will be older adults (ages 66-84). Due to the increase in births after World War II, the Census Bureau (2004a) projects that older adults, age 65 and older, will increase from 35.9 million people or 12.4% of the population in 2003 to 63.5 million people or 18.2% of the population in 2025. In Kansas, this will result in an increase from 353,586 older adults or 13.0% of the population in 2003 to 605,000 older adults or 19.5% of the population in 2025 (U.S. Census Bureau, Population Division, 2002). Given this projected demographic shift in the older adult population, there has been increasing calls by local, state, and national policymakers and organizations to plan for the “graying of the baby boom.”

The increase in the older adult population will impact long-term care services. As the population ages, there will be a larger number of people needing long-term care services either in the community or a nursing facility. The increase in demand will result in further costs to the state to provide care, especially for low-income older adults, as well as fewer available resources. Thus, it is important for planning efforts to take place that address the increasing demand for and costs of long-term care as well as the changing nature of service delivery so that the available resources can be used effectively to address the needs of a growing population of older adults.

However, Knickman & Snell (2002) point out that not until 2030 when the oldest baby boomers begin to turn 85 will long-term care services be influenced by a large growth in the demand for services. This projection is based on the premise that older adults are less likely to utilize formal support services prior to age 85 because they are generally healthy. Thus, more than twenty years will pass before the oldest baby boomers begin to markedly impact long-term care services (Knickman & Snell). Yet, there will still be a demand for long-term care services by the current cohort of older adults and the costs of providing long-term care are already increasing. Thus, during the next twenty years, state and national planning efforts need to address the demographic shift of the older adult population and the rising demand and cost of
long-term care services. Once the baby boom cohort begins to access formal support services at greater rates after 2030, planning will be more difficult and likely more costly.

The AARP Before the Boom Report

In 2002, AARP published *Before the Boom: Trends in Long-Term Supportive Services for Older Americans with Disabilities*, referred to here as the AARP Before the Boom report. The purpose of the AARP Before the Boom report was to “examine demographic, socioeconomic, market, and policy trends that have substantially changed the direction of long-term supportive services over the past couple of decades and how these trends are likely to affect demand for such services between now and 2030 when the first Boomers turn 85” (Redfoot & Pandya, 2002, p. 3). The AARP Before the Boom report, which focused exclusively on national data, was used as a framework for exploring long-term care trends in Kansas. The main trends outlined in the AARP Before the Boom report include nursing facility utilization, the demographic population shift, disability rates and their causes, changing characteristics that will impact caregiving supports, and the changes in long-term care delivery and policy.

According to the AARP Before the Boom report, national nursing facility utilization rates for older adults have declined since the 1970s despite growth in the older adult population. The growth of the older adult population was heavily skewed towards the population aged 75 and older in the past decade, but this growth will shift to the population aged 65 to 74 during the next 20 years. Disability rates in older adults have declined in part due to the improved socioeconomic status of older adults as well as medical treatment advances and prevention services. This improved socioeconomic status has also expanded consumers’ options related to long-term care services, documented by increased use of assisted living and home care services in addition to fewer than expected private pay residents in nursing facilities. Service utilization has also been influenced by the narrowing ratio of men to women resulting in more spousal and familial caregiving support. Higher fertility rates among the current cohort of older adults will increase the amount of family support available in the next twenty years; however, aging baby boomers might see a decline in family caregiving because they had fewer children and a higher rate of childlessness. In addition, factors such as increasing divorce rates and the changing role of women could negatively impact the availability of informal support for older adults. One other factor that will impact service utilization over the next twenty years is the increasing racial and ethnic diversity of the older adult population due to the variations in long-term care service utilization across racial and ethnic groups (Redfoot & Pandya, 2002).
In addition to changes in service utilization, changes also occurred in the long-term care delivery system in the United States. Assisted living facilities and beds have increased drastically in the past decade, serving a less impaired population than nursing facilities. Home health care utilization rose substantially in the early 1990s, but after changes in Medicare reimbursement, utilization has decreased. To adapt to changes in long-term care delivery, nursing facilities have also changed their service capacity by adding assisted living beds and special care units in addition to increasing the number of beds utilized for rehabilitation. Changes to long-term care delivery systems have also been impacted by changes in public policy. Public funding of long-term care services, especially Medicaid funding, is slowly shifting from an institutional bias to increased funding for home and community-based services. Home and community-based services are provided by states to support the preference of older adults to remain in the community and potentially provide cost savings to states. This increased funding of home and community-based services has further reinforced the medicalization and specialization of nursing facilities as the nursing facilities focus on care of a more impaired population (Redfoot & Pandya, 2002).

Methodology

The fourteen trends highlighted in the AARP Before the Boom report were analyzed using Kansas specific data. A trend-by-trend analysis was completed by examining each trend for Kansas and then comparing this information with the national trends. The data depicted in this report were compiled from a variety of secondary sources. The Kansas specific data sources used in this report include:

- 2004 AARP Caregiving Survey: Spotlight on Kansas,
- Adult Care Home Annual Report (University of Kansas, Office of Policy Analysis),
- Behavioral Risk Factor Surveillance System (Center for Disease Control and Prevention),
- Decennial Census of Population and Housing (U.S. Census Bureau),
- Directory of Adult Care Homes (Kansas Department on Aging/Kansas Department of Health and Environment),
- Health Care Financing Review for Medicare and Medicaid Statistics,
- Kansas Annual Summary of Vital Statistics (Kansas Department of Health and Environment, Center for Health and Environmental Statistics),
- Kansas Department on Aging data on Home and Community-Based Service Waiver recipients,
• Kansas Health Institute reports,
• Kansas Population Projections (Kansas Division of the Budget),
• 1997 Kansas Special Disability Survey (Kansas Department of Health and Environment),
• Legislative Division of Post Audit reports,
• Medical Assistance Report (Kansas Department of Social and Rehabilitation Services),
• The MDS+ dataset and the MDS 2.0 dataset, and
• Online Survey Certification and Reporting System (Centers for Medicare and Medicaid Services).

In addition, data were provided by state agencies including the Kansas Department on Aging and the Kansas Department of Health and Environment, state task forces such as the Governor’s Rural Life Task Force, and previous reports produced by the Office of Aging and Long Term Care. Pertinent Kansas information was also obtained from a thorough review of the literature conducted for each trend.

The state-level data were compared to the national data reported in the AARP Before the Boom report. The AARP Before the Boom report mainly utilized data from national surveys including the National Long-Term Care Survey, the National Nursing Home Survey, the Medicare Current Beneficiary Survey, and the National Home and Hospice Care Survey. The comparisons between Kansas data and U.S. data were outlined for each of the 14 trends. In some instances, it was not possible to compare the state-specific data to national data due to variations in definitions and methodologies. When comparable data were not available, this was noted along with a discussion of how the Kansas trend might be similar or different from the national trend based on the available data.

Data that were age standardized in the AARP Before the Boom report were also age standardized in this report. Age standardized means that data were reported “from various points of time as if the age distribution had remained constant so that changes in the age distribution do not confound or distort underlying trends” (Redfoot & Pandya, 2002, p. 4). Refer to Appendix A for a more detailed explanation of age adjustment and an example of how it is used.

Definitions of older adults can vary depending on the source. In general, the definition of older adults is understood to be those people aged 65 and older. However, some surveys use different ages, such as 60 years and older, when distinguishing older adults from the general population. Unless otherwise noted, this report refers to older adults as those aged 65 and older.
because that is what the AARP Before the Boom report did. In addition, some sources refer to older adults based on age groups or age cohorts due to variations in the demographic characteristics of these groups or cohorts as well as their differences in long-term care service utilization and needs. The age groups commonly used are: the young old (ages 65 to 74), the middle old (ages 75 to 84), and the oldest old (ages 85 years and older). Cohorts are broken down into: the oldest old cohort (born 1925 and prior), the birth dearth cohort (born 1926 to 1945), and the baby boom cohort (born 1946 to 1964). This report makes clear when age groups or age cohorts are being discussed in each trend.

**Report Outline**

This report provides a trend-by-trend analysis of the 14 trends discussed in the AARP Before the Boom report. Each trend begins with a summary of the national findings reported by the AARP Before the Boom report. Then, the Kansas data are presented and comparisons between the national and Kansas data are highlighted. In the final section of the report titled *Synthesis of Trends*, we provide an overall summary of the main findings related to how Kansas and the United States will compare in terms of long-term care service delivery for the current cohort of older adults and in planning for the aging baby boom cohort. This section also contains a discussion of the implications of these findings for Kansas.
Trend 1: Nursing Facility Utilization Rates in Kansas Have Declined Substantially in the Past Decade for Older Adults in All Age Groups.

Before the Boom National Findings

The AARP Before the Boom report begins their discussion of trends with a focus on nursing facility (NF) utilization since the majority of public funding for long-term care services is spent on nursing facilities and changes in nursing facility utilization affect the entire long-term care system. Nationally, nursing facility utilization rates for persons age 65 and older, as well as for the age groups 65 to 74, 75 to 84, and 85 and over have declined substantially since the 1970s (Redfoot & Pandya, 2002). When using the raw numbers for the age 65 and over population, the data show that there has been a 4% decrease in the nursing facility utilization rates from 1973 to 1999. During this time period, however, there has been a disproportionate population increase in the age 75 and older group. Therefore, it is necessary to age standardize the data to get an accurate picture of the trend of nursing facility utilization among older adults. The age-adjusted nursing facility utilization rates for persons age 65 and over show a 26% decrease from 1973 to 1999. In fact, if the 1973 utilization rates had continued, there would have been an additional 500,000 older adults served in U.S. nursing facilities in 1999 (Redfoot & Pandya, 2002).

Kansas Findings

Nursing facility utilization rates for older adults in Kansas have dropped more in the past decade than national nursing facility utilization rates declined in the past three decades. The age-adjusted decline in Kansas nursing facility utilization rates from 1990 to 2000 was 31.1%. Comparably, the national age-adjusted decline in NF utilization rates from 1973 to 1999 was 26%. Yet, older adults in Kansas are still utilizing nursing facilities at rates higher than U.S. older adults. This trend is consistent for each age group as well as the entire population 65 years and older. For example, 22.7% of Kansas adults age 85 years and older were in a nursing facility in 1999 while 18.3% of U.S. adults age 85 years and older were NF residents in 1999. However, Kansas continued to decrease its NF utilization rate from 1999 to 2004.

Nursing facility utilization rates in Kansas and the United States for selected years will be examined in this trend. This discussion includes the actual and expected number of nursing

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1 "Age standardization simply means reporting data from various points of time as if the age distribution had remained constant so that changes in the age distribution do not confound or distort underlying trends" (Redfoot and Pandya, 2002, p. 4). See Appendix A for further definition and an example.
facility residents in the past decade as well as projections of future numbers of NF residents in Kansas and the United States.

**Nursing Facility Utilization Rates**

The decline in the nursing facility utilization rates for older Kansans has been similar to declines nationally; however, the decline in Kansas occurred during a much shorter time span than nationally. Table 2 displays the decline in Kansas nursing facility utilization rates\(^2\) from 1990 through 2000. There has been a substantial decrease (at least 25%) in the nursing facility utilization rates for each age group. The age-adjusted nursing facility utilization rate for the 65 and over age group in Kansas showed a 31% decrease between 1990 and 2000. This is a larger drop (26%) than the national rates had during the 1973 to 1999 time period (see Table 1). Data were not available for NF utilization in Kansas prior to 1990.

It is also important to note that in 1999 there was a larger difference in the NF utilization rate among older adults 85 and older in Kansas and the United States than among other age groups. In addition, Kansas simply has a larger proportion of older adults age 85 and over than nationally, 14.5% and 12.1% respectively (U.S. Census Bureau, 2000a). Therefore, a much larger proportion of people in NFs are age 85 and older in Kansas (52.5%) compared to the United States (46.5%) (MDS 2.0 dataset, 1999; Redfoot & Pandya, 2002).

Between 2000 and 2004, the nursing facility utilization rate continued to decline in Kansas. Unlike the data presented in Table 2, data for 2004 does not include long term care units (LTCUs) in hospitals. When looking at NFs (not including LTCUs), the 1999 NF utilization rate was 5.3% for the entire older adult population and the 2000 NF utilization rate was 5.1%. In 2004, the age-adjusted NF utilization rate (not including LTCUs) had continued to decline to 4.6%.

\(^2\) NF utilization rates include Long Term Care Units of Hospitals.
In order to illustrate the magnitude of the decreasing utilization rates, it is useful to look at the expected number of older adults who would reside in nursing facilities if rates had not decreased. For example, if the national nursing facility utilization rates from 1973-74 had continued there would have been an additional half a million older adults residing in U.S. nursing facilities in 1999 (see Figure 1). If the 1990 rates in Kansas had continued there would have been an additional 9,000 older Kansans residing in nursing facilities in 2000 (see Figure 2).
Figure 1
National Nursing Facility Population 65 and Older, Actual and Expected Number if 1973-1974 Utilization Patterns Had Continued


Figure 2
Kansas Nursing Facility Population 65 and Older, Actual and Expected Number if 1990 Utilization Patterns Had Continued


Note: 65+ Expected equals the sum of each age group population multiplied by their 1990 NF utilization rate.
Projected Nursing Facility Utilization Rates

Future nursing facility utilization rates will depend on which assumption is employed. In order to project future national nursing facility utilization rates three different trajectories are shown in Figure 3. The trajectories are based on three different assumptions: 1) the 1985 utilization rates remained unchanged, 2) the 1999 rates remain constant, and 3) the rate of decline between 1985 and 1999 continues through 2050 (Redfoot & Pandya, 2002). All three trajectories show an increase in the number of older adults residing in nursing facilities nationally, but there is a wide range of difference in the results.

Figure 3
Projections of National Nursing Facility Population 65 and Older (in millions) Under Different Assumptions, 1999-2050

In Figure 4, four assumptions are used to project future nursing facility utilization by Kansans age 65 and over: 1) the 1990 utilization rates continued, 2) the 2000 rates remain...
constant, 3) the 1990 to 2000 decline continues, and 4) Kansas achieves the 1999 U.S. rates and these rates continue. Again, the results show a wide range of variance. If the 1990 to 2000 rate decline continues the Kansas projections show an actual decrease in the number of older adults residing in nursing facilities in the year 2025. These figures show the difficulty in predicting future NF usage.

**Figure 4**

Projections of Kansas Nursing Facility Population 65 and Older (in thousands) Under Different Assumptions, 2000-2025

<table>
<thead>
<tr>
<th>Year</th>
<th>If 1990 rates had continued</th>
<th>If 1990-2000 declines continue</th>
<th>If 2000 rates continue</th>
<th>If Kansas achieves the 1999 U.S. rates</th>
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<td>45,000</td>
<td>40,000</td>
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</tr>
<tr>
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<td>35,000</td>
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<td>25,000</td>
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<td>15,000</td>
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</tbody>
</table>


NOTE: NF projections calculated using two age groups (65-84, 85+) and their respective NF utilization rates for the conditions outlined above, except 1999 U.S. rates calculated with entire 65+ population and NF utilization rate.

**Summary and Implications**

In summary, the rate of nursing facility utilization by adults age 65 and over has decreased over time both nationally and in Kansas. Although the Kansas rates showed a substantial decrease between 1990 and 2000, a higher proportion of older Kansans use nursing facilities than nationally (4.33% nationally compared to 5.8% in Kansas in 1999). Although Kansas has made significant strides, Kansas could make additional strides in reaching the national average in the future. **In fact, the decline in Kansas nursing facility utilization rates seen from 1990 to 2000 will have to continue to 2010 for Kansas to achieve the 1999 national nursing facility utilization rate. From 2000 to 2004, the Kansas NF utilization rate has continued to decline. Kansas must continue to decrease the NF utilization rate in**
order to achieve the national rate and continue to do so in the future to offset the looming growth of the older adult population.

Despite the increase in the older adult population, there is the possibility that we will see an actual decrease in the number of older adults residing in nursing facilities if the rate of utilization continues to decrease. Although it is unlikely that the rate of decrease could continue at the same rate as 1990-2000, a small decrease would yield fewer numbers of older Kansans utilizing nursing facilities in Kansas between now and 2025. If the rates continue to show any level of decline in the next 20 years, the effect on Kansas’ long-term care system could be dramatic. It could result in a relatively stable or even decreasing number of older Kansans residing in nursing facilities. This would represent a significant cost savings for the Medicaid program and the State. This would also indicate that the current nursing facility bed supply (based on number) may be adequate to meet the demand for the next 20 years. This does not, however, speak to the “condition” of the current bed supply (e.g., many older facilities may need updating, etc).

It is likely that Kansas will continue to experience some level of decline in nursing facility rates. The magnitude of the decline and potential cost savings will depend on a number of factors such as the availability of nursing facility alternatives (i.e., home-based services, assisted living), particularly for low-income customers. Additional factors that will affect the future nursing facility utilization rates include the availability of family caregivers, changes in the disability rates of older adults, and the distribution of the future older adult population. These factors and their potential impact on Kansas’ long-term care system are discussed throughout the remainder of this report.
Trend 2: Over the Next Two Decades the Growth in the Older Adult Population in Kansas Will Incrementally Increase in All 65 and Over Age Groups in Contrast to Nationally Where it Will Shift From the 75 and Older Age Groups to the Younger Old.

Before the Boom National Findings

The aging of the baby boom generation and the potential demand on long-term care services has been the cause for much attention from the press, national and state policymakers, legislators, etc. In order to plan for this wave of older adults, it is necessary to examine the actual age structure of the baby boom cohort as well as the other age cohorts (i.e., birth dearth). Each cohort differs based on the historical, economic, and familial contexts of their generation. Since the demand for long-term care services increases with age, the differences in the age structure of these cohorts has important implications for planning. Nationally, during the last decade (1990 to 2000), the largest growth was exhibited by the 75 and older age groups. Due to the low number of people born in the birth dearth cohort (1926 to 1945), the age 75 and over growth rate will decline over the next two decades. Instead, there will be dramatic increases in the young old (65 to 74) during the next twenty years. It is not until about 2020 that the oldest baby boomers will turn 75 and thereby cause a potential swell in the demand for long-term care services (Redfoot & Pandya, 2002).

Kansas Findings

Kansas and the United States have historically followed similar birth rate patterns with lower birth rates coinciding with the birth dearth cohort and higher birth rates during the baby boom. In addition, the growth in the older adult population that occurred from 1990 to 2000 was similar for Kansas and the United States. During this time, the population growth was concentrated in the 75 and older age groups, not the 65 to 74 age group. Although Kansas and the United States both showed this trend, the Kansas growth was much smaller than the growth nationally. In addition, the projected growth in the older adult population in Kansas is not expected to mirror U.S. trends. In Kansas, the population is expected to grow incrementally for all age groups with slightly more growth in the oldest old (85 and over) age group. Conversely, in the United States, the growth from 2000 to 2020 is expected to be heavily concentrated in the young old (65 to 74) age group.

In this trend, the birth rates in Kansas and the United States will be discussed. In addition, the growth in the population from 1990 to 2000 will be examined. Lastly, the
differences between the Kansas and national expected growth in the older adult population will be explored and discussed in terms of what this means for Kansas.

Birth Rate Trends

The future growth in older adult populations can be explained in part by examining the trend in birth rates. Figure 5 below shows the number of births nationally from 1909 through 1984. From 1909 until World War I the number of births increased steadily. Beginning in the mid-1920s the number of yearly births decreased sharply well into the mid-1930s. The birth rate began to increase again reaching earlier levels beginning in the early 1940s. This cohort is referred to as the birth dearth cohort. Beginning in 1946 through the late 1950s, there was a large increase in the number of yearly births – this period is included in the baby boom cohort (1946-1964). The number of births in Kansas has followed a similar trend as shown in Figure 6. One notable difference, however, is that Kansas did not experience the same magnitude of decrease in births during the birth dearth cohort.

Figure 5
National Births in Thousands per Year

![Graph showing national births from 1909 to 1984, with notable periods labeled: Birth Dearth (1926-1943), Baby Boomers (1946-1965), and Post Baby Boom (1966-).]

Source: National Center for Health Statistics.
Older Adult Population Growth

During the last decade, the growth in the older adult population nationally has been largely concentrated in the 75 and over age group. The 65 to 74 age group showed a much smaller growth rate from 1990 through 2000 than the 75 and over groups. This national trend is echoed in Kansas – the 75 and older age groups had a larger growth rate than the 65 to 74 age group. However, the magnitude of the growth rate of the 75 and over age groups was higher nationally than in Kansas. For example, from 1990 to 2000 the number of people age 85 to 89 grew by 35.4% nationally while in Kansas it grew by 19.2%. On the other hand, Kansas already had a high proportion of older adults, therefore the growth of the 75 and older age group does not have the same magnitude in growth as nationally. Figures 7 and 8 show the growth rates by age category from 1990 through 2000 for the nation and Kansas.
Figure 7
Percent Change in National Population by Age Group: 1990-2000


Figure 8
Percent Change in Kansas Population by Age Group: 1990-2000

The population change from 1990 to 2000 for the entire 65+ population in Kansas resulted in a growth of 4% (from 342,571 to 356,299). However, this growth was not consistent for all Kansas counties. Maps 1 and 2 illustrate the percent of the population age 65 years and older in Kansas by county in 2000 and the percent change from 1990 to 2000. See Appendix B for similar maps for the Kansas population age 85 years and older by county.

Map 1
Percent of Kansas Population Age 65 and Over, 2000


Map 2
Percent Change in Kansas Population Age 65 and Over, 1990-2000
Over the next few decades the national population growth rate trends will change. The growth rate of adults age 75 and over will slow considerably as the birth dearth cohort ages into the 75 and older age group. Therefore, the national growth in the next couple of decades (through 2020) will be largely concentrated in the 65 to 74 age group (See Appendix B for specific figures). It is not until the 2020s that the baby boom cohort will begin to turn 75 and that a subsequent swell in long-term care service demand will likely be felt nationally (Redfoot & Pandya, 2002).

Whereas the national trend shows a lull in the growth of the older adult population that will potentially need long-term care services, the growth in the older adult population in Kansas will increase steadily over the next two decades. Each age segment will grow at a steady pace unlike the national growth where the 65 to 84 age group growth will drastically outpace the growth of the 85 and older age groups (See Appendix B for specific figures). Figure 9 below displays the projected population in Kansas for the 65 to 84 age groups and the over 85 age group through 2025. Appendix B also provides maps for the projected growth in the Kansas population age 65 and over from 2000 to 2025 by county.

Figure 9
The 65 to 84 and 85 and Over Population in Kansas, 1980-2025


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3 For the purposes of this report, we chose to use the population projections developed for the Kansas Division of Budget. These projections are available in greater detail and better reflect current population trends than the interim population projection available from the U.S. Census Bureau at the time of this report.
Summary and Implications

Nationally, the next two decades represent a “lull” in the growth of the 75 and over adult population. The growth will be concentrated in the 65 to 74 age group rather than the oldest old age group who are more likely to use long-term care services. Due to the age structure of Kansas, the trend is a little different. The age 65 and over population will grow steadily over the next couple of decades in Kansas without a lull in any of the age segments. Due to the steady population increase during this time period, there may likely be a steady increase in the need for long-term care services. In addition, the specific characteristics of this aging population will play a role in the changing nature of needed long-term care services. Therefore, current long-term care providers in Kansas should find ways for their services/facilities to meet the demand of an increasing population of older adults and changing nature of long-term care needs. In addition, this time period represents an opportunity for planning and gearing up prior to when the baby boom cohort ages into the higher service need groups (2020 and later). Policymakers can use this time to enhance long-term care services to meet the increased demands and to be prepared for when the boom hits.
Trend 3: Disability Rates for Older Adults in Kansas Are Consistently Lower than National Disability Rates.

Before the Boom National Findings

Nationally, disability rates declined substantially over the past twenty years with a greater rate of decline in limitations in instrumental activities of daily living (IADLs) than limitations in activities of daily living (ADLs). IADLs include using the telephone, cooking, going outside the home, and paying the bills; whereas the most common ADLs include bathing, dressing, transferring, toileting, and eating. The rate of disability decline was not steady. Instead, the trend revealed sharp declines followed by periods of stabilization or small increases in disability rates. Due to declining disability rates, the number of older adults in the United States with a disability remained relatively constant at 7 million from 1989 to 1999 despite the increase in the actual number of older adults (Redfoot & Pandya, 2002).

Future projections of disability were made based on past trends of disability among older adults. These projections suggest that the number of older adults with disabilities could either: a) sharply increase if disability rates remain constant, or b) stay relatively stable if disability rates continue to decline. However due to a lack of research on disability rates among younger persons, these projections do not account for the current level of disability among those adults that will be 65 in future years. Yet, future disability rates are heavily influenced by the current level of disability for adults younger than 65. Thus, the projections of future disability might differ contingent on whether younger persons now are more or less disabled than current older adults were prior to their turning 65 (Redfoot & Pandya, 2002).

Kansas Findings

Disability rates in Kansas for the non-institutionalized population aged 65 years and older were slightly lower than national disability rates in 1990 and 2000. In 1990, 17.2% of Kansans age 65 years and older reported a self-care or mobility disability compared to 20.1% of older adults in the United States (U.S. Census Bureau, 1990b). According to the 2000 Census, 41.5% of older adults in Kansas had any disability⁴ compared to 41.9% of older adults in the United States. Although the difference between the Kansas and U.S. older adult population with any disability is small in 2000, specific types of disabilities such as self-care and mobility disabilities showed a larger difference. For example, 18.3% of Kansas older adults had a

---

⁴ According to the 2000 Census, any disability includes limitations in self-care, mobility, sensory, physical, and/or cognitive/mental functioning.
mobility disability, or difficulty going outside the home alone, compared to 20.4% of U.S. older adults (U.S. Census Bureau, 2000a). Of note, Kansas has a lower level of disability than the United States despite having a larger proportion of the older adult population in the 85 years and older age group (14.5% in Kansas and 12.1% in the United States).

The 1990 and 2000 disability rates are not comparable due to wording changes made between the two censuses (Waldrop & Stern, 2003). Therefore, it is not possible to directly determine whether or not disability rates in Kansas declined between these two years. However, since Kansas maintained disability rates below the national rates in both years, it is likely that Kansas disability rates followed a similar rate of decline as nationally during the past decades.

This trend briefly discusses the disability data available in Kansas and the disability rates of specific populations in Kansas and the United States. The disability rates of those age 65 years and older as well as those age 85 years and older are highlighted. In addition, disability rates of adults age 18 to 64 are discussed because of their importance in future projections of disability rates in the older adult population. The higher disability rates of racial and ethnic minority groups will also likely impact the overall rate of disability in Kansas and the United States in the next twenty years as this population grows. The differences in disability rates for members of racial and ethnic minority groups will be presented in Trend 9, which focuses specifically on long-term care utilization of racial and ethnic minority groups.

Availability of Disability Data in Kansas

Deciphering whether disability rates in Kansas have declined at the same rate as they did nationally is difficult due to a lack of uniform data collected on disability in Kansas over time. Whereas national data on disability are collected through a variety of survey instruments, state data on disability are primarily restricted to the information collected by the U.S. Census Bureau. The U.S. Census Bureau collected information in 1990 and 2000 on various types of disability for the non-institutionalized population; however, changes in the survey questions between the two years make direct comparisons of the data impossible. Starting in 2005, the American Community Survey was administered by the U.S. Census Bureau. If fully funded, the American Community Survey will provide county-level disability data on a yearly basis starting in 2010. Two additional surveys, the Behavioral Risk Factor Surveillance System (BRFSS) conducted yearly by the Centers for Disease Control and Prevention (CDC) and the 1997 Kansas Special Disability Survey conducted by the Kansas Department of Health and Environment (KDHE), provide a limited amount of disability information for Kansas. Refer to Appendix C for an
Disability Rates of Older Adults

According to the U.S. Census Bureau, a smaller proportion of older Kansans than all older Americans reported a disability in 1990. This information is displayed in Table 3. In 1990, 54,763 older Kansans reported a self-care or mobility limitation (U.S. Census Bureau, 1990b).

### Table 3
**Percentage of Adults Age 65 and Older With a Disability, 1990**

<table>
<thead>
<tr>
<th></th>
<th>Kansas</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Care or Mobility Disability</td>
<td>17.2%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Self-Care Disability</td>
<td>4.0%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Mobility Disability</td>
<td>7.4%</td>
<td>8.2%</td>
</tr>
</tbody>
</table>

Source: 1990 Census, STF3 table P69.

The trend in lower rates of disability for older Kansans was also found with the 2000 Census. In 2000, 26.5% of older Kansans reported a self-care or mobility limitation compared to 29.9% of older adults in the United States (U.S. Census Bureau, 2000a). Table 4 reports the number and percentage of adults age 65 and older with a disability by type of limitation in 2000.

### Table 4
**Adults Age 65 and Older With a Disability by Type of Disability, 2000**

<table>
<thead>
<tr>
<th></th>
<th>Kansas</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Any Disability</td>
<td>137,085</td>
<td>41.5%</td>
</tr>
<tr>
<td>Physical Disability</td>
<td>94,530</td>
<td>28.6%</td>
</tr>
<tr>
<td>Self-Care Disability</td>
<td>27,045</td>
<td>8.2%</td>
</tr>
<tr>
<td>Mobility Disability</td>
<td>60,445</td>
<td>18.3%</td>
</tr>
<tr>
<td>Sensory Disability</td>
<td>46,485</td>
<td>14.1%</td>
</tr>
<tr>
<td>Cognitive/Mental Disability</td>
<td>29,765</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Census 2000, Special Tabulation on Aging.

Additional information about disability is available from the Behavioral Risk Factor Surveillance System and the Kansas Special Disability Survey. It is important to keep in mind that these surveys used different questions and definitions of disability than the U.S. Census Bureau. According to the BRFSS, 29.8% of Kansans age 65 years and older were limited in an activity due to an impairment or health problem in 1998 (CDC, 2000). In 2003, 27.1% of
Kansans age 65 years and older were limited in an activity because of a physical, mental, or emotional problem (BRFSS, 2003). In 1997, the Kansas Special Disability Survey found that 26% of adults aged 65 to 74, 34% of adults aged 75 to 84, and 44% of adults aged 85 and older had a disability (KDHE, 1997a). This survey portrays the increased prevalence of disability with age that was also apparent with the data provided by the U.S. Census Bureau.

The disability rates reported by the U.S. Census Bureau for adults age 85 and older are also important to highlight. Knickman & Snell (2002) argue that older adults are more likely to utilize long-term care services after the age of 85 because prior to that age, older adults are generally healthy. In Kansas, a larger proportion of the older adult population is in the 85+ age group than nationally. Yet, disability rates for the entire older adult (65+) population in Kansas are lower than the U.S. average. This is in part due to the lower disability rates among the Kansas oldest old age group. In 2000, 71.1% of Kansas adults age 85 years and over reported having any disability, which is much higher than the 41.5% of Kansas adults age 65 years and over reporting having any disability (U.S. Census Bureau, 2000a). Figure 10 shows the percent of adults age 85 and older who reported a disability in Kansas and the United States. Similar to the trend found with Kansas adults age 65 and older, a smaller percent of Kansans age 85 and older have a disability than the U.S. population age 85 and older.

**Figure 10**

*Adults Age 85 and Older With a Disability by Type of Disability, 2000*

![Chart depicting disability rates by type for adults age 85 and older in Kansas and the United States.]

Map 3 provides an illustration of self-care and mobility disability rates by Kansas county as reported by the 2000 Census. From the map it is possible to see that 19 counties in Kansas
have a larger proportion of older adults with a self-care or mobility disability than the U.S. average of 29.9%. However, 54 counties have a smaller proportion of older adults with a self-care or mobility disability than the Kansas average of 26.5%.

Overall, a smaller percentage of older adults in rural Kansas have a self-care or mobility disability than urban older adults. In addition, a smaller percentage of older adults in rural Kansas have any disability or a physical disability than urban older adults (U.S. Census Bureau, 2000a). Table 5 illustrates the variations in disability by rural and urban areas in Kansas and the United States. Contrary to Kansas trends, the United States had a higher proportion of rural older adults with any disability or a physical disability than their urban counterparts. Yet, Kansas trends for the limitations presented in Table 5 are similar to rural and urban differences in other Midwest states such as Nebraska, Iowa, and South Dakota (U.S. Census Bureau).
Table 5
Adults Age 65 and Older With Disabilities by Rural or Urban Residence, 2000

<table>
<thead>
<tr>
<th></th>
<th>Kansas Rural</th>
<th>Kansas Urban</th>
<th>United States Rural</th>
<th>United States Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Disability</td>
<td>40.0%</td>
<td>42.2%</td>
<td>42.7%</td>
<td>41.7%</td>
</tr>
<tr>
<td>Physical Disability</td>
<td>27.1%</td>
<td>29.4%</td>
<td>29.6%</td>
<td>28.3%</td>
</tr>
<tr>
<td>Self-Care Disability</td>
<td>7.9%</td>
<td>8.3%</td>
<td>9.5%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Mobility Disability</td>
<td>17.2%</td>
<td>18.8%</td>
<td>19.7%</td>
<td>20.6%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Census 2000, Special Tabulation on Aging.

Disability Rates of Younger Kansans

Due to the increased prevalence of disability with age, it is beneficial to make projections of future rates of disability among older adults based on the disability rates of the population younger than 65. However, national and Kansas data on disability rates for the population age 18 to 64 are scarce. In Kansas, disability rates for adults aged 18 to 64 are provided by the same surveys used to measure disability rates in older adults. Table 6 shows the disability rates in Kansas based on these data sources: the 2000 Census, the 2003 Behavioral Risk Factor Surveillance System, and the 1997 Kansas Special Disability Survey. From Table 6 it is possible to see that the prevalence of disability increased with age in all three surveys. However, as was true with disability rates in older adults, the definition of disability used by the various surveys (see Appendix C) can greatly impact the number of people reporting a disability. National statistics of disability rates for adults age 18 to 64 are presented in Appendix C.

Table 6
Percentage of Kansas Adults Aged 18 to 64 With a Disability by Age

<table>
<thead>
<tr>
<th>Ages</th>
<th>Census 2000</th>
<th>BRFSS 2003</th>
<th>KS Disability Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>8.9%</td>
<td>7.8%</td>
<td>3.0%</td>
</tr>
<tr>
<td>25-34</td>
<td>9.7%</td>
<td>7.3%</td>
<td>5.0%</td>
</tr>
<tr>
<td>35-44</td>
<td>11.5%</td>
<td>13.5%</td>
<td>9.0%</td>
</tr>
<tr>
<td>45-54</td>
<td>12.7%</td>
<td>18.6%</td>
<td>12.0%</td>
</tr>
<tr>
<td>55-64</td>
<td>16.8%</td>
<td>22.2%</td>
<td>23.0%</td>
</tr>
</tbody>
</table>


NOTE: Census 2000 only reports the percentage of adults with a mobility and/or employment disability.

Summary and Implications

Disability rates increase with age. Various surveys found that less than 10% of the Kansas population age 18 to 34 had a disability and less than 25% of Kansans age 35 to 64 reported a disability. However, according to the 2000 Census, slightly more than 40% of non-
institutionalized adults age 65 and older and 70% of non-institutionalized adults age 85 and older in Kansas were unable to complete a task due to a limitation in cognitive/mental, physical, self-care, mobility, and/or sensory functioning. Among Kansas older adults, the disability rates in rural areas of the state are lower than those in urban areas. Disability rates among older adults in Kansas were lower than disability rates for older adults nationally in 1990 and 2000. Because Kansas disability rates have remained lower than nationally, it is likely that disability rates have declined in Kansas similarly to the United States.

People with disabilities can place heavy demands on service delivery and fiscal resources. Thus, reliable estimates of the number of people with disabilities are critical for state agencies to plan for current and future needs. Additionally, data about younger adults with disabilities are needed. These data will be essential for projecting future numbers of older adults with disabilities, which currently is not possible in Kansas due to an absence of consistent measures of disability.

Nationally, experts have projected that in the next twenty years, the number of older adults with disabilities will continue to remain constant or only slightly increase despite the growth of the older adult population (Waidmann & Liu, 2000; Tilly, Goldenson, & Kasten, 2001). However, even without a significant increase in disability rates among Kansans in the next two decades, increased pressure on long-term care programs throughout the state will likely result from rising medical and long-term care costs for older adults with disabilities. Thus, Kansas efforts to reduce disability rates should continue, including an emphasis on education (see Trend 4) and access to medical treatment and prevention efforts (see Trend 5).
Trend 4: Increased Educational Attainment Has Reduced Disability Rates Among Older Kansans.

Before the Boom National Findings

According to the AARP Before the Boom report “socioeconomic improvements have reduced disability rates among older persons” (Redfoot & Pandya, 2002, p. 15). Educational attainment is often used as a proxy for socioeconomic status instead of income or wealth because it is set early in adulthood and remains constant in old age, thus health problems in late life are unlikely to affect it. In addition, education level is related to factors that affect disability such as insurance coverage and access to medical care, exposure to occupation-related risks, and health-related behaviors such as diet, exercise, and smoking patterns (Redfoot & Pandya). Attainment of a high school diploma and/or a college degree has been found to reduce disability rates among older adults (Freedman & Martin, 1999; Schoeni, Freedman, & Wallace, 2001; Cagney & Lauderdale, 2002). In fact, older adults with higher levels of education have seen the greatest declines in disability over the past 20 years.

Since 1950, the percentage of people age 65 years or older that graduated from high school has increased dramatically in the United States. Additionally, the percentage of adults with a high school diploma or higher and a bachelor’s degree or higher continues to increase for adults under age 65. Adults between the ages of 45 and 49 who will be 65 to 69 in 2020 have an 89.5% high school completion rate or higher and 30.3% have a bachelor’s degree or higher education. As younger adults with an increased proportion of higher educational attainment turn 65 in the next twenty years, disability will continue to decline in the United States (Redfoot & Pandya, 2002).

Kansas Findings

As was found with older adults in the United States, the educational attainment of older Kansans increased considerably from 1950 to 2000. In 2000, older adults in Kansas had a 73.7% high school completion rate or higher. A larger percentage of older adults in Kansas had a high school diploma or higher than U.S. older adults. However, there was a smaller percentage of older Kansans with a bachelor’s degree or higher than nationally. The increase in educational attainment in the Kansas older adult population reduced the level of disability in the state, as it did nationally. Additionally, disability rates can be expected to continue to decline in Kansas and the United States as future cohorts of older adults have even higher levels of educational attainment. In Kansas, 92.1% of persons age 45 to 49 had a high school diploma or
higher education level in 2000. This population, which will be 65 to 69 in 2020, has an additional ten percent of adults with a high school education than the current population age 65 to 69.

In order to highlight how educational levels in the United States and Kansas have influenced disability rates, the educational attainment of the population age 65 years and older in 2000 will be discussed in this trend. In addition, the educational attainment of adults that will be 65 years and older in 2020 will be highlighted. Finally, the relationship between educational attainment and disability in Kansas is illustrated. The lower educational attainment of racial and ethnic minority groups will be presented in Trend 9, which focuses specifically on long-term care utilization of racial and ethnic minority groups.

**Trend in Educational Attainment**

The percentage of the older Kansan population with at least a high school diploma increased from 16.9% in 1950 to 73.7% in 2000. Nationally, 65.5% of older adults completed a high school diploma or higher level of education in 2000 (U.S. Census Bureau, 2000b\(^5\)). Thus, the high school completion rate in Kansas was 8.2 percentage points higher than the United States. In addition, the percentage of older adults in Kansas with at least a bachelor’s degree has kept pace with national trends. By 2000, 14.9% of Kansas older adults had completed a bachelor’s degree or higher education. This was only slightly lower than the national 15.3% of older adults with a bachelor’s degree or higher (U.S. Census Bureau). This trend is illustrated in Figures 11 and 12.

\(^5\) National data reported in text was obtained from Census 2000 Summary File 3, which varies slightly from the March Current Population Survey 2000 used in Figure 11.
Figure 11
Percentage of the Population Age 65 and Older with a High School Diploma or Higher and Bachelor's Degree or Higher in the United States, 1950-2000


Figure 12
Percentage of the Population Age 65 and Older with a High School Education or Higher and Bachelor's Degree or Higher in Kansas, 1950-2000

The trend of increased educational attainment for older Kansans reflects national trends. Because increased education is related to lower rates of disability nationally, we can expect that disability rates in Kansas also have declined as educational attainment increased. Future trends in disability rates can be examined by maintaining the use of education as a proxy for disability decline. Disability rates may continue to decline given that a greater proportion of the population turning 65 in the next twenty years will have a higher level of education than the current population of older adults. Tables 7 and 8 depict the educational attainment of adults that will be 65 years and over by 2020.

Table 7
Percentage of Adults Age 45 Years and Older With a High School Diploma or Higher by Age, 2000

<table>
<thead>
<tr>
<th></th>
<th>45-49</th>
<th>50-54</th>
<th>55-59</th>
<th>60-64</th>
<th>65-69</th>
<th>70-74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>92.1</td>
<td>90.9</td>
<td>87.7</td>
<td>84.8</td>
<td>80.7</td>
<td>75.5</td>
<td>69.4</td>
</tr>
<tr>
<td>United States</td>
<td>89.5</td>
<td>88.3</td>
<td>84.0</td>
<td>78.8</td>
<td>75.4</td>
<td>71.6</td>
<td>64.6</td>
</tr>
</tbody>
</table>


As seen in Table 7, each successive age group had higher educational attainment in Kansas and the United States. In 2000, over 90% of Kansans aged 45 to 54 had a high school diploma or higher, which is higher than the United States (U.S. Census Bureau, 2000b). When this age group turns 65 to 74 in 2020, they will have a much higher education level than those currently age 65 to 74. Based on this data, it is projected that 85.7% of adults age 65 years and older in Kansas will have completed at least a high school education by 2020.

Table 8
Percentage of Adults Age 45 Years and Older With a Bachelor's Degree or Higher by Age, 2000

<table>
<thead>
<tr>
<th></th>
<th>45-49</th>
<th>50-54</th>
<th>55-59</th>
<th>60-64</th>
<th>65-69</th>
<th>70-74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>31.0</td>
<td>31.5</td>
<td>25.9</td>
<td>20.8</td>
<td>17.9</td>
<td>15.1</td>
<td>13.3</td>
</tr>
<tr>
<td>United States</td>
<td>30.3</td>
<td>30.2</td>
<td>25.0</td>
<td>21.6</td>
<td>18.5</td>
<td>16.4</td>
<td>13.4</td>
</tr>
</tbody>
</table>


For Kansas adults aged 60 years and older, attainment of a bachelor’s degree or higher is lower than the national average; however, Kansas adults under 60 show a reverse of this trend. In 2000, almost one-third of Kansans aged 45 to 54 had a bachelor’s degree or higher.

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6 2020 Kansas projections were calculated based on the 2000 educational composition of the population age 45 to 79, consistent with Freedman & Martin (1999).
compared to less than one-fifth of those currently 65 years and older (U.S. Census Bureau, 2000b). Completion of a bachelor’s degree or higher among older adults will likely double in the next 20 years so that a projected 24.4% of Kansas adults age 65 and older will have completed a bachelor’s degree or higher in 2020.

Older adults turning 65 in the next 20 years will continue to have increased educational attainment both in terms of high school graduates and higher education degrees. Therefore, disability rates should continue to decline for older adults in Kansas. However, experts believe that further declines in disability rates related to increased education will be less than those previously achieved because the growth of high school graduates in the older adult population is slowing (Freedman & Martin, 1999). The proportion of the older adult population with less than a high school diploma fell 27.3 percentage points between 1980 and 2000. In 1980, 53.7% of older adults had less than a high school education compared to 26.3% in 2000 (U.S. Census Bureau, 2000b). By 2020, it is projected that 14.3% of older adults in Kansas will have less than a high school education. This decline of 14.0 percentage points between 2000 and 2020 is slightly less than half the decrease seen from 1980 to 2000.

Although the growth of older adults with a high school diploma is slowing, the growth in the older adult population with a bachelor’s degree or higher will continue to accelerate until 2020. By 2020, a projected 24.4% of the older Kansas population will have at least a bachelor’s degree compared to 14.9% in 2000. However, it is still unknown what impact a larger number of college educated older adults will have on disability rates. Only with future research will it be possible to see if a college degree could further improve factors related to disability such as health insurance coverage and health-related behaviors.

Educational Attainment and Disability Level

Figure 13 presents the correlation between education and disability for the Kansas population age 60 and older. Although some people might not have completed high school or a higher degree due to a disability, this only represents a small percentage of people without a higher level of education. As discussed in Trend 3, disability rates are relatively low for younger adults, but then increase with age. Thus, the onset of disability generally happens later in life after the typical age that an education is achieved. Figure 13 illustrates that a greater proportion of adults with no disability at age 60 completed high school or a higher degree compared to those with any disability. Also, people with less than a high school diploma represent almost

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7 According to the 2000 Census, any disability includes limitations in self-care, mobility, sensory, physical, and/or cognitive/mental functioning.
one-third of adults with a disability compared to less than one-fifth of adults with no disability (U.S. Census Bureau, 2000a). People with self-care or mobility disabilities are similar to adults with any disability in terms of educational attainment.

**Figure 13**

*Educational Attainment of the Population Age 60 and Older in Kansas, by Disability Status, 2000*

<table>
<thead>
<tr>
<th>No Disability</th>
<th>Any Disability</th>
<th>Self-Care Disability</th>
<th>Mobility Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School Graduate</td>
<td>High School Graduate or More</td>
<td>Bachelor's Degree or More</td>
<td></td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Census 2000, Special Tabulation on Aging.

**Summary and Implications**

Completion of a high school diploma and post-secondary education has increased over the past fifty years. In 2000, 73.7% of older adults in Kansas had completed high school and 14.9% had completed a bachelor’s degree. This increase in educational attainment will continue for at least the next twenty years in Kansas. By 2020, a projected 85.7% of older Kansans will have completed high school and 24.4% will have completed a bachelor’s degree. Older adults that have completed at least high school or attained a bachelor's degree or higher are less likely to be disabled in later life compared to older adults that have not completed high school.

The trend in Kansas educational attainment reflects that of the United States. Due to this similarity, it is assumed that Kansas had the same rate of decline in disability attributed to increased education levels of the older adult population as was found true in the United States. In addition, Kansas can expect to see some further declines in disability rates as the percentage of older adults with a high school or higher education as well as bachelor’s degree or higher education continues to increase. The relationship between educational attainment in younger adults and disability rates in older adults exemplifies that planning for long-term care services
should not be restricted only to the older adult population. Knowing that the completion of high school is important for a less impaired older adult population, any barriers to high school graduation should be removed.
Trend 5: Medical Advances Are Creating More Opportunities for Kansans to Live Without Disability in Old Age.

Before the Boom National Findings

The importance of education on improved disability rates among older adults was discussed in Trend 4. Trend 5 asserts that “medical advances have also played a role in reducing disability rates” (Redfoot & Pandya, 2002, p. 18). Improvements in medical care have resulted in declining mortality rates for many diseases in the United States. Increased longevity has thus resulted in more people diagnosed with slowly developing diseases such as arthritis and Alzheimer’s disease. Yet, older adults with chronic diseases are increasingly less disabled due to a reduction in the debilitating effects of various diseases (Redfoot & Pandya).

Key medical components leading to the reduction of disability have been prevention, early diagnosis, and treatment of medical conditions. Ensuring that medical technology is available for all people (e.g., women, racial and ethnic minorities) could further improve disability rates. Finally, other improvements in disability rates might be realized with future medical breakthroughs such as cures or effective treatment procedures for chronic conditions such as osteoporosis, diabetes, or cancer (Redfoot & Pandya, 2002).

Kansas Findings

Older adults in Kansas, as well as the United States, have chronic conditions that can limit their daily activities and result in disability. The number of older adults with chronic conditions will increase over the next twenty years as the population ages, especially if mortality rates continue to decline. In Kansas and the United States, mortality rates for many chronic conditions declined over the past thirty years. Further national and state efforts to reduce the disability associated with chronic conditions through prevention, early diagnosis, and treatment could lower the number of older Kansans limited in activities due to their chronic condition. As mentioned in the national literature, ensuring that current medical technology is available for all Kansans, especially people who are members of racial and ethnic minority groups and rural older adults could further reduce Kansas disability rates.

This trend examines the various components affected by medical advances that have changed disability rates. First, declining mortality rates in Kansas and the United States are discussed. Then, the most disabling and common chronic condition, arthritis, is used to illustrate how the number of older adults in Kansas with chronic conditions and disabilities due to chronic conditions may increase. Finally, barriers to medical care for two populations in Kansas,
members of racial and ethnic minority groups and rural older adults, are highlighted because removing barriers to health care access could further reduce Kansas disability rates.

Changing Mortality Rates

Age-adjusted death rates for all causes declined nationally from 1970 to 2002. In addition, the age-adjusted death rates for the three leading causes of death (i.e., heart disease, cancer, cerebrovascular disease) declined from 1970 to 2002. Age-adjusted death rates declined substantially for heart disease and cerebrovascular disease (stroke), whereas death rates for all malignant neoplasms (cancers) rose prior to 1990, then subsequently declined through 2002 to rates slightly below those in 1970 (Jemel et al., 2005). Similar to nationally, Kansas death rates for heart disease and cerebrovascular disease have declined considerably since 1970. Death rates for cancer in Kansas increased from 1970 to 1996, and then started to decline; however, death rates from cancer have not declined overall from 1970 to 2002 similar to what was seen nationally (Center for Health and Environmental Statistics, 2004). It is important to note that although death rates have declined, the actual number of deaths each year is larger due to the growth and aging of the population (Jemel et al.). In addition, the three leading causes of death accounted for 55.1% of all deaths in Kansas and 57.2% of all deaths in the United States in 2003 (Center for Health and Environmental Statistics; Hoyert, Kung, & Smith, 2005). Figure 14 shows the age-adjusted death rates in Kansas and the United States.

Figure 14
Age-Adjusted Death Rates in Kansas and the United States for Selected Leading Causes of Death, 2003


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Chronic Disease in Kansas

Currently, approximately 82% of adults age 65 and older nationally have at least one chronic condition and 65% have two or more chronic conditions (Wolff, Starfield, & Anderson, 2002). In 2000-2001, 20.4% of older adults nationally had coronary heart disease, 8.6% had survived a stroke, and almost one in five older adults in the United States had been diagnosed with cancer at some point in their life (CDC, 2004b). Additionally, approximately 14% of Kansans age 65 and older had diabetes in 2002 and 2% of older Kansans had Alzheimer’s disease in 2000 (CDC, 2005; Hebert et al., 2004).

As mortality rates fell for many chronic conditions, the number of people diagnosed with chronic conditions increased. In particular, Crimmins (2001) and Freedman and Martin (2000) highlighted an increase in the percent of people 70 years and older with arthritis, cancer, stroke, hypertension, and heart disease from 1985 to 1995. Freedman and Martin also reported a higher percentage of the population 70 years and older with osteoporosis, a broken hip, and obesity. Although it is unknown whether the proportion of the population diagnosed with a chronic condition will continue to increase, the total number of older adults with one or more chronic conditions will likely increase due to the rising number of older adults.

The number of older adults with disabilities due to chronic conditions will also continue to grow. By focusing on arthritis, it is possible to illustrate the impact of chronic disease on older adults in Kansas and the potential growth of those diagnosed with chronic conditions. Appendix D has a brief overview of other chronic conditions that impact older adults in Kansas and the United States. Arthritis is the most common and most disabling chronic condition in the United States (CDC, 2003). In a survey conducted by KDHE, Kansans with disabilities reported that their activity limitations were more likely caused by arthritis than any other contributing factor (Kansas Statewide Arthritis Steering Committee et al., 2002). In fact, almost one-third of Kansans with doctor-diagnosed arthritis or self-reported chronic joint syndrome\(^8\) (CJS) are limited in their activities due to these conditions (BRFSS, 2001).

An estimated 34.4% of adults in Kansas had either doctor-diagnosed arthritis or self-reported chronic joint syndrome in 2001, which is only slightly higher than the 33.0% of U.S. adults (CDC, 2002). As with many chronic conditions, the prevalence of arthritis and CJS increases with age. In 2001, an estimated 62.9% of older Kansans and 58.8% of older adults nationally had arthritis or CJS (BRFSS, 2001; CDC, 2002). Although the percent of older adults in Kansas with arthritis or CJS is expected to remain constant, the number of older Kansans

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\(^8\) Chronic joint syndrome refers to pain, aching, stiffness, or swelling in or around a joint present for most days of at least one month during the past 12 months (BRFSS, 2001).
with these conditions is expected to almost double to 375,000 older adults by 2025 (CDC, 2003). Without more effective prevention efforts and better treatment options, it is expected that at least one-third of these older adults with arthritis (or approximately one in five older Kansans) will be disabled by this condition alone.

### Access to Medical Care

The AARP Before the Boom report draws attention to the positive impact of the availability of and access to specific treatments and prevention interventions on disability rates. Yet, it was noted that members of racial and ethnic minority groups don’t always receive available treatment and diagnostic procedures (Redfoot & Pandya, 2002). Recently, a report published by the Kansas Health Institute supported this claim and drew attention to the health disparities of ethnic and cultural minorities in Kansas (Kimminau & Satzler, 2005).

According to Kimminau & Satzler (2005), racial and ethnic minority groups in Kansas have higher age-adjusted death rates for many conditions. In addition, many diseases are not detected early and treatment is not always provided. Age-adjusted death rates for coronary heart disease are higher among both Native Americans and African Americans than the general population in Kansas (173 vs. 150/100,000). In addition, age-adjusted death rates for cancer are higher for African Americans than the general population (Kimminau & Satzler). For instance, age-adjusted death rates for lung and bronchus cancer in African American males in Kansas was 144.4 deaths per 100,000 population in 2001 compared to 77.2 deaths per 100,000 population for all races (U.S. Cancer Statistics Working Group, 2004). Moreover, African American women are more likely to die from breast cancer than white women (25.4 vs. 22.0/100,000) because African American women are not benefiting from early detection of breast cancer at the same rate as white women (Kimminau & Satzler; U.S. Cancer Statistics Working Group). African American women are receiving early detection for cervical cancer at the same rates as the general female population. Asian American women, on the other hand, are less likely to be screened for cervical cancer (Kimminau & Satzler).

When combined, higher age-adjusted death rates and the absence of early detection and treatment of chronic conditions play a role in the higher rates of disability reported by ethnic and racial minority groups. Over one-half of African American (52.1%) and Native American (50.3%) adults age 65 years and older in Kansas have any disability. In addition, 44.0% of Hispanic/Latino older adults and 42.4% of Asian/Pacific Islander older adults in Kansas reported having any disability. This is compared to only 40.9% of White non-Hispanic older adults in Kansas that have any disability (U.S. Census Bureau, 2000b).
Another area of concern for much of Kansas is whether older adults in rural areas have access to the prevention and treatment options readily available in urban areas. In a survey of national and state rural experts conducted for Healthy People 2010, access to health care was ranked the number one priority for rural health (Gamm et al., 2003). In accordance with national efforts, the Kansas Rural Health Options Project (KRHOP) identified access to health services as one of five issues of particular importance for rural Kansas (KRHOP, 2003). According to their final report, the supply and availability of physicians in some rural areas is inadequate and the entire rural primary care system is fragile. In 2000, seven Kansas counties did not have a primary care physician and 13 counties had one primary care physician for every 3500+ population (Randolph, Gaul, & Slifkin, 2002). Local access to the majority of specialty services and virtually all sub-specialty services is not available to most rural Kansans. There is also a greater shortage of nurses and health professionals in rural areas of the state than urban areas of Kansas (KRHOP, 2003).

However, the Governor’s Rural Life Task Force (2004) points out that the rural health care system also has strengths that should not be overlooked. For instance, when medical treatment is not available in rural areas, people can transfer to regional hospitals to receive the specialized treatment and technology necessary. Yet, it was also noted that there is a lack of transportation available for some older adults needing this additional care. Another way that rural areas are drawing on the strengths of urban areas and their own health care practitioners is the use of the internet and teleconferencing for supplementation and improvement of expertise of the rural health care providers (Governor’s Rural Life Task Force).

Summary and Implications

Disability rates in Kansas are influenced by mortality rates, the prevalence of chronic conditions, and access to available medical prevention and treatment options for all Kansans. In the past thirty years, mortality rates for many chronic conditions in Kansas have declined, especially for heart disease and stroke. As mortality rates declined, older adults were increasingly diagnosed with a number of chronic conditions. These chronic conditions such as arthritis and diabetes can result in disability in later life. Although some of the debilitating effects

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9 The Kansas Rural Health Options Project is a partnership among the Office of Local and Rural Health (KDHE), the Kansas Hospital Association, the Kansas Medical Society, and the Kansas Board of Emergency Medical Services.

10 A ratio of 1 primary care physician to 3500 population is one of the qualifying criteria for the designation of a Health Professional Shortage Area (U.S. Department of Health and Human Services, 1993). Twenty-seven counties in Kansas in 2004 were federally designated as HPSAs, and an additional 52 counties are designated HPSAs for low-income populations (Policy Research Institute, 2005).
of many chronic conditions have declined, there are still a vast number of people in Kansas with multiple chronic conditions and this number is expected to increase further in the future.

Access to and availability of medical interventions for all older adults is another factor in current and future disability rates. In particular for Kansas, it is important to ensure that older adults who are from racial and ethnic minority groups as well as older adults in rural areas are receiving medical treatment and prevention services. Currently, racial and ethnic minorities in Kansas have higher rates of disability and higher death rates than the white population. In addition, members of minority groups are less likely to receive early detection and treatment for certain chronic conditions. Rural areas in Kansas have a larger shortage of physicians, specialty services, nurses, and other health professionals than urban areas. Furthermore, older adults in rural areas might not have adequate transportation necessary to access medical services in neighboring urban areas. Ensuring access and availability of early diagnosis, prevention, and medical treatment is imperative for further reducing disability rates among older adults.

Healthy People 2010, a national initiative, established two goals for health promotion and disease prevention. These goals include increasing the quality and years of healthy life and eliminating health disparities (U.S. Department of Health and Human Services, 2000). One way to increase the quality and years of healthy life is to further reduce the prevalence and debilitating effects of chronic conditions. Prevention, early diagnosis, and treatment of chronic conditions are essential components of reaching this goal and maintaining low levels of disability. Already Kansas initiatives such as the Kansas Arthritis Program that promotes arthritis self-management through exercise are working towards reducing the disability rates and improving the quality of life of older adults in Kansas.

The second goal of the Healthy People 2010 initiative of eliminating health disparities, especially among racial and ethnic minorities, could be addressed by implementing health promotion programs that target older adults in minority groups (Kansas Health Institute, 2003a; Kimminau & Satzler, 2005). Additionally, Kimminau & Saltzler suggest improving the workforce of health providers and supporting community health initiatives. Health disparities in rural areas should also be addressed including the availability of medical care and the transportation necessary to access that care. Kimminau & Saltzler also addressed the need for an office of minority health, which the Kansas Department of Health and Environment now intends to create (Lubliner, 2005).
Trend 6: Older Kansans With Disabilities Continue to Utilize Privately Funded Nursing Facility Care at Higher Rates Than U.S. Older Adults Despite Similar Socioeconomic Improvements.

Before the Boom National Findings

In addition to lowering disability rates, “socioeconomic improvement is increasing the service options available to older persons with disabilities” (Redfoot & Pandya, 2002, p. 19). Due to these improvements, older adults have more control over their long-term care decisions. Thus, older adults with disabilities that are able to pay privately for long-term care are increasingly choosing other alternatives to the nursing facility including home-based services and assisted living. As a result, the number of nursing facility residents in 1999 has dropped below expected levels had 1985 rates continued, especially for older adults that are paying privately for their care. The number of private pay NF residents fell from 575,500 in 1985 to 370,100 in 1999, which is 54% lower than the expected number of privately paying residents. In comparison, Medicaid NF residents increased from 652,200 in 1985 to 835,400 in 1999, which was 7.8% below the expected number of residents. Since the number of Medicaid residents also was below the expected 1999 NF population, Redfoot & Pandya assert that the decline in private pay residents has not resulted from private pay residents shifting to Medicaid. Instead, private pay older adults are choosing to obtain needed services in settings other than the NF.

Kansas Findings

The proportion of nursing facility residents that pay privately and receive Medicaid-funded care in Kansas is very different from the national average. Yet, the proportion of residents with Medicare-funded nursing facility care comprising approximately 15% of NF residents age 65 years and older in Kansas and the United States. In Kansas, approximately 43% of NF residents age 65 years and older were paying privately for their care in 1999 compared to approximately 28% nationally. By contrast, nearly 57% of U.S. nursing facility residents age 65 years and older were receiving Medicaid compared to approximately 43% of Kansas nursing facility residents age 65 years and older. Thus, Kansas nursing facilities have a higher proportion of private pay residents than NFs nationally and a smaller proportion of Medicaid residents than NFs nationally. In fact, Kansas is one of the states with the smallest proportion of NF residents of all ages that utilize Medicaid and the largest proportion of NF

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11 In this trend, the discussion of nursing facility residents with private payment will include those with “other” payment sources such as private insurance or VA funding. “Other” sources comprise approximately 0.5% to 5% of nursing facility residents in any given year in the United States and Kansas.
residents of all ages that pay privately for their care. Although the proportion of NF residents
with Medicaid as a payment source was smaller than nationally, this does not indicate that
Kansas older adults utilized Medicaid-funded nursing facility care less than nationally. In 1999,
2.6% of the older adult population in Kansas was utilizing Medicaid-funded nursing facility care,
compared to 2.4% of the older adult population nationally. Instead, this simply is the result of
Kansas older adults utilizing private pay nursing facility care at rates more than twice as high as
nationally. An overwhelming 2.6% of the older adult population in Kansas in 1999 was paying
privately for nursing facility care compared to only 1.2% of the older adult population nationally.

In this trend, the payment source of NF residents in Kansas and the United States will be
presented from two perspectives. Also, the recent decline in nursing facility residents will be
outlined with particular focus on the rate of decline for private pay and Medicaid residents.
Finally, the educational attainment of residents in assisted living settings and nursing facilities in
Kansas will be highlighted to illustrate the different levels of socioeconomic status in these
facilities in Kansas.

Two Approaches to Examining Payment Source

There are two approaches that can be used to compare the payment sources in Kansas
nursing facilities to nursing facilities in the United States. The most common approach
compares the percentage (proportion) of the NF resident population with each primary payment
source (i.e., Medicare, Medicaid, private/other). This approach highlights the percentage of the
overall nursing facility population that utilizes private sources, Medicare, or Medicaid-funded
care. Another approach is to focus on the percentage of the population utilizing nursing facilities
by payment source. Since there are differences in the national and Kansas NF utilization rates,
this approach highlights the percentage of the overall population that utilizes private sources,
Medicare, or Medicaid-funded care. In this trend, each of these approaches will be explored to
highlight differences in Kansas and U.S. nursing facility payment sources and utilization rates by
payment source. When viewed together these two approaches provide a more complete picture
of the trend in nursing facility payment sources in Kansas and the United States.

Primary Payment Source for Nursing Facility Residents

The primary payment source of national nursing facility residents age 65 years and older
changed considerably between 1985 and 1999. Based on data collected in the National Nursing
Home Survey (NNHS), Redfoot & Pandya (2002) concluded that by 1999, fewer than
expected\textsuperscript{12} NF residents paid with private funds, and older adults paying privately had decreased their nursing facility utilization at rates higher than Medicaid residents. This drop in private pay residents that was prominent in national nursing facilities is not reflected in Kansas nursing facilities. In 1999, the percentage of Kansas nursing facility residents age 65 years and older paying by Medicaid or private sources reflected the expected national nursing facility population for 1999. In 1999, 43.3% of Kansas NF residents age 65 years and older were private pay (MDS 2.0 dataset, 1999). However, only 27.7% of U.S. nursing facility residents were private pay, which is very different from that expected. Based on the 1985 NNHS utilization patterns, 49.0% of national nursing facility residents were expected to be paying privately for their NF care in 1999 and 49.5% were expected to be paying for their care with Medicaid (Redfoot & Pandya). Figure 15 illustrates the proportion of NF residents 65 years and older by payment source in 1985 and 1999, including the national NF population in 1985 and 1999 and the Kansas NF population in 1999.

Figure 15
Primary Source of Payment for Nursing Facility Residents 65 Years and Older in Kansas and the United States in 1985 and 1999
In addition to using the MDS 2.0 dataset, payment source for all nursing facility residents is also available from the Online Survey Certification and Reporting System (OSCAR), which is maintained by the Center for Medicare and Medicaid Services (CMS). Due to different methodologies, the proportion of residents paying by primary source according to OSCAR is slightly different than the proportions reported by the MDS 2.0 dataset for Kansas and the National Nursing Home Survey. Yet, these data confirm that the Medicaid population in Kansas nursing facilities represents a smaller proportion of all NF residents than the U.S. Medicaid NF population and the private pay population in Kansas NFs represents a greater proportion (American Health Care Association [AHCA], 1997, 2001, 2005b). Table 9 shows the proportion of all NF residents by primary payment source in Kansas and the United States based on OSCAR data.

Table 9
Primary Source of Payment for All Nursing Facility Residents in Kansas and the United States in Various Years

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
<th>2001</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kansas</td>
<td>States</td>
<td>Kansas</td>
</tr>
<tr>
<td>Private/Other</td>
<td>42.4%</td>
<td>23.2%</td>
<td>41.2%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>53.0%</td>
<td>68.3%</td>
<td>53.1%</td>
</tr>
<tr>
<td>Medicare</td>
<td>4.5%</td>
<td>8.5%</td>
<td>5.7%</td>
</tr>
</tbody>
</table>


NOTE: The percentages reported in this table for the total NF population are very different from the percentages reported in Figure 15. This is due to the different methodologies used to obtain the data not due to the fact that Figure 15 focuses on NF residents ages 65 years and older and Table 9 focus on all NF residents.

The CMS OSCAR data also provide information necessary to compare Kansas to other states. In 2005, Kansas was only one of five states that had at least one-third of all nursing facility residents paying either privately or with some source other than Medicaid or Medicare. The states with the most funding from private/other payment sources were Iowa (45.4%), Kansas (39.1%), Nebraska (37.8%), North Dakota (37.4%) and South Dakota (35.7%), all of

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12 The AARP Public Policy Institute calculated the expected national nursing facility population by payer source for 1999 based on the nursing facility utilization rates from the 1985 National Nursing Home Survey.
13 CMS OSCAR data are collected by state long-term care surveying agencies. Nursing facilities fill out the information during state inspections that occur at least once every 15 months or more frequently as a result of a complaint. The inspectors review the data provided by the NFs, but it is not formally audited (AHCA, n.d.).
14 The percentage of Medicaid NF residents reported by OSCAR is larger than the percentage reported by The MDS 2.0 dataset or the National Nursing Home Survey. In addition, the percentage of Medicare residents is lower according to OSCAR than the other two surveys.
which are located in the Midwest. That same year, Kansas was only one in three states (Iowa 48.6%, Kansas 53.8%, and Nebraska 53.8%) that had less than 55% of all NF residents receiving Medicaid funding for nursing facility care (AHCA, 2005b). The breakdown of payment sources in Kansas nursing facilities is similar to some surrounding Midwestern states; however, it is quite different than the U.S. average.

Nursing Facility Utilization Rates by Payment Source

Examining the payment source of nursing facility residents appears to indicate that Kansas older adults tend to use Medicaid less than U.S. older adults because the proportion of residents in Kansas nursing facilities with Medicaid-funded care is much lower than the proportion in U.S. nursing facilities. However, remember from Trend 1 that nursing facility utilization rates are higher in Kansas than nationally, 5.8% and 4.3% respectively. Therefore, it is beneficial to look at how differences in the nursing facility utilization rates by payment source might be impacting the composition of the nursing facility resident population in Kansas and the United States. Figure 16 highlights the NF utilization rates in Kansas and the United States by payment source.

Upon further analysis, it was found that Kansas older adults actually use Medicaid-funded nursing facility care slightly more than nationally. In 1999, 2.6% of the Kansas population age 65 and older was in a nursing facility with Medicaid-funded care compared to 2.4% of U.S.
older adults. Although there is a slight difference in the older adult population usage of Medicaid-funded nursing facility care, there is a much larger difference in the older adult population usage of private pay nursing facility care in Kansas and the United States. In 1999, only 1.2% of U.S. older adults were privately paying for nursing facility care compared to 2.6% of Kansas older adults. Thus, Kansas older adults are utilizing private pay nursing facility care at rates more than twice as high as nationally. Due to the higher NF utilization rate of private pay older adults in Kansas, the overall NF utilization rate in Kansas is higher than the nation.

The difference in NF utilization rates by payment source in Kansas and the United States also affects the percentage of nursing facility residents with each payment source. In Kansas, the NF utilization rate for both Medicaid and private pay is 2.6%. Because these rates are similar, there are nearly equal proportions of the nursing facility resident population comprised of Medicaid and private pay residents, 42.8% and 43.3% respectively. However, in the United States, the NF utilization rate for Medicaid (2.4%) is twice as high as the NF utilization rate for private pay (1.2%). This results in the percentage of NF residents with Medicaid funded care (56.8%) being twice the size of the percentage of private pay nursing facility residents (27.7%). Therefore, since the NF utilization rate of private payers is lower in the United States, privately funded care represents a smaller proportion of the overall U.S. nursing facility resident population (refer back to Figures 15 and 16).

Although similar socioeconomic improvements occurred in Kansas and the United States, the outcomes of the socioeconomic improvements in terms of long-term care choice and selection of community-based long-term care options have been less dramatic than national outcomes. In 1985, U.S. nursing facility utilization rates for both private pay and Medicaid older adults were 2.3%. From 1985 to 1999, the U.S. nursing facility utilization rate for private pay older adults decreased from 2.3% to 1.2% while the utilization rate for Medicaid sources remained relatively stable at 2.4%. Unlike the United States, Kansas nursing facilities had similar utilization rates for Medicaid and private payers in 1999. This means that Kansas nursing facilities are occupied by nearly equal numbers of private payers and Medicaid-funded residents whereas U.S. nursing facilities are disproportionately occupied by Medicaid-funded residents. Thus, older adults in Kansas that are able to pay privately for alternative care in community settings are still utilizing nursing facility care at much higher rates than U.S. older adults. However, it is also important to note that although Kansas NF utilization rates are high, the Medicaid NF utilization rate in Kansas and the United States is very similar.
Trend in Nursing Facility Payment

The number of Kansas nursing facility residents with Medicaid and private funds is declining. From 1999 to 2003, the NF resident population age 65 years and older in Kansas fell by 10.1% from 21,569 residents to 19,394. The number of Medicaid-funded NF residents declined by 15.2%, and the number of private pay NF residents declined by 21.1%. Thus, the private paying NF population declined between 1999 and 2003 at a higher rate than the total Kansas NF population and the Medicaid population (MDS 2.0 dataset, 1999-2003). Table 10 portrays these findings.

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2001</th>
<th>2003</th>
<th>Percent Change 1999-2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private/Other</td>
<td>9,343 (43.3%)</td>
<td>8,487 (42.2%)</td>
<td>7,369 (38.0%)</td>
<td>-21.1%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>9,234 (42.8%)</td>
<td>8,066 (40.1%)</td>
<td>7,826 (40.4%)</td>
<td>-15.2%</td>
</tr>
<tr>
<td>Medicare</td>
<td>2,992 (13.9%)</td>
<td>3,556 (17.7%)</td>
<td>4,199 (21.7%)</td>
<td>+40.3%</td>
</tr>
<tr>
<td>Total</td>
<td>21,569</td>
<td>20,109</td>
<td>19,394</td>
<td>-10.1%</td>
</tr>
</tbody>
</table>

**Table 10**

Kansas Nursing Facility Residents 65 Years and Older by Primary Source of Payment, 1999-2003

National figures available from OSCAR for the entire nursing facility population (all ages) further illustrate the trend in declining numbers of NF residents by payment source. From 1996 to 2005, U.S. nursing facility residents paying privately fell by 10.1% and Medicaid-funded residents declined by 8.1% (AHCA, 1997, 2005b). When compared to the decline illustrated in Table 11 for the Kansas NF population, two things are important to note. First, the Kansas NF populations funded by private sources as well as Medicaid are decreasing at a faster rate than their respective NF populations nationally. Second, the private pay residents in Kansas declined 7.8% more than Kansas Medicaid residents, which is a larger difference than nationally where U.S. private pay residents declined 2.0% more than U.S. Medicaid residents (AHCA, 1997, 2005b).
Table 11
Kansas Nursing Facility Residents (All Ages) by Primary Source of Payment, 1996-2005

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Private/Other</td>
<td>10,514 (42.4%)</td>
<td>8,864 (41.2%)</td>
<td>8,032 (39.1%)</td>
<td>-23.6%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>13,139 (53.0%)</td>
<td>11,415 (53.1%)</td>
<td>11,069 (53.8%)</td>
<td>-15.8%</td>
</tr>
<tr>
<td>Medicare</td>
<td>1,127 (4.5%)</td>
<td>1,219 (5.7%)</td>
<td>1,463 (7.1%)</td>
<td>+29.8%</td>
</tr>
<tr>
<td>Total</td>
<td>24,780</td>
<td>21,498</td>
<td>20,564</td>
<td>-17.0%</td>
</tr>
</tbody>
</table>


As the numbers of nursing facility residents declined, so did the nursing facility utilization rates for Medicaid and private payers. From 1999 to 2003, the percentage of the older adult population in nursing facilities with Medicaid-funded care dropped from 2.6% to 2.2% in Kansas. During this same time period, the percentage of the population paying privately for nursing facility care fell from 2.6% to 2.1%. This shows the additional gains that Kansas has made in decreasing their utilization of nursing facilities by both private pay and Medicaid-funded older adults. Current national figures for the nursing facility population age 65 years and older are not available at this time to determine whether utilization as a percentage of the population has declined nationally since 1999.

In Kansas, private payers are leaving nursing facilities at slightly higher rates than Medicaid residents. This decline in private payers could be due to fewer private pay older adults entering the nursing facility or could be the result of private payers spending down and applying for Medicaid. If the current trend continues, Kansas nursing facilities could slowly start to mirror U.S. nursing facilities. The proportion of Kansas nursing facility residents that utilize Medicaid payments for their care will increase, and private pay older adults will choose other alternative settings for their long-term care needs. However, this has not started to happen yet as the proportion of people in Kansas nursing facilities with Medicaid-funded care is staying relatively stable, regardless of the data sources used, at around 40% for those age 65 years and older and 53% for all nursing facility residents.

Currently, the trends of increasing proportions of Medicare-funded residents and decreasing proportions of private pay residents are offsetting each other enough to only result in a small change in the proportion of residents with Medicaid as their primary payment source. From 1999 to 2003, the proportion of residents age 65 years and older with Medicaid-funded
care decreased from 42.8% to 40.4%. During this same time period, the proportion of residents with privately funded care declined even more from 43.3% to 38.0%. And Medicare-funded care increased as a proportion of the nursing facility population from 13.9% to 21.7% (see Table 10). In addition, from 1996 to 2005, the proportion of all residents with Medicaid-funded care increased slightly from 53.0% to 53.8%. Meanwhile, the proportion of residents with private payments decreased from 42.4% to 39.1%, and the proportion of Medicare-funded residents increased from 4.5% to 7.1% (see Table 11).

As private pay older adults leave nursing facilities at slightly higher rates than Medicaid residents, they are likely shifting towards alternative settings such as assisted living (Bishop, 1999; Redfoot & Pandya, 2002). It is important to ensure that those with Medicaid payment for long-term care have the same choices as those with private funds. Community-based long-term care services such as home-based care and assisted living should not be limited to older adults that have the necessary means to pay privately for that care.

Choice of Assisted Living Correlated With Education Level

The educational attainment of older adults in assisted living is a good indicator of whether those with improved socioeconomic status are utilizing alternatives to nursing facilities (Redfoot & Pandya, 2002). In general, older adults with higher socioeconomic status, or higher levels of educational attainment, are able to pay privately for assisted living services. In addition, older adults with higher levels of educational attainment are less likely to be disabled (see Trend 4), which indicates that they might not need as much care as older adults with lower levels of education. Thus, residents of assisted living facilities, which are largely targeted towards privately paying older adults with low levels of disability, are more likely to have higher education levels than NF residents (Hawes, Phillips, & Rose, 2000; Redfoot & Pandya).

A study conducted by the Office of Aging and Long Term Care found that 14% of Kansas assisted living (AL) or residential health care (RHC) residents did not have at least a high school diploma compared to 41% of Kansas NF residents in 1999. Conversely, 19% of AL and RHC residents had a bachelor’s degree or higher compared to only 8% of NF residents (Chapin et al., 1999). Assisted living and residential health care facilities have a greater proportion of residents with a high school diploma or higher than nursing facilities. This indicates that the residents in AL and RHC facilities, on average, have a higher socioeconomic status than nursing facility residents and greater ability to pay for an alternative to a nursing facility. Table 12 illustrates the educational attainment of adults in various long-term care settings.
### Table 12

**Educational Attainment of Kansans in Various Long-Term Care Facilities, 1999**

<table>
<thead>
<tr>
<th></th>
<th>Assisted Living Facility</th>
<th>Residential Health Care Facility</th>
<th>Nursing Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School Diploma</td>
<td>9%</td>
<td>31%</td>
<td>41%</td>
</tr>
<tr>
<td>High School Graduate, No Bachelor’s Degree</td>
<td>72%</td>
<td>54%</td>
<td>52%</td>
</tr>
<tr>
<td>Bachelor’s Degree or Higher</td>
<td>20%</td>
<td>15%</td>
<td>8%</td>
</tr>
</tbody>
</table>


### Summary and Implications

The majority of Kansas nursing facility residents pay for their care with either private funds or Medicaid. In 1999, 43.3% of nursing facility residents age 65 years and older paid privately for their care and 42.8% paid for their care with Medicaid. Additionally, 13.9% of Kansas NF residents age 65 years and older had Medicare as their primary source of payment. The proportion of NF residents paying with private funds and Medicaid funds in Kansas was very different than the national payment sources. However, Kansas was similar to many other Midwestern states in their lower proportion of Medicaid residents and higher than average proportion of older adults using private sources. Yet, older adults in Kansas actually use Medicaid-funded care slightly more than U.S. older adults. In addition, Kansas older adults are utilizing privately paid nursing facility care at much larger rates than U.S. older adults despite similar improvements in socioeconomic status.

Although currently Kansas nursing facility residents are more likely to pay privately than U.S. nursing facility residents for their care, this trend is starting to change in Kansas. Between 1999 and 2003, the Kansas nursing facility population age 65 years and older declined by 10%. This decline in nursing facility residents was most notable for those paying privately. Private pay NF residents declined by 21% compared to a 15% decline in Medicaid residents. As private pay nursing facility residents leave the Kansas nursing facilities at higher rates than Medicaid residents, it is important to continue ensuring that all older adults have similar long-term care choices. With sustained efforts, older adults with Medicaid-funded long-term care can continue to have the same choices, including community-based choices, as those older adults that are able to pay privately for their care.
Trend 7: The Narrowing Gender Ratio of Older Adults in Kansas Contributed to an Increase in Available Spousal Support and Will Most Likely Continue to Do So Over the Next Few Decades.

Before the Boom National Findings

The AARP Before the Boom report points to demographic evidence that suggests there will be more spousal caregivers available over the next few decades. The changes in certain demographics, over the past few decades, have had and will continue to have implications for the long-term care industry. Particularly, increased longevity for both genders, in combination with decreased disability, has created an environment in which the demand for institutional long-term care has lessened because the supply of informal caregivers (i.e., spouses) has increased. The AARP Before the Boom report contends that the number of spouses, particularly men, able to provide care has been and will continue to increase thereby creating a larger supply of informal caregivers and a decrease in nursing facility utilization (Redfoot & Pandya, 2002).

Nationwide, during the 1960s and 1970s the population of women aged 75 and older grew at a much higher rate than men producing an increase in the number of widows. Widowed women with high rates of disability are at an increased risk for nursing facility placement. There was, in fact, an increase in nursing facility utilization during the 1970s. However, during the 1980s and 1990s both gender imbalance and nursing facility utilization decreased. This change in demographic trends has allowed for more spouses to provide informal care, decreasing the need for institutional long-term care. In addition, the AARP Before the Boom report predicts that the narrowing gender ratio of older adults will continue to positively affect women more so than men due to a larger decrease in the rate of widowhood on women. Finally, changes in marital status (i.e., divorce, long-term unmarried relationships) will influence spousal caregiving for older adults in the future (Redfoot & Pandya, 2002).

Kansas Findings

Informal caregiving plays a substantive role in helping older adults with disabilities stay in the community and avoid nursing facility placement (Chapin et al., 2003). Currently spousal caregiving in Kansas is similar to the United States. Of caregivers in Kansas, 6% provide care to a spouse compared to 7% nationwide. However, there are a larger proportion of men providing care in Kansas (46%) compared to the United States (38%) (AARP, 2004). Although spousal caregiving is not the only cause of decline in NF utilization, the continued increase in gender ratio and decline in nursing facility utilization, widowhood rates, and percent of older adults living
alone does support the notion that there will be a larger supply of caregivers contributing to a
decrease in demand for nursing facility care over the next twenty years. In addition, changes in
marital status such as divorce and unmarried long-term relationships will also play a role in
available spousal support. The demographic trends listed above will be discussed in regards to
how the culmination of these trends will create a larger supply of informal caregivers in the state
of Kansas.

Gender Ratio and Nursing Facility Utilization Trends

Similar to findings in the AARP Before the Boom report, between 1990 and 2000 there
was an increase in the gender ratio of males to females 45 and older in Kansas. Both Kansas
and the United States had the largest increase in ratio of males to females for individuals aged
75 to 84. However, Kansas had the smallest increase for adults aged 85 and over, whereas
nationwide the smallest increase in males to females was the 45 to 54 age group. In addition,
life expectancy for males at age 65 increased by .7 years between 1990 and 2000 while female
life expectancy decreased by .5 years in Kansas (KDHE, 2003). Overall, in both Kansas and the
United States, every age category had an increase in the ratio of males to females. Tables 13
and 14 display the gender ratio for the United States and Kansas.

Table 13
Ratio of Males to Females in the U.S. (Number of Males per 100 Females)

<table>
<thead>
<tr>
<th>Ages</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
<td>95.6</td>
<td>96.4</td>
</tr>
<tr>
<td>55-64</td>
<td>89.4</td>
<td>92.2</td>
</tr>
<tr>
<td>65-74</td>
<td>78.1</td>
<td>82.3</td>
</tr>
<tr>
<td>75-84</td>
<td>59.9</td>
<td>65.2</td>
</tr>
<tr>
<td>85+</td>
<td>38.6</td>
<td>40.7</td>
</tr>
</tbody>
</table>


Table 14
Ratio of Males to Females in Kansas (Number of Males per 100 Females)

<table>
<thead>
<tr>
<th>Ages</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
<td>97.4</td>
<td>100.7</td>
</tr>
<tr>
<td>55-64</td>
<td>91.4</td>
<td>94.6</td>
</tr>
<tr>
<td>65-74</td>
<td>79.6</td>
<td>83.3</td>
</tr>
<tr>
<td>75-84</td>
<td>59.8</td>
<td>65.7</td>
</tr>
<tr>
<td>85+</td>
<td>37.7</td>
<td>39.3</td>
</tr>
</tbody>
</table>

Source: U.S. Census 2000 Summary File 1, 1990 Census of Population and Housing Summary Tape File 2B.
At the same time as the ratio of males to females increased, nursing facility utilization rates declined in Kansas, particularly for those aged 85 and over. Although the population aged 85 and over in Kansas had the smallest increase in gender ratio, they had the largest decline in nursing facility utilization. Nursing facility utilization declined by over 32% for this group. For adults aged 75 to 84, nursing facility utilization decreased by 31.5% between 1990 and 2000 (refer to Trend 1). Given the increase in the ratio of males to females, increase in life expectancy at age 65 for males, and the concurrent decrease in nursing facility utilization, future spousal support may increase sufficiently to have a larger effect on nursing facility utilization rates.

Widowhood Trends and Living Alone

In addition to the gender ratio and life expectancy, widowhood rates are another indicator of available support from spouses. The rate of widowhood for both genders in Kansas and the United States has decreased since 1980 despite an increase in both the total population and the number of widows for adults aged 75 and older from 1980 to 2000 (U.S. Census Bureau, 1980c, 1980a, 2000b). However, by using data provided in Tables 15 and 16 and combining the age groups for women and men aged 75 to 84 and 85 and older, we calculated that similar to the United States, there were still 14.4% fewer widowed women and 13.7% fewer widowed men aged 75 and older than expected had 1980 rates continued. Similarly, we calculated that among women and men age 45 and older in Kansas in 2000 there were 20.6% fewer widowed women and 11.2% fewer widowed men than would have been expected based on 1980 rates. This is slightly lower than national findings (U.S. Census Bureau, 1980c, 2000b).

Tables 15 and 16 display widowhood rates for both women and men in Kansas. Table 15 shows that the group of women aged 45 to 54 experienced an actual decrease in the number of widows (-17.9%). However, while women aged 75 to 84 experienced an increase in the number of widows (6.2%), the number of widows for that age group was still 14.8% less than what was expected based on 1980 rates (U.S. Census Bureau, 1980c, 2000b). Overall, women in Kansas and the United States have experienced a dramatic decrease in widowhood rates. These findings also indicate that married men are living longer and therefore may produce more spousal caregivers in late adulthood. Specific national statistics can be found in Appendix E.
Table 15
Widowhood Numbers and Rates for Women 45 Years and Older by Age in Kansas for Select Years, 1980-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
<td>6232</td>
<td>5118</td>
<td>-1114</td>
<td>9289</td>
<td>-4171</td>
</tr>
<tr>
<td></td>
<td>5.3%</td>
<td>2.9%</td>
<td>-17.9%</td>
<td>5.3%</td>
<td>-44.9%</td>
</tr>
<tr>
<td>55-64</td>
<td>18208</td>
<td>11543</td>
<td>-6665</td>
<td>17233</td>
<td>-5690</td>
</tr>
<tr>
<td></td>
<td>15.3%</td>
<td>10.2%</td>
<td>-36.6%</td>
<td>12.8%</td>
<td>-33.0%</td>
</tr>
<tr>
<td>65-74</td>
<td>35169</td>
<td>27005</td>
<td>-8164</td>
<td>34603</td>
<td>-7598</td>
</tr>
<tr>
<td></td>
<td>36.1%</td>
<td>28.1%</td>
<td>-23.2%</td>
<td>36.1%</td>
<td>-22.0%</td>
</tr>
<tr>
<td>75-84</td>
<td>39283</td>
<td>41725</td>
<td>2442</td>
<td>48984</td>
<td>-7259</td>
</tr>
<tr>
<td></td>
<td>62.4%</td>
<td>53.2%</td>
<td>6.2%</td>
<td>62.4%</td>
<td>-14.8%</td>
</tr>
<tr>
<td>85+</td>
<td>19387</td>
<td>25594</td>
<td>6207</td>
<td>29632</td>
<td>-4038</td>
</tr>
<tr>
<td></td>
<td>82.4%</td>
<td>71.2%</td>
<td>32.0%</td>
<td>82.4%</td>
<td>-13.6%</td>
</tr>
</tbody>
</table>


Table 16
Widowhood Numbers and Rates for Men 45 Years and Older by Age in Kansas for Select Years, 1980-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
<td>1107</td>
<td>1135</td>
<td>28</td>
<td>1755</td>
<td>-620</td>
</tr>
<tr>
<td></td>
<td>1.0%</td>
<td>0.6%</td>
<td>2.5%</td>
<td>1.0%</td>
<td>-35.3%</td>
</tr>
<tr>
<td>55-64</td>
<td>2857</td>
<td>2426</td>
<td>-431</td>
<td>2824</td>
<td>-398</td>
</tr>
<tr>
<td></td>
<td>2.6%</td>
<td>2.3%</td>
<td>-15.1%</td>
<td>2.6%</td>
<td>-14.1%</td>
</tr>
<tr>
<td>65-74</td>
<td>5159</td>
<td>5802</td>
<td>643</td>
<td>5547</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td>6.9%</td>
<td>7.2%</td>
<td>12.5%</td>
<td>6.9%</td>
<td>4.6%</td>
</tr>
<tr>
<td>75-84</td>
<td>6689</td>
<td>8170</td>
<td>1481</td>
<td>9093</td>
<td>-923</td>
</tr>
<tr>
<td></td>
<td>18.1%</td>
<td>16.3%</td>
<td>22.1%</td>
<td>18.1%</td>
<td>-10.1%</td>
</tr>
<tr>
<td>85+</td>
<td>4274</td>
<td>4953</td>
<td>679</td>
<td>6107</td>
<td>-1154</td>
</tr>
<tr>
<td></td>
<td>41.9%</td>
<td>34.0%</td>
<td>15.9%</td>
<td>41.9%</td>
<td>-18.9%</td>
</tr>
</tbody>
</table>


One result of lower rates of widowhood is lower rates of men and women who live alone. The percent of women aged 70 and older living alone in Kansas and in the United States increased dramatically between 1970 and 1980. However, similar to the trend in widowhood and nursing facility utilization rates, this was followed by a decrease in the percent of women aged 70 and older living alone between 1990 and 2000 in Kansas. Similarly, the percent of men aged 75 to 84 who live alone has decreased in Kansas since 1970. However, men aged 85 and over had relatively sharp increases in the percent of men living alone between 1970 and 1990 with a
small decrease between 1990 and 2000 (U.S. Census Bureau, 1970, 1980c, 1990b, 2000b). Overall, the decrease in older men and women living alone over the past decade is another indicator that men are living longer resulting in more available spousal support for women. Figure 17 displays the findings for Kansas. National statistics for the percent of older adults living alone can be found in Appendix E.

Figure 17
Percent Living Alone 55 Years and Older in Kansas, by Age Group and Sex

Marital Status Trends in Kansas

The marital status of older adults is another indicator of available spousal support. Of all individuals aged 75 and over in Kansas almost half were married and half were widowed in 2000. However, when looking at marital status by gender and age in Kansas, a higher percent of men and women aged 75 and older were married compared to the aged 75 and older population of the United States. In addition, there was a smaller proportion of adults aged 75 and older who were widowed compared to national findings. Finally, the proportion of adults aged 75 and over who were divorced was below 5% for both genders which is similar to national figures (U.S. Census Bureau, 2000b).

Although marital status is a good indicator of available spousal support, it is important to note that marital status alone does not indicate a spouse is present in a household. Reasons
that spouses could be maintaining separate households include being separated but not divorced or one spouse is institutionalized. Therefore, considering people who are age 65 and older who are “married with a spouse present” provides a better picture of who may actually have spousal support available. Table 17 shows that although 77.5% of men who are age 65 and older are married in Kansas only 73.4% of them have a spouse living with them at home. This disparity is similar for women with 45% being married and only 39.9% living with a spouse at home (U.S. Census Bureau, 2000a).

Table 17
Percentage of Men and Women 65 and Older Married with a Spouse Present in Kansas and the United States, 2000

<table>
<thead>
<tr>
<th></th>
<th>Kansas</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Married</td>
<td>77.5%</td>
<td>74.9%</td>
</tr>
<tr>
<td>Married w/ a spouse present</td>
<td>73.4%</td>
<td>69.8%</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Married</td>
<td>45.0%</td>
<td>42.8%</td>
</tr>
<tr>
<td>Married w/ a spouse present</td>
<td>39.9%</td>
<td>37.7%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Census 2000, Special Tabulation on Aging.

National projections from the AARP Before the Boom report suggest that due to dramatic decreases in widowhood rates, the rate of people who report being married for women aged 75 and older will increase over the coming decades. However, the marriage rates for these women will continue to be much lower than the marriage rates of men of the same age group (Redfoot & Pandya, 2002). Considering there are a higher proportion of older adults who are married in Kansas and that Kansas and the United States are similar on all of the aforementioned demographic trends, we can assume that Kansas will follow national marital status trends.

However, it is important to mention a few caveats in regards to future trends in marital status. First, the baby boomers and subsequent age cohorts have different marital patterns that could be a factor in the supply of spousal caregivers in the future. The baby boom generation has a higher proportion of people who are divorced compared to older cohorts. The U.S. lifetime divorce probability is currently 48.8% which has more than tripled since 1970 (Population Resource Center, 2004). Of those adults 45 to 59 years of age in Kansas 16% are divorced (U.S. Census Bureau, 2000a). In addition, there was an increase in women and men aged 55-59 living alone in Kansas since 1970 (U.S. Census Bureau, 1970, 2000b). Considering these
differences we can assume that the marital status of aging baby boomers will be different than the current cohort of older adults. The growth in the probability of divorced persons may in turn play a role in limiting spousal support. Figure 18 displays the marital status of Kansans 15 years of age and older in 2000. National statistics and projections can be found in Appendix E.

Second, the AARP Before the Boom report mentions that the increase in unmarried long-term relationships may also contribute to available support for older adults. Unmarried partnered households were explicitly defined for the first time on the 2000 Census as “being maintained by people who were sharing living quarters and who also had a close personal relationship with each other” (U.S. Census Bureau, 2003a, p. 1). According to a 2000 Census special report, there were 5.5 million couples nationally living together but not married up from 3.2 million in 1990. In Kansas, 6.9% of coupled households were unmarried partner households (U.S. Census Bureau, 2003a). There is not much information and further research is needed regarding the impact of long-term unmarried relationships on available support in later life. However, it is important to consider the increase in long-term unmarried relationships in addition to widowhood rates and trends in marital status (Redfoot & Pandya, 2002).

Summary and Implications

The data for this trend indicates that men are living longer and therefore creating the potential for a larger supply of informal caregivers in Kansas. Although Kansas and the United States both had a similar dramatic decline in widowhood rates, there is a higher proportion of people aged 75 and older who are married and a lower proportion who are widowed in Kansas. In addition, a higher proportion of men provide care in Kansas, compared to the United States, indicating that Kansas may have an even greater supply of male caregivers.

In conjunction with a decline in widowhood rates there was an increase in the ratio of males to females aged 45 and over between 1990 and 2000 as well as an increase in life expectancy for males at age 65. Similarly, while the ratio of male to female older adults increased, nursing facility utilization declined among older adults. Given that there was a decline in rates of widowhood, an increase in the ratio of men to women, and a decline in nursing facility utilization that occurred over the same period of time, spousal support may increase sufficiently both now and in the future to have an impact on institutional long-term care. Lastly, a national trend of increased divorce rates and long-term unmarried relationships will most likely play a role in informal caregiving for older adults in the future. However it is too early to measure that impact.

Informal family caregivers play the largest role in caring for older adults and will most likely continue to do so in the future. Older adults with informal care from family and/or friends are less likely to enter a nursing facility (Chapin et al., 2003). The increase in the longevity of men should continue, in turn providing the potential for more available support. More available support from spouses could impact institutional long-term care in Kansas by lowering the demand for those services.
Trend 8: The Birth Dearth Cohort (Born 1926 to 1945) Has More Adult Children Providing a Larger Supply of Informal Caregivers Than Previous Cohorts in Kansas and the United States.

Before the Boom National Findings

The AARP Before the Boom report contends that “in addition to changes in marital status, cohort differences in childbearing will also have a strong impact on informal supports later in life” (Redfoot & Pandya, 2002, p. 26). Women who were aged 75 and older in the 1970s and 1980s, experienced high rates of widowhood, disability, and childlessness. These women are the parents of what is defined as the birth dearth cohort who were born between 1926 and 1945. The birth dearth cohort are the parents of the baby boom cohort (Redfoot & Pandya).

Although the birth dearth cohort will continue to have a large number of adult children to provide informal care over the next few decades, the baby boom cohort will not. The birth dearth cohort has lower mortality rates and higher fertility rates than other generations. Presently, this has translated into a greater availability of informal family caregivers and will continue to do so for the next two decades. However, beyond the next few decades it is hard to predict how much available informal support there will be from adult children of the baby boom cohort due to declining fertility rates, increases in divorce rates, and changes in the role of women (Redfoot & Pandya, 2002).

Kansas Findings

Although spousal caregivers tend to provide the most hours of care per week, currently adult children make up a larger proportion of informal caregivers (Center on an Aging Society, 2005). Similar to the United States, 36% of people who are caregivers in Kansas provide assistance to their mother or father. An additional 10% of caregivers provide care to a mother-in-law or father-in-law (AARP, 2004). Adult children provide a significant amount of informal care currently and will continue to do so over the next few decades.

However, a sharp decrease in fertility rates among baby boomers may limit the availability of adult children caregivers for the long-term future. Although there are a larger number of people in the baby boom generation, there are more competing demands between work and family, particularly for women, compared to their parents’ generation. In this trend birth cohorts, fertility rates, and the rise of women in the work force across generations will be examined.
Birth Cohorts and Fertility Rates

As documented in Trend 7, the trends in both Kansas and the United States showed women who were age 75 and older in 2000 had high rates of widowhood. Similar to the United States, this same group of women also had high rates of childlessness in Kansas. These women were born before 1925 and came into adulthood during the Depression and World War II (1929-1945). Between 1920 and 1940 fertility rates\(^\text{16}\) dropped significantly in Kansas from 100.1 to 69.8 live births per 1,000 women ages 15 to 44. The generation that was born during this time period is defined as the birth dearth cohort. Different from their parents, the birth dearth cohort came of age during a prosperous time for the country (post-WWII). During this time period, fertility rates increased dramatically from 69.8 live births per 1,000 women ages 15 to 44 in 1940 to 124.8 in 1960 (KDHE, n.d.). The generation born between 1946 and 1964 is now known as the baby boom generation. Figure 19 displays fertility rates in the United States and Kansas.

The birth dearth cohort not only had low rates of childlessness but they also had a higher average number of children. Similar to the United States, the birth dearth cohort in Kansas had a higher percent of women having 2 or more children while the baby boom cohort had a higher percent of women having only 2 children. In addition, the percent distribution of female baby

\(^{16}\) The Kansas fertility rate for 1920 and 1930 was calculated according to Kansas birth occurrences rather than Kansas births by residents due to lack of data on Kansas residents previous to 1935.
boomers who are childless is similar to the oldest old cohort (U.S. Census Bureau, 1990c). Overall, not only do the baby boomers have lower rates of fertility, they also have fewer children per family. This may indicate that of the baby boomers who have children, there may be less available support because their children will have fewer siblings to help with caregiving. Table 18 displays the percent distribution by number of children born among women in Kansas. National statistics can be found in Appendix F.

**Table 18**

*Number of Children Ever Born to Women in Kansas by Age Cohort, 2000*

<table>
<thead>
<tr>
<th>Age in 2000</th>
<th>Percent Distribution by Number of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td><strong>Boomers</strong></td>
<td></td>
</tr>
<tr>
<td>40-44</td>
<td>21.0</td>
</tr>
<tr>
<td>45-49</td>
<td>15.0</td>
</tr>
<tr>
<td>50-54</td>
<td>11.4</td>
</tr>
<tr>
<td><strong>Birth Dearth</strong></td>
<td></td>
</tr>
<tr>
<td>55-59</td>
<td>9.9</td>
</tr>
<tr>
<td>60-64</td>
<td>9.1</td>
</tr>
<tr>
<td>65-69</td>
<td>7.8</td>
</tr>
<tr>
<td>70-74</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Oldest Old</strong></td>
<td></td>
</tr>
<tr>
<td>75-79</td>
<td>12.0</td>
</tr>
<tr>
<td>80-84</td>
<td>16.6</td>
</tr>
<tr>
<td>85-89</td>
<td>22.0</td>
</tr>
<tr>
<td>90-94</td>
<td>22.2</td>
</tr>
<tr>
<td>95-99</td>
<td>22.1</td>
</tr>
<tr>
<td>100+</td>
<td>20.3</td>
</tr>
</tbody>
</table>

*Source: U.S. Census Bureau, 1990 Public Use Microdata, 5% Sample for Kansas*

To predict future family patterns, the AARP Before the Boom report indicated that the percent of people 85 and older without a spouse or children reached a high point in 1990 and then will decrease by more than half by 2020 when the birth dearth cohort reaches age 85 and older. Table 19 shows this projection for the United States.
Table 19
Percentage of Persons 85 and Older with No Spouse and No Children by Gender and Race in the United States, Select Years 1980 to 2020

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>White Females</td>
<td>21.8%</td>
<td>22.1%</td>
<td>19.2%</td>
<td>12.2%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Black Females</td>
<td>24.9%</td>
<td>31.5%</td>
<td>30.1%</td>
<td>21.2%</td>
<td>14.0%</td>
</tr>
<tr>
<td>White Males</td>
<td>9.6%</td>
<td>10.2%</td>
<td>8.4%</td>
<td>6.1%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Black Males</td>
<td>15.7%</td>
<td>17.6%</td>
<td>16.6%</td>
<td>12.7%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

Source: Redfoot & Pandya (2002); Before the Boom (p. 27). Table prepared by AARP Public Policy Institute based on Himes, 1992.

Information similar to national figures in Table 19 is limited for Kansas. In addition, available data from the Census is based on a very small sample and therefore not comparable. However, based on the similarity between Kansas and the United States in fertility rates as well as the demographic trends described in Trend 7 (i.e., gender ratio and widowhood rates), we can assume that Kansas will most likely follow national projections. Therefore, the percent of women aged 85 and over with no spouse or children in Kansas is projected to follow national trends and decrease to half by 2020. This supports the notion that as women of the birth dearth cohort age into the 85 and older age group there will be more available support from spouses and adult children compared to the oldest old cohort who were aged 85 and older in 2000.

Women and the Labor Force

In addition to fertility rates, changes in the rate at which women are participating in the labor force will contribute to the amount of available informal support from adult children. Although men participate in caregiving in Kansas at a higher rate than the United States, the majority of caregivers are women (AARP, 2004). Women are more likely to provide informal care to family members, yet women have also increased their participation in the labor force in both Kansas and the United States.

Since 1950 the percent of females 16 and over contributing to the labor force has more than doubled in Kansas (U.S. Census Bureau, 1950, 2000b). Currently, 75.5% of women age 25 to 54 participate in the labor force in Kansas (U.S. Census Bureau, 2000b). Of people who provide informal care in Kansas, 63% are employed either full- or part-time and 63% noted going to work late, leaving early, or taking time off due to caregiving issues (AARP, 2004). This

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17 The 1950 Census considered the labor force to start at age 14, whereas the 2000 Census defined the labor force as age 16 and older.
suggests that caregivers, particularly women, are having to balance work and care for family simultaneously and will most likely continue to do so in the future.

**Summary and Implications**

Thirty-six percent of caregivers in Kansas provide care to either their mother or father with an additional 10% providing care to a mother-in-law or father-in-law (AARP, 2004). Similar to national trends, the fertility rate in Kansas declined between the 1920s and 1940s, increased between the 1940s and 1960s, and has continued to decrease since the 1960s. In addition to low fertility rates, baby boomers also had fewer children per woman which may indicate less available support for adult child caregivers from siblings. Finally, the majority of caregivers in the United States and Kansas are women whom have more than doubled their participation in the work force since 1950 (AARP, 2004; U.S. Census Bureau, 1950, 2000b). This has forced caregivers, particularly women, to find ways to balance caregiving and work.

For the next few decades it is projected that the percent of older women without a spouse or children will continue to decrease indicating that there will be more spouses and adult children available to provide informal support. However, women are most likely to provide care to their parents and are competing in the job market much more than ever before. Although the baby boom cohort is large in number, they have more competing demands from work and family than their parents’ generation thus making their true availability hard to measure. Therefore, support and respite for caregivers who are adult children will continue to be needed even though the number of available caregivers is larger than ever before.
Trend 9: The Older Adult Population in Kansas is Becoming More Diverse and Disparities in Disability and Poverty Among Racial and Ethnic Groups Exist That Could Impact Their Demand for Long-Term Care. In Kansas, Black/African American Older Adults Utilize Community-Based Services and Informal Care More Than White Non-Hispanics but Utilize Nursing Facility Care Similarly.

Before the Boom National Findings

The older adult population is becoming more ethnically and racially diverse. The use of supportive services differs among racial and ethnic groups. Economic and cultural patterns affect utilization trends such that residence, family support, long-term care services used, and the general demographic make-up of each race and ethnic group is different. According to the AARP Before the Boom report, older White non-Hispanics tend to live with spouses, have less informal support, use home health services less, and use nursing facility (NF) services more than other racial/ethnic groups. However, Black/African Americans have begun to use NF services similar to White non-Hispanics due to economic changes and anti-discrimination laws. Although minority racial and ethnic populations among older adults will continue to grow at a greater rate than the White non-Hispanic population, it is hard to tell if their long-term care service utilization will follow that of the older White non-Hispanic population (Redfoot & Pandya, 2002).

Kansas Findings

The number of older adults who are members of a minority race or ethnic group is increasing at a faster rate than older White non-Hispanics, yet demographics and long-term care utilization trends differ among White non-Hispanics and all other racial and ethnic groups. First, a larger proportion of older adult members of minority and ethnic groups in Kansas tend to be below the poverty level, have lower educational attainment, and have a disability compared to White non-Hispanics in Kansas indicating a greater need for long-term care services. Second, older minority group members tend to live with family in the community and provide more informal care than White non-Hispanics.

Although the demographic disparities among these groups are similar to the United States, Black/African Americans and White non-Hispanics are utilizing NF services at approximately the same rate in Kansas. In fact, in 1999 Black/African Americans and White non-Hispanics were utilizing NF services at approximately the same rate in Kansas. In fact, in 1999 Black/African Americans and White non-Hispanics were utilizing NF services at approximately the same rate in Kansas.

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18 The Census refers to race and ethnicity as follows: White, Black/African American, Alaska Native/American Indian, and Asian/Pacific Islander are races with Hispanic/Latino being an ethnic origin. For the purpose of clarity, these groups will be referred to in the same fashion in this report.
non-Hispanics had a very similar proportion of older adults using NF services whereas nationally a much larger proportion of Black/African Americans were using NF services compared to White non-Hispanics. In addition, a larger proportion of Black/African Americans use the Home and Community-Based Services/Frail Elderly (HCBS/FE) Waiver than White non-Hispanics in Kansas.

In this trend, life expectancy, poverty level, educational attainment, disability rates, living arrangements, and informal care will be discussed. In addition, HCBS/FE and NF utilization among the different racial and ethnic groups in Kansas will be discussed. Differences in these areas between the United States and Kansas will be highlighted.

Racial/Ethnic Make-Up of Older Adult Population

The increase in the 65 and older minority racial and ethnic population in Kansas is similar to national projections. However, the proportion of individuals in minority groups in Kansas is much smaller compared to other states and nationally. In 2000, minority groups made up only 6.4% of the older adult population in Kansas compared to 16% nationally. According to the U.S. Census Bureau\textsuperscript{19}, the percentage of those individuals are projected to increase to 9.8% of the older adult population in Kansas and 24% in the United States by 2020. For both Kansas and the United States, the Hispanic/Latino older adult population is projected to have the greatest increase. Figure 20 displays this projected change.

\textbf{Figure 20}

\begin{center}
\textbf{Percent of Adults 65 and Older by Race in Kansas, 2000 and 2020}
\end{center}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure20.png}
\end{figure}

\textsuperscript{19} U.S. Census Bureau projections are used in this trend because the Kansas Division of the Budget does not provide projections for the older adult population by race/ethnicity.
In Kansas most of the counties with the largest proportion of the White non-Hispanic population are in the center of the state. Counties with a more diverse older population cluster around the urban and metropolitan areas of the state. By knowing where older adults reside, Kansas can target services to these populations and develop initiatives specific to their needs. Map 4 provides an illustration of the percent of the population that are White non-Hispanic.

**Map 4**

Percent of Population Age 65 and Over Selecting White Alone, Not Hispanic or Latino, in Kansas by County, 2000

Disparities in Life Expectancy, Poverty, Education, and Disability

Demographic and health disparities can indicate a greater need for long-term care services among different groups of people. When examining life expectancy, poverty, education, and disability among older White non-Hispanics and racial and ethnic minority groups in Kansas we found disparities in each category. First, the difference between life expectancy among Black/African Americans and White non-Hispanics at age 65 in Kansas was 2.5 years in 2000. However, the life expectancy for Whites born in 2000 in Kansas was 77.2 years compared to 71.2 for Black/African Americans born in Kansas in 2000. The Kansas difference of 6 years is
slightly higher than the difference of 5.7 years found in the United States among Whites and Black/African Americans born in 2000 (KDHE, 2003).

Second, eighteen percent of older Black/African Americans in Kansas are below the poverty line and only 7% of older White non-Hispanics fall below the poverty line. However, the percent of older Black/African Americans in Kansas that are below the poverty line is slightly lower than nationally. Twenty-two percent of older Black/African Americans are below the poverty line nationally while the same proportion of older White non-Hispanics in Kansas and the United States are below the poverty line (U.S. Census Bureau, 2000b).

Third, as mentioned in Trend 3, there is a correlation between educational attainment and disability rates. Similar to national disparities, older members of minority racial and ethnic groups tend to have lower educational attainment. Only 53.5% of older Black/African Americans and 37.7% of older Hispanic/Latinos had received a high school diploma or higher compared to 75% of White non-Hispanic older adults (U.S. Census Bureau, 2000b). Correspondingly, disability rates proved to be greater for older members of racial and ethnic minority groups. For example, over half of Native American older adults have any disability. Also, 44% of Hispanic/Latino older adults and 42.4% of Asian/Pacific Islander older adults in Kansas reported having any disability compared to only 40.9% of White non-Hispanic older adults in Kansas (U.S. Census Bureau, 2000b). The above disparities signal a potentially greater need for long-term care services among minority racial and ethnic groups. However, knowing these disparities exist allows the state to target efforts for improvement of the quality of life for both young and old Kansans who are members of minority racial and ethnic groups.

Living Arrangements

The AARP Before the Boom report contends that cultural differences play a role in long-term care service utilization. Such differences can be found in the prevalence of informal caregiving and living arrangements among older White non-Hispanics and older minority racial and ethnic populations (Redfoot & Pandya, 2002). According to a study of informal caregiving done by AARP (2004), a larger proportion of Black/African Americans 18 and older provide informal care to family and friends than do White non-Hispanics 18 and older similar to national findings. Additionally, Himes et al. (1996) reported that nationally White non-Hispanic older adults live alone or with a spouse more so than minority groups. On the other hand, older adult members of minority groups tend to live with other relatives more often indicating greater availability and potential for informal caregiving by family members.
According to 2000 Census data there are similar differences among older Kansans. A higher proportion of White non-Hispanic older adults live with a spouse. However, a much higher proportion of all minority older adults live with a parent or other relative particularly Asians. In addition, Black/African Americans, in both Kansas and the United States, tend to have a larger percentage of older adults who live alone and a smaller percentage who live with a spouse compared to all other racial and ethnic groups. These living arrangement patterns hold true for the nation as well. Overall, each minority racial and ethnic group has a larger proportion of older adults living with family compared to White non-Hispanics. This indicates that older adult members of racial and ethnic minority groups tend to live with family more so than White non-Hispanic older adults in Kansas and perhaps create the potential for more informal support. Table 20 displays these findings.

Table 20

<table>
<thead>
<tr>
<th></th>
<th>Live w/ a spouse</th>
<th>Live w/ a parent</th>
<th>Live w/ other relatives</th>
<th>Live alone</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Non-Hispanic</td>
<td>25%</td>
<td>2%</td>
<td>1%</td>
<td>30%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>15%</td>
<td>4%</td>
<td>4%</td>
<td>34%</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>20%</td>
<td>3%</td>
<td>4%</td>
<td>28%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>20%</td>
<td>23%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>21%</td>
<td>8%</td>
<td>8%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Census 2000.

Nursing Facility and HCBS/FE Utilization

Nationally, Black/African American older adults use home health care more and have increased nursing facility utilization more so than White non-Hispanics (Redfoot & Pandya, 2002). From data available for Kansas, Black/African American older adults use HCBS/FE services in Kansas at a higher rate than White non-Hispanics. Although Black/African Americans are only 3.2% of adults age 65 and older in Kansas according to the 2000 Census, they consistently comprised between 10 and 11% of the HCBS/FE Waiver population between FY 2000 and FY 2004 (Kansas Department on Aging [KDOA], 2000-2004b).

According to the AARP Before the Boom report, White older adults decreased NF utilization between 1973 and 1999. However, in the United States, Black/African Americans had increased NF utilization from 1973 to 1999. Nationally, by 1999 a larger proportion of older Black/African Americans (55.6 per thousand) were using NF services compared to White older adults (41.9 per thousand). Data regarding race of the NF population in 1973 is not available for
Kansas. However, according to the MDS 2.0 dataset in Kansas for 1999 to 2003, older Black/African Americans and Whites had similar NF utilization rates and both races declined in NF utilization at the same rate (MDS 2.0 dataset, 1999-2003; U.S. Census Bureau, n.d.). Like nationally, older Black/African Americans are using formal NF services. However, unlike nationally, Black/African Americans in Kansas are not using NF services more than White non-Hispanics. Figure 21 shows the steady decline of NF utilization among both races.

![Figure 21](image)

**Figure 21**

Kansas Nursing Facility Residents Per Thousand Population 65 and Older by Race, 1994-2003

Between 1990 and 2000 Kansas had a 31% age-adjusted decrease in NF utilization which was higher than the 26% age-adjusted decrease across the country from 1973 to 1999 (refer to Trend 1). This large decrease in utilization in Kansas most likely affected all NF residents despite race. In addition, Black/African American older adults in Kansas tend to live with other relatives at a higher rate and use HCBS/FE services at a much higher rate than White non-Hispanics in Kansas thus potentially contributing to the decrease in NF utilization among this group of older adults.

Similar to national findings, Black/African American NF residents are younger than White non-Hispanic NF residents in Kansas (MDS 2.0 dataset, 1999). Tables 21 and 22 display the NF population by race and age in the United States and Kansas. Although overall, the Kansas NF population is older, the disparity among Black/African Americans and White non-Hispanics could be attributed to a higher proportion of Black/African Americans 65 and over with a disability, 52.1 and 40.9 percent respectively (U.S. Census Bureau, 2000b).
Table 21
Race and Age of the NF Population (All Ages) in the United States, 1999

<table>
<thead>
<tr>
<th>Age</th>
<th>White</th>
<th>Black</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 65</td>
<td>8.3%</td>
<td>18.4%</td>
<td>16.6%</td>
<td>9.7%</td>
</tr>
<tr>
<td>65-74</td>
<td>11.3%</td>
<td>17.0%</td>
<td>15.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>75-84</td>
<td>31.6%</td>
<td>32.8%</td>
<td>33.8%</td>
<td>31.8%</td>
</tr>
<tr>
<td>85+</td>
<td>48.9%</td>
<td>31.8%</td>
<td>34.6%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100.1%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Redfoot & Pandya (2002) Before the Boom (p. 31). 1999 National Nursing Home Survey, National Center for Health Statistics (2002c) with additional analyses by Esther Hing at NCHS. Note: Respondents who reported White race and another are included in the “other” category. The percentage in the “other” category are less reliable because of the small number of cases upon which the analysis is based.

Table 22
Race and Age of the NF Population (All Ages) in Kansas, 1999

<table>
<thead>
<tr>
<th>Age</th>
<th>White</th>
<th>Black</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 65</td>
<td>7.0%</td>
<td>16.6%</td>
<td>20.0%</td>
<td>7.6%</td>
</tr>
<tr>
<td>65-74</td>
<td>10.0%</td>
<td>17.3%</td>
<td>16.4%</td>
<td>10.3%</td>
</tr>
<tr>
<td>75-84</td>
<td>29.4%</td>
<td>32.4%</td>
<td>32.0%</td>
<td>29.5%</td>
</tr>
<tr>
<td>85+</td>
<td>53.6%</td>
<td>33.7%</td>
<td>31.7%</td>
<td>52.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>


Finally, the AARP Before the Boom report suggests that “the disproportionate reliance on public reimbursements among older Blacks” could contribute to the increase in NF utilization among older Black/African Americans nationally (Redfoot & Pandya, 2002, p. 30). Although NF utilization did not increase among Black/African American older adults in Kansas between 1999 and 2003, there is a disproportionate reliance on public funding among older Black/African Americans in NFs. However, Black/African American older adults continue to privately pay for care much more in Kansas than nationally. Tables 23 and 24 display the primary source of payment for NF residents by race nationally and for Kansas.
Table 23
Primary Source of Payment for U.S. NF Residents (All Ages) by Race, 1999

<table>
<thead>
<tr>
<th></th>
<th>Private</th>
<th>Medicare</th>
<th>Medicaid</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>26.5%</td>
<td>14.7%</td>
<td>56.2%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Black</td>
<td>4.9%</td>
<td>15.2%</td>
<td>75.7%</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

Source: Redfoot and Pandya (2002) Before the Boom (p. 31).

Table 24
Primary Source of Payment for Kansas NF Residents (All Ages) by Race, 1999

<table>
<thead>
<tr>
<th></th>
<th>Private</th>
<th>Medicare</th>
<th>Medicaid</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>42.4%</td>
<td>13.4%</td>
<td>43.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Black</td>
<td>13.4%</td>
<td>14.4%</td>
<td>70.6%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Source: MDS 2.0 dataset, 1999

Summary and Implications

Older adult members of minority racial and ethnic groups are growing at a faster rate than White non-Hispanics in both Kansas and the United States. There are different demographic and long-term care service utilization patterns among the racial and ethnic groups. Older White non-Hispanic individuals tend to live with a spouse, have higher educational attainment, and lower levels of disability compared to older individuals of minority racial and ethnic groups. On the other hand, Black/African Americans tend to provide more informal care and use the Medicaid Home and Community-Based Services/Frail Elderly Waiver more so than older White non-Hispanics in Kansas. However, NF utilization has been similar for both White non-Hispanics and Black/African Americans in Kansas. Yet, primary payment source among the two groups is different. Black/African American older adults disproportionately rely on public funds for NF services in Kansas and the United States. However, there are a larger proportion of Black/African American NF residents who privately pay for services in Kansas than nationally.

The percent of minority racial and ethnic groups is so small in Kansas that it is hard to gather much credible information regarding trends in long-term care utilization among groups other than Black/African Americans. However, there is evidence that there is a greater potential for informal caregiving to take place in the community among all older minority racial and ethnic groups. In addition, there are large disparities among older members of minority racial and ethnic groups and older White non-Hispanics regarding poverty level, educational attainment, and disability which all impact the long-term care system. Efforts should be made to investigate and reduce these disparities as well as support informal caregivers in a culturally sensitive
manner as it is those minority racial and ethnic groups that will continue to grow at the greatest rate over the next 20 years. Although the number of older adults who are members of minority racial and ethnic groups is small, there are areas of the state that have significant concentrations of these individuals where efforts could be targeted.
Trend 10: Assisted Living Plays an Important Role in the Array of Long-Term Care Services Available in Kansas and the United States Though Kansas Assisted Living Residents are Less Disabled and a Higher Proportion are Receiving Medicaid Waiver Services Compared to Nationally.

Before the Boom National Findings

“Assisted living has grown substantially over the past decade, although the extent to which it has replaced nursing facility services is not well documented” (Redfoot & Pandya, 2002, p. 32). Since the early 1990s, assisted living (AL) facilities and beds have increased dramatically. However, without a uniform national definition of assisted living, the actual number of AL facilities in the United States is debated. Assisted living facilities vary in terms of size, services offered, and residents’ level of disability. The average assisted living resident needs assistance with fewer activities of daily living (ADLs) than residents in a nursing facility (NF), but a higher number of ADLs than community-based service users. The ADL needs of AL and NF residents are increasing, which suggests that ALs are replacing NFs for the less disabled older adult population. Yet, nearly one-third of AL residents discharge to nursing facilities because they need more assistance with ADLs than the AL provides. It is slightly less common for AL residents to remain in the AL until their death (i.e., age in place) with no more than one-third of residents discharging from an assisted living for this reason. Thus, although ALs replace NFs for many older adults with low levels of impairment, they do not provide a replacement for many older adults with higher levels of physical or cognitive impairment (Redfoot & Pandya).

Nationally, assisted living facilities are also not replacing nursing facilities for low-income older adults. Medicaid-eligible older adults are not accessing assisted living in large numbers. Instead, the majority of assisted living residents are paying privately. Nationally, assisted living residents are not receiving Medicaid assistance widely due to state and federal limitations on Medicaid coverage in ALs (Redfoot & Pandya, 2002).

Kansas Findings

The national expansion of assisted living was also seen in Kansas throughout the 1990s and continuing into the 21st century. Kansas regulations of assisted living and residential health care (RHC) facilities’ admission and retention policies are some of the least restrictive in the United States for older adults with specialized care needs. Yet, Kansas ALs and RHCs provide care to a less disabled population than AL residents nationally. On average, U.S. AL residents need assistance with almost one more ADL than Kansas AL and RHC residents. Thus, fewer
Kansas residents in assisted living settings need assistance with specific ADLs such as toileting, eating, and dressing than AL residents nationally. The discharge location of Kansas AL and RHC residents is very similar to the national trends. Also similar is the number of AL and RHC residents admitted from a nursing facility to an assisted living setting.

The majority of AL residents in Kansas and throughout the United States are paying privately for their care. However, the Medicaid Home and Community-Based Services/Frail Elderly Waiver program in Kansas allows for the funding of services in an assisted living or residential care facility. In fact, the majority (about 70%) of Kansas ALs and RHCs accept Medicaid residents. Approximately one in six AL and RHC residents in Kansas is receiving Medicaid-funded care. Although this is not a large percentage of the overall AL/RHC population in Kansas, it is slightly higher than the proportion of AL residents receiving Medicaid nationally.

In this trend, we will discuss the growth of the assisted living industry in Kansas and the aging in place philosophy that is supported by Kansas regulations of assisted living and residential health care facilities. In addition, we will report disability levels of residents in assisted living settings and nursing facilities in Kansas and the United States as well as the most common discharge locations for AL and RHC residents in Kansas and nationally. We will conclude this trend by mentioning the role of Medicaid in assisted living settings in Kansas.

Aging in Place in Assisted Living

In Kansas, two separately licensed categories of adult care homes reflect an assisted living philosophy. Both assisted living facilities and residential health care facilities are considered assisted living settings in most states and in national research. ALs and RHCs provide a range of services to residents including meals, personal health care services and supervised nursing care, housekeeping, transportation, and group activities. This report specifies whether ALs, RHCs, or both types of facilities (AL/RHCs) are being discussed.

Kansas assisted living and residential health care facility regulations support an aging in place philosophy. In Kansas, older adults are able to shift from relative independence to a higher level of care within the same facility, yet they are not ensured that they will live in the

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20 Any place or facility caring for six or more individuals not related within the third degree of relationship to the administrator, operator or owner by blood or marriage and who, by choice or due to functional impairments, may need personal care and may need supervised nursing care to compensate for activities of daily living limitations and in which the place or facility includes apartments for residents and provides or coordinates a range of services including personal care or supervised nursing care available 24 hours a day, seven days a week for the support of resident independence. The provision of skilled nursing procedures to a resident in an assisted living facility is not prohibited by this act. Generally, the skilled services provided in an assisted living facility shall be provided on an intermittent or limited term basis, or if limited in scope, a regular basis (K.S.A. 39-923, 1997).

21 RHCs are similar to ALs except that RHCs require a private living unit, or room, instead of an apartment. RHCs also are not required to have a kitchen in each room.
same setting until their death regardless of care needs (Dobbs-Kepper, Chapin, Rachlin, & Waltner, 2000). State regulations require that the AL and RHC administration have written policies and procedures that “incorporate the principles of individuality, autonomy, dignity, choice, privacy, and a home-like environment for each resident” (Kansas Administrative Rules 28-39-240). It is the responsibility of the AL/RHC administration to recognize the rights, responsibilities, needs and preferences of residents. Residents can refuse services recommended by assisted living personnel as long as the residents are aware of the consequences and their refusal does not negatively affect the rights and safety of other residents (Kansas Administrative Rules 28-39-240-244).

Mollica (2002) cites Kansas as being one of nine states with the broadest parameters for admission and retention policies. Kansas regulations allow AL/RHC facilities to serve people with special needs such as oxygen, medication monitoring, catheterization, and cognitive impairment. AL/RHC regulations limit care for incontinence that cannot be managed by the resident, immobility that requires total assistance for building exits, and ongoing need for two-person transfer or 24-hours a day skilled nursing interventions. Despite the flexibility afforded by the state regulations, many facilities establish their own admission and discharge policies that are much more restrictive. For example, Kansas ALs often limit admissions for individuals with special care needs or needs for additional ADL assistance. However, when residents experience physical decline or special care needs leading to an increase in ADL assistance after they have been admitted to an AL facility, they are often retained for some time (Dobbs-Kepper et al., 2000).

**Assisted Living Growth**

The number of assisted living beds has grown dramatically since 1990. In the early 1990s, assisted living settings were located under the “personal care” licensure category. In October 1995, “assisted living” and “residential health care” facilities were defined separately and regulations for ALs and RHCs were adopted in 1997 (Moore, Rachlin, & Chapin, 1999). Figure 22 shows the growth in beds in Kansas from 1990 to 2002. By 2002, the number of beds had grown to 5,658 AL beds and 2,918 RHC beds for a total bed count of 8,576 (Mollica, 2002).

In addition to seeing a growth in the number of beds, the total number of facilities offering assisted living care has grown since the early 1990s. The growth of both AL/RHC beds and facilities in Kansas mirrors the overall expansion of the assisted living industry in the United States during the 1990s.
Impairment Status in Various Long-Term Care Settings

Impairment status in Kansas AL/RHCs is not aggregated at the state level. All AL and RHC facilities are required to fill out an annual Residential Functional Capacity Screen or comparable form for each resident, which includes functional and cognitive information about the residents (Kansas Administrative Rules 28-39-243). However, these forms are not gathered across the state into a comprehensive, accessible database.

The most recent information available to discuss this topic is 1999. The data available in Kansas do cover the same timeframe as the national data reported in the AARP Before the Boom report. Therefore, the available Kansas data are included here to provide a basis for comparing national and Kansas impairment status in assisted living settings and nursing facilities. Additional studies would need to be completed in Kansas to determine whether the impairment status of Kansas AL/RHC residents has changed since 1999 and whether it has diverged further or come closer to national trends.

Residential health care residents are more impaired than assisted living residents in Kansas. However, both RHC and AL residents are less impaired in ADLs than nursing facility residents. On average, Kansas AL residents need assistance with 1.2 ADLs out of five (bathing, dressing, mobility, eating, and toileting), compared to 1.56 ADLs for RHC residents and 3.8 ADLs for NF residents. Approximately one-third of AL/RHC residents need no assistance with ADLs and less than two percent of AL/RHC residents need assistance with all five ADLs. In 1999
contrast, less than two percent of NF residents need no assistance with ADLs and nearly fifty percent of NF residents need assistance with all five ADLs (Chapin et al., 1999).

Comparatively, the AARP Before the Boom report reported that the average assisted living resident needs assistance with 2.3 ADLs (on a scale of five) and the average nursing facility resident needs assistance with 3.8 ADLs. Also mentioned, home health users need assistance with an average of 1.6 ADLs (National Center for Assisted Living [NCAL], 2001). Compared to the average AL resident in the United States, Kansas AL/RHC residents need assistance with fewer ADLs while nursing facility residents in Kansas and the United States need assistance with the same number of ADLs. Figure 23 provides further illustration of ADL needs for varying long-term care populations in Kansas and the United States. Comparable data for home health residents in Kansas is not available.

**Figure 23**

Percent of Residents in Various Long-Term Care Settings Needing Assistance with Specific Activities of Daily Living

![Bar chart showing the percentage of residents needing assistance in various ADLs](chart)

Source: Data for national figures reported by the National Center for Assisted Living (2001) based on data from the NCAL Survey of Assisted Living Facilities, OSCAR, and data from the 1996 National Home and Hospice Care Survey. Data for Kansas figures provided by Chapin, Dobbs, Moore, & Waltner, 1999.


In a previous report published by the Office of Aging and Long Term Care, the impairment rates of AL/RHC residents were compared to a different national study of AL residents published in 1998 by the National Investment Center (NIC) for the Seniors Housing and Care Industries. NIC reported fewer AL residents in the United States needing assistance with each ADL portrayed in Figure 23 than the NCAL reported. Regardless of the data used, Kansas assisted living and residential health care facilities are serving a less disabled...
population than national assisted living facilities. Yet, Kansas has some of the least restrictive requirements for admission and discharge in the United States. This indicates that although Kansas AL/RHC regulations allow for a more disabled population, AL/RHCs are not providing this higher level of care to residents.

**Assisted Living and Nursing Facility Discharge and Admission**

The discharge location of assisted living residents is one indicator of whether assisted living facilities are replacing nursing facilities. Assisted living facilities can fully replace nursing facilities when residents reside at the AL until their death or partially replace nursing facilities when residents with low levels of impairment reside in an AL until their care needs become too great for the facility. Two Kansas sources provide data on the discharge status of the AL/RHC population. Dobbs-Kepper, Chapin, Oslund, Rachlin, & Stover (2001) tracked 366 AL/RHC residents over the course of a year and found that 35% of these residents discharged from the AL/RHC. Approximately 40% discharged to a nursing facility, one-third died in the AL/RHC, and the remaining discharges were to other settings including the hospital, community, or another AL/RHC facility or board and care home. The Adult Care Home Annual Report consistently found that in a given year approximately twenty-five percent of resident discharges were to a nursing facility, less than ten percent of residents died in the AL, forty-five percent of discharges were to a hospital, and twenty percent transferred to another AL or discharged to the community (Office of Policy Analysis, 1997, 2000, 2004).

Similar to these two Kansas reports, a national study that followed AL residents for one year found that 24% of residents discharged from the AL. Of those residents discharged in this national study, one-third discharged to a nursing facility, one-third died, and the remaining discharges were to other settings including their own homes or other assisted living facilities (Phillips, Hawes, Spry, & Rose, 2000). Another national study also found that one-third of AL discharges were to nursing facilities (NCAL, 2001). The Kansas and national findings indicate that approximately one-fourth to just over one-third of residents discharge from Kansas and U.S. assisted living settings to receive higher levels of care in nursing facilities. In addition, no more than one-third of AL/RHC residents in Kansas and nationally age in place until death. This indicates that although some level of disability is cared for by AL/RHCs, these facilities are unable to keep the majority of residents until death because care needs become too great.

Another avenue by which NFs are replaced by ALs occurs when older adults are admitted to an assisted living facility from a nursing facility, often due to a decrease in care needs. This transition can occur after either a long NF stay or following a short rehab stay in an
The AARP Before the Boom report noted that 10% of assisted living admissions in the United States were from nursing facilities (NCAL, 2001). Dobbs-Kepper et al. (2001) reported that 18.9% of AL/RHC residents in Kansas were admitted from a nursing facility, representing a larger percentage of admissions than nationally. The other AL/RHC residents in Kansas were largely admitted from a private home either with or without home health services (13.0% and 50.6%, respectively) or an acute hospital (11.9%). RHC residents were admitted from an NF or hospital more often than AL residents (Chapin et al., 1999).

Although not examined by the AARP Before the Boom report, the discharge location of NF residents will also be examined because, as mentioned in the previous paragraph, one way that ALs can substitute for NF care is for NF residents to discharge to an AL. According to the Adult Care Home Annual Report, approximately twenty percent of NF discharges are to community settings, of which less than four percent are to assisted living settings. Instead, almost fifty percent of NF discharges are to the hospital and twenty-five percent are due to death (Office of Policy Analysis, 1997, 2000, 2004). The small percent of NF residents discharged to an assisted living is confirmed by data collected from the MDS 2.0 dataset in 1999 and 2003. According to these data, less than four percent of NF discharges each year were to an assisted living. However, it is noteworthy to point out that the percent of discharges from NFs to ALs increased slightly between 1999 and 2003 (MDS 2.0 dataset, 1999, 2003). Consequently, although AL residents might be utilizing services in an AL to delay NF service needs, there is little evidence to suggest that ALs are replacing NFs for those previously admitted to a nursing facility.

**Access for Low-Income Older Adults**

Medicaid reimbursement for services provided to older adults in Kansas AL/RHCs began January 01, 1997, with the expansion of the Medicaid Home and Community-Based Services for Frail Elderly (HCBS/FE) Waiver program. AL/RHC facilities bill Medicaid on a fee-for-service basis for the exact units of service provided. Room and board is covered by any income the resident receives, such as Social Security. Therefore, the Medicaid HCBS/FE Waiver pays for the services provided by the AL/RHC, but not for room and board.

Research conducted by the OALTC provides data on the percentage of facilities that accept HCBS/FE residents and the percentage of current residents on Medicaid. Based on survey responses, the percentage of AL/RHC facilities accepting Medicaid residents increased from 62% in 1999 to 70% in 2000. In 2004, the percentage of AL/RHC facilities accepting Medicaid residents stayed constant at 70%. Of those facilities that accept both Medicaid and
private payment sources, many facilities (38%) limit the number of Medicaid residents in their facility at one time. In addition, despite the majority of AL/RHC facilities accepting Medicaid, only a small percentage of the overall population is receiving Medicaid benefits. In 1999 and 2000, approximately fifteen percent of AL/RHC residents were receiving Medicaid services at a given time. This increased slightly to 16.2% in 2004. Compared to national rates of AL/RHC residents receiving Medicaid (11%) in 2002, Kansas AL/RHCs have a larger percentage of Medicaid residents (Chapin et al., 1999; Chapin, Higgins, Hickey, Rachlin, Nelson-Becker, 2005; Dobbs-Kepper et al., 2000; Wright, 2004). The research conducted by the OALTC in FY 2004 suggests that the percentage of facilities accepting Medicaid has remained constant from 2000 to 2004 whereas the percentage of residents with Medicaid funding has increased slightly during these same years.

Summary and Implications

The growth of AL/RHC beds and facilities in Kansas since the early 1990s has been dramatic and has prompted the discussion of whether assisted living settings are reducing nursing facility utilization rates. In 2002, there were 8,576 beds in 227 Kansas assisted living and residential care facilities. Kansas assisted living supports an aging in place philosophy with state regulations allowing for the care of people with special medical needs such as oxygen and cognitive impairment. However, many facilities restrict the admission and retention of some older adults due to their specific care needs.

Indicators of whether AL/RHC growth has replaced NF care include a) disability levels in the two types of facilities, b) admission and discharge rates between the two settings, and c) acceptance and utilization of AL/RHCs by low-income older adults. Assisted living settings seem to be replacing nursing facilities for older adults with a low level of disability and the ability to pay privately for their care. Both AL and RHC residents are considerably less impaired than NF residents in Kansas. Due to restrictions placed on admission and retention policies by individual facilities, older adults with higher levels of disability are not served to the extent permitted by AL/RHC regulation. Although Kansas has some of the broadest regulations for meeting care needs in assisted living, Kansas facilities are serving a less disabled population than the U.S. AL population. Many older adults are able to reside in an AL setting until their death, but an even larger percent are leaving ALs to receive more care in a NF. Approximately one-third of AL/RHC residents were discharged to a NF whereas less than one-third died while residing in an AL/RHC. In addition, assisted living is not replacing the nursing facility for low-income older adults that are receiving Medicaid-funded care. The majority of Kansas AL/RHC facilities will
accept both private pay and Medicaid HCBS/FE Waiver residents. However, only a small percentage of AL/RHC residents are receiving Medicaid with a larger percentage of RHC residents receiving Medicaid than AL residents.
Trend 11: Home Health Care Utilization and Expenditures in Kansas During the 1990s Closely Reflected the National Expansion and Reduction Caused by Changes in Federal Medicare Policies.

Before the Boom National Findings

“Home health care utilization grew rapidly then declined precipitously following cuts in Medicare reimbursements in the late 1990s” (Redfoot & Pandya, 2002, p. 34). Home health care utilization increased in the early 1990s largely due to an increase in Medicare funding for post-acute nursing services. As the number of home health care clients grew and the number of visits per user nearly doubled, Medicare expenditures for home health care increased as a percent of total Medicare spending for the population age 65 and older in the United States. After the passage of the Balanced Budget Act (BBA) of 1997, utilization of home health care plummeted and overall expenditures declined including Medicare, Medicaid, and private payments (Redfoot & Pandya). Nationally, the number of home health care users in rural areas decreased more than in urban areas (U.S. General Accounting Office, 2000) and the greatest reduction of home health care clients occurred among the elderly population not the non-elderly disabled population (Spector, Cohen, & Pesis-Katz, 2004). Policy changes related to Medicare have greatly impacted the availability of home health care for older adults that are generally younger and less disabled than older adults in nursing facilities (Redfoot & Pandya).

Kansas Findings

The impact of the federal policy changes related to Medicare home health care was similar in the United States and Kansas. As was found nationally, the number of Kansas home health care clients, the average number of visits per clients, and the number of agencies providing home health care in Kansas grew during the early 1990s and dropped during the late 1990s. Kansas only differed slightly from the United States in the proportion of home health care expenditures paid by public instead of private sources. Private sources of payment represented a larger proportion of all home health care expenditures in Kansas than nationally.

This trend shows specifically how policy changes can largely influence the long-term care services available to older adults. First, utilization of home health care services by Medicare beneficiaries in the United States and Kansas will be discussed. Then, the home health care expenditures in Kansas will be discussed. Finally, the number of home health agencies in the state in various years will be highlighted. We will also discuss how Medicare policy changes, especially changes due to the BBA, changed home health care services.
Home Health Care Utilization

Federal policy changes to Medicare home health care changed the utilization of this long-term care service in Kansas. Increased home health care utilization occurred in the early 1990s following changes in home health eligibility and coverage criteria as well as changes to payment procedures for home health care agencies (McCall, Komisar, Petersons, & Moore, 2001). Consistent with national trends, the number of Medicare home health care clients in Kansas increased from 1990 to 1997 in terms of the entire Medicare population (Health Care Financing Administration [HCFA], 1993-2004). Then from 1997 to 2000, the home health care utilization rate among Medicare beneficiaries in Kansas and the United States decreased to rates only slightly higher than the rates in 1992 (HCFA). The decline in the number of home health care clients is largely attributed to the Balanced Budget Act of 1997, which yet again modified the home health eligibility and coverage criteria and established a different payment system for home health care reimbursement (Medicare Payment Advisory Commission [MedPAC], 2005). Figure 24 illustrates the number of Medicare home health care users from 1990 to 2002.

Figure 24
Home Health Care Clients per 1,000 Medicare Beneficiaries, 1990-2002

In addition to influencing the number of home health care clients served, federal home health care policy changes also influenced the frequency of services provided. Prior to 1997, home health agencies were reimbursed on a cost per visit basis by which agencies could offset expensive visits with an additional visit that was less expensive. Thus, home health agency revenues could be elevated by providing additional visits (Spector, Cohen, & Pesis-Katz, 2004). In 1994, Medicare home health care users in Kansas received an average of 56 visits, which
increased to 63 visits per user in 1996 (U.S. General Accounting Office, 2000). However, the prospective payment system introduced by the BBA attempted to reduce the number of visits per recipient as well as the cost per visit by implementing a cap on per-beneficiary costs, lowering the average payment per visit, and redefining and enforcing home health care as “part-time or intermittent” assistance (Spector, Cohen, & Pesis-Katz). By 1999, the average number of visits per user had decreased by 49.5% to 32 visits. This decline was principally concentrated among home health aide services, though skilled nursing services and therapy visits also declined (U.S. General Accounting Office). From 1999 to 2002, the average number of visits per user continued to decline from 32 to 27 (HCFA, 2004).

Home Health Care Expenditures

Expenditures for home health care in Kansas and the United States increased from 1990 to 1996. This increase was seen for all payer sources including Medicare, Medicaid, and private/other sources. A significant amount of home health care growth in the early 1990s was funded by Medicare for post-acute nursing services (Redfoot & Pandya, 2002). As a proportion of overall home health care funding in Kansas, Medicare increased from 23.5% in 1992 to 34.6% in 1996. During this same time period, the proportion of private/other funding fell from 72.0% to 61.0%. Medicaid covered 4.5% of home health care expenditures in 1992 and 1996 (CMS, 2000). Even as the funding for home health care shifted from the private to public sector, Kansas relied less on publicly funded home health care than the United States.

Expenditures rapidly declined following the passage of the BBA as the number of beneficiaries and visits per beneficiary declined (U.S. General Accounting Office, 2000). In the United States and Kansas, expenditures fell for Medicare and private/other sources after 1997. However, Medicaid expenditures for home health care continued to increase. Thus, state governments began to pay a larger proportion of home health care expenses. In Kansas, Medicaid paid for 6.4% of all home health care in 1997. This proportion was much lower than the 17.1% nationally. Medicare home health care accounted for 27.3% of total expenditures in Kansas in 1997, which was lower than the 35.4% nationally. Also, 66.4% of total expenditures in Kansas were paid by private/other sources compared to 47.6% nationally (CMS, 2000). Figures 25 and 26 show the expenditures for home health care in the United States and Kansas from 1980 to 1998.
Impact of Policy on Home Health Agencies

In addition to the impact on utilization and expenditures, federal home health care policy impacted the number of home health agencies\(^{23}\) providing care in Kansas, access to home

\(^{23}\) In Kansas, home health agencies are licensed by the Kansas Department of Health and Environment. Additionally, home health agencies must be certified by the Centers for Medicare and Medicaid Services when participating in the Medicare program.
health agencies, and the profit margins of rural agencies. The national expansion of the home health care industry resulted in an increasing number of Kansas home health agencies in the early 1990s. However, after 1998, the number of home health agencies in Kansas subsequently dropped 26% by January 2000. The number of state-licensed home health agencies in 2005 compared to 2000 represented a stabilizing effect of home health agencies also seen in the United States due to additional changes in Medicare home health care policies implemented in 2000 (MedPAC, 2005). Table 25 provides an historical look at the number of state licensed and Medicare-certified home health agencies in Kansas from 1990 to 2005. Home health agencies nationally followed similar trends as those illustrated in Table 25.

Table 25
Home Health Care Agencies in Kansas, 1990-2005

<table>
<thead>
<tr>
<th></th>
<th>Medicare-Certified</th>
<th>Not Medicare-Certified</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>125</td>
<td>82</td>
<td>207</td>
</tr>
<tr>
<td>1998</td>
<td>218</td>
<td>194</td>
<td>412</td>
</tr>
<tr>
<td>2000</td>
<td>156</td>
<td>147</td>
<td>303</td>
</tr>
<tr>
<td>2005</td>
<td>135</td>
<td>172</td>
<td>307</td>
</tr>
</tbody>
</table>

Source: Legislative Division of Post Audit, 2000; KDHE, 2005.

As home health agencies closed across the state, concerns over access to home health services have been voiced, especially for older adults in rural areas. The Kansas Health Institute (2001) reported that due to the closing of agencies or scaling down of service coverage to rural areas, access to home health care has been compromised in rural areas. Yet, McAuley, Spector, Van Nostrand, & Shaffer (2004) found that elderly residents in rural areas often utilize Medicare home health care in order to support their ability to live in the community, often using it instead of less available services such as hospitals or medical services that would also be paid for by Medicare.

National research has found that since 1997, rural home health agencies are increasingly having difficulty operating profitably. Due to their smaller size with fewer patients and visits to support the same fixed costs (e.g., transportation between clients, paperwork requirements) incurred by urban agencies, profit margins in rural agencies are below those of urban agencies (MedPAC, 2005; National Association for Home Care & Hospice, 2003). The profitability of home health care in rural areas has had an impact on the decisions of home health agencies to either limit their services available to rural older adults or close rural home health agencies.
Summary and Implications

Home health care utilization and expenditures in Kansas have been impacted by national Medicare home health care policy. After expanding in the early 1990s, home health care utilization both in terms of the number of beneficiaries and the average number of visits per beneficiary declined following the passage of the Balanced Budget Act of 1997. Medicare and private expenditures for home health care increased during the early 1990s and then decreased after 1997, whereas Medicaid funding for home health care has been slowly increasing since 1990. Overall, funding has shifted away from the private sector with public entities covering a greater proportion of home health care expenditures. Yet, public costs (i.e., Medicare and Medicaid) as a proportion of total home health care expenditures are considerably less in Kansas than the United States. Medicare policy has also impacted the number of home health agencies in Kansas. Following the BBA, the number of agencies declined drastically before stabilizing in 2000. Part of this decline was fueled by the lower profit margins seen in rural agencies.

Medicare policy greatly impacts the services available for many older adults in Kansas, especially home health care services for older adults. Home health care is a valuable service for many older adults that live in the community, allowing them to receive necessary skilled nursing care as well as other services such as physical therapy and home health aides. For many older adults, Medicare home health care is a key aspect of their ability to live in the community. Due to its important role in providing community-based services to older adults, it is essential to recognize that national policy related to Medicare eligibility and payment for home health care has already impacted the availability of this service for older adults. This impact has resulted in greater expenditures by state governments due to a greater number of home health care clients funded through the Medicaid program. Any future changes to Medicare policy will also likely impact the availability of home health care for older adults.
Trend 12: The Nature of Kansas Nursing Facility Beds is Changing With More Diversification, Specialization, and Medicalization.

Before the Boom National Findings
The bed supply in U.S. nursing facilities has changed considerably in part due to the growth of assisted living (see Trend 10) and increasing emphasis on community-based care (see Trends 11 and 13) for older adults. Many nursing facilities (NF) have responded to these long-term care market changes by providing more diversified, specialized, and medicalized services. Some NFs are becoming more diversified by adding assisted living (AL) services. In addition, many NFs are providing specialized care for people with specific diagnoses in special care units (SCUs). The most common diagnoses cared for in U.S. special care units are Alzheimer’s disease and other dementias. Finally, the provision of short-term post-acute rehabilitation services to older adults has increased in NFs. The use of nursing facilities for medicalized care was preceded by changes in Medicare’s prospective payment system for hospitals (Redfoot & Pandya, 2002).

Kansas Findings
Kansas nursing facilities have adapted their services and bed supply to meet the changing needs of older adults and changes in the long-term care market. Similar to the United States, a growing number of Kansas nursing facilities are providing assisted living services to older adults in addition to their NF beds. However, different from the United States, a larger proportion of Kansas nursing facility beds are designated for dementia special care. In 2004, 8.3% of Kansas nursing facility beds and 5.6% of U.S. nursing facility beds were designated for dementia special care. Also, in Kansas, fewer nursing facility beds are dually certified for Medicare and Medicaid despite comparable increases in dual certification in Kansas and U.S. nursing facilities. In 2004, 78.6% of Kansas nursing facility beds were dually certified compared to 93.1% of U.S. nursing facility beds. These changes in Kansas and U.S. nursing facility beds have resulted in new or expanded roles for NFs in terms of long-term care service provision. In this trend, we will highlight the specific changes that have occurred in the Kansas and U.S. nursing facility bed supply including increased diversification, specialization, and medicalization.

Diversification
National and Kansas nursing facilities (and long-term care units of Kansas hospitals) are diversifying their services by adding assisted living beds. In Kansas, the number of nursing
facilities providing either AL or residential health care (RHC) services increased from 1997 to 2005 despite a decrease in the total number of NFs. The number of nursing facilities with NF and AL beds grew by 255% and the number of nursing facilities with NF and RHC beds increased by 180% (KDHE, 1997b; KDOA, 2005a). By 2005, 27.8% of nursing facilities were providing both NF and AL or RHC beds (KDOA, 2005a). Table 26 shows the diversification of Kansas nursing facilities from 1997 to 2005.

Table 26
Kansas Nursing Facilities with Nursing Facility Beds and Assisted Living or Residential Health Care Beds, 1997-2005

<table>
<thead>
<tr>
<th>Date</th>
<th>Total Nursing Facilities</th>
<th>Nursing Facilities with AL or RHC Beds</th>
<th>Percent of Kansas NFs with AL or RHC Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/02/1997</td>
<td>343</td>
<td>42</td>
<td>12.2%</td>
</tr>
<tr>
<td>01/04/1999</td>
<td>324</td>
<td>55</td>
<td>17.0%</td>
</tr>
<tr>
<td>01/02/2001</td>
<td>317</td>
<td>64</td>
<td>20.2%</td>
</tr>
<tr>
<td>01/02/2003</td>
<td>310</td>
<td>75</td>
<td>24.2%</td>
</tr>
<tr>
<td>01/03/2005</td>
<td>306</td>
<td>85</td>
<td>27.8%</td>
</tr>
</tbody>
</table>


Specialization

Approximately thirteen percent of nursing facilities in the United States are providing specialized services to older adults in special care units (Rhoades & Krauss, 1999). SCUs are separate sections of NFs that provide care for people diagnosed with certain conditions such as Alzheimer’s disease. Kansas was one of the first six states to regulate special care units (U.S. Congress, Office of Technology Assessment, 1992). Kansas regulations define a special care section of a nursing facility as a designated portion of the facility with living, dining, activity, and recreational areas accessible to the residents. A comprehensive assessment of the resident’s diagnosis, behavior, and special clinical needs is used to ensure that the resident will benefit from the program in the SCU (Kansas Administrative Rules 28-39-160).

According to data provided by the Kansas Department on Aging, 90 nursing facilities in Kansas have a dementia special care unit (KDOA, 2004c). This represented approximately one-third of all Kansas nursing facilities in 2004. Map 5 shows that dementia special care units in Kansas are heavily concentrated in the more urban counties of Sedgwick, Johnson, and Shawnee. Most rural areas have only a few scattered dementia special care units with a noticeable absence of SCUs in the western half of the state.
Although nearly one-third of Kansas NFs have a special care unit, SCU beds are only a small percentage of the overall bed supply in Kansas nursing facilities. However, Kansas designates a larger proportion of their nursing facility beds to dementia special care units than nationally. In 2004, there were 1,938 SCU beds in Kansas designated for nursing facility residents with Alzheimer’s disease or other dementias out of a total of 23,357 NF beds. Thus, 8.3% of Kansas NF beds were used for specialized care for residents with dementia in 2004. Comparatively, only 5.6% of U.S. nursing facility beds were used for specialized care in 2004 (Harrington, Carillo, & Mercado-Scott, 2005). Figure 27 shows the percentage of nursing facility beds designated for dementia specialized care in Kansas and the United States from 1994 to 2004. In addition to dementia special care unit beds, Kansas and U.S. nursing facilities also have SCU beds designated for ventilators, hospice care, AIDS, and dialysis (Harrington et al., 2001-2005). However, nursing facilities reporting of SCUs for these specific diagnoses have been sporadic and follow no distinguishable trend.
Medicalization

Nursing facility care has become more medicalized with the provision of post-acute care to older adults. Thus, the capacity of NFs to provide medicalized care has shifted. From 1985 to 1997, the number of U.S. nursing facilities certified to provide Medicare-funded skilled nursing facility care grew by 136%. The majority of this growth was fueled by existing facilities with Medicaid certification obtaining Medicare certification (Dalton & Howard, 2002). In 1996, 74.5% of U.S. nursing facilities and 54.8% of Kansas nursing facilities had dually certified NF beds indicating that Medicare and Medicaid payment was accepted for at least a portion of their beds (AHCA, 1997). By 2005, 88% of U.S. nursing facilities and 69.4% of Kansas NFs had dually certified NF beds. An additional 5.3% of U.S. nursing facilities and 3% of Kansas nursing facilities were certified for Medicare only. Therefore, in 2005, Kansas had 27.6% of nursing facilities certified to provide Medicaid-funded care only compared to 6.72% of U.S. nursing facilities (AHCA, 2005a).

It is also beneficial to look at the percentage of nursing facility beds that are Medicare-certified because these nursing facilities are not required to certify all of their beds for post-acute care patients. Instead, they can maintain some of their beds for Medicaid-certification only. However, most Medicare-certified beds are dually certified for Medicare and Medicaid. Dually certified beds can be utilized by all possible sources of patient revenue including Medicare, Medicaid, and private pay. In 1994, 55.9% of Kansas nursing facility beds were dually certified.
compared to 81.4% of U.S. nursing facility beds. By 2004, 78.6% of Kansas nursing facility beds were dually certified compared to 93.1% of U.S. nursing facility beds (Harrington et al., 2001, 2005). Although both Kansas and the United States increased the percentage of their beds that were dually certified from 1994 to 2004, Kansas has fewer dually certified beds and a higher percentage of Medicaid only certified beds. Figure 28 illustrates the shift from Medicaid to dual certification that occurred in Kansas and U.S. nursing facilities between 1994 and 2004.

**Figure 28**

*Nursing Facility Bed Certification by Type, 1994 and 2004*

<table>
<thead>
<tr>
<th></th>
<th>1994</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Kansas</td>
<td>40%</td>
<td>20%</td>
</tr>
</tbody>
</table>


**Summary and Implications**

Nursing facilities in Kansas have responded to the shifts in long-term care needs by adding assisted living beds, providing specialized care for residents with dementia in SCUs, and increasing their capacity to provide Medicare-funded rehabilitation to older adults. In 2005, 15.0% of Kansas nursing facilities provided NF and AL beds and 14.7% provided NF and RHC beds. In addition, one-third of Kansas nursing facilities had a designated special care unit for dementia residents with 8.2% of NF beds designated for these SCUs. In terms of post-acute care, 72.41% of Kansas NFs had Medicare-certified beds in 2005 and the percentage of beds that were dually certified for Medicare and Medicaid increased from 55.9% in 1994 to 78.6% in 2004.
As evidenced by these trends, Kansas nursing facilities are adapting their services to meet the changing needs of older adults. However, the result of this has been slightly different from national changes. In Kansas, a larger proportion of nursing facility beds is utilized for dementia special care than nationally. In addition, a smaller proportion of nursing facility beds in Kansas has been certified for Medicare-funded rehabilitation care. Additional discussion of Medicare nursing facility costs and residents will be presented in Trend 14.
Trend 13: Kansas Has Begun to Shift A Greater Proportion of Medicaid Long-Term Care Expenditures From Nursing Facilities to Home and Community-Based Services for Older Adults.

Before the Boom National Findings

Medicaid nursing facility (NF) services are an entitlement for people who meet financial and functional requirements whereas community-based services are not. Therefore, historically states have invested more Medicaid dollars into institutional care. However, over the past decade community-based services have grown due to the federally approved Medicaid Home and Community Based Service (HCBS) waivers allotted to states, allowing them more freedom to serve Medicaid recipients in the community as opposed to an institution. Although there has been an increase in funding for HCBS waivers, younger adults with disabilities have benefited from the waivers more so than older adults. Particularly, older adults who rely on public programs are often only presented with an institution as an option (Redfoot & Pandya, 2002).

Lastly, in 1999 the Supreme Court ruled that unnecessary institutionalization can constitute discrimination in the *Olmstead v. L.C.* decision. In addition, there has been great debate over the potential cost savings to states due to greater HCBS waiver use. Due to these changes, states are more likely to feel pressure to provide home and community-based services (Redfoot & Pandya, 2002).

Kansas Findings

Over the past decade there has been a large shift in Medicaid spending for all HCBS waiver services in Kansas and nationally. Although spending for all HCBS services has greatly increased, the proportion of spending for HCBS/Frail Elderly Waiver services and NF services for older adults is much different compared to other populations. In both Kansas and the United States, a greater proportion of long-term care Medicaid expenditures are on NF services for older adults compared to HCBS services. The change in Medicaid long-term care expenditures for frail older adults is not on par with other populations, particularly those individuals who utilize the HCBS/Mental Retardation Developmentally Disabled Waiver.

Although waiting lists for the HCBS/FE Waiver were created in recent years in Kansas, enrollment has increased overall. At the same time there has been a decrease in NF residents, beds, and occupancy rates in Kansas and nationally. In addition, research has been done in Kansas to support the claim that there are cost savings to states by utilizing HCBS services in lieu of NF care. Yet, Medicaid long-term care expenditures for older adults continue to be
weighted toward NFs. In this trend Medicaid long-term care expenditures, NF and HCBS/FE utilization and enrollment rates, and HCBS cost effectiveness in Kansas will be identified.

**HCBS Waiver Program**

In 1984, Kansas established the HCBS Waiver program called the HCBS/Nursing Facility (HCBS/NF) Waiver. It was available to individuals who were eligible to receive or were receiving Medicaid, were functionally impaired, and were eligible for nursing facility services. In 1997, Kansas created two separate HCBS Waiver programs to replace the original program. The HCBS/Physically Disabled (HCBS/PD) Waiver was established for those individuals who are ages 16 to 64, physically disabled, and in need of long-term care services (Kansas Department of Social and Rehabilitation Services [SRS], 2002). Likewise, the HCBS/Frail Elderly (HCBS/FE) Waiver was developed for those individuals who are age 65 and over, are in frail health, and have been determined to be in need of long-term care services by a case manager (KDOA, 2005b). The scope of services for the HCBS/FE Waiver is limited to adult day care, sleep cycle support, personal emergency response (rental/installation), wellness monitoring, respite care, and attendant care. However, in Kansas other services are offered to older adults through programs at low or no cost, funded by both federal funds (Older Americans Act) and state general funds (Senior Care Act). These additional services may vary according to geographic area but include services such as homemaker, case management, and information and referral through the Area Agencies on Aging (Chapin, 2003).

Finally, HCBS waiver services are technically available to those who meet Medicaid eligibility requirements. However, services are not funded based on caseload projections and therefore, waiting lists for HCBS/FE services were initiated to address funding shortfalls. This was done in Kansas from July 1, 1999, to October 18, 1999, and again from April 22, 2002, to April 26, 2004 (Chapin, 2003; KDOA Freedom of Information Officer, personal communication, October 17, 2005).

**Long-Term Care Service Utilization and Medicaid Spending**

Medicaid expenditures on HCBS/FE Waiver services have increased over the past decade in Kansas. In 1992, the HCBS Waiver, excluding the expenditures for the HCBS/MR Waiver, represented only 3.6% of Medicaid long-term care expenditures. By 2005, the Medicaid expenditures for the HCBS/FE Waiver alone had increased to 14.3% of Medicaid long-term care expenditures for frail older adults (SRS, 2005). Figure 29 shows the percentage of Medicaid long-term care expenditures that paid for waiver and nursing facility care in 1992 and 2005.
As the amount of funding for HCBS waivers increased, so did the number of people who accessed the waivers. There was a 65% increase in participants on the HCBS/FE Waiver between 1997 and 2002. However, due to the freeze on enrollment of the HCBS/FE Waiver in 2002 there was a decline in HCBS/FE recipients between 2002 and 2003 as well as a combined 21.5% decrease in expenditures between FY 2002 and 2004 (Kansas Department on Aging [KDOA], 2002-2004a). Figure 30 displays enrollment in both the HCBS/NF and the HCBS/FE Waivers.

Despite the enactment of the waiting list for the HCBS/FE Waiver, Kansas still decreased the number of nursing facility residents, beds, and occupancy rates from 1998 to 2003. In fact, from 1999 to 2003 Kansas has seen a 10.1% decrease in the number of nursing facility residents (MDS 2.0 dataset, 1999-2003). The number of NF beds and the NF occupancy rate in Kansas have both decreased much more so than nationally (Gibson et al., 2004). However, Kansas continues to have a higher institutionalization rate of people 65 and over compared to other states. Of people aged 65 and older in Kansas, 5.8% were nursing facility residents compared to only 4.3% nationwide in 1999 (see Trend 1). However, just recently Kansas has come closer to approaching the national utilization rate of 1999.

Although enrollment in HCBS/FE Waiver services has increased and NF utilization has decreased, there continues to be a larger proportion of Medicaid dollars being spent on institutions for older adults compared to other populations similar to national trends. For example, Kansas spends 92.4% of Medicaid long-term care expenditures for individuals who have mental retardation or a developmental disability (MR/DD) on HCBS Waiver services whereas only 14.3% of Medicaid long-term care expenditures for frail older adults are spent on HCBS Waiver services (SRS, 2005). In addition, over 90% of people served in nursing facilities in Kansas are 65 and older even though just one-third of people who have a disability are 65 and older (MDS 2.0 dataset, 2000; U.S. Census Bureau, 2000).

On the other hand, the percent of spending on all Medicaid HCBS Waivers (i.e., frail elderly, physically disabled, brain injuries, technology dependent, severe emotional disturbance, mentally retarded/developmentally disabled) in Kansas has increased over the past decade. In FY 1996, $225.7 million dollars of Medicaid funds were spent on nursing facilities in Kansas compared to only $110.9 million on HCBS Waivers. However, in FY 2004 Kansas spent $344.6 million dollars on nursing facility care and had increased spending on HCBS Waivers ($336.7 million) to almost equal the amount spent on institutional care (Clearinghouse for the Community Living Exchange Collaborative, 1996-2004). As displayed in Figure 31 the state of Kansas is taking strides in equalizing Medicaid expenditures for institutions and community-based services.

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24 For the mentally retarded and developmentally disabled population Medicaid long-term care expenditures include ICF/MR services and HCBS/MRDD services. For the frail elderly population Medicaid long-term care expenditures include NF services and HCBS/FE services.
Figure 31
Nursing Facility and HCBS Waiver Expenditures for All Ages in Kansas, 1996-2004

Although these numbers show that overall the funding of long-term care services is changing, it is important to point out the funding for older adults is not as equal. Only 14.3% of Medicaid funding for long-term care services for older adults goes to the HCBS/FE Waiver. However, of all the Medicaid funding provided for NFs and HCBS waivers services in 2004, 49% goes to all HCBS services as indicated in Figure 31. The older adult population in Kansas will continue to grow over the next two decades increasing the demand for services provided through Medicaid. Kansas is unique in that it has a higher proportion of adults 65 and older compared to the national average (Chapin, 2003). The increase of this population due to the baby boomers and the loss of the working age population stimulates concern that the publicly funded long-term care system will come under greater distress over the next 20 years (Chapin, 2003; Hisrich, 2005; Kannarr, 2002). Between 2001 and 2025 there will be an estimated 60% increase in the ratio of older adults to working age adults in Kansas (Health Policy Institute, 2004). In addition, some studies suggested that baby boomers will not have the money to pay for long-term care out-of-pocket nor are the majority currently aware of how long-term care is financed (AARP, 2001; American Health Care Association, 1999b). Although Kansas has greatly increased spending on HCBS services overall, more will need to be done in the way of balancing the long-term care system for older adults.

HCBS Cost Effectiveness

As the delivery of home and community-based services has grown, there has been a growing debate about whether HCBS are a cost effective approach to long-term care service
delivery. As mentioned in the AARP Before the Boom report, some research has found that states can save money by utilizing HCBS in lieu of NF care (Alexxih et al., 1996). The Office of Aging and Long Term Care also has data to support this claim.

The OALTC tracked a group of older adults that applied for nursing facility care and were subsequently living in the community at the time of the 30-Day CARE Assessment follow-up. The Client Assessment, Referral, and Evaluation (CARE) Program is administered by KDOA. The CARE Assessment gathers information about the person’s functional ability, available support systems, and recent problems and risks at the point they are applying for NF admission. It also provides the older adult with information regarding their LTC options. In addition, the CARE Program tracks diversion status of customers at the 30th and the 90th day after the initial assessment.

Many of these diverted older adults used state publicly funded services (i.e., HCBS/FE Waiver) to support their community tenure. Because the costs of community-based care are less than the costs of NF care, Medicaid costs were lower for diverted older adults. After two years of tracking, it was determined that the provision of Medicaid HCBS/FE saved the state almost $600 for every month that a diverted older adult received the HCBS/FE Waiver instead of nursing facility care. Thus, providing community-based services to older adults that had already applied for nursing facility placement was found to be cost-effective (Chapin et al., 2002, 2003). Yet, researchers have also noted that savings from individuals who avoid NF are often outweighed by the increased utilization of readily available community services (Kane et al., 1998). However, the research conducted by the OALTC addressed this phenomenon, often called the woodwork effect, by looking only at the provision of services to older adults that applied for NF care. This population is planning to enter a NF, and therefore providing services in the community produces cost savings.

**Summary and Implications**

The state of Kansas has increased Medicaid long-term care spending on the HCBS/FE Waiver and has increased the number of participants receiving these services over the past decade. At the same time nursing facility utilization has decreased. However, a larger proportion of adults age 65 and over in Kansas are institutionalized compared to the national average in 1999 and a larger proportion of Medicaid long-term care dollars for the older adult population continues to be spent on institutional long-term care compared to other populations, particularly the MR/DD population. The older adult population will increase over the next twenty years along with the ratio of older adults to working adults putting greater strain on the publicly funded long-
term care system. Finally, research has been done in Kansas to support the claim that there are cost savings to the Medicaid program by utilizing HCBS Waivers in lieu of nursing facility care.

The increase in the number of older adults over the next 20 years heightens concern regarding the ability of the public system to maintain financing of long-term care services (Kannarr, 2002). Along with research, initiatives like the Real Choice Systems Change Grant in Kansas, the Kansas Legislative Long Term Care Task Force, and the Supreme Court decision of Olmstead v. L.C. will play a part in determining funding of home and community-based services for older adults. In order to prepare for the next 20 years and beyond, Kansas will need to work toward continued adjustment of the proportion of Medicaid long-term care dollars spent on HCBS services for older adults as well as develop a comprehensive plan to support current resources and balance the publicly funded long-term care system.
Trend 14: Kansas Nursing Facilities are Providing More Medicare-Reimbursed Post-Acute Care Similar to Nursing Facilities Nationally.

Before the Boom National Findings

Nursing facilities across the nation are providing more medicalized care to residents as they adapt to meet the demands of older adults and the changes in Medicare and Medicaid policy. In particular, many western states have been very aggressive in restructuring their health care and long-term care systems. The results of this restructuring have been a higher percentage of Medicaid spending directed towards home and community-based services and fewer beds per 1,000 older adults in these states and nationally. The growth of home and community-based services has been shifting typical “long-term” care to the community and away from nursing facilities (Redfoot & Pandya, 2002).

As discussed in Trend 12, part of this restructuring has also resulted in an increase in Medicare-funded post-acute care in nursing facilities across the country. Medicare covers up to 100 days of skilled nursing facility care, however Medicare residents are required to pay substantial copays after the 20th day of care. In order for Medicare to pay for nursing facility care, residents must enter the NF after at least a three day hospital stay and continue to have a skilled nursing or therapy need that persists on a daily basis. Compared to a decade ago, Medicare now pays for a higher percentage of the total cost of nursing facilities nationally, and an increasing number of residents in nursing facilities have Medicare funding. In fact, almost half of all NF discharges are residents with Medicare as their primary payer, which is related to their shorter stays compared to private paying or Medicaid-funded residents (Redfoot & Pandya, 2002).

Kansas Findings

Kansas nursing facilities have been increasing the number and percentage of residents paying with Medicare over the past decade similar to the United States. Yet, the percentage of residents with Medicare as their primary payer in Kansas nursing facilities (7.1%) is much lower than in U.S. nursing facilities (12.4%). In addition, the percentage of NF costs paid by Medicare is lower in Kansas (7.7%) than the United States (11.9%), which is not surprising given the smaller percentage of Medicare-funded NF residents in Kansas nursing facilities compared to U.S. nursing facilities. However, the percentage of the older adult population in Kansas (0.8%)

25 “Medicare resident” will be used in this report to refer to nursing facility residents who have Medicare as their primary source of payment.
and in the United States (0.7%) that is receiving Medicare-funded nursing facility care is very similar.

Medicare residents in Kansas and the United States have the shortest average length of stay of residents of the various payment sources. In 1999, the average length of stay for Medicare residents in Kansas and the United States was very similar; however, the average length of stay for Kansas NF residents with Medicaid or private sources of payment was almost twice as long as it was for U.S. residents. The average length of stay of NF residents is linked to the number of discharges each year. In the United States, residents with Medicare as their primary payer encompass almost half of all nursing facility discharges (45%), representing the payment source with the most discharges. Distinct from the United States, Kansas private paying NF residents represented a slightly larger percentage of discharges (38%) than Medicare residents (37%) in 1999.

In this trend, we will briefly discuss the declining nursing facility bed supply in Kansas and the United States and the shift of typical nursing facility care to community settings. Then, we will explore the role of Medicare-funded NF care in Kansas and the United States in terms of nursing facility costs and number and percentage of residents receiving Medicare-funded NF care. The final area discussed in this trend will be NF resident discharges and average length of stay by payer source in Kansas and the United States.

**Shifting Nursing Facility Focus**

Nursing facilities are adapting their service delivery to meet the changing needs and desires of their target population, which has resulted in a refocusing of services. Trend 12 discussed the growing trend in national and Kansas nursing facilities to provide assisted living services, special care services, and rehabilitation care to their residents in addition to their typical nursing facility care. In addition to refocusing services, the number of nursing facility beds has declined slightly in the past decade. In 1994, Kansas had 90 nursing facility beds per 1,000 population age 65 and older, and the United States had 53.3 beds per 1,000 population. In fact, Kansas was the state with the most NF beds relative to their older adult population in 1994 (Graves & Bectel, 1996). Comparatively, in 2003, Kansas had 76 nursing facility beds per 1,000 population age 65 and older, which was 14 beds lower than 1994. By 2003, Iowa had more nursing facility beds (82) than Kansas relative to their older adult population. Yet, Kansas still had a much higher bed supply than the 49 beds per 1,000 population age 65 and older, which is the national average (Gibson, Gregory, Houser, & Fox-Grage, 2004).
Nationally, Medicaid home and community-based services have been providing care for older adults in the community, which has allowed some older adults that were at risk for nursing facility placement to remain in the community. An increasing number of community services and alternative care settings are now available to older adults including assisted living facilities and residential health care facilities as well as in-home services. Refer to Trend 13 for a more extensive discussion of long-term care spending for home and community-based services and NF care. As long-term care is increasingly provided in community settings and the number of NF beds declines, nursing facilities have placed increasing emphasis on providing short-term rehabilitative care to older adults. In addition, Medicare policy changes, especially those related to the hospital prospective payment system, have led to shorter hospital stays and further promoted the provision of post-acute care in nursing facilities. Therefore, older adults are using nursing facilities for short-term rehabilitation and then returning to community settings where they are able to maintain community tenure after a NF stay (Chapin et al., 2002, 2003).

**Nursing Facility Costs by Payer Source**

Nationally, nursing facilities are providing an increasing amount of Medicare-funded short-term rehabilitative care to older adults. Nursing facilities, particularly those in the West, have refocused their services toward more Medicare-funded post-acute care. In 1996, the percentage of costs paid for by Medicare was 17.3% in the Midwest26 and 18.9% in the United States, which is much larger than the 1.9% of costs paid by Medicare in 1987 in Midwest and U.S. nursing facilities. Yet, Kansas and the United States were not close to the 34.7% of NF care funded by Medicare in Western27 states in 1996 (Rhoades & Sommers, 2001). The West has seen the greatest increase in Medicare covered nursing facility costs nationally.

The State Health Accounts maintained by the Centers for Medicare and Medicaid Services (CMS) provide state-level data on nursing facility costs. These data are the latest available from CMS and the most reliable source of NF costs. In Kansas, Medicare costs rose from 0.5% of NF costs in 1980 to 7.7% in 1998. Comparably, the percentage of costs covered by Medicare in the United States rose from 1.7% in 1980 to 11.9% in 1998 (CMS Office of the Actuary, 2001). Figure 32 illustrates the trend in Medicare covered NF costs from 1980 to 1998. Figure 32 also illustrates Medicaid covered NF costs in Kansas and the United States. Medicaid NF costs in Kansas differ from costs nationally as a percentage of total costs. In Kansas, the

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26 The Midwest region includes the following states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

27 The West region includes the following states: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.
Medicaid costs of nursing facility care are lower and the private pay costs are much higher than nationally. This is largely due to the much smaller percentage of the NF population paying with Medicaid in Kansas as compared to the United States (see Trend 6).

**Figure 32**


Nursing Facility Residents by Payer Source

Another approach to examining the impact of Medicare on nursing facility services is to look at the number of residents by payment source. The percentage of residents by payer source is not necessarily the same as the percentage of costs by payer source. Due to different levels of reimbursement, the percentage of costs can differ from the percentage of residents (e.g., private pay residents generally pay more than Medicaid reimburses for nursing facility care). For example, 52.5% of Kansas nursing facility residents in 1998 had Medicaid as their primary source of payment, but Medicaid only represented 30.7% of NF costs in Kansas that same year. Similarly, 5% of Kansas NF residents had Medicare funding in 1998, but Medicare covered 7.7% of Kansas NF costs. Nationally, 9% of NF residents had Medicare funding and Medicare paid for 11.9% of NF costs (American Health Care Association, 1999a; CMS Office of the Actuary, 2001).

Both Kansas and the United States experienced an increase in the percentage of residents paying with Medicare funding, although the actual percentage of residents in Kansas
with Medicare as a primary payment source was smaller than nationally. From 1996 to 2005, the percentage of residents with Medicare as their primary source of payment in Kansas increased from 4.5% to 7.1%, and the percentage of residents with Medicare as their primary source of payment nationally increased from 8.5% to 12.4%. Table 27 displays the percentage of NF residents by payer source in Kansas and the United States.

Table 27
Percentage of All Nursing Facility Residents by Primary Source of Payment in Kansas and the United States in Various Years

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
<th>1998</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kansas</td>
<td>United States</td>
<td>Kansas</td>
</tr>
<tr>
<td>Private/Other</td>
<td>42.4%</td>
<td>23.2%</td>
<td>42.5%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>53.0%</td>
<td>68.3%</td>
<td>52.5%</td>
</tr>
<tr>
<td>Medicare</td>
<td>4.5%</td>
<td>8.5%</td>
<td>5.0%</td>
</tr>
</tbody>
</table>


The actual number of NF residents paying with Medicare has also been increasing in the United States and Kansas. Table 28 shows the number of residents in Kansas and U.S. nursing facilities in 1996 and 2005, and also shows the change in NF population by payment source. Between 1996 and 2005, the Medicare NF population in Kansas rose 29.8%, and the national Medicare NF population rose 39.8%. Without this increase in Medicare residents, there would have been a larger decline in NF residents nationally and in Kansas between 1996 and 2005.

Table 28
Numbers of All Nursing Facility Residents by Primary Source of Payment in Kansas and the United States, 1996-2005

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
<th>2005</th>
<th>% Change 1996-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kansas</td>
<td>United States</td>
<td>Kansas</td>
</tr>
<tr>
<td>Private/Other</td>
<td>10,514</td>
<td>349,453</td>
<td>8,032</td>
</tr>
<tr>
<td>Medicaid</td>
<td>13,139</td>
<td>1,028,842</td>
<td>11,069</td>
</tr>
<tr>
<td>Medicare</td>
<td>1,127</td>
<td>127,917</td>
<td>1,463</td>
</tr>
<tr>
<td>Total</td>
<td>24,780</td>
<td>1,506,212</td>
<td>20,564</td>
</tr>
<tr>
<td>Total Minus Medicare</td>
<td>23,653</td>
<td>1,378,295</td>
<td>19,101</td>
</tr>
</tbody>
</table>

The MDS 2.0 dataset provides information about the nursing facility population 65 years and older that confirms the OSCAR findings of the entire nursing facility population. From 1999 to 2003, the Kansas NF population 65 years and older with Medicare as their primary payment source increased by 40% from 2,992 residents in 1999 to 4,199 residents in 2003 (MDS 2.0 dataset, 1999, 2003).

Based on the proportion of nursing facility costs paid by Medicare and the proportion of residents that have Medicare-funded care, it appears that Kansans utilize Medicare-funded nursing facility care at lower rates than nationally. However, these numbers are misleading due to the higher proportion of the Kansas population that is privately paying for nursing facility care (see Trend 6). Therefore, it is important to also compare the Kansas to the United States in terms of the percentage of the older adult population that is residing in nursing facilities with Medicare-funded care. Based on the MDS 2.0 dataset and the National Nursing Home Survey, the older adult population in Kansas and in the United States is utilizing Medicare-funded nursing facility care at similar rates, 0.8% and 0.7% of the older adult population respectively in 1999. Table 29 illustrates the percentage of the population 65 years and older residing in Kansas and U.S. nursing facilities by primary payment source in 1999. Table 29 also shows that the percentage of the older adult population in Kansas that is utilizing Medicare-funded nursing facility care had increased from 0.8% of the older adult population in 1999 to 1.2% in 2003. Comparable national data for 2003 are not available.

Table 29
Percentage of the Population 65 Years and Older Residing in Nursing Facilities by Primary Source of Payment, 1999 and 2003

<table>
<thead>
<tr>
<th></th>
<th>1999 United States</th>
<th>1999 Kansas</th>
<th>2003 Kansas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>1.1%</td>
<td>2.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>2.4%</td>
<td>2.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Medicare</td>
<td>0.7%</td>
<td>0.8%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Other</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>4.2%</td>
<td>6.1%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Total Minus Medicare</td>
<td>3.6%</td>
<td>5.2%</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

Source: MDS 2.0 dataset, 1999, 2003; Redfoot & Pandya (2002) Before the Boom (p. 5); U.S. Census Bureau, population estimates.

Note: The nursing facility utilization rates for Kansas in this table are higher than those displayed in Trend 1 due to the different data sources used.
Nursing Facility Discharges and Average Length of Stay

Medicare-funded nursing facility care is short-term care, which results in Medicare residents having shorter average stays in the NF and a higher turnover. Due to the nature of Medicare NF care, looking only at the number of nursing facility residents at a particular point in time does not provide an accurate picture of the number of Medicare residents served throughout the year. Therefore, it is also beneficial to look at the numbers and percentage of discharges for nursing facility residents over time by payer source. National and Kansas discharges are reported in Tables 30 and 31. These tables also illustrate the average length of stay of NF residents by payer source in the United States and Kansas.

<table>
<thead>
<tr>
<th>Table 30</th>
<th>Discharges and Length of Stay in National Nursing Facilities for Residents 65 and Older by Primary Source of Payment, 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Discharges</td>
<td>Percentage of Discharges</td>
</tr>
<tr>
<td>Medicaid</td>
<td>667,200</td>
</tr>
<tr>
<td>Private</td>
<td>616,300</td>
</tr>
<tr>
<td>Medicare</td>
<td>1,136,700</td>
</tr>
<tr>
<td>Other</td>
<td>102,200</td>
</tr>
<tr>
<td>Total</td>
<td>2,522,300</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Table 31</th>
<th>Discharges and Length of Stay in Kansas Nursing Facilities for Residents 65 and Older by Primary Source of Payment, 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Discharges</td>
<td>Percentage of Discharges</td>
</tr>
<tr>
<td>Medicaid</td>
<td>1,907</td>
</tr>
<tr>
<td>Private</td>
<td>3,149</td>
</tr>
<tr>
<td>Medicare</td>
<td>3,085</td>
</tr>
<tr>
<td>Other</td>
<td>139</td>
</tr>
<tr>
<td>Total</td>
<td>8,280</td>
</tr>
</tbody>
</table>


In Kansas, private pay residents account for the greatest number of discharges, closely followed by Medicare. This varies from nationally where Medicare accounts for almost half of all discharges, and private pay residents only account for one-fourth of all NF discharges. The difference in private pay discharges in Kansas and the United States is likely related to the fact that a larger percentage of residents in Kansas nursing facilities are paying privately for their care than in national nursing facilities (see Trend 6). Medicare discharges, both nationally and in
Kansas, account for a large percentage of the total nursing facility discharges, indicating that there are a larger number of Medicare residents served each year nationally and in Kansas than is shown strictly by looking at a point-in-time number of residents.

The average length of stay in Kansas nursing facilities is much longer for all payer sources except Medicare when compared to the average length of stay in U.S. nursing facilities. There was a small difference in the average length of stay for Medicare residents in Kansas and the United States with Kansas Medicare residents staying on average 12.9 fewer days. However, NF residents paying with Medicaid or private funds saw a much greater difference between the average length of stay in Kansas and the United States. In Kansas, private pay residents’ length of stay is more than twice as long as the private paying NF residents nationally. In addition, Medicaid residents are staying nearly twice as long in Kansas nursing facilities as they are in U.S. nursing facilities.

Aside from the national and state variations seen in the average length of stay, Kansas and U.S. Medicare residents stay for fewer days than other payment sources, reinforcing the notion that Medicare pays for short-term post-acute care. Medicare is designed to pay for up to 100 days of skilled nursing facility care or the number of days that a person needs skilled nursing or rehabilitation care on a daily basis. Further, Kansas and U.S. Medicaid NF residents’ stays are the longest of all payer sources. In fact, Medicaid residents stay, on average, more than twice as many days as private paying residents in Kansas and U.S. nursing facilities.28

Summary and Implications

Medicare-funded post-acute care is becoming more common in Kansas nursing facilities. From 1996 to 2005, the Medicare population in Kansas nursing facilities increased by 29.8%. In 1998, 5.0% of residents had Medicare as their primary source of payment, and 7.7% of all nursing facility costs were paid by Medicare. Due to the higher turnover of Medicare NF residents, slightly more than one-third of Kansas NF discharges were Medicare residents. Yet, private pay residents represented a larger percentage of NF discharges in Kansas than Medicare discharges. In Kansas, the average length of stay for those that discharged in 1999 was 468 days with Medicare having the shortest average stays followed by private payers and then Medicaid residents.

The evolution of Kansas nursing facilities towards more post-acute care and less long-term care is likely to continue as NFs continue to shift their resources and beds toward services

28 The criteria used for the sample frame in the National Nursing Home Survey to estimate discharges and average length of stay was replicated for Kansas MDS data.
that are in high demand. Continued Medicare funding for nursing facilities will facilitate this effort. It is important that nursing facilities continue to change their services offered in response to the demands and wants of older adults, and already this has been shown to be occurring in Kansas and the United States. However, it is also important to note that Kansas has a lower occupancy rate than the country at large and a higher number of NF beds per 1,000 older adults indicating that there might be more NF beds than are required to meet the needs of the current cohort of older adults.
Synthesis of Trends

The AARP Before the Boom report emphasized the need to understand the recent and past trends related to the older adult population and long-term care system in order to adequately plan to meet the needs of older adults in the future. This report analyzes 14 trends identified by AARP that will affect long-term care planning in Kansas, and compares the Kansas trends with national trends. In Kansas, many long-term care trends are similar to national trends which indicates that national planning efforts may be applicable to our state in addressing the long-term care needs and wants of older adults in Kansas. However, there are a few trends in Kansas that differ both in terms of demographic characteristics and the long-term care service delivery system. By understanding these differences, Kansas can be aware of how state planning efforts will have to vary in order to meet the specific needs of the Kansas population. In order to provide a synthesis of these trends, we will briefly summarize the trends in Kansas that are different and similar from national trends. In addition, the implications of these differences will be explored.

Demographics

Population Growth and Demand

A steady increase in the number of older Kansans in each age group may result in a steady increase in demand for long-term care services over the next twenty years in Kansas. The demand for services and the planning for long-term care will be impacted by Kansas’ higher than national proportion of the population that is age 65 and older and the large projected growth in older adults who are members of racial and ethnic minority groups.

Compared to the United States, the Kansas population has a higher proportion of older adults. Also, a higher proportion of the older adult population in Kansas is in the oldest old age group (85 and over). The number and proportion of older adults will continue to increase over the next twenty years as the baby boom generation grows into older adulthood. Unlike nationally where the aging baby boom generation will result in a large increase in the 65 to 74 age group, the Kansas population will steadily increase for all age groups over the next twenty years. The steady increase in the overall older adult population may result in a slow but steady increase and change in long-term care service demands for the Kansas population.

Although the Kansas older adult population is not as racially and ethnically diverse as the national older adult population, the size of the racial and ethnic minority population is expected to increase by 50% by 2020, similar to the expected increase nationally. Older adults
who are members of racial and ethnic minority groups in Kansas tend to have higher levels of poverty and disability, and lower levels of educational attainment. These demographics often contribute to a greater need for long-term care.

The composition of the Kansas older adult population in terms of the proportion of older adults compared to the total population, the projected steady increase in all age groups of older adults, and the expected growth of older adults who are members of racial and ethnic minorities will affect state policy planning and long-term care service delivery. It is important to understand the population growth of older adults in Kansas to begin planning for long-term care utilization. The steady increase in the number of all older adults, particularly those who are members of racial and ethnic minority groups, signal for Kansas the need to begin planning for an increase and change in demand for long-term care services that will have to be adapted for the shifting demographics.

Disability and Socioeconomic Status

Kansas is benefiting from the higher educational attainment and socioeconomic status of older adults in that the disability rates among older Kansans has decreased. In addition, older adults in Kansas are less disabled compared to the United States. Additional benefits could be realized through any effort to further decrease disability rates among older adults, particularly those with low incomes, those who are members of racial and ethnic minority groups, and those who live in rural counties. In addition, efforts to lower disability rates should not be strictly targeted towards older adults because efforts targeted at younger adults can further reduce the disability level of that population when they become older adults.

Disability rates affect the need for long-term care services among the older adult population. Kansas has slightly lower disability rates than nationally, however, there is still 41.5% of the non-institutionalized older adult population in Kansas that has a disability. An increase in educational attainment and socioeconomic status in Kansas and the United States has resulted in lower disability rates. Medical advances (i.e., prevention, early diagnosis, and treatment of chronic conditions) have also reduced the burden of chronic conditions despite an increase in the number of older adults with chronic conditions.

Disability rates have declined over the past decades in part due to socioeconomic improvements. Therefore, those with a lower socioeconomic status, or less than high school education, are more likely to be disabled. These older adults are also more likely to utilize Medicaid-funded long-term care services. Low-income older adults face more barriers to accessing prevention, early diagnosis, and treatment of chronic conditions. In addition, racial and ethnic minorities and rural older adults in Kansas and the United States often face
additional barriers to obtaining adequate medical care. Ensuring that all older adults have access to the available medical care could further reduce disability rates.

Policymakers at the state and federal level can work to further reduce disability rates and activity limitations in the older adult and younger adult population. The disability rate and educational attainment of younger adults will impact the subsequent disability rates of this population when they are older adults. Therefore, it is important that all older and younger adults have access to medical care that can prevent, early diagnose, and treat chronic conditions and reduce disability rates. Also, tracking the numbers of Kansans with disabilities (older and younger adults) is important for more effectively planning of statewide service delivery to the disabled population.

Informal Caregiving

Kansas has a large pool of available informal support thereby helping older adults to remain in the community and lessen the demand for formal long-term care services. In fact, Kansas likely has a larger pool of support than nationally. Support for informal caregivers can be developed with attention to the unique needs of male spousal caregivers, racial and ethnic minority groups, and female caregivers in the labor force. These groups make a large contribution to informal caregiving in Kansas.

The availability of spousal support is increasing in the United States and Kansas due to increasing gender ratios, declining widowhood rates, and a higher percentage of the older adult population that is married. Kansas likely has a larger pool of spousal support available due to Kansas’ slightly higher gender ratio and marriage rates and slightly lower widowhood rates, which could affect future demand for long-term care services and caregiver support. Although spousal support may increase overall, a smaller percentage of minority racial and ethnic older adults live with a spouse compared to White non-Hispanics. However, a larger percent of minority racial and ethnic older adults tend to live with family indicating a potential for more informal caregiving from family members.

In addition, the birth dearth cohort, ages 55 to 74 in 2000, in Kansas and the United States has higher fertility rates than the oldest old cohort, ages 75 years and older in 2000, and the baby boom cohort, ages 36 to 54 in 2000. This means that as the birth dearth cohort continues to age through 2020 they are going to have more children and a larger number of children per family than the cohorts before and after them, indicating an increase in familial support for this cohort. However, labor force demands of the baby boom cohort, particularly for women, could impact their ability to provide support.
Overall, immediate, and in some cases extended, family members provide the large majority of informal caregiving in Kansas. Over the next twenty years there will be a steady increase in the number of older adults in Kansas unlike the lull in growth expected in the United States. Therefore, it will remain imperative that families continue to provide informal care in order to help loved ones lessen their demand on formal long-term care services. In order for caregivers to continue supporting older adults in the community, efforts need to be made to support the changing demographics of informal caregivers, particularly for male spouses, racial and ethnic minority groups, and women in the labor force.

Long-Term Care Service Utilization

Nursing Facilities

Kansas has a higher NF utilization rate as well as a larger proportion of older adults who privately pay for their NF care compared to the United States. However, older adults who privately pay for NF care are leaving NFs at a higher rate than those who receive Medicaid in Kansas. Continued efforts to reduce Kansas nursing facility utilization rates to coincide with national rates could provide cost savings to Medicaid. Although older adults in Kansas use Medicare as a payment source for NF similar to nationally, Kansas has fewer Medicare certified beds than the United States. In response to the looming changes in the nature of nursing facilities it is important to promote choice and access to alternative long-term care services that are cost-effective and unbiased.

Nursing facilities are a prominent component in the long-term care service delivery system, receiving the majority of public funding for long-term care. Kansas has a higher nursing facility utilization rate for all age groups and a larger number of NF beds per 1,000 population than nationally. Nationally and in Kansas, nursing facilities are adjusting to market demands by expanding their services to include assisted living beds, special care units, and rehabilitation care to meet the needs of older adults. In addition, Kansas has a larger proportion of beds dedicated to Alzheimer Special Care Units.

Medicare-funded nursing facility care has increased in Kansas and the United States both in terms of overall costs and the percentage of residents paying with this funding source. However, a larger percent of all NF beds in Kansas are Medicaid only and fewer are dually certified for Medicaid and Medicare compared to the United States. Medicare appears to be used less in Kansas NFs in terms of its percent of costs, and payment source of residents. However, when examining the percent of people 65 and older in Kansas who reside in NFs and have Medicare-funded care, the rate of utilization is comparable to the United States.

Kansas is one of only a few states where private pay residents and Medicaid residents represent similar proportions of people in NFs. In fact, compared to other states, it appears that
Medicaid use in Kansas NFs is low. However, when examining the percent of people 65 and older in Kansas who utilize Medicaid in NFs, older adults in Kansas use Medicaid slightly more than older adults nationally. Also, a much larger proportion of people 65 and older privately pay for NF care in Kansas.

Medicaid and private pay nursing facility residents in Kansas stay in nursing facilities nearly twice as long as their U.S. counterparts. Medicaid nursing facility residents stay the longest of all payer sources both nationally and in Kansas, with Kansas nursing facility residents with Medicaid as a payment source in the nursing facility staying an average of 3 years and private payment an average of 1.2 years. In Kansas Medicaid residents are not currently leaving NFs at similar rates as private pay residents. This is starting a trend that will make Kansas more closely mirror the United States in the future in that a larger proportion of NF residents will be receiving Medicaid compared to residents who privately pay for services.

As Kansas starts to mirror the United States, it is important to ensure choice for residents in NFs that have Medicaid funding. Currently in the US, it is those with private funding sources that are able to choose their long-term care options with less concern for how to pay for the services. Kansas can start to ensure similar choices are available to all older adults, so that it is not only those with private funds that are able to return home with community-based services. Therefore, in order to promote choice and decision making in long-term care, it is important to provide additional options for long-term care to those with the ability to privately pay as well as those that are receiving Medicaid.

Community-Based Services

Medicaid funding for long-term care is slowly starting to shift away from institutional or NF care towards home and community-based care options in Kansas and the United States. The HCBS/FE Waiver is an alternative choice in long-term care services for older adults and funding and enrollment has increased. Assisted living facilities have expanded as another option, though they care for less disabled older adults in Kansas compared to the United States. In addition, a large proportion of assisted living facilities in Kansas accept the Medicaid HCBS/FE Waiver yet the percentage of residents receiving the Waiver is small. There are barriers to access of community-based services for older adults, particularly for those who live in rural communities or receive services funded by Medicaid.

As nursing facility beds are decreasing, the number of people receiving home and community-based care has increased drastically in the past decade. However, similar to other states, the increase in HCBS enrollment and funding has been less dramatic for older adults than other populations. Although the HCBS/FE Waiver is considered an option for older adults,
the majority of older adults receiving long-term care services funded through Medicaid utilize NF services as opposed to the HCBS/FE Waiver.

In addition, older adults, particularly those who live in rural areas, have been affected by changes in federal Medicare home health care policy. In the early 1990s, Medicare funding made home health care more readily available to the population living in the community. However, subsequent federal policy changes reversed this trend by the late 1990s, which impacted the number of home health care clients, visits, and agencies providing home health care in this state and nationally. Older adults who live in rural areas were largely impacted by the reduction in Medicare home health care agencies due to the lack of other community-based services in the surrounding areas.

Finally, one of the other options for home and community-based care is assisted living. Assisted living in Kansas and the United States has expanded dramatically as an option for long-term care for older adults. Although Kansas regulations permit ALs to care for a more disabled population than the national average, the actual level of disability in Kansas AL/RHC facilities is much lower than U.S. AL facilities. In addition, the majority of residents in assisted living are private pay. Yet, the majority (70%) of AL/RHCS in Kansas accepts HCBS residents. Although Kansas has a slightly higher percentage of AL residents with Medicaid than nationally, overall a very small percentage (16.2%) of residents actually receives HCBS.

Conclusion

The differences in the Kansas and national trends analyzed here point to potential avenues for reform of the Kansas long-term care system. The state has the opportunity to pursue reform options that both increase consumer choice and slow growth in Medicaid spending. These findings and their implications can be shared with providers of long-term care services as well as older adult advocacy groups to help create wider understanding of the trends that will affect Kansas long-term care services during the next twenty years.
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Appendix A: The Direct Method of Age-Adjustment.

The direct method of age-adjustment is a statistical calculation applied to rates, usually involving death, disease, or injury, to allow comparisons between age groups or within a single age group over time. Comparing rates that are based on the same age distribution is important as this will remove the influence on the data caused by age differences in the population.

The age-adjusted rates in this report were standardized using population data from the U.S. Census Bureau, Census 2000. Based on the 2000 Census, the Kansas population is divided into different age groups. The proportion of the population in a specific age group in 2000 is equivalent to the 2000 Standard Population Weight.

For example, looking at the crude death rates per 100,000 people in Kansas from 1990 and 2003 might lead to the assumption that the death rate has stayed relatively the same in this time period; 894.9 in 1990 to 896.5 in 2003. However, the age distribution in Kansas changed during this time period indicating that age-adjustment is needed in order to make a valid comparison of these data.

The age-adjusted rate for all ages is simply the sum of the crude rate for each age group multiplied by the 2000 Standard Population Weight for each age group. Comparing the standardized age-adjusted rates, 887.19 in 1990 and 901.36 in 2003, paints a different picture where the death rate in Kansas increased by 1.6%.

### Table A-1
Death Statistics for Kansas, 1990

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Deaths in 1990</th>
<th>1990 Population</th>
<th>Crude Rate per 100,000 Population</th>
<th>1990 Percent of Population</th>
<th>2000 Percent of Population (Standard Population Weight)</th>
<th>Age-Adjustment Calculation (Crude Rate x 2000 Std Population Weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 15</td>
<td>481</td>
<td>563,721</td>
<td>85.3</td>
<td>0.2275</td>
<td>0.2179</td>
<td>18.59</td>
</tr>
<tr>
<td>15 to 24</td>
<td>305</td>
<td>347,917</td>
<td>87.7</td>
<td>0.1404</td>
<td>0.1495</td>
<td>13.11</td>
</tr>
<tr>
<td>25 to 44</td>
<td>938</td>
<td>780,348</td>
<td>120.2</td>
<td>0.3150</td>
<td>0.2851</td>
<td>34.26</td>
</tr>
<tr>
<td>45 to 64</td>
<td>3,117</td>
<td>443,180</td>
<td>703.3</td>
<td>0.1789</td>
<td>0.2152</td>
<td>151.39</td>
</tr>
<tr>
<td>65 and over</td>
<td>17,332</td>
<td>342,408</td>
<td>5,061.8</td>
<td>0.1382</td>
<td>0.1323</td>
<td>669.84</td>
</tr>
<tr>
<td>All ages</td>
<td>22,173</td>
<td>2,477,574</td>
<td>894.9</td>
<td>1.0000</td>
<td>1.0000</td>
<td>887.19</td>
</tr>
</tbody>
</table>
Table A-2
Death Statistics for Kansas, 2003

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Deaths in 2003</th>
<th>2003 Population</th>
<th>Crude Rate per 100,000 Population</th>
<th>2000 Standard Population Weight</th>
<th>Age-Adjusted Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 15</td>
<td>388</td>
<td>574,120</td>
<td>67.6</td>
<td>0.2179</td>
<td>14.72</td>
</tr>
<tr>
<td>15 to 24</td>
<td>308</td>
<td>416,813</td>
<td>73.9</td>
<td>0.1495</td>
<td>11.05</td>
</tr>
<tr>
<td>25 to 44</td>
<td>1,019</td>
<td>745,605</td>
<td>136.7</td>
<td>0.2851</td>
<td>38.96</td>
</tr>
<tr>
<td>45 to 64</td>
<td>3,778</td>
<td>633,384</td>
<td>596.5</td>
<td>0.2152</td>
<td>128.39</td>
</tr>
<tr>
<td>65 and over</td>
<td>18,924</td>
<td>353,586</td>
<td>5,352.0</td>
<td>0.1323</td>
<td>708.24</td>
</tr>
<tr>
<td>All ages</td>
<td><strong>24,417</strong></td>
<td><strong>2,723,508</strong></td>
<td><strong>896.5</strong></td>
<td><strong>1.0000</strong></td>
<td><strong>901.36</strong></td>
</tr>
</tbody>
</table>
Appendix B: Additional Maps for Trend 2 and Data on Population Growth.

Map B-1
Percent of Kansas Population Age 85 and Over, 2000


Map B-2
Percent Change in Kansas Population Age 85 and Over, 1990-2000

162
Map B-3
Percent of Kansas Population Age 65 and Over, 2000

Map B-4
Percent of Projected Kansas Population Age 65 and Over, 2025

Population Growth Trends

In the United States, the older adult (65+) population grew by 22.5% from 1980 to 1990 and by 12.0% from 1990 to 2000. The increase in population nationally was greater than the increase in population in Kansas. From 1980 to 1990, the Kansas older adult population grew by 11.9%, and from 1990 to 2000, the older adult population grew by only 4.0%. The national growth in the older adult population is expected to continue to outpace the growth in Kansas from 2000 to 2020. From 2000 to 2010, the older adult population is expected to increase by 13.5% in the United States compared to only 7.2% in Kansas. Further, the older adult population is expected to increase by 35.5% in the United States and by only 12.5% in Kansas from 2010 to 2020. These percentages illustrate that since 1980 the growth of older adults in Kansas has been slower than the growth nationally and that this trend will likely continue until 2020.

Figures B-1 and B-2 illustrate differences between the United States and Kansas in the percentage change of the older adult population by age groups. Figure B-1 clearly illustrates that from 2010 to 2020, the 65-84 age groups in the United States will greatly increase while the
85+ age group will experience a lull in growth. Comparatively, Figure B-2 shows that Kansas will experience population growth in each age group at steadily increasing rates.

**Figure B-1**
Percentage Change in the U.S. 65+ Population by Age Group from 1980 to 2020


**Figure B-2**
Percentage Change in the Kansas 65+ Population by Age Group from 1980 to 2020

Appendix C: Disability Information Available in Kansas and Disability Rates for the National Adult Population Aged 18 to 64.

Disability Information Available in Kansas

In Kansas, information about disability levels can be obtained from the U.S. Census Bureau decennial census, the Behavioral Risk Factor Surveillance System (BRFSS) and the 1997 Kansas Special Disability Survey. Each of these surveys uses a different definition of disability, which will be outlined here. The definition of disability used by the various surveys can greatly influence the number of people reporting a disability.

Historically, the U.S. Census Bureau collected information on work disabilities for adults under the age of 65. Starting with the 1990 Census, data were collected about mobility (IADL) and self-care (ADL) limitations in addition to work disabilities. The 1990 Census asked the following questions about disability:

<table>
<thead>
<tr>
<th>Question</th>
<th>Disability Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Because of a health condition that has lasted for 6 or more months, does this person have any difficulty:</td>
<td></td>
</tr>
<tr>
<td>A. Going outside the home alone, for example, to shop or visit a doctor’s office? [Mobility]</td>
<td></td>
</tr>
<tr>
<td>B. Taking care of his or her own personal needs, such as bathing, dressing, or getting around the home? [Self-care]</td>
<td></td>
</tr>
</tbody>
</table>

Census 2000 added questions about sensory, physical (ADL), and cognitive/mental limitations in addition to the 1990 Census categories. The questions related to self-care and mobility limitations in the 2000 Census were similar to the 1990 Census, but not identical. Due to wording changes, it is difficult to make comparisons between rates of disability in 1990 and 2000 (Waldrop & Stern, 2003). The 2000 Census disability questions were:

<table>
<thead>
<tr>
<th>Question</th>
<th>Disability Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does this person have any of the following long-lasting conditions:</td>
<td></td>
</tr>
<tr>
<td>A. Blindness, deafness, or a severe vision or hearing impairment? [Sensory]</td>
<td></td>
</tr>
<tr>
<td>B. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying? [Physical]</td>
<td></td>
</tr>
</tbody>
</table>

| Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities: |                  |
| A. Learning, remembering, or concentrating? [Cognitive/mental]             |                  |
| B. Dressing, bathing, or getting around inside the home? [Self-care]       |                  |
| C. Going outside the home alone to shop or visit a doctor’s office? [Mobility] |                  |

A person that answered yes to one or more of these questions has “any disability,” which includes limitations in sensory, physical, cognitive/mental, self-care, and/or mobility functioning.
With information available for counties as well as the entire state, Census data on disability can be beneficial in planning for the service needs of and service utilization by people with disabilities (Calsyn, Winter, & Yonker, 2001). Although beneficial, the 1990 Census was found to underestimate disability when compared to a standard measure of ADL and IADL functioning (Calsyn et al.; Rodgers & Miller, 1997). However, Calsyn et al. argue that the questions related to physical, self-care, and mobility limitations in the 2000 Census have greater reliability and validity in estimating the total number of people with ADL and IADL disabilities.

Since the Census data are only collected once every ten years, its usefulness dissipates over time. Thus, county-level planning that relies on Census data quickly becomes out-of-date. In order to address the timeliness of data, the U.S. Census Bureau began administering the American Community Survey (ACS) in January 2005. The ACS is designed to collect and disseminate information on demographic and socioeconomic factors, previously collected on the long form of the decennial census (Stern, 2004). Starting in 2005, the ACS will collect information yearly so that updated information can be released each year. Due to the relatively small population, three to five years of data will be collected before a large enough sample size is available to report data for most Kansas counties (Buckner & Lowe, 2005). The fifth-year of ACS data will be collected in 2010. After 2010, state- and county-level data will be available on a yearly basis. The ACS will provide beneficial data for the state of Kansas, which makes it important for ACS funding to be appropriated each year. Although staff members at the U.S. Census Bureau are optimistic that funding will continue (C. Richmond, ACS Outreach and Analysis staff, personal communication, February 11, 2005), it is not guaranteed. If funding continues for the next five years and beyond, ACS will markedly improve the data available to states and counties when planning services for people with disabilities.

Other statewide disability information is collected by the CDC through the Behavioral Risk Factor Surveillance System. BRFSS is a random-digit dialed telephone survey of the noninstitutionalized population aged 18 and older that focuses on health risk behaviors. Since 1992, the BRFSS has collected annual data in Kansas. Prior to 2001, the BRFSS asked survey participants the following question, “Are you limited in any way in any activities because of an impairment or health problem?” In 2001, this primary disability-related question was changed to “Are you limited in any way in any activities because of a physical, mental, or emotional problem?” (BRFSS, 2003).

The Kansas Special Disability Survey used BRFSS methodology to conduct a telephone survey in 1997 of Kansas residents aged 18 and older with disabilities. This survey defined disability as meeting one of the following three criteria: a) limited in any way in any activities due
to any impairment or health problem, b) using any assistive device(s) such as a wheelchair, cane, braces, or prosthesis, or c) kept from working at a job or business due to any impairment or health problem (KDHE, 1997a).

Disability Rates for the National Adult Population Aged 18 to 64

Table C-1
Disability Caused by Chronic Conditions in the National Adult Population Ages 18 to 64, 1997 and 2000

<table>
<thead>
<tr>
<th>Ages</th>
<th>1997</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>5.1%</td>
<td>3.6%</td>
</tr>
<tr>
<td>25-44</td>
<td>7.6%</td>
<td>6.5%</td>
</tr>
<tr>
<td>45-54</td>
<td>14.2%</td>
<td>12.4%</td>
</tr>
<tr>
<td>55-64</td>
<td>22.2%</td>
<td>19.7%</td>
</tr>
</tbody>
</table>

Appendix D: Chronic Conditions in Kansas.

Chronic conditions can result in disabilities for older adults in Kansas and the United States. This section provides a brief overview of chronic conditions that could lead to disabilities in the older adult population including cancer, heart disease, and diabetes. In addition, the medical technologies that can prevent older adults from having chronic conditions or reduce the disabling effects among those diagnosed with chronic conditions are explored.

Cancer is the second leading cause of death in Kansas and the United States. Prostate cancer and breast cancer are the most common cancer sites for men and women, respectively. The next most common site for both genders is lung and bronchus cancer followed by colorectal cancer. Table D-1 highlights the incidence\(^{29}\) of cancer in Kansas and the United States. Medical interventions can positively impact cancer death rates. Early detection and treatment of breast and colorectal cancers can delay or prevent death. In addition, prevention, especially tobacco use prevention, is an effective way to reduce the risk of lung cancer (KDHE Bureau of Health Promotion, 2002).

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cancer Sites</td>
<td>532.8</td>
<td>403.0</td>
</tr>
<tr>
<td>Prostate Cancer</td>
<td>157.4</td>
<td>-</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>-</td>
<td>134.8</td>
</tr>
<tr>
<td>Lung and Bronchus Cancer</td>
<td>89.1</td>
<td>49.2</td>
</tr>
<tr>
<td>Colorectal Cancer</td>
<td>65.5</td>
<td>42.8</td>
</tr>
</tbody>
</table>

Source: U.S. Cancer Statistics Working Group, 2004

Heart disease and stroke are the first and third leading causes of death in Kansas and the United States. They are also leading causes of disability. An estimated 45,281 adults age 55 years and older were living with a stroke in Kansas in 2005 (Bern-Klug, n.d.). High blood pressure is a major modifiable risk factor for heart disease and stroke. Yet, approximately 24% of Kansans and 26% of Americans have been told by a health professional that they have high blood pressure. Nearly three-quarters of those with high blood pressure are taking medication for this condition, which could lower their risk of heart disease and stroke (BRFSS, 2001, 2003; CDC, 2004a).

\(^{29}\) Cancer incidence rates are the number of newly diagnosed cancers occurring during a year.
Adults with diabetes have a greater risk of heart disease and stroke than adults without diabetes (CDC, 2005). In 2002, approximately six percent of Kansans had diabetes compared to 4.8% of the U.S. population. In Kansas, 1.8% of people under the age of 44, 8.4% of adults aged 45 to 64, 14.4% of adults aged 65 to 74, and 14.1% of adults aged 75 and older had diabetes. A greater percentage of the U.S. population between the ages of 45 and 74 had diabetes than the Kansas population, however the prevalence for Kansans under the age of 44 was slightly higher than the United States. The prevalence of diabetes in the population age 75 years and older was similar in Kansas and the United States (CDC).

One out of three older adults falls each year. Falls often result in hip fractures. In 2000, 3,426 hospitalizations resulted from hip fractures (Pickard, 2002). Hip fractures account for 8.8 out of 1000 discharges from hospitals for Kansas men aged 75 years and older and 17.4 out of 1000 hospital discharges for Kansas women aged 75 years and older (Center on Aging, 2002). Low bone mass and osteoporosis can result in more hip fractures related to falls. In 2002, 104,200 Kansas adults age 50 years and older had osteoporosis and 439,600 Kansans age 50 years and older had osteoporosis or low bone mass. By 2020, the number of people in Kansas with osteoporosis will likely increase to 139,300 and the number with osteoporosis or low bone mass will increase to 598,200. Osteoporosis is more common in women than men. In Kansas, twenty percent of Asian and White non-Hispanic women have osteoporosis compared to 7% of Asian and White non-Hispanic men. Also, 10% of Hispanic and 5% of Black non-Hispanic women had osteoporosis compared to 3% of Hispanic and 4% of Black non-Hispanic men (National Osteoporosis Foundation, 2002).

Other chronic conditions that impact a persons’ level of impairment are Alzheimer’s disease and obesity. In 2000, an estimated 2% (50,000) of the older Kansas population had Alzheimer’s disease. By 2025, the number of older adults with Alzheimer’s disease in Kansas will increase by 24% to 62,000 if no further treatment options become available (Hebert et al., 2004). In the United States, the prevalence of Alzheimer’s disease in 2000 was 1.3% or 4.5 million people (Hebert et al., 2003).

Obesity is a known risk factor for many chronic conditions including heart disease, stroke, hypertension, diabetes, arthritis, and some forms of cancer (Kansas Health Institute, 2003b). The percentage of Kansans that are obese has increased in the last decade from just over 13% of adults in 1992 to nearly 23% in 2003. By 2003, almost 61% of Kansas adults were overweight (including those that were obese). Nationally, 31% of adults were obese and 65% of adults were overweight in 2003 (Kannarr, 2005; Kansas Health Institute).
For many of the chronic conditions outlined here, the disabling effects can be lessened through prevention, early diagnosis, and/or treatment. These medical interventions have varying effects depending on the chronic condition. For example, prevention can effectively delay or prevent high blood pressure from leading to heart disease or stroke. Early diagnosis of breast cancer can reduce its disabling effects and treatment of diabetes lowers the risk of adverse effects such as heart disease. Thus, prevention, early diagnosis, and treatment are all necessary medical interventions for planning efforts that target disability rates in older adults.

Table E-1
Widowhood Numbers and Rates for Women 45 Years and Older by Age in the United States for Select Years, 1980-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
<td>815,634</td>
<td>665,565</td>
<td>713,433</td>
<td>-102201</td>
<td>1321559</td>
<td>-608126</td>
</tr>
<tr>
<td></td>
<td>6.9%</td>
<td>5.2%</td>
<td>3.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-64</td>
<td>2,104,980</td>
<td>1,776,893</td>
<td>1,503,712</td>
<td>-601268</td>
<td>2294081</td>
<td>-790369</td>
</tr>
<tr>
<td></td>
<td>18.2%</td>
<td>15.9%</td>
<td>11.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-74</td>
<td>3,482,027</td>
<td>3,587,808</td>
<td>3,127,546</td>
<td>-354481</td>
<td>3977065</td>
<td>-849519</td>
</tr>
<tr>
<td></td>
<td>39.2%</td>
<td>35.3%</td>
<td>30.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75-84</td>
<td>3,149,496</td>
<td>3,832,368</td>
<td>4,088,476</td>
<td>938980</td>
<td>4856012</td>
<td>-767536</td>
</tr>
<tr>
<td></td>
<td>64.8%</td>
<td>60.9%</td>
<td>54.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85+</td>
<td>1,246,552</td>
<td>1,805,814</td>
<td>2,117,108</td>
<td>870556</td>
<td>2418977</td>
<td>-301869</td>
</tr>
<tr>
<td></td>
<td>81.8%</td>
<td>81.2%</td>
<td>71.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table E-2
Widowhood Numbers and Rates for Men 45 Years and Older by Age in the United States for Select Years, 1908-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
<td>152,424</td>
<td>134,155</td>
<td>190,753</td>
<td>38329</td>
<td>257958</td>
<td>-67205</td>
</tr>
<tr>
<td></td>
<td>1.4%</td>
<td>1.1%</td>
<td>1.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-64</td>
<td>367,249</td>
<td>347,468</td>
<td>323,367</td>
<td>-43882</td>
<td>416138</td>
<td>-92771</td>
</tr>
<tr>
<td></td>
<td>3.6%</td>
<td>3.5%</td>
<td>2.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-74</td>
<td>602,790</td>
<td>701,651</td>
<td>696,981</td>
<td>94191</td>
<td>734257</td>
<td>-37276</td>
</tr>
<tr>
<td></td>
<td>8.9%</td>
<td>8.8%</td>
<td>8.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75-84</td>
<td>323,432</td>
<td>732,438</td>
<td>877,008</td>
<td>553656</td>
<td>1012918</td>
<td>-135910</td>
</tr>
<tr>
<td></td>
<td>21.0%</td>
<td>19.5%</td>
<td>18.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85+</td>
<td>292,825</td>
<td>347,413</td>
<td>425,198</td>
<td>132373</td>
<td>504565</td>
<td>-79367</td>
</tr>
<tr>
<td></td>
<td>43.8%</td>
<td>40.5%</td>
<td>35.3%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table E-3
Percent Living Alone in the United States by Age and Sex for Select Years, 1970-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-74</td>
<td>11.3%</td>
<td>11.6%</td>
<td>13.0%</td>
<td>13.8%</td>
</tr>
<tr>
<td>75+</td>
<td>19.1%</td>
<td>21.6%</td>
<td>20.9%</td>
<td>21.4%</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-74</td>
<td>31.7%</td>
<td>35.6%</td>
<td>33.2%</td>
<td>30.6%</td>
</tr>
<tr>
<td>75+</td>
<td>37.0%</td>
<td>49.4%</td>
<td>54.0%</td>
<td>49.4%</td>
</tr>
</tbody>
</table>


Table E-4
Projections of the Percentages of Persons 75 and Older by Marital Status and Gender in the United States, 1990-2040

<table>
<thead>
<tr>
<th></th>
<th><strong>Males</strong></th>
<th></th>
<th><strong>Females</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Married</td>
<td>Single</td>
<td>Widowed</td>
<td>Divorced</td>
</tr>
<tr>
<td>1990</td>
<td>65.9</td>
<td>5.1</td>
<td>25.8</td>
<td>3.2</td>
</tr>
<tr>
<td>2000</td>
<td>66.1</td>
<td>4.5</td>
<td>25</td>
<td>4.4</td>
</tr>
<tr>
<td>2010</td>
<td>65.4</td>
<td>4.2</td>
<td>24.5</td>
<td>5.9</td>
</tr>
<tr>
<td>2020</td>
<td>66.4</td>
<td>3.9</td>
<td>22.8</td>
<td>6.9</td>
</tr>
<tr>
<td>2030</td>
<td>65.3</td>
<td>5.1</td>
<td>21.4</td>
<td>8.2</td>
</tr>
<tr>
<td>2040</td>
<td>61.9</td>
<td>8.1</td>
<td>21.2</td>
<td>8.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>2040 high</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Married</td>
<td>Single</td>
<td>Widowed</td>
<td>Divorced</td>
</tr>
<tr>
<td>2040 high</td>
<td>68.5</td>
<td>7</td>
<td>18.8</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>35.6</td>
<td>5.6</td>
<td>46.6</td>
<td>11.9</td>
</tr>
</tbody>
</table>

Source: Redfoot and Pandya (2002) Before the Boom (p.25) AARP PPI analysis of Social Security Area Population Projections (Bell, 1997). Projections from the intermediate assumption tables are used. For the year 2040, "high cost" projection are also shown.
Appendix F: National Trends in Number of Children by Birth Cohort.

Table F-1
Number of Children among U.S. Women by Birth Cohort in 2000

<table>
<thead>
<tr>
<th>Age in 2000</th>
<th>Percentage Distribution by Number of Children</th>
<th>Average Number of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1 to 3</td>
</tr>
<tr>
<td><strong>Boomers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-44</td>
<td>19</td>
<td>70.5</td>
</tr>
<tr>
<td>45-49</td>
<td>17.5</td>
<td>71.3</td>
</tr>
<tr>
<td>50-54</td>
<td>16</td>
<td>71.3</td>
</tr>
<tr>
<td><strong>Birth Dearth</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-59</td>
<td>12.7</td>
<td>66.5</td>
</tr>
<tr>
<td>60-64</td>
<td>10.8</td>
<td>57.8</td>
</tr>
<tr>
<td>65-69</td>
<td>11.4</td>
<td>52.7</td>
</tr>
<tr>
<td>70-74</td>
<td>11.6</td>
<td>55.1</td>
</tr>
<tr>
<td><strong>Oldest Old</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75-79</td>
<td>14.1</td>
<td>57.8</td>
</tr>
<tr>
<td>80-84</td>
<td>17.2</td>
<td>58</td>
</tr>
<tr>
<td>85-89</td>
<td>22.5</td>
<td>57</td>
</tr>
<tr>
<td>90-94</td>
<td>24.2</td>
<td>54.9</td>
</tr>
<tr>
<td>95-99</td>
<td>23.9</td>
<td>52.9</td>
</tr>
<tr>
<td>100+</td>
<td>21.9</td>
<td>50.1</td>
</tr>
</tbody>
</table>

Source: Redfoot and Pandya (2002) Before the Boom (p.26). AARP PPI analysis of women age 40 and older in 1990 decennial public use microdata for women 60 and older. For Boomer cohorts, the data come from the Current Population Survey data on fertility of women aged 40-44 at various points in time (Bachu and McConnell, 2001, historical tables). Otherwise the data are from Congressional Budget Office (1988).