Final Report – Phase 2

Study of Long-Term Services and Supports for Minnesota's Older Population: Current and Future Utilization and Costs

Own Your Future 3.0: Planning for Minnesotans' LTSS Needs

Prepared for Minnesota Department of Human Services, Aging and Adult Services Division

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Executive Summary

This Final Report Phase 2 is from the 2024 follow-up study of use and public costs for long-term services and supports (LTSS) among Minnesotans age 65 and older. The original study, conducted in 2023, is described in detail in the report, *Long-Term Services and Supports for Minnesota's Older Population: Current and Future Utilization and Medicaid Payments*.[1] Both the original and follow-up studies cover a range of long-term services and supports used by older people in Minnesota, including care provided to nursing facility residents, and Medicaid enrollees living in assisted living facilities or participating in home-based care or personal care assistance. In the follow-up study we analyze additional data through June 2023 to better capture the use and costs for LTSS after the COVID-19 pandemic. We also expand on the simulation component of the original study by testing scenarios involving different assumptions about future LTSS. Earlier reports have referred to "Medicaid payments". We changed the terminology to "Medicaid costs" to more accurately describe costs incurred rather than payments made to providers which can take time to process. In general, when we use the term costs, we mean costs to Medicaid, not costs of providing care.

Periods Covered by the Report - The Report describes updated findings on use of different types of LTSS overall and by demographic characteristics of users. It compares three periods: before the COVID-19 pandemic (2016-2019), during the pandemic (2020-2021), and as the pandemic subsided (2022-June 2023). It also includes projections of future use and public costs for LTSS from 2025-2035. Lastly, the report contains findings from the simulation models for future LTSS under different demographic and policy scenarios.

Data Sources - Information on use of care, Medicaid costs, and characteristics of LTSS users is drawn from Minnesota's Medicaid Management Information System (MMIS), the nursing home Minimum Data Set (MDS) assessment system, and other state administrative systems.

LTSS Population, Services and Settings - Three broad categories of LTSS are covered in the study: (1) Medicaid and non-Medicaid (Medicare or privately financed) nursing facility care - residing in one of the 370 certified nursing facilities in Minnesota; (2) Medicaid assisted living facility care - customized living in a residential facility through the Medicaid Elderly Waiver program[2]; and (3) Medicaid home and community-based services (HCBS) used by participants in the Medicaid community-based Elderly Waiver Program, Alternative Care Program, or a Personal Care Assistant. Medicaid home and community-based services include adult day services, hospice, home health, access services, case management, home provided meals, homemaker, chore, respite and personal care.

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[1] https://mn.gov/dhs/assets/ltss-minneota-older-population-current-future-utilization-medicaid-costs_tcm1053-605160.pdf

[2] Medicaid costs for assisted living facilities are only for regularly scheduled, health-related and supportive services and do not include room and board.

LTSS Use and Costs in the Pre-COVID, COVID and Post-COVID Periods

Entry, Use, and Exit from the LTSS System -- During the post-COVID period (2022-2023) the total population of Minnesotan's age 65 and older was slightly over 1 million people. Annually during that period, approximately 49,000 people (5.4% of the total population age 65 and older) was using LTSS. Of that number, nearly 30,000 people (3% of people age 65 and older) entered the LTSS system for the first time. They began receiving care in a nursing facility, customized living through Medicaid in an assisted living facility or utilizing Medicaid home and community-based services. Annually during the same period about the same numbers exited the LTSS system: 11,000 people died and 19,000 stopped using LTSS. About 15,000 people exited the LTSS system alive without becoming Medicaid enrolled. Many of them entered a nursing facility for post-acute care and then after a short stay, they returned to a community setting with no care or with privately paid care.

LTSS Use and COVID-19 -- The number of all monthly LTSS users declined from 51,247 in the pre-COVID period (2016-2019) to 48,965 in the COVID period (2020-2021) and then remained steady at 48,867 during the post-COVID period (2022-mid-2023). Underlying the overall figures were major differences in use of care between types of LTSS. The number of nursing facility residents, both Medicaid and non-Medicaid, showed a steady decline from 2016-2019, dropped sharply in the COVID period, and then remained at that lower level during the post-COVID period. In contrast, the number of HCBS users increased steadily during the pre-COVID, COVID, and post-COVID periods. The number of assisted living facility residents with Medicaid Elderly Waiver services increased steadily during the pre-COVID period, dropped somewhat during the COVID period and then increased in the post-COVID period to above the pre-COVID levels.

COVID-Related Mortality -- Rates of all-cause mortality of LTSS users increased during the COVID period. Nursing facility residents, both Medicaid and non-Medicaid, experienced the greatest increase in death rates. Assisted living facility residents also had high death rates, while HCBS participants had only a minimal increase in death rates.

Difference in Age and Gender of LTSS Users by Period -- Across the pre-COVID, COVID and post-COVID periods, nursing facilities had the oldest residents, assisted living facility residents utilizing customized living through Medicaid were somewhat younger and HCBS users were the youngest. However, the LTSS population tended to become younger over time. Both the total number and percentage of LTSS users age 85 and older declined steadily across periods. In contrast, the number and percentage of LTSS users age 75-84 steadily increased across periods, while the number and percentage of LTSS users age 65-74 remained roughly the same across periods. The largest decline in average age was among nursing facility residents age 85 and older. Women outnumbered men in all LTSS settings. The steepest decline across periods was among older, female, nursing facility residents.

Rates of LTSS Use in Relation to Minnesota's Older Population -- Even though the total older population of Minnesota was growing from 2016 through 2023, rates of LTSS use per 1000 people in the older population declined steadily. The pre-COVID downward trend accelerated during the COVID period and then continued at the lower level in the post-COVID period. Most of the downward trend occurred among nursing facility residents and people age

85 and older. High rates of COVID-related mortality contributed to the decline in LTSS use, particularly among nursing facility residents.

LTSS Use and Hypothetical Medicaid Cost Projections from 2025 through 2035

We made straight line projections of future use of LTSS and Medicaid costs for these services from 2025-2035. We consider costs to Medicaid for LTSS based on historical costs through 2024 and hypothetical cost projections from 2025-2035. We developed and tested different scenarios for patterns in LTSS use and rates of LTSS costs inflation. Each scenario is driven by increases in the size of the older population and increasing costs of care. For comparison, we projected a rate of hypothetical Medicaid spending growth that was equivalent to LTSS cost inflation but grew at a constant rate without being adjusted for the driving force of a growing older population.[3]

- Continuation of Post-COVID patterns of LTSS use with annual Medicaid cost inflation at either 2.5% or 5%.
- A Blended scenario where LTSS use begins at the post-COVID level and then returns steadily to the pre-COVID pattern between 2026 and 2035. Medicaid annual LTSS cost inflation is also set at either 2.5% or 5%.
- Medicaid LTSS spending projections inflated at a constant 2.5% per year, with spending that increases in line with growing LTSS costs.

LTSS Cost Growth. If LTSS use follows a post-COVID pattern, observed from 2022-2023, and LTSS costs are inflated at a conservative 2.5% per year, then we project a 31% growth in total Medicaid LTSS costs by 2030 and 59% by 2035. On the other hand, if the pattern of LTSS use returns to a pre-COVID level, observed from 2018-2019, and if LTSS costs follow historical trends of inflation at 5% per year, then we project a 53% growth in total Medicaid LTSS costs by 2030 and 125% by 2035. While Medicaid cost increases are affected by rates of inflation, they are driven largely by growth in the older population, particularly people age 85 and older who have the greatest long-term care needs.

LTSS Budget Growth compared to LTSS Cost Growth. If we compare these LTSS cost increases to a hypothetical Medicaid spending growing conservatively at a constant rate of 2.5%, we project a substantial spending gap by 2035[4]. The gap between future LTSS costs and our hypothetical Medicaid spending scenario ranges from -11% for the more conservative post-COVID scenario inflated at 2.5% to -43% for the scenario with a return to pre-COVID patterns

[3] Future Medicaid costs and spending projections are based on historical rates of cost growth and then averaged over the period from 2025-2035. In actuality, there has been and likely will be variation from year to year because of legislative actions, policy changes, or rates of price inflation. Our projections are hypothetical. We have chosen rates of inflation and spending growth to reflect midpoints, upper, and lower bounds for what might occur in the future.

[4] In practice, the state must balance revenues and spending across all areas of the state budget, including but not limited to state spending on Medicaid. The concept of an LTSS budget at the state level is hypothetical, meant to demonstrate the potential impact to the state budget of increases in Medicaid costs.

of LTSS use inflated at 5%. In these hypothetical scenarios with a conservative rate of Medicaid spending growth, gap between LTSS costs and Medicaid spending could have a major effect on access to Medicaid LTSS. Reduction in number of users by 2035 is projected between -14% and -31% depending on the scenario. Higher Medicaid spending growth could mitigate against these limitations to LTSS access. We estimated that spending growth between 5.7% and 9.0% annually from 2025 and 2035 could fully cover future LTSS costs and provide current access to services.

Simulation Results

The microsimulation tested the impact of changing usage rates overall and increased utilization of AC in particular on number of LTSS users and hypothetical costs to Medicaid. Relative to usage rates remaining at the post-COVID levels, a linear return to the pre-COVID usage rates (blended scenario) increased projected average monthly Medicaid costs by 3.4% for the 2035-2039 period. Alternatively, a continued decline in nursing facility usage following observed trends was estimated to decrease projected average monthly Medicaid costs by 6.5% relative to the baseline over the same period. Increasing the number of AC users reduced projected privately paid nursing facility costs, but it increased overall projected costs to Medicaid. The increase in costs to Medicaid was smaller for scenarios where the proportion of additional AC users being transitioned out of privately paid nursing facility stays was highest.

Simplifying Assumptions

These future LTSS projections are based on simplifying assumptions regarding the future use of care and costs. These assumptions make the projections less complex and more transparent, yet they also represent study limitations. The LTSS projections rely on patterns of LTSS use and Medicaid costs in the Pre-COVID and Post-COVID periods. Future use and costs could be quite different from historical patterns.

- Rates of LTSS service use for each set of projections (pre-COVID, post-COVID, and blended) are assumed to follow the same pattern in each future year. The projections do not consider variation in the rate of people entering each type of service from year to year. Also, they do not consider potential shifts from year to year in service use between LTSS categories, e.g., from nursing facility to assisted living facility or HCBS waiver services.
- Future projections rely on an effective care delivery infrastructure and skilled workforce to deliver services. New investments may be needed to ensure that well-trained and adequately compensated care providers are available locally across all of Minnesota.
- Demographic change in age groups and gender are the only population characteristics affecting future LTSS projections. Potential changes in other population characteristics, such as race, marital status, county of residence, and economic status are not considered in the projections.
- Similarly, the projections do not consider potential future changes in rates of disability or mortality, availability of family or other private means of support, economic conditions, or public policies and financing.

Future Study

Predicting future LTSS use and costs is complicated by multiple uncertainties, many of which are beyond the scope of this study. However, they should be addressed in future studies, with the aid of data collected over additional years and with expanded simulation modeling or other approaches to provide a higher degree of certainty around future patterns of care and the effects of public policies. These are areas for future study and policy development.

- New normal after COVID-19
    - Trends observed in the current study, based on data through mid-2023, offer a less than complete picture of the lasting COVID-19 effect.
    - Future projections of LTSS use and Medicaid payments are highly sensitive to assumptions about the persistence of the COVID-19 effect as well as the response of the system to a future pandemic.
- Changing consumer preferences
    - Personal preferences by consumers and their significant others appear to be shifting away from nursing facilities to other LTSS settings and services.
    - COVID-19 accelerated this trend and resulted in a sharp decline in nursing facility use, particularly among Medicaid enrollees.
    - Future studies of LTSS use can shed light on consumer preferences and more informed modeling of a shift away from nursing facilities to other forms of LTSS.
- Alignment of individual needs for care with LTSS services and settings
    - Changes in health conditions and disability status of the older population, either improvements or declines, could alter the need for and use of LTSS.
    - To better predict the mix of future LTSS services, future studies should consider, in particular, the potential for increased prevalence of dementia/cognitive and associated health-related behavioral problems, and the settings and types of services most appropriate for these care needs.
- Role of families and other informal caregivers
    - Users of Medicaid LTSS are much older and less likely to be married than the general older population. Although detailed information was not available for the study, other research suggests that many LTSS users were living alone without immediate support from family or other caregivers.
    - Gathering additional data on patterns of family and other informal resources could fill the gap in information about these valuable resources.
    - More information can lead to modeling of future availability of informal care. Declines in the availability of family and other private provisions of care, paid and non-paid, could put additional pressure on the formal LTSS system to fill this gap in care, particularly through use of nursing facilities and assisted living facilities.
- Equity and access to care for racial and ethnic minorities
    - Although racial and ethnic minorities are well represented among LTSS users in community settings, only small percentages use nursing and assisted living facilities. This situation raises issues of equity and access to care.

- Is their heavy reliance on home and community-based services (e.g., Elderly Waiver and personal care assistant) a matter of personal choice, cultural traditions, greater availability of family or other informal caregivers, or other care resources? Conversely, are they less likely to use residential care facilities because of a history of discrimination, high out-of-pocket costs, or other access barriers?
- Understanding and addressing these issues will have implications for future LTSS as the number of older racial and ethnic minorities increases. Future LTSS projections should account for different scenarios of LTSS use by racial and ethnic minorities.

- Supply of care workers and providers
  - The future supply of care workers and providers is uncertain. Even before COVID-19, attracting and maintaining a caregiver workforce was a challenge. The problem has worsened in subsequent years.
  - There are shortages of paraprofessional workers, licensed nurses, especially RNs and APNs, and ancillary staff.
  - Future projections will have to consider scenarios where care worker shortages place constraints on the expansion of LTSS and potentially contribute to LTSS cost inflation.
- Costs and financing of LTSS
  - The current study had a substantial gap in information about private payments for LTSS, which in total could approach Medicaid payments. Although the study included use of nursing facility care by people not enrolled in Medicaid, the substantial private cost of this care was not part of the projections. In addition, the study does not consider Medicaid enrollee's share of costs for nursing facilities, assisted living facilities, and the Alternative Care waiver. Finally, the study lacked information entirely about use of and private payments for assisted living facilities and in-home care for people not enrolled in Medicaid.
  - The LTSS cost inflation may significantly exceed the rate of general inflation and personal income, making LTSS even less affordable and putting additional strains on public resources.
  - While nursing facility use has been declining, the Medicaid payment rate per resident day has risen. Since the private pay rate is tied to the Medicaid rates, costs for private paying residents have been going up as well.
  - Improvements in the quality of care by assisted living facilities and home care agencies could contribute to cost increases. Much needed initiatives include stronger licensure requirements, more comprehensive quality of care oversight, increased staffing levels and standards, and higher wages and benefits to attract and maintain the caregiver workforce.
  - The uncertain evolution of the private LTC insurance market, which has been slow in developing, could be a wildcard with the potential to offer asset and income protection for future generations of older people. However, the near-term impact of private LTC insurance is limited by the high cost of insuring the current generation of older people who are at highest risk of needing LTSS. Even longer-term prospects are problematic for a market that has failed to develop on its own.
- All these factors lead to complexity in projecting future need, use and expenditures for LTSS. Probably the best way to address this complexity and characterize the uncertainty of future

projections is through micro-simulation modeling which is capable of performing "what if" analyses of alternative scenarios.

Keeping a Perspective

The reader should keep in mind, that vast majority of people age 65 and older are NOT in the LTSS system. The number of LTSS users is projected to grow as the older population grows, yet the percentage of older people using LTSS currently is about 5.4%. Looking out to 2035 the percentage remains at less than 6%. Many of other 94% of future older people will vital, actively engaged members of society. Despite their physical or mental disabilities, many older people who enter LTSS population are capable of being engaged in society. They can enjoy fulfilling lives if they are treated with dignity and they are provided with the right supports.

The family and other informal sources of support will continue to play an essential role in the future LTSS system. Although family and other informal sources may be the sole basis of LTSS support for some people, very often they complement or supplement the services provided through public programs, particularly for older people who wish to live in community settings.

Our study did not address the financial status of the LTSS population, nor did it account for the private resources needed to obtain LTSS. Yet, a complementary study, *LTSS Funding and Services Initiative Options to Increase Access to Long-Term Care Financing, Services, and Supports in Minnesota* (October 2023)[5], pointed to the large proportion of the older population that would be above the Medicaid financial eligibility threshold yet lack the private resources to cover LTSS costs if needed. They are faced with the eventuality of exhausting their savings in order to enter the Medicaid LTSS system. The problem of strained financial resources could continue into the future if LTSS costs were to escalate.

[5] https://mn.gov/dhs/assets/OYF-LTSS-funding-services-initiative_tcm1053-600470.pdf

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Figures, Panels of Figures, and Tables

Chapter 1 Introduction and Background

This Final Report - Phase 2 presents the most recent findings from a 3-year study of use and public cost for long-term services and supports (LTSS) among Minnesotans age 65 and older. The full study is described in detail in the original 2023 report, *Long-Term Services and Supports for Minnesota's Older Population: Current and Future Utilization and Medicaid Cost* [6]. Both the original and this report cover a range of long-term services and supports used by older people in Minnesota, including care for nursing facility residents, and for Medicaid enrollees residing in assisted living facilities, or receiving home-based care or personal care assistance. For this report we analyzed additional data through June 2023 to better capture the use and cost for LTSS after the COVID-19 pandemic. We also expanded on the simulation component of the original study by testing scenarios involving different assumptions about future LTSS.

This report describes updated findings on use of different types of LTSS overall and by demographic characteristics of users. It compares three periods: before the COVID-19 pandemic (2016-2019), during the pandemic (2020-2021), and as the pandemic subsided (2022-June 2023). It also includes projections of future use and public cost for LTSS from 2025-2035.

Study Objectives

Objectives of the study were to:

- Analyze recent use of Long-Term Services and Supports (LTSS) for older Medicaid enrollees and the general older population in Minnesota from 2016-2023.
    - Describe utilization of LTSS, including nursing facilities, Medicaid assisted living, and Medicaid home and community-based services (HCBS).
    - Describe demographic characteristics and health status, marital status, and race/ethnicity of people participating in LTSS.
    - Estimate the COVID-19 impact on LTSS utilization.
- Project future demographic characteristics, LTSS utilization and Medicaid costs for future older people in Minnesota from 2025-2035.
    - Project the future need for LTSS based on changes in the demographic characteristics of Minnesota's older population.
    - Develop straight line projections of future Medicaid LTSS utilization and expenditures.
    - Simulate different utilization and cost scenarios taking into account post-COVID trends in LTSS use, cost inflation, and Medicaid spending growth.

[6] https://mn.gov/dhs/assets/ltss-minneota-older-population-current-future-utilization-medicaid-costs_tcm1053-605160.pdf

Data Sources and Methods

The study relies on state demographic projections for older Minnesotans, and state Medicaid MMIS and other administrative data. Data sources include the Minimum Data Set (MDS) that cover all nursing facility residents both Medicaid enrolled and those with private payment sources only, and Medicaid enrollees residing in assisted living facilities and utilizing care through the Elderly Waiver program, or who are utilizing home and community-based care through the Elderly Waiver or Alternative Care, or through Personal Care Assistance (later becoming Community First Services and Supports). Details of the study population, data sources, major variables, and analysis strategies can be found in the Appendix – LTSS Study Methods.

COVID-19 in Minnesota

Minnesota's outbreak of the COVID-19 pandemic began in March 2020. Deaths from COVID-19 reached their peak in the winter of 2020-2021 with the Omicron variant and then subsided through the rest of 2021. Prior research has documented the rapid spread of COVID-19, severity of symptoms, and disproportionate number of COVID-19 related deaths among older people in nursing facilities, particularly those of advanced age with multiple comorbid conditions. Although less is known about the effects of COVID-19 among older people in other residential care settings or receiving care at home, we can surmise that they too suffered greater symptom severity and higher rates of mortality than the population as a whole.

Future Projections and the COVID Effect

This report focuses on trends in LTSS use overall in different settings by age groups, gender, and race/ethnicity, which are key variables in our population projections. We linked population projections for Minnesota's older population by age and gender to our study data in order to estimate future use and cost for LTSS. Assumptions about a temporary versus lasting COVID effect have crucial implications in projecting future LTSS use and cost. In our 2023 Report we made projections based on use of LTSS and Medicaid cost during the pre-COVID period because we did not have sufficient data on the post-COVID period. In this follow-up study we have additional data through mid-2023, which offers more insight into post-COVID trends.

We consider costs to Medicaid for LTSS based on historical costs through 2024 and hypothetical cost projections from 2025-2035. Future Medicaid costs and spending projections are based on historical rates of cost growth and then averaged over the period from 2025-2035. In actuality, there has been and likely will be variation from year to year because of legislative actions, policy changes, or rates of price inflation. Our projections are hypothetical. We have chosen rates of inflation and spending growth to reflect midpoints, upper, and lower bounds for what might occur in the future.

LTSS Population, Services and Settings

Three types of LTSS are covered in the study: (1) Medicaid and non-Medicaid (Medicare or privately financed) nursing facility care - residing in one of the 370 certified nursing facilities in Minnesota; (2) Medicaid assisted living facility care - customized living in a residential facility through the Medicaid Elderly Waiver program; and (3) Medicaid home and community-based

services (HCBS). To gain access to most Medicaid LTSS services included in our study a person must meet level of care requirements based on a health and functional assessment at entry to the LTSS program and periodically thereafter.

Residential LTSS

Nursing facilities and assisted living facilities both provide care in residential settings to older people with functional disabilities. Nursing facilities deliver skilled nursing services in combination with Activities of Daily Living (ADL) assistance and cognitive and behavioral support. The majority of their admissions are from acute care hospitals and most residents have stays of less than 90 days with discharge to a private residence or through death. Residents of assisted living facilities also receive LTSS in residential care settings primarily through a combination of services labeled Customized Living. These services do not include nursing care; they instead focus on ADL assistance, including cognitive or behavioral support if necessary. Memory centers fall under the general heading of assisted living facilities. The majority of residents in both nursing and assisted living facilities have moderate to severe cognitive impairment; however, nursing facility residents tend to have greater ADL dependency and medical complexity. Although assisted living facilities are sometimes referred to as home and community-based services, we classify them separately because of the residential nature of the care being delivered. Medicaid pays for a bundling of personal care, meals, and ADL assistance in assisted living facilities but not the room and board component.

Home and Community Based Services

Home and community-based services included in our study provide ADL assistance, nursing or other supportive services to older people largely in their own homes or homes of relatives through the Medicaid Elderly Waiver program, Medicaid Personal Care Assistant and Community First Services and Supports (PCA/CFSS) program, or the Alternative Care Waiver program. The LTSS services offered through these programs include personal care, homemaker and chore services, home delivered meals, nursing care, adult days services, and other forms of daily living assistance in the home or community.

Data Limitations and Populations Excluded from the Study

Although our study covers major forms of LTSS financed publicly through the Medicaid program, we lacked information on care provided by family or other informal caregivers or paid for privately, whether alone or in combination with a public LTSS. The biggest gap in information would be for people not enrolled in Medicaid but in need of care and receiving it through private sources, including privately paid care in assisted living facilities or at home or from family members. Also, the study focusses on LTSS and only tangentially addresses acute care use. People in need of, or using LTSS, often have very high acute care needs and are heavy users of acute care services. These acute care services are generally paid for through the Medicare program which covers most people age 65 and older. A broader picture of the LTSS population, encompassing privately paid care, family and informal care and acute care use, was beyond the scope of the study.

Although the study includes older nursing facility residents not enrolled in Medicaid, no cost data were available for them. Thus, when reporting on LTSS costs, we include only nursing facility residents who were enrolled in Medicaid along with other Medicaid LTSS programs.

People aged 65 and older participating in a Disability Waiver were excluded from the study. They have significantly different characteristics and service use patterns than Elderly Waiver participants or other members of the LTSS population. Although it would have been informative to conduct a sub-group analysis of the older disabled population, it was not feasible within the scope of the study.

Racial and Ethnic Categories

The racial and ethnic categories in the report (described below) are based on information collected through the Medicaid administrative system. These categories are the same as those used in the US Census. We recognize that designations for "race" and "ethnicity" are overly simplistic. The concept of race has a questionable biological foundation. Even as cultural categorization, race is an anachronism. Moreover, there are important social and cultural differences between people in each of the arbitrarily defined racial and ethnic categories. A major limitation of the study is our inability to consider the rich cultural differences among ethnic groups.

Overview of Chapters

In Chapter 2 we present trends in LTSS use by type of LTSS and age and gender during the pre-COVID period (2016-2019), COVID period (2020-2021) and the post-COVID periods (2022-June 2023). By comparing trends in LTSS use between periods we were able to estimate alternative COVID-19 effects on LTSS use and the demographic characteristic of users. Chapter 3 shows the large increase in Medicaid LTSS costs between the pre-COVID and post-COVID periods. These estimates of Medicaid LTSS use and costs serve as a starting point for future projections. In Chapter 4 we present straight line projections of LTSS service utilization and costs from 2025-2035 for different LTSS scenarios for future LTSS use -- following a post-COVID pattern or steady return to higher pre-COVID levels. We also introduced assumptions about rates of LTSS cost inflation (2.5% and 5%) and Medicaid LTSS spending growth. These projections account for population growth, changes in the composition of the older population, and cost inflation. Chapter 5 presents findings from a micro-simulation where we simulate future experience -- LTSS service use and cost, transitions between LTSS settings, Medicaid conversion, and mortality. We simulate the experience of different cohorts of people aged 65 and older beginning in 2025, 2030, and 2035. These microsimulations test alternative scenarios for LTSS use and cost inflation

Project Team

Greg Arling and Zachary Hass, Purdue University School of Nursing, did much of the analysis and were responsible for writing the Phase 2 report. Mark Woodhouse, University of Minnesota School of Public Heath managed the project data and constructed analysis data sets. Lynn Blewitt, University of Minnesota's State Health Access Data Assistance Center (SHADAC), assisted with Minnesota population data and interpretation of findings.

The authors are solely responsible for the opinions expressed and any errors or omissions in the report.

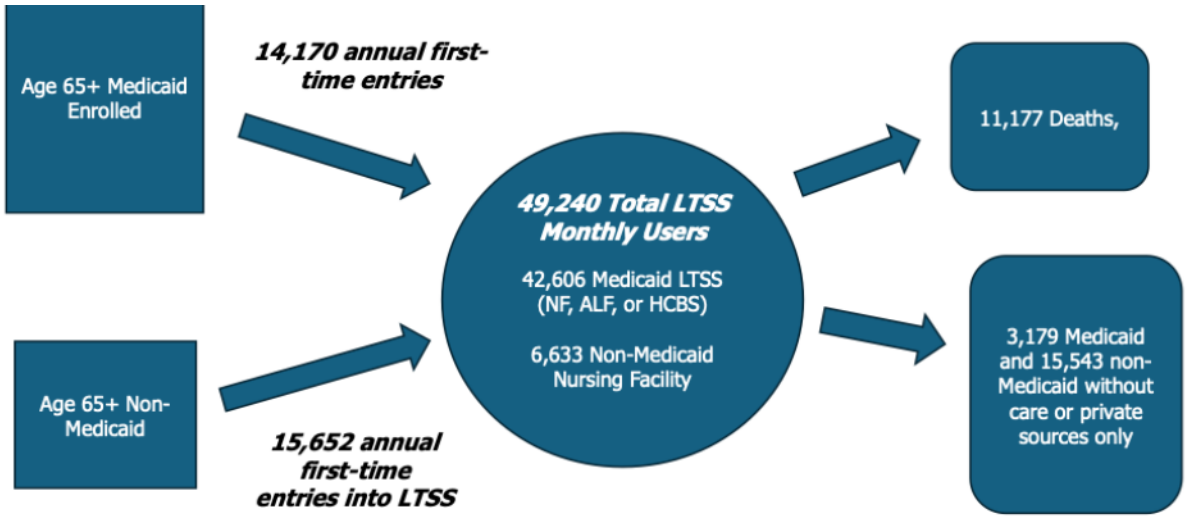
Chapter 2 Trends in LTSS Use by Type of LTSS, Age, and Gender

The findings in this chapter cover initial entry into and exit from the LTSS system, use of care in different LTSS settings and programs, and demographic characteristics of LTSS users. We draw comparison of trends in LTSS across months, calendar quarters, and years over three periods: prior to the COVID-19 pandemic (2016-2019), during the pandemic (2020-2021), and when it subsided (2022-mid-2023).

Entry, Use, and Exit from the LTSS System

During 2022-2023, total population of Minnesotan's age 65 and older was slightly over 1 million people. Annually during that period, nearly 30,000 people (3% of the aged population) entered the LTSS system for the first time (Figure 2.1). They began using care in a nursing facility, Medicaid services in an assisted living facility or other Medicaid home and community-based services. The average number of LTSS users per month was nearly 50,000, or about 5% of the total Minnesota population age 65 and older. Annually during the same period about the same number exited the LTSS system: 11,000 people died and 19,000 stopped using LTSS. About 15,000 people exited the LTSS system alive without becoming Medicaid enrolled. Many of them entered a nursing facility for post-acute care and then after a short stay, they returned to a community setting with no care or privately paid care.

Figure 2.1 Annual Number of People Entering LTSS for the First Time, and Total Using LTSS, and Total Exiting LTSS (2022-2023)



New Entries into the LTSS System by Period

The number of new entries in each period (pre-COVID, COVID, and post-COVID) by the setting to which they entered is shown in Table 2.1, Figure 2.2, and Figure 2.3. The total number of annual new entries declined precipitously between pre-COVID and COVID periods, from 35,609 to 26,879, and then recovered somewhat during the post-COVID period to 29,822. The majority of new entries in all three periods entered a nursing facility without being Medicaid enrolled. Much smaller numbers of Medicaid-enrollees entered nursing facilities in each period. New nursing home admissions, both Medicaid and non-Medicaid, dropped in the COVID period and then increased during the post-COVID period but remained well below the pre-COVID levels. In contrast, new entries into assisted living facilities and home and community-based services, while dropping during the COVID period, returned to near pre-COVID levels in the post-COVID period.

Table 2.1 Annual New Entries into the LTSS System by Period

Entry to	Pre-COVID (2016-2019)	COVID (2020-2021)	Post-COVID (2022-2023)
MA Nursing Facility	2,378	1,634	1,821
MA Assisted Living Facility	1,470	1,208	1,409
MA Home & Community Based Services	11,613	9,161	10,940
Non-MA Nursing Facility	20,148	14,876	15,652
All LTSS	35,609	26,879	29,822

Note: MA = Medicaid enrolled

Figure 2.2 Total Annual New Entries into the LTSS System by Period

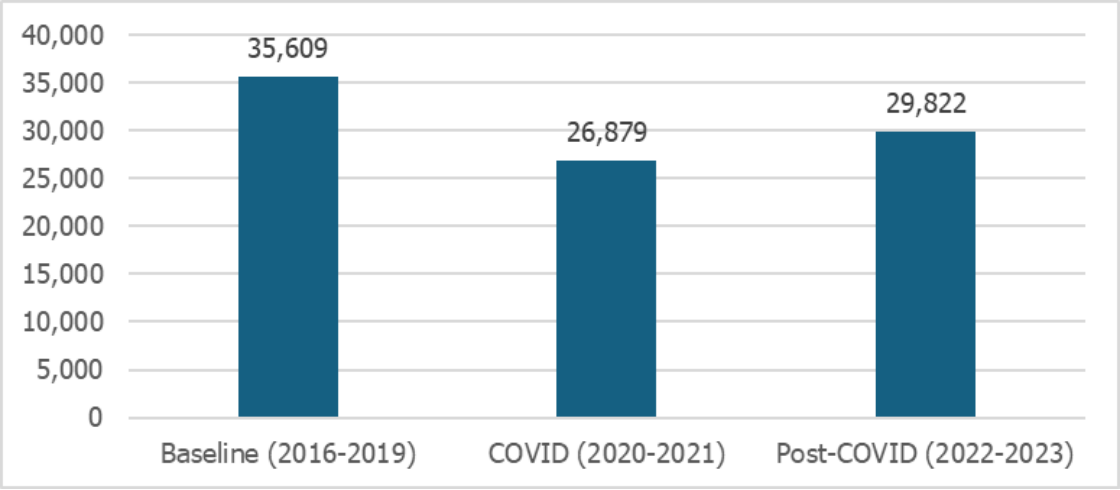
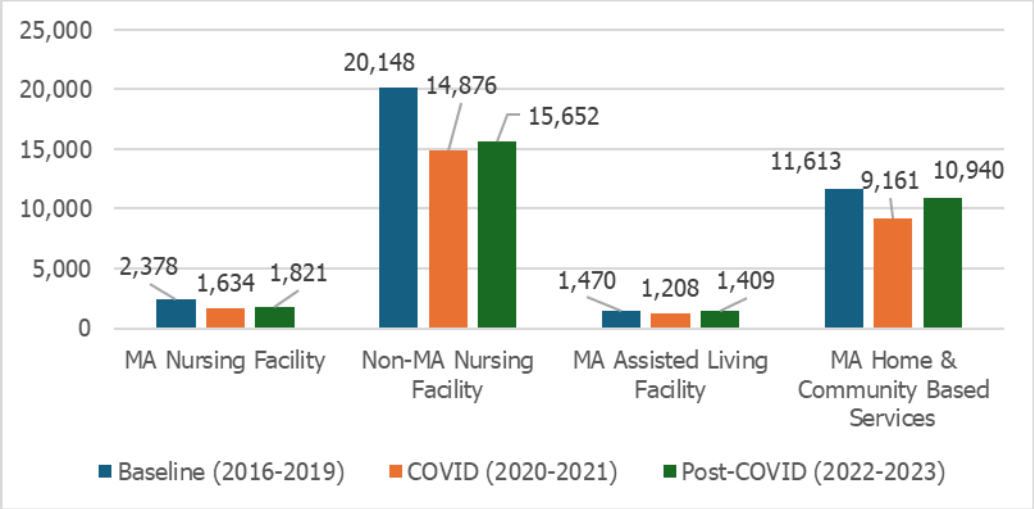


Figure 2.3 Annual New Entries into the LTSS System by LTSS Type and Period



Exits from the LTSS System by Period

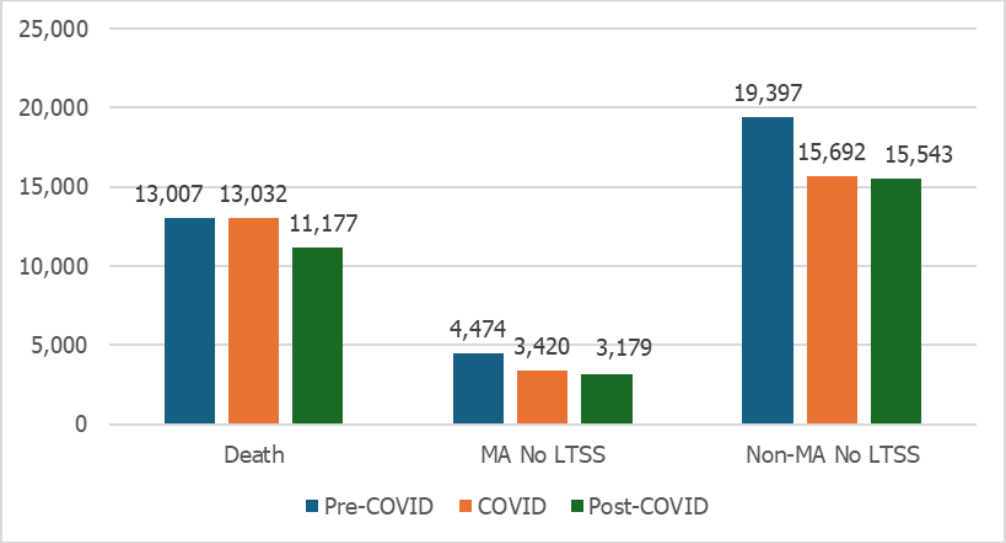
Approximately the same number of people exited the LTSS system each year as entered that year. The majority of people leaving LTSS left without being enrolled in Medicaid (Table 2.2 and Figure 2.4) Nearly all of these people had entered the LTSS system not enrolled in Medicaid, and most had relatively short stays of less than 30 days. Deaths accounted for the next highest number of exists followed by a relatively small percentage of people exiting while Medicaid enrolled. The numbers exiting the LTSS system declined precipitously during the COVID period. Because fewer people entered nursing facilities during the COVID and post-COVID periods, we would expect fewer discharges. Deaths as a percentage of all exits rose during the COVID period as would be expected because of the higher COVID-related mortality rates (see LTSS Mortality section below).

Table 2.2 Annual LTSS Exits – Deaths or Discharges to No LTSS by Period

Period	Death	Exit to MA, No LTSS	Exit to Non-MA, No LTSS	All Exits
Pre-COVID	13,007	4,474	19,397	36,878
COVID	13,032	3,420	15,692	32,144
Post-COVID	11,177	3,179	15,543	29,899
Pre-COVID	35%	12%	53%	100%
COVID	41%	11%	49%	100%
Post-COVID	37%	11%	52%	100%

Note: MA = Medicaid enrolled

Figure 2.4 Annual LTSS Deaths or Discharges to No LTSS by Period



Monthly of Care by LTSS Type and Period

Viewing the LTSS system from the perspective of average monthly users presents a different picture of the LTSS population (Table 2.3, Figure 2.5, and Figure 2.6). Whereas most new entries to LTSS were through the nursing facility, the largest number of monthly LTSS users were receiving care either through home and community-based services (HCBS) or in assisted living facilities. This pattern held during all three periods, despite sharp declines in nursing facility users between the pre-COVID and COVID periods.

The number of all monthly LTSS users declined from 51,247 in the pre-COVID period to 48,965 in the COVID period, and the number remained steady at 48,867 during the post-COVID period. Underlying the overall figures are major differences in use of care between types of LTSS. The number of nursing facility residents, both Medicaid and non-Medicaid, dropped sharply between pre-COVID and COVID periods. In contrast, the number of HCBS users held steady during the COVID period and then increased during the post-COVID period. The pattern for assisted living residents was more complicated. Underlying the average for the 2020-2021 COVID period is a steady number of assisted living residents in 2020 and then a drop in 2021. This was followed by a sizable recovery in the 2022-2023 post-COVID period. The following section describes these annual trends.

Table 2.3 Number of LTSS Users by Type of LTSS and Period

	Pre-COVID (2016-2019)	**COVID** (2020-2021)	**Post-COVID** (2022-2023)
MA Nursing Facility (All LOS)	13,034	10,933	10,063
Non-MA Nursing Facility (All LOS)	8,080	6,735	6,619
MA Assisted Living Facility	9,169	9,391	9,718
MA Home & Community Based Services (All HCBS)	20,964	21,906	22,476
All LTSS	51,247	48,965	48,867

Note: MA = Medicaid enrolled

Figure 2.5 All LTSS Users per Month by Period

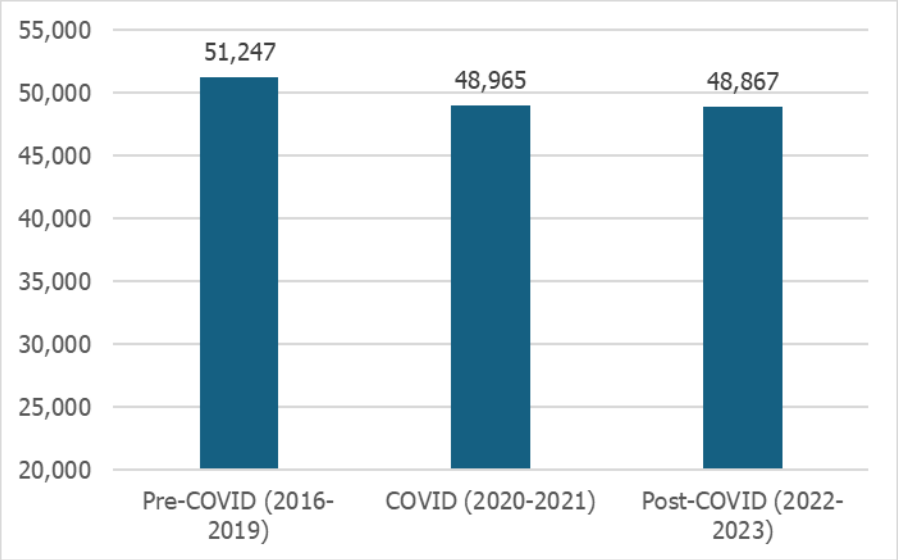
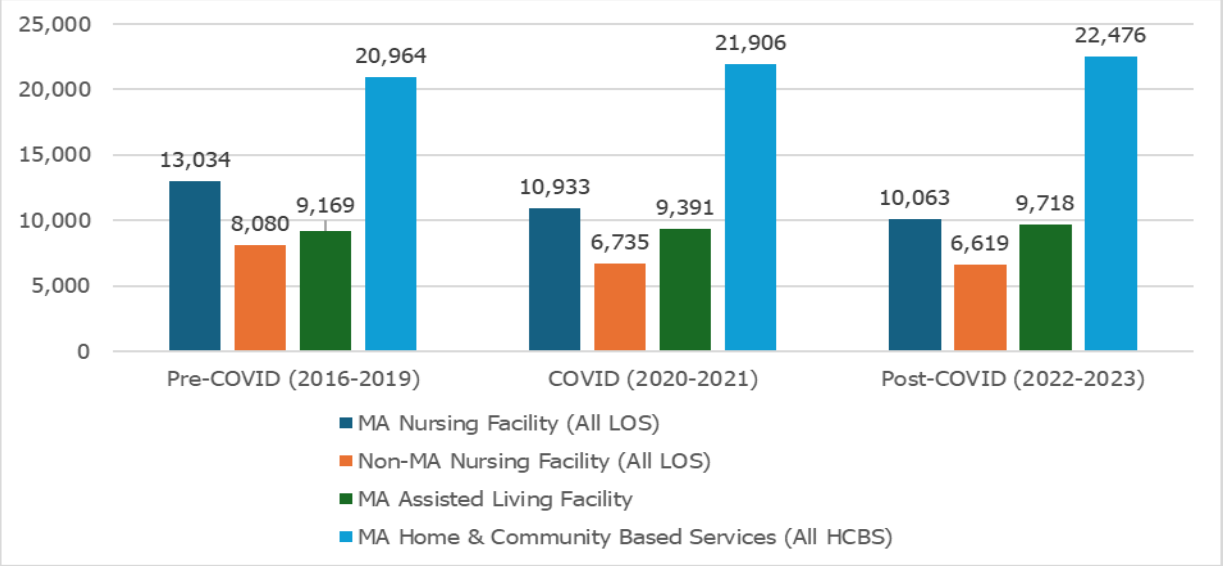


Figure 2.6 Monthly LTSS Users by Type and Period



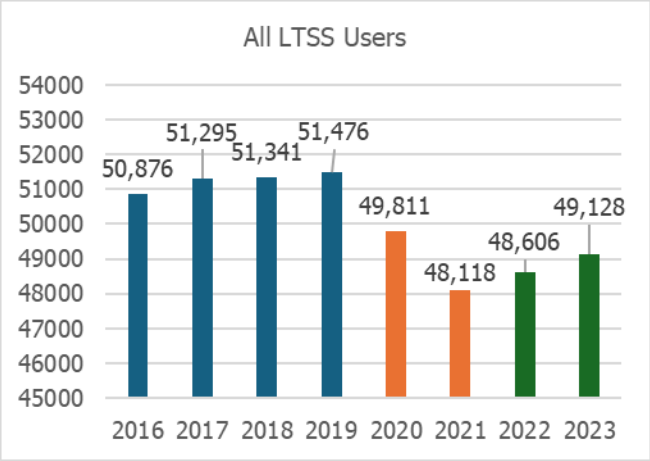
Trends in LTSS Use by Year

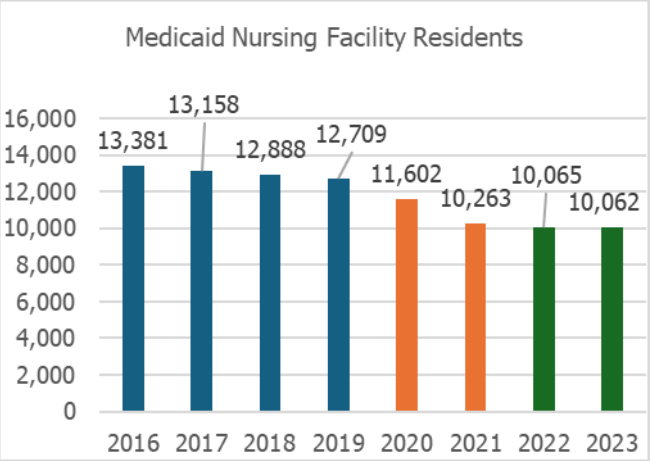
Changes in use of LTSS between periods can be examined more closely by tracking use over time. We wanted to determine if trends in LTSS use during the post-COVID period might be a continuation of trends in use during the pre-COVID period and what impact COVID might have had on post-COVID trends. Panel 2.1 shows the average number of monthly LTSS users annually from 2016-2023. More detailed graphs with average number of monthly users by calendar quarter are in the Appendix, Panel A1.

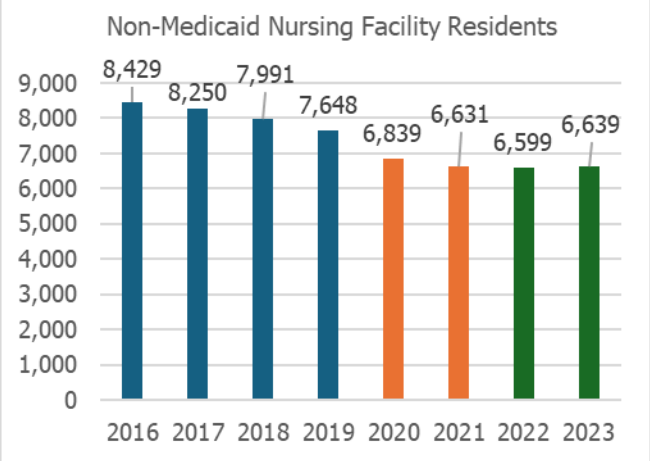
Overall, the number of monthly LTSS users increased steadily through the pre-COVID years (2016 through 2019), declined sharply in the COVID years (2020 and 2021) and then headed upward in the post-COVID years (2022 and the first half of 2023), (Panel 2.1). The trends in monthly users by type of LTSS displayed very different patterns. While the numbers of nursing home users displayed very little recovery in the post-pandemic period, the use of assisted living facilities and HCBS increased in the post-pandemic period.

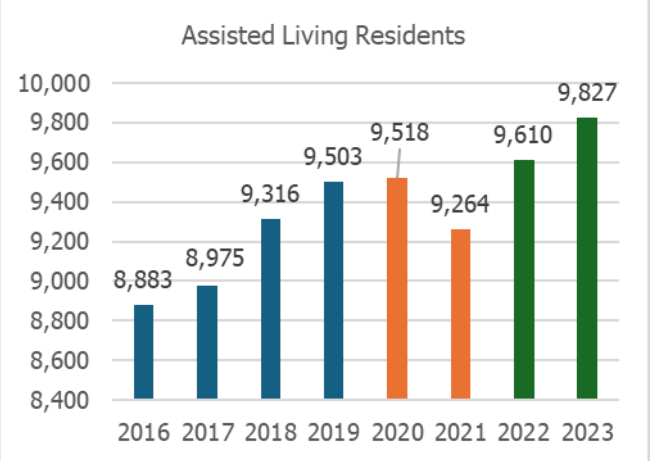
Nursing facility use by both Medicaid and non-Medicaid residents trended downward in the years leading up to the pandemic, declined sharply during the pandemic years, and then continued at the same low level during the post-pandemic years. In contrast, the trend in the number of monthly assisted living facility residents was steadily upward in the pre-COVID years, experienced a decline during the COVID years, and then displayed an upward trend during the post-COVID years. The trend in number of HCBS participants was steadily upward during the pre-COVID years, remained constant during the COVID years, and then continued upward during the post-COVID years.

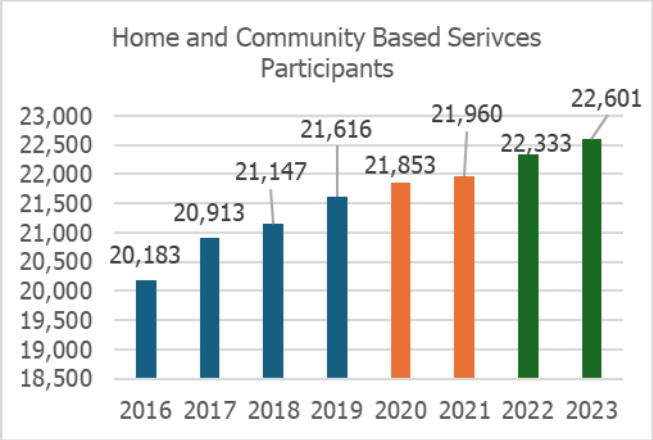
Panel 2.1 Number of Average Monthly LTSS Users by LTSS Type and Year









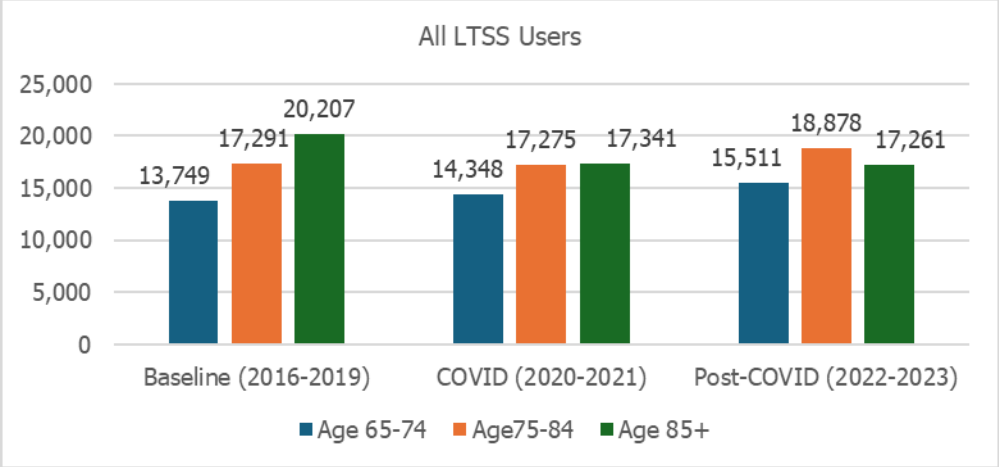


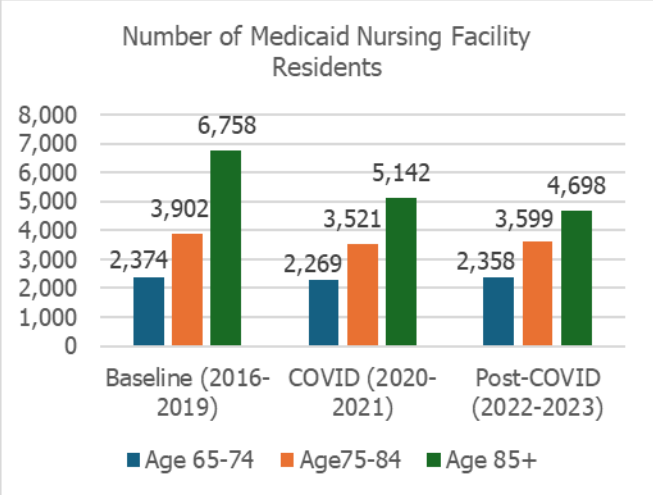
Trends in Demographic Characteristics Across Periods

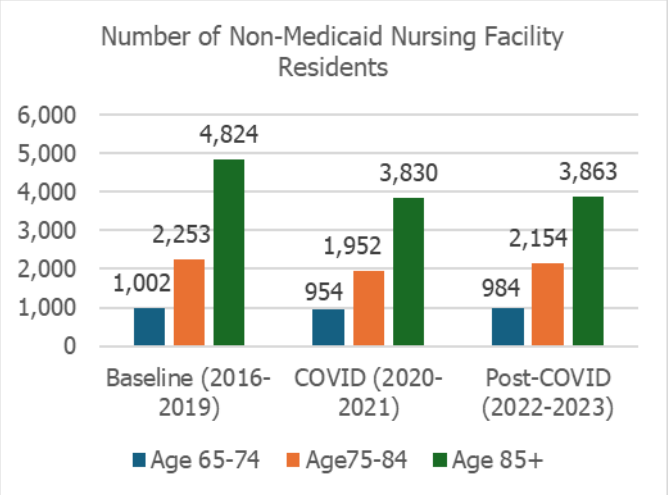
LTSS Users by Age Group and Period

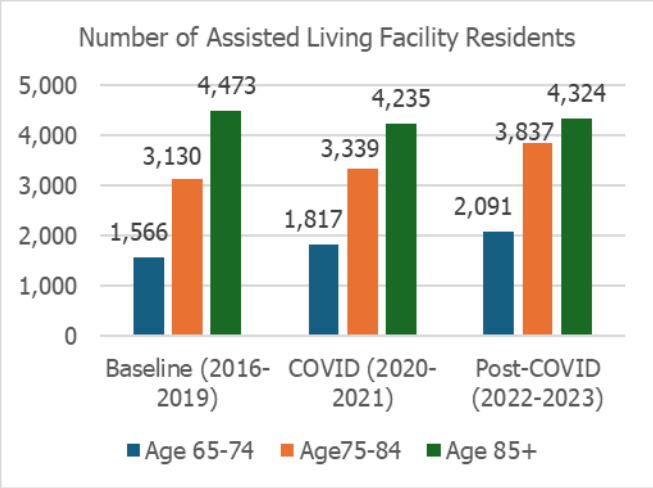
Panel 2.2 shows the number, and Panel 2.3 the percentages, of LTSS users by age group in the Pre-COVID, COVID and Post-COVID periods. Across all three periods, nursing facilities had the oldest residents, assisted facility residents were somewhat younger and HCBS users were the youngest. However, the LTSS population tended to become younger over time. Both the total number and percentage of LTSS users age 85 and older declined steadily across periods. In contrast, the number and percentage of LTSS users age 65-84 steadily increased across periods. More detailed figures are in the Appendix Table A2.

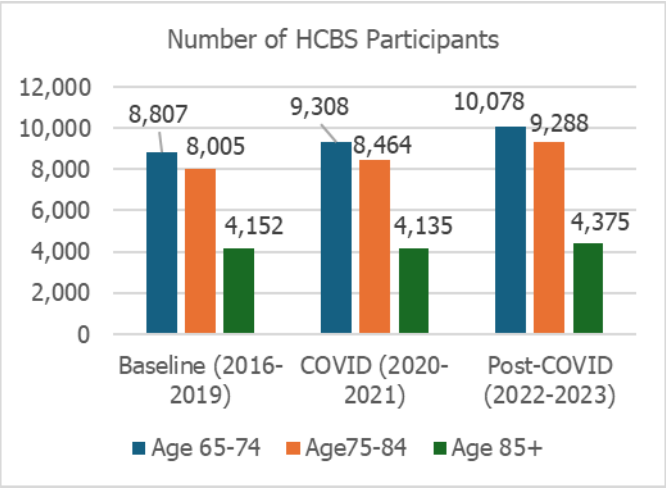
Panel 2.2 Number of Monthly LTSS Users by Age and Period



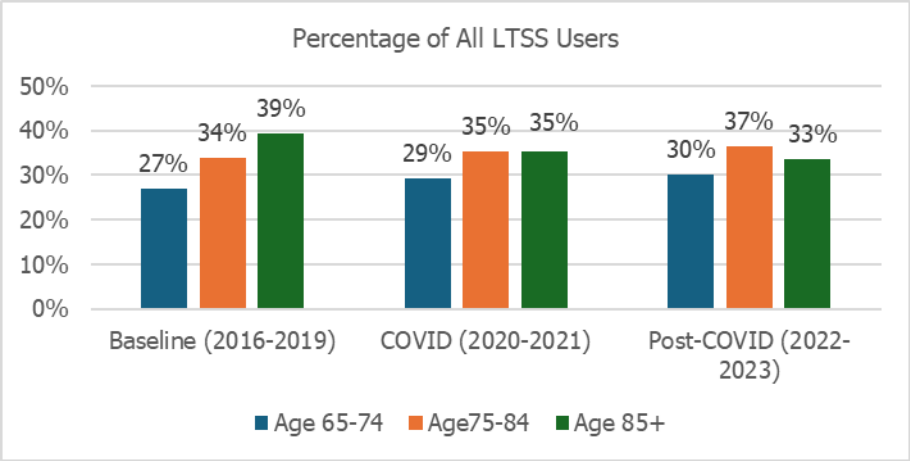


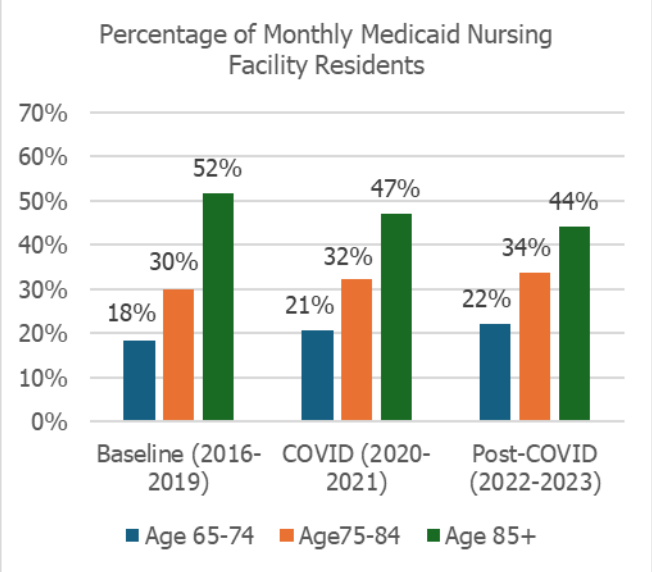


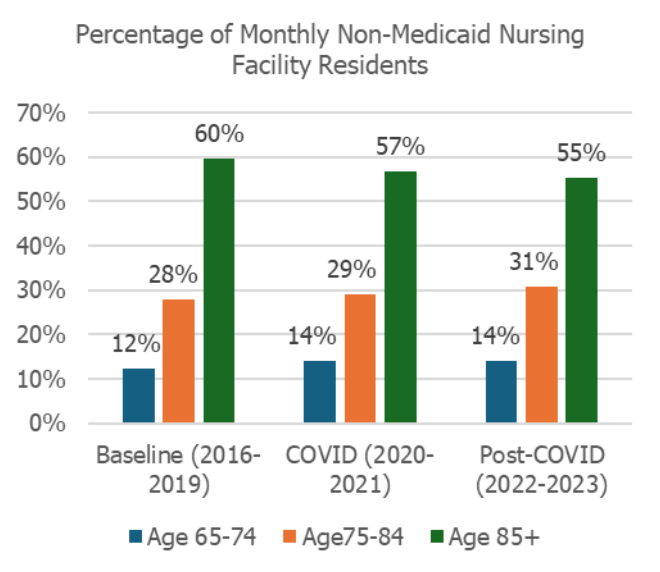


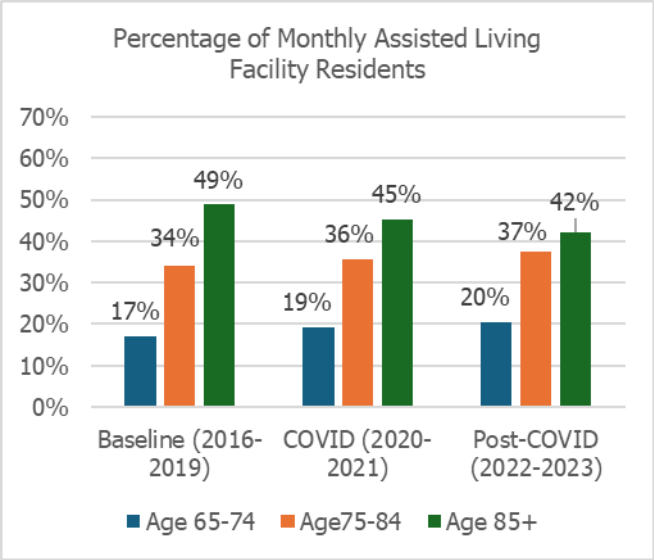


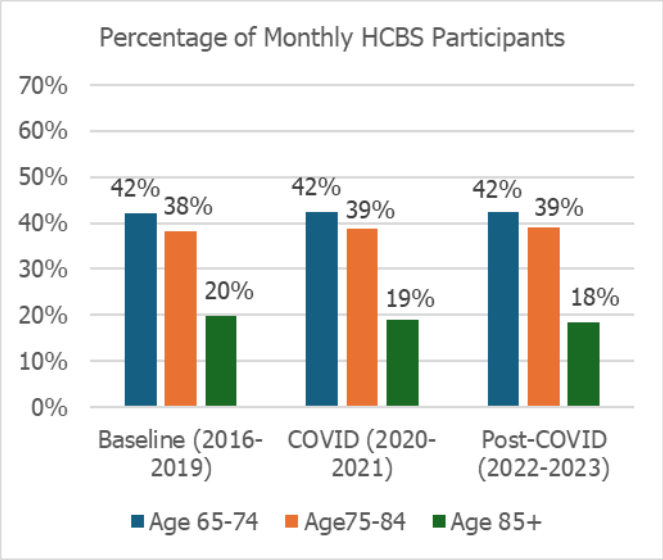
Panel 2.3 Percentage of LTSS Users by Age and Period







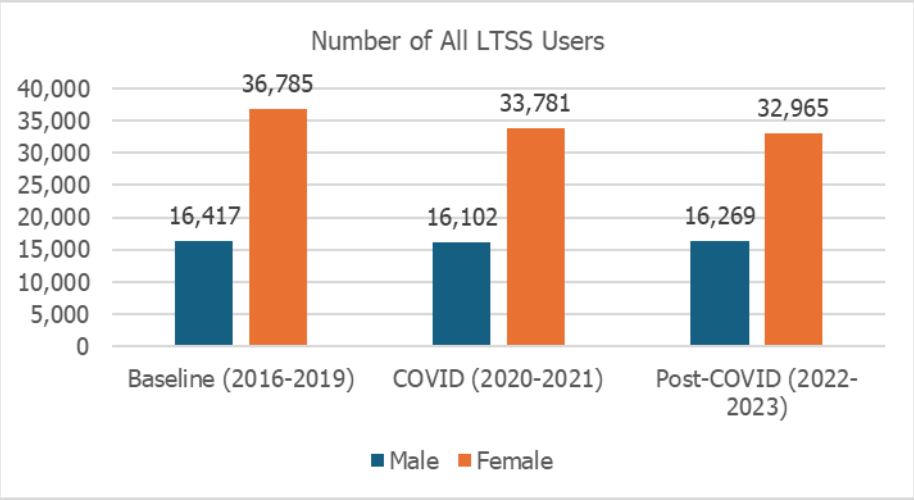


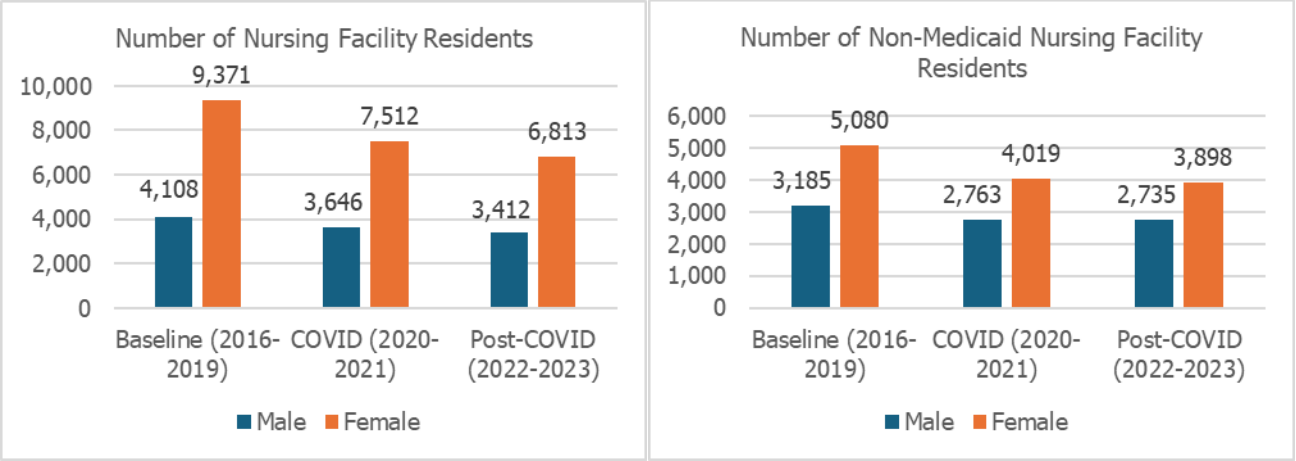


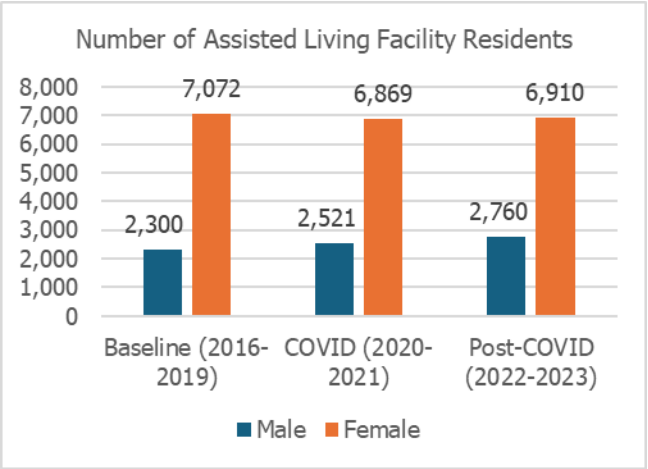
LTSS Users by Gender and Period

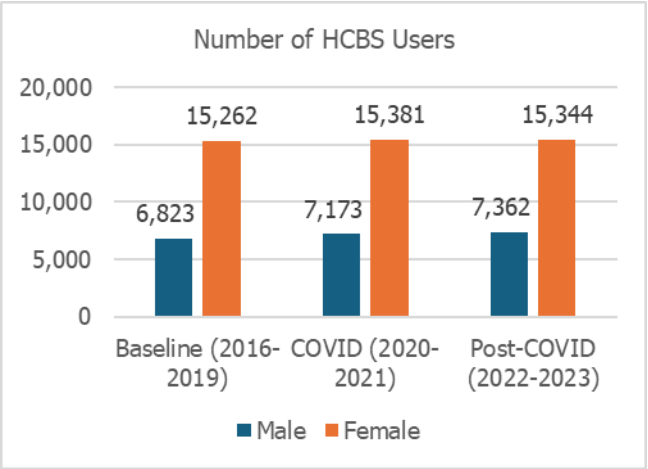
Women outnumbered men in all LTSS settings during all three periods (Panel 2.4 and Panel 2.5). The percentage of females was lowest among nursing home users not enrolled in Medicaid, and highest among assisted living facility residents. The number of female LTSS users declined across COVID periods with most of the decline occurring among female nursing facility residents. On the other hand, the percentage of females did not change appreciably across periods in any of the other LTSS settings. More detailed figures are in the Appendix Table A2.

Panel 2.4 Number of LTSS Users by Gender and Period

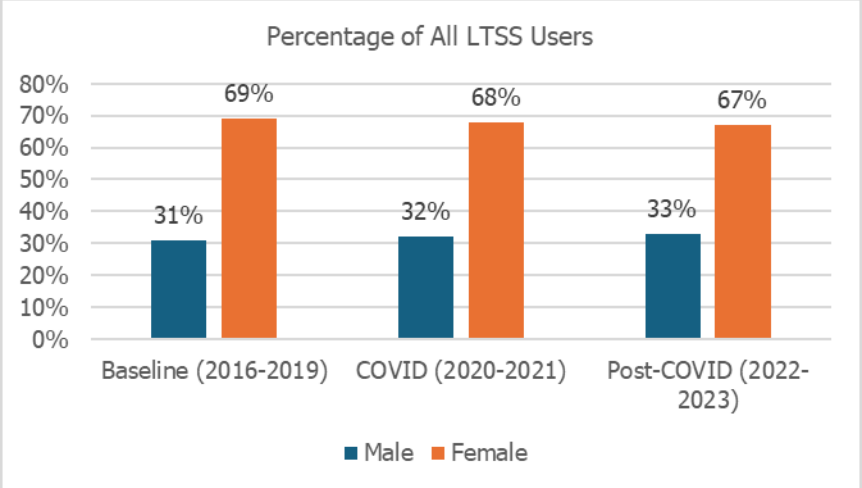


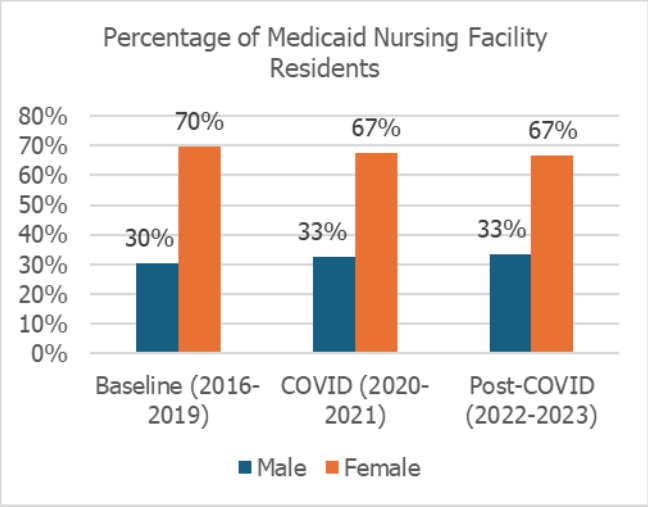


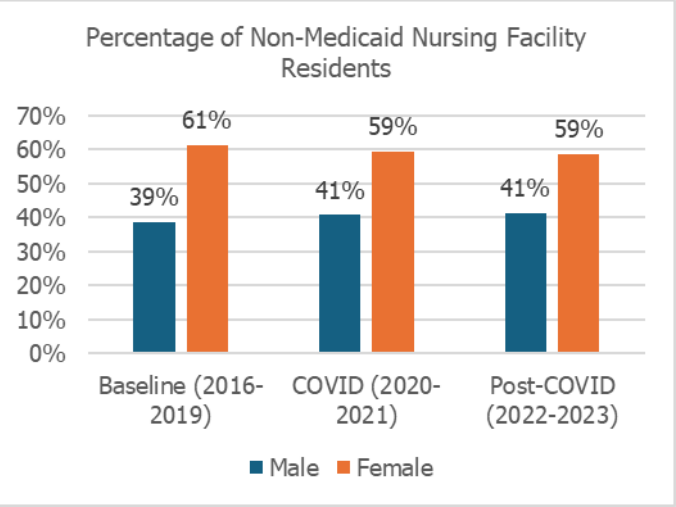


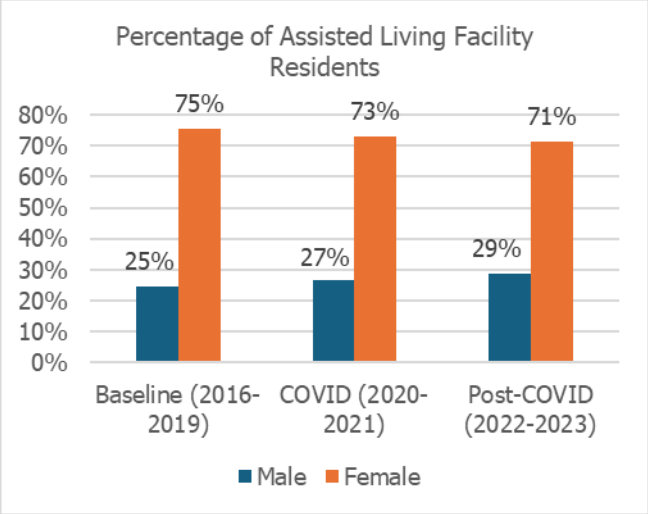


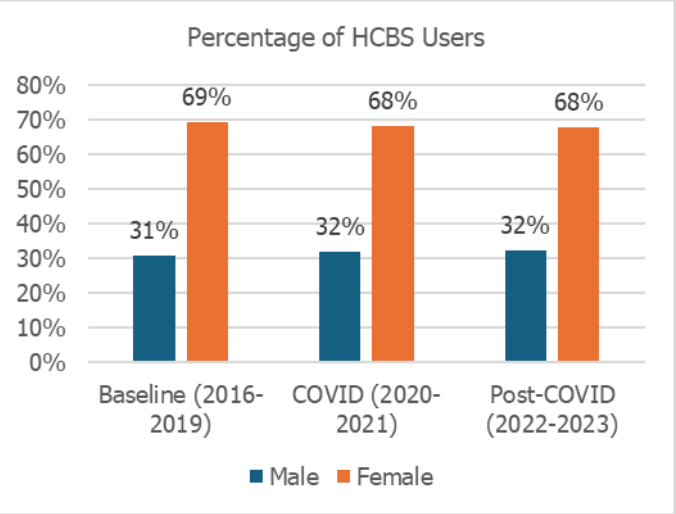
Panel 2.5 Percentage of All LTSS Users by Gender & Period











Trends in Mortality by LTSS Type and Age Group

As expected, the rates of all-cause mortality by LTSS users increased during the COVID period, both overall and by LTSS type. Figure 2.7 and Figure 2.8 show trends in average death rates per 1000 LTSS users by calendar quarters from quarter 1 2016 through quarter 2 2023. The mortality rates display a seasonal trend with a low during quarter 3 and a high during quarter 1 of each year. There was a sharp upward spike during quarter 4 of 2020 with the Omicron wave of COVID-19 (Figure 2.7). The quarter 1 2020 spike was most pronounced among nursing facility and assisted living residents (Figure 2.8). Also, the death rates displayed an upward trend in quarter 2 of 2020, the first months of the epidemic. Nursing facility residents not enrolled in Medicaid experienced the greatest increase in death rates, followed by nursing facility residents enrolled in Medicaid and assisted living facility residents. Trends in death rates among HCBS users displayed only minimal change during the COVID period.

Figure 2.7 Monthly Deaths/1,000 for All LTSS Users (Averaged Across Calendar Years)

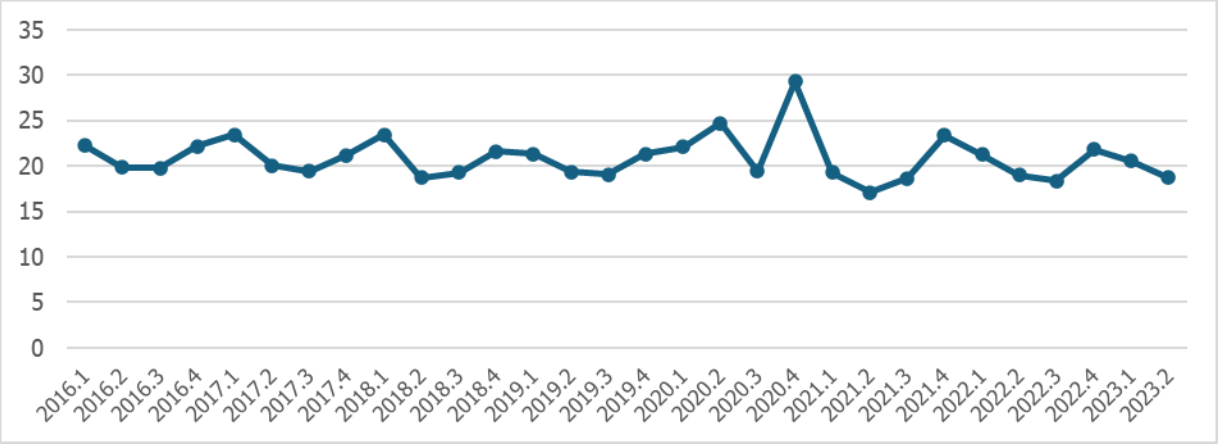
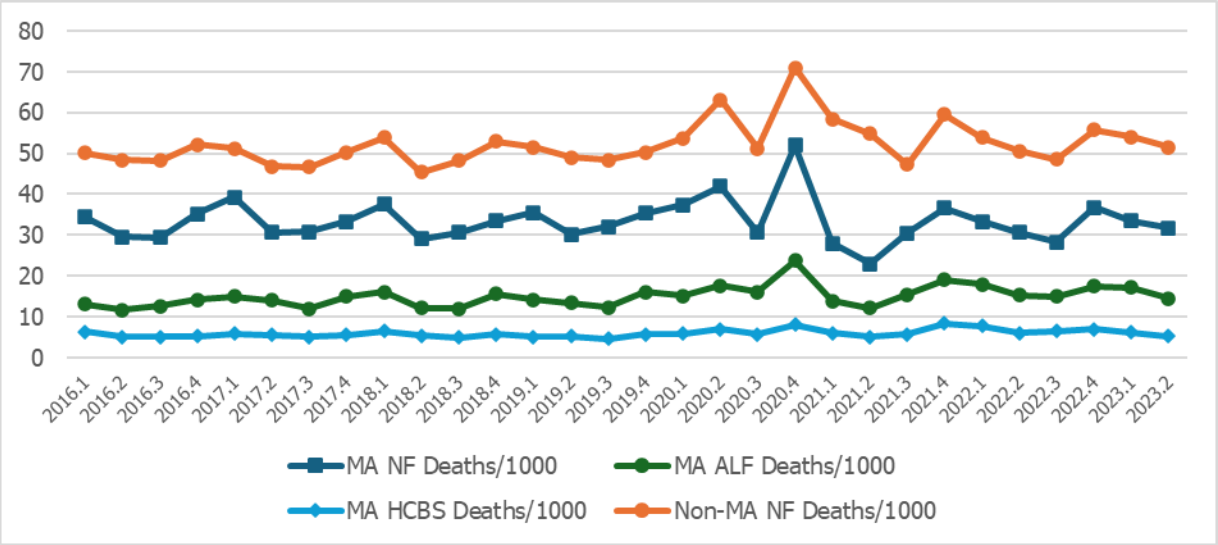
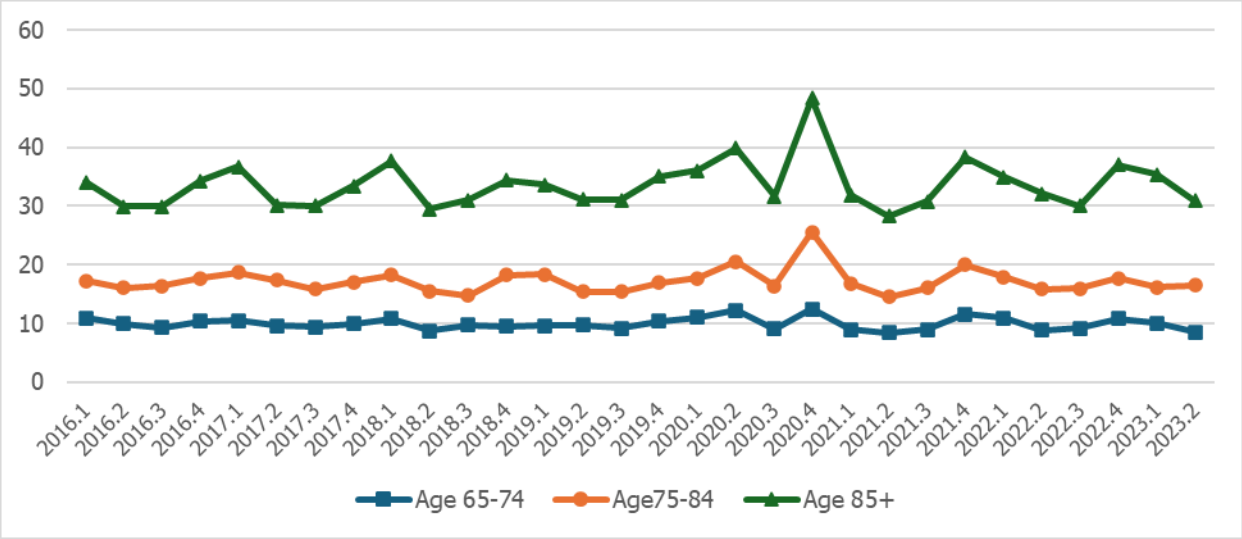


Figure 2.8 Monthly Deaths/1,000 for LTSS Users by Type of LTSS (Averaged Across Calendar Quarters)



Among LTSS users, mortality was strongly related to age with people age 85 and older having a much higher death rate than younger age groups (Figure 2.9). Also, the spike in death rates during the COVID period was highest among people age 85 and older, which is an indication of their heightened risk of severe symptoms and death compared to younger age groups. Table A1 in the Appendix contains detailed mortality figures by LTSS type.

Figure 2.9 Monthly Deaths/1,000 for LTSS Users by Age (Averaged Across Calendar Quarters)



Rates of LTSS Use Accounting for Growth in Minnesota's Older Population

Estimating Rates of LTSS Use

Estimating rates of LTSS use during the baseline period (2016-2023) establishes the context for the LTSS projections in the next section of the report. Underlying the numbers of people entering the LTSS system is the change in the total older population at risk of LTSS. When understanding historical trends in LTSS, we need to consider not only change in use of care each month or year but also change in the total population at risk of using care. When making projections about LTSS we must consider both the future population at risk of LTSS and the future rate of LTSS use among people at risk at each point in time. For example, if the rate of LTSS use remains constant, we would expect the number of LTSS users to increase each year as the population at risk increases.

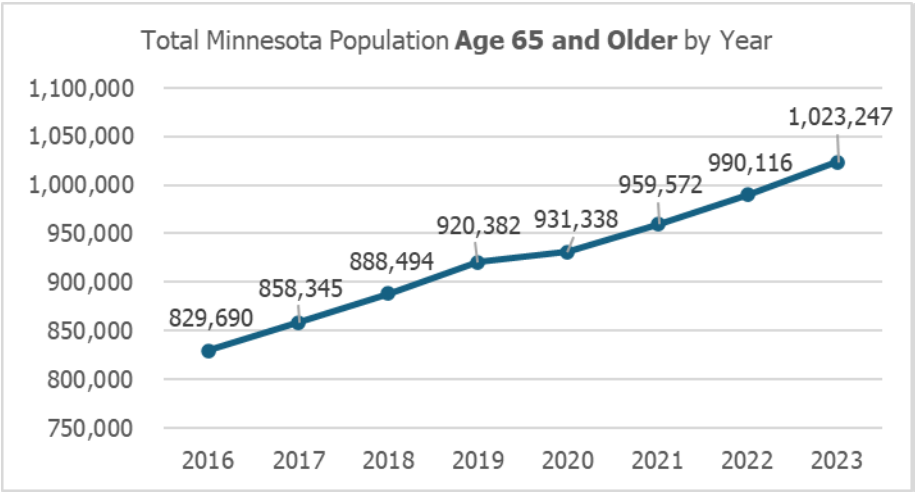
Straight-line projections about LTSS use, described in the next section of the report, rely on assumptions about: (1) growth each year in the population at risk for LTSS by age group (65-74, 75-84, and Age 85+), gender (male or female) and types of LTSS (nursing facility, assisted living, and HCBS); and (2) future rates of LTSS use by these same categories of users. Future population growth is based on State Demographic projections for the Minnesota older population.[7] We will use the data at hand, LTSS use from 2016-2019 and from 2022-2023, to estimate future LTSS use under the assumption that past experience can inform what will happen in the future.

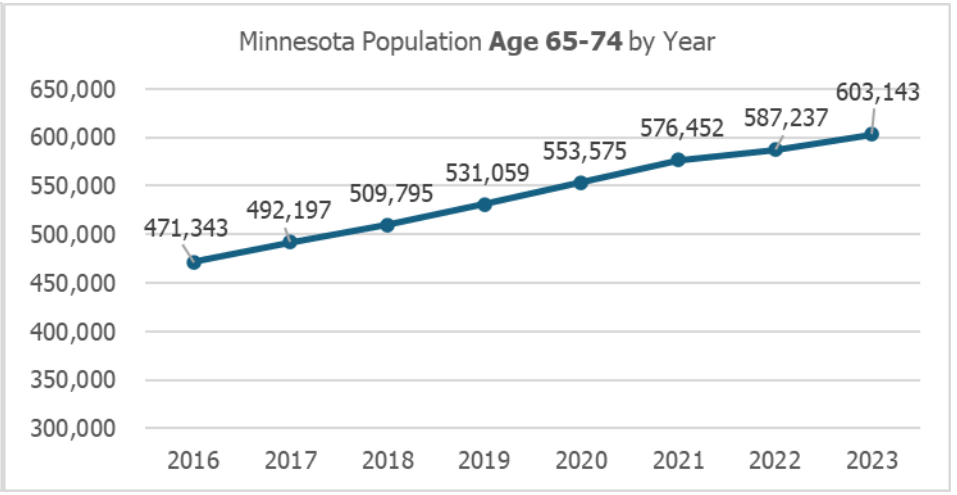
Minnesota Population by Age from 2016-2023

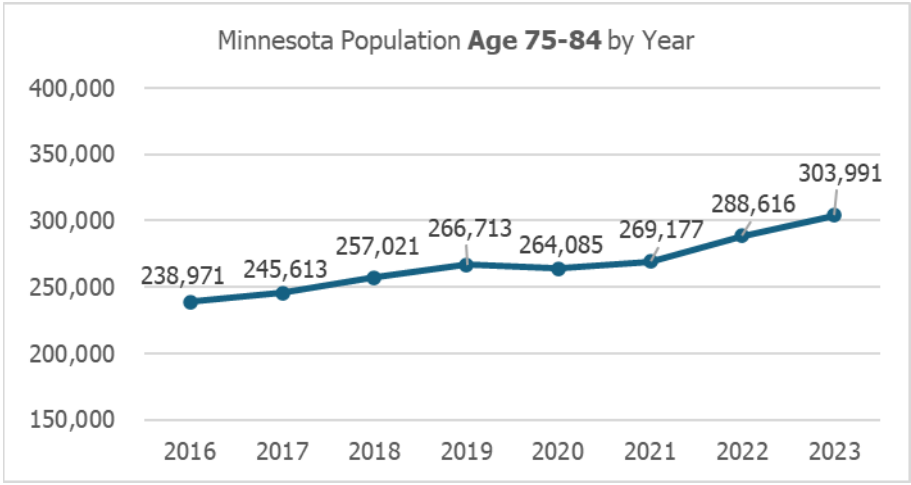
Panel 2.6 shows the estimated number of older people in Minnesota on January 1 of each year from 2016-2023 by age group and gender. All three age groups, both males and females, show steady growth from 2016-2019. In the COVID period (2020 and 2021), the population age 65-74 continues to grow at the pre-COVID rate; the population age 75-84 plateaus; and the population age 85 and older declines. These changes in growth patterns are a reflection of the population losses due to COVID-19 mortality, which had its greatest effect on the 85 and older age group. Males and females in these age groups followed a similar pattern. By 2022, all three age groups resumed their pre-COVID growth rates. These patterns in population growth over time have implications for the risk of LTSS and rates of LTSS use. Appendix Table A4 contains detailed figures on the total population by age and gender each year from 2016-2023.

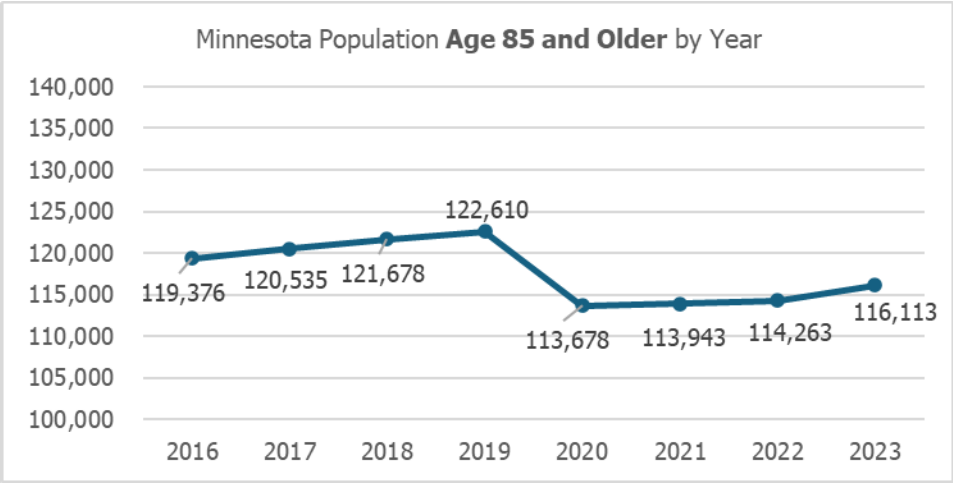
[7] https://mn.gov/admin/demography/data-by-topic/population-data/

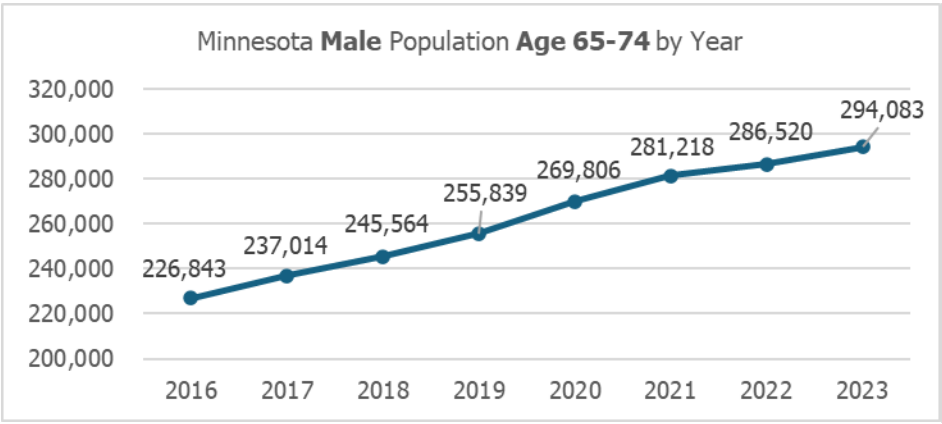
Panel 2.6 Minnesota Older Population 2016-2023 by Age, Gender, and Year

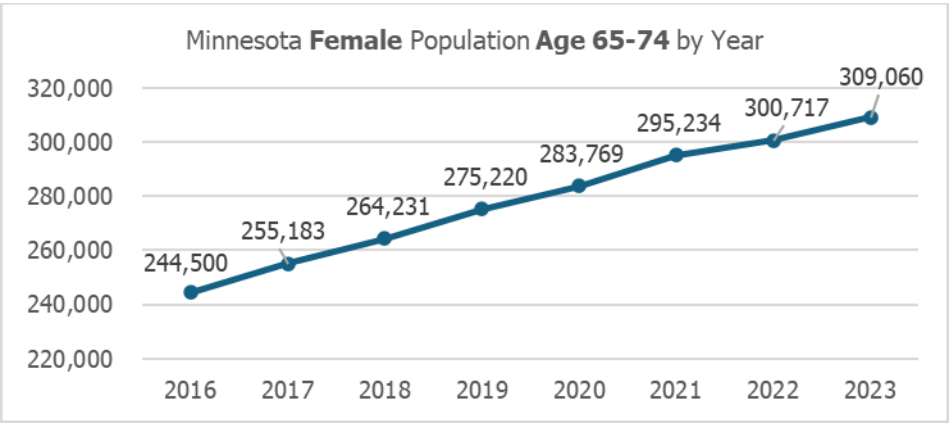


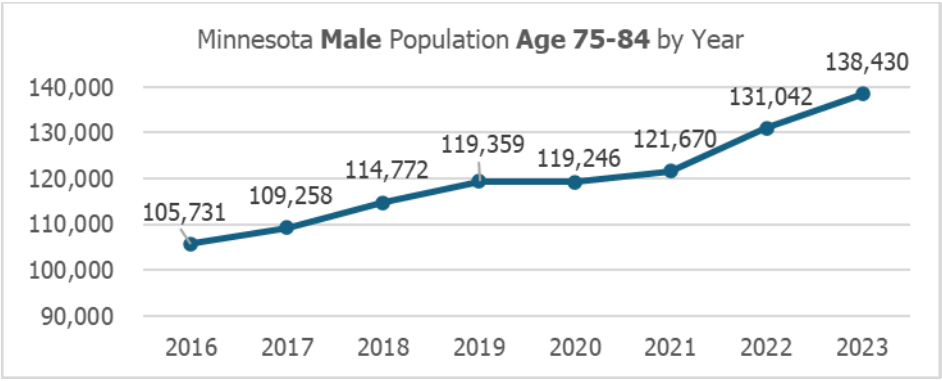


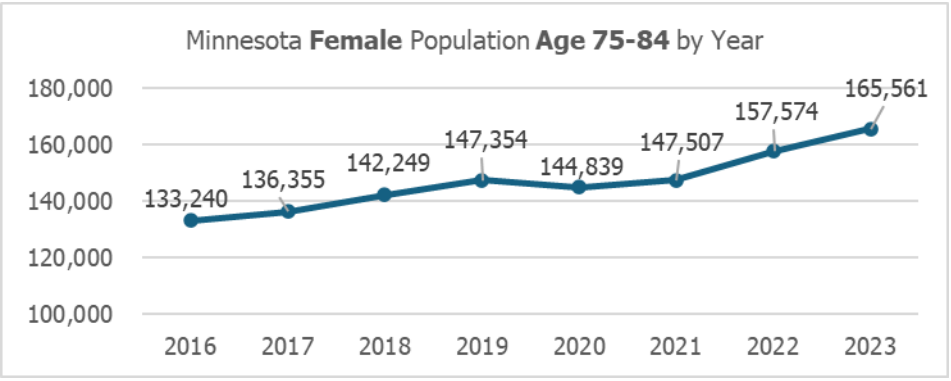


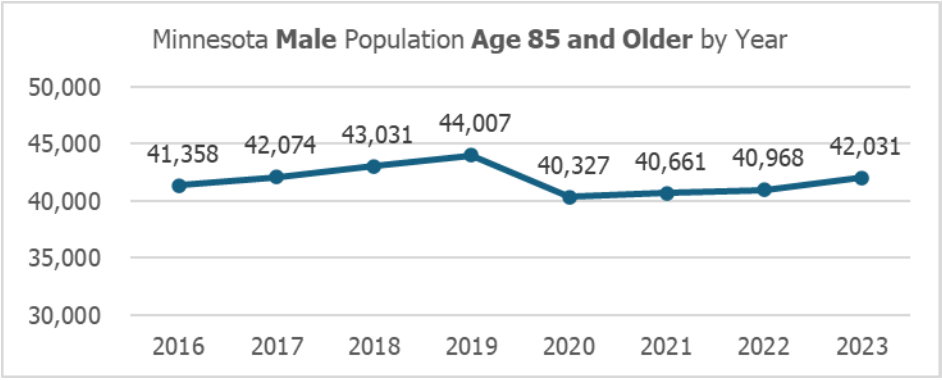


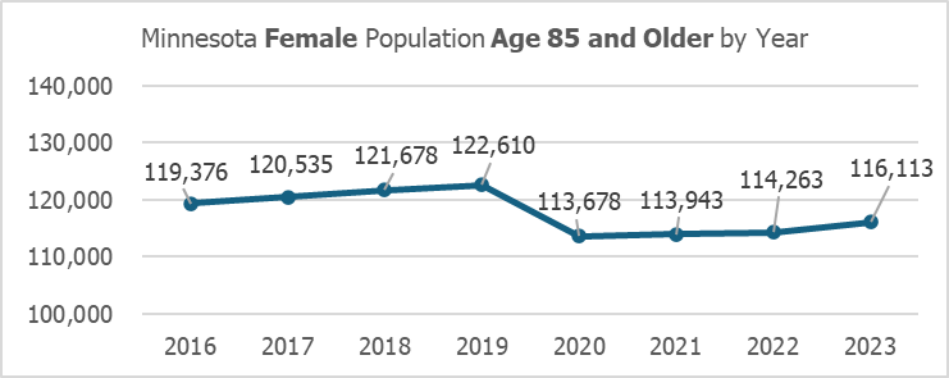

Minnesota **Male** Population **Age 65-74** by Year
320,000
300,000
280,000
260,000
240,000
220,000
200,000
226,843
237,014
245,564
255,839
269,806
281,218
286,520
294,083
2016
2017
2018
2019
2020
2021
2022
2023


Minnesota **Female** Population **Age 65-74** by Year
320,000
300,000
280,000
260,000
240,000
220,000
244,500
255,183
264,231
275,220
283,769
295,234
300,717
309,060
2016
2017
2018
2019
2020
2021
2022
2023


Minnesota **Male** Population **Age 75-84** by Year
140,000
130,000
120,000
110,000
100,000
90,000
105,731
109,258
114,772
119,359
119,246
121,670
131,042
138,430
2016
2017
2018
2019
2020
2021
2022
2023


Minnesota **Female** Population **Age 75-84** by Year
180,000
160,000
140,000
120,000
100,000
133,240
136,355
142,249
147,354
144,839
147,507
157,574
165,561
2016
2017
2018
2019
2020
2021
2022
2023


Minnesota **Male** Population **Age 85 and Older** by Year
50,000
45,000
40,000
35,000
30,000
41,358
42,074
43,031
44,007
40,327
40,661
40,968
42,031
2016
2017
2018
2019
2020
2021
2022
2023


Minnesota **Female** Population **Age 85 and Older** by Year
140,000
130,000
120,000
110,000
100,000
119,376
120,535
121,678
122,610
113,678
113,943
114,263
116,113
2016
2017
2018
2019
2020
2021
2022
2023

Rates of LTSS Use from 2016-2023

Table 2.4 and Panel 2.7 show rates of LTSS use per 1,000 people in the Minnesota population overall and by LTSS type, age and gender. The numbers of users per year are contained in Table A3 in the Appendix. These rates are calculated by dividing the number of monthly users of LTSS by the number of people in the general population according to their age group and gender. Rates take into account changes in the population each year. As the population grows, the number of people at risk of entering LTSS increases.

Table 2.4 summarizes the rates per 1000 by age and LTSS type in the beginning of the pre-COVID period (2016) through the full year of the post-COVID period (2022). The overall rate of nursing facility utilization declined by 59% for Medicaid residents and 52% for non-Medicaid residents. The rate trended steadily downward for all three age groups. The overall rate of assisted living facility utilization declined by 10%. However, the decline was mainly among people aged 85 and older; the rate increased by small percentages for residents aged 65-74 and 75-84. The overall rate of utilization for participants in home and community-based service programs declined by 8%. The rate among HCBS participants aged 85 and older increased by a small percentage, while the rate among participants aged 65-74 and 75-84 declined by a small percentage.

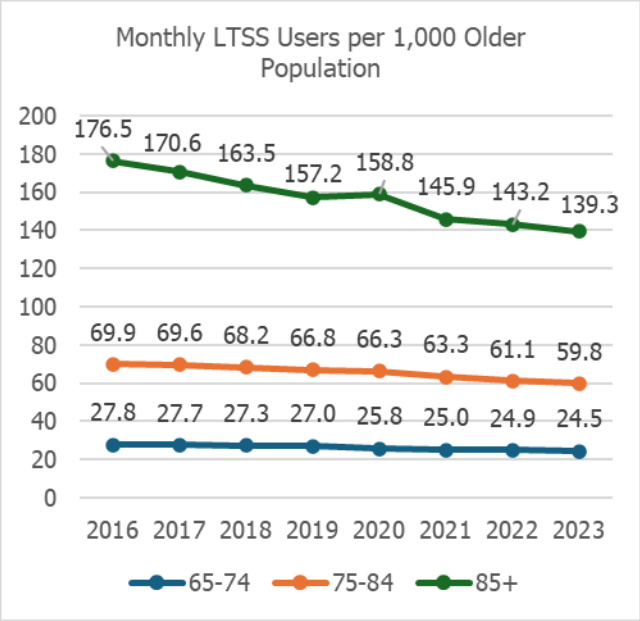
Table 2.4 Rates of LTTS use per 1,000 people in the general population by age group and type of LTSS

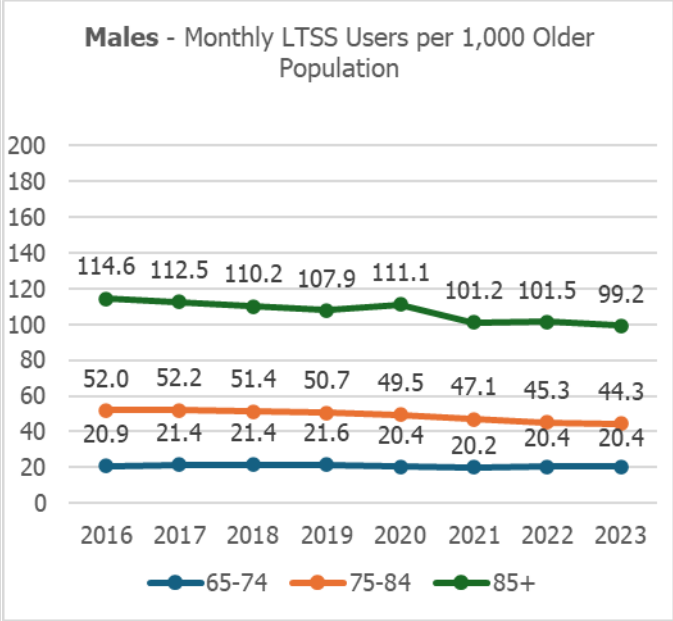
	2016	2022	% Change
MA NF			
65-74	4.93	3.78	-31%
75-84	15.98	11.65	-37%
85+	60.57	39.23	-54%
Total	16.12	10.16	-59%
Non-MA NF			
65-74	2.0	1.6	-29%
75-84	9.6	7.0	-38%
85+	43.3	32.0	-35%
Total	10.2	6.7	-52%
ALF			
65-74	3.2	3.3	5%
75-84	12.1	12.3	2%
85+	37.7	35.7	-5%
Total	10.7	9.7	-10%
HCBS			
65-74	17.6	16.2	-9%
75-84	32.2	30.2	-7%
85+	34.9	36.2	3%
Total	24.3	22.6	-8%

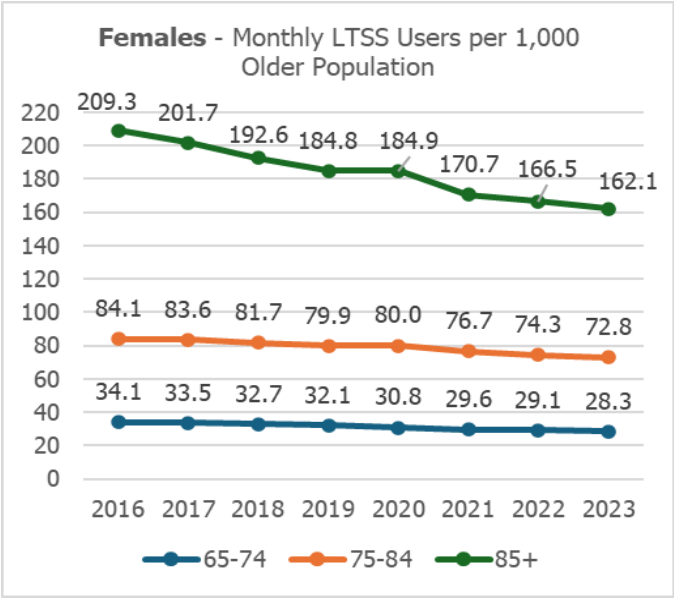
Trends in Rates of LTSS Use Overall and by Age

The trends in overall LTSS use are shown in Panel 2.7. After adjusting for population changes, these rates show a steady downward trend across pre-COVID, COVID, and post-COVID years for all age groups, for both males and females. The decline is steepest among females age 85 and older. Since older females are the largest users of LTSS, the downward trend in this group has the greatest impact on LTSS use.

Panel 2.7 Rates of LTSS Use per 1,000 People in the Minnesota Population by Age and Gender







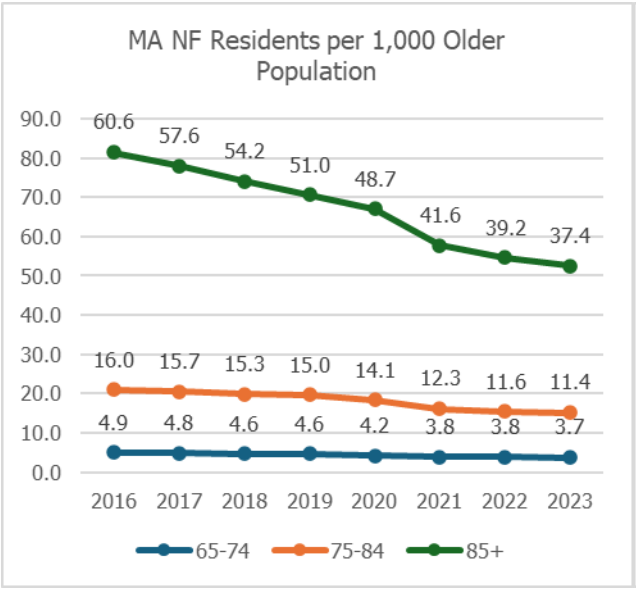
Trends in Rates of LTSS Use by LTSS Type, Age and Gender

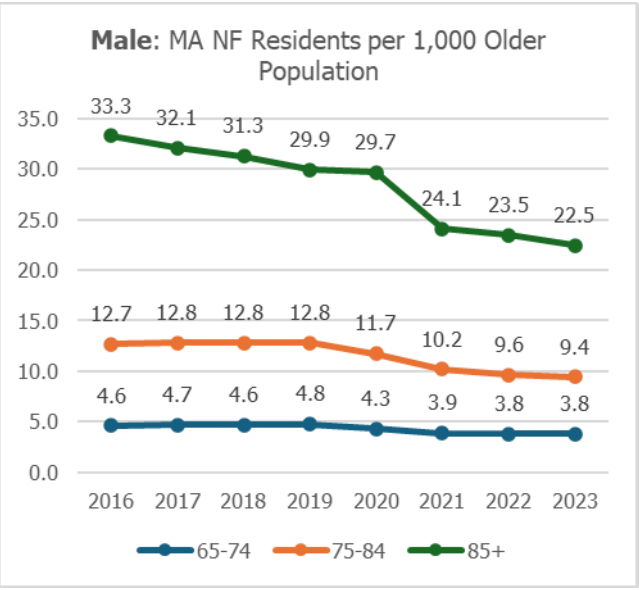
Trends in rates of LTSS use by type of LTSS, age, and gender are shown in Panel 2.8 and Table A5 in the Appendix. Medicaid nursing facility residents 85 and older, both male and female, displayed a steady downward trend from 2016 through 2023. The rates for Medicaid residents age 65-74 and 75-84 also trended downward but more gradually. The overall rates of nursing facility use by non-Medicaid residents age 85 and older also trended downward. However, this downward trend was evident for females but not for males age 85 and older. The rates of nursing facility use for Non-Medicaid residents age 65-74, both male and female, trended downward but more gradually than residents age 85 and older. Among non-Medicaid residents age 75-84, females trended downward while males trended upward.

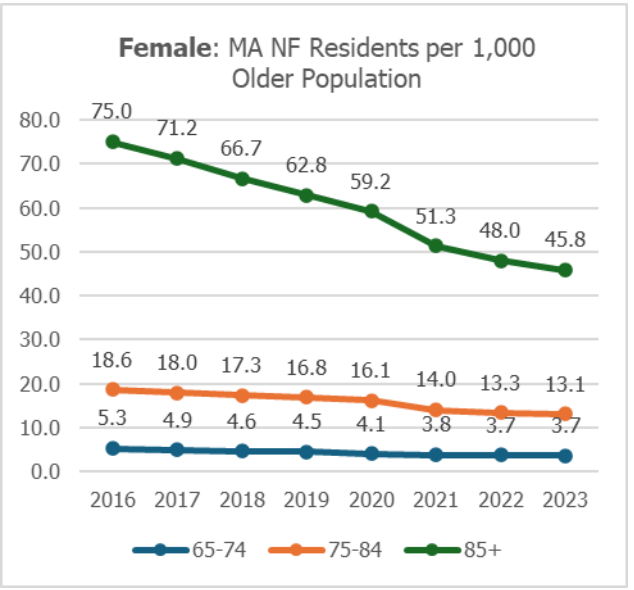
The rate of monthly assisted living facility use remained generally constant from 2016 to 2023 for residents overall and by gender. The exception was in 2020 when rate of use increased among residents age 85 and older. In that year, the number of users did not increase but the number of people at risk (denominator in the rate calculations) declined due to COVID-related mortality among people age 85 and older in the general population.

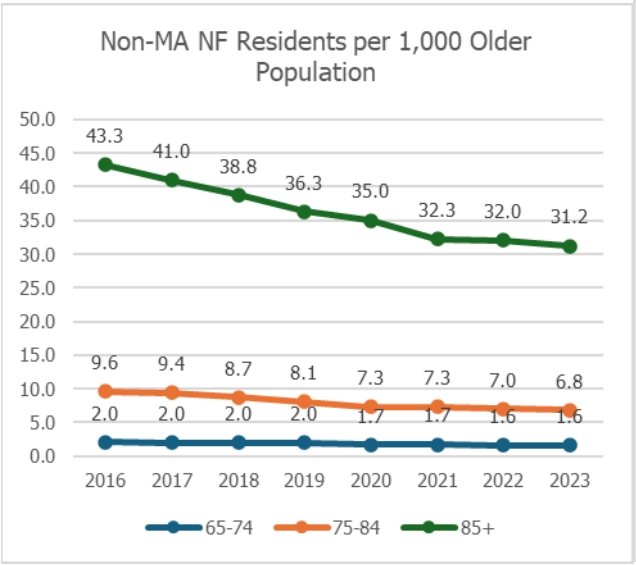
The rate of HCBS use among males 85 and older was constant from 2016-2019 but then increased in 2020 and held steady 2021-2023. In contrast, the rate of HCBS use among females age 85 and older had a slight downward trend from 2016-2023 with a slight increase in 2020. The rate of HCBS use by males aged 75-84 held steady from 2016-2019, then started a slight downward trend from 2020-2023. The rate of HCBS use by females age 75-84 remained constant from 2016-2020, as did the rates among both males and females age 65-74.

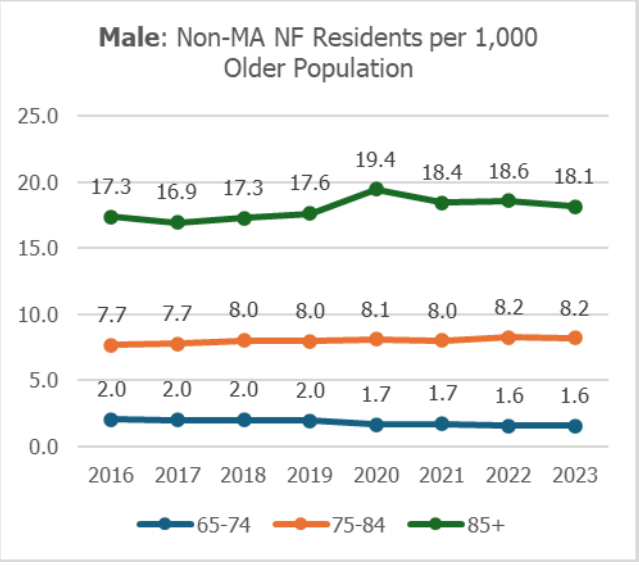
Panel 2.8 Rates of LTSS Use per 1,000 People in the Minnesota Population by LTSS Type, Age and Gender

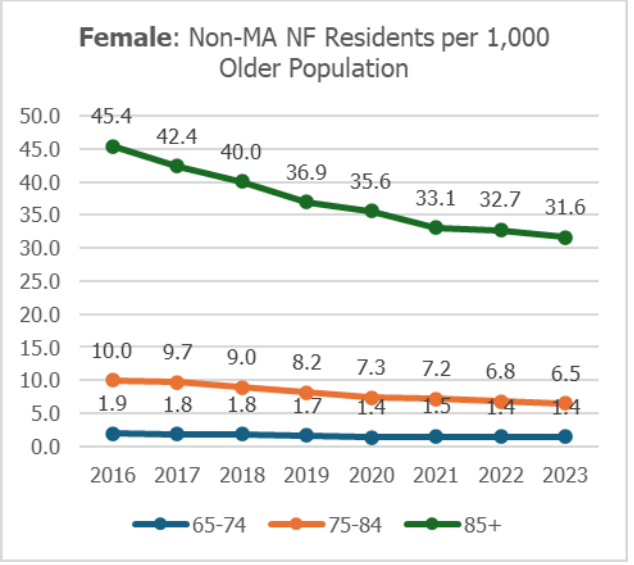


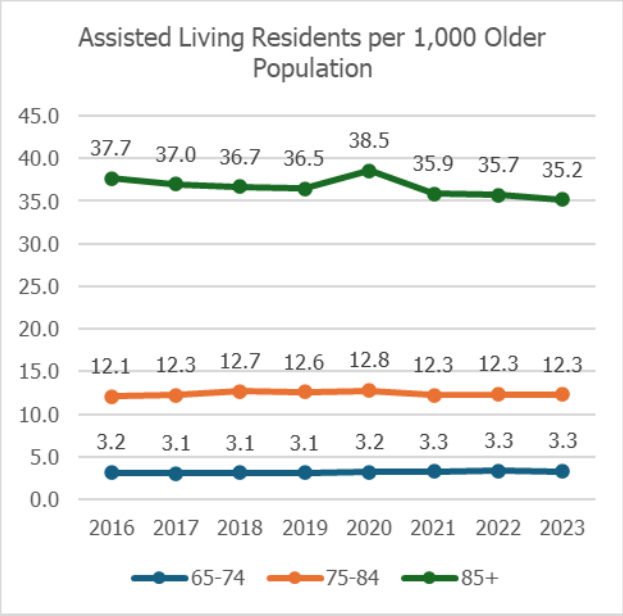


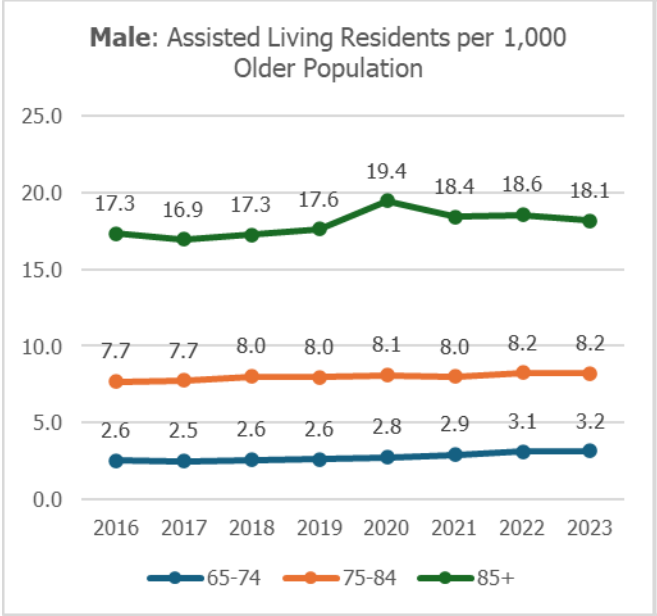


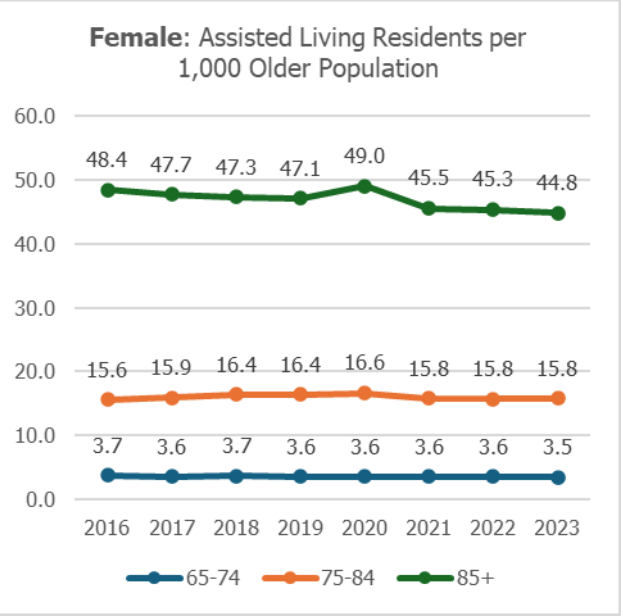


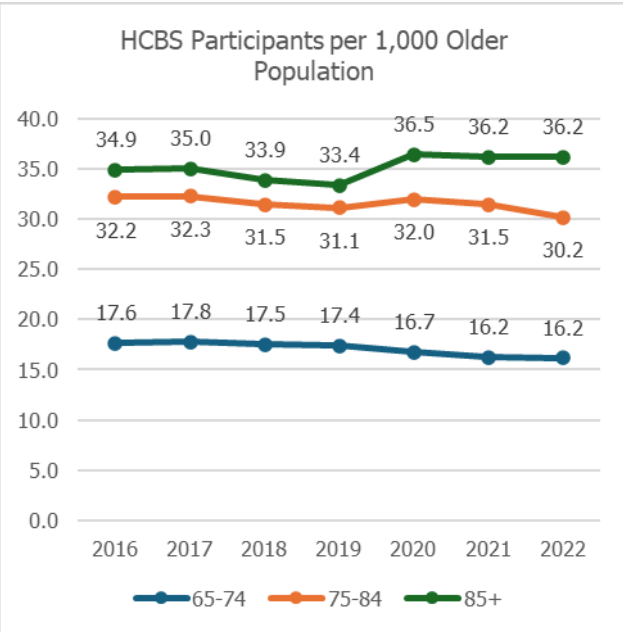


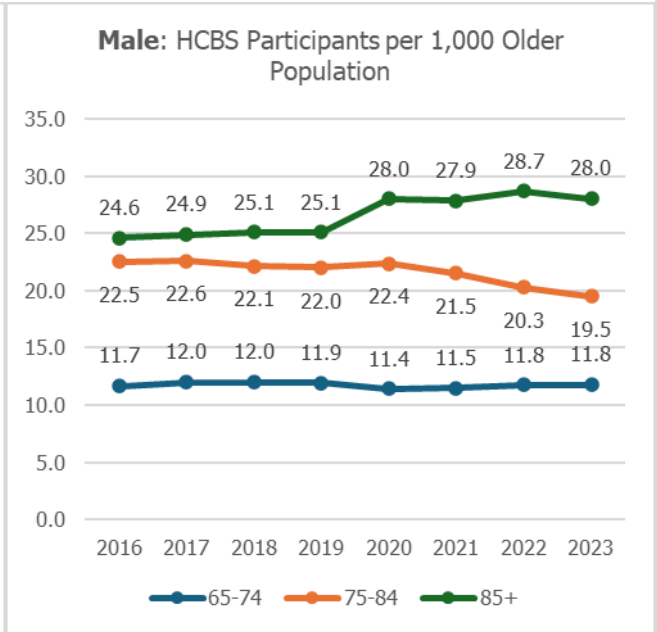


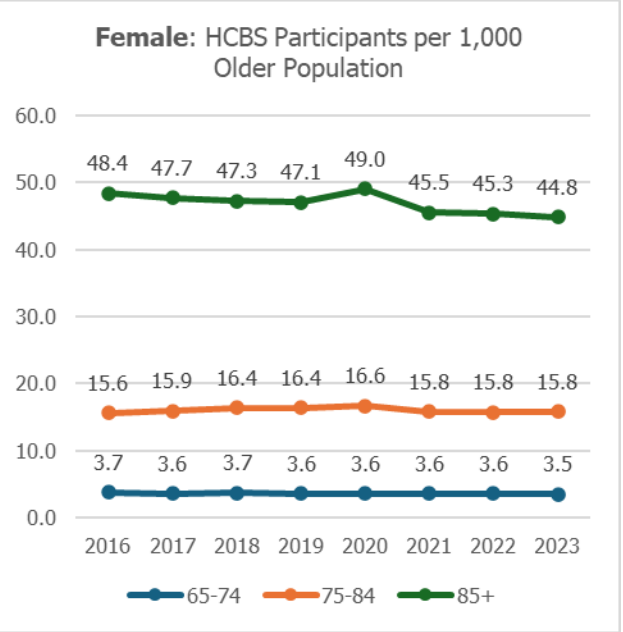

Assisted Living Residents per 1,000 Older Population
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
37.7 37.0 36.7 36.5 38.5 35.9 35.7 35.2
12.1 12.3 12.7 12.6 12.8 12.3 12.3 12.3
3.2 3.1 3.1 3.1 3.2 3.3 3.3 3.3
2016 2017 2018 2019 2020 2021 2022 2023
65-74 75-84 85+


Male: Assisted Living Residents per 1,000 Older Population
25.0
20.0
15.0
10.0
5.0
0.0
17.3 16.9 17.3 17.6 19.4 18.4 18.6 18.1
7.7 7.7 8.0 8.0 8.1 8.0 8.2 8.2
2.6 2.5 2.6 2.6 2.8 2.9 3.1 3.2
2016 2017 2018 2019 2020 2021 2022 2023
65-74 75-84 85+


Female: Assisted Living Residents per 1,000 Older Population
60.0
50.0
40.0
30.0
20.0
10.0
0.0
48.4 47.7 47.3 47.1 49.0 45.5 45.3 44.8
15.6 15.9 16.4 16.4 16.6 15.8 15.8 15.8
3.7 3.6 3.7 3.6 3.6 3.6 3.6 3.5
2016 2017 2018 2019 2020 2021 2022 2023
65-74 75-84 85+


HCBS Participants per 1,000 Older Population
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
34.9 35.0 33.9 33.4 36.5 36.2 36.2
32.2 32.3 31.5 31.1 32.0 31.5 30.2
17.6 17.8 17.5 17.4 16.7 16.2 16.2
2016 2017 2018 2019 2020 2021 2022
65-74 75-84 85+


Male: HCBS Participants per 1,000 Older Population
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
24.6 24.9 25.1 25.1 28.0 27.9 28.7 28.0
22.5 22.6 22.1 22.0 22.4 21.5 20.3 19.5
11.7 12.0 12.0 11.9 11.4 11.5 11.8 11.8
2016 2017 2018 2019 2020 2021 2022 2023
65-74 75-84 85+


Female: HCBS Participants per 1,000 Older Population
60.0
50.0
40.0
30.0
20.0
10.0
0.0
48.4 47.7 47.3 47.1 49.0 45.5 45.3 44.8
15.6 15.9 16.4 16.4 16.6 15.8 15.8 15.8
3.7 3.6 3.7 3.6 3.6 3.6 3.6 3.5
2016 2017 2018 2019 2020 2021 2022 2023
65-74 75-84 85+

Chapter 3 Medicaid LTSS Costs in Pre-COVID and Post-COVID Periods

In setting the stage for the LTSS projections, we calculated the annual rate of LTSS use and Medicaid cost per person during the selected pre-COVID and post-COVID periods by age group, gender, and type of LTSS services. The figures exclude non-Medicaid nursing home users. We focus on LTSS costs to the Medicaid program in the pre-COVID and post-COVID periods because these are more reflective of overall trends without the disruptive conditions during the COVID period. These disruptive conditions from the pandemic caused abrupt changes in average costs, some of which were temporary. The accurate reporting of costs was challenging during the COVID period.

The Medicaid services, which come directly from Medicaid claims, are divided into specific categories reflecting the range of HCBS services, including personal care, homemaker and chore services, home delivered meals, nursing care, adult days services, and other forms of daily living assistance in the home or community.

Calculations for average monthly Medicaid cost are based on the total cost to the Medicaid program across all users during the period divided by the total number of months of LTSS use during the period. The average monthly Medicaid costs are multiplied by the average number of months of LTSS use per user during the period to obtain total cost for each service during the period. The following tables differ from Table 2.3 (above) because of the more detailed breakdown of Medicaid HCBS services, and because they show the cumulative number of users during the year rather than the average number of users each month shown in Table 2.3.

Overall Medicaid LTSS Services Use, Rate of Use, and Annual Cost in pre-COVID and post-COVID Periods

Table 3.1 summarizes the number of users of LTSS services during the year, months per user, and cost per service, and total cost per user. Between the pre-COVID and post-COVID periods the overall number of annual LTSS users, rate of LTSS users per 1000, and months of service use declined, while the average monthly and annual cost per user went up. The count of months can exceed 12 for in-home and/or PCA/CFSS services and any service during the year because an individual may be using more than one service during the month.

The largest decline in number of LTSS users by age groups was for people age 85 and older. The number of LTSS users age 85 and older fell by 17%. However, the rate of use per 1000 dropped by only 11%, which was a similar percentage to the other age groups. The decline in the rate of LTSS use for people age 85 and older was tempered by the high mortality for people in this age group during 2020 which meant relatively fewer people age 85 and older were at risk of using LTSS in 2022.

The sharpest decline in LTSS service use was among nursing home residents. The number of nursing home residents fell by 22% and the rate per 1000 fell by 29%. The number of assisted living residents went up slightly by 1%; however, the rate of use per 1,000 fell by 8%. The number of users of in-home services and/or PCA/CFSS fell by 4%, while the rate of use per 1000 fell by 12%.

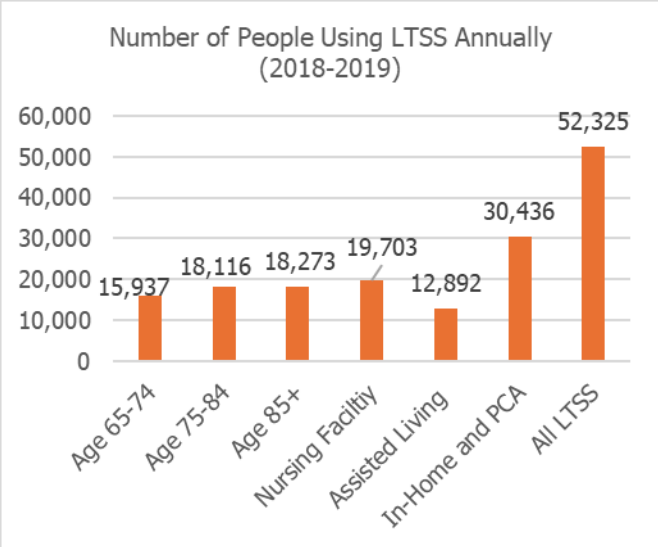
Monthly and annual Medicaid cost per person rose between periods. Total annual cost per person rose by 19% from $34,926 in the pre-COVID period to $41,440 in the post-COVID period. Average annual payment increases were substantial across age groups and type of LTSS. The steepest annual increases in cost were for nursing facility residents (32%) and assisted living facility residents (31%), although in-home and/or PCA/CFSS services were close behind with a 25% increase.

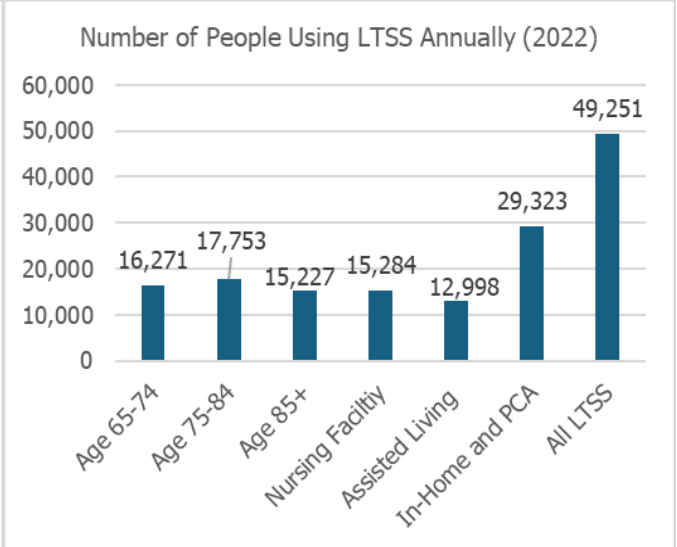
Table 3.1 Medicaid service users and cost for their care in pre- and post-COVID periods

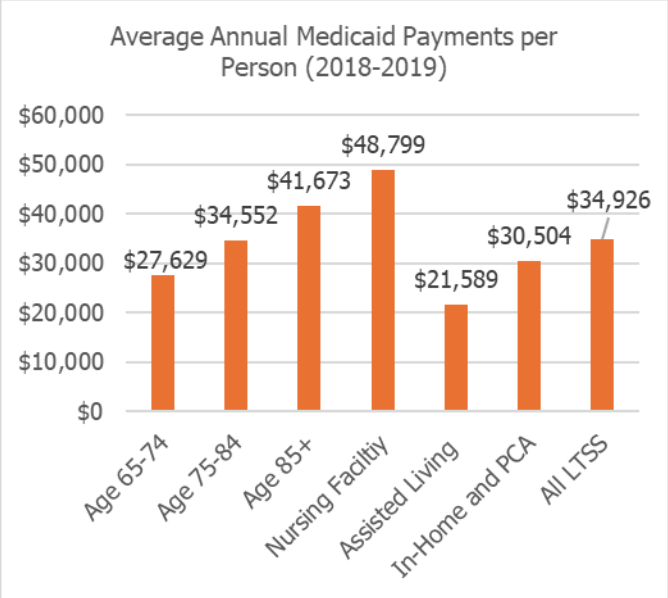
	People using the Service	Users per 1000	Months of LTSS Use	Payment per Month	Payment per User per Year
2018-2019					
Age 65-74	15,937	30.6	17.4	$1,583	$27,629
Age 75-84	18,116	69.2	18.4	$1,879	$34,552
Age 85+	18,273	149.6	15.4	$2,709	$41,673
Nursing Facility	19,703	21.8	7.4	$6,566	$48,799
Assisted Living	12,892	14.3	8.6	$2,503	$21,589
In-Home and PCA/CFSS	30,436	33.7	22.3	$2,921	$30,504
All LTSS	52,325	57.9	17.1	$2,048	$34,926
2022					
Age 65-74	16,271	27.7	15.4	$2,140	$32,917
Age 75-84	17,753	61.5	17.1	$2,426	$41,423
Age 85+	15,227	133.3	14.9	$3,402	$50,569
Nursing Facility	15,284	15.4	7.4	$8,730	$64,199
Assisted Living	12,998	13.1	8.8	$3,232	$28,343
In-Home and PCA/CFSS	29,323	29.6	21.8	$3,668	$38,139
All LTSS	49,251	49.7	15.8	$2,618	$41,440
% Change					
Age 65-74	2%	-10%	-12%	35%	19%
Age 75-84	-2%	-11%	-7%	29%	20%
Age 85+	-17%	-11%	-3%	26%	21%
Nursing Facility	-22%	-29%	-1%	33%	32%
Assisted Living	1%	-8%	2%	29%	31%
In-Home and PCA/CFSS	-4%	-12%	-2%	26%	25%
All LTSS	-6%	-14%	-7%	28%	19%

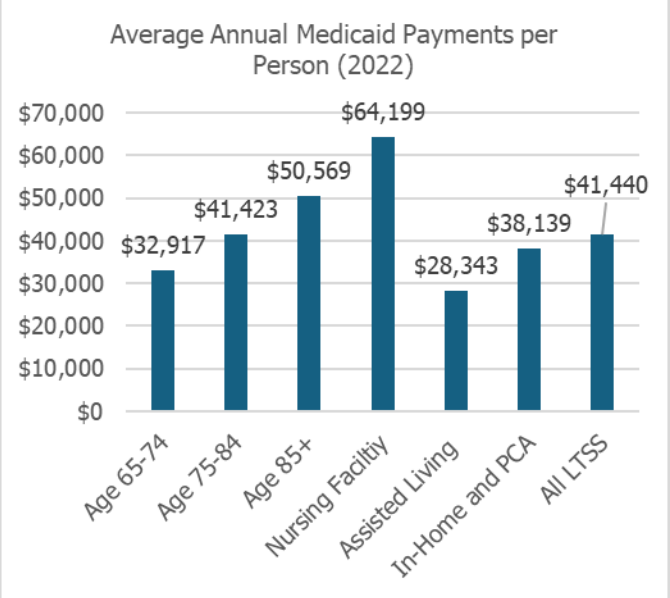
% Change = (post COVID – pre COVID) / pre COVID

Panel 3.1 Number of Annual LTSS Users and Cost for Care in Pre-COVID and Post-COVID Periods









Medicaid Service Use and Cost by Type of LTSS Service

Table 3.2 and Table 3.3 show the detailed number of Medicaid LTSS users in the Pre-COVID (2018-2019) and post-COVID (2022) periods along with rates of utilization per 1000 people in the older population in the same age range and gender. Figures are presented separately by category of Medicaid LTSS service and for anyone using LTSS during the year. The number of people using LTSS and the rates of LTSS use per 1000 older people are higher in the pre-COVID than in the post-COVID period overall and for each type of service.

Although use of most services declined between pre-COVID and post-COVID periods, the patterns by age and gender remained similar. In each age group, females tended to have a higher rate of LTSS use than males. Females age 85 and older had the highest rate of use for most types of Medicaid LTSS services, while males 65-74 tended to have the lowest rate. More detailed figures on LTSS use and costs for the two periods are presented in Appendix Tables 6 and 7.

Table 3.2 Pre-COVID Medicaid LTSS Use and Costs by LTSS Service, Age, and Gender

LTSS Service	Age and Gender	LTSS Users 2018-2019	Rate of LTSS/ 1000	Annual Months per User	Payment per Month	Annual Pay per User
Access	Male 65-74	2,828	11.3	4.44	$173	$768
	Male 75-84	2,618	22.4	4.39	$143	$627
	Male 85+	1,383	31.8	3.88	$131	$509
	Female 65-74	4,722	17.5	4.94	$148	$732
	Female 75-84	4,914	33.9	4.69	$135	$632
	Female 85+	4,062	51.7	3.43	$106	$363
	All Users	20,527	22.7	4.37	$140	$612
Case Mgmt.	Male 65-74	1,715	6.8	5.59	$279	$1,562
	Male 75-84	1,906	16.3	6.05	$259	$1,568
	Male 85+	1,297	29.8	5.68	$237	$1,348
	Female 65-74	2,926	10.8	6.14	$268	$1,646
	Female 75-84	4,284	29.6	6.35	$243	$1,545
	Female 85+	5,097	64.8	5.98	$226	$1,351
	All Users	17,224	19.0	6.04	$247	$1,494
Asst Living	Male 65-74	948	3.8	7.92	$2,330	$18,459
	Male 75-84	1,307	11.2	8.37	$2,479	$20,756
	Male 85+	1,105	25.4	8.16	$2,413	$19,695
	Female 65-74	1,394	5.2	8.23	$2,404	$19,788
	Female 75-84	3,203	22.1	8.73	$2,514	$21,959
	Female 85+	4,936	62.8	8.97	$2,577	$23,112
	All Users	12,892	14.3	8.62	$2,503	$21,589

In-Home Svs.	**Male 65-74**	**2,562**	**10.2**	**11.06**	**$509**	**$5,633**
	Male 75-84	2,292	19.6	12.99	$553	$7,181
	Male 85+	955	21.9	13.28	$559	$7,427
	Female 65-74	5,316	19.7	11.57	$464	$5,366
	Female 75-84	5,056	34.9	12.86	$478	$6,144
	Female 85+	2,682	34.1	12.58	$413	$5,198
	All Users	18,862	20.9	12.25	$483	$5,911
Home Health	Male 65-74	1,516	6.0	5.52	$820	$4,531
	Male 75-84	1,531	13.1	6.24	$826	$5,155
	Male 85+	834	19.2	5.69	$791	$4,501
	Female 65-74	2,866	10.6	5.82	$817	$4,755
	Female 75-84	3,512	24.3	6.16	$824	$5,078
	Female 85+	2,882	36.6	5.38	$842	$4,530
	All Users	13,139	14.5	5.82	$824	$4,797
PCA/CFSS	Male 65-74	1,779	7.1	9.43	$2,438	$22,986
	Male 75-84	1,386	11.8	10.17	$2,405	$24,461
	Male 85+	605	13.9	11.04	$2,592	$28,605
	Female 65-74	3,470	12.9	9.72	$2,319	$22,547
	Female 75-84	2,894	20.0	10.38	$2,395	$24,852
	Female 85+	1,442	18.3	10.70	$2,702	$29,181
	All Users	11,575	12.8	10.09	$2,439	$24,593
Hospice	Male 65-74	386	1.5	2.66	$5,115	$13,628
	Male 75-84	591	5.0	2.93	$5,528	$16,196
	Male 85+	667	15.3	2.83	$5,403	$15,280
	Female 65-74	475	1.8	2.79	$5,366	$14,988
	Female 75-84	999	6.9	2.91	$5,387	$15,651
	Female 85+	2,373	30.2	3.24	$5,539	$17,967
	All Users	5,490	6.1	3.02	$5,456	$16,465
MA NF	Male 65-74	1,966	7.8	6.80	$6,517	$44,322
	Male 75-84	2,284	19.5	7.33	$6,618	$48,537
	Male 85+	1,971	45.3	7.44	$6,383	$47,509
	Female 65-74	2,325	8.6	6.26	$6,870	$42,979
	Female 75-84	4,061	28.0	7.25	$6,756	$49,003
	Female 85+	7,096	90.3	8.12	$6,434	$52,270
	All Users	19,703	21.8	7.43	$6,566	$48,799
Any	Male 65-74	6,031	24.1	16.17	$1,815	$29,351
	Male 75-84	5,977	51.1	17.71	$1,987	$35,200
	Male 85+	4,000	91.9	15.60	$2,503	$39,051
	Female 65-74	9,906	36.7	18.23	$1,458	$26,581
	Female 75-84	12,139	83.8	18.72	$1,828	$34,232
	Female 85+	14,274	181.5	15.32	$2,768	$42,409
	All Users	52,325	57.9	17.05	$2,048	$34,926

Table 3.3 Post-COVID Period (2022) LTSS Service Use and Costs

LTSS Service	Age and Gender	LTSS Users 2022	Rate of LTSS / 1000	Annual Months per User	Pay per Month	Annual Pay per User
Access	Male 65-74	2,661	10.6	4.02	$191	$770
	Male 75-84	2,078	17.8	4.10	$174	$715
	Male 85+	1,03,9	23.9	3.94	$167	$659
	Female 65-74	3,973	14.7	4.48	$175	$784
	Female 75-84	4,130	28.5	4.34	$156	$678
	Female 85+	2,865	36.4	3.26	$135	$441
	All Users	16,746	18.5	4.08	$167	$681
Case Mgmt.	Male 65-74	1,848	7.4	5.12	$303	$1,552
	Male 75-84	1,786	15.3	5.60	$277	$1,553
	Male 85+	1,066	24.5	5.33	$247	$1,318
	Female 65-74	2,731	10.1	5.53	$296	$1,639
	Female 75-84	4,054	28.0	5.93	$271	$1,604
	Female 85+	4,213	53.6	5.31	$249	$1,324
	All Users	15,698	17.4	5.52	$272	$1,503
Asst Living	Male 65-74	1,278	5.1	8.21	$3,089	$25,364
	Male 75-84	1,441	12.3	8.80	$3,217	$28,316
	Male 85+	1,036	23.8	8.72	$3,238	$28,230
	Female 65-74	1,531	5.7	8.29	$3,117	$25,850
	Female 75-84	3,296	22.8	8.93	$3,251	$29,022
	Female 85+	4,416	56.2	8.98	$3,296	$29,599
	All Users	12,998	14.4	8.77	$3,232	$28,343
In-Home Svs.	Male 65-74	2,477	9.9	10.27	$695	$7,141
	Male 75-84	2,220	19.0	12.17	$788	$9,594
	Male 85+	919	21.1	13.87	$772	$10,701
	Female 65-74	4,687	17.4	10.93	$636	$6,955
	Female 75-84	4,822	33.3	12.53	$650	$8,146
	Female 85+	2,325	29.6	12.12	$634	$7,686
	All Users	17,450	19.3	11.75	$676	$7,941
Home Health	Male 65-74	1,221	4.9	5.43	$767	$4,170
	Male 75-84	1,249	10.7	5.96	$782	$4,663
	Male 85+	625	14.4	5.51	$819	$4,512
	Female 65-74	2,089	7.7	5.51	$782	$4,310
	Female 75-84	2,946	20.3	5.99	$790	$4,733
	Female 85+	2,078	26.4	5.22	$854	$4,456
	All Users	10,208	11.3	5.64	$799	$4,501

LTSS Service	Age and Gender	LTSS Users 2022	Rate of LTSS / 1000	Annual Months per User	Pay per Month	Annual Pay per User
PCA/CFSS	Male 65-74	1,944	7.8	9.24	$2,935	$27,125
	Male75-84	1,349	11.5	10.11	$3,041	$30,742
	Male 85+	649	14.9	11.25	$3,146	$35,387
	Female 65-74	3,471	12.9	9.58	$2,846	$27,267
	Female 75-84	2,958	20.4	10.61	$2,968	$31,495
	Female 85+	1,502	19.1	10.86	$3,285	$35,660
	All Users	11,873	13.1	10.09	$2,992	$30,198
Hospice	Male 65-74	348	1.4	2.83	$6,565	$18,563
	Male 75-84	534	4.6	3.19	$7,260	$23,126
	Male 85+	607	13.9	3.14	$7,147	$22,464
	Female 65-74	418	1.5	2.92	$6,631	$19,339
	Female 75-84	958	6.6	3.23	$6,969	$22,494
	Female 85+	1,975	25.1	3.52	$7,369	$25,933
	All Users	4,840	5.4	3.28	$7,146	$23,408
Medicaid Nursing Facility	Male 65-74	1,855	7.4	6.75	$8,550	$57,725
	Male 75-84	1,902	16.2	7.29	$8,593	$62,680
	Male 85+	1,345	30.9	7.47	$8,470	$63,305
	Female 65-74	2,045	7.6	6.45	$8,928	$57,561
	Female 75-84	3,334	23.0	7.30	$8,924	$65,164
	Female 85+	4,803	61.1	8.00	$8,715	$69,709
	All Users	15,284	16.9	7.35	$8,730	$64,199
Any Medicaid LTSS Use	Male 65-74	6,540	26.1	14.41	$2,403	$34,615
	Male 75-84	5,819	49.7	16.30	$2,585	$42,141
	Male 85+	3,479	79.9	15.60	$3,055	$47,639
	Female 65-74	9,731	36.1	16.03	$1,982	$31,776
	Female 75-84	11,934	82.4	17.45	$2,353	$41,072
	Female 85+	11,748	149.4	14.65	$3,512	$51,436
	All Users	49,251	54.5	15.83	$2,618	$41,440

Actual and Forecasted Medicaid LTSS Cost Growth from 2023 to 2029

The Department of Human Services (DHS) prepares a Budget Forecast periodically that reports historical Medicaid costs and projects future growth in these areas. Figures are presented by major program categories: nursing facilities, Elderly Waiver (assisted living and home and community care combined), Personal Care Assistant / Consumer First Services and Supports, and Alternative Care Waiver. We used cost figures from detailed tables in the November 2024 DHS Budget Forecast to calculate growth rates in LTSS from 2023 through 2029. The Budget Forecast is based on state fiscal year; for our purposes we use calendar years. Table 3.4 shows estimated annual cost growth rates by major categories. Because of budgetary increases, the Elderly Waiver, PCA/CFSS/CFSS, and Alternative Care programs experienced substantial cost growth in 2024, and they are projected to continue this high rate of growth in 2025. In 2026 through 2029 growth is projected to decline to approximately 5-6% for the remainder of the decade. The costs for PCA/CFSS/CFSS after large increase in 2024-2025 are expected to decline to approximately 1-2% in the later years.

Table 3.4 Calculated Medicaid LTSS Cost Growth Rates in 2023-2029

	2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Nursing Facility	9.7%	11.2%	3.1%	4.3%	5.8%	4.9%	4.3%
Assisted Living	7.9%	25.1%	22.8%	11.1%	5.1%	5.1%	5.0%
Home and Community Care	7.9%	25.1%	22.8%	11.1%	5.1%	5.1%	5.0%
PCA/CFSS	3.5%	7.3%	20.7%	9.3%	-0.6%	2.1%	1.6%
Alternative Care	6.6%	26.2%	26.8%	5.4%	5.9%	6.2%	6.0%

These cost growth figures are applied in making straight-line projections (Chapter 4) and constructing the simulation scenarios (Chapter 5). Growth rates from 2023-2035 are applied in inflating 2022 LTSS cost figures to a 2025 starting point for our LTSS Medicaid cost projections. They are also applied in setting inflation rates for future Medicaid LTSS cost growth scenarios.

Chapter 4 Projections of Future LTSS Use and Medicaid Costs

This chapter presents updated straight-line Medicaid LTSS cost projections for 2025-2035 that incorporate inflation rates from the November 2024 DHS Medicaid Forecast. Our new cost projections rely on the same scenarios for Medicaid LTSS utilization as in the Interim Report. The scenarios involve either a continuation of lower Post-COVID patterns of utilization, or a Blended scenario beginning with the Post-COVID rate and then a steady return to the higher pre-COVID rate.

We updated the baseline cost projections in the Interim Report by incorporating new cost inflation rates from the DHS Forecast. The Forecast cost inflation rates from 2023-2029 were substantially higher than the annual inflation rate we applied for those years in the Interim Report projections. We now incorporate the Forecast inflation rates into the initial years of cost projections and then introduce alternative sets of cost inflation assumptions in future years: a conservative inflation rate of 2.5% and a 5% cost inflation rate that is in line with past cost inflation rates from the DHS Forecast.

In addition, we compare our Medicaid LTSS use and cost projections to a relatively conservative Medicaid spending scenario where annual spending growth is capped at a 2.5% beginning in 2025 and continuing through 2035. This is a simple straight-line projection without regard to actual cost inflation. By comparing annual projected LTSS cost inflation to a Medicaid spending scenario, we can assess the adequacy of Medicaid spending in addressing future LTSS costs. Future LTSS costs will be driven by both the inflation in the cost of services and the rising older population at risk of LTSS. All cost figures are presented in current dollars or unadjusted for general inflation in the economy.

Future Medicaid costs and spending projections are based on historical rates of cost growth and then averaged over the period from 2025-2035. In actuality, there has been and likely will be variation from year to year because of legislative actions, policy changes, or rates of price inflation. Our projections are hypothetical. We have chosen rates of inflation and spending growth to reflect midpoints, upper, and lower bounds for what might occur in the future.

Scenarios

The scenarios are summarized below. More detailed information on the scenarios is presented in Table 4.1. Inflation rates are presented in Table 5.3.

- Post-COVID and Blended scenarios with 5% annual cost inflation:
    - Actual cost growth rates from 2022 to 2024 from the Forecast
    - Projected annual cost inflation rates from 2025 to 2029 from the Forecast
    - 5% annual inflation rates from 2030-2035
- Post-COVID and Blended scenarios with 2.5% annual cost inflation:
    - Actual cost growth rates from 2022-2024 from the Forecast
    - Projected annual cost inflation rates from 2025 to 2026 from the Forecast
    - Annual cost inflation capped at the lower 2.5% rate from 2027-2035
- Medicaid LTSS spending projections inflated at 2.5% per year:

- Actual cost growth rates from 2022-2024 from the DHS Forecast.
- Annual spending projections set at 2.5% rate from 2025-2035

We chose a scenario with a 2.5% growth in Medicaid spending because this rate of growth matches the cost inflation rate in the most conservative LTSS cost projections, i.e., 2.5% cost growth in both the Post-Covid or Blended Scenarios. Thus, it reflects the adequacy of spending under a "best case" LTSS cost growth scenario.

Table 4.1 Assumptions for the New Medicaid LTSS Cost Projection based on DHS Forecast Annual Cost Inflation Rates*

	5% Cost Inflation Post-COVID Scenario	**5% Cost Inflation Blended Scenario**	**2.5% Cost Inflation Pre-COVID Scenario**	**2.5% Cost Inflation Blended Scenario**
Population Projections	Minnesota population projections by age group and gender from the State Demographer	Same	Same	Same
Rate of LTSS use by age group, gender, and type of LTSS for the Base-Case period [See note]	Number of Medicaid LTSS users in 2022 divided by the number of people in the Minnesota population in 2022	Beginning with the post-COVID scenario at 100% in 2025, blending in the pre-COVID scenario at 1/9 per year ending with pre-COVID scenario at 100% in 2035.	Number of Medicaid LTSS users in 2022 divided by the number of people in the Minnesota population in 2022	Beginning with the post-COVID scenario at 100% in 2025, blending in the pre-COVID scenario at 1/9 per year ending with pre-COVID scenario at 100% in 2035.
Number of future LTSS users	Minnesota population projections by age group and gender from the State Demographer	Same	Same	Same

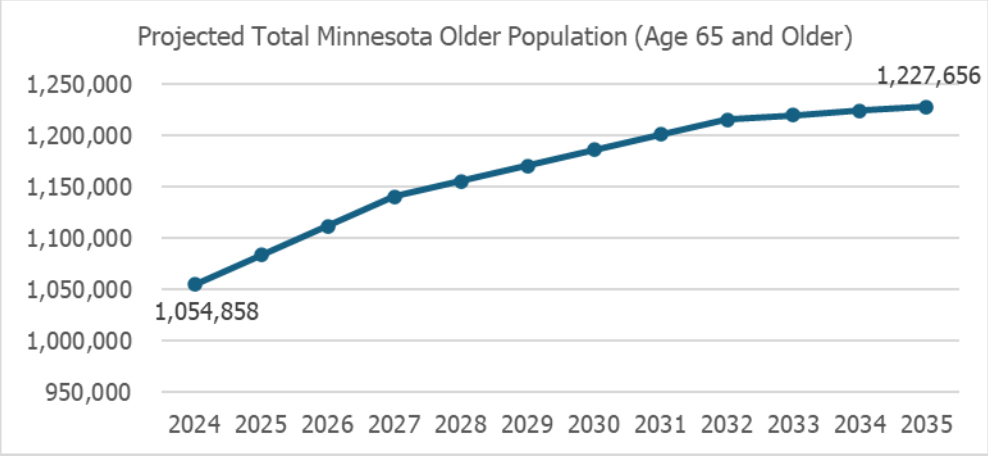
Starting 2025 Costs per year per user	2022 Medicaid LTSS costs indexed forward to 2025 Based on DHS Forecast Budget.	Same	Same	Same
Rate of annual LTSS Cost Inflation 2025 – 2035*	DHS Forecast costs per year 2025-2029, then 5% 2030-2035.	DHS Forecast cost per year 2025-2029, then 5% 2030-2035.	DHS Forecast costs per year 2025-2026, then 2.5% 2027-2035.	DHS Forecast costs per year 2025-2026, then 2.5% 2027-2035.

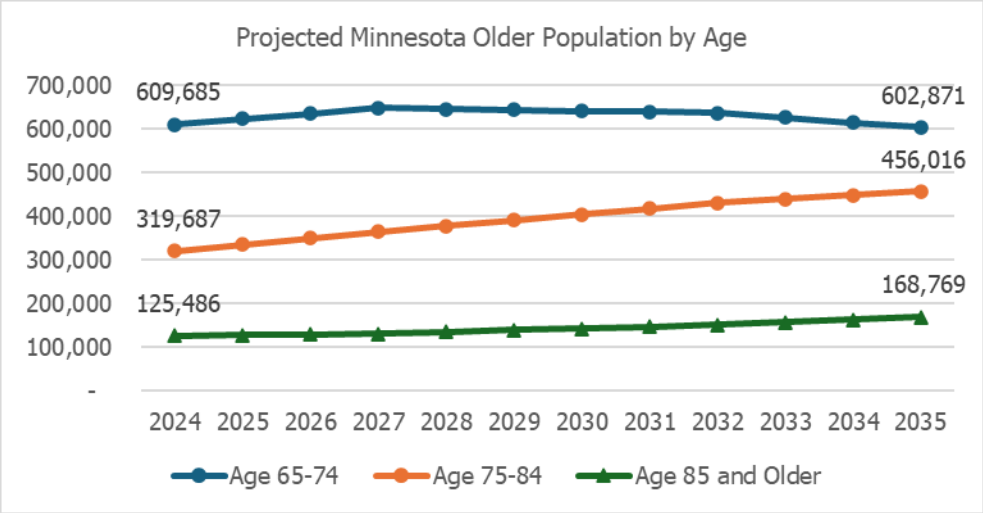
Note: We chose a uniform (9%) increase in the proportion of the pre-COVID rates each year to represent a steady return to pre-COVID rates of LTSS use.

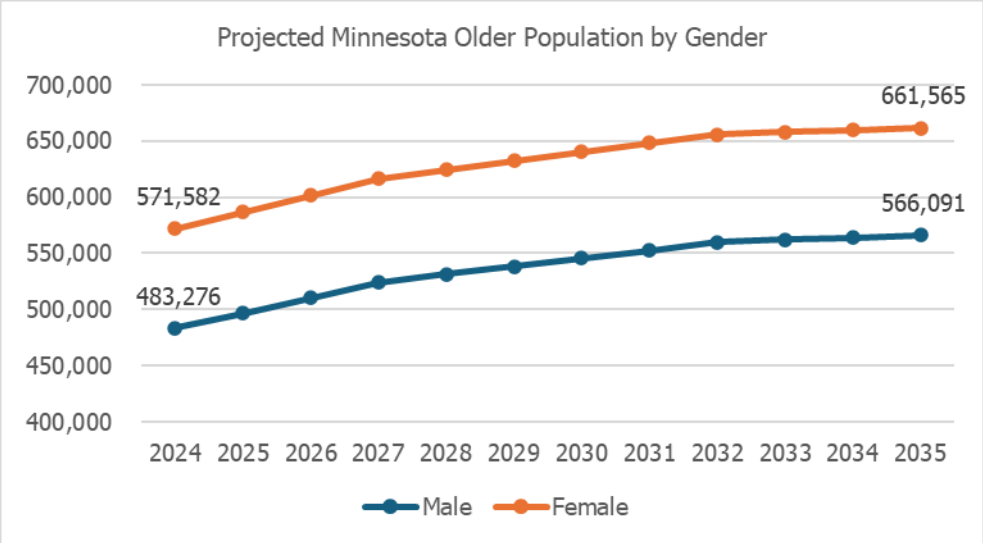
Projections of the Minnesota Older Population 2025-2035

Increase in the older population is a major driver of future LTSS use and costs. More people using care, particularly of advanced age, translates into more LTSS users and higher total Medicaid costs. The projected annual increase in Minnesota's older population from 2024 to 2035 is shown in Panel 4.1 and Table 5.1. The total population is projected to increase from 1.05 million in 2024 to 1.23 million in 2035. The largest increase will be among people age 75-84 as members of the "Baby Boom" population move through that age range (Panel 4.1). The population age 85 and older is also projected to increase, while the population age 65-74 is projected to show a small decease as more people leave that age range and fewer people enter it. The numbers of females and males are also projected to increase with larger numbers of females in each year due to their longer life expectancy.

Panel 4.1 Minnesota Older Adult Population Projections by Age and Gender







Projected Average Annual Per User LTSS Costs

The application of different inflation rates resulted in differences in projected annual per user LTSS costs (Table 4.1 and Table 5.3). In each scenario the 2025 per person costs equaled $57,243. The largest increase in per user LTSS costs between the starting figure and subsequent years occurred when the 5% cost inflation rate was applied to the Blended utilization scenario. Costs increased by 37% in 2030 and 85% in 2035. The smallest increase occurred when the 2.5% cost inflation rate was applied to the lower Post-COVID utilization scenario. Costs increased by 17% in 2030 and 31% in 2035. The largest percentage cost increases in both the Blended and Post-COVID scenarios were for people age 85 and older and among nursing home users (Table 4.7).

Table 4.2 Summary of Projected Annual Medicaid Cost per Person by Scenario (from Table 4.7)

	2030 Cost/Person & (% Increase)	2035 Cost/Person & (% Increase)
Post-COVID Scenario		
5% cost inflation	$73,023 (28%)	$91,591 (60%)
2.5 % cost inflation	$66,780 (17%)	$74,869 (31%)
Blended Scenario		
5% cost inflation	$78,258 (37%)	$105,673 (85%)
2.5% cost inflation	$71,738 (25%)	$87,133 (52%)

Note: Per person, per year average cost; % increase is compared to starting 2025 cost.

Total Medicaid LTSS Cost Projections

Based on these per-persons LTSS costs, we were able to project total Medicaid costs each year for the different cost inflation and utilization scenarios (Table 4.8, Panel 4.2 - Panel 4.5). Total annual costs represent projected per user costs multiplied by the projected number of users each year for each type of LTSS. In each scenario total LTSS began in 2025 at $3,318 Million.

The Blended scenario at the 5% inflation rate had the highest projected costs. Compared to 2025, LTSS costs were projected to increase by 53% in 2030 and 125% in 2035. The smallest increase in projected LTSS costs was in the Post-COVID scenario at the 2.5% cost inflation, where they were expected to increase by 31% in 2030 and 59% in 2035. Consistent with the per-person cost, the largest projected total annual costs in both scenarios were for people age 85 and older and among nursing home residents (Table 4.8, Panel 4.2 - Panel 4.5).

Table 4.3 Summary of Projected Annual Total Medicaid Cost by Scenario (from Table 4.8)

	2030 Total Cost $Millions (% Increase)	2035 Total Cost $Millions (% Increase)
Post-COVID Scenario		
5% cost inflation	$4,746 (43%)	$6,468 (95%)
2.5 % cost inflation	$4,314 (31%)	$5,287 (59%)
Blended Scenario		
5% cost inflation	$5,087 (53%)	$7,462 (125%)
2.5% cost inflation	$4,663 (41%)	$6,153 (85%)

Note: Total costs per year; % increase is compared to starting 2025 cost.

Comparison with Medicaid Spending Growing at a Constant 2.5% per Year

We compared these LTSS cost and utilization scenarios to a hypothetical scenario where Medicaid LTSS spending sees an annual modest increase of 2.5%. We chose a scenario with a 2.5% growth in spending because this rate of growth matches the cost inflation rate in the most conservative LTSS cost projections, i.e., 2.5% cost growth in both the Post-Covid or Blended Scenarios. Thus, it reflects the adequacy of spending under a "best case" cost growth scenario.

The purpose of this comparison was to evaluate the adequacy of this conservative Medicaid spending in meeting the future LTSS needs of the older population. The Medicaid spending increases at a constant growth rate; it does not account for any increases in future LTSS utilization. Spending starts at the same level as LTSS costs in 2025 but then grows at a constant 2.5% per year. The cost growth in the LTSS scenarios, on the other hand, reflects both future cost inflation and future use of LTSS which is driven by increases in the older population. This comparison highlights the impact of the growing population on costs.

The Medicaid spending starts at the same level as projected LTSS costs in 2025 under the assumption that it would cover the full LTSS costs in that year. The spending is projected to begin at $3,318 Million in 2025 and then increase by 13% to $3,755 Million in 2030, and by 28% to $4,248 Million in 2035 (Table 4.8). Medicaid spending is divided between types of LTSS (nursing facility, assisted living, and in home and community care) and by age categories in order to assess the adequacy of spending in addressing increases in these segments of the LTSS population.

Gap Between Medicaid Spending Increasing at a Constant 2.5% Compared to Projected LTSS Cost Growth at 2.5% and 5.0%

In the early years the gap between the projected spending and projected LTSS costs is relatively narrow (Table 4.9, Panel 4.2 - Panel 4.5). However, by 2030 there is a substantial projected gap between LTSS cost and Medicaid spending that escalates by 2035. The gap can be summarized as follows.

Table 4.4 Summary of Projected Medicaid Cost vs 2.5% Spending Increase by Scenario (from Table 4.9)

	2030 Spending Gap ($Millions)	2035 Spending Gap ($Millions)
Post-COVID Scenario		
5% cost inflation	-$991 (-21%)	-$2,220 (-34%)
2.5 % cost inflation	-$586 (-13%)	-$1,039 (-20%)
Blended Scenario		
5% cost inflation	-$1,332 (-26%)	-$3,214 (-43%)
2.5% cost inflation	-$908 (-19%)	-$1,905 (-31%)

Note: Spending gap dollars = spending amount – LTSS projected cost; spending gap percentage = Spending gap dollars / LTSS projected cost.

The spending gap ranges from -34% for the Blended scenario with 5% inflation in 2035 to -13% for Post-COVID Scenario with 2.5% cost inflation in 2030. In the scenarios with 2.5% LTSS cost inflation, which is equivalent to the 2.5% growth in the spending, the spending gap is attributable directly to increases in the use of care because of an increasing older population. The spending gap with the 5% inflation scenarios can be attributed to the increasing use of care in combination with the high inflation rate (5% cost inflation vs 2.5% spending growth).

Gaps in Access to LTSS Services with Medicaid Spending Increasing at 2.5% Compared to Projected LTSS Cost Growth

The gap between LTSS costs and Medicaid spending would result in reduced access to services under both the Post-COVID and Blended scenarios and with either the 5% or 2.5% cost inflation (Table 4.10, Table 4.11, Panel 4.6, and Panel 4.7). The projected gap in access to LTSS is relatively modest in 2026 and 2027, however it increases steadily over the years. Between 2025 and 2035 demand for LTSS is projected to grow by 22% under the Post-COVID scenario and 35% under the Blended scenario.

With the projected Medicaid spending, the largest gap in access to LTSS is with a Blended scenario and 5% cost inflation rate. The Post-COVID scenario with a 2.5% inflation rate results in the smallest gap in access to LTSS.

Table 4.5 Summary of Spending Related Reduction in LTSS Users (from Table 4.10 and Table 4.11)

	2030 Fewer Users	2035 Fewer Users
Post-COVID Scenario		
5% cost inflation	13,583 (-21%)	24,324 (-34%)
2.5 % cost inflation	8,776 (-14%)	13,875 (-20%)
Blended Scenario		
5% cost inflation	18,875 (-28%)	28,657 (-38%)
2.5% cost inflation	14,514 (-22%)	23,359 (-31%)

Note: number of fewer users= users with spending amount – users with LTSS projected cost; percentage reduction in users= number of fewer users / users with LTSS projected cost.

In the Blended scenario the largest gap is among people age 85 and older and nursing facility residents. In the Post-COVID scenario, with lower rates of nursing facility use, the gap is spread more evenly across people age 75-84 and 85 and older, and among nursing facility and assisted living facilities.

Medicaid Spending Growth Rates that would Cover Projected LTSS Cost Growth

Medicaid spending would have to grow at a relatively high rate annually to cover projected LTSS costs and to provide current levels of access to LTSS services. We calculated annual Medicaid spending growth rates that would cover future LTSS costs under different scenarios. They can be summarized as follows.

Table 4.6 Average Annual Spending Increases Needed to Fully Cover Future LTSS Costs – All Users

	Avg 2025-2029	Avg 2030-2035	Avg 2025-2035
Post-COVID Scenario			
2.5% cost inflation	7.6%	4.1%	5.7%
5% cost inflation	9.0%	6.4%	7.6%
Blended Scenario			
2.5% cost inflation	8.8%	5.7%	7.1%
5% cost inflation	10.2%	8.0%	9.0%

The lowest rate of future Medicaid spending growth would be for the Post-COVID scenario with LTSS costs inflated at 2.5%. The spending would have to grow at 5.7% annually from 2025-2035, with an average growth rate of 7.6% in 2025-2029 and then tailing off to 4.1% in 2030-2035. The Blended scenario with 5% LTSS cost inflation would require the highest annual spending growth rate. The Medicaid spending would have to grow at 9.0% annually from 2025-2035, with an average growth rate of 10.2% in 2025-2029 and then decreasing to 8.0% in 2030-2035.

Table 4.7 Average Per User Medicaid LTSS Costs per Year **with 5% and 2.5% Cost Inflation** (current dollars)

5% Long-Term Cost Inflation	2025	2030	2035	Change 2025 to 2030	Change 2025 to 2035
Post-COVID Scenario					
All Users	$57,243	$73,023	$91,591	28%	60%
Age 65-74	$44,399	$55,869	$68,182	26%	54%
Age75-84	$56,677	$71,983	$88,988	27%	57%
Age 85+	$69,653	$89,068	$111,287	28%	60%
Nursing Facility	$80,667	$102,341	$131,068	27%	62%
Assisted Living	$47,022	$63,637	$81,344	35%	73%
In Home Care or PCA/CFSS	$40,541	$49,103	$55,774	21%	38%
Blended Scenario					
All Users	$57,243	$78,258	$105,673	37%	85%
Age 65-74	$44,399	$56,677	$70,292	28%	58%
Age75-84	$56,677	$74,905	$96,438	32%	70%
Age 85+	$69,653	$101,985	$144,097	46%	107%
Nursing Facility	$80,667	$117,233	$170,657	45%	112%
Assisted Living	$47,022	$62,705	$79,495	33%	69%
Home Care or PCA/CFSS	$40,541	$49,777	$57,584	23%	42%
2.5% Long-Term Cost Inflation	2025	2030	2035	Change 2025 to 2030	Change 2025 to 2035
Post-COVID Scenario					
All Users	$57,243	$66,780	$74,869	17%	31%
Age 65-74	$44,399	$51,334	$56,344	16%	27%
Age75-84	$56,677	$65,847	$72,831	16%	29%
Age 85+	$69,653	$81,186	$90,362	17%	30%
Nursing Facility	$80,667	$92,942	$105,519	15%	31%
Assisted Living	$47,022	$57,679	$65,359	23%	39%
In Home Care or PCA/CFSS	$40,541	$45,962	$48,191	13%	19%
Blended Scenario					
All Users	$57,243	$71,738	$87,133	25%	52%
Age 65-74	$44,399	$52,328	$59,245	18%	33%
Age75-84	$56,677	$68,717	$79,823	21%	41%
Age 85+	$69,653	$93,042	$117,362	34%	68%
Nursing Facility	$80,667	$106,466	$137,391	32%	70%
Assisted Living	$47,022	$56,835	$63,874	21%	36%
In Home Care or PCA/CFSS	$40,541	$47,140	$52,260	16%	29%

Note: Averages of per user costs are based on the number of months using each type of care during the year. Not all people used care for the full year. Therefore, annual per user cost figures represent the cost of care for only that portion of year when an average person used a particular type of care.

Table 4.8 Post-COVID and Blended Scenarios with **5% and 2.5% Cost Inflation** and **2.5% Spending Projections** from 2025-2035 ($ Millions in current dollars)

5% Long-Term Cost Inflation	2025	2030	2035	Change 2025 to 2030	Change 2025 to 2035
Post-COVID Scenario					
All Users	$3,318	$4,746	$6,468	43%	95%
Age 65-74	$863	$1,119	$1,285	30%	49%
Age75-84	$1,283	$1,965	$2,751	53%	114%
Age 85+	$1,104	$1,579	$2,341	43%	112%
Nursing Facility	$1,431	$2,048	$2,901	43%	103%
Assisted Living	$709	$1,087	$1,548	53%	118%
In Home Care or PCA/CFSS	$848	$1,150	$1,397	36%	65%
Blended Scenario					
All Users	$3,318	$5,087	$7,462	53%	125%
Age 65-74	$863	$1,135	$1,325	31%	53%
Age75-84	$1,283	$2,045	$2,981	59%	132%
Age 85+	$1,104	$1,808	$3,032	64%	175%
Nursing Facility	$1,431	$2,346	$3,777	64%	164%
Assisted Living	$709	$1,072	$1,513	51%	114%
In Home Care or PCA/CFSS	$848	$1,166	$1,442	37%	70%

2.5% Long-Term Cost Inflation	2025	2030	2035	Change 2025 to 2030	Change 2025 to 2035
Post-COVID Scenario					
All Users	$3,318	$4,341	$5,287	31%	59%
Age 65-74	$863	$1,028	$1,062	19%	23%
Age75-84	$1,283	$1,798	$2,252	40%	75%
Age 85+	$1,104	$1,439	$1,901	30%	72%
Nursing Facility	$1,431	$1,860	$2,335	30%	63%
Assisted Living	$709	$986	$1,244	39%	76%
In Home Care or PCA/CFSS	$848	$1,077	$1,207	27%	42%
Blended Scenario					
All Users	$3,318	$4,663	$6,153	41%	85%
Age 65-74	$863	$1,048	$1,117	21%	29%
Age75-84	$1,283	$1,876	$2,468	46%	92%

5% Long-Term Cost Inflation	2025	2030	2035	Change 2025 to 2030	Change 2025 to 2035
Age 85+	$1,104	$1,649	$2,469	49%	124%
Nursing Facility	$1,431	$2,130	$3,041	49%	112%
Assisted Living	$709	$971	$1,216	37%	72%
In Home Care or PCA/CFSS	$848	$1,104	$1,309	30%	54%
2.5% MA Spending Projections	2025	2030	2035	Change 2025 to 2030	Change 2025 to 2035
Post-COVID and Blended Scenarios					
All Users	$3,318	$3,755	$4,248	13%	28%
Age 65-74	$863	$977	$1,105	13%	28%
Age75-84	$1,283	$1,452	$1,643	13%	28%
Age 85+	$1,104	$1,249	$1,413	13%	28%
Nursing Facility	$1,431	$1,619	$1,832	13%	28%
Assisted Living	$709	$802	$907	13%	28%
In Home Care or PCA/CFSS	$848	$960	$1,086	13%	28%

Table 4.9 Gap between LTSS Costs and Medicaid Spending with Post-COVID and Blended Scenarios and **5% Cost Inflation** and **2.5% Spending Projections** from 2025-2035

	Medicaid Spending		LTSS Costs		Spending Gap 2030		Spending Gap 2035	
	2030	2035	2030	2035	Amount	Percent	Amount	Percent
Post-COVID Scenario								
5% Inflation								
All Users	$3,755	$4,248	$4,746	$6,468	-$991	-21%	-$2,220	-34%
Age 65-74	$977	$1,105	$1,119	$1,285	-$142	-13%	-$180	-14%
Age75-84	$1,452	$1,643	$1,965	$2,751	-$513	-26%	-$1,108	-40%
Age 85+	$1,249	$1,413	$1,579	$2,341	-$330	-21%	-$928	-40%
Nursing Facility	$1,619	$1,832	$2,048	$2,901	-$429	-21%	-$1,069	-37%
Assisted Living	$802	$907	$1,087	$1,548	-$285	-26%	-$641	-41%
In Home Care or PCA/CFSS	$960	$1,086	$1,150	$1,397	-$190	-17%	-$311	-22%
2.5% Inflation								
All Users	$3,755	$4,248	$4,341	$5,287	-$586	-13%	-$1,039	-20%
Age 65-74	$977	$1,105	$1,028	$1,062	-$51	-5%	$43	4%
Age75-84	$1,452	$1,643	$1,798	$2,252	-$346	-19%	-$609	-27%
Age 85+	$1,249	$1,413	$1,439	$1,901	-$190	-13%	-$488	-26%
Nursing Facility	$1,619	$1,832	$1,860	$2,335	-$241	-13%	-$503	-22%
Assisted Living	$802	$907	$986	$1,244	-$184	-19%	-$337	-27%
In Home Care or PCA/CFSS	$960	$1,086	$1,077	$1,207	-$117	-11%	-$121	-10%
Blended Scenario								
5% Inflation								
All Users	$3,755	$4,248	$5,087	$7,462	-$1,332	-26%	-$3,214	-43%
Age 65-74	$977	$1,105	$1,135	$1,325	-$158	-14%	-$220	-17%
Age75-84	$1,452	$1,643	$2,045	$2,981	-$593	-29%	-$1,338	-45%
Age 85+	$1,249	$1,413	$1,808	$3,032	-$559	-31%	-$1,619	-53%
Nursing Facility	$1,619	$1,832	$2,346	$3,777	-$727	-31%	-$1,945	-51%
Assisted Living	$802	$907	$1,072	$1,513	-$270	-25%	-$606	-40%
In Home Care or PCA/CFSS	$960	$1,086	$1,166	$1,442	-$206	-18%	-$356	-25%
2.5% Inflation								
All Users	$3,755	$4,248	$4,663	$6,153	-$908	-19%	-$1,905	-31%
Age 65-74	$977	$1,105	$1,048	$1,117	-$71	-7%	-$12	-1%

Age75-84	$1,452	$1,643	$1,876	$2,468	-$424	-23%	-$825	-33%
Age 85+	$1,249	$1,413	$1,649	$2,469	-$400	-24%	-$1,056	-43%
Nursing Facility	$1,619	$1,832	$2,130	$3,041	-$511	-24%	-$1,209	-40%
Assisted Living	$802	$907	$971	$1,216	-$169	-17%	-$309	-25%
In Home Care or PCA/CFSS	$960	$1,086	$1,104	$1,309	-$144	-13%	-$223	-17%

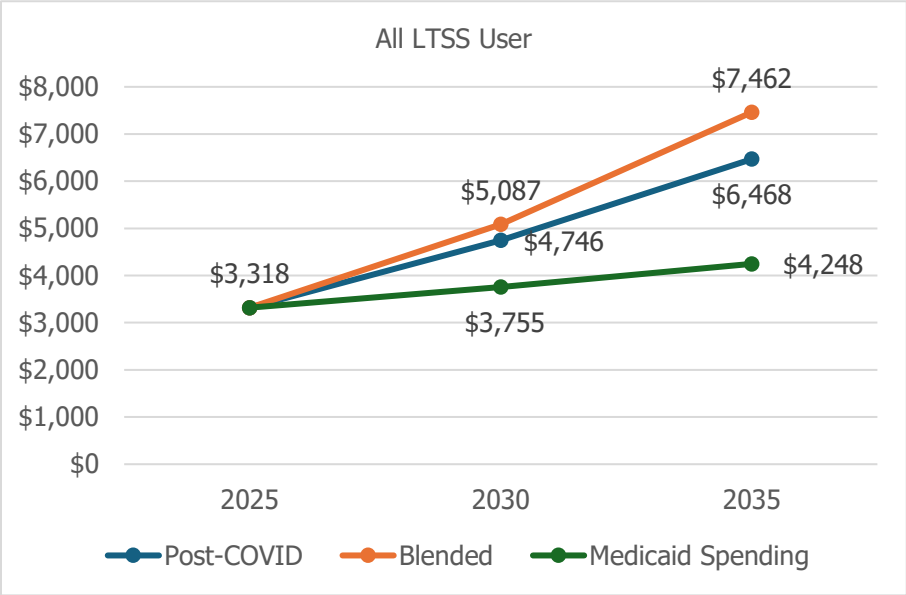
Table 4.10 Effect of Spending Reduction on Number of LTSS Users with Post-COVID and Blended Scenarios with **5% Cost Inflation** and **2.5% Spending Projections** from 2025-2035

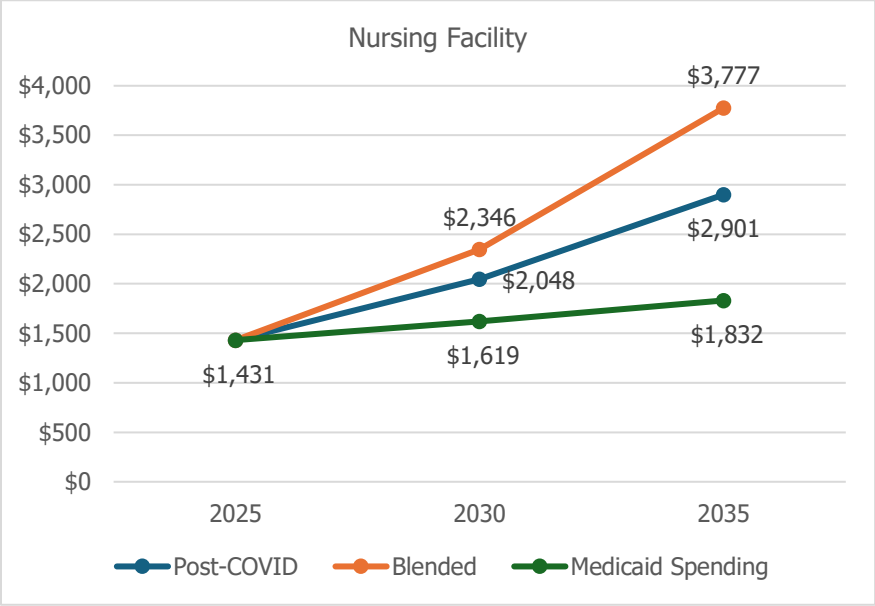
	Projected LTSS Users			Users Supported by Spending			Spending-Related Reduction in Users			% Spending-Related Reduction in Users		
	2025	2030	2035	2025	2030	2035	2025	2030	2035	2025	2030	2035
Post-COVID Scenario												
All Users	57971	64999	70613	57971	51415	46379	0	-13583	-24234	0%	-21%	-34%
Age 65-74	19447	20028	18849	19447	17485	16210	0	-2542	-2638	0%	-13%	-14%
Age75-84	22645	27302	30915	22645	20173	18462	0	-7129	-12453	0%	-26%	-40%
Age 85+	15846	17724	21039	15846	14020	12695	0	-3703	-8344	0%	-21%	-40%
Nursing Facility	17738	20009	22131	17738	15819	13975	0	-4190	-8156	0%	-21%	-37%
Assisted Living	15073	17088	19036	15073	12601	11154	0	-4487	-7883	0%	-26%	-41%
In Home Care or PCA/CFSS	20921	23424	25044	20921	19543	19466	0	-3881	-5578	0%	-17%	-22%
Blended Scenario												
All Users	57971	66851	75054	57971	47976	46398	0	-18875	-28657	0%	-28%	-38%
Age 65-74	19447	19822	18461	19447	17236	16934	0	-2586	-1527	0%	-13%	-8%
Age75-84	22645	27581	31546	22645	19386	18900	0	-8195	-12646	0%	-30%	-40%
Age 85+	15846	19496	25248	15846	12244	11700	0	-7252	-13548	0%	-37%	-54%
Nursing Facility	17738	22801	28547	17738	13809	13134	0	-8992	-15413	0%	-39%	-54%
Assisted Living	15073	16969	18912	15073	12788	12514	0	-4180	-6398	0%	-25%	-34%
In Home Care or PCA/CFSS	20921	24326	26945	20921	19278	19218	0	-5048	-7727	0%	-21%	-29%

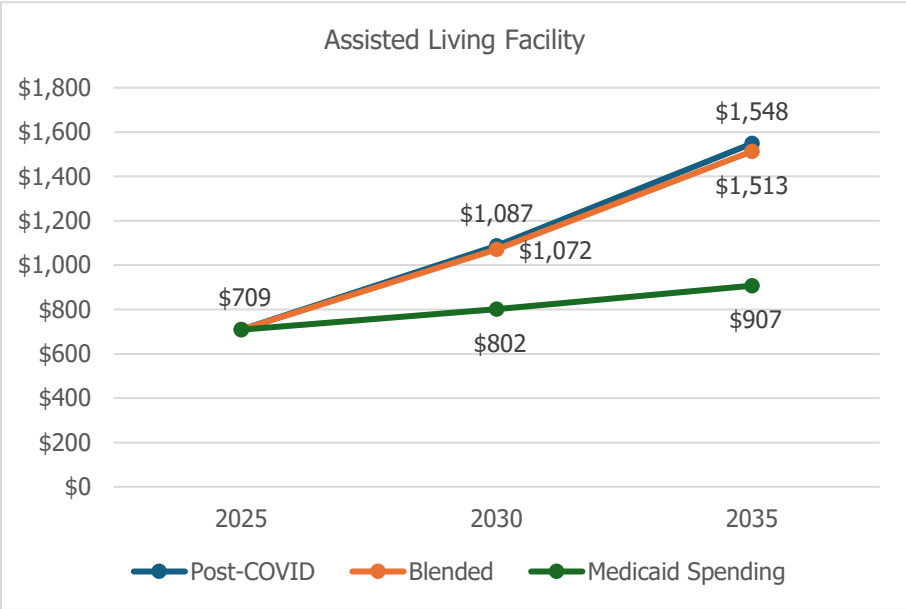
Table 4.11 Effect of Spending Reduction on Number of LTSS Users with Post-COVID and Blended Scenarios with **2.5% Cost Inflation** and **2.5% Spending Projections** from 2025-2035

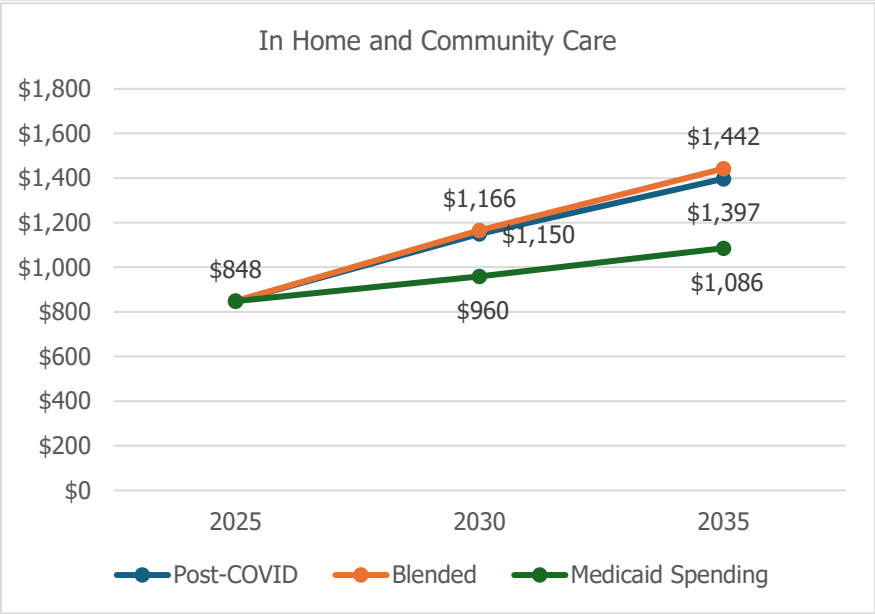
	Projected LTSS Users			Users Supported by Spending			Spending-Related Reduction in Users			% Spending-Related Reduction in Users		
	2025	2030	2035	2025	2030	2035	2025	2030	2035	2025	2030	2035
Post-COVID Scenario												
All Users	57971	64999	70613	57971	56222	56738	0	-8776	-13875	0%	-14%	-20%
Age 65-74	19447	20028	18849	19447	19030	19616	0	-998	768	0%	-5%	4%
Age75-84	22645	27302	30915	22645	22053	22558	0	-5250	-8357	0%	-19%	-27%
Age 85+	15846	17724	21039	15846	15381	15635	0	-2342	-5404	0%	-13%	-26%
Nursing Facility	17738	20009	22131	17738	17418	17358	0	-2591	-4772	0%	-13%	-22%
Assisted Living	15073	17088	19036	15073	13903	13881	0	-3186	-5155	0%	-19%	-27%
In Home Care or PCA/CFSS	20921	23424	25044	20921	20878	22529	0	-2546	-2515	0%	-11%	-10%
Blended Scenario												
All Users	57971	66851	75054	57971	52336	51695	0	-14514	-23359	0%	-22%	-31%
Age 65-74	19447	19822	18461	19447	18668	18686	0	-1153	225	0%	-6%	1%
Age75-84	22645	27581	31546	22645	21132	21034	0	-6449	-10513	0%	-23%	-33%
Age 85+	15846	19496	25248	15846	13421	13118	0	-6075	-12130	0%	-31%	-48%
Nursing Facility	17738	22801	28547	17738	15206	14815	0	-7595	-13732	0%	-33%	-48%
Assisted Living	15073	16969	18912	15073	14109	14144	0	-2859	-4769	0%	-17%	-25%
In Home Care or PCA/CFSS	20921	24326	26945	20921	20356	20496	0	-3970	-6449	0%	-16%	-24%

Panel 4.2 Medicaid Cost Projections for Post COVID and Blended Scenarios using **5% Cost Inflation** Compared to **Medicaid Spending Increases at 2.5%** Per Year

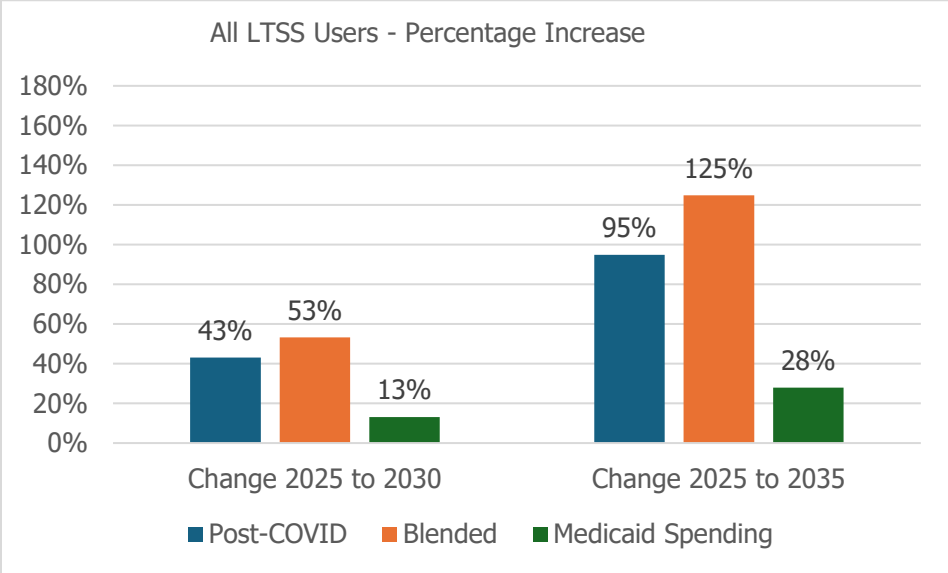


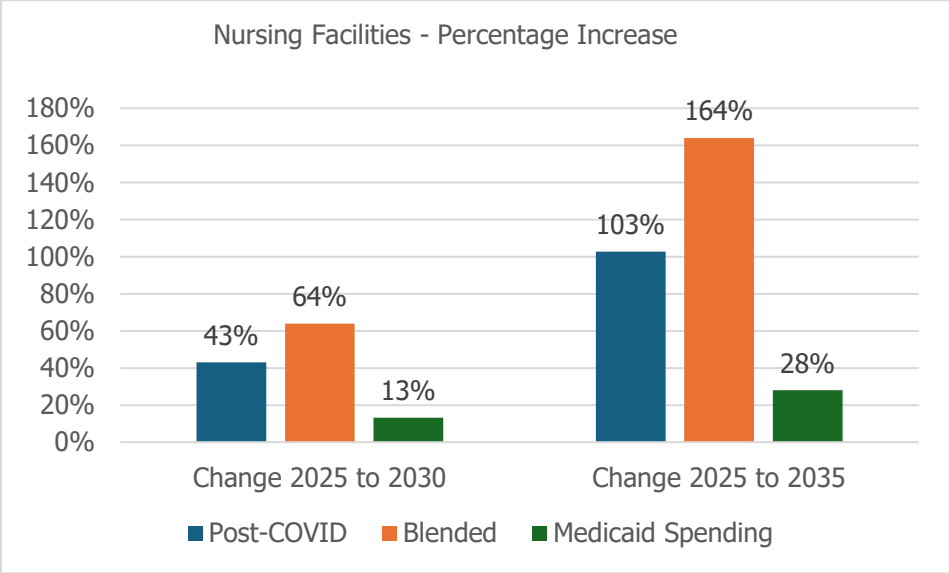


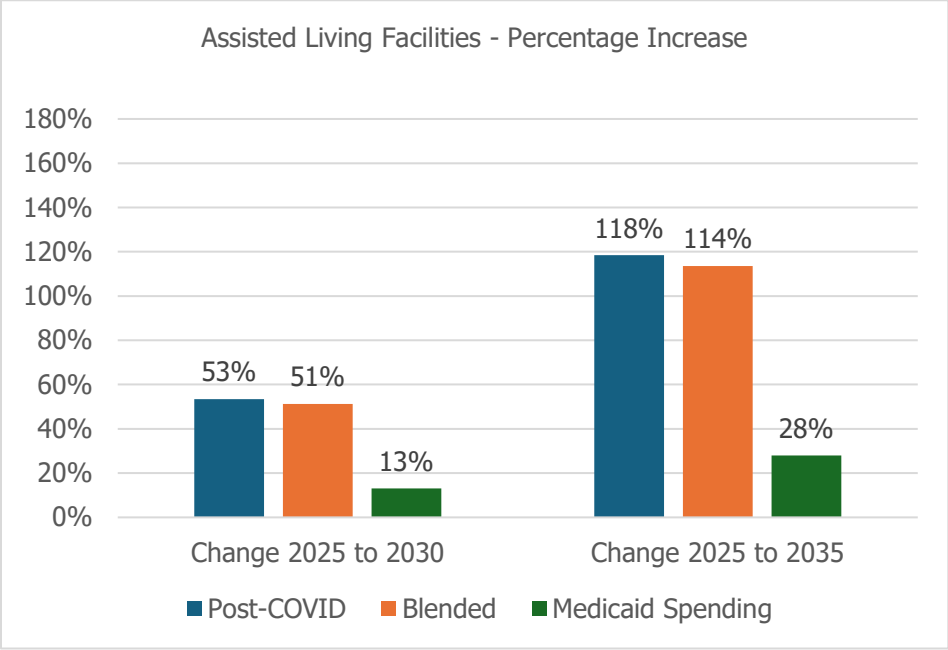


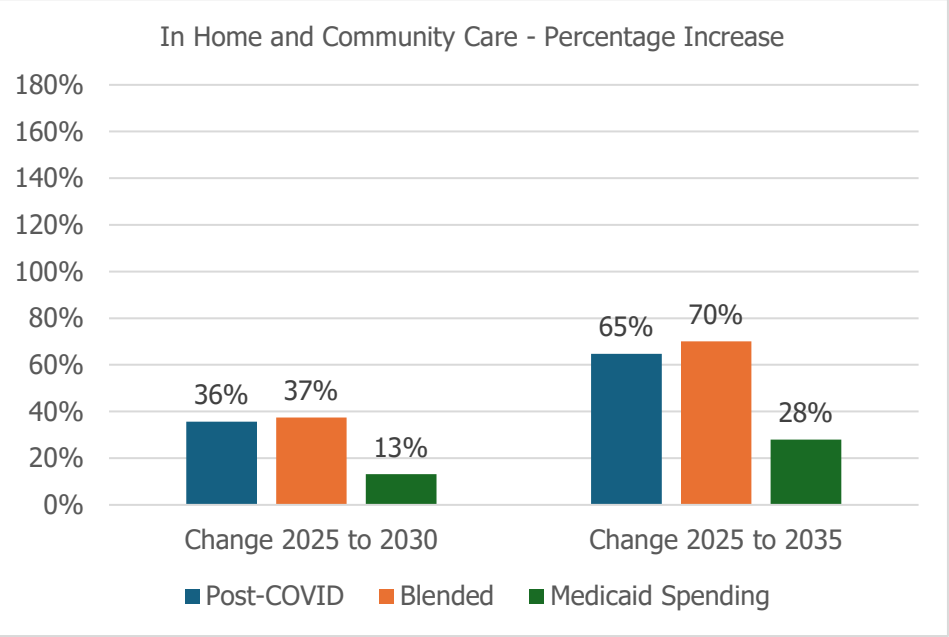


Panel 4.3 Percentage Increase in Medicaid Cost Projections for Post COVID and Blended Scenarios using **5% Cost Inflation** Compared to **Medicaid Spending Increases at 2.5%** Per Year

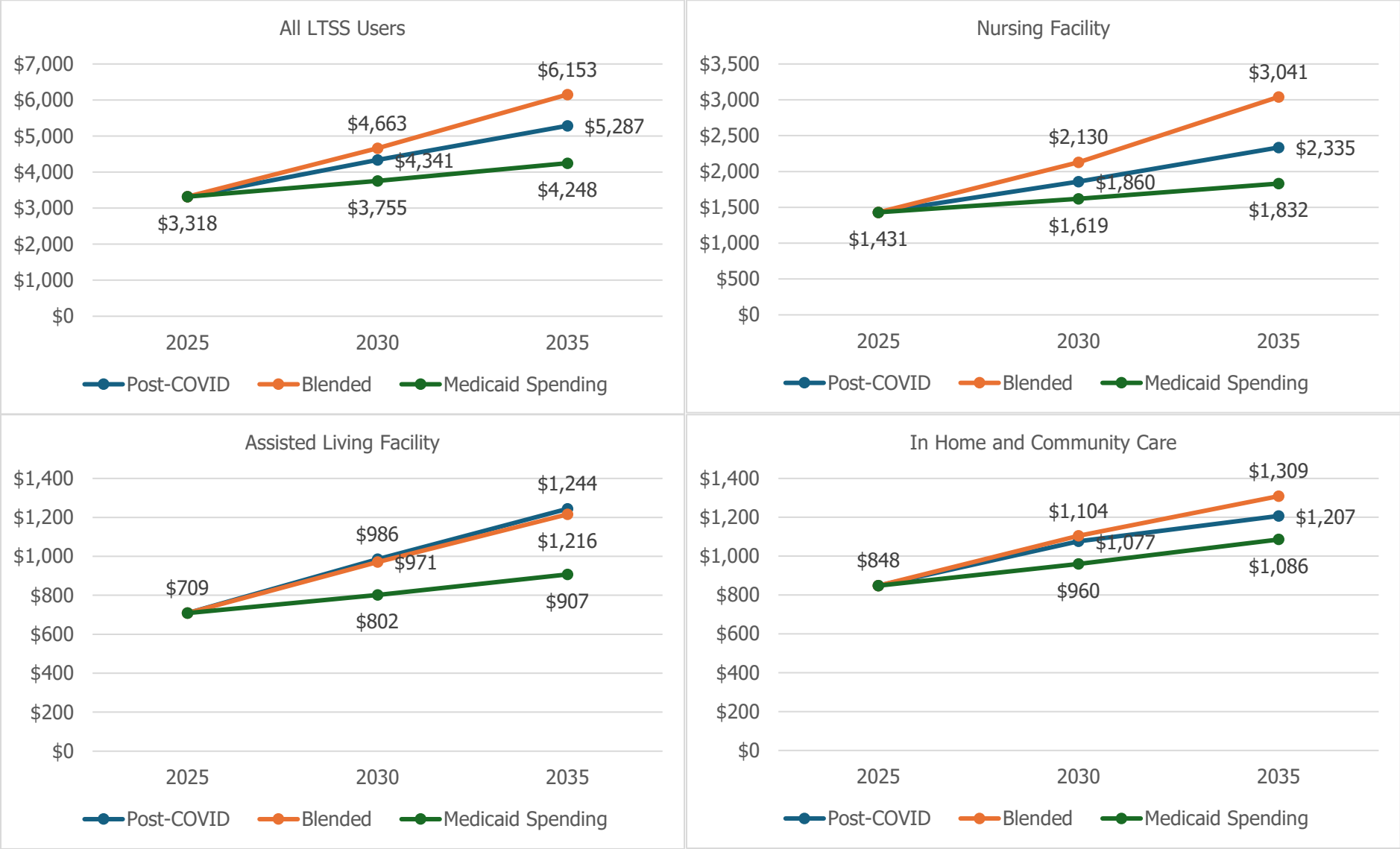






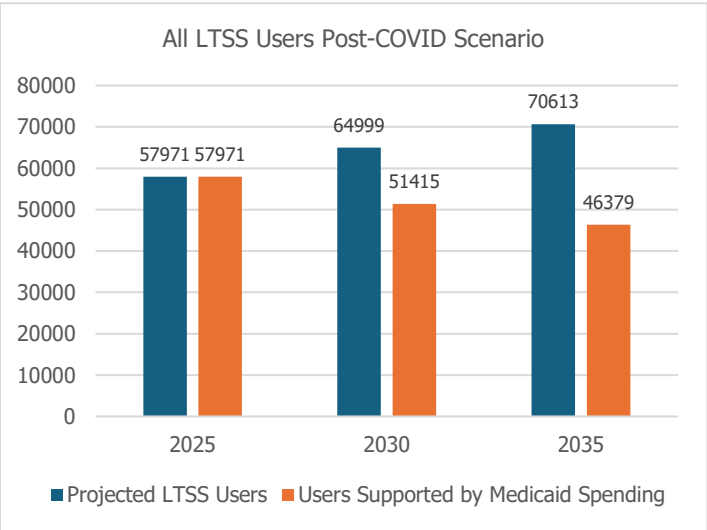


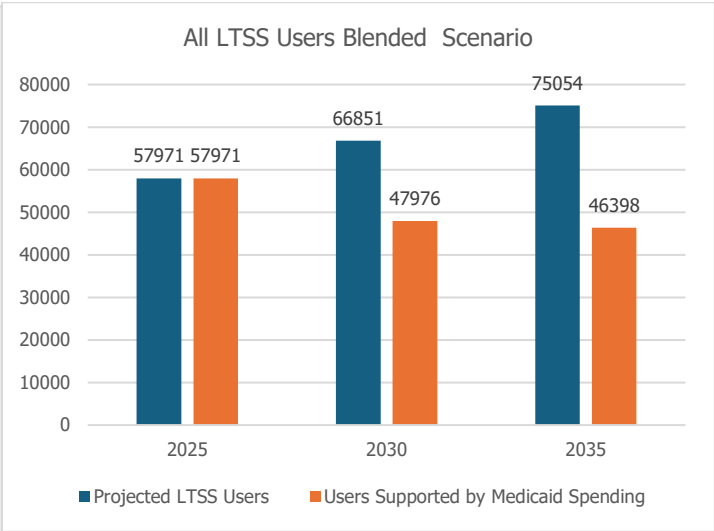
Panel 4.4 Medicaid Cost Projections with Post COVID and Blended Scenarios at **2.5% Cost Inflation** Compared to **Medicaid Spending Inflation at 2.5%** Per Year ($Millions in current dollars)

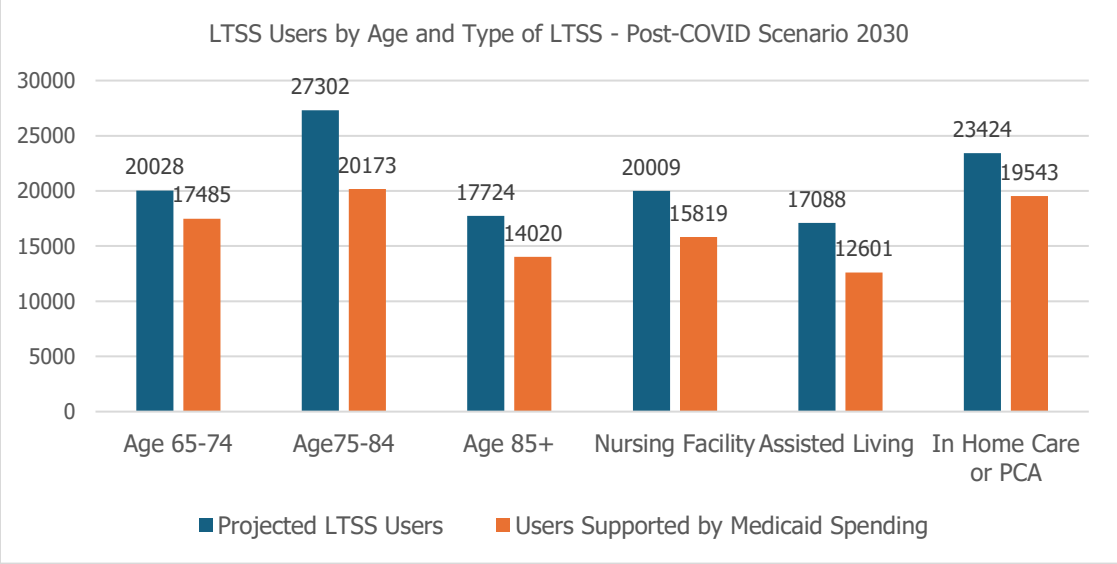


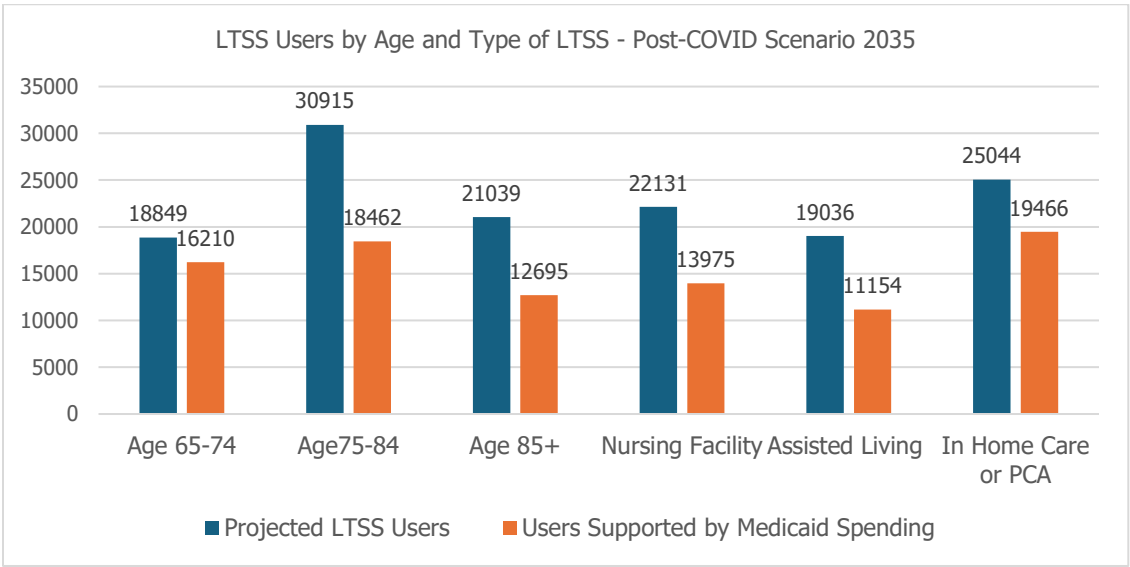
Panel 4.5 Percentage Increase in Medicaid Cost Projections for Post COVID and Blended Scenarios with **2.5% Cost Inflation** Compared to Medicaid **Spending Inflation at 2.5%** Per Year

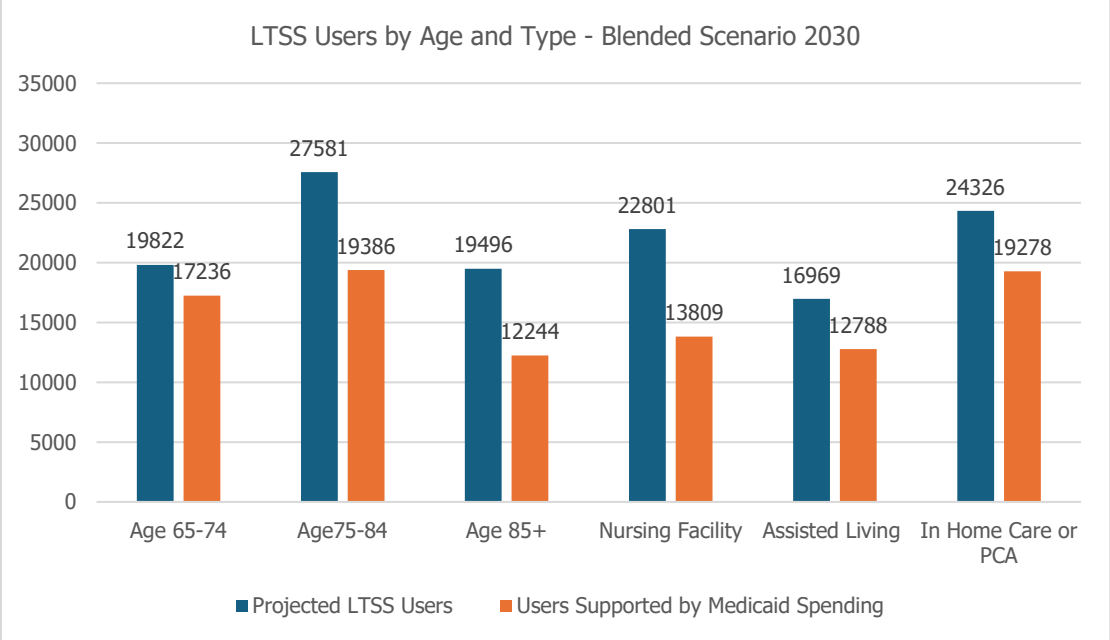
Panel 4.6 Effect of Spending Reduction on Number of LTSS Users with Post-COVID and Blended Scenarios with **5% Cost Inflation Rate** and **2.5% Spending Projections** from 2025-2035

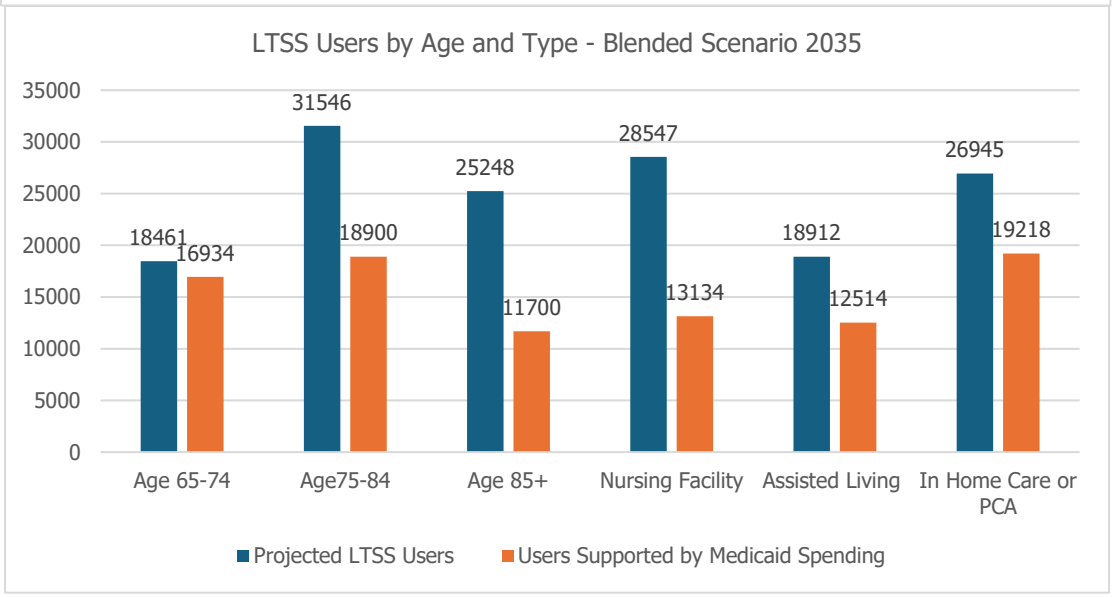




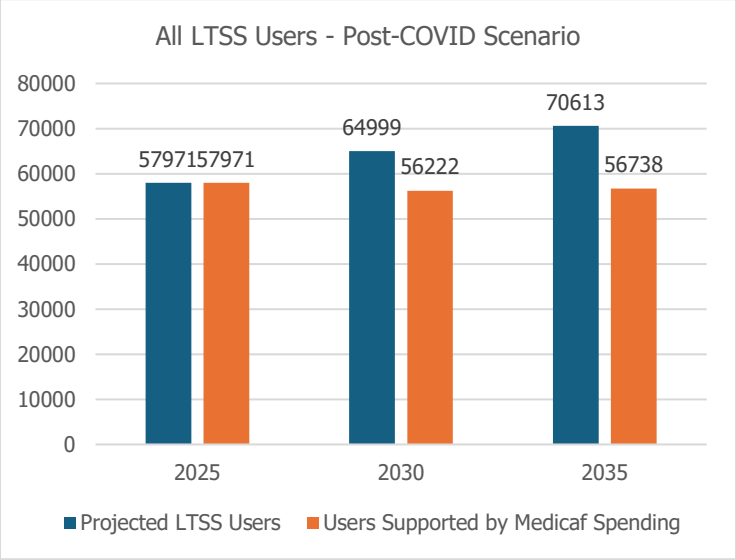


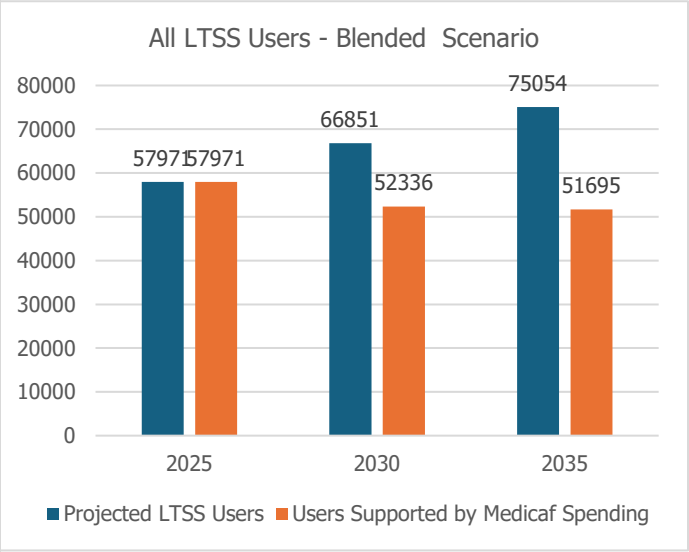


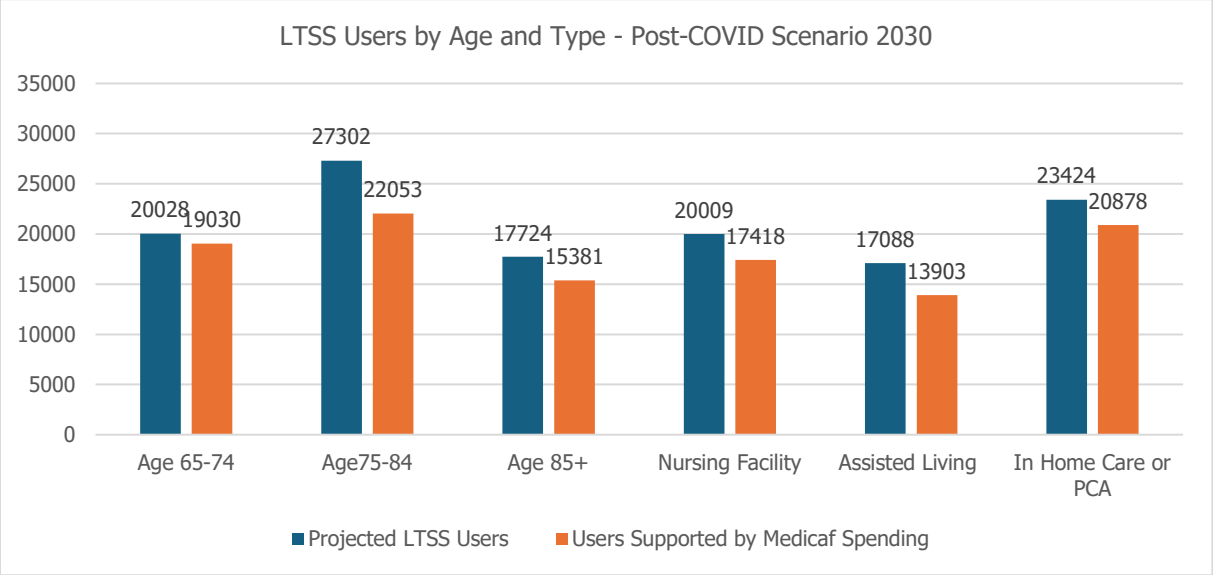

LTSS Users by Age and Type - Blended Scenario 2030
35000
30000
25000
20000
15000
10000
5000
0
19822
17236
27581
19386
19496
12244
22801
13809
16969
12788
24326
19278
Age 65-74
Age75-84
Age 85+
Nursing Facility
Assisted Living
In Home Care or PCA
Projected LTSS Users
Users Supported by Medicaid Spending

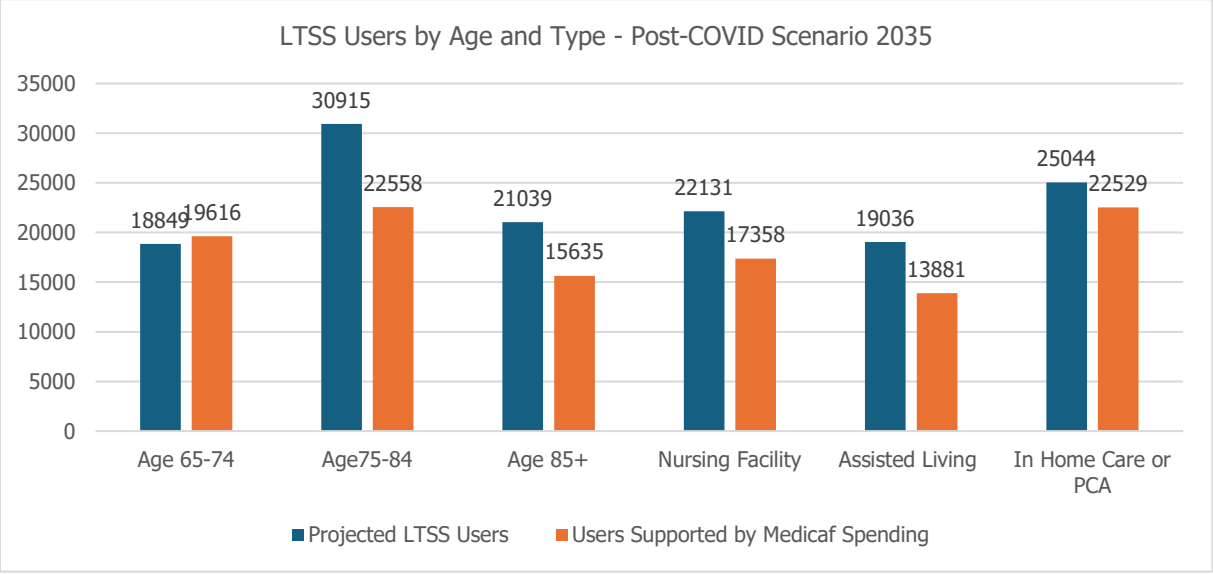

LTSS Users by Age and Type - Blended Scenario 2035
35000
30000
25000
20000
15000
10000
5000
0
18461
16934
31546
18900
25248
11700
28547
13134
18912
12514
26945
19218
Age 65-74
Age75-84
Age 85+
Nursing Facility
Assisted Living
In Home Care or PCA
Projected LTSS Users
Users Supported by Medicaid Spending

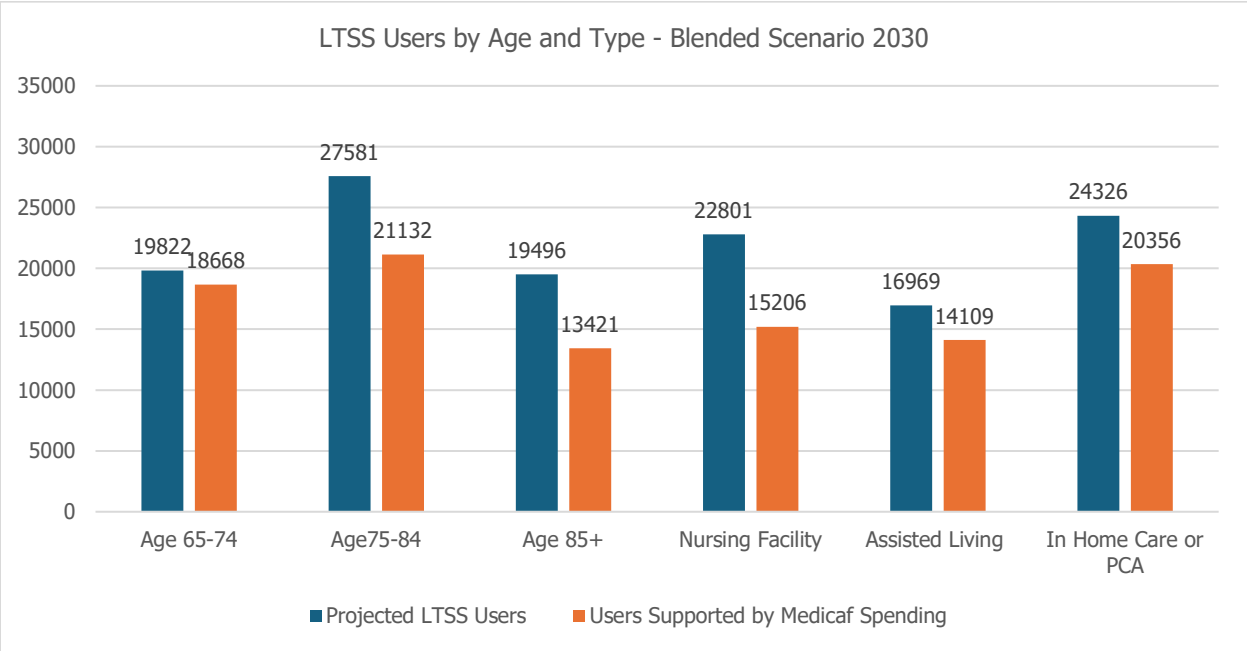
Panel 4.7 Effect of Spending Reduction on Number of LTSS Users with Post-COVID and Blended Scenarios with **2.5% Cost Inflation** and **2.5% Spending Projections** from 2025-2035

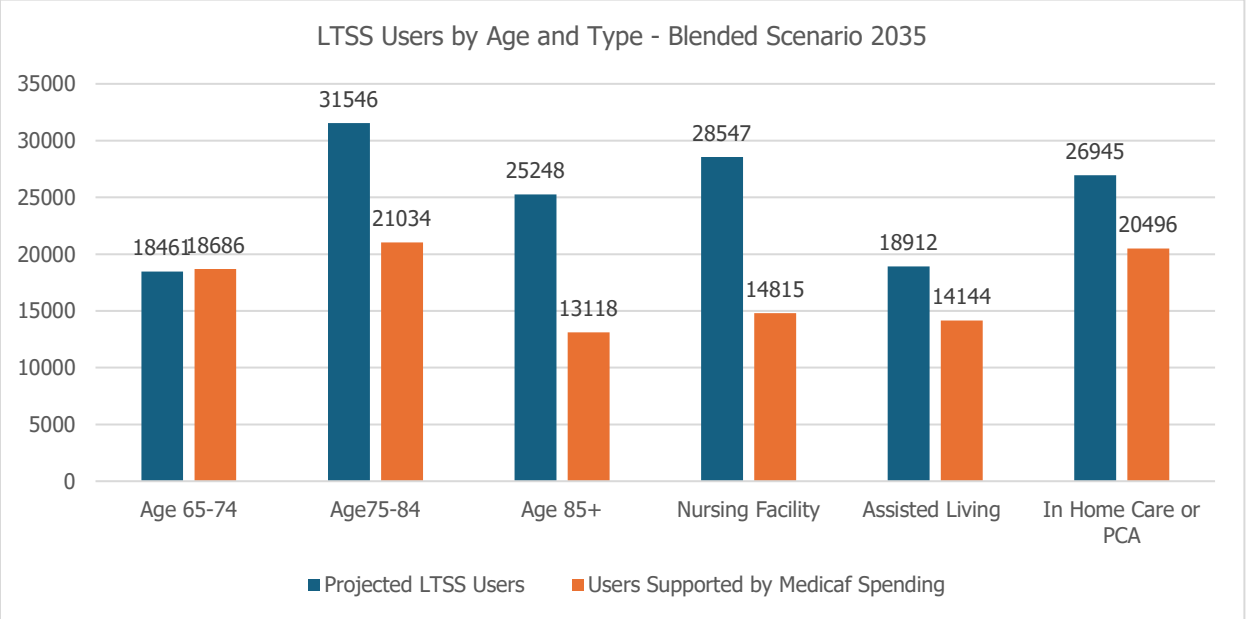









LTSS Users by Age and Type - Blended Scenario 2030
35000
30000
25000
20000
15000
10000
5000
0
19822
18668
27581
21132
19496
13421
22801
15206
16969
14109
24326
20356
Age 65-74
Age75-84
Age 85+
Nursing Facility
Assisted Living
In Home Care or PCA
Projected LTSS Users
Users Supported by Medicaf Spending


LTSS Users by Age and Type - Blended Scenario 2035
35000
30000
25000
20000
15000
10000
5000
0
18461
18686
31546
21034
25248
13118
28547
14815
18912
14144
26945
20496
Age 65-74
Age75-84
Age 85+
Nursing Facility
Assisted Living
In Home Care or PCA
Projected LTSS Users
Users Supported by Medicaf Spending

Chapter 5: Microsimulation

Simulation Model

A simulation approach was adopted in order to better understand the impact of different assumptions on estimates of future LTSS need in Minnesota, to test competing scenarios, and to assess the level of uncertainty around estimates.

A semi-Markov model was used to mimic the pattern of Long Term Services and Supports (LTSS) use for Medicaid (MA) enrollees and privately paying Nursing Facility (NF) residents in Minnesota. For the purposes of the simulation, LTSS use is subcategorized into Elderly Waiver participants living in the community setting (EWC), Elderly Waiver participants living in a residential setting (EWR), nursing facility residents enrolled in Medicaid, nursing facility residents not enrolled in Medicaid, Personal Care Assistant program participants not enrolled in a Waiver program (PCA), Alternative Care program participants (AC), and individuals enrolled in Medicaid not using LTSS and past nursing facility residents not enrolled in Medicaid. Probabilities of transitioning between these LTSS subgroups and the distributions of time spent in each subgroup before transitioning out of the subgroup were learned from historical data (2022 transition probabilities and 2016- June 2023 distribution of time spent in a subcategory). This model was used to simulate future months of use for each subcategory from 2025 to 2039 using Minnesota state demographer population forecasts and historical population LTSS usage rates.

Figure 5.1 Transition Patterns between LTSS Subgroups Observed in Data

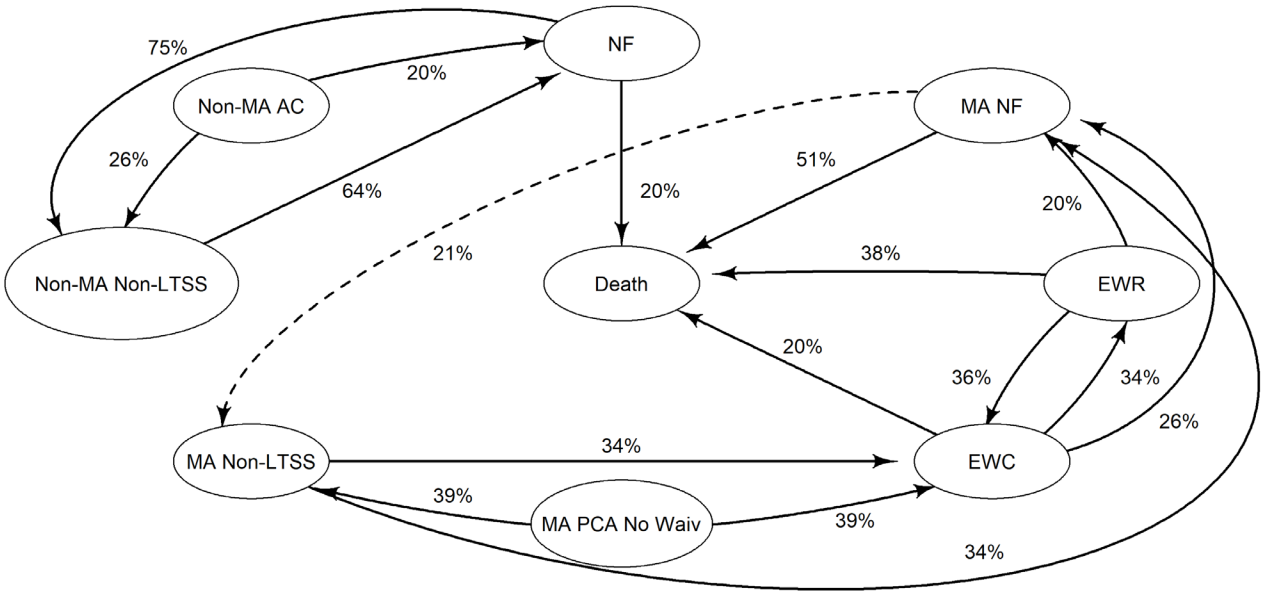


Figure 5.1 and Table A.8 summarize the observed transition probabilities. Figure 5.1 displays the transitions that occur with a rate of 20% or higher. For example, the arrows connecting to the oval labeled EWC displays the most common transitions into and out of the Elderly Waiver Community sub-group. When an individual transitions out of EWC, it was mostly to move into Elderly Waiver Residential (EWR: 34%), to the Nursing Facility while on Medicaid (MA NF: 26%), or to death (20%). LTSS subgroups that were likely to transition into EWC were Personal Care Assistance without a waiver (PCA: 39% of transitions), EWR (36%), and Medicaid Enrolled without LTSS (34%). The full list of observed transition probabilities is given in Table A 1. Multinomial Logistic Regression models were used to adjust individual care recipient transition probabilities based on demographic (location, race and ethnicity, gender, marital status, and age), prior care use (previous use of home and community-based care or skilled nursing facilities), prior dementia diagnosis, and need for assistance with activities of daily living. This was done to make the model more responsive to projected population changes in these variables.

How long an individual remained in any of the LTSS sub-groups was modeled conditional on the next destination (e.g., given that an individual was moving from EWC to EWR, how many months are they expected to stay in EWC before transitioning to EWR). These models were built using best fitting right skewed distributions that accounted for right censoring. Scale parameters were adjusted for the same variables used in the multinomial models whenever it improved model fit to better capture the impact of projected population change. Figure A 1 through Figure A 49 in the appendix display the median distribution used for each transition in the simulation model (median of parameter values across person level profiles).

General Projection Assumptions

There are two sets of assumptions which pertain to all scenarios. These are growth in population for Minnesota's older adults and growth in the average cost to Medicaid for each LTSS group. The assumed population number for each year by age group and sex are given in Table 5.1 and were compiled from numbers found on the Minnesota State Demographic Center website (May 2024 projection update). Note that the youngest age group (65-74) is expected to see an overall decline by 2039 while the older two groups (75-84 and 85+) are projected to grow between 39% and 58% over the same period.

The assumption for growth in costs to Medicaid is a hypothetical projection. This hypothetical projection began with monthly average cost taken from actual costs to Medicaid data in 2022 and was adjusted to a 2025 basis using DHS Forecast observed growth rates (Table 5.2 gives the 2025-dollar amounts). These observed growth rates and future hypothetical cost growth assumptions are given in Table 5.3 and split into two scenarios. The "5% cost growth assumption" follows the DHS forecast through 2029 and then assumes a 1% cost to Medicaid growth for PCA and 5% cost to Medicaid growth for all other LTSS subgroups. The "2.5% cost growth assumption" follows the DHS forecast through 2026 and then assumes a 1% cost to Medicaid growth for PCA and a 2.5% cost to Medicaid growth rate for all other groups. The two cost growth

scenarios were chosen to help understand the impact of the cost growth assumption on overall projected cost to Medicaid growth. The intent is to model average potential behavior of cost to Medicaid growth over time, although it is expected that actual values will vary on a year-to-year basis (i.e., increase less smoothly).

Table 5.1 Projected Population Growth by Age Group and Sex

Sex	Male	Male	Male	Female	Female	Female
Age	65-74	75-84	85+	65-74	75-84	85+
2025	302,254	150,768	43,750	319,752	183,262	83,357
2026	308,520	157,491	44,320	325,836	190,957	84,403
2027	314,793	164,231	44,875	331,931	198,673	85,472
2028	314,271	170,475	46,389	330,509	205,693	87,880
2029	313,687	176,724	47,917	329,044	212,709	90,299
2030	313,056	182,974	49,418	327,529	219,753	92,752
2031	312,365	189,232	50,979	325,960	226,775	95,195
2032	311,624	195,473	52,514	324,323	233,785	97,647
2033	307,210	199,762	54,894	317,899	238,433	101,474
2034	302,698	204,039	57,280	311,377	243,064	105,282
2035	298,109	208,323	59,659	304,762	247,693	109,110
2036	293,432	212,597	62,015	298,063	252,301	112,944
2037	288,676	216,860	64,391	291,269	256,894	116,782
2038	285,347	216,171	66,734	286,102	255,528	120,641
2039	281,937	215,462	69,073	280,834	254,121	124,492

Population projections taken from May of 2024 projection update.

Table 5.2 Baseline (2025) Monthly Average Cost by LTSS Subgroup and Annual Cost Growth Rate.

	2025 Baseline Amount for Monthly Use
Nursing Facility with Medicaid	$11,187
Assisted Living (EWR)	$4,575
EWC	$3,800
AC	$1,971
PCA	$4,859

EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. LTSS = Long Term Services and Supports.

Table 5.3 Alternative Cost to Medicaid Growth Rate Scenarios

	2023	2024	2025	2026	2027	2028	2029	2030+
"5% Cost Growth" - DHS Forecast through 2029 + 5% + 1% PCA								
EWC	7.9%	25.1%	22.8%	11.1%	5.1%	5.1%	5.0%	5%
EWR	7.9%	25.1%	22.8%	11.1%	5.1%	5.1%	5.0%	5%
MA NF	9.7%	11.2%	3.1%	4.3%	5.8%	4.9%	4.3%	5%
PCA	3.5%	7.3%	20.7%	9.3%	-0.6%	2.1%	1.6%	1%
AC	6.6%	26.2%	26.8%	5.4%	5.9%	6.2%	6.0%	5%
NOT-MA NF	9.7%	11.2%	3.1%	4.3%	5.8%	4.9%	4.3%	5%
"2.5% Cost Growth" - DHS Forecast through 2026 + 2.5% + 1% PCA								
EWC	7.9%	25.1%	22.8%	11.1%	2.5%	2.5%	2.5%	2.5%
EWR	7.9%	25.1%	22.8%	11.1%	2.5%	2.5%	2.5%	2.5%
MA NF	9.7%	11.2%	3.1%	4.3%	2.5%	2.5%	2.5%	2.5%
PCA	3.5%	7.3%	20.7%	9.3%	1%	1%	1%	1%
AC	6.6%	26.2%	26.8%	5.4%	2.5%	2.5%	2.5%	2.5%
NOT-MA NF	9.7%	11.2%	3.1%	4.3%	2.5%	2.5%	2.5%	2.5%

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. DHS = Minnesota Department of Human Services. LTSS = Long Term Services and Supports.

Usage Rates Scenario

Basis for Simulation Selection

This simulation explores the impact of changes in usage rates (the percentage of the Minnesota population falling into an LTSS subgroup) over time on expected costs to Medicaid. Usage rates have changed historically and this simulation helps to understand how much the results depend on assuming a particular usage rate.

Assumptions and Rationale

The key assumptions are about the LTSS usage rates. Three different sets of rates were assumed. The baseline case assumed that usage rates follow the post-COVID usage rates (the average rates from 2022 and the first half of 2023). The blended scenario assumes that rates return to the Pre-COVID (2019) usage rates. For the blended scenario, rates begin at the post-COVID rates and return to the pre-COVID rates following a linear pattern over a 10 year period. The final set of usage rates is called the Nursing Facility Decline scenario. In this scenario, nursing facility usage rates continue to decline following an exponential decay function fit to observed data which bottoms out at a usage rate a factor below the minimum observed usage rate. The factor is set to mirror the growth factor required to return back to the pre-COVID rates in the blended scenario. To summarize, usage rates are assumed to be stable at the most recent observed values (base scenario), return to pre-COVID values (blended scenario), or a continued substitution of other LTSS in place of nursing facility use is observed (NF decline scenario). A visualization of the estimation of the NF decline usage rates relative to the blended rates and the impact of the assumed rates on user counts is given in the appendix (Figure A 50 through Figure A 65). Methodologically it is important to note that the simulation is run under the baseline (post-COVID) usage rates to generate individual person level profiles over the 15 year period. This is repeated 150 times. Then profiles are re-sampled using a bootstrapping technique to match the assumed usage rates of the three scenarios in January of each year. Results presented are the average results across the 150 simulations.

Original Hypothesis

It was expected that the NF decline scenario would represent the lowest costs, base case the middle costs, and blended scenario the highest costs. The exact magnitude of the relative difference required estimation.

Findings

The overall findings are given in Figure 5.1. The expected relative position of total costs to Medicaid is observed (NF Decline < Base < Blended). The three scenarios begin close together and then diverge over time as expected. The blended scenario represents a 1.4% increase in costs to Medicaid over the base case on average from 2025-2029 which grows to a 10.3% increase in costs to Medicaid on average from 2035-2039. The nursing facility decline scenario is estimated to have a 3.4% cost savings on average from 2025-2029 which grow to a 6.5% cost savings from 2035-2039. In terms of dollars the difference between the blended and nursing facility decline scenarios is estimated to be about a $107 million a month difference from 2035-2039. The tables give additional summary data on average monthly costs to Medicaid (Table 5.6), differences in costs to Medicaid by scenario (Table 5.7), and percent change in cost to Medicaid over time (Table 5.8) by LTSS subgroups.

Looking at projected trends by LTSS subgroup indicates what drives the difference in projected costs to Medicaid between the scenarios. The percentage difference between the blended and nursing facility decline scenario relative to the baseline scenario is given by LTSS subgroups in Table 5.4 and pictured for EWC, EWR, and Medicaid NF use in Figure 5.2 through Figure 5.4. In general the lower costs to Medicaid associated with the nursing facility decline scenario are driven by the drop in nursing facility users which is only partially offset by a rising number of users in EWC, EWR, AC, and PCA. The blended scenario is largely the opposite (higher nursing facility use with lower EWC, EWR, and AC), although PCA sees the highest number of users under the blended scenario. Across all three sets of assumptions about LTSS usage rates, the number of users for all subgroups is projected to grow due to the projected growth in the overall population (Table 5.5).

Figure 5.2 Average Monthly Costs to Medicaid Over 5 Year Period by Scenario

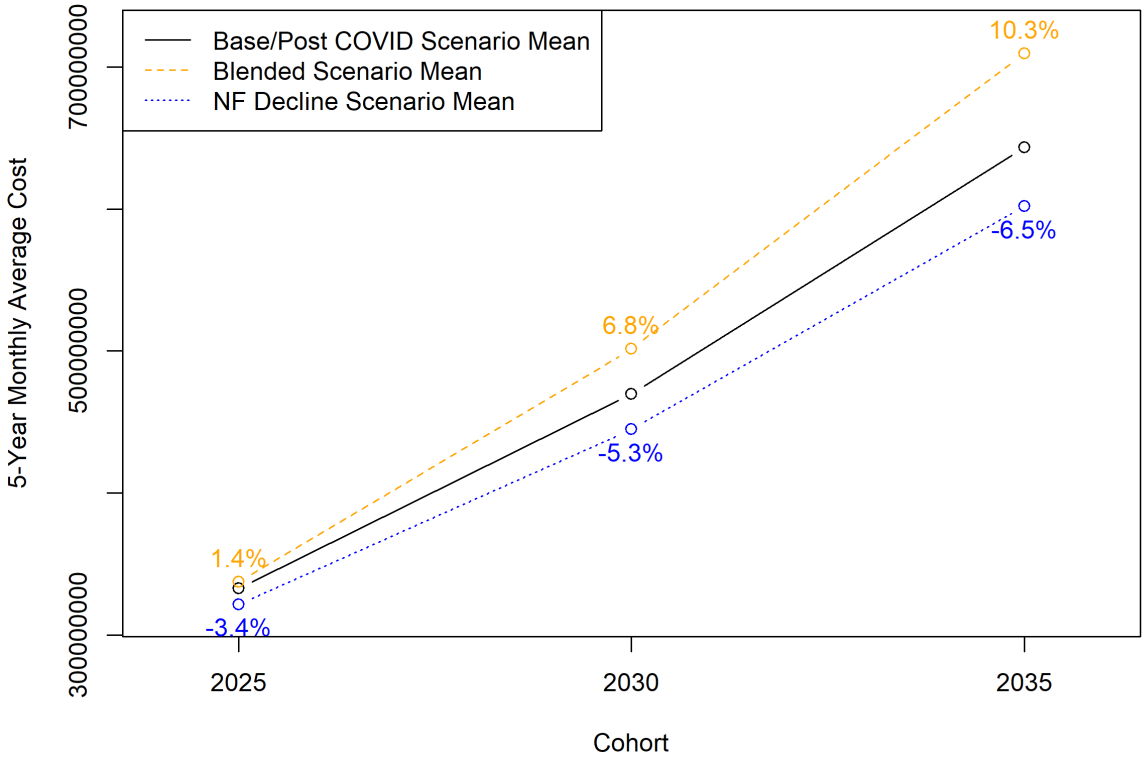


Figure 5.3 Percentage Change in Average Number of EWC Users from 2025 5-Year Cohort by Scenario

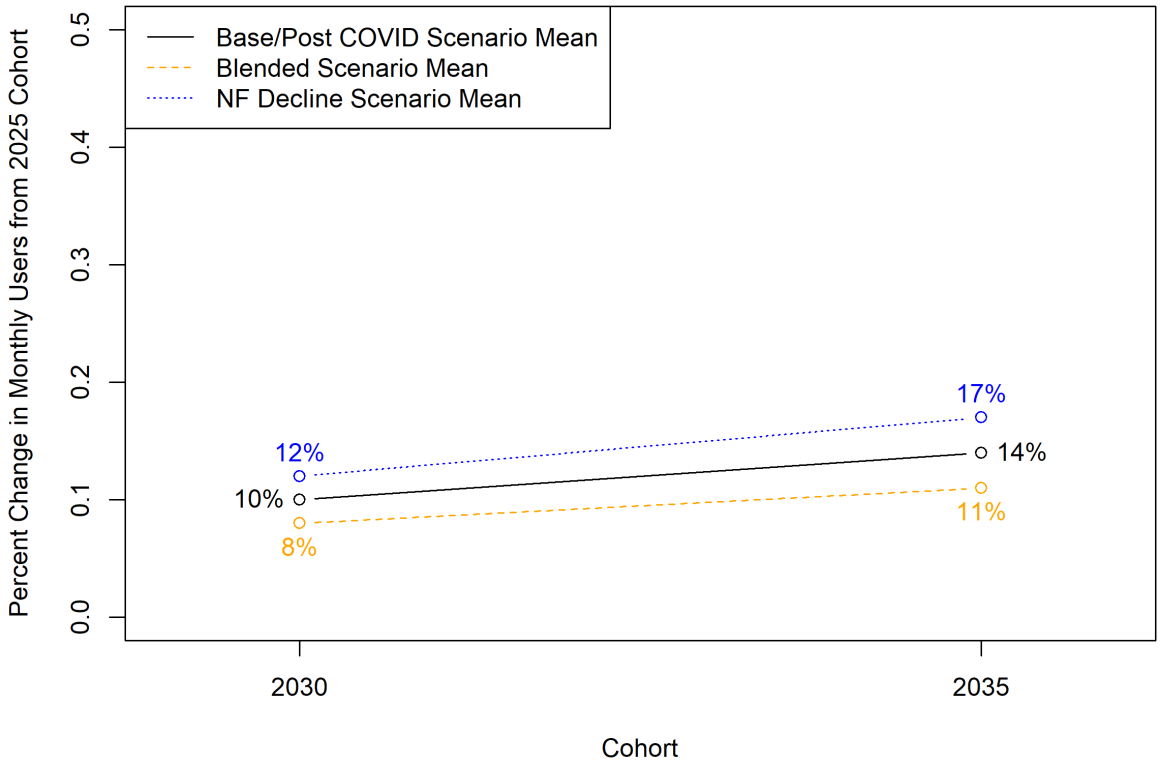


Figure 5.4 Percentage Change in Average Number of EWR Users from 2025 5-Year Cohort by Scenario

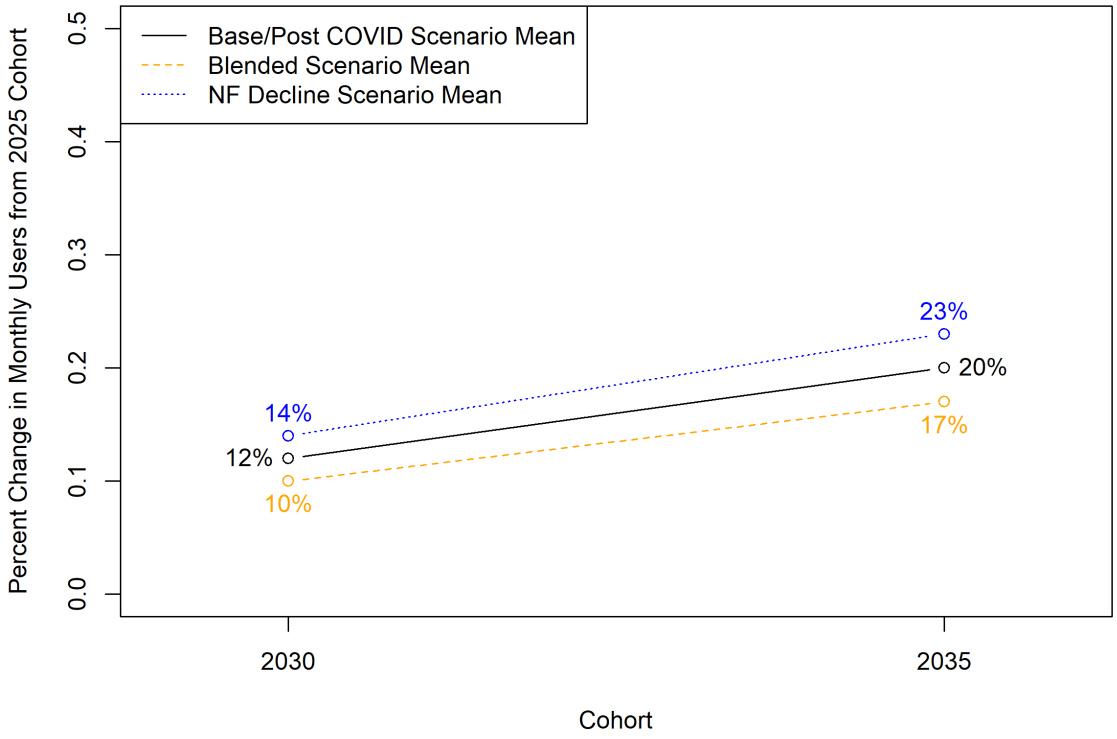


Figure 5.5 Percentage Change in Average Number of Medicaid Nursing Facility Users from 2025 5-Year Cohort by Scenario

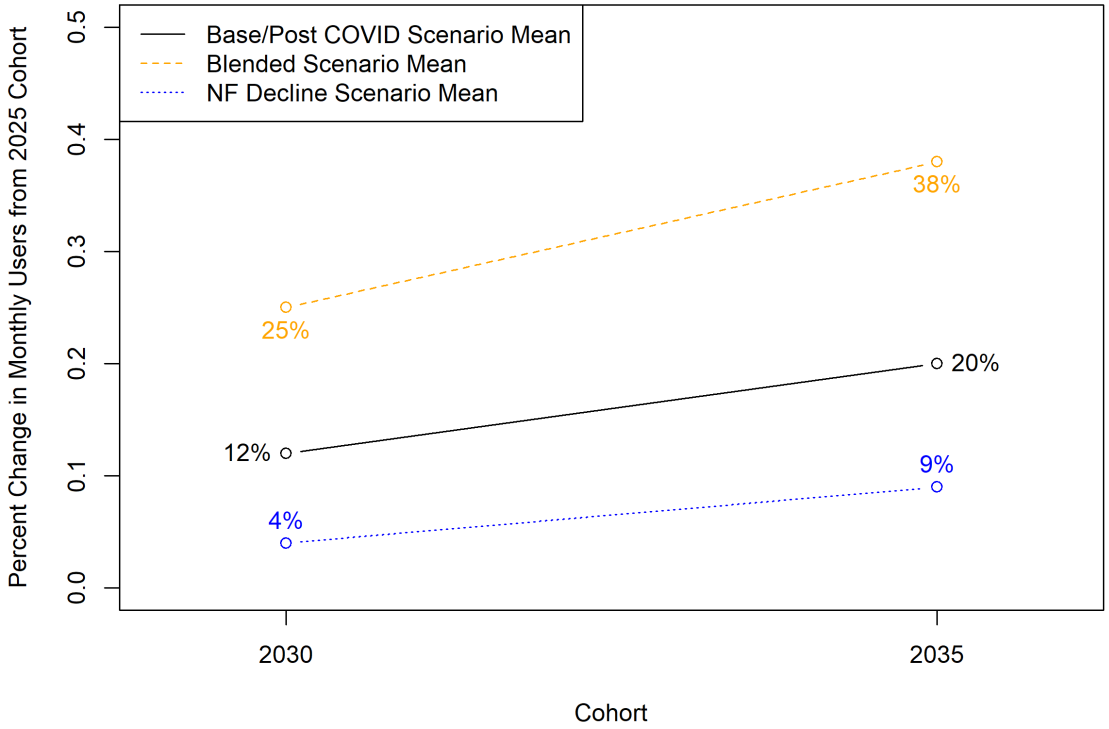


Table 5.4 Average Monthly Users by LTSS Category, Scenario, and Cohort Year

	Baseline	Blended	NF Decline	Blended	NF Decline
2025				% Change from Baseline	
EWC	20,069	20,005	19,842	0%	-1%
EWR	13,015	12,962	12,918	0%	-1%
MANF	12,302	12,679	11,512	3%	-6%
PCA	2,979	3,059	2,927	3%	-2%
AC	3,478	3,436	3,664	-1%	5%
NF	9,137	9,062	8,711	-1%	-5%
2030					
EWC	22,012	21,656	22,168	-2%	1%
EWR	14,578	14,261	14,772	-2%	1%
MANF	13,756	15,898	11,998	16%	-11%
PCA	3,183	3,621	3,178	14%	0%
AC	3,912	3,686	4,165	-6%	7%
NF	10,377	9,997	9,626	-4%	-8%
2035					
EWC	23,173	22,476	23,600	-3%	2%
EWR	15,909	15,388	16,337	-3%	3%
MANF	15,095	18,731	12,623	24%	-13%
PCA	3,247	3,934	3,275	21%	1%
AC	4,265	3,909	4,559	-8%	8%
NF	11,637	11,023	10,639	-5%	-9%

Table 5.5 Percentage Growth in Average Monthly Users from Initial 5-Year Cohort by LTSS Subgroup

	Baseline	Blended	NF Decline
2030			
EWC	10%	8%	12%
EWR	12%	10%	14%
MA NF	12%	25%	4%
PCA	7%	18%	9%
AC	12%	7%	14%
NOT-MA NF	14%	10%	10%
2035			
EWC	14%	11%	17%
EWR	20%	17%	23%
MA NF	20%	38%	9%
PCA	8%	24%	11%
AC	20%	13%	21%
NOT-MA NF	24%	20%	20%

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports.

Table 5.6 Monthly Average Costs to Medicaid over 5-Year Period by LTSS Subcategory and Scenario (in thousands)

	2.5% Cost Growth			5% Cost Growth		
	Baseline	Blended	NF Decline	Baseline	Blended	NF Decline
2025						
EWC	85,822	85,535	84,885	88,684	88,379	87,733
EWR	66,878	66,598	66,414	69,069	68,772	68,604
MA NF	146,666	151,334	137,101	151,602	156,560	141,605
PCA	15,780	16,220	15,511	15,713	16,151	15,445
AC	7,384	7,293	7,781	7,719	7,620	8,136
NOT-MA NF	108,974	108,048	103,837	112,674	111,692	107,317
2030						
EWC	107,943	106,178	108,721	125,305	123,234	126,225
EWR	86,012	84,127	87,170	99,787	97,586	101,149
MA NF	186,151	215,440	162,245	215,379	249,609	187,579
PCA	17,952	20,435	17,926	17,965	20,449	17,938
AC	9,440	8,891	10,052	11,268	10,608	11,999
NOT-MA NF	140,501	135,338	130,273	162,641	156,647	150,738
2035						
EWC	128,509	124,628	130,891	168,221	163,123	171,357
EWR	106,165	102,684	109,034	138,897	134,344	142,669
MA NF	231,048	286,849	193,083	301,452	374,453	251,757
PCA	19,248	23,317	19,412	19,263	23,336	19,428
AC	11,642	10,672	12,445	15,669	14,364	16,749
NOT-MA NF	178,214	168,883	162,862	232,640	220,562	212,518

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports.

Table 5.7 Monthly Average Change in Costs to Medicaid due to Scenario over 5-Year Period by LTSS Subcategory for the "2.5% Cost Growth" Assumption

	2.5% Cost Growth			5% Cost Growth		
	Bas	Blended	NF Decline	Baseline	Blended	NF Decline
2025						
EWC	-	(287,452)	(936,738)	2,862,464	(305,266)	(951,391)
EWR	-	(280,411)	(464,047)	2,190,633	(296,872)	(464,649)
MA NF	-	4,668,159	(9,565,312)	4,935,750	4,958,365	
PCA	-	439,217	(268,928)	(67,230)	437,510	(267,822)
AC	-	(91,190)	397,172	335,256	(98,804)	416,359
NOT-MA NF		(926,575)	(5,136,907)	3,699,125	(981,653)	
MA Total		4,448,323			4,694,933	
Total (MA and Not	-	3,521,748			3,713,280	
2030	-					
EWC	-	(1,764,646	778,000			919,402
EWR	-	(1,884,580	1,158,706			1,362,492
MA NF	-	29,289,126			34,229,719	
PCA		2,482,810	(26,307)	12,731	2,484,565	(26,327)
AC		(549,027)	612,114	1,827,370	(659,839)	731,045
NOT-MA NF	-	(5,163,861				
MA Total	-				31,781,977	
Total (MA and Not	-	22,409,822			25,787,902	
2035	-					
EWC	-	(3,881,322	2,382,137			3,135,753
EWR		(3,481,066	2,868,489			3,771,945
MA NF		55,801,101			73,000,709	
PCA		4,069,883	164,785	15,549	4,073,183	164,917
AC		(970,761)	802,758	4,026,502		1,080,264
NOT-MA NF		(9,330,996			(12,078,372	
MA Total		51,537,835		146,890,05	66,117,597	
Total (MA and Not		42,206,839		201,316,83	54,039,225	

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports.

Table 5.8 Percent Change in Monthly Average Costs to Medicaid Relative to the 2025 5-Year Cohort

	2.5% Cost Growth			5% Cost Growth		
	Base	Blended	NF Decline	Baseline	Blended	NF Decline
2030						
EWC	26%	24%	28%	41%	39%	44%
EWR	29%	26%	31%	44%	42%	47%
MA NF	27%	42%	18%	42%	59%	32%
PCA	14%	26%	16%	14%	27%	16%
AC	28%	22%	29%	46%	39%	47%
NOT-MA NF	29%	25%	25%	44%	40%	40%
2035						
EWC	50%	46%	54%	90%	85%	95%
EWR	59%	54%	64%	101%	95%	108%
MA NF	58%	90%	41%	99%	139%	78%
PCA	22%	44%	25%	23%	44%	26%
AC	58%	46%	60%	103%	88%	106%
NOT-MA NF	64%	56%	57%	106%	97%	98%

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports.

Alternative Care Increase in Usage Scenario

Basis for Simulation Selection

Long term care planning for middle income households remains an unresolved issue. Many such households lack the financial capacity to pay for long term care without spending down and qualifying for Medicaid. Long term care insurance has not seen the uptake required to be a large-scale solution. Expansion of the Alternative Care program in Minnesota has been proposed as a possible solution to help meet this need while potentially achieving some cost savings by avoiding nursing facility use and delaying Medicaid spend-down. The purpose of this scenario is to understand the impact of such an expansion on the size of the Alternative Care program, potential private pay nursing facility cost savings, and impact on costs to Medicaid.

Assumptions and Rationale

These simulations use the same population projections and cost to Medicaid growth scenarios as the usage rate scenarios. Additionally, the baseline (post-COVID) usage rates were assumed.

The two key assumptions that are tested in this scenario are the number of additional AC participants each year as well as which populations these new individuals are being drawn from. Three sizes were chosen (100, 150, and 300 annual additional AC participants) and two sets of population distributions for a total of 6 sets of results (assumptions are given in Table 5.9). AC expansion is assumed to begin in 2026 (i.e., AC usage rates remain at the Post-COVID rate for 2025).

The two population distributions (where the additional participants were drawn from) each had three groups to draw from. First, the "New" enrollee group were drawn from individuals with no prior nursing facility use representing those paying privately for any LTSS they may have been receiving in the community. These are individuals who are the least likely of the three groups to convert to Medicaid. Second, "Spend-down" enrollees are individuals with at least one past privately paid nursing facility stay who are not yet enrolled in Medicaid but are at medium risk of Medicaid conversion due to depletion of assets associated with nursing facility use and ongoing privately paid LTSS in the community setting. Third, 'Nursing Facility' enrollees are those in the nursing facility at the time of AC enrollment, privately paying for their stay, and at the highest risk of Medicaid conversion. The first distribution of where new AC enrollees would be drawn from assumed that 70% would be from the New group, 15% from the Spend-down group, and 15% in the Nursing Facility. The second distribution assumed 25% New, 35% Spend-down, and 40% in the Nursing Facility.

In addition to the six scenarios (3 sizes x 2 population distributions) a baseline scenario was run (i.e., with additional AC participants set to 0) to serve as the comparison result. Each scenario was simulated 150 times and average results across the simulations are presented.

Original Hypothesis

It was hypothesized that the scenarios with the lowest New enrollees (25%) would have the more favorable impact on Medicaid costs. It was also hypothesized that the larger the increase in enrollees, the greater the annual census of AC users would be. Whether cost savings could be achieved, the impact on privately paid nursing facility stay costs, and the number of AC users needed to be estimated.

Findings

As expected, assuming a larger number of additional AC enrollees (300 vs. 150 vs. 100) led to a higher overall average number of monthly AC users. Figure 5.6 pictures the impact and Table 5.10 and Table 5.11 give the raw numbers and percentage difference from the baseline scenario respectively. The baseline scenario estimates a 25% increase in AC enrollment over the period. Adding an additional 100 enrollees per year increases the number of total enrollees by about 2.5% whereas an additional 300 enrollees per year increases the total by 7-8%. The impact of the number of additional enrollees was nearly identical regardless of which population the additional enrollees were drawn from (i.e., the population distribution assumptions had minimal impact on the number of AC users).

Figure 5.7 shows the change in monthly costs to Medicaid for AC associated with each of the six scenarios relative to the baseline scenario under the 5% cost growth assumption. Similar to the number of users, the population distribution of additional enrollees has little impact. Costs to Medicaid are increased over baseline by 2.6 – 2.8% for 100 additional enrollees, 3.7 – 4.1% for 150 additional enrollees, and 7.4 – 8.5% for 300 additional enrollees. Figure 5.8 displays the same comparison, but for total costs to Medicaid. Costs to Medicaid increased across all scenarios. The increase was lowest for the 100 additional enrollees with only 25% drawn from the New population (0.2 – 0.3% increase in total costs to Medicaid). The increase was highest for 300 additional enrollees with 70% drawn from the New population (0.9 – 1.0% increase in total costs to Medicaid). Figure 5.9 also compares payment change of the six scenarios relative to the baseline, but for non-Medicaid nursing facility costs (i.e., payments made by privately paying nursing facility residents). In all but one cohort in one scenario, these costs decreased. The greatest decrease was for the 300 additional enrollees with 25% drawn from the New population (-0.4 to -0.5% change in costs). The smallest decrease was for the 100 additional enrollees with 70% drawn from the New population.

Additional details on the number of users by LTSS subcategory is given in Table 5.12 and percent change relative to baseline in Table 5.13. The estimated monthly average cost to Medicaid is given in Table 5.14 and change in costs to Medicaid in Table 5.15 for the 5% growth assumption. Table 5.16 gives the estimated monthly payment under the 2.5% cost growth assumption and Table 5.17 the change in payment relative to baseline under the 2.5% cost growth assumption. Notably, the 2.5% Cost Growth Assumption reduced overall projected expenditures by around 3% for the first 5 years, 14% between 2030-2034, and about 23% for the years 2035 – 2039 relative to the 5% Cost Growth Assumption.

In summary, across the six scenarios, the shift towards AC increased the number of AC enrollees and to a lesser extent the other Medicaid sub-categories while reducing the use of non-Medicaid Nursing Facility use. Overall, this resulted in an increase in Medicaid LTSS costs in excess of the savings to privately paid nursing facility costs. Shifting a greater proportion of new AC enrollees from the Nursing Facility and Spend-down population groups resulted in a 50% lower increase to total (Medicaid and non-Medicaid Nursing Facility) costs.

Figure 5.6 Impact of the Number of Additional Enrollees on the Number of AC Users

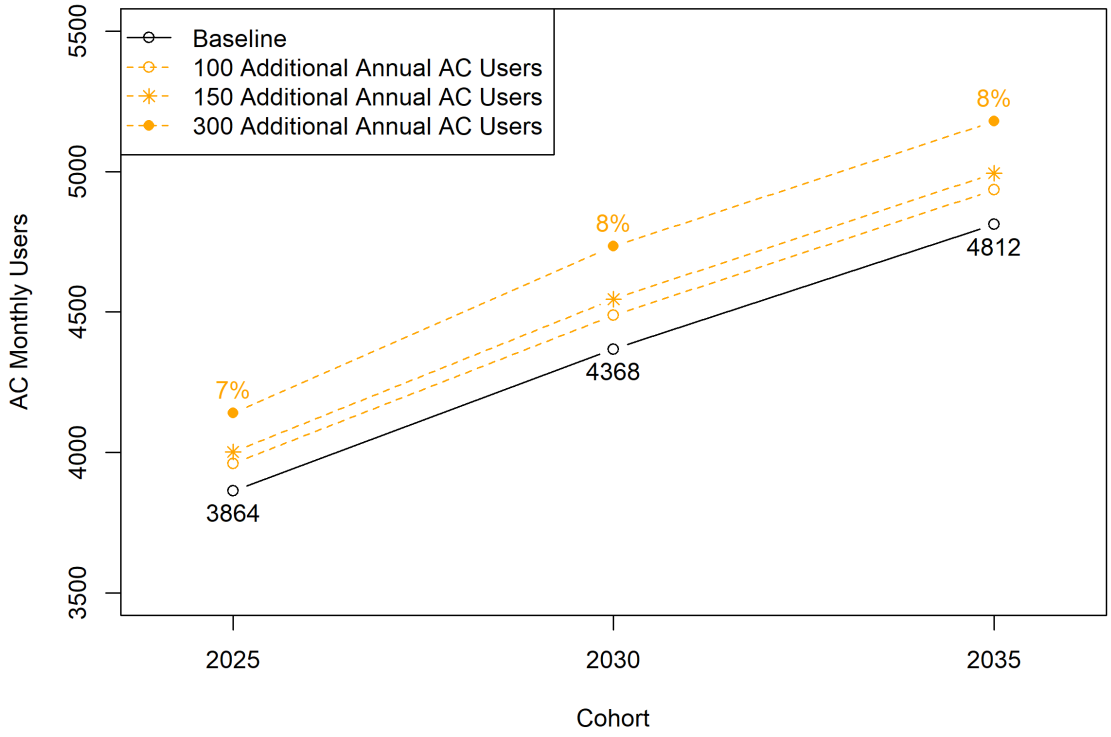


Figure 5.7 Comparison Across Scenarios of Impact on AC Costs to Medicaid

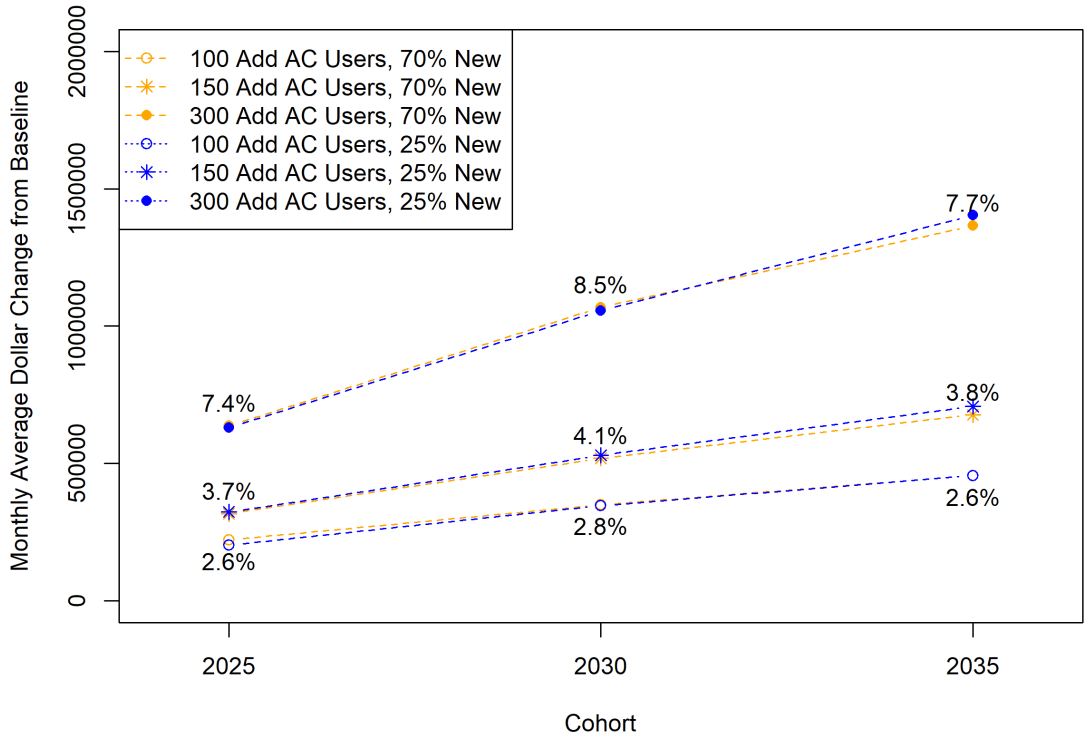


Figure 5.8 Comparison Across Scenarios of Impact on Total Costs to Medicaid

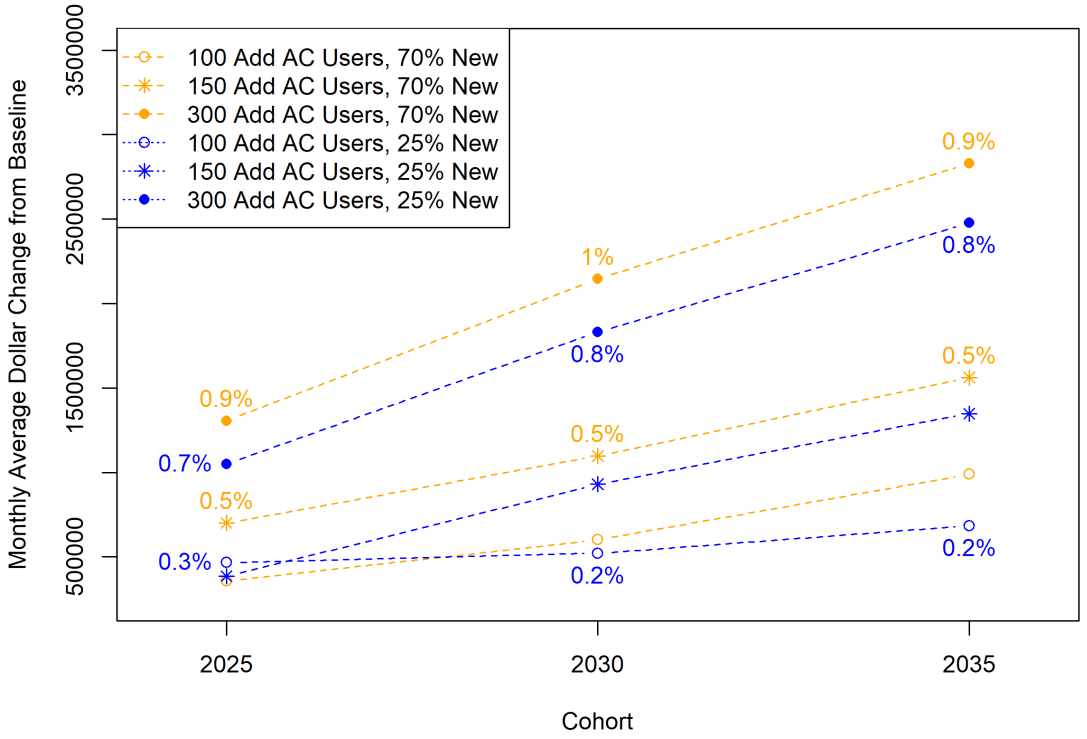


Figure 5.9 Comparison Across Scenarios of Impact on Non-Medicaid NF Costs

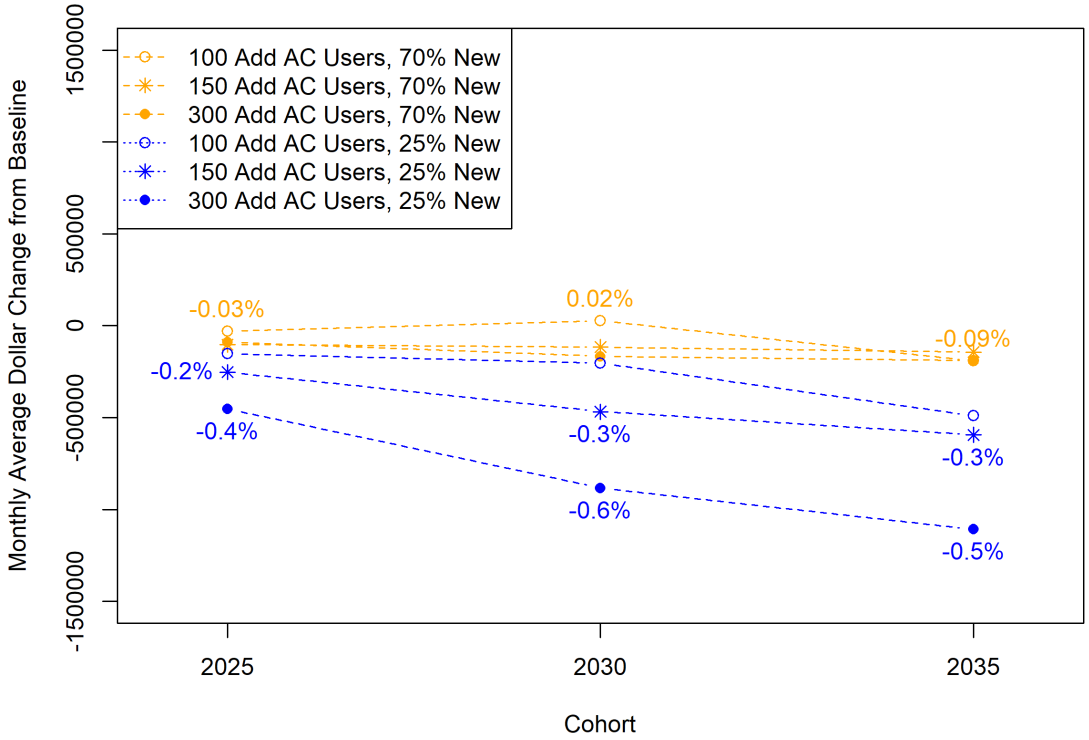


Table 5.9 Simulation Assumptions About Expansion Size and Population Sources

Assumption	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
Expansion Size per Year	100	150	300	100	150	300
% of Expansion from New enrollees	70%	70%	70%	25%	25%	25%
% of Expansion from Spend-down enrollees	15%	15%	15%	35%	35%	35%
% of Expansion from NF enrollees	15%	15%	15%	40%	40%	40%

*New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.10 Average Monthly Users of AC by Scenario and Cohort Year

		70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
Cohort Year	Baseline	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025	3,864	3,961	4,002	4,140	3,952	4,004	4,137
2030	4,368	4,488	4,546	4,734	4,487	4,550	4,730
2035	4,812	4,935	4,994	5,179	4,935	5,002	5,189

AC = Alternative Care. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.11 Percent Change in Average Monthly Users of AC by Scenario within Cohort Year

		70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
Cohort Year	Baseline	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025	0%	2.5%	3.6%	7.1%	2.3%	3.6%	7.1%
2030	0%	2.7%	4.1%	8.4%	2.7%	4.2%	8.3%
2035	0%	2.6%	3.8%	7.6%	2.6%	4.0%	7.8%

AC = Alternative Care. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.12 Average Monthly Users by LTSS Category, Scenario, and Cohort Year

		70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
	Baseline	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025							
EWC	18,150	18,166	18,168	18,185	18,158	18,163	18,167
EWR	13,625	13,628	13,638	13,652	13,646	13,631	13,636
MA NF	12,439	12,441	12,456	12,461	12,449	12,438	12,454
PCA	3,524	3,527	3,529	3,539	3,523	3,521	3,538
AC	3,864	3,961	4,002	4,140	3,952	4,004	4,137
NOT-MA NF	8,272	8,269	8,264	8,265	8,260	8,252	8,236
2030							
EWC	20,130	20,148	20,147	20,166	20,135	20,148	20,152
EWR	15,262	15,267	15,286	15,299	15,274	15,276	15,270
MA NF	13,976	13,981	13,992	14,004	13,978	13,984	14,003
PCA	3,830	3,837	3,840	3,858	3,838	3,844	3,856
AC	4,368	4,488	4,546	4,734	4,487	4,550	4,730
NOT-MA NF	9,392	9,393	9,384	9,381	9,378	9,362	9,335
2035							
EWC	21,553	21,560	21,566	21,583	21,555	21,556	21,575
EWR	16,665	16,682	16,682	16,691	16,660	16,665	16,675
MA NF	15,412	15,425	15,438	15,453	15,421	15,437	15,446
PCA	4,003	4,010	4,017	4,027	4,014	4,017	4,023
AC	4,812	4,935	4,994	5,179	4,935	5,002	5,189
NOT-MA NF	10,546	10,537	10,539	10,537	10,522	10,517	10,492

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.13 Percent Change in Average Monthly Users by Scenario within LTSS Subgroup and Cohort Year

		70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
	Baseline	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025							
EWC	0.00%	0.09%	0.10%	0.19%	0.04%	0.07%	0.09%
EWR	0.00%	0.02%	0.10%	0.19%	0.15%	0.05%	0.08%
MA NF	0.00%	0.02%	0.13%	0.17%	0.08%	-0.01%	0.12%
PCA	0.00%	0.07%	0.12%	0.43%	-0.03%	-0.09%	0.39%
AC	0.00%	2.50%	3.56%	7.14%	2.28%	3.63%	7.07%
NOT-MA NF	0.00%	-0.03%	-0.10%	-0.09%	-0.15%	-0.24%	-0.43%
2030							
EWC	0.00%	0.09%	0.08%	0.18%	0.02%	0.09%	0.11%
EWR	0.00%	0.03%	0.16%	0.24%	0.08%	0.09%	0.05%
MA NF	0.00%	0.03%	0.11%	0.19%	0.01%	0.05%	0.19%
PCA	0.00%	0.16%	0.25%	0.72%	0.20%	0.36%	0.68%
AC	0.00%	2.75%	4.08%	8.38%	2.71%	4.16%	8.29%
NOT-MA NF	0.00%	0.01%	-0.08%	-0.12%	-0.14%	-0.32%	-0.60%
2035							
EWC	0.00%	0.03%	0.06%	0.14%	0.01%	0.01%	0.10%
EWR	0.00%	0.11%	0.11%	0.16%	-0.03%	0.00%	0.06%
MA NF	0.00%	0.09%	0.17%	0.26%	0.06%	0.16%	0.22%
PCA	0.00%	0.17%	0.35%	0.58%	0.27%	0.33%	0.49%
AC	0.00%	2.55%	3.78%	7.62%	2.55%	3.95%	7.84%
NOT-MA NF	0.00%	-0.09%	-0.07%	-0.09%	-0.23%	-0.28%	-0.52%

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.14 Monthly Average Costs to Medicaid over 5-Year Period by LTSS Subcategory and Scenario (in thousands) for the "5% Cost Growth" Assumption

		70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
	Baseline	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025							
EWC	79,758	79,830	79,841	79,923			
EWR	72,225	72,244	72,297	72,377			
MA NF	152,570	152,601		152,842	152,68	152,55	152,77
PCA	18,619	18,633	18,643	18,700			
AC	8,556	8,779	8,874	9,193	8,760	8,880	9,187
NOT-MA	101,237	101,206		101,147	101,08	100,98	100,78
2030							
EWC	114,131	114,237		114,347	114,16	114,23	114,26
EWR	104,316	104,351		104,579			
MA NF	217,807	217,881		218,249	217,82	217,92	218,24
PCA	21,635	21,671	21,691	21,791			
AC	12,561	12,912	13,080	13,630			
NOT-MA	146,042	146,070		145,876	145,83	145,57	145,15
2035							
EWC	155,942	155,995		156,173	155,95	155,96	156,10
EWR	145,293	145,454		145,538	145,25	145,29	145,38
MA NF	306,409	306,688		307,260	306,59	306,93	307,11
PCA	23,770	23,809	23,853	23,908			
AC	17,661	18,117	18,338	19,026			
NOT-MA	209,227	209,035		209,038	208,73	208,63	208,11

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.15 Monthly Average Change in Costs to Medicaid due to Scenario over 5-Year Period by LTSS Subcategory for the "5% Cost Growth" Assumption

	70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025						
EWC	71,538	83,367	164,908	37,338	60,041	77,896
EWR	18,917	72,086	151,478	111,545	36,097	65,618
MA NF	30,760	203,977	272,326	119,357	(18,182)	200,822
PCA	13,873	24,083	80,825	(5,213)	(16,134)	74,638
AC	222,622	317,431	636,591	203,272	323,821	630,407
NOT-MA NF	(30,756)	(102,505)	(89,785)	(152,529)	(251,941)	(453,173)
MA Total	357,710	700,944	1,306,128	466,299	385,643	1,049,381
Total (MA and Not MA)	326,954	598,439	1,216,343	313,770	133,702	596,208
2030						
EWC	106,133	100,389	216,224	29,904	105,930	131,173
EWR	34,642	170,709	262,336	81,055	93,541	57,714
MA NF	74,110	251,950	442,395	19,795	122,540	437,071
PCA	36,122	55,694	155,999	44,400	78,274	149,033
AC	350,255	519,001	1,068,780	346,360	530,084	1,056,421
NOT-MA NF	28,006	(116,032)	(166,493)	(203,707)	(467,627)	(882,715)
MA Total	601,262	1,097,743	2,145,734	521,514	930,369	1,831,412
Total (MA and Not MA)	629,268	981,711	1,979,241	317,807	462,742	948,697
2035						
EWC	53,274	98,339	231,013	17,545	26,111	164,322
EWR	160,725	161,932	244,800	(36,984)	5,900	89,652
MA NF	279,343	541,501	851,008	183,993	529,963	702,038
PCA	39,280	83,075	138,651	63,228	78,215	118,366
AC	456,512	677,321	1,365,467	456,017	707,839	1,403,648
NOT-MA NF	(191,495)	(143,234)	(188,653)	(490,454)	(594,166)	(1,107,287)
MA Total	989,134	1,562,168	2,830,939	683,799	1,348,028	2,478,026
Total (MA and Not MA)	797,639	1,418,934	2,642,286	193,345	753,862	1,370,739

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.16 Monthly Average Costs to Medicaid over 5-Year Period by LTSS Subcategory and Scenario (in thousands) for the "2.5% Cost Growth" Assumption

		70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
	Baseline	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025							
EWC	77,325	77,393	77,403	77,481	77,361	77,382	77,399
EWR	70,003	70,020	70,071	70,146	70,110	70,037	70,064
MA NF	147,923	147,951	148,120	148,182	148,038	147,906	148,111
PCA	18,702	18,716	18,726	18,783	18,697	18,686	18,777
AC	8,197	8,407	8,496	8,796	8,389	8,502	8,790
NOT-MA NF	98,225	98,194	98,126	98,137	98,078	97,983	97,792
2030							
EWC	98,512	98,602	98,597	98,693	98,537	98,601	98,623
EWR	89,983	90,012	90,128	90,205	90,052	90,065	90,031
MA NF	188,691	188,752	188,906	189,065	188,707	188,794	189,060
PCA	21,620	21,656	21,676	21,776	21,664	21,698	21,769
AC	10,533	10,824	10,965	11,423	10,821	10,974	11,412
NOT-MA NF	126,652	126,670	126,550	126,506	126,475	126,248	125,889
2035							
EWC	119,324	119,363	119,397	119,496	119,335	119,342	119,447
EWR	111,131	111,251	111,252	111,313	111,102	111,135	111,198
MA NF	235,369	235,577	235,775	236,007	235,505	235,765	235,894
PCA	23,750	23,790	23,833	23,889	23,814	23,829	23,869
AC	13,129	13,466	13,629	14,137	13,466	13,652	14,165
NOT-MA NF	160,885	160,738	160,775	160,742	160,512	160,432	160,041

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down = Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.

Table 5.17 Monthly Average Change in Costs to Medicaid due to Scenario over 5-Year Period by LTSS Subcategory for the "2.5% Cost Growth" Assumption

	70% New, 15% Spend Down, 15% NF			25% New, 35% Spend Down, 40% NF		
	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
2025						
EWC	68,087	78,358	155,760	35,473	56,599	74,039
EWR	17,321	68,773	143,096	107,518	33,935	61,583
MA NF	27,462	196,980	258,970	114,785	(17,683)	187,898
PCA	13,968	24,182	81,046	(5,313)	(16,289)	74,894
AC	209,736	298,545	599,017	191,238	304,485	592,985
NOT-MA NF	(31,109)	(98,337)	(87,760)	(146,305)	(241,244)	(432,787)
MA Total	336,574	666,838	1,237,889	443,701	361,047	991,399
Total (MA and Not MA)	305,465	568,501	1,150,129	297,396	119,803	558,612
2030						
EWC	89,858	85,157	181,252	24,937	89,531	110,979
EWR	29,171	145,048	222,496	69,501	82,566	47,967
MA NF	60,730	214,743	374,174	15,618	102,878	368,971
PCA	36,097	55,655	155,890	44,369	78,219	148,928
AC	291,488	432,292	889,775	288,177	441,228	879,509
NOT-MA NF	18,531	(102,250)	(146,289)	(176,770)	(403,874)	(763,104)
MA Total	507,344	932,895	1,823,587	442,602	794,422	1,556,354
Total (MA and Not MA)	525,875	830,645	1,677,298	265,832	390,548	793,250
2035						
EWC	38,713	72,510	171,845	10,837	18,162	122,336
EWR	120,477	120,497	182,074	(28,810)	3,786	67,241
MA NF	207,795	405,834	637,490	135,829	396,063	524,562
PCA	39,250	83,009	138,538	63,178	78,153	118,269
AC	337,039	499,952	1,007,947	337,035	522,643	1,036,188
NOT-MA NF	(146,630)	(110,378)	(143,006)	(373,043)	(452,978)	(844,032)
MA Total	743,274	1,181,802	2,137,894	518,069	1,018,807	1,868,596
Total (MA and Not MA)	596,644	1,071,424	1,994,888	145,026	565,829	1,024,564

MA NF = Medicaid enrolled and residing in a Nursing Facility. EWR = Elderly Waiver Residential (primarily assisted living). EWC = Elderly Waiver living in Community setting. AC = Alternative Care. PCA = Personal Car Assistant not enrolled in a waiver program. NOT-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports. New = Moved from Non-MA no LTSS with no Prior NF Use to AC. Spend-down =

Moved from Non-MA no LTSS with Prior NF Use to AC. NF = moved from NF to community with AC.