

Current and Future Use and Medicaid Payments for Long-Term Services and Supports among People Age 65 and Older in Minnesota

2024 LTSS Projections Study Final Report

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Synopsis of the Study

Meeting the future long-term care needs of older people in Minnesota is challenging. The future holds uncertainties about which long-term services and supports (LTSS) people will prefer, how they will be provided and at what cost. Also uncertain is the future public support for LTSS particularly as demand and cost of LTSS increases. Our study attempts to put these issues into perspective. We draw on past trends in LTSS, along with estimates of future growth in Minnesota's older population in order to project future LTSS use and costs over a ten-year horizon (2025-2035) and to extend our simulations through 2039.

We conducted an in-depth analysis of LTSS use by Minnesotan's age 65 and older from 2016-2023 in order to capture trends in LTSS before, during and after the COVID-19 pandemic. The COVID-19 pandemic in 2020-2021 had a major effect on LTSS. It resulted in higher death rates among the very old, lower rates of LTSS use, particularly nursing homes, and rising per person Medicaid costs. The post-COVID period (2022-2023) saw continuing low rates of nursing home use along with an apparent shift to increased use of assisted living and home and community LTSS. The pandemic took a toll with high rates of COVID-related mortality among the very old contributing to the decline in nursing home use.

In making overall projections and simulating individual LTSS use we tested two scenarios: (1) Post-COVID scenario with continuation of post-COVID patterns of LTSS use and Medicaid costs with relative decline in NF use and a substitution with other forms of LTSS, particularly among people age 85+; (2) a blended scenario with a return to the pre-COVID pattern with higher rates of LTSS use overall, increasing NF use and less substitution for other LTSS services. We also introduced different assumptions about annual increases in per person Medicaid cost for different LTSS services, ranging from a conservative 2.5% per year to a more realistic 5% per year. The driving force behind these LTSS use and cost projections is the substantial increase in Minnesota's older population. In both scenarios, the number of Minnesotans age 65 and older is projected to increase by 16% and people age 85 and older by 34% between 2025 and 2035.

Even under the most conservative post-COVID/2.5% scenario, use of LTSS is projected to increase by 22% for people age 65+ and 33% for age 85+, and total Medicaid LTSS costs are projected to increase by 59%. Under the blended/5% scenario, assuming a return to pre-COVID patterns, use of LTSS is projected to increase by 29% for people age 65+ and 59% for people age 85+, and total Medicaid LTSS costs are projected to increase by up to 125%. Depending on the scenario, we estimate that Medicaid LTSS spending would have to increase from 5.7% to 9.0% per year to cover future LTSS costs while maintaining current levels of LTSS access.

Although many uncertainties remain, this study provides a glimpse into the future. It points to the challenges Minnesota faces in addressing the future long-term care needs of an increasing older population. Minnesotans can take ownership of the future by beginning now to plan for these eventualities.

Executive Summary

This Final Report - Phase 2 is for 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 \(PDF\)](#). 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 this follow-up study, we analyze additional data through June 2023 to better capture the use and costs for LTSS after the COVID-19 pandemic. The additional data also allowed us to update the straight line LTSS use and cost projections, which we then compare to hypothetical spending growth scenarios to show how reductions in Medicaid funding could affect the system. Additionally, we've expanded on the simulation component of the original study by testing scenarios involving different assumptions about future LTSS.

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:

1. Before the COVID-19 pandemic (2016-2019)
2. During the pandemic (2020-2021)
3. As the pandemic subsided (2022-June 2023).

The report 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 usage and costs 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. **Nursing Facility:** Those residing in one of the 370 certified nursing facilities in Minnesota, either Medicaid enrolled (MA Nursing Facility) or not enrolled in Medicaid and utilizing Medicare or privately financed care (Non-MA Nursing Facility).

2. **Medicaid Assisted Living Facility:** Those utilizing customized living in a residential facility through the Medicaid Elderly Waiver program¹ (MA Assisted Living Facility)
3. **Medicaid Home and Community-Based Services (Medical Assistance (MA)-HCBS):** Those receiving home and community-based services through Medicaid Elderly Waiver or Alternative Care programs, or those enrolled in Medicaid and receiving care from a personal care assistant. MA HCBS include adult day services, hospice, home health, access services, case management, home provided meals, homemaker, chore, respite and personal care.

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 Minnesotans 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) were 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

¹ Medicaid costs for assisted living facilities are only for regularly scheduled, health-related and supportive services and do not include room and board.

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, overall, 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 adult 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.

Increasing Medicaid Costs²: Monthly and annual Medicaid cost per user rose between periods. Average annual cost per user for all LTSS rose by 19% from \$34,926 in the pre-COVID period to \$41,440 in the post-COVID period. Medicaid cost increases per user were substantial across age groups and type of LTSS. The steepest per user LTSS cost increases 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.

Straight Line LTSS Use and 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. Costs to Medicaid for LTSS in 2025 are based on historical per person LTSS costs through 2024. In making projections from 2025-2035, we developed and tested different scenarios for patterns in LTSS use. Each scenario is driven both by increases in the size of the older population and increasing costs per user of LTSS services.

- Projected LTSS Use
 - o Post-COVID Scenario: where projections follow Post-COVID patterns of LTSS use for the entire period from 2025-2035.

² Earlier reports have referred to "Medicaid payments". We changed the terminology to "Medicaid costs" to more accurately describe costs incurred during a given year rather than payments made to providers which could extend over multiple years because of delays in claims processing. In general, when we use the term costs, we mean costs to Medicaid for the care of LTSS users, not costs providers incur in delivering care.

- o Blended Scenario: where LTSS projections begin in 2025 with post-COVID patterns of LTSS use but then steadily return to a higher pre-COVID pattern between 2026 and 2035.
- Increases in Per User LTSS Cost
 - o 5% scenario: approximating the historical average of annual per user LTSS costs from 2016-2024 combined with trends from the DHS Medicaid Budget Forecast.
 - o 2.5% scenario: a conservative annual percentage increase in per user LTSS costs that represents a lower bound of projected cost increases.

Projected Number of Annual LTSS Users: We applied population growth figures with rates of LTSS use in order to project the number of future LTSS users with the Post-COVID and blended scenarios (see Table below). The blended scenario with the steady return to pre-COVID LTSS use had the largest overall increase in LTSS users from 2025 to 2035. The largest percentage increase in LTSS users between years was for people aged 85 and older and among nursing facility residents. This pattern reflects the relatively higher Pre-COVID nursing home use, particularly among users age 85 and older, that were increasingly reflected in the blended rates. In contrast, rates of assisted living and in home care use were similar for the two scenarios. This pattern reflects the fact that use of these LTSS services held steady between pre-COVID and post-COVID periods.

Projected Costs of Medicaid LTSS: In making our projections we assume that total LTSS cost growth will be driven by future increases in the number of people using LTSS services and increases in the per user cost to Medicaid in paying for these services. If LTSS use follows a post-COVID pattern, observed from 2022-2023, and per user Medicaid LTSS costs follow historical trends by increasing at 5% per year, then we project a 43% growth in total Medicaid LTSS costs by 2030 and 95% growth by 2035 (see table below). On the other hand, if the pattern of LTSS use returns to a pre-COVID level, observed from 2018-2019, and cost per user of LTSS increases by 5% per year, then we project a 53% growth in total Medicaid LTSS costs by 2030 and 125% by 2035. If per user LTSS costs increase at a more conservative 2.5% per year, the post Covid scenario results in a projected growth of 59% in total LTSS costs by 2035, while the pre-Covid scenario results in an 85% increase in total LTSS costs by 2035.

Although total Medicaid cost growth is affected by increase in per user cost of LTSS services, the largest driver of cost growth is the increase in the older population, particularly people age 85 and older who have the greatest long-term care needs.

Minnesota Projected Medicaid LTSS Use and Cost Growth

Scenarios	Measure	2025 to 2030 % increase	2025 to 2035 % increase
Post Covid	Increase in All LTSS Users	12%	22%
	Increase in LTSS Users Age 85+	12%	33%
	LTSS Cost Increase per User: 5.0%	43%	95%
	LTSS Cost Increase per User: 2.5%	31%	59%
Blended (return to Post-COVID)	Increase in All LTSS Users	15%	29%
	Increase in LTSS Users Age 85+	23%	59%
	LTSS Cost Increase per User: 5.0%	53%	125%
	LTSS Cost Increase per User: 2.5%	41%	85%

LTSS Cost Growth compared to Hypothetical Medicaid Spending Growth

We also projected hypothetical Medicaid spending growth from 2025-2035 to assess how growth in LTSS costs might compare to different scenarios of LTSS spending³. Two spending growth scenarios were developed and tested.

- **Constrained annual Medicaid spending growth:** This conservative lower bound scenario caps Medicaid spending at a constant 2.5% annual rate. It is unadjusted for growth in LTSS users. It leads to a widening gap between LTSS cost growth and Medicaid spending growth. Although hypothetical, it's expected that this gap would lead to limits in access to LTSS.
- **Medicaid spending growth tied to total LTSS cost growth:** In this scenario hypothetical Medicaid spending is set equivalent to total LTSS cost growth under the conservative post-COVID/2.5% scenario. We chose the post-COVID scenario as a lower bound because it was our most conservative estimate of projected per user LTSS costs. We contrasted the post-COVID scenario with the Blended/5% scenario, representing a more realistic projected growth in LTSS costs. In theory, budgeted Medicaid spending at 5% per year would keep up with future LTSS cost growth, thus maintaining current access to LTSS services.

If we compare LTSS cost growth scenarios to the constrained Medicaid spending scenario, we project a substantial spending gap by 2035. The gap between future LTSS costs and our hypothetical Medicaid spending scenario ranges from 11% for the more conservative post-COVID/2.5% scenario to 43% for the Blended/5% scenario. In these hypothetical scenarios with a conservative rate of Medicaid spending growth, a gap between LTSS costs and Medicaid spending could have a major effect on access to Medicaid LTSS. The number of LTSS users might have to be reduced substantially by 2035, for example between 14% and 31% depending on the scenario.

If spending grew in line with LTSS cost growth, current access to LTSS would likely be maintained. We estimated that spending growth between 5.7% and 9.0% annually from 2025 and 2035 would be needed to fully cover future demand for LTSS costs and provide for the current level of access to services.

Simulation Results

For this follow-up study, two additional sets of microsimulations were conducted. The first set of microsimulations tested the impact of changing usage rates of LTSS, comparing three different usage rate scenarios (usage rates at the post-COVID level, a linear return to pre-COVID usage rates called the blended scenario, and a continued decline in nursing home usage). The second set of microsimulations tested the impact of increased utilization of

³ 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.

Alternative Care (AC) varying the number of additional users as well as which LTSS group they were drawn from.

The usage rate microsimulations were run to understand the impact of potential future changes to LTSS usage rates on hypothetical Medicaid costs. 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 10.3% for the last 5 years of the simulation (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. The increased utilization of AC microsimulations were run to understand the impact of proactively increasing the use of the AC program. This increase reduced projected non-Medicaid nursing facility costs, but it increased overall projected costs to Medicaid. The increase in costs to Medicaid was smallest when maximizing the proportion of new users being transitioned out of non-Medicaid nursing facility stays.

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.

- Establishing a “new normal” after COVID-19
 - o Trends observed in the current study, based on data through mid-2023, offer a less than complete picture of the lasting COVID-19 effect.
 - o 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
 - o Personal preferences by consumers and their significant others appear to be shifting away from nursing facilities to other LTSS settings and services.
 - o COVID-19 accelerated this trend and resulted in a sharp decline in nursing facility use, particularly among Medicaid enrollees.
 - o 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
 - o Changes in health conditions and disability status of the older population, either improvements or declines, could alter the need for and use of LTSS.
 - o 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
 - o 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.
 - o Gathering additional data on patterns of family and other informal resources could fill the gap in information about these valuable resources.
 - o 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
 - o 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.

- o Is the 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? Conversely, are racial and ethnic minorities less likely to use residential care facilities because of a history of discrimination, high out-of-pocket costs, or other access barriers?
- o 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
 - o 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.
 - o There are shortages of paraprofessional workers, licensed nurses, especially RNs, APNs and ancillary staff.
 - o Future projections will have to consider scenarios where care worker shortages place constraints on the expansion of LTSS and potentially contribute to growth in per user LTSS cost.
- Costs and financing of LTSS
 - o 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 in certain situations. Finally, the study lacked information entirely about use and payments for assisted living facilities and in-home care for people not enrolled in Medicaid and paying privately.
 - o The growth in per user LTSS cost may significantly exceed the rate of general inflation and personal income, making LTSS even less affordable and putting additional strains on public resources.
 - o 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.
 - o Improvements in the quality of care by assisted living facilities and home care agencies could contribute to cost increases.
 - o The uncertain evolution of the private LTC insurance market, which has been slow in developing, could potentially offer asset and income protection for future generations of older people.

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 a 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 the other 94% of future older people will be 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 \(October 2023\) \(PDF\)](#), 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.

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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 \(PDF\)](#). 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:

1. Before the COVID-19 pandemic (2016-2019)
2. During the pandemic (2020-2021)
3. 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 LTSS for older Medicaid enrollees and the general older population in Minnesota from 2016-2023.
 - o Describe utilization of LTSS, including nursing facilities, Medicaid assisted living, and Medicaid home and community-based services (HCBS).
 - o Describe demographic characteristics and health status, marital status, and race/ethnicity of people participating in LTSS.
 - o 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.
 - o Project the future need for LTSS based on changes in the demographic characteristics of Minnesota's older population.
 - o Develop straight line projections of future Medicaid LTSS utilization and expenditures.
 - o Simulate different utilization and cost scenarios taking into account post-COVID trends in LTSS use, cost inflation, and Medicaid spending growth.

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 (CFSS)). 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 2025-2039. Straight-line projections (Chapter 4) are from 2025-2035 and the microsimulation is from 2025-2039. Future Medicaid costs and spending projections are based on historical rates of cost growth and then averaged over the period from 2025-2039. In actuality, there has been and likely will be variation in cost growth from year to year because of legislative actions, policy changes, or rates of price inflation. Our projections are hypothetical. They are meant to represent midpoints and upper and lower bounds for future use and cost of LTSS.

LTSS Population, Services and Settings

Three broad categories of LTSS are covered in the study:

1. **Nursing facility:** Those residing in one of the 370 certified nursing facilities in Minnesota, either Medicaid enrolled (MA Nursing Facility) or not enrolled in Medicaid and utilizing Medicare or privately financed care (Non-MA Nursing Facility).

2. **Medicaid assisted living facility:** Those utilizing customized living in a residential facility through the Medicaid Elderly Waiver program⁴ (MA assisted living facility)
3. **Medicaid home and community-based services (HCBS):** Those receiving home and community-based services through Medicaid Elderly Waiver or Alternative Care programs, or those enrolled in Medicaid and receiving care from a personal care assistant (MA home and community-based services or MA-HCBS). 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.

To gain access to most Medicaid LTSS services included in our study, along with meeting financial requirements, a person must meet level of care requirements based on a health and functional assessment at entry to the LTSS program and periodically thereafter.⁵

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 and other ADL assistance in assisted living facilities but not the room and board component.

Home and Community LTSS Services

Home and community LTSS services included in our study include 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 PCA/CFSS program or the Alternative Care 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.

⁴ Medicaid costs for assisted living facilities are only for regularly scheduled, health-related and supportive services and do not include room and board.

⁵ [Guide to Minnesota Nursing Facility Level of Care](#)

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 or Alternative Care 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 period (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 characteristics of users.

Chapter 3 illustrates 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 annual

increases in the average per user cost of LTSS (2.5% and 5%) and Medicaid LTSS spending growth. These projections account for population growth, changes in the composition of the older population, and increases in average cost of services for users of LTSS.

Chapter 5 presents findings from a micro-simulation where we simulate future experience, such as 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 per user cost increases.

Project Team

Greg Arling and Zachary Hass, Purdue University, School of Nursing, did much of the analysis and were responsible for writing the report. Mark Woodhouse, University of Minnesota, School of Public Health, managed the project data and constructed analysis data sets. Lynn Blewitt, University of Minnesota, 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.

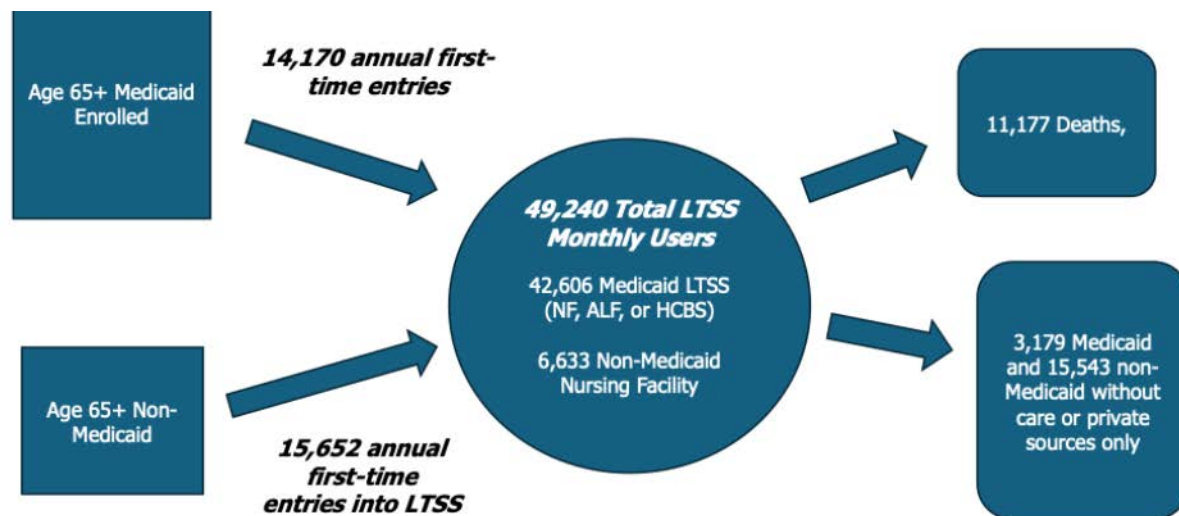
Chapter 2 Trends in LTSS Use by Type of LTSS, Age, and Gender

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, the total population of Minnesotans 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 HCBS	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

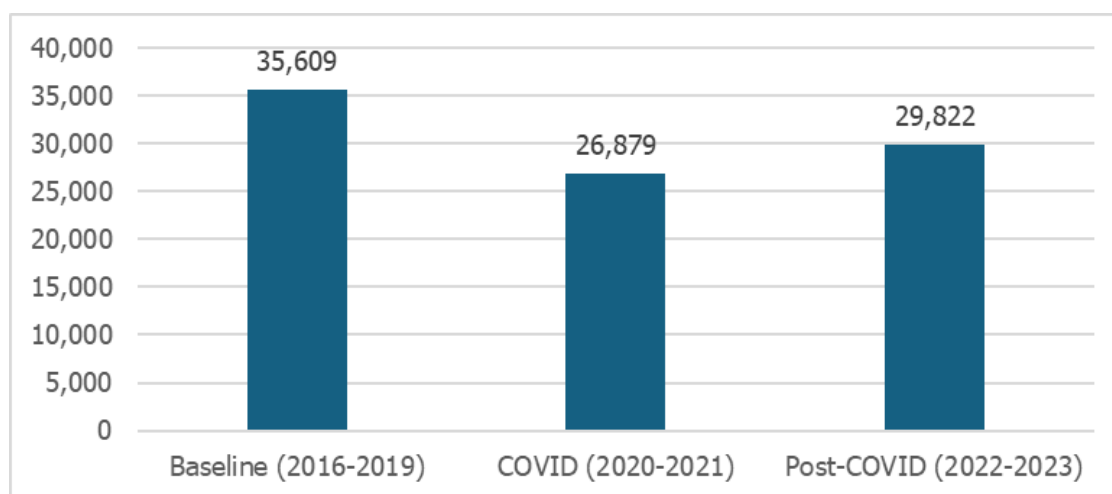
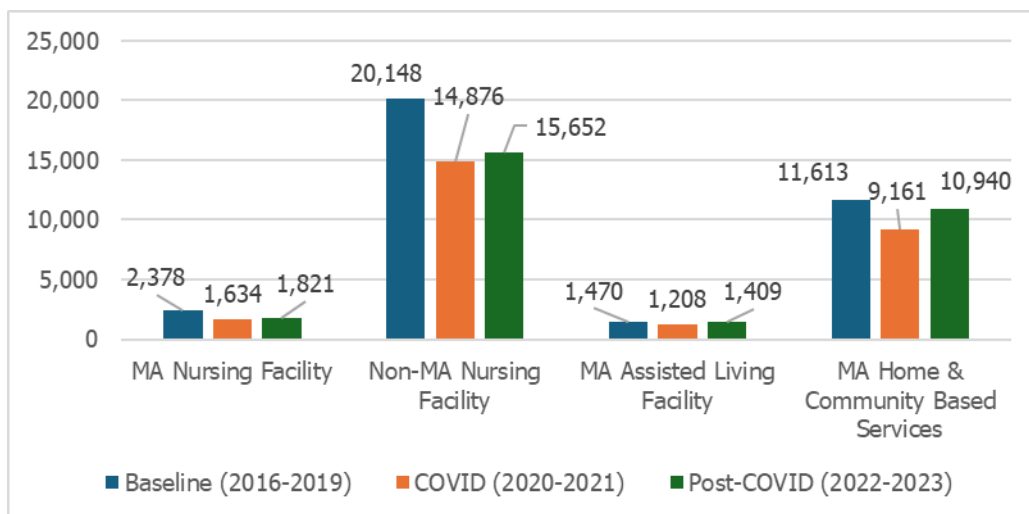


Figure 2.3 Annual New Entries into the LTSS System by LTSS Type and Period



Exits from the LTSS System by Period

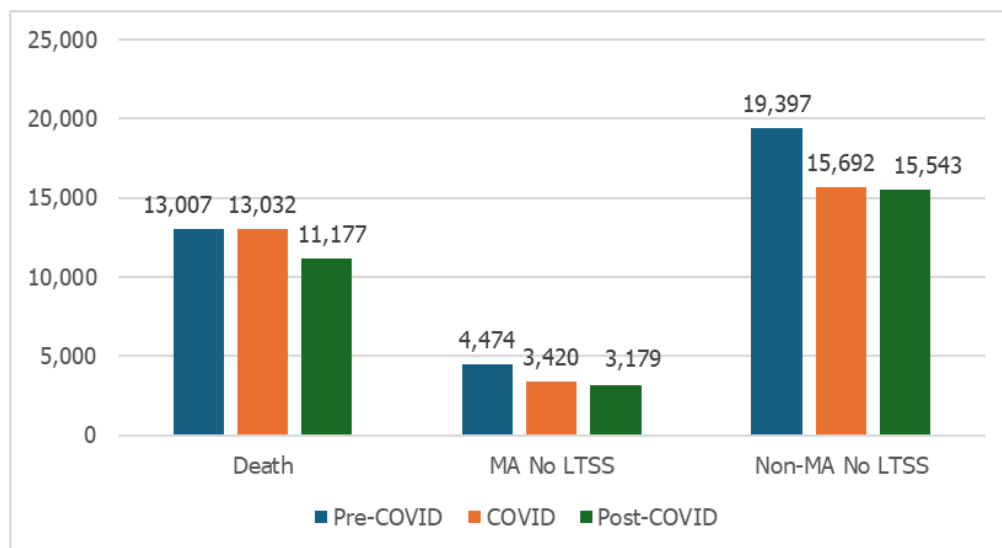
Approximately the same number of people exited the LTSS system each year as entered that year. The majority of people leaving LTSS left without being enrolled in Medicaid (Table 2.2 and Figure 2.4) Nearly all of these people had entered the LTSS system not enrolled in Medicaid, and most had relatively 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 LTSS Users 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 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

Type of LTSS	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 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

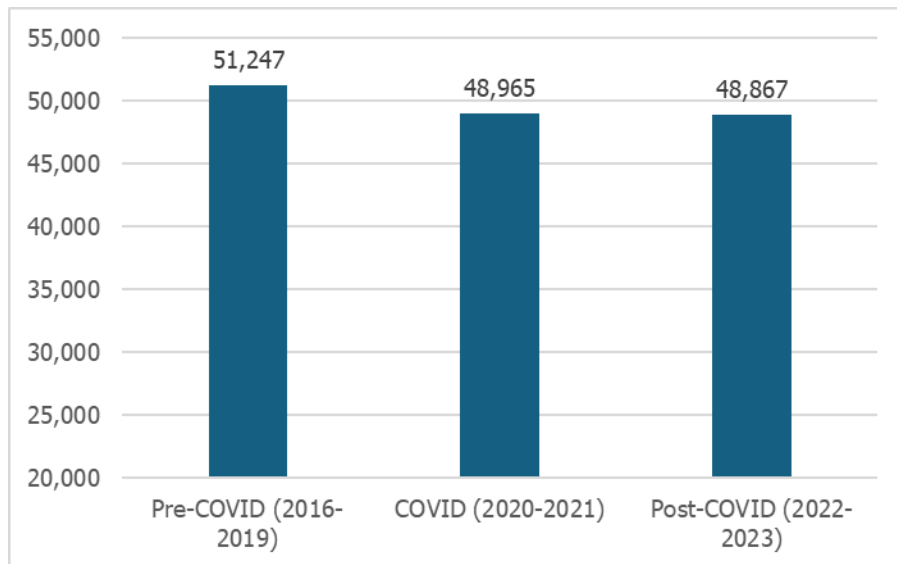
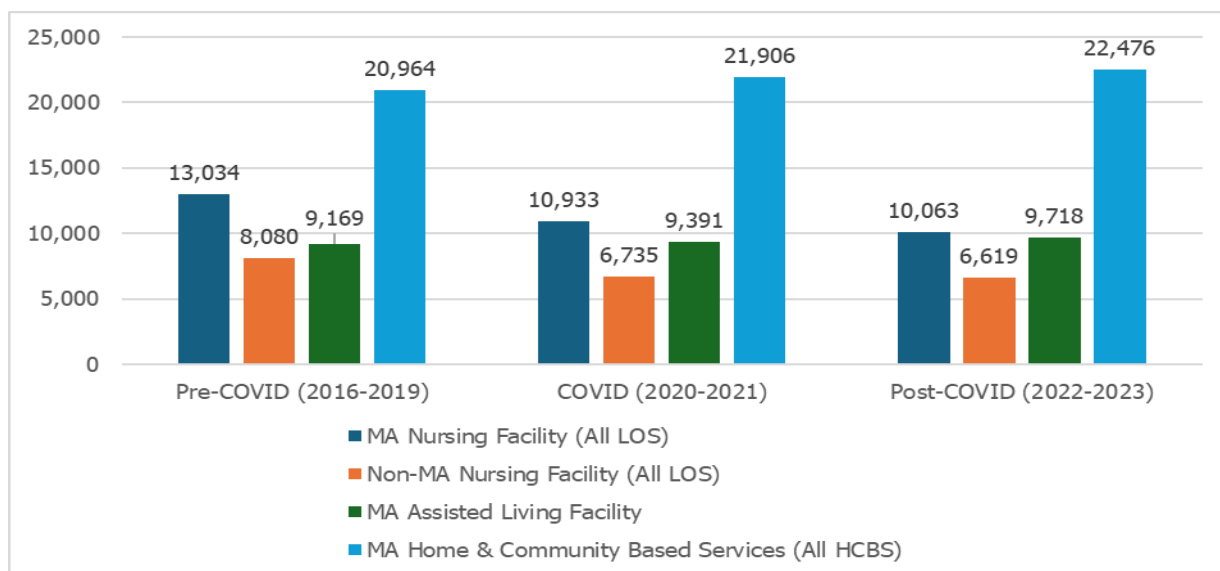


Figure 2.6 Monthly LTSS Users by Type and Period



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

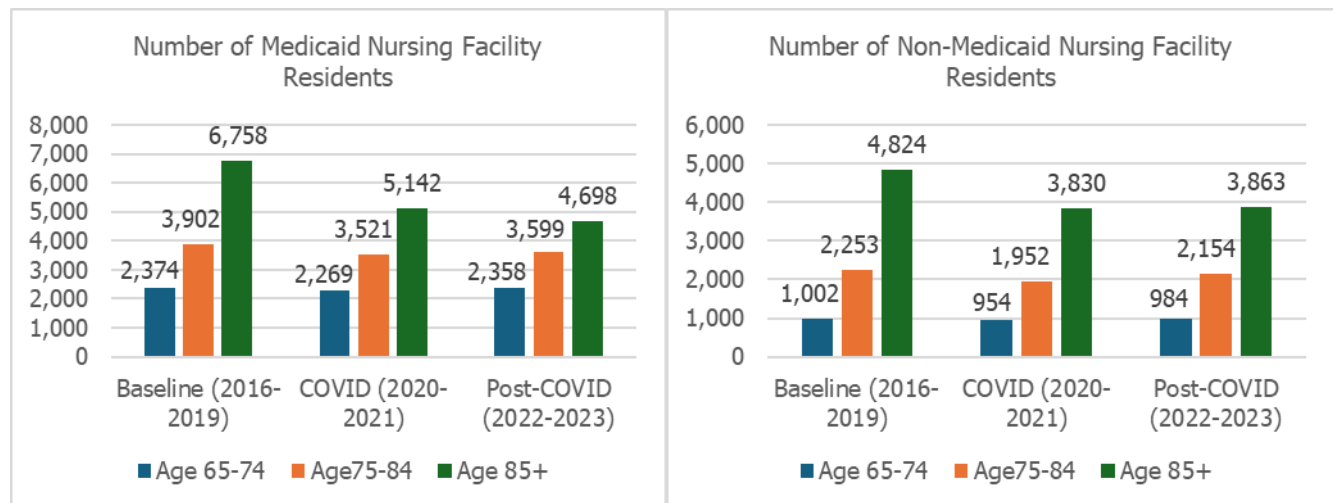
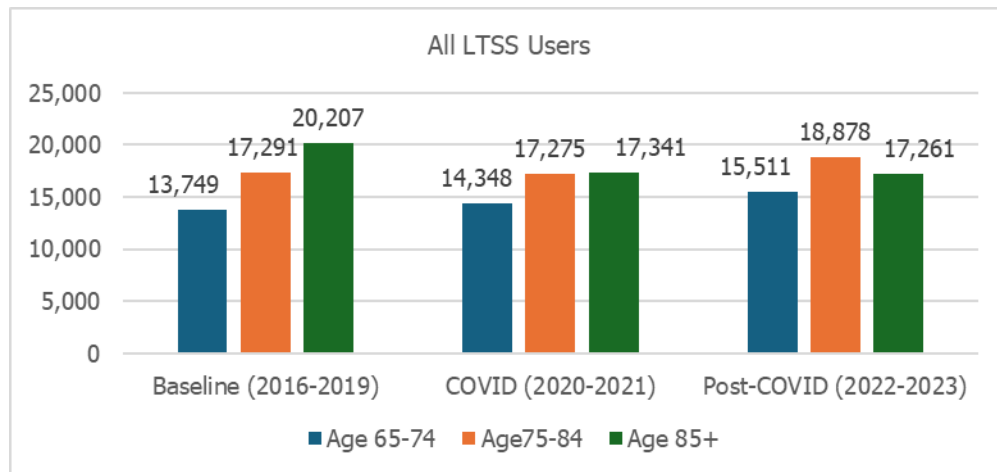


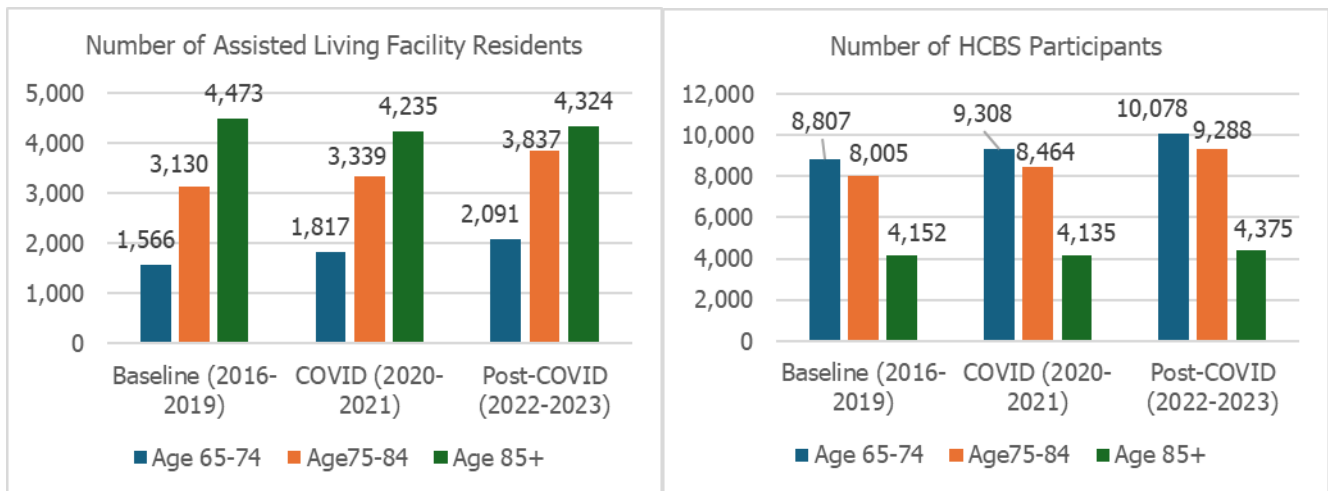
Trends in Demographic Characteristics Across Periods

LTSS Users by Age Group and Period

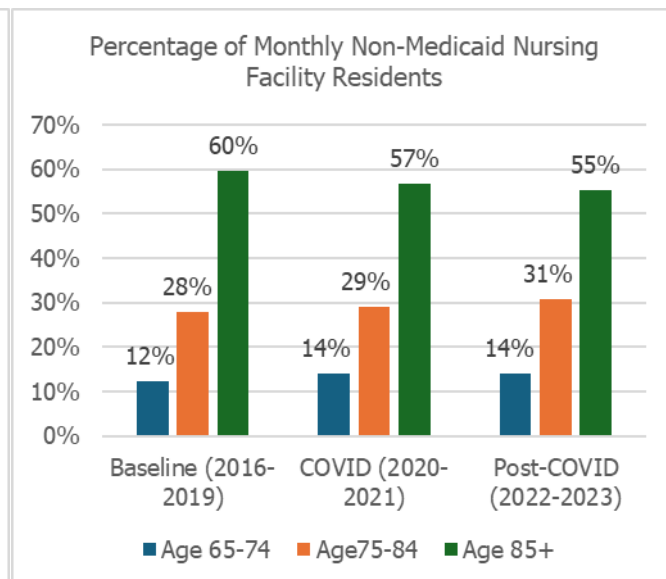
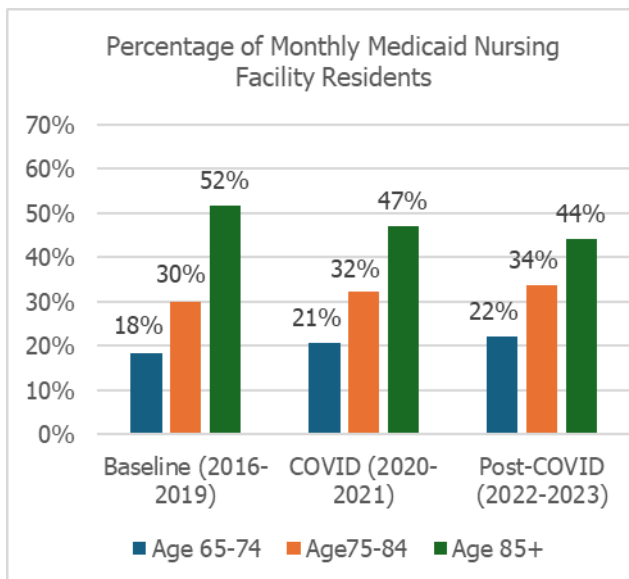
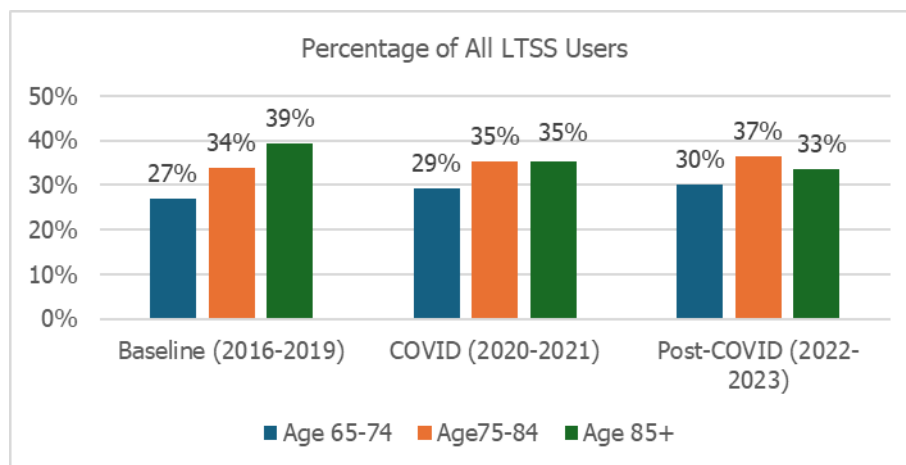
Panel 2.2 shows the number, and Panel 2.3 the percentages, of LTSS users by age group in the Pre-COVID, COVID and Post-COVID periods. Across all three periods, nursing facilities had the oldest residents, assisted facility residents were somewhat younger and HCBS users were the youngest. However, the 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.

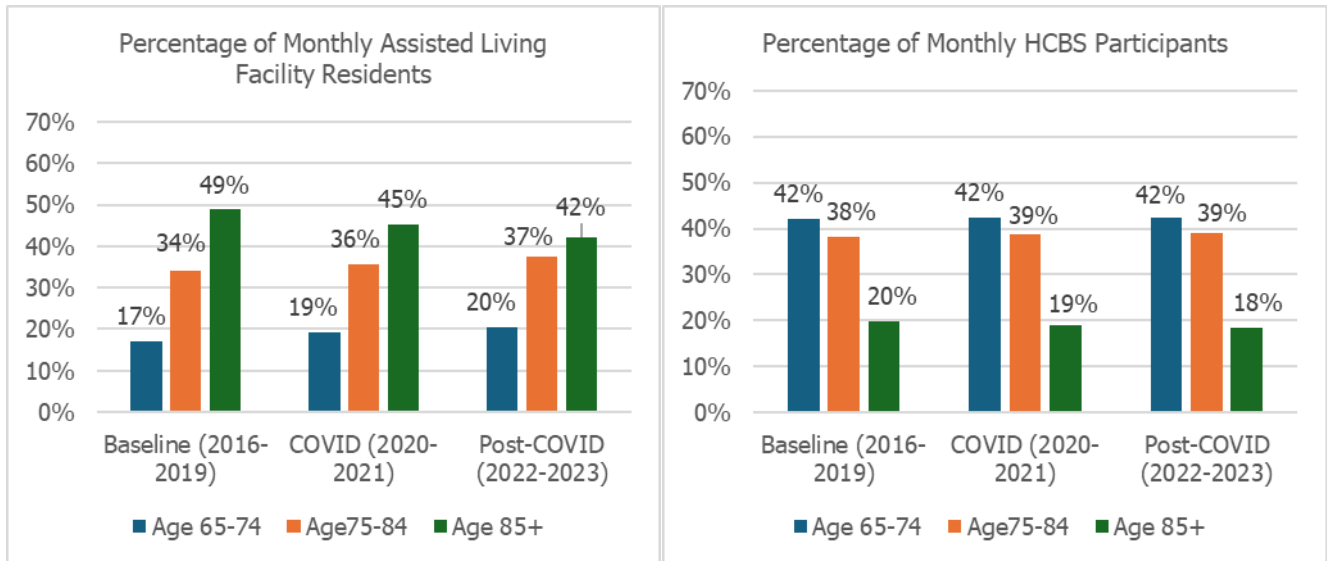
Panel 2.2 Number of Monthly LTSS Users by Age and Period





Panel 2.3 Percentage of LTSS Users by Age and Period

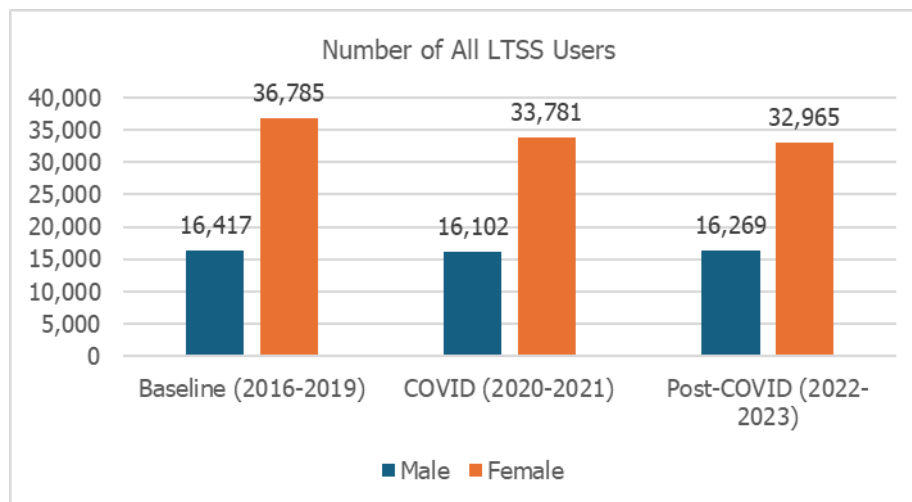


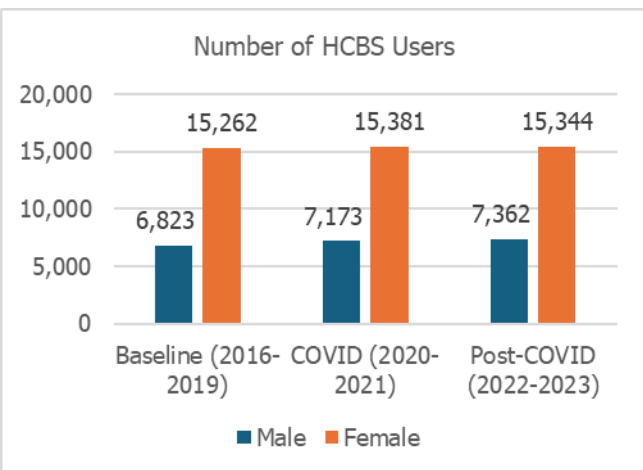
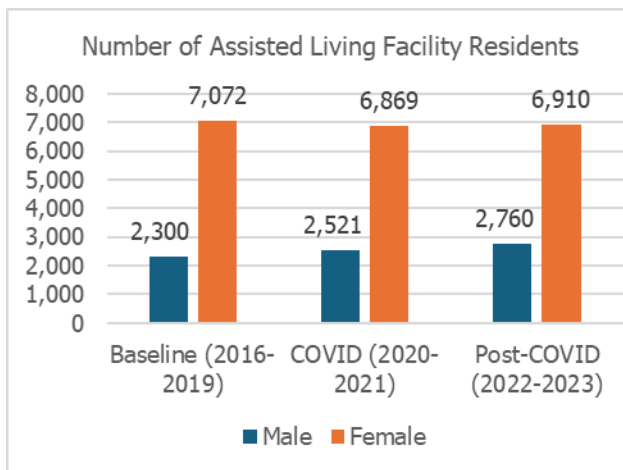
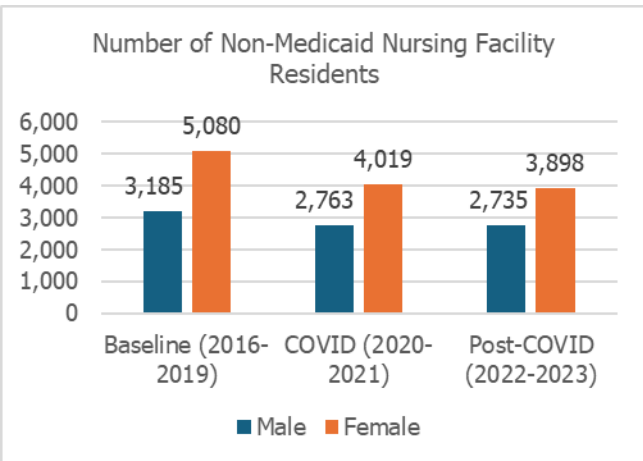
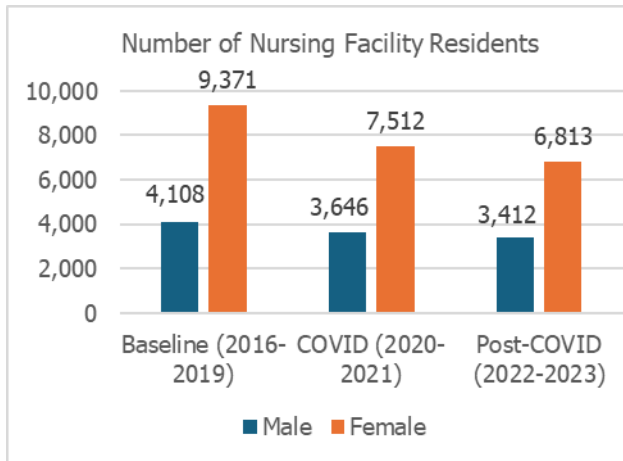


LTSS Users by Gender and Period

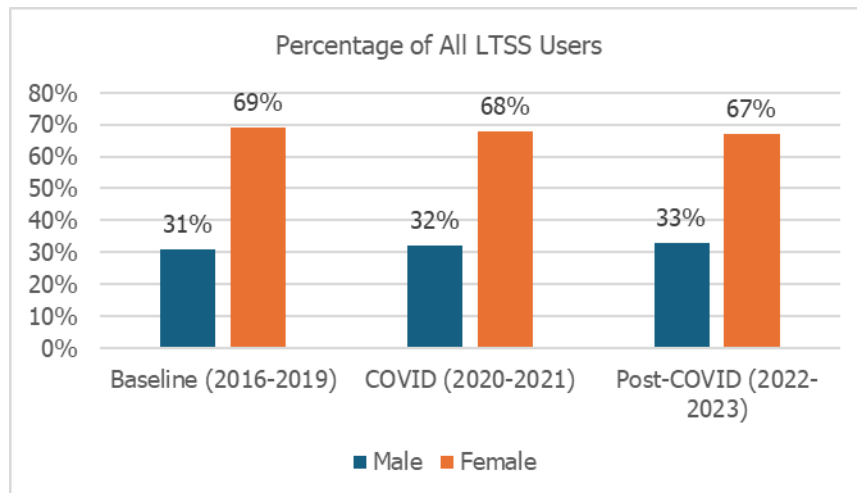
Women outnumbered men in all LTSS settings during all three periods (Panel 2.4 and Panel 2.5). The percentage of females was lowest among nursing home users not enrolled in Medicaid, and highest among assisted living facility residents. The number of female LTSS users declined across COVID periods with 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.

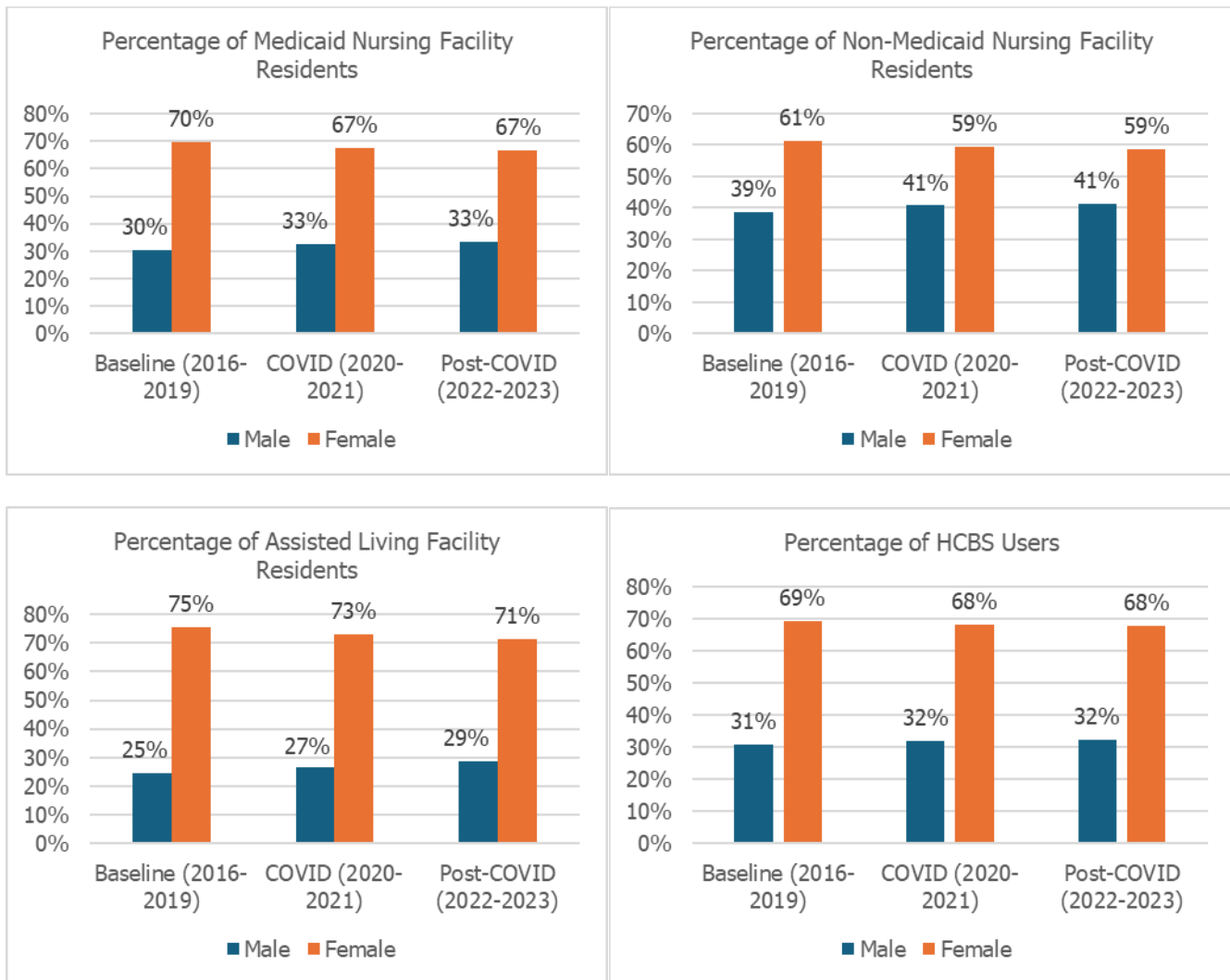
Panel 2.4 Number of LTSS Users by Gender and Period





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)

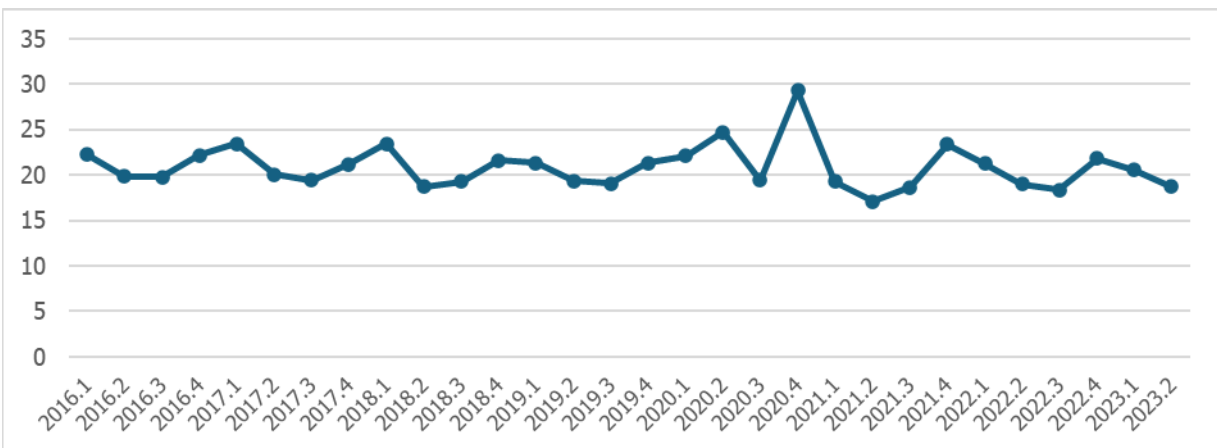
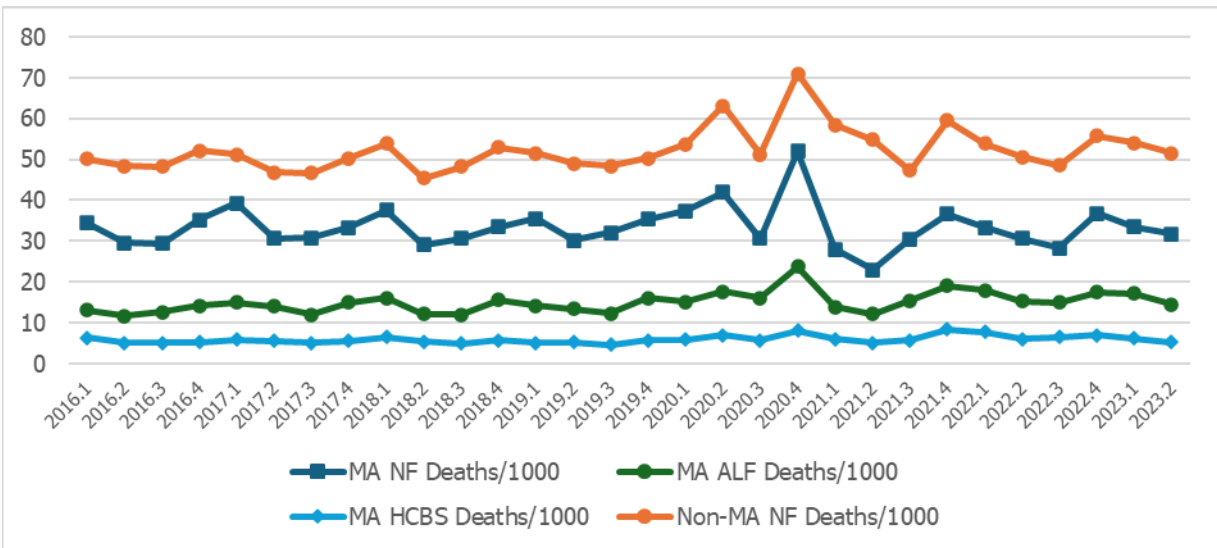
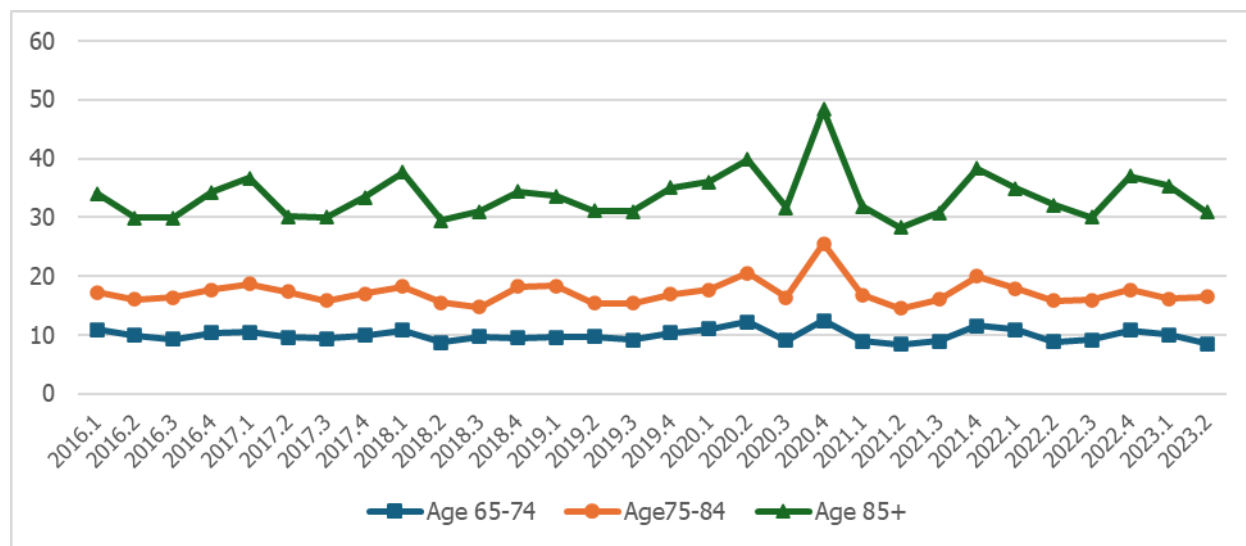


Figure 2.8 Monthly Deaths/1,000 for LTSS Users by Type of LTSS (Averaged Across Calendar Quarters)



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 Adjusted 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.

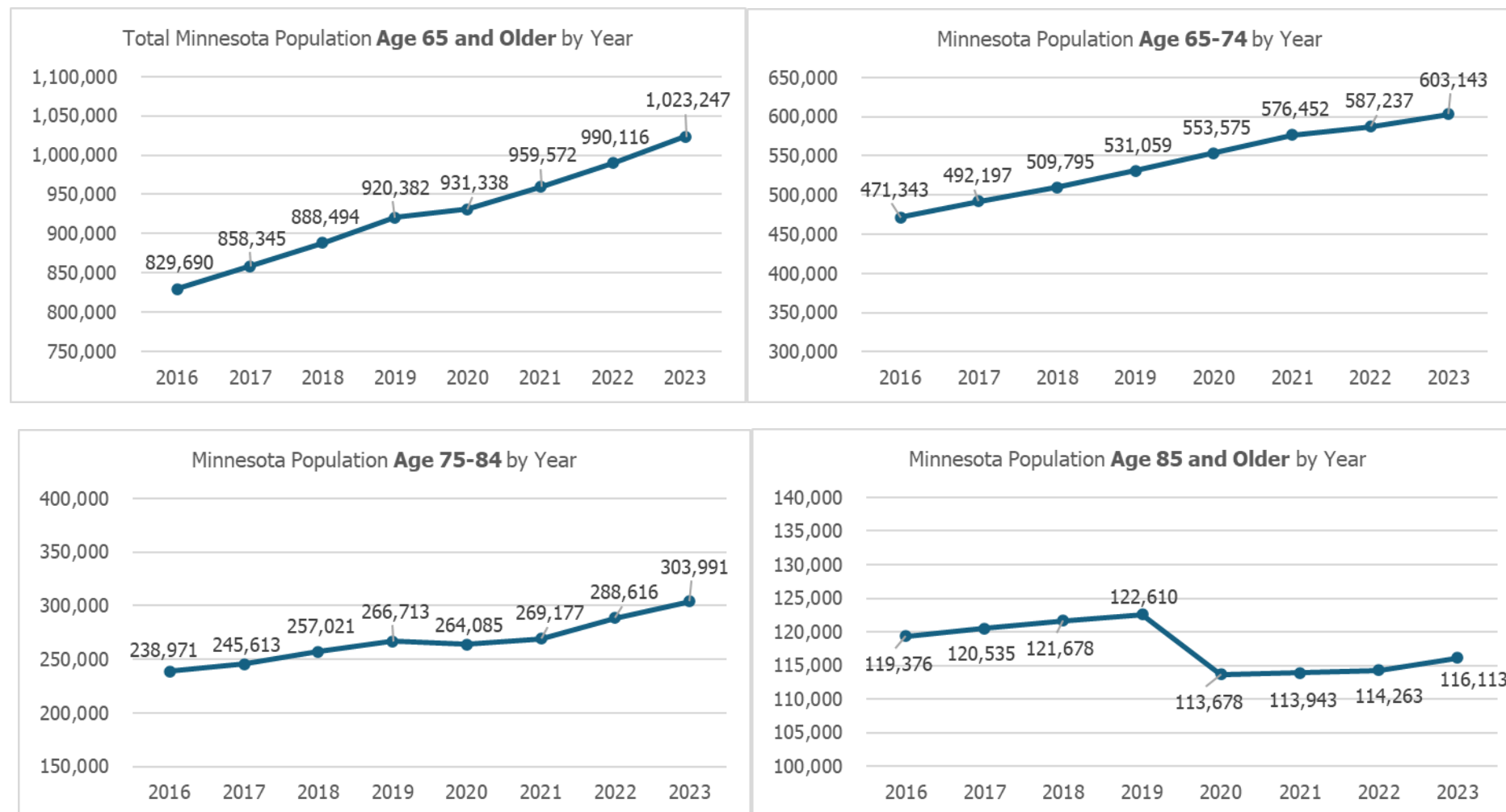
Straight-line projections about LTSS use, described in the next section of the report, rely on assumptions about: (1) growth each year in the population at risk for LTSS by age group (65-74, 75-84, and Age 85+), gender (male or female) and types of LTSS (nursing facility, assisted living, and HCBS); 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.⁶ 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

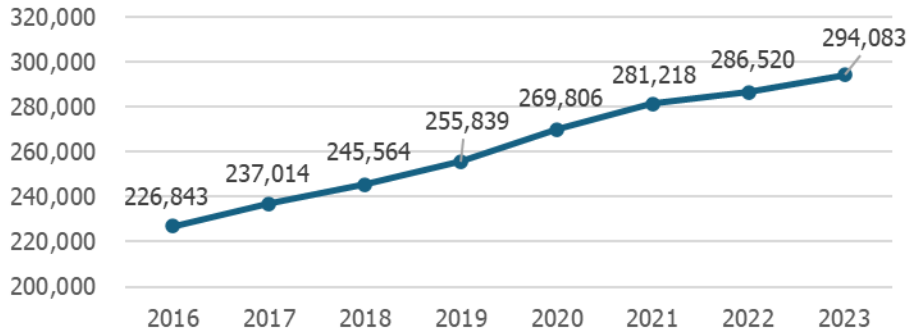
Panel 2.6 shows the estimated number of older people in Minnesota on January 1 of each year from 2016-2023 by age group and gender. All three age groups, both males and females, show steady growth from 2016-2019. In the COVID period (2020 and 2021), the population age 65-74 continues to grow at the pre-COVID rate; the population age 75-84 plateaus; and the population age 85 and older remains flat after declining from its peak in 2019. 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.

⁶ [Minnesota State Demographic Center Population Data webpage](#)

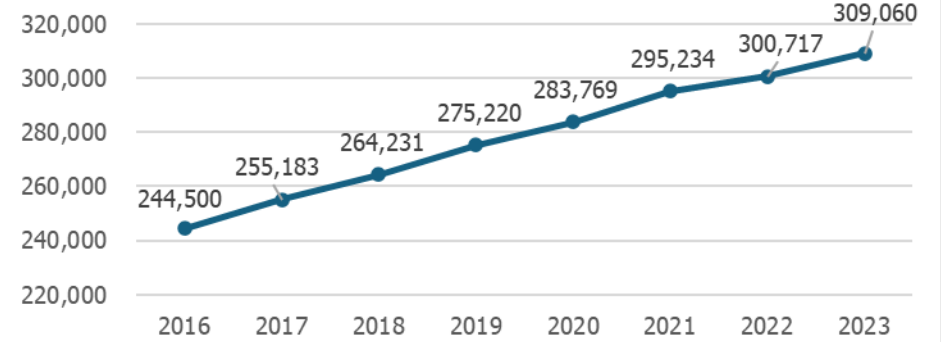
Panel 2.6 Minnesota Older Population 2016-2023 by Age, Gender, and Year



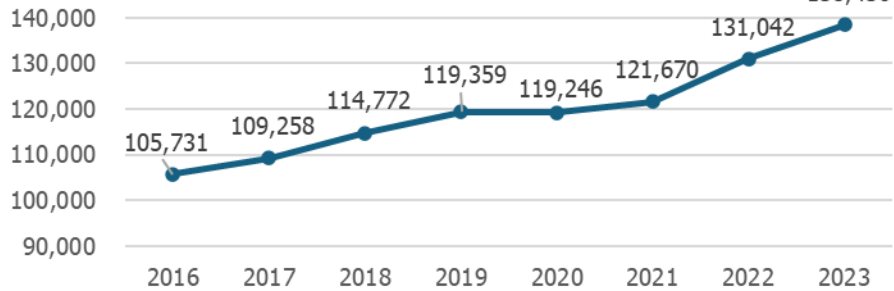
Minnesota **Male** Population **Age 65-74** by Year



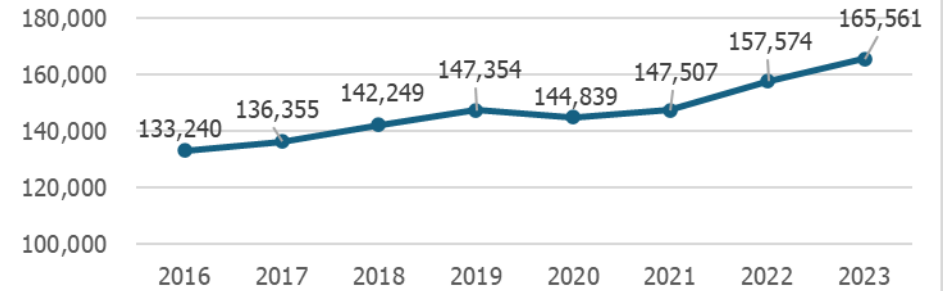
Minnesota **Female** Population **Age 65-74** by Year



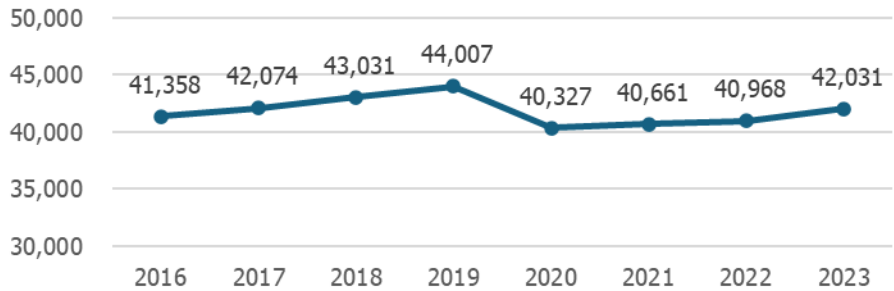
Minnesota **Male** Population **Age 75-84** by Year



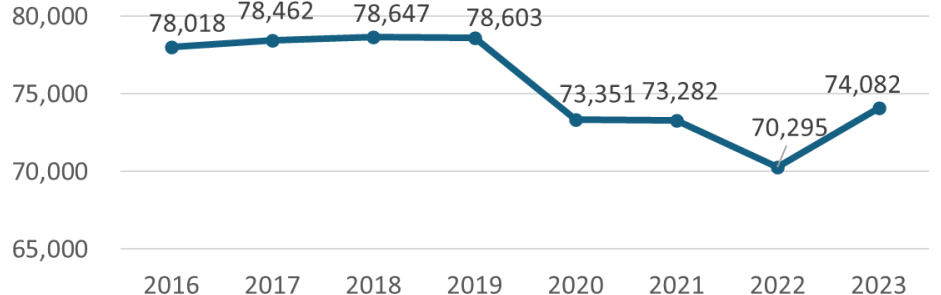
Minnesota **Female** Population **Age 75-84** by Year



Minnesota **Male** Population **Age 85 and Older** by Year



Minnesota **Female** Population **Age 85 and Older** by Year



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.

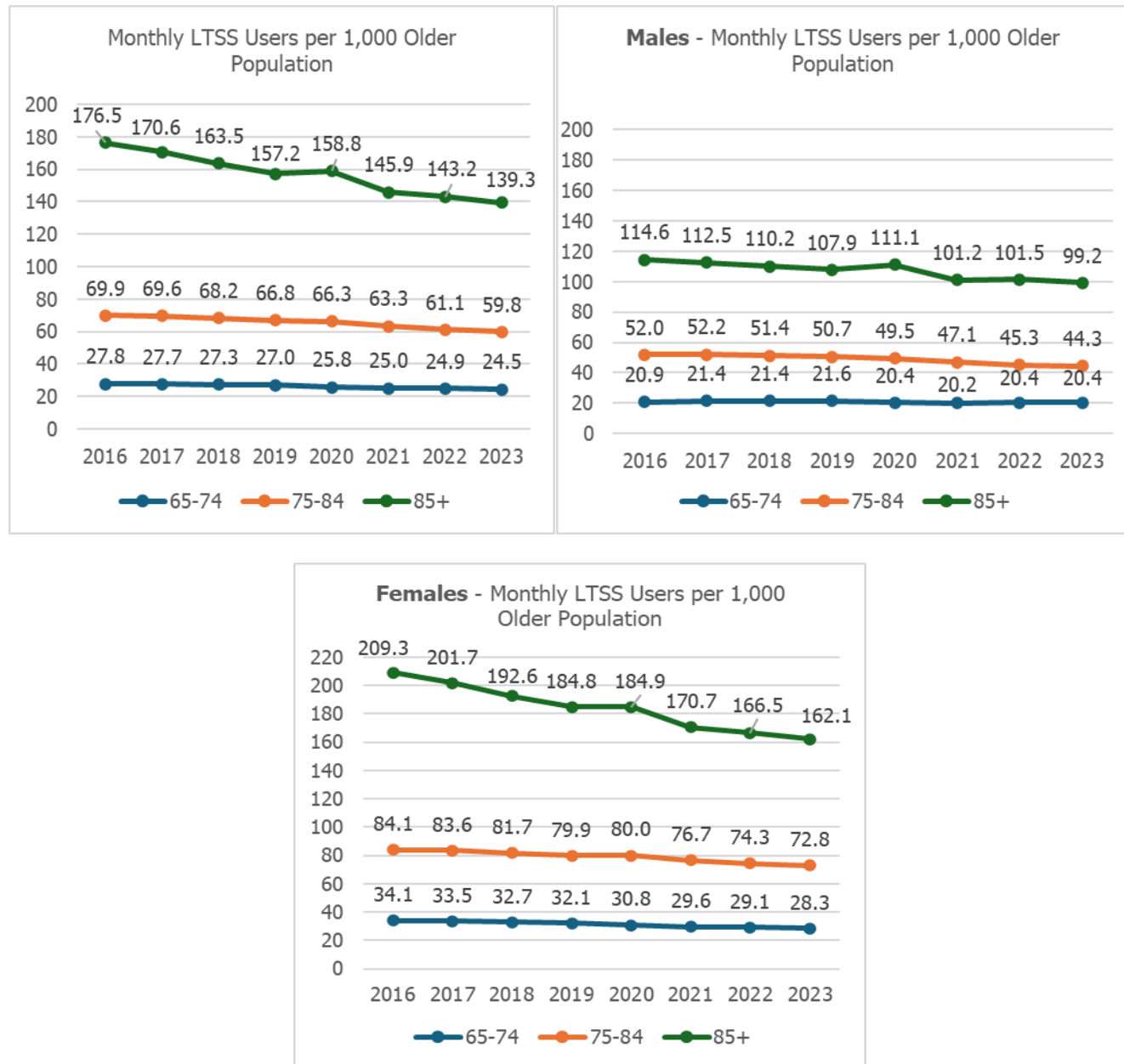
Table 2.4 Rates of LTSS use per 1,000 people in the general population by age group and type of LTSS

Type of LTSS	Age group	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%
Assisted Living	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



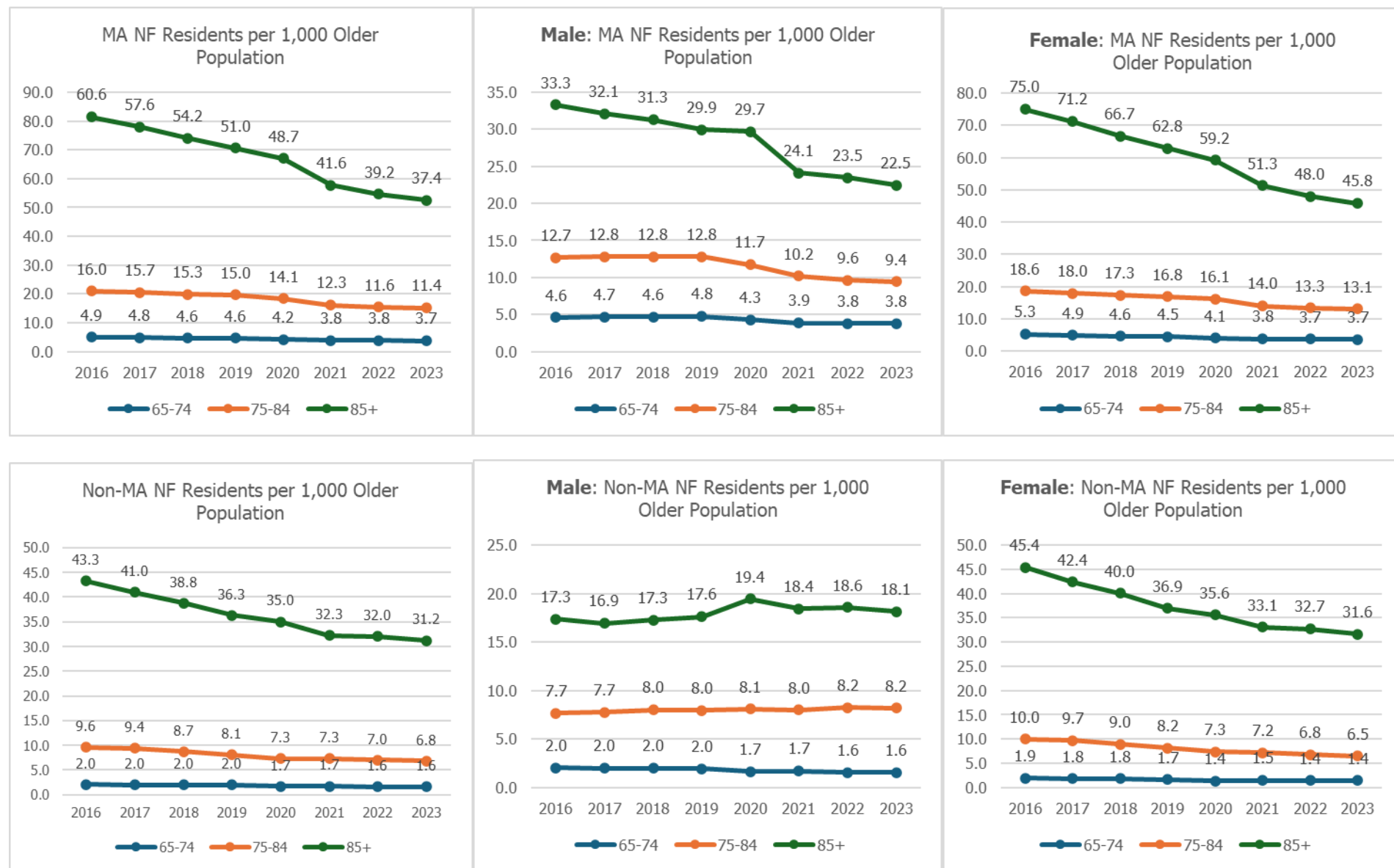
Trends in Rates of LTSS Use by LTSS Type, Age and Gender

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.

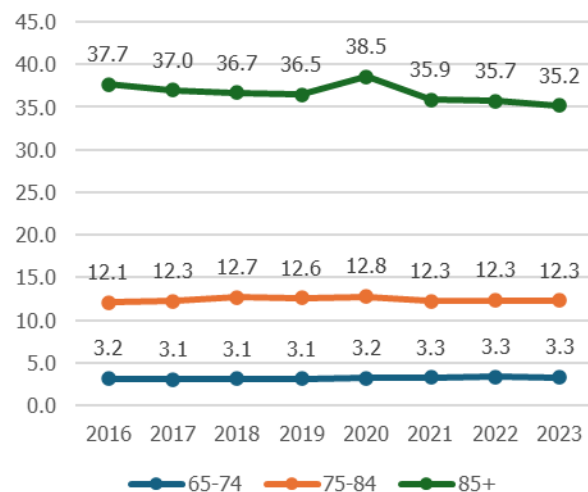
The rate of monthly assisted living facility use remained generally constant from 2016 to 2023 for residents overall and by gender. The exception was in 2020 when rate of use increased among residents age 85 and older. In that year, the number of users did not increase but the number of people at risk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

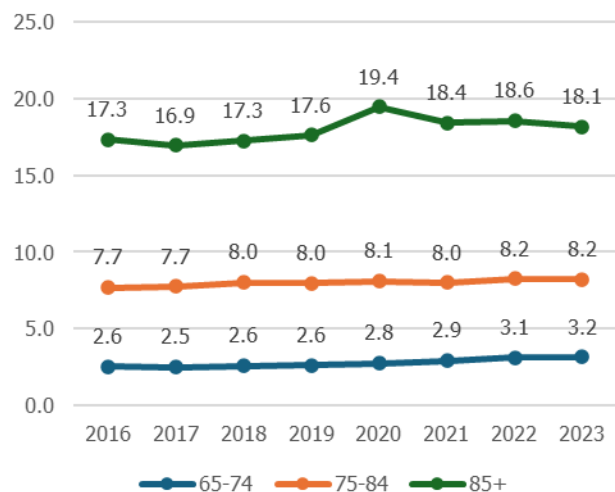
Panel 2.8 Rates of LTSS Use per 1,000 People in the Minnesota Population by LTSS Type, Age and Gender



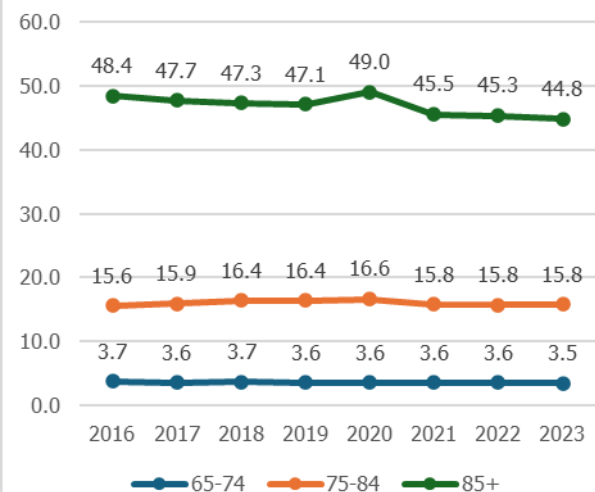
Assisted Living Residents per 1,000 Older Population



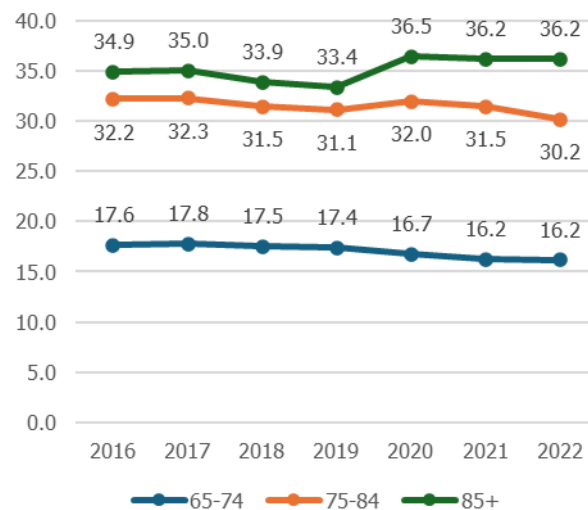
Male: Assisted Living Residents per 1,000 Older Population



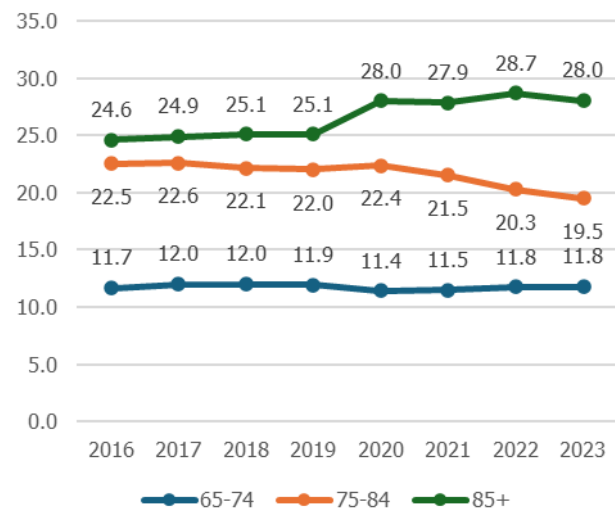
Female: Assisted Living Residents per 1,000 Older Population



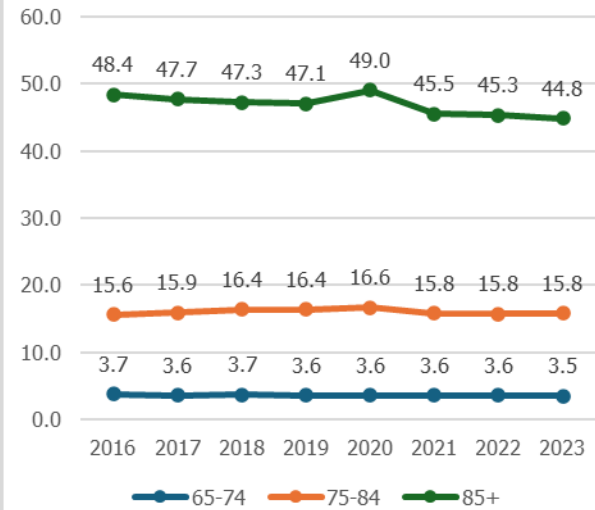
HCBS Participants per 1,000 Older Population



Male: HCBS Participants per 1,000 Older Population



Female: HCBS Participants per 1,000 Older Population



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 data, 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, rates of use per 1000 members of the general older population, monthly cost per service per user, and total annual 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. Average annual cost per user for all LTSS 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

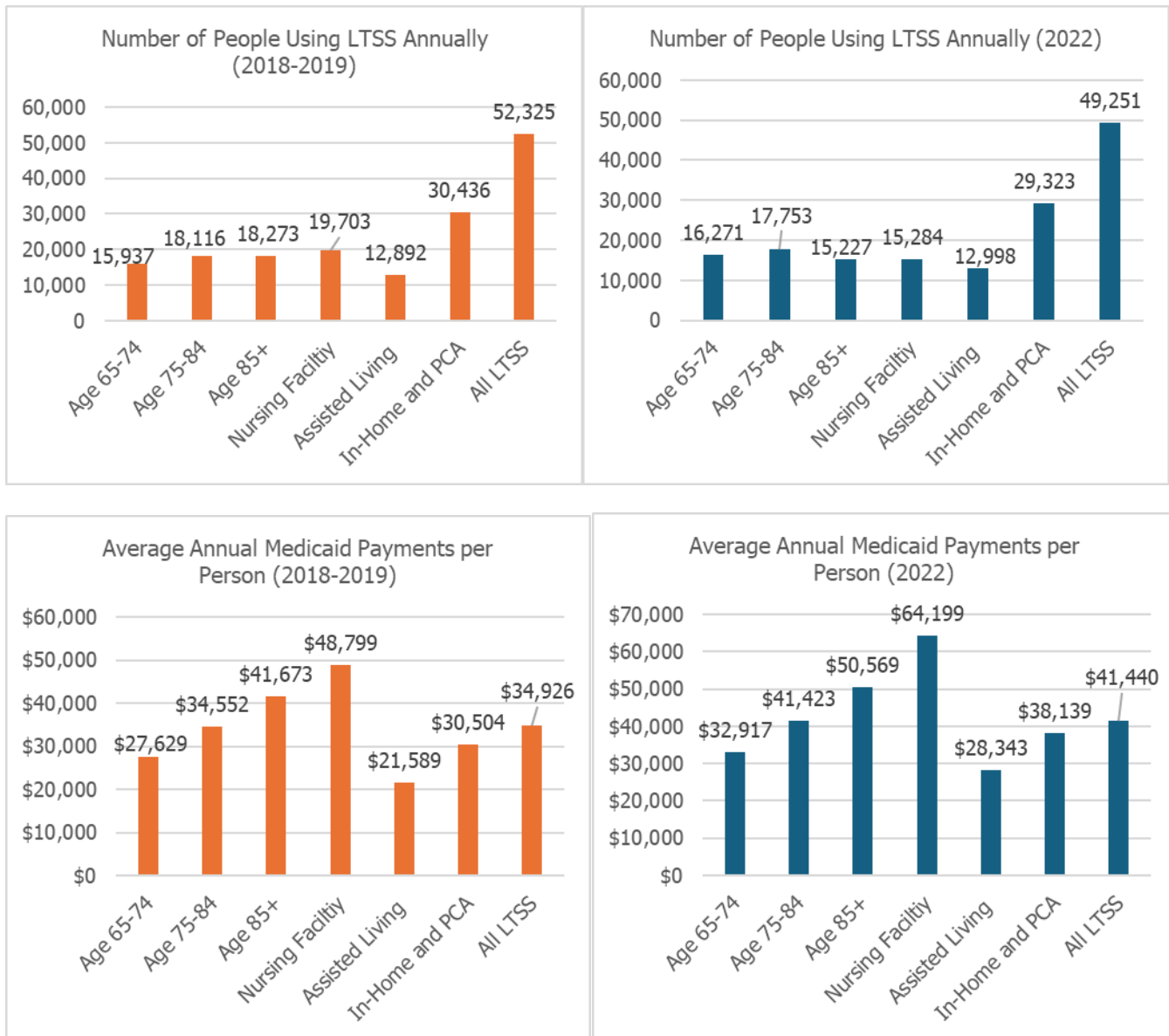
residents (31%), although in-home and/or PCA/CFSS services were close behind with a 25% increase.

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

Time Period or % Change	Age Group or Setting	People using the Service	Users per 1000 General Population	Months of LTSS Use	Cost per Month per User	Cost 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 general 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 General Pop.	Annual Months per User	Cost per Month per User	Annual Cost 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 Management.	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
Assisted 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

LTSS Service	Age and Gender	LTSS Users 2018-2019	Rate of LTSS/1000 General Pop.	Annual Months per User	Cost per Month per User	Annual Cost per User
In-Home Services	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) Medicaid LTSS Service Use and Costs by LTSS Service, Age & Gender

LTSS Service	Age and Gender	LTSS Users 2022	Rate of LTSS / 1000 General Pop.	Annual Months per User	Cost per Month per User	Annual Cost 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
PCA/CFSS	Male 65-74	1,944	7.8	9.24	\$2,935	\$27,125
	Male 75-84	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

LTSS Service	Age and Gender	LTSS Users 2022	Rate of LTSS / 1000 General Pop.	Annual Months per User	Cost per Month per User	Annual Cost per User
	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
MA NF	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	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 Rates from 2023 to 2029

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), PCA/CFSS, and Alternative Care. For purposes of our study, we used monthly average per user Medicaid cost figures from detailed tables in the November 2024 DHS budget forecast to estimate annual increases in per person LTSS costs 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 per user increases in LTSS cost by major categories. Because of legislative actions, the Elderly Waiver, PCA/CFSS and Alternative Care programs experienced substantial increases in costs per user in 2024, and they are projected to continue these increases through 2025. Per user cost increases are projected to decline to approximately 5-6% for the remainder of the decade. The per user costs for PCA/CFSS, after large increases in 2024-2025, are expected to decline to approximately 1-2% in the later years.

Table 3.4 Estimated Annual Percentage Increase in Past and Future Medicaid LTSS Costs per User from 2023-2029

Service category	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%
HCBS	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 estimates of per user LTSS cost increases are applied in making straight-line projections (Chapter 4) and constructing the simulation scenarios (Chapter 5).

Chapter 4 Projections of Future LTSS Use and Medicaid Costs

This chapter presents straight-line Medicaid LTSS utilization and cost projections from 2025-2035. Future LTSS cost growth is a function of increases in the number of people using services and increases in the average per user cost of those services. Growth in number of people who will be using services each year is based on demographic projections for increases in Minnesota's older population, and the rates at which older people in the general population will be using LTSS services in the future.

We updated LTSS cost projections in the January 2025 LTSS Interim Report by incorporating new information about LTSS service use in the post-COVID period and updated figures on the annual per user cost of Medicaid LTSS services from the November 2024 DHS budget forecast. DHS forecasted average per user costs from 2023-2029 were substantially higher than the cost increases for those years in the interim report. Details on the methods for projecting per user cost of Medicaid LTSS are contained in the appendix to our report.

In our straight-line projection method, future Medicaid service costs follow a straight-line (linear) pattern. In actuality, there has been, and likely will be, variation from year to year in the costs of Medicaid services because of legislative actions, policy changes, or rates of price inflation.

Scenarios for LTSS Cost Growth and Medicaid Spending

We made straight line projections of future use of LTSS and Medicaid costs from 2025-2035. In addition, we drew comparisons between LTSS cost growth and scenarios for hypothetical Medicaid spending over the same years. These scenarios are summarized below. More detailed information on the scenarios is presented in Table 4.1. Annual percentage increases in average per user cost of Medicaid LTSS services are presented in Table 5.3 in the next chapter.

In making projections from 2025-2035, we developed and tested different scenarios for patterns in LTSS use. Each scenario is driven by different assumptions about increases in the size of the older population and increasing per user cost of Medicaid LTSS services. Future LTSS cost growth depends on both the number of future LTSS users and average per user costs.

- Projected Increases in LTSS Use
 - o Post-COVID scenario: Where projections follow post-COVID patterns of LTSS use for the entire period from 2025-2035.
 - o Blended scenario: Where LTSS projections begin in 2025 with post-COVID patterns of LTSS use but then steadily return to a higher pre-COVID pattern between 2026 and 2035.
- Increases in Per User Cost of Medicaid LTSS Services
 - o 5.0% annual per user increase: Approximating the historical average of annual per user LTSS cost increases from 2016-2024.
 - o 2.5% annual per user increase: A conservative annual percentage that represents a lower bound of expected cost increases.

We also projected hypothetical Medicaid spending growth from 2025-2035 to assess how growth in LTSS costs might compare to different scenarios of LTSS spending.⁷ Two spending growth scenarios were developed and tested.

- **Constrained annual Medicaid spending growth:** This conservative lower bound scenario caps Medicaid spending at a constant 2.5% annual rate. It is unadjusted for growth in LTSS users. It leads to a widening gap between LTSS cost growth and Medicaid spending growth. This gap is expected to limit access to LTSS.
- **Medicaid spending growth tied to LTSS cost growth:** In this scenario, hypothetical Medicaid spending is set equivalent to LTSS cost growth under either the post-COVID or blended scenario. In theory, this spending growth is expected to keep up with LTSS cost growth for each scenario leading to levels of spending that will maintain current access to LTSS.

Table 4.1 Assumptions for the Updated Medicaid LTSS Cost Projection Scenarios based on 5% and 2.5% annual cost increase assumptions

Category	Post-COVID Scenario with 5 % Per User Cost Increase	Blended Scenario with 5 % Per User Cost Increase	Post-COVID Scenario with 2.5 % Per User Cost Increase	Blended Scenario with 2.5 % Per User Cost Increase
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.

⁷ 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.

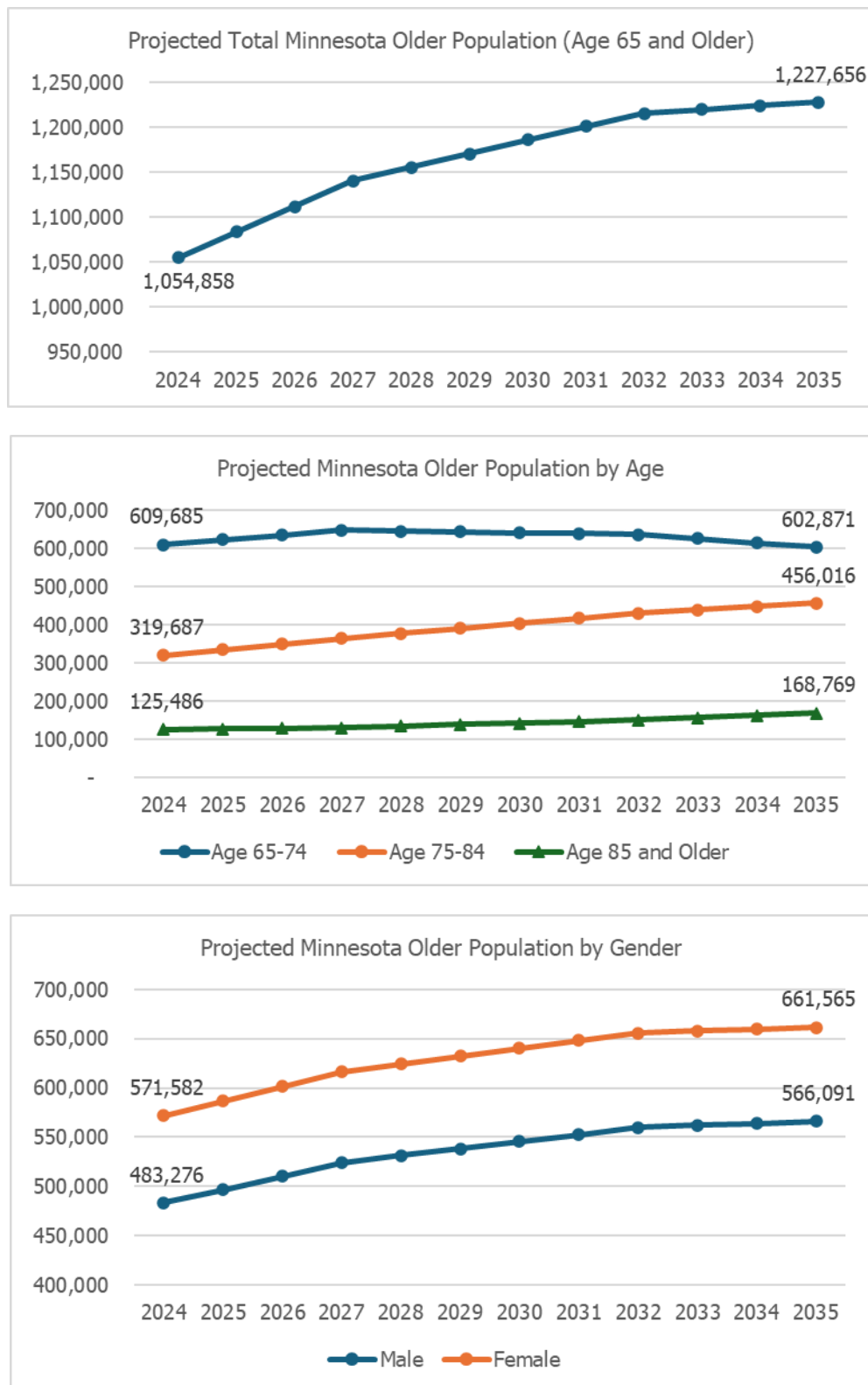
Category	Post-COVID Scenario with 5 % Per User Cost Increase	Blended Scenario with 5 % Per User Cost Increase	Post-COVID Scenario with 2.5 % Per User Cost Increase	Blended Scenario with 2.5 % Per User Cost Increase
Number of future LTSS users	Minnesota population projections by age group and gender from 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 Per User Increase in LTSS Cost 2025 – 2035	Percentage increases from DHS Budget Forecast 2025-2029, then 5% 2030-2035. (Post-COVID/5%)	Percentage increases from DHS Budget Forecast 2025-2029, then 5% 2030-2035. (Blended/5%)	Percentage increase from DHS Budget Forecast in 2025 then 2.5% in 2026-2035. (Post-COVID/2.5%)	Percentage increase from DHS Budget Forecast in 2025 then 2.5% in 2026-2035 (Blended/2.5%)

Note: For simplicity these scenarios are labeled “5.0%” and “2.5%” even though actual annual increases in per user costs deviate somewhat from these percentages. See Table 3.4. and 5.3 for exact percentages used in the projections.

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 decrease 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 Number of Annual LTSS Users

We applied population growth figures with rates of LTSS use in order to project the number of future LTSS users with the post-COVID and blended scenarios. The blended scenario with the steady return to pre-COVID LTSS use had the largest overall increase in LTSS users from 2025 to 2035 (Table 4.2).

The largest percentage increase in LTSS users between years was for people aged 85 and older and among nursing facility residents. This pattern reflects the relatively higher pre-COVID nursing home use, particularly among users age 85 and older, that were increasingly reflected in the blended rates. In contrast, rates of assisted living and in home care use were similar for the two scenarios. This pattern reflects the fact that use of these LTSS services held steady between pre-COVID and post-COVID periods.

Table 4.2 Number of Projected LTSS Users by Age and Type of LTSS

Scenario	Age Group or Setting	2025	2030	2035	% Change 2025 to 2030	% Change 2025 to 2035
Post-Covid	All Users	57,971	64,999	70,613	12%	22%
	Age 65-74	19,447	20,028	18,849	3%	-3%
	Age 75-84	22,645	27,302	30,915	21%	37%
	Age 85+	15,846	17,724	21,039	12%	33%
	Nursing Facility	17,738	20,009	22,131	13%	25%
	Assisted Living	15,073	17,088	19,036	13%	26%
	In Home Care	20,921	23,424	25,044	12%	20%
	PCA	14,204	15,793	16,745	11%	18%
Blended	All Users	57971	66851	75054	15%	29%
	Age 65-74	19447	19822	18461	2%	-5%
	Age 75-84	22645	27581	31546	22%	39%
	Age 85+	15846	19496	25248	23%	59%
	Nursing Facility	17738	22801	28547	29%	61%
	Assisted Living	15073	16969	18912	13%	25%
	In Home Care	20921	24326	26945	16%	29%
	PCA	14204	15608	16360	10%	15%

Projected Average Annual Per User LTSS Costs

The different scenarios resulted in different projected annual cost per user of LTSS (Table 4.3). In each scenario the 2025 total annual per person costs equaled \$57,243. However, the scenarios diverged after that. The largest growth in total per user LTSS costs between 2025 and subsequent years occurred with the blended/5% scenario. Costs grew by 37% in 2030 and 85% in 2035. The smallest growth in costs occurred with the post-COVID/2.5% scenario. Costs grew by 17% in 2030 and 31% in 2035.

The largest total LTSS cost growth in both the blended and post-COVID scenarios were for people age 85 and older (Table 4.3). The largest cost growth by type of LTSS was for assisted living residents in the post-COVID scenarios and nursing facility residents in the blended scenarios. Assisted living residents had higher costs because of their larger increases in the rate of projected LTSS use under the post-COVID scenarios, while nursing facility residents had larger increases in projected LTSS use under the blended scenarios.

Table 4.3 Average Projected Per User Medicaid LTSS Costs per Year with Post-COVID and Blended Scenarios (current dollars)

Scenario	Age Group or Setting	2025	2030	2035	% Change 2025 to 2030	% Change 2025 to 2035
Post-Covid/5%	All Users	\$57,243	\$73,023	\$91,591	28%	60%
	Age 65-74	\$44,399	\$55,869	\$68,182	26%	54%
	Age 75-84	\$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/5%	All Users	\$57,243	\$78,258	\$105,673	37%	85%
	Age 65-74	\$44,399	\$56,677	\$70,292	28%	58%
	Age 75-84	\$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%
Post-Covid/2.5%	All Users	\$57,243	\$66,780	\$74,869	17%	31%
	Age 65-74	\$44,399	\$51,334	\$56,344	16%	27%
	Age 75-84	\$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/2.5%	All Users	\$57,243	\$71,738	\$87,133	25%	52%
	Age 65-74	\$44,399	\$52,328	\$59,245	18%	33%
	Age 75-84	\$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.

Total Medicaid LTSS Cost Projections

Based on these per-person LTSS costs, we were able to project total Medicaid costs each year for the different utilization scenarios (Table 4.4, Panel 4.2 - Panel 4.5). Total annual costs represent projected average annual costs per user 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/5% scenario had the largest projected cost growth. Compared to 2025, LTSS costs were projected to grow by 53% in 2030 and 125% in 2035. The smallest growth in projected LTSS costs was in the post-COVID/2.5% scenario, where costs were projected to grow by 31% in 2030 and 59% in 2035.

The largest projected annual cost growth in the post-COVID scenarios was for LTSS users age 75-84, while in the blended scenarios the largest cost growth was for users age 85 and older (Table 4.4, Panel 4.2-Panel 4.5). The growth in total LTSS cost in the post-COVID scenarios was largest for assisted living residents, while the largest growth in total costs in the blended scenarios was for nursing facility residents. In the post-COVID scenarios cost growth was driven by increasing numbers of people age 75-84 who were heavy users of assisted living facilities. In the blended scenarios cost growth was driven by higher rates of nursing facility use, particularly among people age 85 and older.

Table 4.4 Total Annual LTSS Costs Per User for Post-COVID and Blended Scenarios (\$ Millions in current dollars)

Scenario	Age Group or Setting	2025	2030	2035	% Change 2025 to 2030	% Change 2025 to 2035
Post-Covid/5%	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%
	Home Care or PCA/CFSS	\$848	\$1,150	\$1,397	36%	65%
Blended/5%	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%
	Home Care or PCA/CFSS	\$848	\$1,166	\$1,442	37%	70%
Post-Covid/2.5%	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%
	Home Care or PCA/CFSS	\$848	\$1,077	\$1,207	27%	42%
Blended/2.5%	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%
	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%
	Home Care or PCA/CFSS	\$848	\$1,104	\$1,309	30%	54%

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

As described above, we projected hypothetical Medicaid spending growth from 2025-2035 to assess how growth in LTSS costs might compare to different scenarios of LTSS spending. In one Medicaid spending scenario annual Medicaid spending growth was constrained at a constant 2.5% per year. Spending is unadjusted for growth in LTSS users. It leads to a widening gap between LTSS cost growth and Medicaid spending growth. A second set of scenarios ties Medicaid spending growth to LTSS cost growth. In these scenarios, hypothetical Medicaid spending is set equivalent to LTSS cost growth under the Post-COVID/2.5% scenario and the Blended/5% scenario. In theory, spending

growth in these scenarios is expected to keep up with LTSS cost growth leading to levels of spending that will maintain current access to LTSS under either scenario.

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 (Table 4.4). 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 4.5). 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.

Table 4.5 Annual Medicaid Spending Increasing at a Constant 2.5% for Both Post-COVID and Blended Scenarios

Age Group or Setting	2025	2030	2035
All Users	\$3,318	\$3,755	\$4,248
Age 65-74	\$863	\$977	\$1,105
Age 75-84	\$1,283	\$1,452	\$1,643
Age 85+	\$1,104	\$1,249	\$1,413
Nursing Facility	\$1,431	\$1,619	\$1,832
Assisted Living	\$709	\$802	\$907
In Home Care or PCA/CFSS	\$848	\$960	\$1,086

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 4.6, 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 4.6 Summary of Projected Medicaid Cost vs 2.5% Spending Increase by Scenario (from Table 4.9)

Scenario	2030 Spending Gap (\$Millions)	2035 Spending Gap (\$Millions)
Post-COVID/5.0% Scenario	-\$991 (21%)	-\$2,220 (34%)
Post-COVID/2.5% Scenario	-\$586 (13%)	-\$1,039 (20%)
Blended/5.0% Scenario	-\$1,332 (26%)	-\$3,214 (43%)
Blended/2.5% Scenario	-\$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 between 2025 and 2035 ranges from 43% for the Blended/5% scenario and -20% for the Post-COVID/2.5% scenario. In the Post-COVID/2.5% and the Blended/2.5% scenarios, where both spending and per user cost of care are increasing at 2.5%, the spending gaps are attributable largely to increases in the use of care because of an increasing older population. The spending gaps for Post-COVID/5% and Blended/5% scenarios can be attributed both to increasing use of care and to per person cost of care which is increasing at 5% rather than 2.5%. The 5% figure is probably a more realistic estimate of future cost growth.

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

The hypothetical gap between LTSS costs and Medicaid spending would most likely result in reduced access to services under both the post-COVID and blended scenarios. (Table 4.10, Table 4.11, Panel 4.6, and Panel 4.7). The projected gap in access to LTSS increases steadily over the years. Between 2025 and 2035, demand for LTSS is projected to grow by 22% under the post-COVID scenario and 29% under the blended scenario (Table 4.2).

With Medicaid spending growth capped at a constant 2.5% per year, the largest gap in access to LTSS is with a blended/5% scenario. The post-COVID/2.5% scenario results in the smallest gap in access to LTSS.

Table 4.7 Summary of Spending Related Reduction in LTSS Users (from Table 4.10 and Table 4.11)

Scenario	2030 Fewer Users	2035 Fewer Users
Post-COVID/5.0% Scenario	13,583 (21%)	24,324 (34%)
Post-COVID/2.5% Scenario	8,776 (14%)	13,875 (20%)
Blended/5.0% Scenario	18,875 (28%)	28,657 (38%)
Blended/2.5% Scenario	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 4.8 Average Annual Spending Increases Needed to Fully Cover Future LTSS Costs – All Users

Scenario	Avg 2025-2029	Avg 2030-2035	Avg 2025-2035
Post-COVID/5.0% Scenario	9.0%	6.4%	7.6%
Post-COVID/2.5% Scenario	7.6%	4.1%	5.7%
Blended/5.0% Scenario	10.2%	8.0%	9.0%
Blended/2.5% Scenario	8.8%	5.7%	7.1%

The lowest rate of future Medicaid spending growth would be for the post-COVID/2.5% scenario. 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/5% scenario 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 4.9 Gap between LTSS Costs and Medicaid Spending with Post-COVID and Blended Scenarios Between 2025 and 2030-2035

Scenario	Age Group or Setting	MA Spending 2030	MA Spending 2035	LTSS Costs 2030	LTSS Costs 2035	Spending gap amount 2030	Spending gap percent 2030	Spending cap amount 2035	Spending gap percent 2035
Post-COVID / 5 %	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 Home	\$802	\$907	\$1,087	\$1,548	-\$285	-26%	-\$641	-41%
	Care or PCA/CFSS	\$960	\$1,086	\$1,150	\$1,397	-\$190	-17%	-\$311	-22%
Post-COVID / 2.5 %	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 Home	\$802	\$907	\$986	\$1,244	-\$184	-19%	-\$337	-27%
	Care or PCA/CFSS	\$960	\$1,086	\$1,077	\$1,207	-\$117	-11%	-\$121	-10%
Blended / 5 %	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%
	Home Care or PCA/CFSS	\$960	\$1,086	\$1,166	\$1,442	-\$206	-18%	-\$356	-25%
Blended / 2.5 %	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%
	Age 75-84	\$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%
	Home Care or PCA/CFSS	\$960	\$1,086	\$1,104	\$1,309	-\$144	-13%	-\$223	-17%

Table 4.10 Effect of Spending-Related Reduction (SRR) on Number of LTSS Users with Post-COVID/5% and Blended/5% Scenarios between 2025 and 2030-2035.

Scenario	Age group or setting	Projected LTSS Users 2025	Projected LTSS Users 2030	Projected LTSS Users 2035	# supported by spending 2025	# supported by spending 2030	# supported by spending 2035	SRR in Users 2025	SRR in Users 2030	SRR in Users 2035	% SRR in users 2025	% SRR in users 2030	% SRR in users 2035
Post-COVID/ 5%	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%
	Home Care or PCA/CFSS	20921	23424	25044	20921	19543	19466	0	-3881	-5578	0%	-17%	-22%
Blended /5%	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%

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.

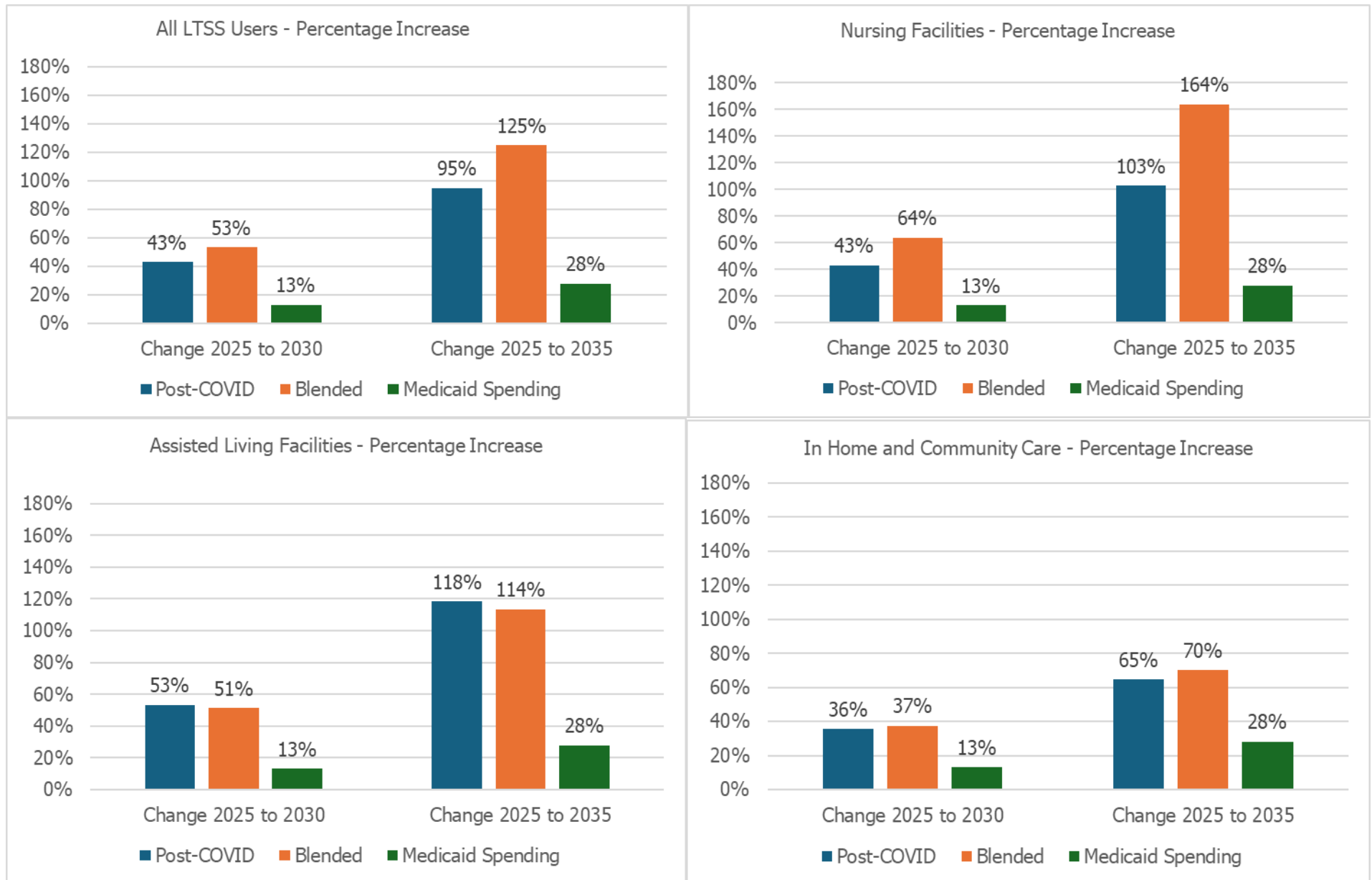
Table 4.11 Effect of Spending Reduction on Number of LTSS Users with Post-COVID/2.5% and Blended/2.5% Scenarios between 2025 and 2030-2035.

Scenario	Age group or setting	Projected LTSS Users 2025	Projected LTSS Users 2030	Projected LTSS Users 2035	Users supported by spending 2025	Users supported by spending 2030	Users supported by spending 2035	SRR in users 2030	SRR in users 2035	% SRR in users 2030	% SRR in users 2035
Post-COVID/2.5 %	All Users	57971	64999	70613	57971	56222	56738	-8776	-13875	-14%	-20%
	Age 65-74	19447	20028	18849	19447	19030	19616	-998	768	-5%	4%
	Age75-84	22645	27302	30915	22645	22053	22558	-5250	-8357	-19%	-27%
	Age 85+	15846	17724	21039	15846	15381	15635	-2342	-5404	-13%	-26%
	Nursing Facility	17738	20009	22131	17738	17418	17358	-2591	-4772	-13%	-22%
	Assisted Living	15073	17088	19036	15073	13903	13881	-3186	-5155	-19%	-27%
	In Home Care or PCA/CFSS	20921	23424	25044	20921	20878	22529	-2546	-2515	-11%	-10%
Blended/2.5 %	All Users	57971	66851	75054	57971	52336	51695	-14514	-23359	-22%	-31%
	Age 65-74	19447	19822	18461	19447	18668	18686	-1153	225	-6%	1%
	Age75-84	22645	27581	31546	22645	21132	21034	-6449	-10513	-23%	-33%
	Age 85+	15846	19496	25248	15846	13421	13118	-6075	-12130	-31%	-48%
	Nursing Facility	17738	22801	28547	17738	15206	14815	-7595	-13732	-33%	-48%
	Assisted Living	15073	16969	18912	15073	14109	14144	-2859	-4769	-17%	-25%
	In Home Care or PCA/CFSS	20921	24326	26945	20921	20356	20496	-3970	-6449	-16%	-24%

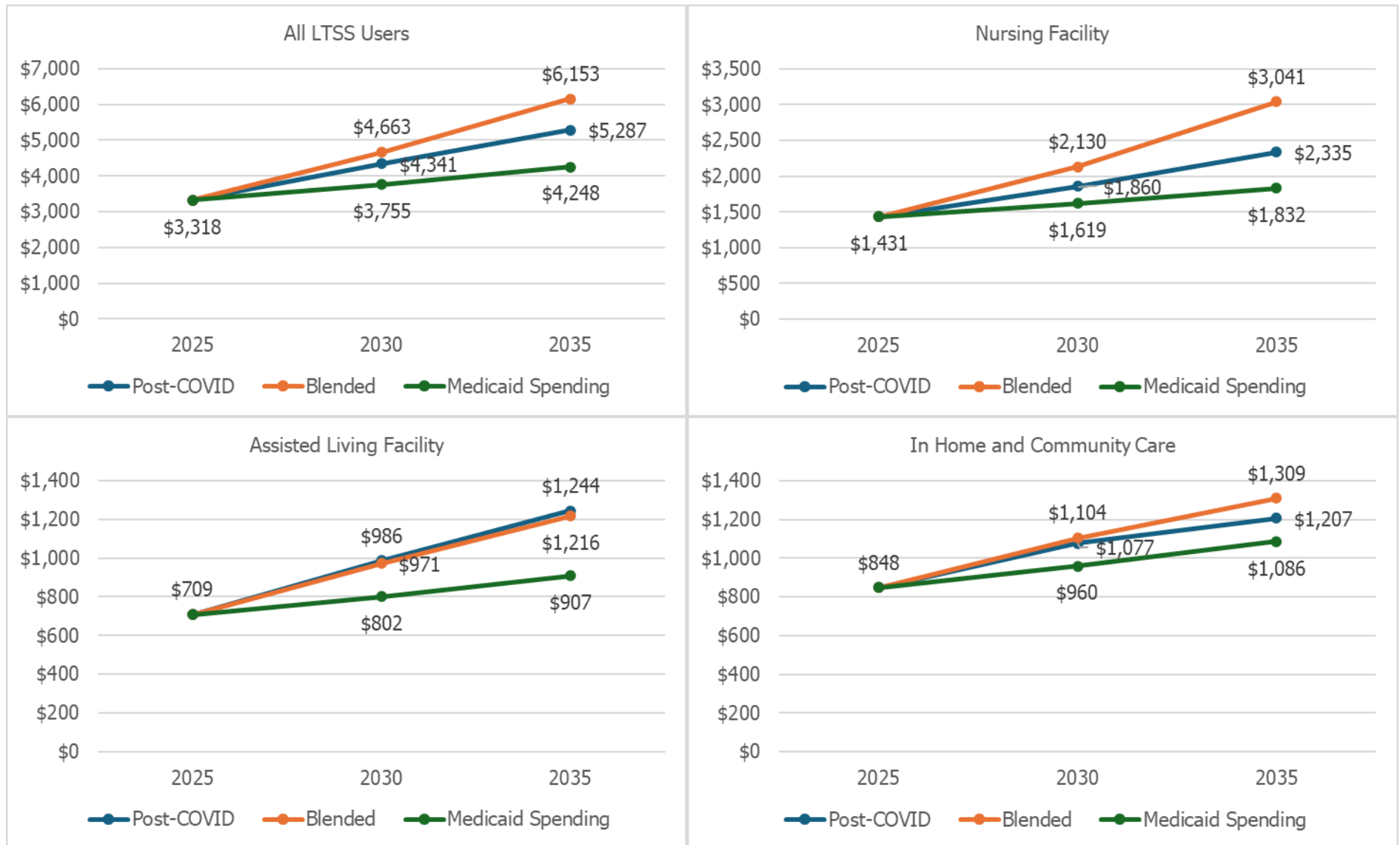
Panel 4.2 Medicaid Cost Projections for **Post COVID/5 %** and **Blended/5 %** Scenarios Compared to **Medicaid Spending Increases at 2.5 %** Per Year



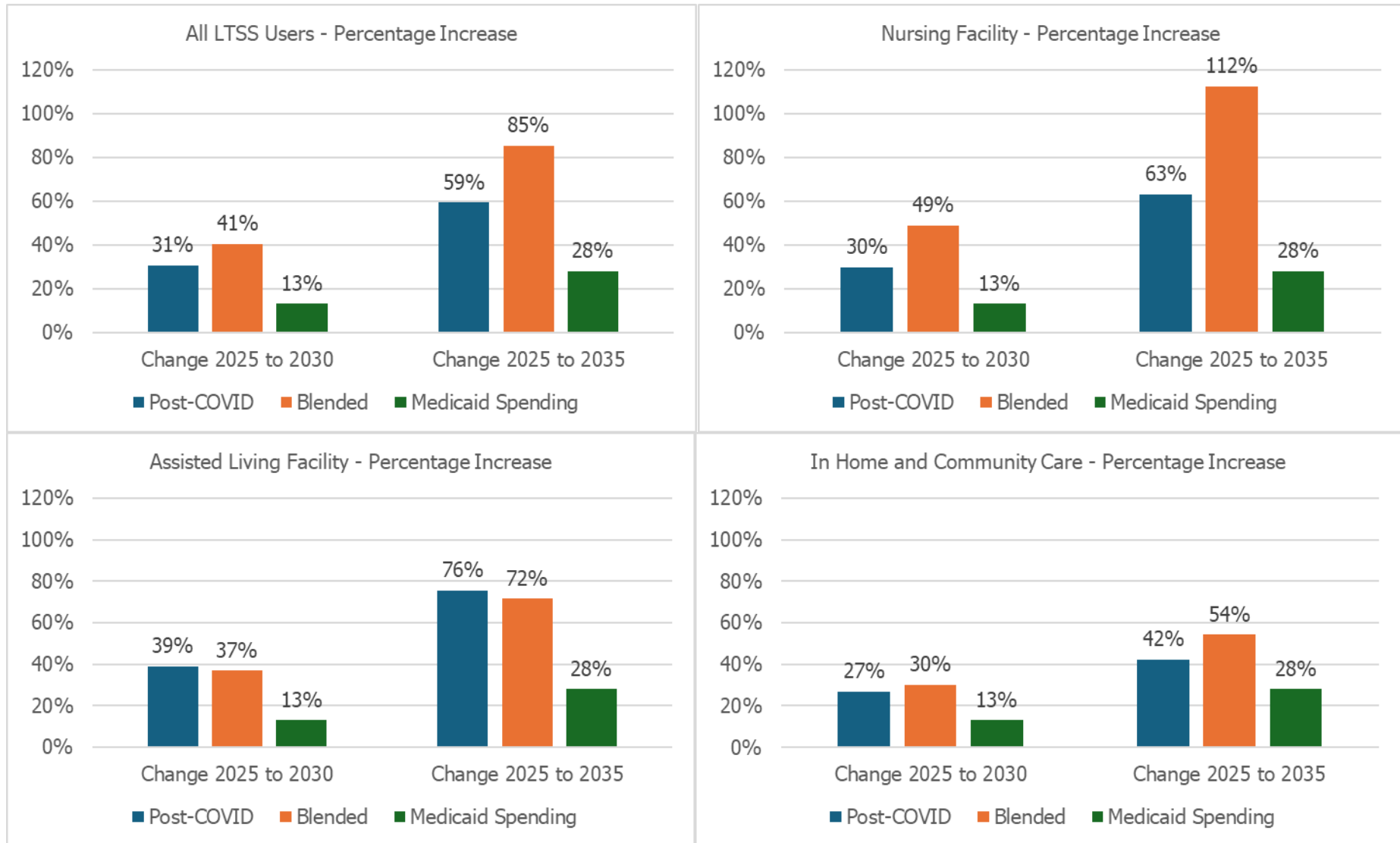
Panel 4.3 Percentage Increase in Medicaid Cost Projections for **Post COVID/5.0 % and Blended/5.0 % Scenarios** Compared to **Medicaid Spending Increases at 2.5 %** Per Year



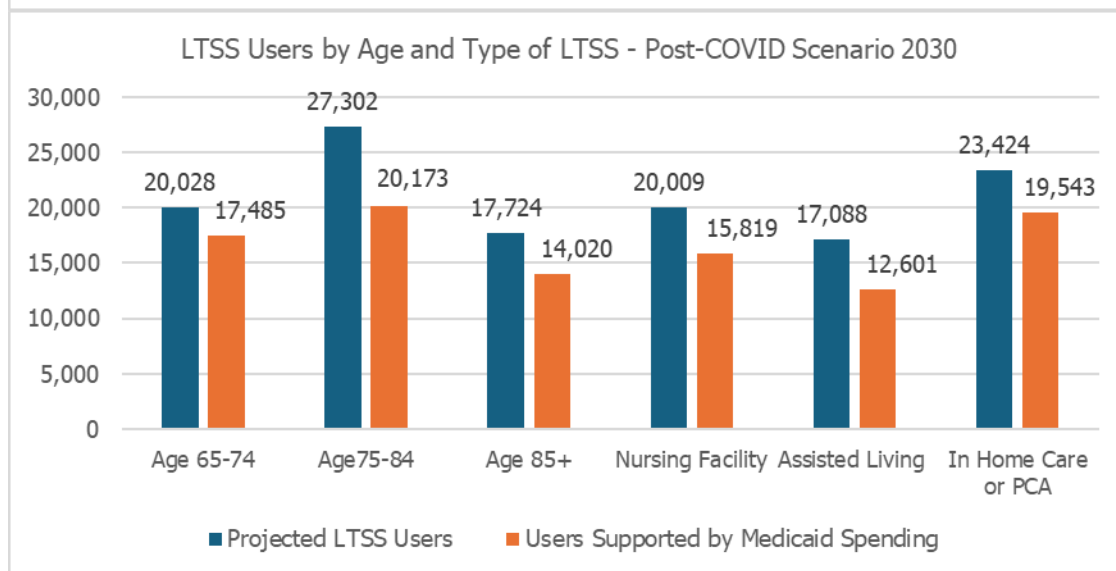
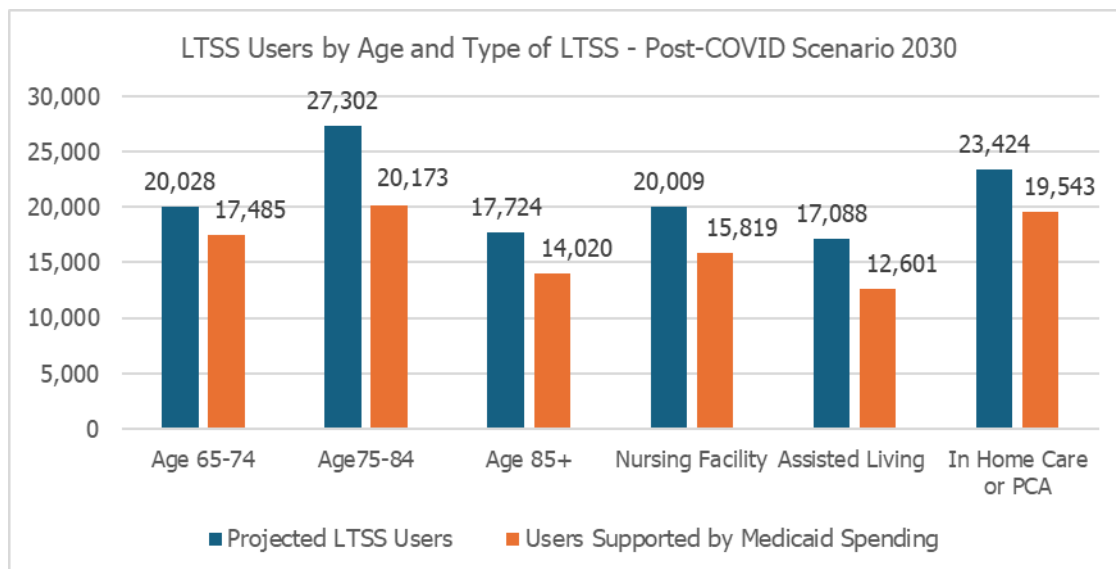
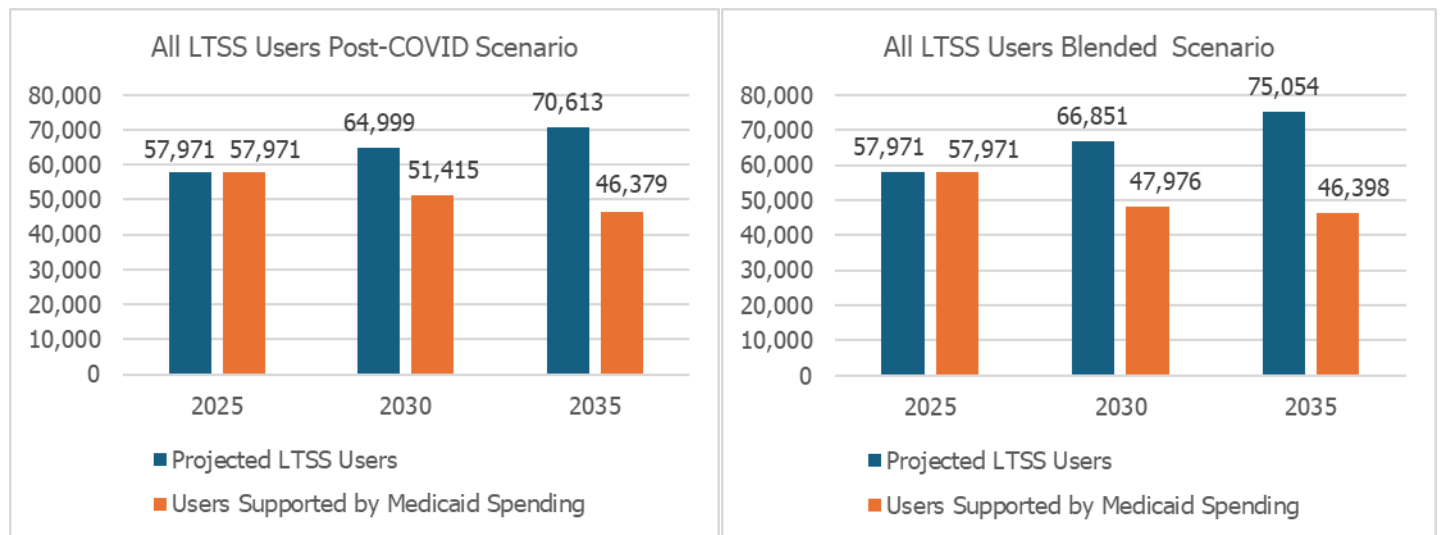
Panel 4.4 Medicaid Cost Projections with **Post COVID/2.5 %** and **Blended/2.5 %** Scenarios Compared to **Medicaid Spending Increases at 2.5 %** Per Year (\$Millions in current dollars)

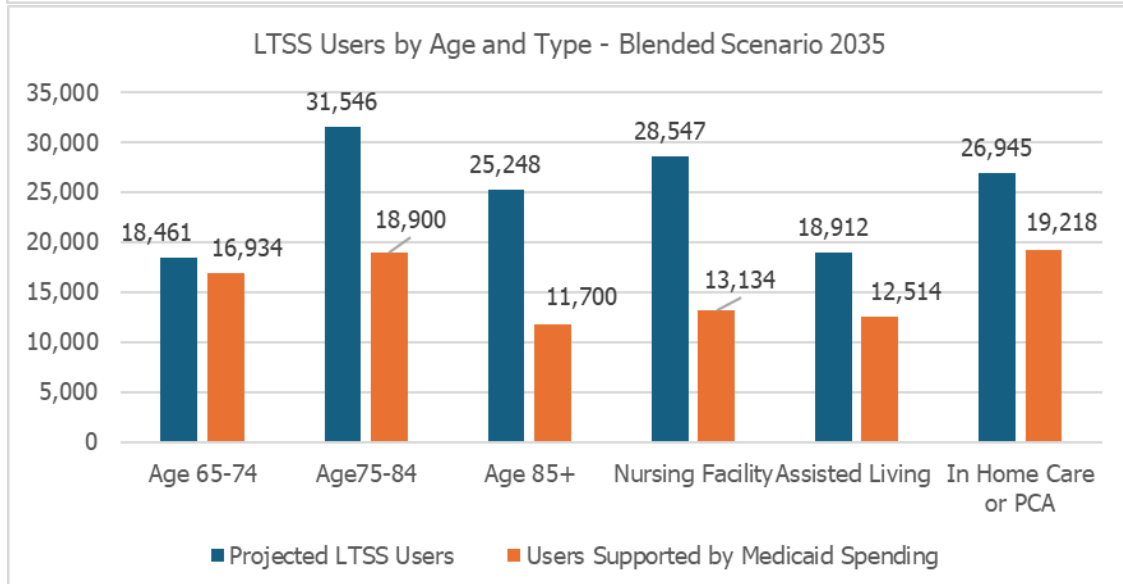
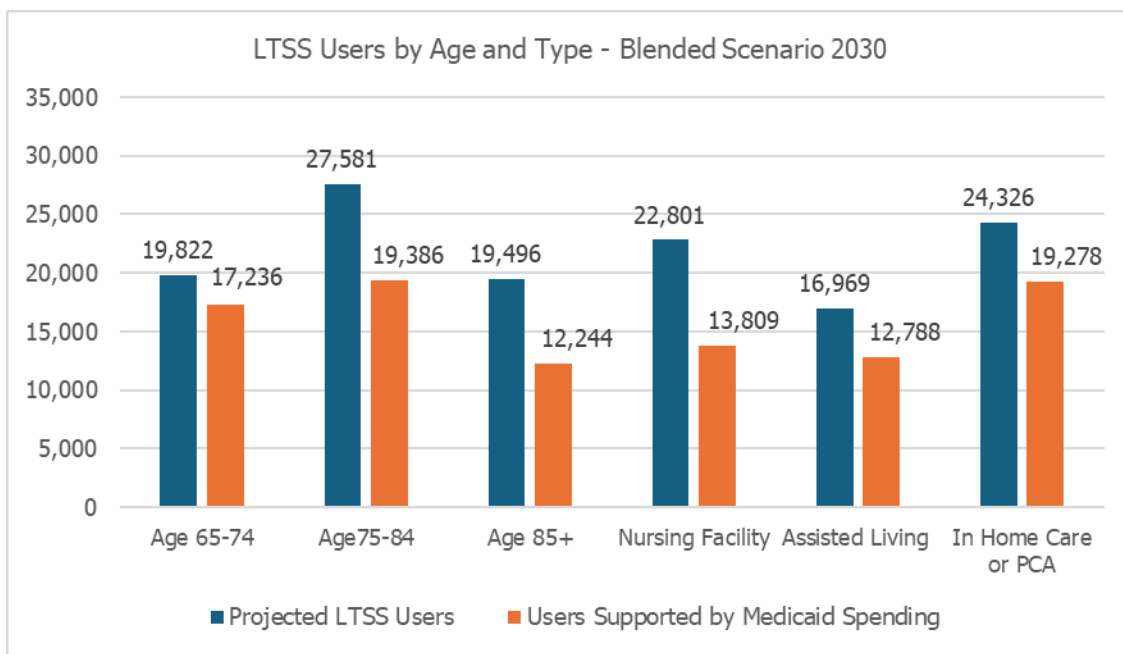
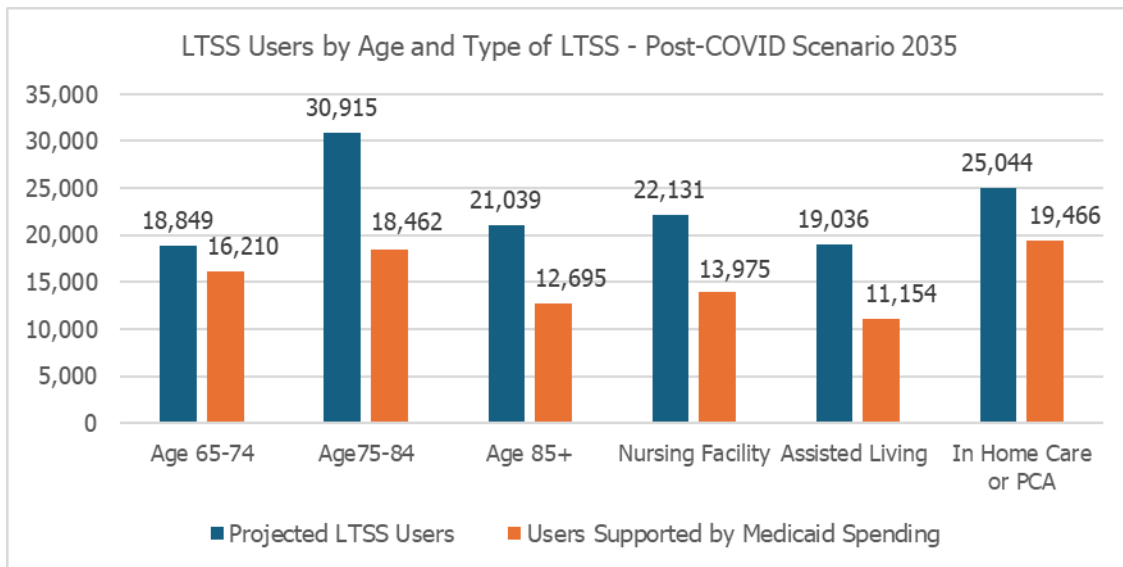


Panel 4.5 Percentage Increase in Medicaid Cost Projections for **Post-COVID/2.5 %** and **Blended/2.5 %** Scenarios Compared to Medicaid **Spending Increases at 2.5 %** Per Year

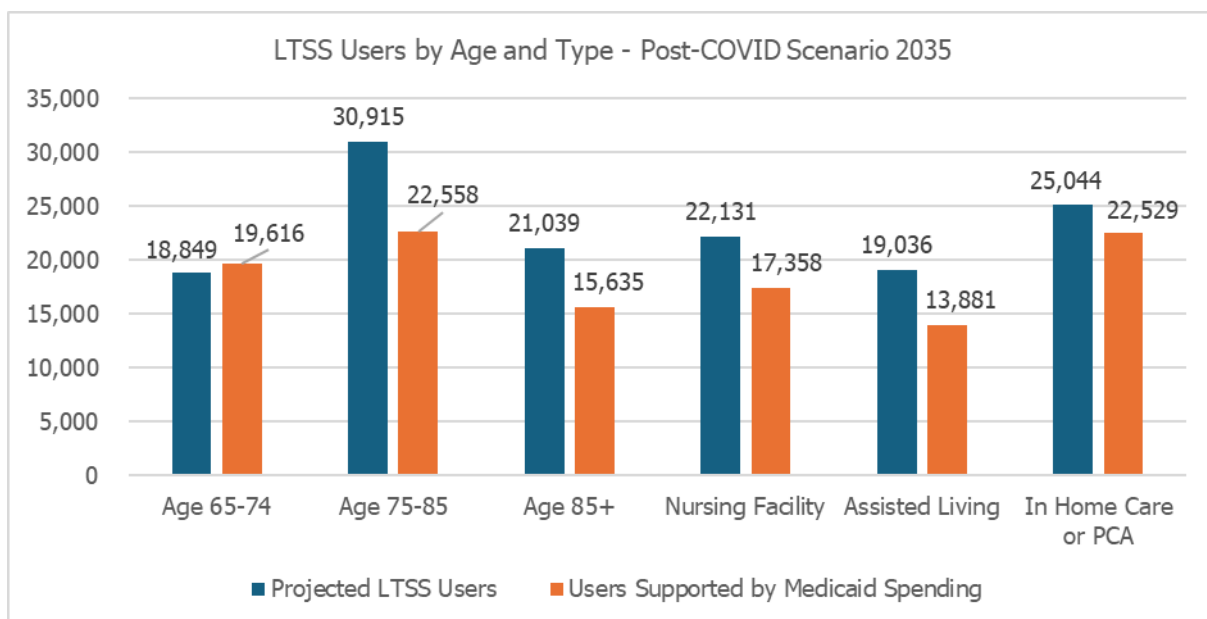
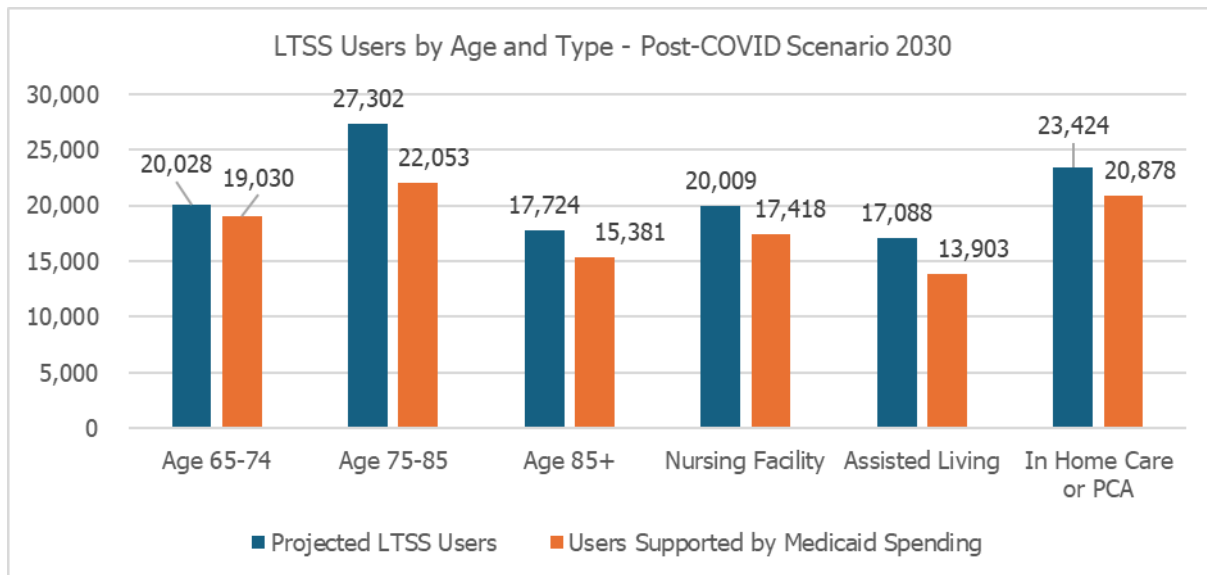
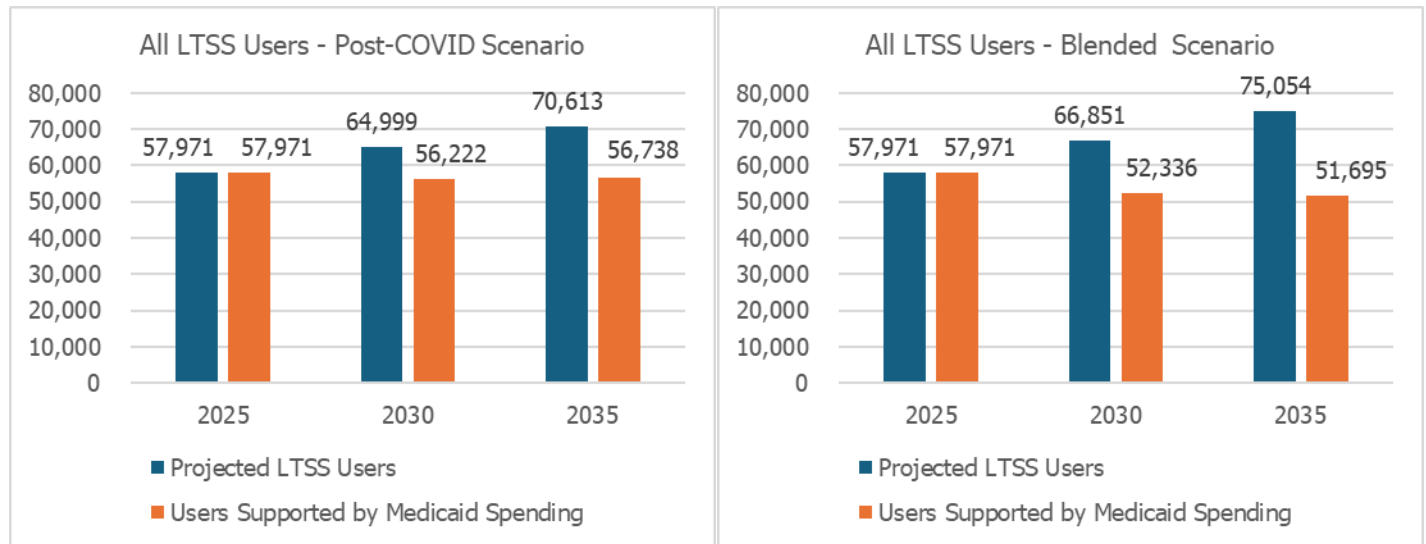


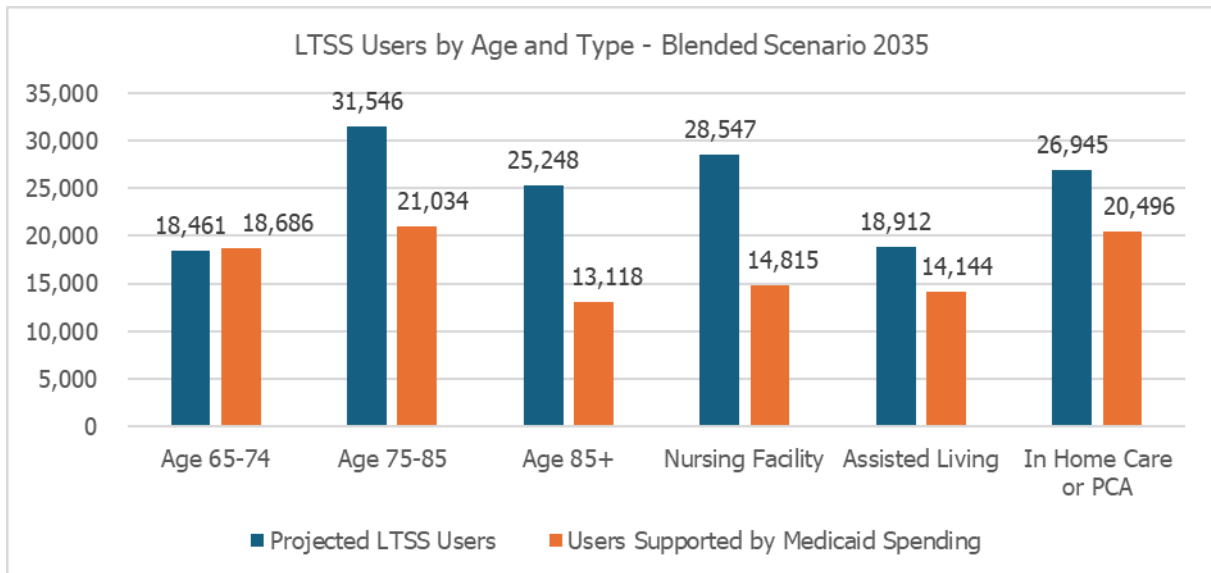
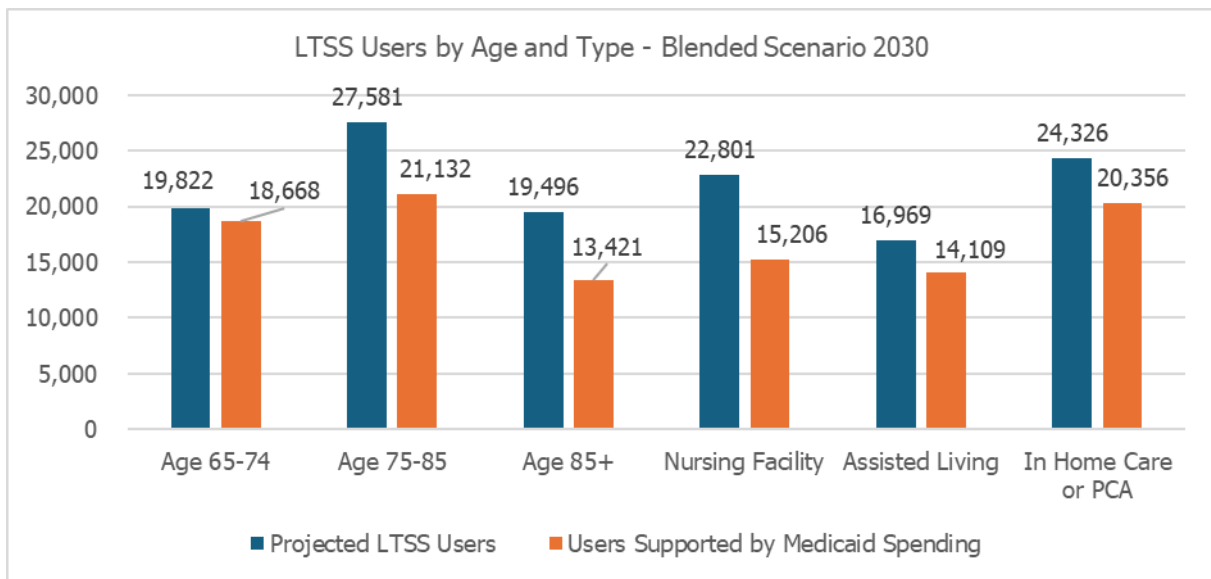
Panel 4.6 Effect of Spending Reduction on **Number of LTSS Users with Post-COVID/5.0 % and Blended/5.0 % Scenarios with 2.5 % Spending Projections** from 2025-2035





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





Chapter 5: Microsimulation

Simulation Model

We adopted a simulation approach 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.

We used a semi-Markov model to mimic the pattern of LTSS use for Medicaid (MA) enrollees and privately paying nursing facility (Non-MA 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 (MA NF), nursing facility residents not enrolled in Medicaid (Non-MA NF), Personal Care Assistant (PCA) program participants not enrolled in a Waiver program (PCA), Alternative Care program participants (AC), and individuals enrolled in Medicaid not using LTSS (MA Non-LTSS) and past nursing facility residents not enrolled in Medicaid (Non-MA Non-LTSS). 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 demographic population forecasts and historical population LTSS usage rates.

Figure 5.1 Transition Patterns between LTSS Subgroups Observed in Data

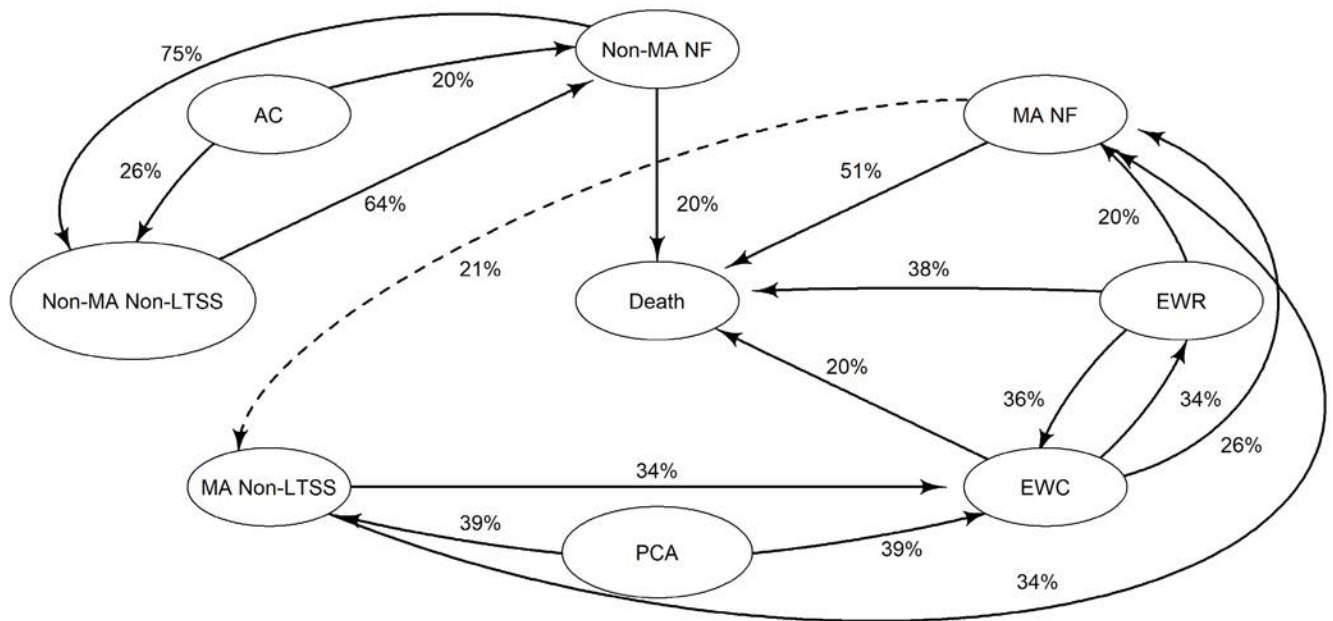


Figure 5.1 and Table A.9 (in the appendix) summarize the observed transition probabilities. Figure 5.1 displays the transitions that occur with a rate of 20% or higher. For example, the arrows connecting to the oval labeled EWC displays the most common transitions into and out of the Elderly Waiver community 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 PCA without a waiver (PCA: 39% of transitions), EWR (36%), and Medicaid enrolled without LTSS (MA Non-LTSS: 34%). The full list of observed transition probabilities is given in Appendix 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 per user 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 per user 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 the 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

Year	Male 65-74	Male 75-84	Male 85+	Female 65-74	Female 75-84	Female 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.

LTSS Subgroup	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 Average Percentage Increases Per Year in Monthly Medicaid Costs for 5% and 2.5% Scenarios

“5.0% Cost Increase” - DHS Forecast through 2029 + 5% + 1% PCA

LTSS Subgroup	2023	2024	2025	2026	2027	2028	2029	2030+
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%
Non-MA NF	9.7%	11.2%	3.1%	4.3%	5.8%	4.9%	4.3%	5%

“2.5% Cost Increase” - DHS Forecast through 2026 + 2.5% + 1% PCA

LTSS Subgroup	2023	2024	2025	2026	2027	2028	2029	2030+
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%
Non-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 Care Assistant not enrolled in a waiver program. Non-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 A.64). 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 of Post-COVID scenario 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 5.2. 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 (the first of three 5-year cohorts) which grows to a 10.3% increase in costs to Medicaid on average from 2035-2039 (the final 5-year cohort). 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 over \$115 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 5.3 through Figure 5.5. 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

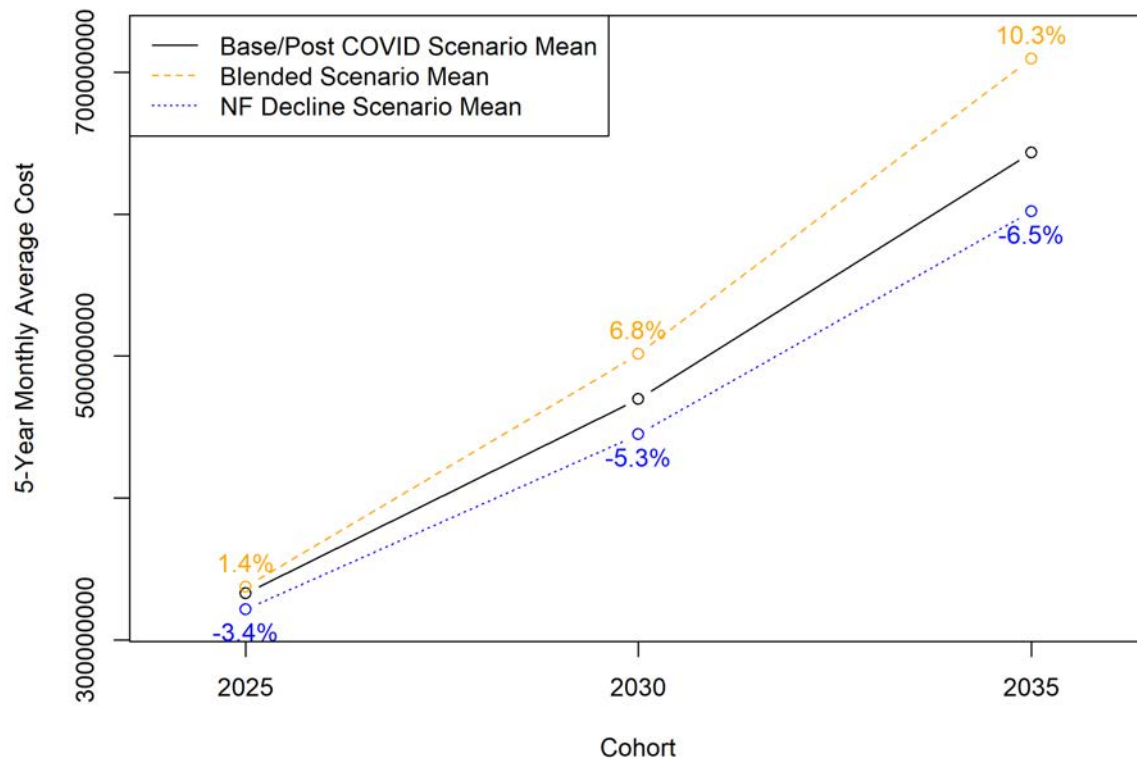


Figure 5.3 Percentage Change in Average Number of EWC Users from 2025 5-Year Cohort by Scenario

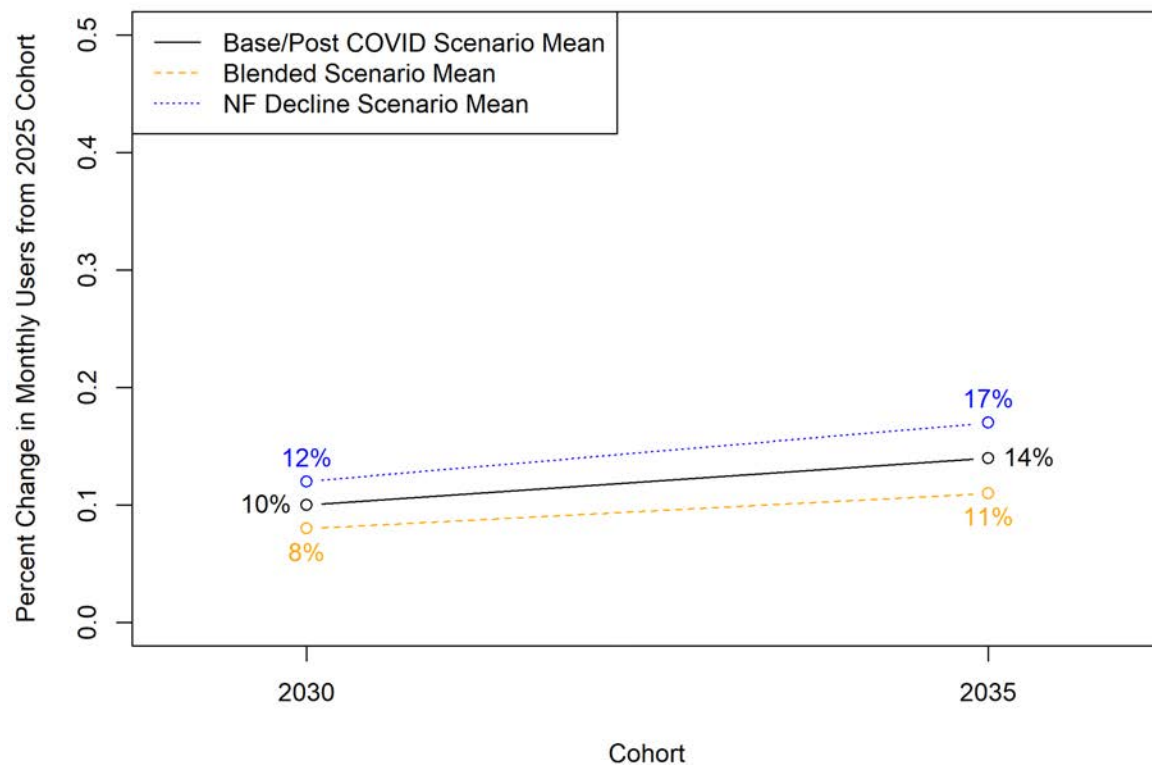


Figure 5.4 Percentage Change in Average Number of EWR Users from 2025 5-Year Cohort by Scenario

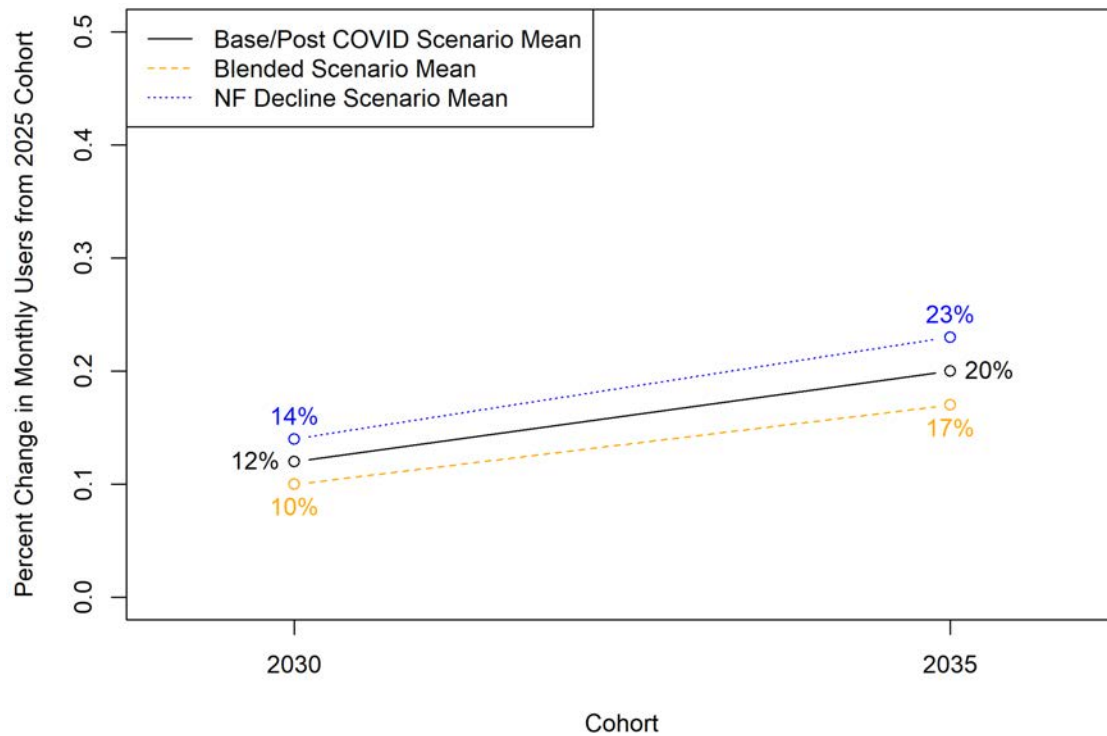


Figure 5.5 Percentage Change in Average Number of Medicaid Nursing Facility Users from 2025 5-Year Cohort by Scenario

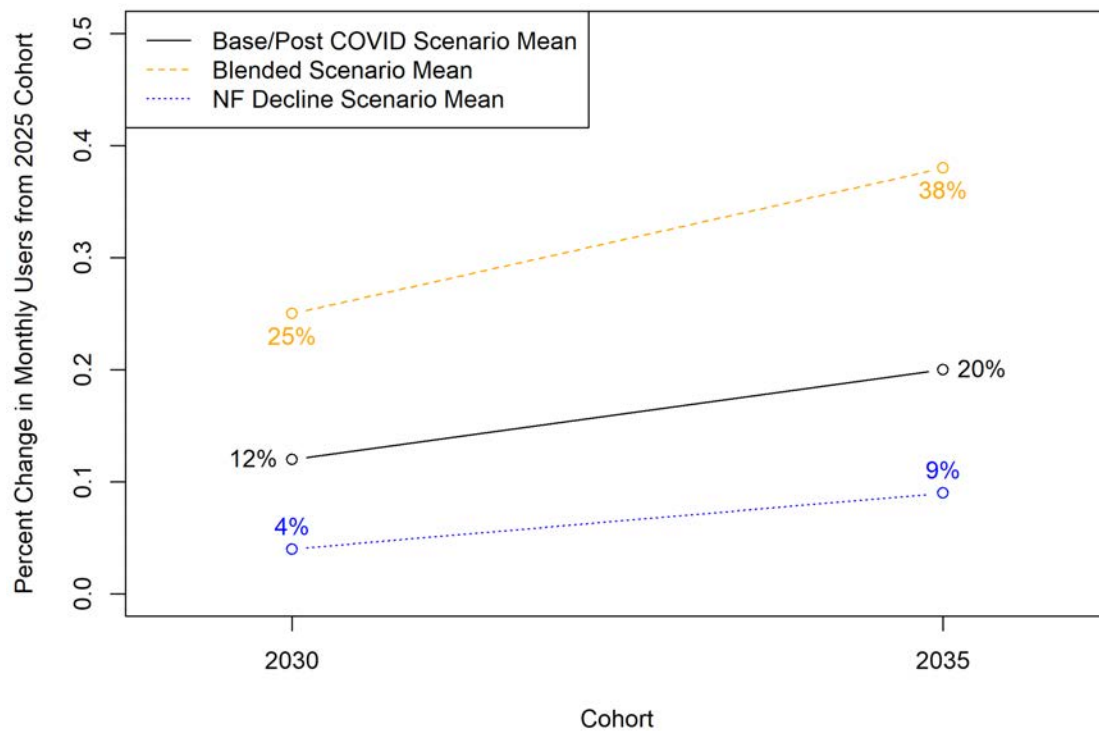


Table 5.4 Average Monthly Users by LTSS Category, Scenario, and Cohort Year

Year	LTSS Category	Baseline	Blended	NF Decline	Blended	NF Decline (% Change from Baseline)
2025	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%

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 Care Assistant not enrolled in a waiver program. Non-MA NF = not Medicaid enrolled while residing in a Nursing Facility. LTSS = Long Term Services and Supports.

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

Cohort Year	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%
	Non-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%
	Non-MA NF	24%	20%	20%

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

Cohort Year	LTSS Subgroup	Baseline 2.5 % cost growth	Blended 2.5 % cost growth	NF Decline 2.5 % cost growth	Baseline 5 % cost growth	Blended 5 % cost growth	NF Decline 5 % cost growth
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	51,602	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
	Non-MA NF	108,974	108,048	103,837	12,674	111,692	107,317
2030	EWC	107,943	106,178	108,721	25,305	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	15,379	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
	Non-MA NF	140,501	135,338	130,273	162,641	156,647	150,738
2035	EWC	128,509	124,628	130,891	68,221	163,123	171,357
	EWR	106,165	102,684	109,034	38,897	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
	Non-MA NF	178,214	168,883	162,862	32,640	220,562	212,518

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

Cohort Year	LTSS subcategory	Base 2.5 % cost growth	Blended 2.5 % cost growth	NF Decline 2.5 % cost growth	Baseline 5 % cost growth	Blended 5 % cost growth	NF Decline 5 % cost growth
2025	EWC	X	(287,452)	(936,738)	2,862,464	(305,266)	(951,391)
	EWR	X	(280,411)	(464,047)	2,190,633	(296,872)	(464,649)
	MA NF	X	4,668,159	(9,565,312)	4,935,750	4,958,365	(9,997,210)
	PCA	X	439,217	(268,928)	(67,230)	437,510	(267,822)
	AC	X	(91,190)	397,172	335,256	(98,804)	416,359
	Non-MA NF	X	(926,575)	(5,136,907)	3,699,125	(981,653)	(5,356,146)
	MA Total	X	4,448,323	(10,837,853)	10,256,873	4,694,933	(11,264,713)
	Total (MA and Not MA)	X	3,521,748	(15,974,760)	13,955,998	3,713,280	(16,620,859)
2030	EWC	X	(1,764,646)	778,000	17,362,587	(2,071,456)	919,402
	EWR	X	(1,884,580)	1,158,706	13,775,276	(2,201,012)	1,362,492
	MA NF	X	29,289,126	(23,906,588)	29,227,948	34,229,719	(27,800,005)
	PCA	X	2,482,810	(26,307)	12,731	2,484,565	(26,327)
	AC	X	(549,027)	612,114	1,827,370	(659,839)	731,045
	Non-MA NF	X	(5,163,861)	(10,228,948)	22,139,929	(5,994,075)	(11,903,083)
	MA Total	X	27,573,683	(21,384,075)	62,205,912	31,781,977	(24,813,393)
	Total (MA and Not MA)	X	22,409,822	(31,613,023)	84,345,841	25,787,902	(36,716,476)
2035	EWC	X	(3,881,322)	2,382,137	39,712,375	(5,098,037)	3,135,753
	EWR	X	(3,481,066)	2,868,489	32,731,716	(4,553,447)	3,771,945
	MA NF	X	55,801,101	(37,965,701)	70,403,911	73,000,709	(49,695,259)
	PCA	X	4,069,883	164,785	15,549	4,073,183	164,917
	AC	X	(970,761)	802,758	4,026,502	(1,304,811)	1,080,264
	Non-MA NF	X	(9,330,996)	(15,352,103)	54,426,779	(12,078,372)	(20,122,330)
	MA Total	X	51,537,835	(31,747,532)	146,890,053	66,117,597	(41,542,380)
	Total (MA and Not MA)	X	42,206,839	(47,099,635)	201,316,832	54,039,225	(61,664,710)

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

Year	LTSS Subgroup	Base 2.5 % cost increase	Blended 2.5 % cost increase	NF Decline 2.5 % cost increase	Baseline 5 % cost increase	Blended 5 % cost increase	NF Decline 5 % cost increase
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%
	Non-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%
	Non-MA NF	64%	56%	57%	106%	97%	98%

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 additional annual 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% from the nursing facility. The second distribution assumed 25% new, 35% spend-down, and 40% from 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 due to growth in the older adult population. 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 are 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

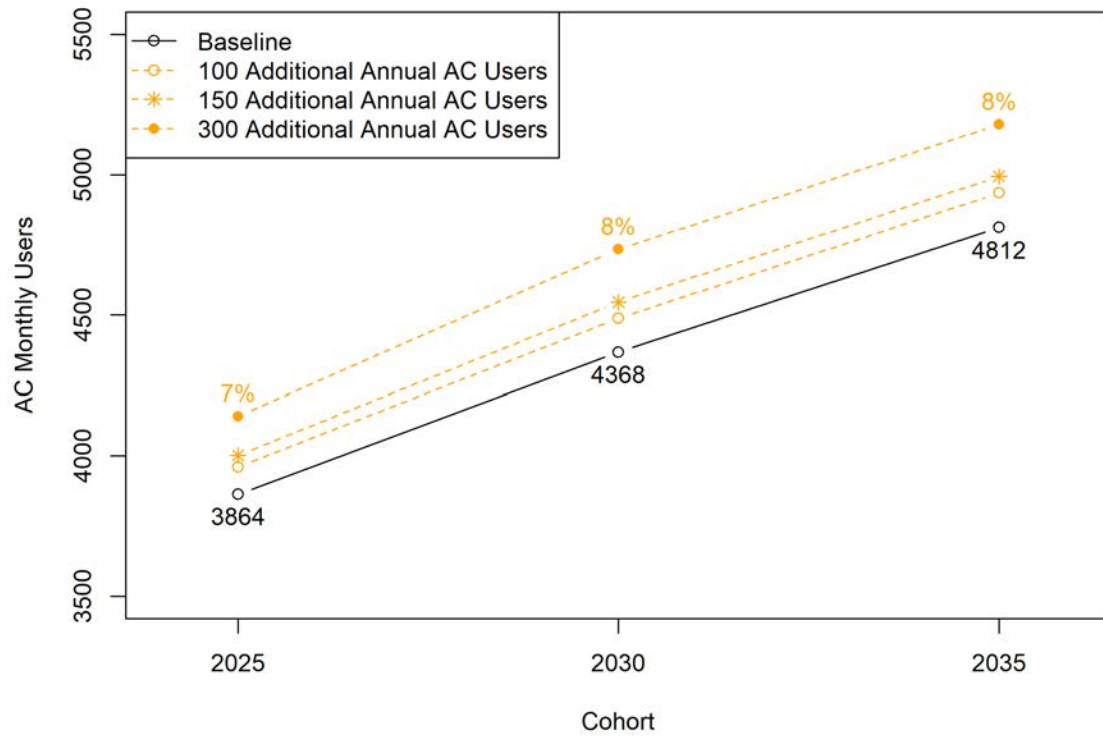


Figure 5.7 Comparison Across Scenarios of Impact on AC Costs to Medicaid

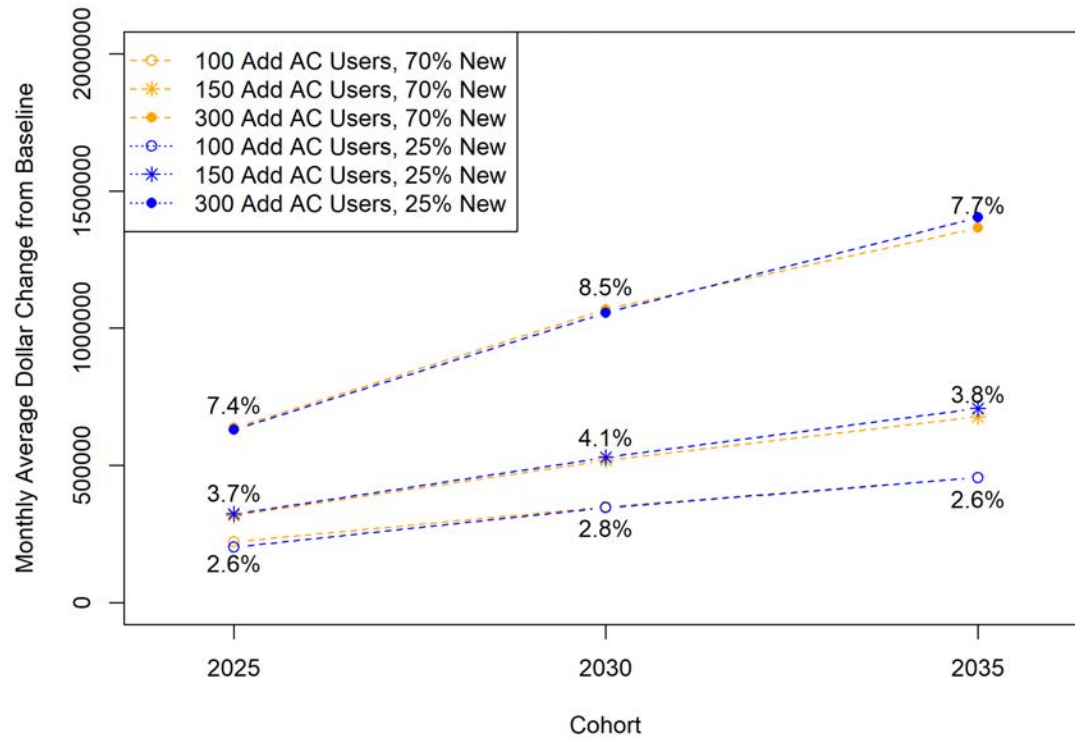


Figure 5.8 Comparison Across Scenarios of Impact on Total Costs to Medicaid

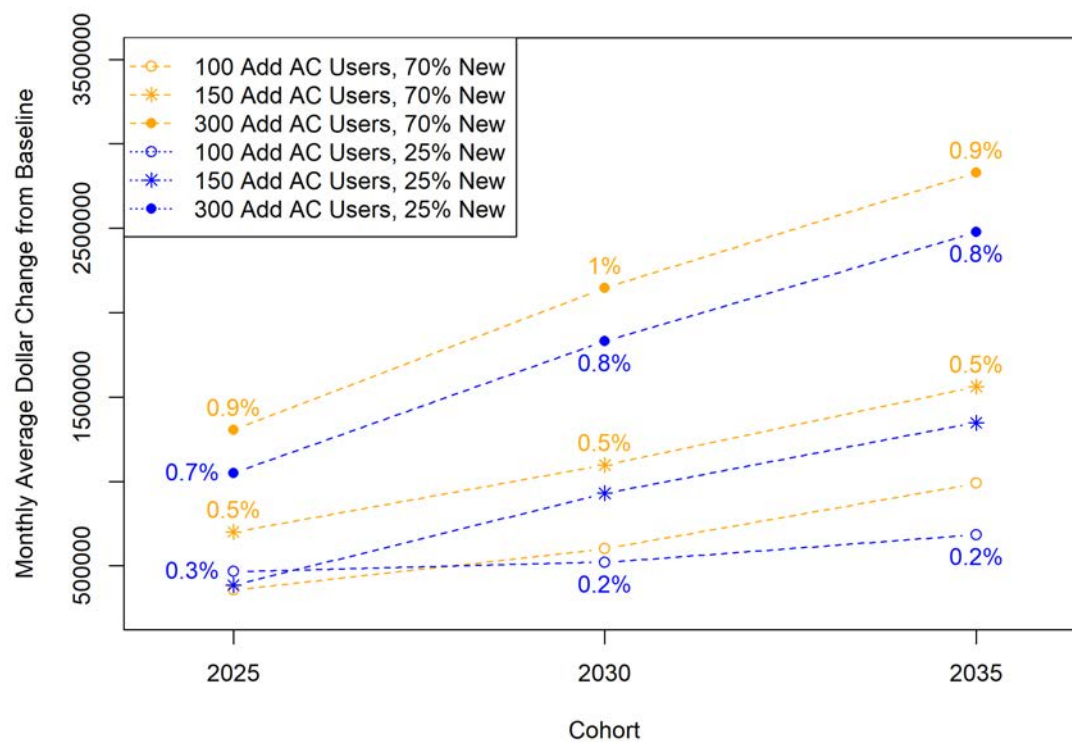


Figure 5.9 Comparison Across Scenarios of Impact on Non-Medicaid NF Costs

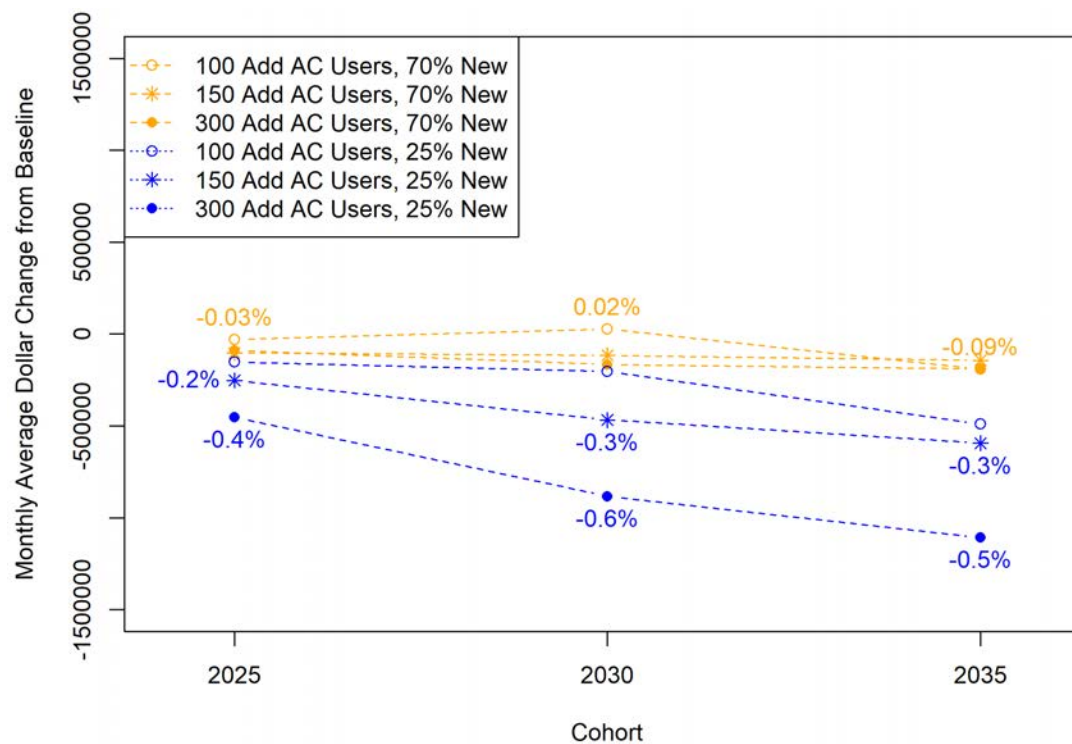


Table 5.9 Simulation Assumptions About Expansion Size and Population Sources

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

Cohort Year	Baseline	AC 100 70% new, 15% SD, 15% NF	AC 150 70% new, 15% SD, 15% NF	AC 300 70% new, 15% SD, 15% NF	AC 100 25% new, 35% SD, 40% NF	AC 150 25% new, 35% SD, 40% NF	AC 300 25% new, 35% SD, 40% NF
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

Cohort Year	Baseline	AC 100 70% new, 15% SD, 15% NF	AC 150 70% new, 15% SD, 15% NF	AC 300 70% new, 15% SD, 15% NF	AC 100 25% new, 35% SD, 40% NF	AC 150 25% new, 35% SD, 40% NF	AC 300 25% new, 35% SD, 40% NF
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

Year	LTSS	Baseline	AC 100 70 % new, 15 % SD, 15 % NF	AC 150 70 % new, 15 % SD, 15 % NF	AC 300 70 % new, 15 % SD, 15 % NF	AC 100 25 %, 35 % SD, 40 % NF	AC 150 25 % new, 35 % SD, 40 % NF	AC 300 25 % new, 35 % SD, 40 % NF
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
	Non-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
	Non-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
	Non-MA NF	10,546	10,537	10,539	10,537	10,522	10,517	10,492

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

Cohort year	LTSS	Baseline	AC 100 70 % new, 15 % SD, 15 % NF	AC 150 70 % new, 15 % SD, 15 % NF	AC 300 70 % new, 15 % SD, 15 % NF	AC 100 25 % new, 35 % SD, 40 % NF	AC 150 25 % new, 35 % SD, 40 % NF	AC 300 25 % new, 35 % SD, 40 % NF
2025	EWC	0%	0.09%	0.10%	0.19%	0.04%	0.07%	0.09%
	EWR	0%	0.02%	0.10%	0.19%	0.15%	0.05%	0.08%
	MA NF	0%	0.02%	0.13%	0.17%	0.08%	-0.01%	0.12%
	PCA	0%	0.07%	0.12%	0.43%	-0.03%	-0.09%	0.39%
	AC	0%	2.50%	3.56%	7.14%	2.28%	3.63%	7.07%
	Non-MA NF	0%	-0.03%	-0.10%	-0.09%	-0.15%	-0.24%	-0.43%
2030	EWC	0%	0.09%	0.08%	0.18%	0.02%	0.09%	0.11%
	EWR	0%	0.03%	0.16%	0.24%	0.08%	0.09%	0.05%
	MA NF	0%	0.03%	0.11%	0.19%	0.01%	0.05%	0.19%
	PCA	0%	0.16%	0.25%	0.72%	0.20%	0.36%	0.68%
	AC	0%	2.75%	4.08%	8.38%	2.71%	4.16%	8.29%
	Non-MA NF	0%	0.01%	-0.08%	-0.12%	-0.14%	-0.32%	-0.60%
2035	EWC	0%	0.03%	0.06%	0.14%	0.01%	0.01%	0.10%
	EWR	0%	0.11%	0.11%	0.16%	-0.03%	0.00%	0.06%
	MA NF	0%	0.09%	0.17%	0.26%	0.06%	0.16%	0.22%
	PCA	0%	0.17%	0.35%	0.58%	0.27%	0.33%	0.49%
	AC	0%	2.55%	3.78%	7.62%	2.55%	3.95%	7.84%
	Non-MA NF	0%	-0.09%	-0.07%	-0.09%	-0.23%	-0.28%	-0.52%

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

Cohort Year	LTSS	Baseline	AC 100 70 % new, 15 % SD, 15 % NF	AC 150 70 % new, 15 % SD, 15 % NF	AC 300 70 % new, 15 % SD, 15 % NF	AC 100 25 % new, 35 % SD, 40 % NF	AC 150 25 % new, 35 % SD, 40 % NF	AC 300 25 % new, 35 % SD, 40 % NF
2025	EWC	79,758	79,830	79,841	79,923	79,795	79,818	79,836
	EWR	72,225	72,244	72,297	72,377	72,337	72,261	72,291
	MA NF	152,570	152,601	152,774	152,842	152,689	152,552	152,771
	PCA	18,619	18,633	18,643	18,700	18,614	18,603	18,694
	AC	8,556	8,779	8,874	9,193	8,760	8,880	9,187
	Non-MA NF	101,237	101,206	101,135	101,147	101,085	100,985	100,784
2030	EWC	114,131	114,237	114,232	114,347	114,161	114,237	114,262
	EWR	104,316	104,351	104,487	104,579	104,397	104,410	104,374
	MA NF	217,807	217,881	218,059	218,249	217,827	217,929	218,244
	PCA	21,635	21,671	21,691	21,791	21,680	21,714	21,784
	AC	12,561	12,912	13,080	13,630	12,908	13,092	13,618
	Non-MA NF	146,042	146,070	145,926	145,876	145,838	145,574	145,159
2035	EWC	155,942	155,995	156,040	156,173	155,959	155,968	156,106
	EWR	145,293	145,454	145,455	145,538	145,256	145,299	145,383
	MA NF	306,409	306,688	306,950	307,260	306,593	306,939	307,111
	PCA	23,770	23,809	23,853	23,908	23,833	23,848	23,888
	AC	17,661	18,117	18,338	19,026	18,117	18,369	19,065
	Non-MA NF	209,227	209,035	209,083	209,038	208,736	208,632	208,119

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

Cohort Year	LTSS	AC 100	AC 150	AC 300	AC 100	AC 150	AC 300
		70 % new, 15 % SD, 15 % NF	70 % new, 15 % SD, 15 % NF	70 % new, 15 % SD, 15 % NF	25 % new, 35 % SD, 40 % NF	25 % new, 35 % SD, 40 % NF	25 % new, 35 % SD, 40 % NF
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
	Non-MA	(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	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
	Non-MA	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	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
	Non-MA	(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	797,639	1,418,934	2,642,286	193,345	753,862	1,370,739

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

Cohort Year	LTSS	Baseline	AC 100 70 % new, 15 % SD, 15 % NF	AC 150 70 % new, 15 % SD, 15 % NF	AC 300 70 % new, 15 % SD, 15 % NF	AC 100 25 % new, 35 % SD, 40 % NF	AC 150 25 % new, 35 % SD, 40 % NF	AC 300 25 % new, 35 % SD, 40 % NF
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
	Non-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
	Non-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
	Non-MA NF	160,885	160,738	160,775	160,742	160,512	160,432	160,041

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

Cohort Year	LTSS	AC 100 70% new, 15% SD, 15% NF	AC 150 70% new, 15% SD, 15% NF	AC 300 70% new, 15% SD, 15% NF	AC 100 25% new, 35% SD, 40% NF	AC 150 25% new, 35% SD, 40% NF	AC 300 25% new, 35% SD, 40% NF
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
	Non-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
	Non-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
	Non-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 Care Assistant not enrolled in a waiver program.
Non-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.