Minnesota's Reform 2020 Section 1115 Demonstration Waiver
Alternative Care Program: April 2024 Interim Report

Draft
May 1, 2024

Prepared for the Minnesota Department of Human Services

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A. Executive Summary

This is the most recent in a series of annual reports from the evaluation of Minnesota's Reform 2020 Section 1115 Demonstration Waiver. The waiver was approved for the period beginning October 18, 2013, and extended through January 1, 2025. The research team from Purdue University School of Nursing and University of Minnesota School of Public Health has conducted the evaluation under contract with the Minnesota Department of Human Services. The current report examines trends in waiver participant characteristics and service use from before the COVID-19 pandemic (2016 to 2019) through the pandemic period (2020-2023). This data period, extending 18 months longer than the prior AC Evaluation Report in 2022, provides a fuller picture of the COVID-19 effect. Other reports produced by the same research team at the University of Minnesota and Purdue University address the wider impact of the COVID-19 pandemic across all LTSS services.[1]

Alternative Care Waiver

The 2020 Section 1115 Demonstration Waiver pertains to Minnesota's Alternative Care (AC) Program, which provides home and community-based services (HCBS) to people ages 65 and older who meet nursing facility level of care criteria, and who have combined adjusted income and assets exceeding Medicaid standards for aged, blind and disabled categorical eligibility, but whose income and assets would be insufficient to pay for 135 days of nursing facility care.

Minnesota's AC program has been in operation for a number of years; however, prior to the Reform 2020 waiver, it was supported exclusively through state funds. Although AC was approved for Medicaid funding, the eligibility criteria and mix of HCBS services did not change after the waiver was approved.

The AC program complements the state's Elderly Waiver (EW), a home and community-based waiver for people aged 65 and older that meet nursing facility level of care criteria. Although the AC program includes fewer HCBS services, the service definitions, provider standards, and provider rates for the AC program are the same as those specified in Minnesota's federally approved Elderly Waiver.

The goals of AC are as follows:

- Provide access to coverage for home and community-based services for individuals with combined adjusted income and assets higher than Medicaid requirements and who require an institutional level of care.

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[1] *Long-Term Services and Supports for Minnesota's Older Population: Current and Future Utilization and Medicaid Payments*. Minnesota Department of Human Services. Own Your Future 3.0: Planning for Minnesotans' LTSS Needs. November 2024. https://mn.gov/dhs/assets/ltss-minneota-older-population-current-future-utilization-medicaid-payments_tcm1053-605160.pdf

- Provide access to consumer-directed coverage of home and community-based services for individuals with combined adjusted income and assets higher than Medicaid requirements and who require an institutional level of care.
- Provide high-quality and cost-effective home and community-based services that result in improved outcomes for participants measured by less nursing facility use over time.

Evaluation Approach

The evaluation has focused on a set of hypotheses, described below, regrading trends in the AC program after implementation of the AC waiver. We wanted to detect any changes (if any) in population being served or their use of services. We were interested in any unintended negative consequences, particularly changes in service use or increased nursing facility stays. The EW program offered a convenient comparison group to consider secular trends, e.g., external policy or program changes that may have influenced both the AC and EW programs.

We compared characteristics of the AC and EW community populations for the years 2016-2023 in order to estimate the effect of the COVID-19 pandemic on waiver participation. The analysis involved comparison of repeated cross-sectional and longitudinal samples each year. Cross-sectional comparisons of participants in January of each year extended from 2016 through 2023; whereas, full-year cross-sectional comparisons extended from 2016 through 2022. The main data sources were LTC Screening Document, Medicaid Claims, and the nursing facility Minimum Data Set (MDS). All reporting of service use, including CDCS, is based on service codes on claims, including encounter data. It is not based on screeners or service agreements.

Trends in Annual Waiver Participation 2016-2022

The number of unique AC users per year remained steady from 3,587 in 2016 to 3,656 in 2019, and then declined to 3,417 in 2020 and 3,486 in 2021 during the pandemic, but then rose to near the pre-pandemic level at 3,654 in 2022. Although the number of unique AC users declined during the pandemic, the number of user months did not. Thus, fewer AC participants were using more months of care during the pandemic. In comparison, the number of unique EWC participants rose steadily prior to the pandemic from 20,582 in 2016 to 22,914 in 2019, dipped slightly in 2020 to 22,072, then returned near to the pre-pandemic level at 23,112 in 2022. The EWC user months rose steadily from the period before the pandemic and through the pandemic period.

Hypotheses and Results

Hypothesis 1: The level of need, demographic characteristics, and service use patterns for Alternative Care participants will not change over time, neither alone nor in comparison to Elderly Waiver participants in non-residential settings. We found the following:

Demographic Characteristics of AC Participants from January 2016 through January 2023 (before and during the COVID-19 pandemic)

Age - The mean age of AC participants underwent a small decline from 81.8 in January 2016 80.2 in January 2023. The mean age of EWC participants, who were about 2 years younger on average than AC participants, changed very little over these years.

Gender - The majority (70%) of both AC and EWC participants were female. The percentage female remained about the same from 2016 to 2023 for both AC and EW participants.

Marital Status - Marital status for AC participants underwent significant change between 2016 and 2023. The percentage of AC participants who were widowed declined steadily from 47% in 2016 to 33% in 2023; the percentage divorce/separated/never married increased from 42% to 52%, and the percentage married increased from 11% to 15%. The EWC participants displayed a similar pattern; however, overall, they were significantly less likely to be widowed and more likely to be divorced/separated/never married. However, because about 20% of AC participants had missing data on marital status each year, it is difficult to draw firm conclusions about differences in marital status over time.

Race/Ethnicity - Whites made up the vast majority of AC participants in all years, although the percentage declined steadily from 93% in 2016 to 85% in 2023. The percentage of AC participants who were Black/African American rose steadily from 4% in 2016 to 10% in 2023. The percentages of other racial/ethnic groups were too small to identify a substantive trend. The EWC participants were much more likely to be Black/African American or Asian. The percentage of EWC participants who were Black/African American increased steadily from 20% in 2016 to 29% in 2023, while the percentage Asian increased from 18% in 2016 to 21% in 2023. The percentages of Hispanic and Native American participants were too small (1%-2%) across all years to identify a substantive trend. In a note of caution: approximately 10% to 15% of AC participants had missing data on race and ethnicity, and the missingness increased each year.

Geographic Location - The percentage of AC participants living in Twin Cities Central SMSA increased steadily from 60% in 2016 to 70% in 2023. The percentage of EWC participants living in the Twin Cities SMSA also increased steadily from 67% in 2016 to 73% in 2023. There was a corresponding drop in the percentage of AC participants in rural areas from 27% in 2016 to 19% in 2023, while the percentage of EWC participants in rural areas dropped from 22% to 17%.

Living Arrangement - The percentage of AC participants living alone declined from 66% in 2016 to 62% in 2023. The percentage of AC participants living with a spouse ranged from 10%-12%, while AC participants living with family/friends/other rose from 21% to 25%. The percentage of EWC participants living alone declined in the period before the pandemic (50% in 2016 to 45% in 2019) but then increased during and after the pandemic (48% in 2021 and 50% in 2022 and 2023). The percentage of EWC participants living with a spouse ranged from 13% to 14%, while the percentage living with family/friends/other rose steadily from 26% in 2016 to 35% in 2023.

Health and Functional Conditions

Case-Mix - The AC participants displayed discernable trends in case-mix categories between 2016 and 2023. They had a downward trend in the Low Need category from 42% to 22%, an

upward trend in Moderate Need from 49% to 65%, and a small upward trend in High Need ADL from 6% to 9%. Only 3% to 4% of AC participants were in the High Need Clinical category. The EWC participants differed in the percentages in each case-mix category and in trends over time. Between 2016 and 2023 EWC participants had a moderate downward trend in the Low Need category from 47% to 37%, a small decline in the Moderate Need category from 39% to 35%, an upward trend in High Need ADL from 13% to 23%, and no change in the 1-2% of participants in the High Need Clinical category.

Critical ADL Dependencies - Between 2016 and 2023, the percentage of AC participants with impairment in Bed Mobility rose from 8% to 11% and impairment in Transferring rose from 23% to 31%. Toileting impairment dropped from 41% to 36% between 2016 and 2017, kept declining to 30% in 2021 and then rose to 35% in 2023. Between 2016 and 2023, EWC participants had an increase in Bed Mobility impairment from 13% to 21% and an increase in impaired transferring from 27% to 40%, while impairment in Toileting varied between 41% and 45%.

Other ADL Dependencies - Among AC participants between 2016 and 2023, impairment in Grooming increased from 23% to 42%, impairment in Eating rose from 21% to 27%, and impairment in dressing rose from 35% to 43%. On the other hand, impairment in Bathing declined from 49% to 41%. Impairment in Walking was consistently very low with a range of 4% to 5%. The EWC participants had higher percentages overall, yet they showed generally the same patterns between 2016 and 2023. Impairment in Grooming increased from 36% to 46%, impairment in Eating rose from 27% to 36%, and impairment in dressing rose from 47% to 55%. The percentage with impairment in Bathing changed very little with a range of 57% to 58%, while impaired walking ranged between 3% and 4%.

Professional Conclusions - Self-Care Risk and Neglect/Abuse Risk were the only two Professional Conclusion items with data recorded consistently over the years 2016-2023. Between 2016 and 2023 the percentage of AC participants with Self-Care risk varied from 67% to 70%, while the percentage with Neglect/Abuse Risk rose from 44% to 55%. Among EWC participants over the same time frame, Self-Care Risk rose from 75% to 84%, while Neglect/Abuse Risk jumped from 38% to 60%.

Hypothesis 2. AC participants will not experience a change in the types of HCBS services or a decrease in the intensity of services, as measured by persons-months using a service.

The most widely used service among the AC participants was case management. In 2016, 91% of AC participants used case management during the year. By 2022 the percentage dropped to 84% with the largest decline in the pandemic period (2020-2022). Among HCBS services, homemaker had the highest percentage of users among AC participants in 2016 (56%); This percentage declined over time to 31% in 2022, with the greatest decline during the pandemic period.

Use of other services followed a similar pattern: home delivered meals declined from 44% in 2016 to 33% in 2022, transportation use declined from 15% to 13%, and adult day care use declined from 5% to 2%. Each of these downward trends accelerated during the pandemic period. The use of personal care assistant was 15% in 2016 and 16% in 2022;

however, it increased from 2016 to 2020 and then declined in 2021-2022. Chore service use stayed steady at 7% from 2016 to 2022, and companion use was too low (1%-3%) to detect a significant difference between years.

Use of independent living skill training also increased from 2% in 2016 to 17% in 2022, with the increase coming largely during the pandemic period. Among other services between 2016 and 2022, use of PERS declined from 51% to 39%, specialized equipment declined from 40% to 36%, Each of these declines accelerated during the pandemic period. Use of home health displayed a steady downward trend from 34% to 17% across the years.

Trends in service use among EWC participants followed a similar pattern to serviced use among AC participants. Use of case management, homemaker, home delivered meals, and PERS declined between 2016 and 2022, with declines accelerating during the pandemic. Use of personal care assistants and mental health services rose steadily across the years.

Drawing comparisons in service use trends between AC and EWC participants is complicated because of differences in their characteristics and in their use of different services. When compared to EWC participants in 2016, for example, AC participants had higher rates of use for case management (91% vs. 31%), PERS (51% vs. 37%), home delivered meals (44% vs. 26%), and specialized supplies and equipment (40% vs. 23%). On the other hand, AC participants had lower rates of use for adult day services (5% vs. 20%), personal care assistance (15% vs. 34%), mental health services (0% vs. 12%), and transportation (15% vs. 36%). According to DHS staff, the high percentage of AC participants with case management claims is likely due to the lead agencies billing for case management when participants make inquiries about past due or unpaid fees.

When comparing AC participants to a subsample of EWC participants matched to the AC group based on demographic, health, and functioning characteristics, the greater usage rate by AC participants of case management and specialized supplies and equipment remained, while EWC participants overtook AC participants in usage rates for home delivered meals and PERS by the end of the period. The lower usage rate for AC participants of adult day services, personal care, and transportation was maintained in the balanced sample comparison.

Hypothesis 3: Alternative Care participants will experience equal or better access to consumer-directed service (CDCS) options over time, when examined alone and compared to Elderly Waiver participants in non-residential settings.

Although CDCS is not used widely by AC participants, use of CDCS displayed upward trends from 6% in 2016 to 15% in 2022. Associated CDCS case management rose from 4% in 2016 to 13% in 2022. Neither of these upward trends appeared to be interrupted by the pandemic. AC participants also had higher usage rates when compared to a balanced sample of EWC participants.

Hypothesis 4: Alternative Care participants will experience equal or less nursing facility use and mortality between 2016 and 2022.

Nursing Facility Use - The percentage of AC participants spending any time in a nursing facility declined slightly from 27% in 2016 to 24% in 2019, dropping to 19% in 2020 and 2021 and then declined further to 15% in 2022. The majority of AC participants who used a nursing facility had only short stays (90 or fewer days). Most of the decline in overall nursing facility use was among short stay residents. Short stay use declined from 15% in 2019 to 14% in 2020, 13% in 2021, and 9% in 2022. Longer stay use (> 90 days) dropped from 13% in 2019 to 9% in 2020, and 8% in 2022. The EW-Community participants were less likely to use nursing facilities during the year, yet they experienced a similar decline from 7% in 2019 to 5% in 2020, 2021, and 2022. Comparing the AC participants to the balanced sample of EWC participants found only a statistical difference in the number of short stay admissions, with AC participants having a higher number, total days and number of long stay admissions were not statistically different.

Mortality - Considering the poor health and functional dependency of both AC and EWC participants, their rates of mortality were relatively low. The mortality rates for AC participants ranged from 8% to 9% except for a slight decline to 7% in 2022. Mortality for EWC participants was somewhat lower; it held steady between 4% and 5% over the years. From 2016-2022. No statistical difference in mortality rate was found between AC participants and the balanced sample of EWC participants.

Hypothesis 5. AC participants will not experience an increase in acute events, as indicated by an increase in acute hospitalizations.

Among AC participants in January of each year, the percentage having one or more hospitalizations during the following 12 months declined from 37% in 2017 to 33% in 2019, and then declined further to 28% in 2020, the last year for which data were available. The AC participants with hospitalizations had a small increase in average number of hospital days; they spent an average of 10.1 days in the hospital in 2017, 11.6 days in 2019, and 11.0 in 2020 (Tables 11). In comparison, a somewhat lower percentage of EWC participants had hospitalizations during the year although their average number of hospital days rose from 2017 to 2022.

Hypothesis 6. The rate of Medicaid conversion for AC participants through transitions between AC and EWC and other waiver programs or nursing home use will not increase.

Medicaid conversion rate for AC participants was 19% in 2016, then declining somewhat to 16% in 2019, and then dropped to 11% in 2020, 12% in 2021, and 14% in 2022. Most AC participants who converted to Medicaid either entered an assisted living facility or an EW-Community waiver program. AC participants' rate of entry into assisted living facilities held steady at 6% to 7% between 2016 and 2022. A slightly higher percentage of AC participants used EW-Community waiver services over the period. The percentage ranged from a high of 10% in 2016 and 2017 to a low of 7% in 2019 and 2020.

Conclusions

The COVID-19 pandemic was associated with a sharp drop in the number of unique AC participants between 2019 and in 2020-2021; however, the number rose to pre-pandemic level in 2022. Both before and during the COVID-19 pandemic, most AC participants were 75 or

older, female, widowed or divorced/separated, white non-Hispanic, living alone, and residing in the Twin Cities or other urban areas. Trends in the demographic characteristics of the AC participants during the period prior to the pandemic continued through the pandemic. Between 2016 and 2023, AC participants were less likely to be widowed and more likely to be divorced, less likely to be white and more likely to be Black/African American; more likely to reside in the Twin Cities or other urban areas.

There were steady increases in AC participants' health, functional and social needs between 2016 and 2022. The majority of AC participants fell into the Low or Moderate Need categories, with a steady shift each year in percentages from the Low Need to Moderate Need category. There was also a steady increase in recorded impairments in Critical and Other ADL Needs. In addition, in 2022 about two-thirds of AC participants were recorded as having Self-Care Risk, while over half had Abuse/Neglect Risk.

Although the need for care apparently increased among AC participants from 2016 to 2022, the use of many HCBS services did not. In fact, there was a steady decline in several services, with most of these pre-pandemic trends accelerating during the pandemic. Use of homemaker services, home delivered meals, transportation, adult day care, and home health all declined. On the positive side, the AC participants' use of CDCS more than doubled from 6% in 2016 to 15% in 2022.

Only about one in four AC participants used a nursing home in 2016. That percentage declined with the pandemic to about one in seven in 2022. Surprisingly, mortality rates were relatively low for this older, comorbid population; no more than one in eleven participants died each year either before or during the pandemic. About one in five AC participants converted to Medicaid in 2016. That figure dropped to about one in nine in 2020 and then rose to about one in seven in 2022. Most of the conversions to Medicaid occurred initially with participation in the EWC waiver; no more than one in fourteen conversions to Medicaid were associated with entry into an assisted living facility.

The EWC participants, who were chosen as a comparison group for the evaluation, displayed many of the same trends between 2016 and 2022 in their demographic characteristics, health and functional needs and use of services. However, the EWC participants were dissimilar to AC participants in several of their characteristics both prior to and during the pandemic. For example, the EWC population had a higher percentage of people from different racial/ethnic groups, who were divorced or separated, and who resided in an urban location. The EWC population also differed in service use patterns. For example, they had higher percentages of people with adult day services, personal care, and transportation, and lower percentages with home delivered meals and PERS.

Unanswered Questions

The AC participants' increasing need for care according to the LTCC NF-LOC assessments contrasts with the decreasing trends in use of some basic HCBS services. Are needs for care actually increasing or might the assessment process be uncovering needs that were previously undiscovered? With the use of HCBS services remaining the same or declining in some cases,

are home care needs being met appropriately? One hopeful finding is the relatively low rates of nursing facility use and mortality among AC participants and the stable or even downward trend in these outcomes.

Second, the COVID-19 pandemic had a significant impact with a decline in the number of AC participants in 2020 and 2021 but then rebounded in 2022. Does this mean that the pandemic was only a temporary phenomenon without a lasting impact on AC participation? In contrast, AC participants' use of nursing facilities continued to decline. This decline in nursing facility use may have contributed to the decline in Medicaid conversion which in 2022 had only partially returned to pre-pandemic levels. Will nursing facility use and Medicaid conversion rates return at some point to pre-pandemic levels, or will the pandemic have a lasting effect?

Third, the sharp contrast in the racial and ethnic composition of the AC and EWC populations persisted after the waiver was implemented. Is the high percentage of white people among AC participants a consequence of their relatively higher incomes and assets, making them less likely to qualify for the EW but still meeting the AC eligibility threshold? Are older minority group members with similar economic status unable, for some reason, to gain access to AC? An earlier report by this research team at Purdue University addressed issues of racial and ethnic differences in access to and utilization of LTSS.[2]

Finally, the evaluation pointed to differences between the AC and EWC participants in their level of assessed need and use of services. For both groups, measures of need trended upward, while use of services trended downward over the entire period from 2016 to 2022. However, throughout the period the AC participants used a different mix of services than the EWC participants. Is the difference mix of services a reflection of differences in their service needs, differences in the assessment, care planning, and care management process, or other factors?

We emphasize caution in drawing conclusions about differences in the assessed needs and service use between AC and EW participants. The health plans perform most of the LTCC assessments and manage services for EW participants, while the counties perform LTCC assessments and manage services for AC participants. Might differences between these organizations in the assessment process, such as interpretation of a participant's condition or the NF-LOC criteria, or management of available services be responsible for differences in participants' assessed needs or service use?

Areas for Further Study and Policy Analysis
Several issues beyond the scope of the current evaluation merit further study and policy analysis in order to strengthen the AC program.

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[2] *Study of Racial and Ethnic Disparities in Level of Care Screenings and Use of Home and Community-Based Services (HCBS) in the Minnesota Medicaid Population - Final Report*. Minnesota Department of Human Services, January 2021

*Qualitative perspectives***:** Gathering qualitative data from AC program staff and participants through interviews or focus groups could capture valuable information about their experiences and perspectives on the program. This information would further elucidate the largely quantitative findings in this report. A future study, for example, could address the assessment and care planning process from both the county and health plan perspectives, and the process of making LTSS decisions from the perspectives of participants and families. Interviews and focus groups can shed light on these issues; however, to enhance generalizability qualitative data should be enhanced by quantitative data such as surveys or review of administrative records.

Longitudinal studies of participant outcomes: The current evaluation primarily presents cross-sectional data comparing AC and EW participants at different points in time. While this provides a snapshot of the differences between the groups, longitudinal data following participants over time could provide more insights into the impact of the AC waiver on participant outcomes, such as changes in health status, service use, and quality of life.

*Disparities in access to care***:** Disparities in access to care should be a top priority for an expanded evaluation. Additional resources could be used to support an in-depth quantitative analysis of patterns of service use and outcomes comparing racial and ethnic groups. This quantitative analysis could build on our prior study on this topic (above). In addition, a qualitative analysis of these issues could be part of an overall study of Qualitative Perspectives (above).

Sustainability: Our research team is investigating issues of sustainability of the AC program as well as other LTSS services through our follow-up study from our report on current and future utilization and payments for LTSS for older Minnesotans. [3]

*More effective care delivery***:** Innovative service models within the AC program, such as the use of technology or peer support, to enhance service delivery and improve outcomes for participants. Exploring opportunities for collaboration and integration between the AC program and other health and social service programs could lead to a more comprehensive and coordinated approach to care for older adults.

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[3] *Long-Term Services and Supports for Minnesota's Older Population: Current and Future Utilization and Medicaid Payments*. Minnesota Department of Human Services. Own Your Future 3.0: Planning for Minnesotans' LTSS Needs. November 2024. https://mn.gov/dhs/assets/ltss-minneota-older-population-current-future-utilization-medicaid-payments_tcm1053-605160.pdf

B. Background Information about the Demonstration

The April 2024 Interim Report on the Minnesota's Reform 2020 Section 1115 Demonstration Waiver is the latest in a series of annual reports from an ongoing program evaluation going back to June 2017. The evaluation has been carried out by researchers at the University of Minnesota and Purdue University.

The April 2024 and earlier reports examine hypotheses (see below) about the impact of the waiver on characteristics associated with the need for and use of care among participants in the Alternative Care program. The Reform 2020 Alternative Care (AC) Waiver was approved originally in October 2013 and was extended in February 2020 for the period February 1, 2020 through January 31, 2025.

The most recent report issued in June 2022 covered the data period of calendar years 2015 through 2020. The data period for the current report extends the data period; it covers the period January 2016 through July 2023. Because of the extended data period, the current report offers more information about the effects of the COVID-19 pandemic. We are able to describe changes, if any, in waiver participation and service use before the pandemic (2016-2019), during the height of the pandemic (2020-2021), and after the pandemic subsided (2022-2023). Future reports from the evaluation, covering years 2024-2025, will consider longer term effects of the pandemic.

The current report is based on a revised evaluation plan for the 2020-2025 Waiver Extension[4]. The revised evaluation plan expands upon the previous evaluation in several respects. First, it narrows the period of the evaluation to 2016-2025. Previous reports also covered the period 2013-2019. However, we discovered that the findings for the years 2013-2015 were confounded because of major changes in the NF LOC criteria and the assessment process.

Second, we conducted a more rigorous analysis of trends in participant characteristics and services. Our statistical tests were more robust. In addition, for purposes of comparison we selected a sub-group of Elderly Waiver Community (EWC) participants that was more similar in characteristics to AC participants than the EWC population as a whole.

B.1 Overview

The Reform 2020 waiver allows Minnesota to receive federal financial participation for the Alternative Care (AC) program, which was implemented under the waiver beginning November 1, 2013 and extended from February 1 2020 to January 31, 2025. Formerly a state-funded program, AC program provides home and community-based services (HCBS) to people ages 65 and older who meet nursing facility level of care criteria, who have combined adjusted income and assets exceeding Medicaid standards (i.e., Medical Assistance (MA)) standards for aged, blind and disabled categorical eligibility, but whose income and assets would be insufficient to

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[4] Evaluation Plan for Reform 2020 Section 1115 Demonstration Waiver, August 20, 2021. Minnesota Department of Human Services.

pay for 135 days of nursing facility care. Acute, preventive and primary care benefits are not covered under the program.

Minnesota's AC program has been in operation since 1981; however, prior to the waiver, it was supported exclusively through state funds. The assumption underlying the AC program is that connecting seniors with community services earlier may divert them from nursing facilities, delay conversion to Medicaid, and encourage more efficient use of services if full Medicaid eligibility is established. The eligibility criteria and mix of HCBS services did not change after the waiver was approved.

The AC program complements the state's Elderly Waiver (EW), a home and community-based waiver for people aged 65 and older that meet nursing facility level of care criteria. Although the AC program includes fewer HCBS services, the service definitions, provider standards, and provider rates for the AC program are the same as those specified in Minnesota's federally approved Elderly Waiver. Services are provided by qualified and enrolled Medicaid providers.

Currently each of Minnesota's HCBS waivers and the AC program include Consumer Directed Community Supports (CDCS). This service option gives individuals receiving waiver or AC services a self-directed option to develop a plan for the delivery of their services within an individual budget, and to purchase them through a financial management service (FMS) that manages payroll, taxes, insurance, and other employer-related tasks as assigned by the individual. CDCS allows individuals to substitute individualized services for what is otherwise available in the traditional menu of services in the HCBS programs. CDCS purchases fall into four categories: personal assistance, environmental modifications, self-direction support activities, and treatment and training.

B.2 Program Eligibility

Alternative Care is available to eligible individuals who meet all of the following *financial requirements*:

- Those with combined income and assets insufficient to pay for 135 days of nursing facility care, based on the statewide average nursing facility rate
- Those not within an uncompensated transfer penalty period or other long-term care ineligibility status
- Those with home equity within the home equity limit applicable under the state plan

Functional eligibility for nursing facility care and identification of needed services for Alternative Care program is performed using the Long-term Care Consultation process, which uses the same nursing facility level of care criteria, assessment tool, and service planning process that is used for the Elderly Waiver.

B.3 Benefits and Services

The benefits available under Alternative Care are the same as the benefits covered under the federally approved Elderly Waiver, <u>*except:*</u>

- Alternative Care **does not cover** transitional support services, customized living services, and adult foster care services that meet primary, preventive, and acute health care needs

- Alternative Care **additionally covers** nutrition services and discretionary benefits

The comprehensive list of Alternative Care benefits includes:
- Adult day service/adult day service bath;
- Family caregiver training and education and family caregiver coaching and counseling/assessment;
- Case management and conversion case management;
- Chore services;
- Companion services;
- Consumer-directed community supports;
- Home health services;
- Home-delivered meals;
- Homemaker services;
- Environmental accessibility adaptations;
- Nutrition services;
- Personal care;
- Respite care;
- Skilled nursing and private duty nursing;
- Specialized equipment and supplies including Personal Emergency Response System (PERS);
- Non-medical transportation;
- Tele-home care;
- Discretionary services

C. Evaluation Questions and Hypotheses

Since the original federal waiver authorization and the extension have not resulted in any substantial changes to the Alternative Care program structure, the Minnesota Department of Human Services expects that key evaluation metrics will not change over the extension period (2020–2025) as a result of the continuation of the AC waiver. Consequently, the study is testing the null hypotheses of no change attributable to the AC waiver extension. We were interested particularly in any unintended negative consequences, such as declines in HCBS service use or increases in nursing facility utilization.

Since the AC program was very similar to the EW program, aside from financial eligibility requirements and some HCBS covered services, the EW program offered a convenient comparison group. The EWC comparison group allowed us to consider secular trends, e.g., external policy or program changes that may have influenced the AC program. Many trends affecting AC are likely also to affect EWC. As we mentioned above and described below, the current report also includes comparisons between AC participants and a sub-group of EWC participants with characteristics balanced as closely as possible to the characteristics of the AC participant population.

C.1 Program Goals

The goals of the Alternative Care program are to:

- Provide access to coverage for home and community-based services for individuals with combined adjusted income and assets higher than Medicaid requirements and who require an institutional level of care.
- Provide access to consumer-directed option of home and community-based services for individuals with combined adjusted income and assets higher than Medicaid requirements and who require an institutional level of care.
- Provide high-quality and cost-effective home and community-based services that result in improved outcomes for participants measured by less nursing facility use over time.

C.2 Comparison Population

The target populations for the evaluation are Alternative Care (AC) program participants and Elderly Waiver (EW) participants. Elderly Waiver participants are similar to Alternative Care program participants in several respects: aged 65 and above, an assessed need for a nursing facility level of care, using home and community-based services to meet their needs, and living in the community instead of a nursing facility.

Currently, the residential care option is not available through AC. However, Elderly Waiver participants could use residential services (i.e., customized living, adult foster care, and residential care services). Our analysis focused on Elderly Waiver participants in non-residential settings. We excluded Elderly Waiver participants with any claims for residential services in the period under study.

Because of differences in the demographic composition and service needs between EWC and AC populations, we selected a subsample of the EWC participants that more closely approximated the characteristics of AC participants (see Table A 2 below). We then conducted parallel analyses for trends in HCBS service use and nursing facility stays, comparing AC participants with EWC participants as a whole and the balanced subsample of EWC participants. The balanced subsample offers a stronger basis for inference because it helps to control for differences in EWC participant characteristics that might account for their differences in use of care over and above the effects of the two programs.

C.3 Hypotheses

We evaluated changes in the client populations and service use over time within the AC program itself and in AC compared to the EW program. The current evaluation report covers the data period January 2016 through July 2023.

Hypothesis 1: The level of need, demographic characteristics, and service use patterns for Alternative Care participants will not change over time, neither alone nor in comparison to Elderly Waiver participants in non-residential settings.

Hypothesis 2. AC participants will not experience a change in the types of HCBS services or a decrease in the intensity of services, as measured by persons-months using a service.

Hypothesis 3: Alternative Care participants will experience equal or better access to consumer-directed service (CDCS) options over time, when examined alone and compared to Elderly Waiver participants in non-residential settings.

Hypothesis 4: Alternative Care participants will experience equal or less nursing facility use and mortality between 2016 and 2022.

Hypothesis 5. AC participants will not experience an increase in acute events, as indicated by an increase in acute hospitalizations or emergency department visits.

Hypothesis 6. The rate of Medicaid conversion for AC participants through transitions between AC and EW and other waiver programs or nursing home use will not increase.

Hypothesis 5 was not addressed because Medicare data on acute care use was not available for AC participants. A request for these data has been submitted to CMS. The report will be updated when data become available.

D. Methodology

The aim of this interim report was to gain a better understanding of similarities and differences between the AC program and EW waiver populations each year from 2016 through mid-2023. In the sections below, we describe evaluation data sources, major variables, samples and statistical analysis.

D.1 Data Sources

LTC Screening Document. This form is used to document pre-admission screening and long-term care consultation (LTCC) assessment and other administrative activities. It is used to record public programs eligibility determination as well as to collect information about people screened, assessed, or receiving services under home and community-based services programs. For the current version of the form: https://edocs.dhs.state.mn.us/lfserver/Public/DHS-3427-ENG. The health plans perform most of the LTCC assessments for EW participants while the counties perform LTCC assessments for AC participants.

Medicaid Claims. Medicaid Management Information Systems (MMIS) is the largest health care payment system in Minnesota. The MN Department of Human Services (DHS) uses MMIS to validate and pay HCBS and health care claims, including managed care capitation payments, for over 525,000 Minnesotans enrolled in Minnesota Health Care Programs (MHCP). All reporting of service use, including CDCS, is based on service codes on claims, including encounter data. It is not based on screeners or service agreements.

Minimum Data Set (MDS). This is a federally mandated assessment used in nursing facilities (NF). Nursing facilities conduct the MDS assessment on each resident and transmit that data to the Minnesota Department of Health (MDH). The MDH conducts regular audits of the MDS data submitted by NFs to ensure the data are accurate.

Medicare MEDPAR Files. These files were available for 2017-2020. They were merged with MMIS and MDS hospitalization data to arrive at the count of hospital days during the year.

D.2 Major Variables

Major Variables and Data Sources

Variable	Source (Primary first, additional sources for confirmation or fallback in order of priority)
Program Status	MMIS Eligibility File, MMIS Waiver Enrollment File, MMIS Claims, LTC Screening Document, MDS
Age	MMIS Eligibility File, LTC Screening Document
Gender	MMIS Eligibility File, LTC Screening Document
Marital Status	LTC Screening Document, MMIS Eligibility File
Race/Ethnicity	MMIS Eligibility File, LTC Screening Document
Geographic Location	LTC Screening Document, MMIS Eligibility File
Living Arrangement	LTC Screening Document
Case-Mix	LTC Screening Document
ADL Dependencies	LTC Screening Document
Professional Conclusions	LTC Screening Document
Service Utilization	MMIS Claims, including Encounter data, MDS (Nursing Facilities)
Inpatient Acute Hospital Days (2017-2020)	MDS, MMIS Claims, and Medicare MEDPAR files

D.3 Samples

Repeated cross-sectional analysis of participant characteristics at a single point-in-time each year. We selected a cross-section of participants who were eligible for either Alternative Care (AC) or Elderly Waiver (EW) on January 1 or who became eligible during that month in each year from 2016 through 2023. We excluded EW participants who were in residential services (i.e., adult foster care or customized living), since they are less comparable to the AC participants both in terms of population composition and service use. Where available, we took descriptive variables from Medicaid administrative data. Some variables can only be sourced from the LTC Screening Document (SDOC), particularly those describing health and functional status of participants. For those variables, we chose a reference assessment for each participant.

Repeated cross-sectional analysis of total service utilization over 12-month periods. We selected individuals who were eligible at any time during each of the calendar years 2015, 2016, 2017, 2018, 2019, 2020, 2021, or 2022. We then aggregated service use over the entirety of each calendar year in order to smooth out utilization of services that are not typically used monthly or whose level of use might vary widely month to month.

Use of nursing facilities over a subsequent 12-month period for AC and EWC participants enrolled in January of each year from 2016-2022. We selected a cohort of AC and EWC

participants enrolled in January of each year. We followed them for 12 months to determine their 12-month rate of transitions into and out of nursing facilities, including short-term (90 or fewer days) and long-term (> 90 days) nursing facility stays, waiver participation, Medicaid conversion, and mortality.

D4. Sample Balancing

To create a fairer comparison between enrollees of Alternative Care (AC) and of the Elderly Waiver program living in the community (EWC), sub-sampling of those in EWC was performed to find reasonable matches to those in AC. Candidate matching variables included information about participant demographics (age, race, gender, living in an urban or rural setting, living alone or with others), health and functioning (case-mix level of care need, Activity of Living (ADL) or Instrumental Activities of Daily Living (IADL) difficulty), professional conclusions from health risk assessment, and medical diagnoses (acquired cognitive disability, autism spectrum, blind, cerebral palsy, developmental disability, epilepsy, HIV, hard of hearing, muscular dystrophy, mental health, multiple sclerosis, substance use, dementia, diabetes, stroke, heart failure, hypertension, peripheral vascular disease, myocardial infarction, COPD, liver disease, obesity, cancer, end stage renal disease). Matching across all variables performed poorly, so a subset of variables was chosen based on which variables were most predictive of group membership using logistic regression. Optimal results were achieved by balancing on White non-Hispanic race, age, living alone, moderate case-mix, mental health diagnosis, and hypertension diagnosis.

Mahalonobis distance was used to measure the similarity between participants of AC and of EWC. For each cohort year each AC participant was matched to the EWC participant from the same cohort year that had the smallest Mahalonobis distance, ties were broken randomly. Each EWC participant was included in the matched sample only once per cohort year.

- Sample Balancing Quality (Attachment Table A 2) was improved using the most discriminate variable approach.

- Even after balancing, some differences remained in the characteristics of the AC participants compared to the EWC balanced sample. Characteristics that remained statistically different after balancing (logistic regression, p < .05) were included as control variables in each of the models described below ('doubly robust method').

D.5 Statistical Analysis

Tests of statistical significance for each step in the analysis are described in detail under the following sections. In general, generalized method of moments models were used to control for repeated measurement of some participants while testing for differences in response variables between AC and EWC and between years. Most responses were binary or binomial variables which were modeled using logistic regression, but a few count variables were modeled using Poisson regression. Cox-proportional hazards models were used to test differences in time to event. Lastly, a few categorical demographic variables were modeled using multinomial regression. Several comparisons are done between the AC and full EWC population for years under study and then repeated for the AC and a matched EWC sample. In the latter case, a

doubly robust approach is utilized (variables that continued to show differences between the groups after balancing are used as control variables in the regression models). Statistical significance is generally set to 0.001 to highlight differences of potentially practical significance.

Demographic, Case-Mix and Professional Conclusion Comparisons

We drew comparisons between the AC and EW programs in their participant characteristics (e.g., demographics, Case-Mix and Professional Conclusions) in each year, as well as changes in characteristics across years. Multinomial or General Method of Moments Logistic regression models were used to estimate the statistical significance of differences between programs in the characteristics of their participants. These statistical tests account for serial correlation occurring because many waiver participants appear in the data across years. Statistical significance is set at 0.001.

Service Use Comparisons between AC Participants and EWC Balanced Sample

We also drew HCBS service use comparisons between AC and the balanced sample of EWC participants in each year and across years. Adjusted percentages of service use were arrived at through Generalized Method of Moments Binomial models. The response in these models was months of utilization in each service category out of a possible number of months (alive months) that the service could have been used. Modeling was done on an annual basis. Participants could switch programs between years, and they could have repeated measures across years. The covariance structure of the GMM model accounts for this complex data structure. The models controlled for the year a service is received. Mortality was controlled for through the number of months the individual could have received services (< 12 if individual died during the year). The doubly robust method was used to address differences between the AC and balanced EWC sample that remained after balancing (see above).

Nursing Facility Use and Mortality

Generalized Method of Moments models fit to the balanced sample for the outcomes of nursing facility use (short and long stay) and mortality. The first outcome, number of days spent in a nursing facility, was modeled using the binomial distribution with the number of days alive as the denominator. Both short and long nursing facility stays were treated as count variables indicating the number of admissions (either short or long stays) and modeled using Poisson regression. Mortality was modeled as a binary variable using logistic regression. Program type was determined based on January enrollment. The doubly robust method was used to control for differences that remained between the two groups following sample balancing for all four models. Comparisons were made between programs and across years. Statistical significance was set at either 0.001 or 0.05, the latter of which was raised to highlight differences of practical significance.

Transitions from AC

Generalized Method of Moment models were used to control for correlation caused by multiple years of data from the same participants when modeling transitions to Medicaid or Waiver programs from AC. Individual logistic regression models were fit for each of three programs transitioned into, out of the AC program: Medicaid, EWC and other HCBS waiver

programs, and ECS. The response variable was whether an individual who began a given year in the AC program enrolled in the outcome program during the same year. The model tests for changes in transition rates across years. Tables present the observed transition probabilities and model predicted transition probabilities from the models. Statistical significance was set at 0.001.

Time to Nursing Home Admission and Mortality

Cox Proportional Hazard models were used to compare time to 1st nursing home admission and time to death between the AC and matched EWC sample within each year after a 12-month follow-up. The response variable for nursing home admission was number of days from January 1 of each year until the first admission. Death was a censoring event in this model. The outcome in the mortality model was days from January 1 until death. In both models the data were right-censored at the end of 12 months. Individual models were fit starting January 1 of each calendar year. The doubly robust method was utilized to control for variables that differed across the two groups after sample balancing. Hazard ratios for each annual model are given in the table.

E. Results

E.1 Number of AC and EWC Participants and User Months

The trends in unique users and user months for the AC and EWC participants are shown in Table 1 and Figure 1. The number of unique AC users remained steady from 3,587 in 2016 to 3,656 in 2019 (Table 1). The number of users then declined to 3,417 in 2020 and 3,486 in 2021 during the pandemic, but then rose to near the pre-pandemic level at 3,654 in 2022. Although the number of unique AC users declined during the pandemic, the number of user months did not. User months increased steadily -- 30,499 in 2019, 31,348 in 2020, and 31,996 in 2022. Thus, fewer AC participants were using more months of care during the pandemic.

The number of unique EWC participants rose steadily prior to the pandemic from 20,582 in 2016 to 22,914 in 2019, dipped slightly in 2020 to 22,072, then returned near to the pre-pandemic level at 23,112 in 2022. The EWC user months rose steadily from the period before the pandemic through the pandemic period. Compared to AC participants, the trend in EWC user months was more in line with the trend in number of unique EWC users.

Table 1. Number of User Months and Unique Participants with AC and EWC by Calendar Year

Year	AC Annual User Months	AC Unique Participants during the Year	AC Users on January 1	EWC Annual User Months	EWC Unique Participants during the Year	EWC Users on January 1
2016	29,716	3,587	2,491	183,455	20,582	15,058
2017	30,190	3,650	2,483	195,153	21,769	15,761
2018	30,478	3,648	2,554	200,562	22,038	16,513
2019	30,499	3,656	2,458	209,039	22,914	17,068
2020	31,348	3,417	2,621	212,453	22,072	17,654
2021	31,171	3,486	2,520	214,726	22,468	17,667

2022	31,996	3,654	2,636	219,016	23,112	18,058
2023			2,669			18,418

Figure 1. Number of Unique Users and Total Months for AC and EWC Participants

Panel A. Unique AC Users during the Year

Panel C. Total AC Months during the Year

Panel D. Total EWC Months during the Year
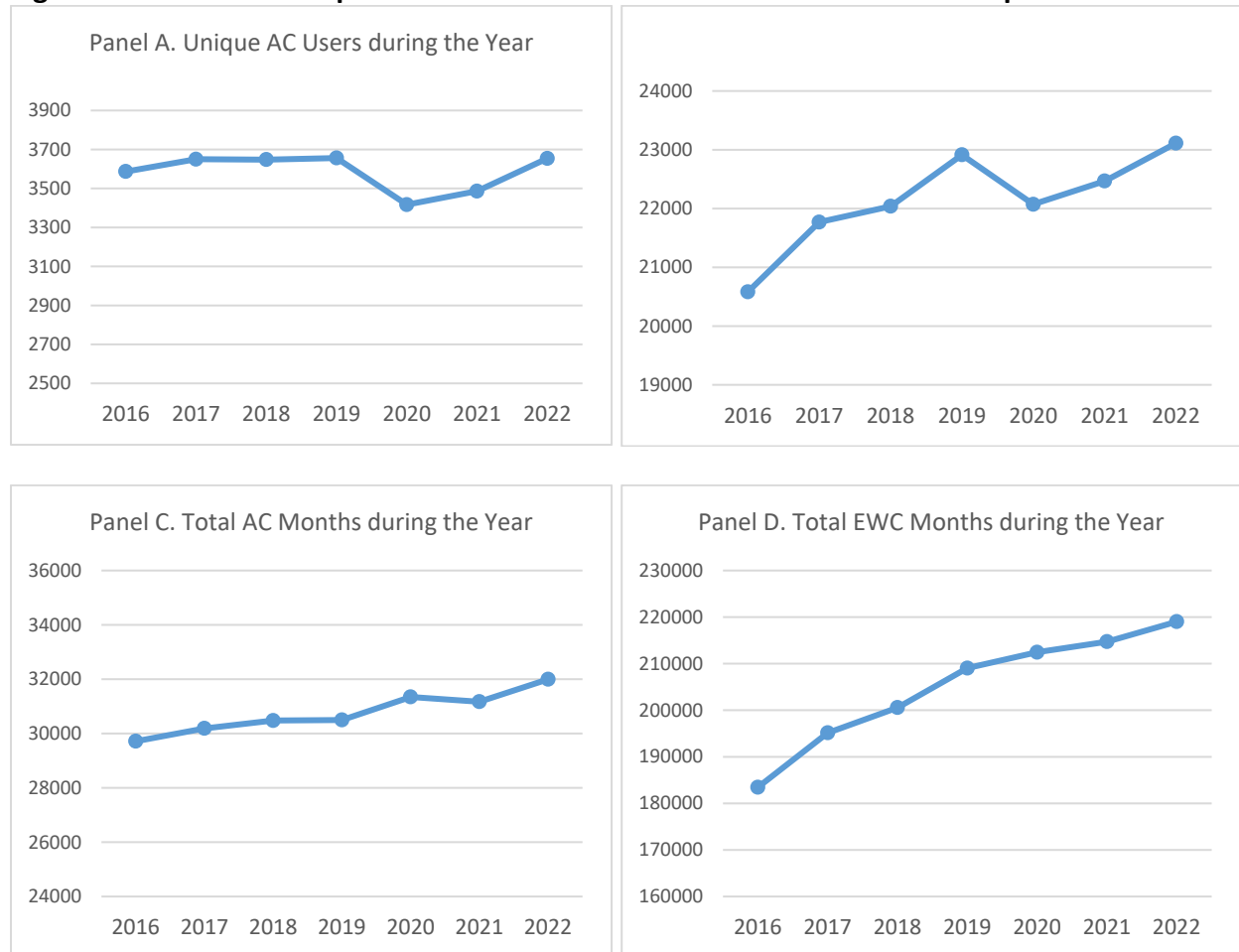
E.2 Characteristics of AC and EW Community Participants in January 2016-2023

Table 2 and Figure 2 - Figure 4 show the demographic characteristics of the AC program and EW community participants in January of each year from 2016-2023. January 2020 is just prior to the beginning of the COVID-19 Pandemic, while subsequent January months are during the pandemic (2021) or after it subsided (2022-2023). We applied two sets of statistical tests. First, we report on longitudinal patterns in each characteristic between 2016 and subsequent years. The patterns for the AC and EWC participants are analyzed separately. An asterisk next to the year (e.g., 2017* or 2018*) indicates that the percentage having that characteristic in that year is significantly different from the percentage in 2016 (the baseline year). The second statistical test is for cross-sectional comparisons of differences in characteristics between AC and EWC participants in each year across the span of years. An asterisk next to the characteristic (e.g., Age* or Gender*) indicates that AC participants were significantly different from EWC

participants on that characteristic. When a characteristic has more than one category then a "B" indicates the reference category for the multinomial comparison.

E.2. Demographics

Age

The mean age of AC participants underwent a small yet significant decline between 2016 and each year from 2018-2020. The EWC participants experienced a smaller overall decline in mean age through 2023. The AC participants were significantly older than EWC participants. Compared to EWC participants, higher percentages of AC participants were age 85 or older, while lower percentages were age 65-74.

Gender

The majority of both AC and EWC participants were female. The percentage female was close to 70% across the years for both AC and EW participants.

Marital Status

Marital status patterns underwent significant change between 2016 and 2023. The percentage of AC participants who were widowed declined steadily from 47% in 2016 to 33% in 2023; the percentage divorce/separated/never married increased from 42% to 52%, and the percentage married increased from 11% to 15%. The EWC participants displayed a similar pattern; however, overall, they were significantly less likely to be widowed and more likely to be divorced/separated/never married. About 20% of AC participants had missing data on marital status. Therefore, it is difficult to draw firm conclusions about differences in marital status over time or to compare AC and EWC participants.

Race/Ethnicity

Whites made up the vast majority of AC participants in all years, although the percentage declined steadily from 93% in 2016 to 85% in 2023. The percentage of AC participants who were Black/African American rose steadily from 4% in 2016 to 10% in 2023. The percentages of other racial/ethnic groups were too small to identify a substantive trend. The EWC participants were much more likely to be Black/African American or Asian. The percentage of EWC participants who were Black/African American increased steadily from 20% in 2016 to 29% in 2023, while the percentage Asian increased from 18% in 2016 to 21% in 2023. The percentages of Hispanic and Native American participants were too small (1%-2%) across all years to identify a substantive trend. In a note of caution: approximately 10% to 15% of AC participants had missing data on race and ethnicity, and the missingness increased each year.

Geographic Location

The percentage of AC participants living in Twin Cities Central SMSA increased steadily from 60% in 2016 to 70% in 2023. The percentage of EWC participants living in the Twin Cities SMSA also increased steadily from 67% in 2016 to 73% in 2023. There was a corresponding drop in the percentage of AC participants in rural areas from 27% in 2016 to 19% in 2023, while the percentage of EWC participants in rural areas dropped from 22% to 17%.

Living Arrangement

There was a significant decline in AC participants living alone from 66% in 2016 to 62% in 2023. The percentage of AC participants living with a spouse ranged from 10%-12%, while AC participants living with family/friends/other rose from 21% to 25%. The percentage of EWC participants living alone declined in the period before the pandemic (50% in 2016 to 45% in 2019) but then increased during and after the pandemic (48% in 2021 and 50% in 2022 and 2023). The percentage of EWC participants living with a spouse ranged from 13% to 14%, while the percentage living with family/friends/other rose steadily from 26% in 2016 to 35% in 2023.

Figure 2. AC and EWC Participants Age 85 and Older in January 2016-2023
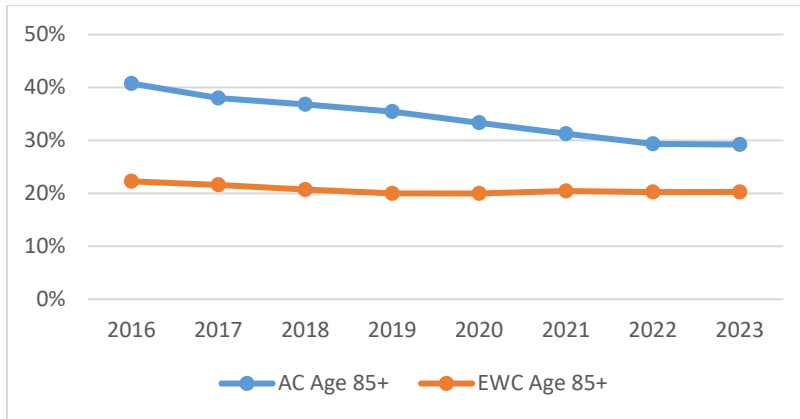
Figure 3. AC and EWC Participants White Non-Hispanic in January 2016-2023
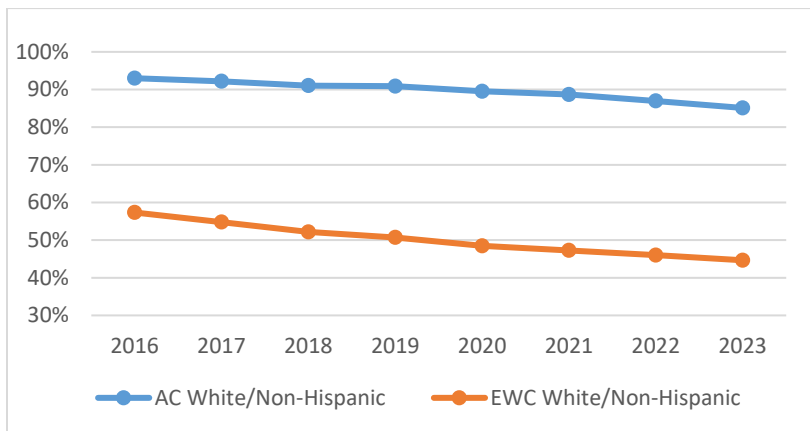
Figure 4. AC and EWC Participants Widowed in January 2016-2023
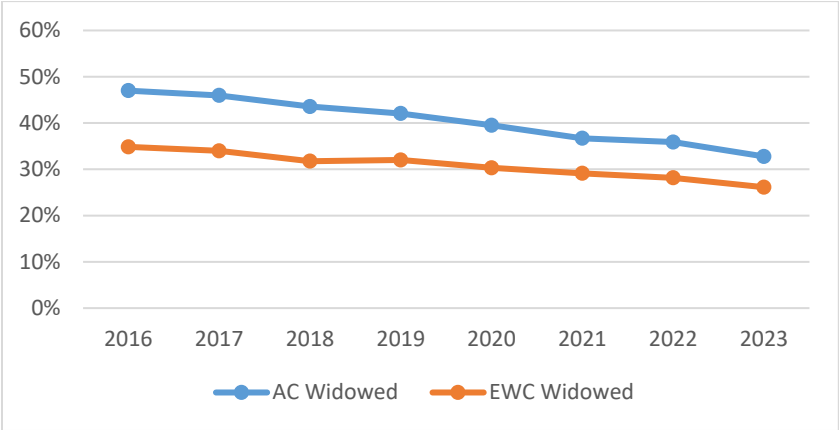
Table 2. Demographic Characteristics of AC and EW Community (Non-Residential) Participants in January 2016-2023

	2016 AC	2016 EWC	2017 AC	2017 EWC	2018 AC	2018 EWC	2019 AC	2019 EWC	2020 AC	2020 EWC	2021 AC	2021 EWC	2022 AC	2022 EWC	2023 AC	2023 EWC
Number of Participants	2501	15058	2492	15761	2560	16513	2463	17068	2628	17654	2521	17667	2638	18058	2673	18418
Age																
Mean (Std)*	81.8	78.3	81.3*	78.1*	81.0*	77.9*	81.0*	77.8*	80.6*	77.7*	80.4*	77.9*	80.3*	77.9*	80.2*	77.9*
65-74*	23%	37%	25%	37%	26%	39%	26%	40%	29%	40%	28%	39%	28%	39%	28%	39%
75-84*	36%	41%	37%	41%	37%	40%	38%	40%	38%	40%	40%	40%	43%	41%	42%	41%
85-94*	35%	20%	33%	19%	31%	18%	30%	17%	27%	18%	25%	18%	24%	18%	24%	18%
95+[B]	5%	2%	5%	3%	5%	3%	6%	3%	6%	2%	6%	3%	6%	3%	5%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Gender																
Female*	73%	71%	72%	70%	73%	70%	73%*	69%*	72%*	69%*	72%*	69%*	72%*	68%*	70%*	68%*
Male[B]	27%	29%	28%	30%	27%	30%	27%	31%	28%	31%	28%	31%	28%	32%	30%	32%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Marital Status																
Widowed*	47%	35%	46%	34%	44%*	32%*	42%*	32%*	40%*	30%*	37%*	29%*	36%*	28%*	33%*	26%*
Divorced/Never Married*	42%	52%	44%	53%	46%*	53%*	48%*	55%*	50%*	56%*	52%	56%	51%	57%	52%*	58%*
Married[B]	11%	14%	10%	13%	11%	15%	10%	13%	11%	14%	12%	15%	13%	15%	15%	16%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Race/Ethnicity																
Asian or Pacific Islander*	0.4%	18%	0.4%	19%	0.7%	20%	0.7%	20%	0.9%	21%	0.9%	21%	1.2%	21%	1.2%*	21%*
Black/African American*	4.4%	20%	5.4%	22%	6.0%	23%	6.1%	24%	7.2%	25%	7.7%	26%	8.9%	27%	10%*	29%*
Hispanic*	1.1%	2.6%	0.9%	2.7%	1.2%	2.8%	1.2%	2.9%	1.0%	2.9%	1.1%	2.9%	1.3%	3.1%	1.5%*	3.2%*
Native American	1.0%	1.9%	0.9%	1.8%	0.9%	1.8%	0.9%	1.9%	1.1%	1.9%	1.2%*	1.9%*	1.3%*	1.9%*	1.5%*	1.9%*
Multiple Race/Ethnicity[B]	0.1%	0.3%	0.1%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%
White*	93%	57%	92.2%	55%	91%	52%	91%	51%	90%*	49%*	89%*	47%*	87%*	46%*	85%*	45%*
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Place of Residence (MSA)																
Twin Cities Central[B]	60%	67%	62%	68%	64%	69%	66%	70%	68%	71%	69%	72%	69%	73%	70%	73%
Other Central MSA	8%	7%	7%	7%	7%*	7%*	6%*	7%*	6%*	6%*	5%*	6%*	4%*	6%*	4%*	6%*

	2016		2017		2018		2019		2020		2021		2022		2023	
	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC
Outlying from MSA*	6%	4%	6%	4%	7%	4%	7%	4%	6%*	4%*	6%*	4%*	7%*	4%*	7%*	4%*
Rural*	27%	22%	25%*	21%*	23%*	20%*	22%*	19%*	21%*	18%*	19%*	18%*	19%*	18%*	19%*	17%*
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Living Arrangement																
Living alone [B]	66%	50%	65%	48%	64%	47%	64%	45%	64%	45%	65%	48%	63%	50%	62%	50%
Spouse or parents*	10%	14%	10%	13%	11%	14%	10%*	14%*	11%	13%	10%	13%	11%	13%	12%*	13%*
Family/friends/other*	21%	26%	22%	26%	23%*	26%*	23%*	27%*	24%*	29%*	24%*	31%*	25%*	33%*	25%*	35%*
Congregate	2.2%	3.7%	1.7%	3.5%	2.2%	3.2%	1.5%	3.1%	1.2%*	2.3%*	1.3%*	2.2%*	1.0%*	2.4%*	0.8%*	2.3%*
Homeless*	0.1%	0.1%	0.0%	0.2%	0.0%	0.1%	0.1%*	0.1%*	0.0%	0.1%	0.1%	0.1%	0.2%*	0.2%*	0.1%*	0.3%*
Risk of homelessness*	0.7%	6.7%	0.6%*	8.8%*	0.3%*	9.7%*	0.3%*	11%*	0.3%*	10%*	0.1%	6.1%	0.0%*	0.7%*	0.0%	0.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

* P < 0.001, if next to variable name difference is between AC and EWC across years, if next to number difference is between column year and 2016. [B] Baseline category for multinomial model (no p-values).

E.3. Case-Mix, Functional Limitations, and Professional Conclusions

Table 3 provides summary information for the AC and EWC populations using the most recent assessment information in MMIS related to their program participation in January of each year. Items reported in Table 3 come from the LTCC form[5]. Because the 2015 data on case-mix and professional recommendations in January 2015 were still being influenced by the change in NF-LOC, we report on the trend analysis and AC and EWC comparisons on January 1 in 2016-2023.

NF-LOC Criteria and other Areas Covered in the LTCC Form.

Case-Mix
Case-mix is a classification tool that is used in both AC and EW programs to establish monthly budget limits for HCBS services. The classification is based on assessed need in:

- Eight activities of daily living (ADLs): bathing, dressing, grooming, walking, toileting, positioning, transferring, and eating
- The need for clinical monitoring in combination with a physician-ordered treatment, and
- The need for staff intervention due to behavioral or cognitive needs.

After assessment, the individual is assigned a case-mix classification of A-L based on their combination of ADLs, clinical monitoring and behavioral/cognitive needs. For purposes of this evaluation, the case-mix classifications have been grouped as follows:

- Low Need (A, L): This group includes individuals with 0-3 ADL dependencies
- Moderate Need (B, D, E): This group includes individuals with 4-6 ADL dependencies and/or behavioral/cognitive needs.
- High Need (G, H, I, J): This group includes individuals with dependencies in 7 or 8 ADLs (G), and those with specific other needs in combination with 7-8 ADL dependencies.
- High Need Clinical (C, F, K, V): This group includes individuals with varying number of dependencies but who have an assessed need for clinical monitoring at least once every 8 hours.
- Other/Missing

Critical Dependencies and Other Dependencies in Activities of Daily Living
The functional assessment includes information about limitations and dependencies in eight activities of daily living. Toileting, positioning/bed mobility and transferring are considered "critical dependencies" because needed assistance cannot be easily scheduled. Other activities of daily living are bathing, dressing, eating, grooming and walking.

Professional Conclusions
Professional conclusions are indicated by the assessor upon completion of an assessment. They are intended to capture an assessor's overall opinion about the person's need and/or presenting problems or conditions. These conclusions are not tied to other assessment item(s).

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[5] https://edocs.dhs.state.mn.us/lfserver/Public/DHS-3427-ENG

Results from the LTCC Forms

Case-Mix

The AC participants displayed discernable trends in case-mix categories from 2016 to 2023 (Table 3 and Figure 5 - Figure 6). They had a downward trend in the Low Need category from 42% to 22%, an upward trend in Moderate Need from 49% to 65%, and a small upward trend in High Need ADL from 6% to 9%. Only 3% to 4% of AC participants were in the High Need Clinical category. Between 2016 and 2023 EWC participants had a moderate downward trend in the Low Need category from 47% to 37%, a small decline in the Moderate Need category from 39% to 35%, an upward trend in High Need ADL from 13% to 23%, no change in the 1-2% of participants in the High Need Clinical category.

ADL Dependencies

Table 3 shows the percentage of AC and EWC participants with impairment in a Critical or Other ADL Dependency. Between 2016 and 2023, the percentage of AC participants with impairment in Bed Mobility rose from 8% to 11% and impairment in Transferring rose from 23% to 31%. Toileting impairment dropped from 41% to 36% between 2016 and 2017, kept declining to 30% in 2021 and then rose to 35% in 2023. Between 2016 and 2023, EWC participants had an increase in Bed Mobility impairment from 13% to 21% and an increase in impaired transferring from 27% to 40%, while impairment in Toileting varied between 41% and 45%.

The percentages of AC participants with Other ADL Dependencies varied by type of dependency. Among AC participants between 2016 and 2023, impairment in Grooming increased from 23% to 42%, impairment in Eating rose from 21% to 27%, and impairment in Dressing rose from 35% to 43%. On the other hand, impairment in Bathing declined from 49% to 41%. Impairment in Walking was consistently very low with a range of 4% to 5%.

The EWC participants had higher percentages overall, yet they showed generally the same patterns between 2016 and 2023. Impairment in Grooming increased from 36% to 46%, impairment in Eating rose from 27% to 36%, and impairment in Dressing rose from 47% to 55%. The percentage with impairment in Bathing changed very little with a range of 57% to 58%, while impaired Walking ranged between 3% and 4%.

Professional Conclusions

Self-Care Risk and Neglect/Abuse Risk were the only two Professional Conclusion items with data recorded consistently over the years 2016-2023. Between 2016 and 2023 the percentage of AC participants with Self-Care Risk varied from 67% to 70%, while the percentage with Neglect/Abuse Risk rose from 44% to 55%. Among EWC participants over the same time frame, Self-Care Risk rose from 75% to 84%, while Neglect/Abuse Risk jumped from 38% to 60%.

Figure 5. AC and EWC Participants by Assessed Case-Mix Level of Need in January 2016-2023
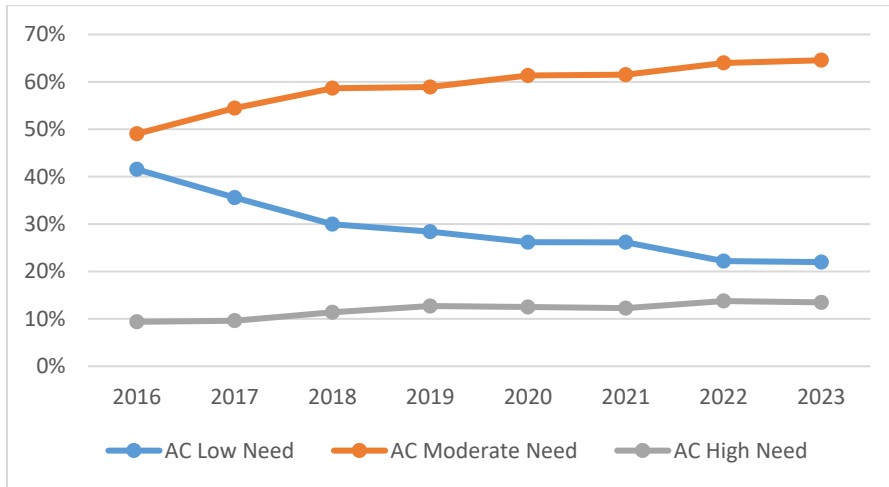
Figure 6. AC and EWC Participants by Professional Conclusion of Neglect or Abuse by Others in January 2016-2023
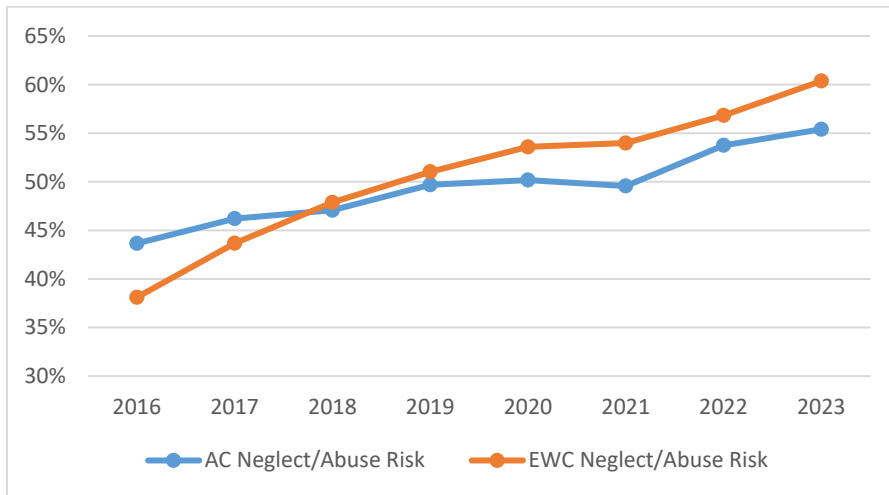
Table 3. Case-Mix, Functional Limitations, and Professional Conclusions for AC and EW Participants in January 2016-2026

	2016		2017		2018		2019		2020		2021		2022		2023	
	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC
Number of Participants	2501	15058	2492	15761	2560	16513	2463	17068	2628	17654	2521	17667	2638	18058	2673	18418
Case-Mix																
Low Need*	42%	47%	36%*	46%*	30%*	45%*	28%*	43%*	26%*	41%*	26%*	41%*	22%*	39%*	22%*	37%*
Moderate Need*	49%	39%	54%*	38%	59%*	38%*	59%	38%	61%*	37%	61%*	36%*	64%*	36%*	65%*	35%*
High Need ADL*	6%	13%	6%	14%	7%	15%	9%*	16%*	9%*	18%*	8%*	18%*	9%*	21%*	9%*	23%*
High Need Clinical	3%	2%	4%	2%*	4%*	1%*	4%	1%*	4%	1%*	4%*	1%*	4%*	1%*	4%*	1%*
Other[B]	0%	0%	0%	0%	0%	1%	0%	1%	0%	3%	0%	4%	0%	4%	0%	4%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Critical ADL Dependency																
Impaired Bed Mobility*	8%	13%	8%	14%	9%*	14%*	9%*	15%*	10%*	17%*	9%*	17%*	10%*	19%*	11%*	21%*
Impaired Transferring*	23%	27%	23%	29%*	26%*	30%*	27%*	32%*	27%*	33%*	27%*	34%*	29%*	37%*	31%*	40%*
Impaired Toileting	41%	42%	36%*	41%	34%*	41%	33%*	42%	33%*	43%	30%*	42%	32%*	44%*	35%*	45%*
Other ADL Dependency																
Impaired Bathing*	49%	57%	47%	57%	47%	57%	46%	57%	45%*	58%	42%*	57%	42%*	58%	41%*	58%*
Impaired Dressing*	35%	47%	37%*	48%*	40%*	49%*	40%*	51%*	40%*	52%*	38%*	52%*	42%*	54%*	43%*	55%*
Impaired Eating*	21%	27%	21%	28%	23%*	29%*	23%*	30%*	24%*	32%*	23%*	31%*	25%*	34%*	27%*	36%*
Impaired Grooming*	23%	36%	28%*	37%*	31%*	39%*	34%*	40%*	37%*	42%*	36%*	42%*	41%*	45%*	42%*	46%*
Impaired Walking*	5%	3%	4%	3%	5%	3%*	5%	3%	5%	3%*	5%	3%*	5%	4%*	5%	4%*
Professional Conclusions																
Self-Care Risk*	67%	75%	67%	79%*	68%	79%*	69%	80%*	69%	81%*	66%	81%*	69%	82%*	70%*	84%*
Neglect/Abuse Risk*	44%	38%	46%	44%*	47%*	48%*	50%*	51%*	50%*	54%*	50%*	54%*	54%*	57%*	55%*	60%*
Missing Data	2%	1%	3%	1%	3%	1%	2%	1%	3%	1%	13%	4%	7%	3%	1%	1%

* P < 0.001, if next to variable name difference is between AC and EWC across years, if next to number difference is between column year and 2016. [B] Baseline category for multinomial model (no p-values).

E.4 Service Use of AC and EW Community Participants in 2016-2022

The next step in the analysis was to compare the service use of the AC and EW community participants over different 12-month time periods from 2016 – 2022. We used claims paid in the calendar year in order to account for services that may have less than monthly delivery, or that may have episodes of high use throughout a person's service year.

Table 4 and Figure 7 - Figure 11 show the number of unique service users, percentage using, and total service use months during the year. The percentage of participants using the service during the year is the number of unique users for that service by the total number of participants (either AC or EWC) during the year. The percentage of available user months is the number of user months for the service divided by the total number of participant months during the year.

Table 5 compares the AC participants to the balanced sample of EWC participants who were chosen because of their similarity in demographic characteristics and health and functional conditions. We tested the statistical significance of differences between groups with doubly robust Generalized Method of Moments models with a stringent alpha of p < 0.001.

E.4.1 HCBS Service Utilization Rates by AC Participants Compared to EWC Participants

The most widely used service among the AC participants was case management. In 2016, 91% of AC participants used case management during the year. By 2022 the percentage dropped to 84% with the largest decline in the pandemic period (2020-2022). Among HCBS services, homemaker had the highest percentage of users among AC participants in 2016 (56%); This percentage declined over time to 31% in 2022, with the greatest decline during the pandemic period. Use of other services followed a similar pattern: home delivered meals declined from 44% in 2016 to 33% in 2022, transportation use declined from 15% to 13%, and adult day care use declined from 5% to 2%. Each of these downward trends accelerated during the pandemic period. The use of personal care assistant was 15% in 2016 and 16% in 2022; however, it increased from 2016 to 2020 and then a declined in 2021-2022. Chore service use stayed steady at 7% from 2016 to 2022, and companion use was too low (1%-3%) to detect a significant difference between years.

The use of CDCS displayed upward trends from 6% in 2016 to 15% in 2022. Associated CDCS case management rose from 4% in 2016 to 13% in 2022. Neither of these upward trends appeared to be interrupted by the pandemic. Use of independent living skill training also increased from 2% in 2016 to 17% in 2022, with the increase coming largely during the pandemic period. Among other services between 2016 and 2022, use of PERS declined from 51% to 39%, specialized equipment declined from 40% to 36%, Each of these declines accelerated during the pandemic period. Use of home health displayed a steady downward trend from 34% to 17%.

Trends in service use among EWC participants followed a similar pattern to serviced use among AC participants. Use of case management, homemaker, home delivered meals, and PERS

declined between 2016 and 2022, with declines accelerating during the pandemic. Use of personal care assistants and mental health services rose steadily across the years.

Drawing comparisons in service use trends between AC and EWC participants is complicated because of differences in their characteristics and in their use of different services. When compared to EWC participants in 2016, for example, AC participants had higher rates of use for case management (91% vs. 31%), PERS (51% vs. 37%), home delivered meals (44% vs. 26%), specialized supplies and equipment (40% vs. 23%) and CDCS services (6% vs. 2%). On the other hand, AC participants had lower rates of use for adult day services (5% vs. 20%), personal care assistance (15% vs. 34%), mental health services (0% vs. 12%), and transportation (15% vs. 36%). According to DHS staff, the high percentage of AC participants with case management claims is likely due to the lead agencies billing for case management when participants make inquiries about past due or unpaid fees.

Figure 7. AC and EWC Participants by Percentage Using Home Delivered Meals during the Year in 2016-2023
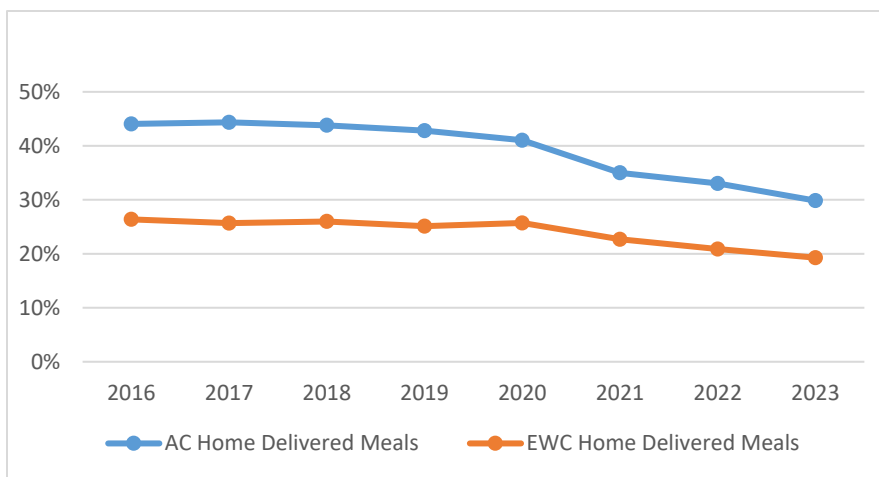
Figure 8. AC and EWC Participants by Percentage Using Homemaker Services during the Year in 2016-2023
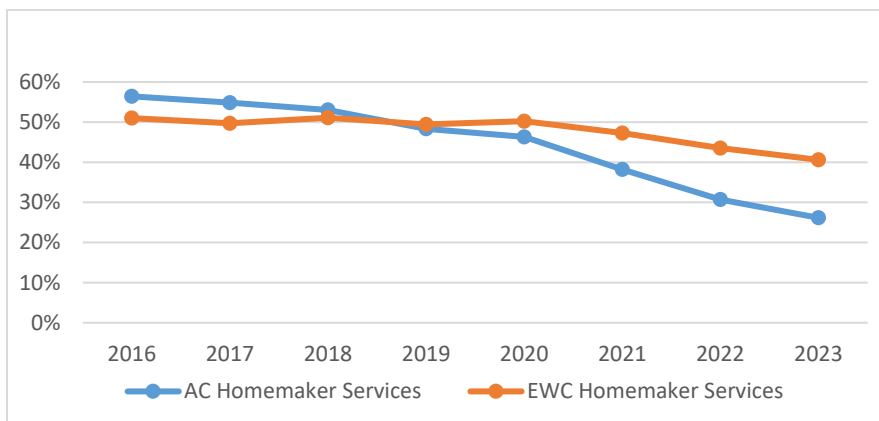
Figure 9. AC and EWC Participants by Percentage Using Personal Care during the Year in 2016-2023
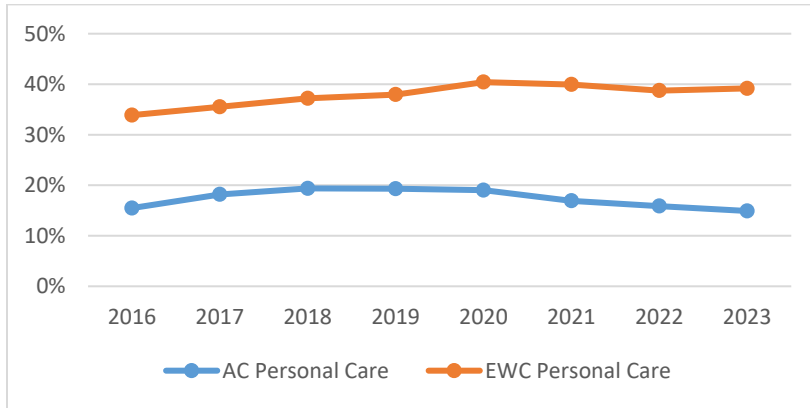
Figure 10. AC and EWC Participants by Percentage Using Consumer-Directed Community Supports (CDCS) during the Year in 2016-2023
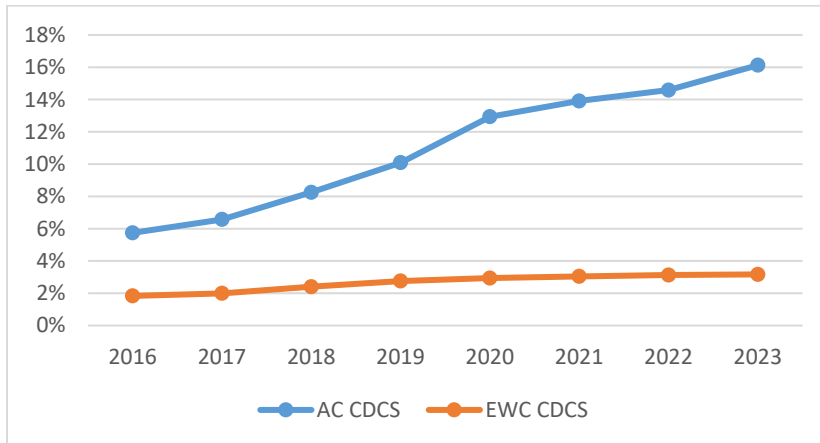
 Figure 11. AC and EWC Participants by Percentage Using Adult Day Services during the Year in 2016-2023
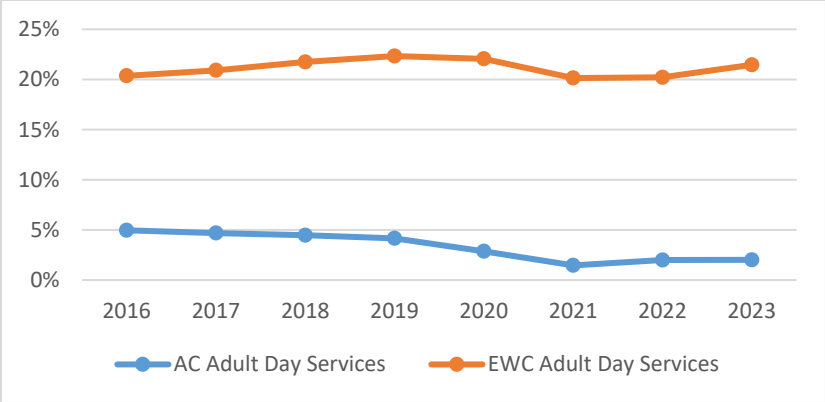
Table 4. Service Use of AC and EW Community Program Participants by Calendar Year 2016-2022

Type of Service	AC				EWC			
	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used
Total Participants								
2016	3587	29716			20582	183455		
2017	3650	30190			21769	195153		
2018	3648	30478			22038	200562		
2019	3656	30499			22914	209039		
2020	3417	31348			22072	212453		
2021	3486	31171			22468	214726		
2022	3654	31996			23112	219016		
Adult Day Services								
2016	178	1238	5%	4%	4192	40458	20%	22%
2017	171	1114	5%	4%	4551	43769	21%	22%
2018	163	1166	4%	4%	4793	47168	22%	24%
2019	152	1065	4%	3%	5118	50271	22%	24%
2020	98	405	3%	1%	4868	38568	22%	18%
2021	51	349	1%	1%	4525	43170	20%	20%
2022	73	511	2%	2%	4673	45946	20%	21%
Case Management								
2016	3253	19222	91%	65%	6425	36733	31%	20%
2017	3308	19531	91%	65%	6337	36843	29%	19%
2018	3271	20608	90%	68%	6351	36634	29%	18%
2019	3258	20500	89%	67%	6320	35295	28%	17%
2020	2966	20499	87%	65%	5371	33128	24%	16%
2021	2965	19740	85%	63%	5287	31159	24%	15%
2022	3083	20037	84%	63%	5220	30177	23%	14%

Type of Service	AC				EWC			
	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used
CDCS Case Management								
2016	159	767	4%	3%	71	368	0%	0%
2017	200	996	5%	3%	85	400	0%	0%
2018	241	1319	7%	4%	134	612	1%	0%
2019	335	1938	9%	6%	150	731	1%	0%
2020	429	2531	13%	8%	115	651	1%	0%
2021	458	2959	13%	9%	159	853	1%	0%
2022	458	2772	13%	9%	178	885	1%	0%
CDCS Services								
2016	206	1661	6%	6%	378	3335	2%	2%
2017	240	1941	7%	6%	434	3865	2%	2%
2018	301	2384	8%	8%	530	4533	2%	2%
2019	369	3053	10%	10%	632	5496	3%	3%
2020	442	3907	13%	12%	649	6273	3%	3%
2021	485	4368	14%	14%	684	6344	3%	3%
2022	533	4693	15%	15%	723	6715	3%	3%
Chore Services								
2016	250	1529	7%	5%	702	4048	3%	2%
2017	241	1368	7%	5%	685	3888	3%	2%
2018	222	1500	6%	5%	670	4144	3%	2%
2019	231	1438	6%	5%	701	4126	3%	2%
2020	253	1454	7%	5%	748	4207	3%	2%
2021	226	1454	6%	5%	763	4661	3%	2%
2022	256	1520	7%	5%	778	4522	3%	2%
Companion Services								
2016	86	551	2%	2%	509	3991	2%	2%
2017	78	564	2%	2%	524	4055	2%	2%

Type of Service	AC				EWC			
	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used
2018	94	593	3%	2%	540	3892	2%	2%
2019	89	547	2%	2%	515	3350	2%	2%
2020	58	357	2%	1%	450	2551	2%	1%
2021	44	296	1%	1%	399	2274	2%	1%
2022	37	237	1%	1%	340	2038	1%	1%
Home Delivered Meals								
2016	1580	11457	44%	39%	5428	42012	26%	23%
2017	1619	11641	44%	39%	5591	43576	26%	22%
2018	1598	11310	44%	37%	5726	44264	26%	22%
2019	1565	11050	43%	36%	5754	44184	25%	21%
2020	1402	10409	41%	33%	5675	44325	26%	21%
2021	1220	8783	35%	28%	5098	39741	23%	19%
2022	1207	8490	33%	27%	4824	37390	21%	17%
Home Health								
2016	1225	8785	34%	30%	6077	46908	30%	26%
2017	1199	8579	33%	28%	5981	45651	27%	23%
2018	1095	7848	30%	26%	5775	43434	26%	22%
2019	981	7136	27%	23%	5622	42067	25%	20%
2020	860	5984	25%	19%	5012	37575	23%	18%
2021	698	5184	20%	17%	4657	34236	21%	16%
2022	610	4423	17%	14%	4039	30152	17%	14%
Homemaker Services								
2016	2024	16211	56%	55%	10498	92348	51%	50%
2017	2002	15322	55%	51%	10820	95670	50%	49%
2018	1935	14724	53%	48%	11260	99868	51%	50%
2019	1767	13445	48%	44%	11326	101107	49%	48%
2020	1583	11793	46%	38%	11088	98658	50%	46%

| Type of Service | AC | | | | EWC | | | |
	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used
2021	1332	10623	38%	34%	10622	96774	47%	45%
2022	1122	8546	31%	27%	10060	91889	44%	42%
Other: INDEPENDENT LIVING SKILLS								
2016	65	479	2%	2%	208	1489	1%	1%
2017	69	489	2%	2%	91	529	0%	0%
2018	166	845	5%	3%	244	1595	1%	1%
2019	301	1714	8%	6%	229	1356	1%	1%
2020	399	2481	12%	8%	218	1394	1%	1%
2021	473	3123	14%	10%	234	1338	1%	1%
2022	630	4209	17%	13%	257	1500	1%	1%
Other: MENTAL HEALTH								
2016	4	7	0%	0%	2473	12322	12%	7%
2017	1	1	0%	0%	2838	14439	13%	7%
2018	0	0	0%	0%	3226	16297	15%	8%
2019	0	0	0%	0%	3703	19735	16%	9%
2020	6	6	0%	0%	3899	23660	18%	11%
2021	4	5	0%	0%	4474	28449	20%	13%
2022	2	4	0%	0%	5286	35543	23%	16%
PERS								
2016	1833	14961	51%	50%	7668	67494	37%	37%
2017	1846	14948	51%	50%	8077	70941	37%	36%
2018	1833	14680	50%	48%	8244	71813	37%	36%
2019	1776	14054	49%	46%	8360	72125	36%	35%
2020	1621	14197	47%	45%	8065	74033	37%	35%
2021	1502	11576	43%	37%	8105	69839	36%	33%
2022	1437	11138	39%	35%	7811	64672	34%	30%
Personal Care								

Type of Service	AC				EWC			
	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used	Unique Users	User Months	% of Participants Using the Service	% of Total User Months the Service was Used
2016	555	4265	15%	14%	6973	64742	34%	35%
2017	664	4938	18%	16%	7735	73247	36%	38%
2018	707	5374	19%	18%	8199	79207	37%	39%
2019	706	5221	19%	17%	8695	83928	38%	40%
2020	650	5099	19%	16%	8920	87751	40%	41%
2021	590	4694	17%	15%	8973	88535	40%	41%
2022	580	4472	16%	14%	8955	87896	39%	40%
Specialized Supplies/Equipment								
2016	1425	7086	40%	24%	4664	16619	23%	9%
2017	1457	7365	40%	24%	4979	18288	23%	9%
2018	1465	7913	40%	26%	5213	19786	24%	10%
2019	1510	8010	41%	26%	5319	20423	23%	10%
2020	1414	8195	41%	26%	5274	22128	24%	10%
2021	1335	7373	38%	24%	5137	22192	23%	10%
2022	1317	7182	36%	22%	5241	22579	23%	10%
Transportation								
2016	532	3033	15%	10%	7333	56238	36%	31%
2017	553	3239	15%	11%	7826	59910	36%	31%
2018	609	3679	17%	12%	8139	63518	37%	32%
2019	597	3517	16%	12%	8496	66108	37%	32%
2020	488	2438	14%	8%	7827	39792	35%	19%
2021	409	2531	12%	8%	7526	53002	33%	25%
2022	485	2974	13%	9%	7924	59671	34%	27%

E.4.2 HCBS Service Use Comparisons between AC Participants and Balanced EWC Sample

As described in the Methods section of the report, we adjusted for differences in the demographics, case-mix, functional limitations, and professional conclusions between the AC and EWC participants by selecting a balanced sample of EWC participants whose characteristics were as close as possible to AC participants.

Table 5 gives the estimated percentage of person-months for each service in each year for AC compared to EWC participants, after adjusting for other participant characteristics that might also explain differences in service use. Statistical significance is set at p < 0.001 and is marked with an *. An asterisk next to AC Probability (e.g., AC Probability*) indicates that there was a significant difference between AC and EWC participants in the percentage using that service when averaged over the seven years. For example, the "AC Probability*" for adult day services in Table 5 indicates a significant difference between AC and EWC participants in use of adult day services. The percentages of AC participants using these services was significantly lower compared to EWC participants use of the adult day services. An asterisk next to a year (e.g., 2022*) indicates that the percentage using a service in that year was significantly different from the percentage in the baseline year of 2016. For example, the percentage of AC and EWC participants using adult day services was significantly lower in 2022 than in the baseline period of 2016 (Table 5).

When comparing the balanced sample of EWC participants to AC, AC participants used less adult day services, companion services, personal care services, respite care, and transportation than EWC participants. Of these the largest gap in predicted usage rate for an average participant was for transportation at around 8-10% difference in most years. AC participants were more likely to use CDCS services and case management, general case management, home meals delivered, PERS, and specialized supplies and equipment. The largest gap being gap being for predicted usage rate of case management (28% - 31% difference).

Table 5. Generalized Method of Moment Models for Months with Service Claims (Binomial) for Comparisons between AC Participants and Balanced EWC Sample 2016-2022

Model	Estimator	2016 (Baseline)	2017	2018	2019	2020	2021	2022
Participants		5,002	4,984	5,120	4,296	5,256	5,042	5,276
Total Months		57,882	57,489	59,135	57,246	60,995	58,524	61,528
Adult Day Services	AC Probability*	1.7%	1.8%	1.9%	1.8%	0.7%*	0.5%*	0.5%*
	EWC Probability	6.6%	6.0%	6.1%	5.7%	3.9%*	4.2%*	4.6%*
CDCS Case Management	AC Probability*	1.6%	1.9%	2.2%*	3.7%*	4.7%*	6.5%*	5.2%*
	EWC Probability	0.1%	0.2%*	0.2%	0.2%*	0.3%*	0.4%*	0.6%*
CDCS Services	AC Probability*	3.5%	4.0%	4.5%	6.0%	7.6%*	10.1%*	7.8%*
	EWC Probability	1.3%	1.9%	2.0%	2.2%	2.7%*	3.0%*	2.7%*
Case Management	AC Probability*	52%	51%	52%	54%	55%	53%	48%*
	EWC Probability	24%	23%	24%	23%	22%	21%*	20%*
Chore Services	AC Probability	3.2%	3.0%	3.4%	3.4%	3.3%	3.7%	3.1%
	EWC Probability	2.2%	1.9%	2.1%	1.9%	2.0%	2.7%	2.3%

Model	Estimator	2016 (Baseline)	2017	2018	2019	2020	2021	2022
Companion Services	AC Probability*	1.1%	1.3%	1.2%	1.2%	0.8%	0.7%	0.5%*
	EWC Probability	2.0%	2.1%	2.1%	1.5%	1.3%	1.1%*	1.2%
Home Delivered Meals	AC Probability*	30%	31%	29%	30%	28%	25%*	21%*
	EWC Probability	25%	25%	24%	25%	25%	22%	22%
Home Health	AC Probability	23%	22%	21%	20%	16%*	16%*	13%*
	EWC Probability	27%	26%	23%*	24%	21%*	20%*	19%*
Home Health Aide	AC Probability	8.9%	7.6%	6.3%*	5.4%*	4.3%*	3.9%*	3.0%*
	EWC Probability	7.3%	6.9%	5.8%	5.8%	5.2%*	4.6%*	3.9%*
Homemaker Services	AC Probability	48%	46%	44%	42%*	36%*	35%*	29%*
	EWC Probability	47%	46%	45%	41%*	40%*	39%*	39%*
PERS	AC Probability*	42%	42%	41%	41%	42%	36%*	30%*
	EWC Probability	38%	38%	37%	36%	37%	37%	33%*
Personal Care	AC Probability*	7%	8%	9%	8%	8%	8%	5%
	EWC Probability	13%	13%	13%	13%	13%	14%	14%
Respite Care	AC Probability*	0.1%	0.1%	0.1%	0.2%	0.2%*	0.2%	0.1%
	EWC Probability	0.2%	0.2%	0.1%*	0.1%*	0.1%*	0.1%*	0.1%*
Specialized Supp/Equip	AC Probability*	20%	21%	21%	22%	22%	21%	17%
	EWC Probability	9%	9%	9%	9%	10%	9%	8%
Transportation	AC Probability*	8%	9%	9%	9%	6%*	6%*	5%*
	EWC Probability	18%	18%	17%	16%	10%*	13%*	14%*

*P < 0.001, next to 'AC Probability' indicates difference between AC and EWC, next to a cell percentage indicates a difference within EWC or AC between column year and 2016. N = 34,400 person years. Probability gives the model's predicted probability of service use given average value of control variables. Repeated measures based on participant. EWC participants chosen to balance AC sample using White race, age, living alone, moderate case-mix, mental health diagnosis, and hypertension diagnosis. Adjusted for mortality (< 12 months of exposure for a participant in a particular year) and control variables that differ across AC and EWC. AC vs EWC based on Participant's program on January 1 of each year.

E.5 Nursing Facility Use and Mortality by AC and EWC Participants (Hypotheses 4 & 5)

In order to evaluate trends in nursing facility use and mortality for AC participants, we conducted a longitudinal analysis by tracking AC participants, all EWC participants, and the sub-sample comparison group of EWC participants in January of each year through the subsequent 12 months.

E.5.1 Nursing Facility and Medicaid Assisted Living Facility Use and Mortality by AC Participants Compared with Total EWC Participant Sample

Nursing Facility and Medicaid Assisted Living Facility Use

Table 6 and Figure 12 show use of nursing facilities and Medicaid assisted living facilities over a subsequent 12-month period for participants enrolled in January of each year from 2016-2022. This table compares AC participants and the full sample of EWC participants. The percentage of AC participants spending any time in a nursing facility declined slightly from 27% in 2016 to 24% in 2019, dropping to 20% in 2020 and 2021 and then declined further to 15% in 2022. The majority of AC participants who used a nursing facility had only short stays (90 or fewer days). Most of the decline in overall nursing facility use was among short stay residents. Short stay use declined from 15% in 2019 to 14% in 2020, 13% in 2021, and 9% in 2022. Longer stay use (> 90

days) dropped from 13% in 2019 to 9% in 2020, and 8% in 2022. The EW-Community participants were less likely to use nursing facilities during the year, yet they experienced a similar decline from 7% in 2019 to 5% in 2020, 2021, and 2022.

Relatively few AC participants converted to Medicaid and entered an assisted living facility during the year; the percentages ranged from 6% to 7% with little change in 2020-2022. Similarly, the percentage of EW-Community participants entering assisted living facilities remained steady between 4% and 5%.

Mortality

Considering the poor health and functional dependency of both AC and EWC participants, their rates of mortality were relatively low (Table 6 and Figure 13). The mortality rates for AC participants ranged from 8% to 9% except for a slight decline to 7% in 2022. Mortality for EWC participants was somewhat lower; it held steady between 4% and 5% over the years. From 2016-2022.

Figure 12. AC and EWC Participants Using a Nursing Facility during the Year in 2016-2023
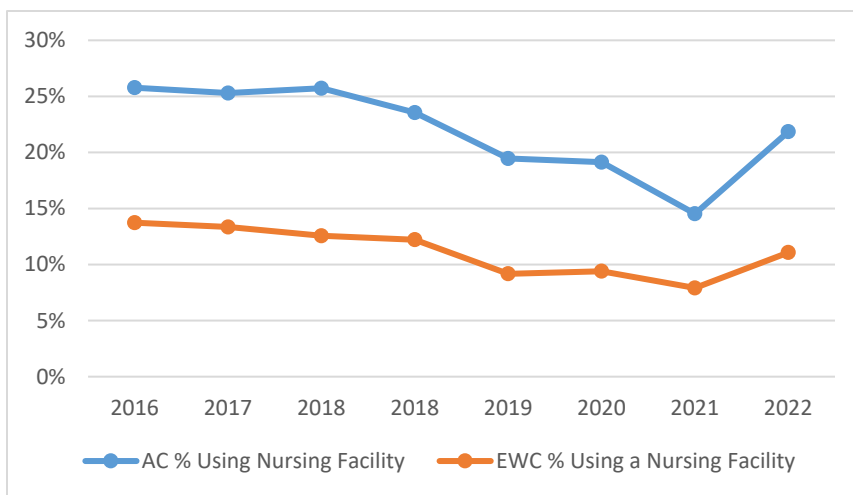
Figure 13. AC and EWC Participants Dying during the Year in 2016-2023
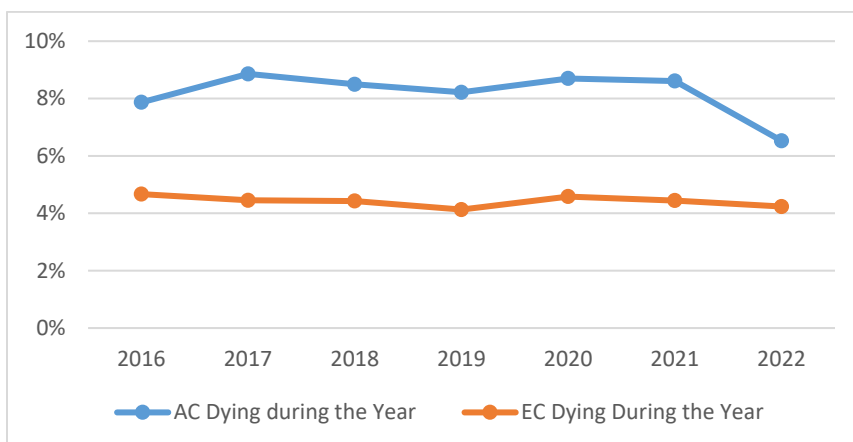
Table 6. Nursing facility use and mortality over subsequent 12 months for AC and EWC participants on January 1 of each calendar year from 2016-2022.

	2016		2017		2018		2019		2020		2021		2022	
	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC	AC	EWC
Participants Enrolled in January of Year	2501	15054	2492	15755	2560	16508	2463	17057	2628	17650	2521	17661	2638	18056
Number of Participants Using a Nursing Facility at any Time in Year	663	2158	658	2233	682	2196	601	2199	536	1735	502	1738	396	1524
Percentage of Participants Using a Nursing Facility*	27%	14%	26%	14%	27%	13%	24%	13%*	20%*	10%*	20%*	10%*	15%*	8%*
Short-Term NH Use (90 or Fewer Days)														
Number of Participants Using a Nursing Facility at any Time in Year	401	1303	378	1290	413	1319	361	1253	358	995	319	1016	226	807
Percentage of Participants Using a Nursing Facility*	16%	9%	15%	8%	16%	8%	15%	7%*	14%*	6%*	13%*	6%*	9%*	4%*
Long-Term NH Use (>90 Days)														
Number of Participants Using a Nursing Facility at any Time in Year	323	1075	338	1160	341	1098	314	1162	238	885	229	854	207	833
Percentage of Participants Using a Nursing Facility*	13%	7%	14%	7%	13%	7%	13%	7%	9%*	5%*	9%*	5%*	8%*	5%*
Medicaid Assisted Living Facility														
Number of Participants Using a Medicaid Assisted Living Facility at any Time in Year	185	808	161	756	175	860	137	895	150	675	164	757	162	816
Percentage of Participants Using a Medicaid Assisted Living Facility at any Time in Year*	7%	5%	6%	5%	7%	5%	6%*	5%	6%*	4%*	7%	4%*	6%*	5%*
Mortality														
Number dying during the year	196	708	222	711	218	742	203	704	228	805	215	787	172	766
Mortality rate*	8%	5%	9%	5%	9%	4%	8%	4%	9%	5%	9%	4%	7%	4%

* P < 0.001, if next to variable name difference is between AC and EWC across years, if next to number difference is between column year and 2016.

E.5.2 Nursing Facility and Mortality Comparisons between AC and EWC Balanced Sample

Table 7 gives the results of Generalized Method of Moments models (either logistic, binomial, or Poisson regression) for percent of year spent in a NF, NF short stay admission counts, NF long stay admission counts and mortality. Comparison between AC and EWC groups are for the balanced sample. Event models aside from mortality are adjusted for the portion of the year participant was alive. The estimate row gives the model estimated counts or percentages for ease of interpretation.

Findings for AC participants' nursing home use and mortality when compared to the balanced EWC sample supported the findings from the comparison to EWC participants as a whole. Because statistical adjustments and the relatively small incidence rates make it more difficult to find statistical significance, we applied a less stringent criterion of $p < .05$ rather than $p < .001$.

The small downward trends in nursing home use from 2016 to 2019 for AC participants and the balanced sample of EWC participants were generally not statistically significant. However, between 2020 and 2022 AC participants experienced significant declines in the number of short and long stay admissions and the number of total days spent in a NF was significantly lower in 2022 than in 2016 (9 vs 16 days for the average participant). The balanced EWC sample experienced significant declines in both short-term and long-term admissions, but not in the total number of days spent in a NF.

The downward trends in mortality rates, after adjustment for age and clinical conditions, were not significant for AC participants and the balanced EWC group did not show a decline in mortality rates. This supports findings from the earlier comparison between AC participants and EWC participants as a whole.

Table 7. Generalized Method of Moments Models Comparing Outcomes between AC and Balanced EWC for 12 Months Beginning in January 2016-2022

Outcome	Estimator	2016 (Baseline)	2017	2018	2019	2020	2021	2022
Days Spent in a NF	AC Estimate	16	16	15	14	12	12	9*
	EWC Estimate	14	16	15	16	12	13	13
NF Short Stay Admissions *	AC Estimate*	0.15	0.14	0.15	0.13	0.12*	0.12*	0.08*
	EWC Estimate	0.11	0.12	0.12	0.13	0.08*	0.08*	0.07*
NF Long Stay Admissions	AC Estimate	0.11	0.11	0.11	0.11	0.08*	0.08*	0.07*
	EWC Estimate	0.10	0.11	0.10	0.11	0.08*	0.08*	0.09
Mortality	AC Probability	6.0%	6.3%	5.8%	5.4%	6.1%	6.6%	4.8%
	EWC Probability	6.9%	6.9%	6.5%	6.3%	6.8%	7.8%	6.8%

*P < 0.05, next to 'AC Estimate' indicates overall difference between AC and EWC, next to a cell percentage indicates a difference within EWC or AC between column year and 2016. AC = Alternative Care, EWC = Elderly Waiver Community, NF = Nursing Facility, OR = Odds Ratio, ED = Emergency Department. Probability gives the models predicted probability of the outcome and Estimate gives the models predicted number of days when control variables are set to the sample mean value and days alive are set to 365 (note the mortality model does not adjust for alive days). EWC participants chosen to balance AC sample using White race, age, living alone, moderate case-mix, mental health diagnosis, and hypertension diagnosis. Adjusted for mortality and control variables that differ across AC and EWC groups after balancing. Program membership (AC or EWC) based on January enrollment of each year. Outcomes occurring within the following year.

E.5.3 Medicaid Conversion and Community Days for AC Participants (Hypothesis 6)

Table 8 displays trends in the observed probabilities for Medicaid conversion and EW-Community Waiver enrollment for the AC participants. Medicaid conversion rate for AC participants was 19% in 2016, then declining somewhat to 16% in 2019, and then dropping to 11% in 2020, 12% in 2021, and 14% in 2022.

Most AC participants who converted to Medicaid either entered an assisted living facility or an EW-Community waiver program. As shown in Table 6, the AC participants' rate of entry into assisted living facilities held steady at 6% to 7% between 2016 and 2022. A slightly higher percentage of AC participants used EW-Community waiver services over the period. The percentage ranged from a high of 10% in 2016 and 2017 to a low of 7% in 2019 and 2020.

Table 8. AC participant conversion to Medicaid or Elderly Waiver-Community over subsequent 12 months for AC participants on January 1 of each calendar year 2016-2022

	2016	2017	2018	2019	2020	2021	2022
AC Participants Enrolled in January of Year	2501	2492	2560	2463	2628	2521	2638
AC Conversion to Medicaid							
Number converting to Medicaid	470	474	465	383	297	315	365
Percentage converting to Medicaid	19%	19%	18%	16%*	11%*	12%*	14%*
AC Conversion to EWC							
Number converting to EWC	259	240	243	182	178	198	200
Percentage converting to EWC	10%	10%	9%	7%*	7%*	8%*	8%*

* P < 0.001 for difference between column year and 2016.

Table 9 shows statistical tests for the outcomes of Medicaid conversion or Waiver enrollment. Each model follows the cohort of individuals enrolled in AC at the start of the year. Since the outcomes apply to only AC, there is no AC vs EWC comparison. The models examine annual outcomes (i.e., enrolled in AC in January and transitions into the given program by the end of the year) and controls for repeated measures of participants using the General Method of Moments model. Models are adjusted for mortality, or the portion of the year a participant was alive. The estimated percentages and numbers differ slightly from Table 8 because of the mortality adjustment. Statistical significance is based on odds ratios (ORs) for the outcome in each year compared to the baseline of 2016 (indicated by an *).

These statistical tests in Table 9 generally support the findings presented in Table 8. Conversion to Medicaid and an EW or other HCBS waiver dropped significantly from 2020 to 2022 while the number of days in the community not on Medicaid was 13 days per year higher over the same period than in 2016.

Table 9. Generalized Method of Moments Models for AC Program Conversion and Community Days over 12 Months Beginning in January of 2016-2022.

Outcome	Estimator	Baseline	2017	2018	2019	2020	2021	2022
Medicaid	OR		1.01	0.96	0.80	0.55*	0.62*	0.69*
Conversion	Probability	19%	19%	18%	15%	11%	12%	14%
Conversion to EW or other	OR		0.93	0.91	0.69	0.63	0.74	0.71
HCBS Waiver	Probability	11%	10%	10%	8%*	7%*	8%	8%*
Conversion to	OR		1.00	1.00	1.00	1.00	1.00	1.32
ECS	Probability	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Community Days	OR		1.04	1.06	1.20	1.50*	1.48*	1.52*
not on Medicaid	Estimate	323	325	325	330	336	336	336

*$P < 0.001$. AC = Alternative Care, EW = Elderly Waiver, OR = Odds Ratio, HCBS = Home and Community Based Services, ECS = Essential Community Supports. Probability gives the models predicted probability of the outcome and Estimate gives the models predicted number of days, baseline year for statistical comparison is 2016. Models adjusted for mortality. Program membership in AC based on January enrollment of each year. Outcomes occurring within the following year.

E.5.4 Cox Proportional Hazard Models for Time to Event Comparison Between AC and EWC Balanced Sample (H4.3, 5.1, 5.2, 5.3)

Table 10 displays the hazard ratios from Cox Proportional Hazard Models across 2 outcomes and seven years. A model was fit following program participants enrolled in January of a given year until the end of that year. Time steps were in days such that the outcome was the day in which the event first occurred. Hazard ratios > 1 indicate event occurred sooner for the AC group (as compared to an EWC group that were selected to create a balanced sample). The AC group tended to enter NF facilities nominally sooner for most years with rates being nearly equal in 2019, but the difference was only statistically significant in 2021 (Hazard Ratio of 1.396). Hazard of mortality was variable. It was highest in 2021 for the AC group and lowest in 2019. The hazard ratio of 0.865 in 2020 was in line with the hazard ratios for 2016 (0.878) and 2017 (0.899), indicating that the COVID-19 pandemic did not noticeably change the relative time to mortality between the AC and the balanced EWC group.

**Table 10. Cox Proportional Hazard Model Results for Time to Events**

Outcome	Hazard Ratio for AC (baseline EWC)						
	2016	2017	2018	2019	2020	2021	2022
1st NF Use	1.232	1.104	1.041	1.004	1.099	1.396*	1.151
Death	0.878	0.899	0.788	0.752	0.865	1.142	1.073

*P-value < 0.001. NF = Nursing Facility, AC = Alternative Care, EWC = Elder Waiver Community. Outcomes followed for one year period for each cohort. Program membership is based on January of each year (AC or EWC). EWC participants chosen to balance AC sample using White race, age, living alone, moderate case-mix, mental health diagnosis, and hypertension diagnosis. Models include control variables that differ across AC and EWC groups after balancing.

E.5.5 Inpatient Acute Care Hospital Days [H5]

Among AC participants in January of each year, the percentage having one or more hospitalizations during the following 12 months declined from 37% in 2017 to 33% in 2019, and then declined further to 28% in 2020, the last year for which data were available (Table 11 and Figure 14). The AC participants with hospitalizations had a small increase in average number of hospital days; they spent an average of 10.1 days in the hospital in 2017, 11.6 days in 2019, and 11.0 in 2020 (Table 11). In comparison, a lower percentages of EW participants had hospitalizations - 30% in 2017, 28% in 2019, and 26% in 2020. There average number of hospital days rose slightly from 10.5 in 2017, 10.9 in 2019, and 11.2 in 2020. The distribution of hospital days varied widely for both AC and EWC participants with a relatively small percentage of participants (2%) have a large number of hospital days (> 30 days) (Table 12). AC residents with a hospital stay had shorter stays on average when compared to a balanced EWC sample (Table 13**. Percentage with Stays and Mean Number of Inpatient Acute Care Hospital Days for AC and** Balanced **EWC Participants in January of Each Year Followed for 12 Months** Table 13).

Figure 14. AC Participants by Percentage with an Inpatient Hospital Stay during the Year in 2017-2020
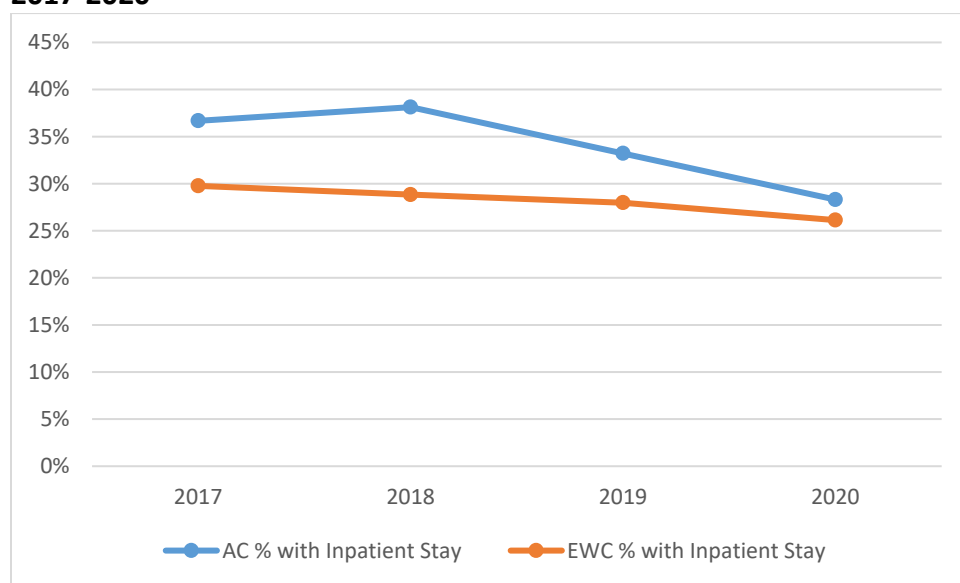
Table 11. Percentage with Stays and Mean Number of Inpatient Acute Care Hospital Days for AC and EWC Participants in January of Each Year Followed for 12 Months

	Number of participants	Percent with one or more inpatient stays*	Mean Inpatient days for participants having stays	Standard Deviation
Alternative Care				
2017	2492	37%	10.1	10.1
2018	2560	38%	10.6	11.3
2019	2463	33%*	11.6*	13.8
2020	2628	28%*	11.0*	12.1
Elderly Waiver				

2017	15755	30%	10.5	12.8
2018	16508	29%*	11.3*	14.7
2019	17057	28%*	10.9	13.5
2020	17650	26%*	11.2*	12.2

*P-value < 0.05, if next to column name difference between programs for column variable, if next to number in table, difference in years for program between row year and baseline year of 2017. AC = Alternative Care, EWC = Elder Waiver Community. Outcomes followed for one year period for each cohort. Program membership is based on January of each year (AC or EWC).

Table 12. Percentage Distribution of Inpatient Acute Care Hospital Days for AC and EWC Participants in January of Each Year Followed for 12 Months

Inpatient Days	2017	2018	2019	2020
Alternative Care				
.00	63%	62%	67%	72%
1-3	6%	6%	5%	5%
4-10	19%	20%	17%	13%
11-20	7%	8%	7%	6%
21-30	2%	3%	2%	2%
>30	2%	2%	2%	2%
Total	100%	100%	100%	100%
Elderly Waiver				
.00	70%	71%	72%	74%
1-3	6%	6%	5%	5%
4-10	15%	14%	14%	12%
11-20	5%	5%	6%	6%
21-30	2%	2%	2%	2%
>30	2%	2%	2%	2%
Total	100%	100%	100%	100%

Table 13. Percentage with Stays and Mean Number of Inpatient Acute Care Hospital Days for AC and Balanced EWC Participants in January of Each Year Followed for 12 Months

	Number of participants	Percent with one or more inpatient stays	Mean Inpatient days for participants having stays*	Standard Deviation
Alternative Care				
2017	2492	37%	10.1	10.1
2018	2560	38%	10.6	11.3
2019	2463	33%*	11.6	13.8
2020	2628	28%*	11.0	12.1
Elderly Waiver				
2017	2492	35%	10.6	11.9
2018	2560	35%	11.6	14.4
2019	2463	34%	11.2	12.2
2020	2628	31%*	10.7	11.1

*P-value < 0.05, if next to column name difference between programs for column variable, if next to number in table, difference in years for program between row year and baseline year of 2017. AC = Alternative Care, EWC = Elder Waiver Community. Outcomes followed for one year period for each cohort. Program membership is based on January of each year (AC or EWC). EWC participants chosen to balance AC sample using White race, age, living

alone, moderate case-mix, mental health diagnosis, and hypertension diagnosis. Models include control variables that differ across AC and EWC groups after balancing.

H. Interpretations, Policy Implications, and Interactions with Other State Initiatives[6]

In this section, the state will discuss the section 1115 demonstration within an overall Medicaid context and long-range planning. This should include interrelations of the demonstration with other aspects of the state's Medicaid program, interactions with other Medicaid demonstrations, and other federal awards affecting service delivery, health outcomes and the cost of care under Medicaid. This section provides the state with an opportunity to provide interpretation of the data using evaluative reasoning to make judgments about the demonstration. This section should also include a discussion of the implications of the findings at both the state and national levels.

Minnesota's Alternative Care program plays a key role in the state's strategy to help older adults live at home. It underscores the integration of the AC program with other Medicaid initiatives and federal awards that influence service delivery, health outcomes, and care costs, and it provides services before people qualify for Medicaid. This prevents or delays nursing home use and expensive long-term care.

An evaluation covering 2013-2023 shows Alternative Care is working:

- Participant needs increased modestly over time, but nursing home use declined.
    - Continued decrease in nursing home use among AC participants, suggesting effective pre-Medicaid intervention.
- People used more consumer-directed services; this promotes independence.
- Comparisons to the Elderly Waiver program raised questions and more research on meeting diverse needs is needed.
- A modest increase in the diversity and younger demographic of AC participants indicates broadening access.

The results from the AC program offer insights into the effectiveness of early intervention in delaying nursing home admission and Medicaid eligibility, affecting state policies on aging and long-term care, and providing valuable lessons for national policy formulation. Overall, the trends are positive. Alternative Care fills a gap by serving people early. This likely saves Medicaid money in the long run. It helps seniors stay at home, where they want to be.

The results highlight the value of ongoing evaluation. Monitoring progress allows improvements over time. It also guides planning as Medicaid evolves long-term services and supports. Alternative Care is one piece of the puzzle in promoting community living. AC

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[6] Completed by Minnesota Department of Human Services

interacts with other state initiatives, such as the Elderly Waiver program, to create a comprehensive network of services that support seniors in community settings. These interactions are crucial for the seamless provision of services across different programs and need cohorts.

This report provides important insights into Minnesota's Alternative Care (AC) program under the 1115 demonstration waiver. Here are some key takeaways regarding the importance of this report:

o It tracks trends over time in the AC program, allowing assessment of whether the waiver is meeting its goals. The analysis looks at ten years of data from 2013-2023, capturing both before and several years after waiver implementation.

o The results show changes in the AC participant population over time. The level of assessed needs increased, with shifts towards more moderate care needs. The population also became somewhat younger and more racially/ethnically diverse.

o Service use patterns changed somewhat, with declines in home health, home health aide, and homemaker services but increased use of consumer-directed services. Nursing home use also declined among AC participants.

o The trends provide no evidence of unintended consequences or unmet needs resulting from the waiver so far. The changes in service use may reflect appropriate flexibility and efficiency.

o Comparisons to the Elderly Waiver (EW) program highlight contrasts in service use and populations served that raise additional questions. For example, AC participants use different services than EW participants with similar care needs.

o Overall, the report demonstrates the value of ongoing monitoring and evaluation. The trends will help inform Medicaid policy and planning around further evolution of programs like AC that provide community alternatives for people needing long-term care. The results also point to areas for further research and quality improvement.

In summary, this report provides crucial longitudinal data to evaluate whether the AC waiver is achieving its goals and the impacts on participants over time. The insights help guide Medicaid in assessing the role of AC-like programs in promoting community living and person-centered care. Based on the evaluation, continued support for the AC program is recommended. Future policies should focus on expanding access to consumer-directed options and further integrating service delivery with other community-based programs. The comparisons to EW also surface issues around equitable access and meeting diverse needs. Ongoing monitoring and adaptation to demographic and service use trends will be essential for maintaining the program's effectiveness. The evaluation approach and findings can inform future monitoring, quality improvement, and policy decisions regarding Medicaid waivers and long-term services and supports.

In conclusion, the AC program remains a vital component of Minnesota's strategy to manage long-term care services effectively. By providing services before individuals become Medicaid-eligible, the program not only saves costs but also aligns with the state's goals of promoting independence and community living among older adults.

This section of the Evaluation Report involves the transfer of knowledge. Specifically, the "opportunities" for future or revised demonstrations to inform Medicaid policymakers, advocates, and stakeholders is just as significant as identifying current successful strategies. Based on the evaluation results: What lessons were learned as a result of the demonstration? What would you recommend to other states which may be interested in implementing a similar approach?

Recommendations for other states interested in implementing a similar approach:

- Focus on early intervention – Reach people before they spend down to Medicaid. Provide modest services first to delay expensive long-term care.

- Offer flexibility – Let participants choose consumer-directed services. This promotes independence and efficiency.

- Monitor closely – Regular evaluation tracks progress and guides improvements. Don't let programs run on autopilot.

- Aim for win-win – Done right, early intervention saves money and achieves person-centered goals. It's not either/or.

- Partner up – Work across agencies and with stakeholders. Draw on elder services, disability services, providers, advocates, and communities.

- Promote equity – Ensure access for diverse populations. Collect data to check.

- Stay nimble – Expect to keep adapting the program. Use data to drive refinements. Don't get stuck in status quo.

- It's a journey – Building services and supports to help people age at home takes time. Patience and persistence pay off.

- Keep perspective – Programs like Alternative Care are one piece of the puzzle. Coordinate with healthcare and community services.

- Learn from peers – Check in with other states doing this well. Share ideas and build on successes.

Each point is crucial for replicating the successes of the AC program in other states, ensuring that older adults can remain independent in their communities, which improves their quality

of life and can be cost-effective for state Medicaid programs. Given the continuity and success reflected in the 2024 report, we should underscore the importance of strategic, data-driven, and flexible approaches to managing long-term care services that adapt over time to meet changing needs and conditions. The bottom line is that helping older adults stay independent in their communities improves lives. It takes collaboration, data and constantly improving. With the will, it can be done.

I. Attachments

Table A 1. Design Table for the Evaluation of the Demonstration

Research Question	Outcome measure used to address the research question	Data Sources	Sample or population	Analytic Methods
Hypothesis 1. The demographic characteristics and service needs of AC participants will not change				
1a. What are demographic characteristics of people who use the AC waiver?	- Gender, race/ethnicity, age composition, living arrangement, and residential location	- MMIS - LTC assessment	Participants who are eligible for either Alternative Care (AC) or Elderly Waiver (EW)	- Multiple cross-section comparisons - Descriptive statistics - Chi-square test/Fishers exact test
1b. What are the service needs of people who use the AC waiver?	- Case-mix status (low-need vs. high-need)[7] - Professional recommendations for service need and supports - ADL dependencies - Health status – major diagnoses	- LTC Screening Document - MMIS	Participants who are eligible for either Alternative Care (AC) or Elderly Waiver (EW) AC compared to all EWC participants and to EWC sample matched to AC on demographics	- Multiple cross-section comparisons for successive years - Descriptive statistics - Chi-square test/Fishers exact test - Regression models with service need as an outcome, controlling for demographics

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[7] See section 2.42 for details on case-mix is determined and level of need is defined.

Research Question	Outcome measure used to address the research question	Data Sources	Sample or population	Analytic Methods
Hypothesis 2. AC participants will not experience a change in the types of HCBS services or a decrease in the intensity of services, i.e., number of hours or units of service.				
2a. What are the types of services used by AC participants?	- Prevalence of HCBS waiver services - Prevalence of state-plan LTSS services, e.g., PCA	- MMIS	Participants who are eligible for either Alternative Care (AC) or Elderly Waiver (EW) AC compared to all EWC participants and to EWC sample matched to AC on demographics and service need	- Multiple cross-section comparisons for successive years - Descriptive statistics - Chi-square test/Fishers exact test - Regression models with service use as an outcome, controlling for demographics and service need
2b. What is the intensity of services used by AC participants?	- Hours/units of HCBS waiver services - Hours/units of state-plan services, e.g., PCA	- MMIS	Participants who are eligible for either Alternative Care (AC) or Elderly Waiver (EW) AC compared to all EWC participants and to EWC sample matched to AC on demographics and service need	- Multiple cross-section comparisons for successive years - Descriptive statistics - t-tests - Regression models with service intensity as an outcome controlling for demographics and service need

Research Question	Outcome measure used to address the research question	Data Sources	Sample or population	Analytic Methods
Hypothesis 3. AC participants will experience equal or better access to consumer-directed service options.				
3a. What is the utilization of consumer-directed support (CDCS) options for AC waiver participants?	Prevalence of authorized consumer-directed community supports Number of units/hours of consumer-directed community supports	- MMIS	Participants who are eligible for either Alternative Care (AC) or Elderly Waiver (EW) AC compared to all EWC participants and to EWC sample matched to AC on demographics and service need	- Multiple cross-section comparisons for successive years - Descriptive statistics - t-tests - Regression models with CDCS use as an outcome controlling for demographics and service need
Hypothesis 4. AC participants will not experience an increase in nursing facility use.				
4a. What are the utilization trends in nursing facility use?	- Time to nursing home use - Proportion of participant days spent in nursing facilities - Frequency of nursing facility admission, by length of stay - Case-mix adjusted nursing facility admission - Number of nursing facility days - Return or new use of AC or Elderly Waiver programs after discharge from nursing facility	MDS, MMIS	Participants who are eligible for either AC or EW AC compared to all EWC participants and to EWC sample matched to AC on demographics and service need AC and EWC longitudinal cohorts consisting of current and new participants	- Multiple cross-section comparisons for successive years - Descriptive statistics - Chi-square/Fishers exact test, t-tests - Regression models with NH use as an outcome controlling for demographics and service need - Time-to-event models (e.g., Cox proportional hazard)

in 2019, 2020, and
2021 through 2025.

Research Question	Outcome measure used to address the research question	Data Sources	Sample or population	Analytic Methods
Hypothesis 5. AC participants will not experience an increase in acute events, as indicated by an increase in acute hospitalizations or emergency department visits.				
5a. What is the rate of acute events of people participating in AC waiver?	- Rate of acute inpatient admissions - Rate of ED visits - Mortality rate	- MMIS - Medicare data	Multiple cross-sections of people who are eligible for either AC or EW AC compared to all EWC participants and to EWC sample matched to AC on demographics and service need AC and EWC longitudinal cohorts consisting of current and new participants in 2019, 2020, and 2021 through 2025.	- Multiple cross-section comparisons for successive years - Descriptive statistics - Chi-square/Fishers exact test, t-tests - Cross-sectional regression and growth models controlling for demographics and service need - Time-to-event models (e.g., Cox proportional hazard)
Hypothesis 6. The rate of Medicaid conversion for AC participants through transitions between AC and EWC and other waiver programs or nursing home use will not increase.				

6a. What are the trends of Medicaid conversion for AC participants through transitions to EW, other waiver use, or nursing home use?	- Time to conversion - AC participants converting to Medicaid - Transition from AC to EWC or other HCBS waiver program - AC participant transition to Essential Community Supports - Days alive in the community and not on Medicaid	- MMIS - Medicare data	Multiple cross-sections of people who are eligible for Alternative Care (AC) AC longitudinal cohorts consisting of current and new AC participants in 2019, 2020, and 2021 - 2025.	- Multiple cross-section comparisons for successive years - Descriptive statistics - Cross-sectional regression models - Time-to-event models (e.g., Cox proportional hazard)

Table A 2. AC Participants Compared to a Balanced Sample of EWC Participants

Variable	Overall EWC	Overall AC	Ovr Diff	2016	2017	2018	2019	2020	2021	2022
Age	77.9	80.8	-2.9	-0.7*	-0.6*	-0.7*	-0.8*	-1.2*	-0.9*	-0.9*
Race: Asian	20%	1%	19%	3%*	3%*	4%*	4%*	5%*	8%*	7%*
Race: Black	25%	6%	18%	0%	0%	0%	1%	2%*	5%*	5%*
Race: Hispanic	3%	1%	2%	0%	0%	0%	0%	0%	1%*	1%
Race: Multiple	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Race: Native American	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%
Race: Pacific Islander	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Race: Unknown	1%	11%	-10%*	-10%*	-10%*	-10%*	-10%*	-10%*	-10%*	-10%*
Race: White	49%	80%	-31%	7%*	7%*	6%*	6%*	4%*	-2%*	-2%*
Female	69%	72%	-3%	1%	0%	0%	-1%	-2%	0%	-2%
Living Location: Urban	67%	59%	8%	-7%*	-7%*	-9%*	-9%*	-7%*	-9%*	-5%*
Living Arrangement: Alone	46%	61%	-15%	-1%	-2%	-3%*	-3%*	-4%*	-2%	-1%
Living Arrangement: Homeless or Risk of Homelessness	6%	0%	6%	3%*	5%*	5%*	5%*	5%*	3%*	1%*
Case-Mix: Low	41%	28%	14%	4%*	5%*	9%*	9%*	8%*	9%*	8%*
Case-Mix: Moderate	37%	57%	-20%	-2%	-2%	-4%*	-4%*	-5%*	-4%*	-4%*
Case-Mix: High ADL	17%	8%	9%	1%	0%	-1%	-2%*	-1%	2%*	1%
Case-Mix: High Clinical	1%	4%	-2%	-2%*	-2%*	-3%*	-3%*	-2%*	-2%*	-4%*
ADL Bed Mobility	16%	9%	7%	2%	2%*	1%	-1%	0%	2%*	2%*
ADL: Transferring	32%	26%	6%	0%	1%	-2%	-3%*	-1%	2%	2%
ADL: Toileting (1 plus)	41%	33%	8%	-3%*	2%	4%*	2%	4%*	8%*	7%*
ADL: Bathing	55%	43%	12%	6%*	8%*	7%*	6%*	9%*	13%*	13%*
ADL: Dressing	49%	38%	11%	5%*	5%*	5%*	2%	5%*	11%*	8%*
ADL: Eating	30%	22%	7%	1%	1%	0%	-1%	0%	2%	1%
ADL: Grooming	40%	33%	7%	6%*	2%	1%	-3%	-2%	2%	-2%
ADL: Walking	3%	5%	-1%	-2%*	-1%	-1%*	-1%*	-2%*	-1%	-1%
Professional Conclusion: ADL Condition	64%	84%	-20%	-6%*	-10%*	-10%*	-15%*	-14%*	-9%*	-28%*
Professional Conclusion: IADL Condition	86%	95%	-9%	0%	1%	1%*	-1%*	-1%*	4%*	-18%*
Professional Conclusion: Complex Condition	13%	21%	-7%	-1%	-2%	-1%	-4%*	-5%*	-4%*	-9%*
Professional Conclusion: Impaired Cognition	23%	27%	-4%	-5%*	-1%	1%	0%	1%	4%*	-2%*
Professional Conclusion: Frequent Behavior Problems	27%	61%	-34%	-9%*	-16%*	-22%*	-26%*	-28%*	-24%*	-36%*
Professional Conclusion: Self-Care Risk	77%	65%	12%	7%*	10%*	10%*	7%*	10%*	15%*	11%*

Variable	Overall EWC	Overall AC	Ovr Diff	2016	2017	2018	2019	2020	2021	2022
Professional Conclusion: Neglect/Abuse Risk	49%	47%	2%	-3%*	-2%	2%	1%	3%	4%*	1%
Professional Conclusion: General Frailty	22%	34%	-12%	-6%*	-6%*	-9%*	-12%*	-11%*	-8%*	-15%*
Professional Conclusion: Frequent Institutional Stays	8%	35%	-27%	-12%*	-20%*	-22%*	-27%*	-25%*	-23%*	-26%*
Professional Conclusion: Significant Hearing Impairment	8%	9%	-1%	0%	3%*	2%*	2%*	3%*	3%*	0%
Professional Conclusion: Need for Restorative/Rehabilitative Treatments	8%	13%	-5%	-1%	-1%	-3%*	-3%*	-2%	-3%*	-8%
Professional Conclusion: Unstable Health	9%	26%	-17%	-2%*	-8%*	-13%*	-17%*	-18%*	-14%*	-21%*
Professional Conclusion: Needs Evening/Night Direct Care for Special Treatment	2%	13%	-11%	-4%*	-8%*	-9%*	-11%*	-11%*	-11%*	-13%*
Professional Conclusion: Complex Care Management	4%	13%	-9%	-3%*	-7%*	-7%*	-9%*	-9%*	-8%*	-9%*
Professional Conclusion: Uncorrected Visual Impairment	12%	12%	0%	1%	1%	2%	1%	2%*	2%*	0%
Acquired Cognitive Disability	11%	12%	-2%	-5%*	-1%	-2%	-2%	-1%	1%	1%
Autism Spectrum	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Blind	0%	0%	0%	0%	0%	0%	0%	0%*	0%	0%
Cerebral Palsy	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Developmental Disability	0%	0%	0%	0%	0%*	1%*	1%*	1%*	0%*	0%
Epilepsy	1%	0%	0%	0%	0%	0%	0%	0%	1%*	0%*
HIV	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hard of Hearing	0%	0%	0%	0%	0%*	0%	1%*	0%	0%	0%
Muscular Dystrophy	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mental Health	38%	27%	11%	1%	1%	2%	2%	4%*	2%	2%
Multiple Sclerosis	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Substance Use	0%	0%	0%	0%	0%*	0%	0%	0%*	0%*	0%*
Dementia	2%	4%	-1%	-2%*	-2%*	-1%*	-1%	0%	0%	1%
Diabetes	25%	15%	11%	3%*	9%*	8%*	9%*	10%*	9%*	10%*
Stroke	4%	4%	0%	-2%*	-1%	-1%	-1%	-1%	0%	0%
Heart Failure	3%	4%	-1%	0%	1%	1%	0%	1%	2%*	1%
Hypertension	32%	14%	18%	1%	1%	2%	2%	1%	2%	1%

Variable	Overall EWC	Overall AC	Ovr Diff	2016	2017	2018	2019	2020	2021	2022
Peripheral vascular disease	1%	1%	0%	0%	1%	0%	1%*	1%*	1%*	0%
Myocardial Infarction	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
COPD	10%	7%	3%	1%	5%*	4%*	4%*	5%*	5%*	5%*
Liver Disease	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%*
Obesity	0%	0%	0%	0%*	0%	0%	0%	0%	0%	0%
Cancer	2%	2%	0%	0%	0%	1%*	1%	1%*	1%	1%*
End Stage Renal Disease	3%	2%	1%	1%*	1%*	2%*	1%	1%	0%	0%

Bolding indicates a variable used in sample balancing. * Indicates a variable that remained statistically significant in testing for differences between the two groups in a given year. Race was assumed missing at random and so Race was randomly assigned for those in AC with Unknown race to match AC distribution for matching purposes.