OLMSTEAD PLAN QUALITY OF LIFE SURVEY: FIRST FOLLOW-UP – 2018

SUBMITTED BY THE IMPROVE GROUP
ACCEPTED BY
THE OLMSTEAD SUBCABINET

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Executive summary

Purpose

The Olmstead Quality of Life Survey is a longitudinal study to assess and track the quality of life for people with disabilities who receive services in potentially segregated settings. The purpose of the Olmstead Quality of Life Survey is to talk directly with Minnesotans with disabilities who receive services in potentially segregated settings to collect their perceptions about what affects their quality of life.

This report outlines the results of the Olmstead Quality of Life Survey's first follow-up survey and compares results to baseline survey data collected in 2017. The results of this survey are critically important to understanding how well Minnesota is meeting the goals of its Olmstead Plan and for measuring change in quality of life.

Survey results

- There were no significant changes over time among the four survey modules: 1) community integration and engagement, 2) decision control inventory, 3) perceived quality of life, and 4) closest relationships inventory. Outings and interactions remain segregated across the state. Respondents report moderate decision control and good quality of life. The areas where daily choices are most limited are around choice of support personnel and staff, choice of case manager, and transportation. These are among the most important decisions and have the most potential to affect quality of life. Respondents did report fewer relationships on the follow-up survey than at baseline. However, the change did not meet the practical significance threshold of +/- 1 relationship, indicating there is not a meaningful difference in the number of close relationships. The underlying factors related to this difference will need further exploration.
- In comparison to similar studies completed in other states, Minnesota ranks high in average number of close relationships and perceived quality of life. It ranks low in outing interactions and decision control.
- The use of assistive technology also remained unchanged over time with most respondents (55 percent) reporting they use assistive technology and that it helps them maintain independence. Assistive technology use was significantly higher among respondents with no guardian than among respondents with a guardian.
- There were significant differences in module scores by region. Respondents in the Northeast region report the lowest decision control inventory scores, but the highest perceived quality of life. Respondents in the Metro region also report different experiences related to quality of life than other parts of the state, as shown by fewer outings and less interaction with community members.

- Linear regression models were used to determine how respondent demographics and other important characteristics of an individual’s life are related to each of the four module scores. These models identified several key characteristics that were associated with the module scores and thus, overall quality of life:
    - **Guardianship status:** On average, respondents with a public guardian report lower perceived quality of life scores than respondents with a private guardian. Respondents who do not have a guardian report higher decision control inventory scores and fewer close relationships than respondents with a guardian.
    - **Region:** Most of the differences in outcomes occurred between the Metro region and greater Minnesota. The results suggest there are measurable differences between rural and urban communities that affect the overall quality of life of Minnesotans with disabilities who receive services in potentially segregated settings.
    - **Number and type of outings:** On average, respondents with higher outing interaction also report higher perceived overall quality of life.
    - **Cost of services:** On average, higher average daily cost of services is associated with lower perceived quality of life. However, this finding does not suggest that lowering the cost of services for all service recipients will lead to higher quality of life.
    - **Service type:** Service type, in addition to service setting, does have an impact on perceived overall quality of life. On average, services in both day and residential settings were associated with lower decision control inventory scores. Service type is not associated with the other module scores.

These results show that the survey instrument is working as intended and has highlighted multiple areas for further research. Each of the variables identified by the regression analysis deserves further examination. In addition, other factors that influence quality of life such as service availability, affordability of services, and changes in the mix of services should be studied to better understand the results of this study.

Methodology

The Olmstead Quality of Life Survey: First Follow-up – 2018 was conducted between June and November 2018. A total of 511 people completed the survey. The follow-up survey respondents were selected using a random sample from the 2,005 baseline survey respondents. The results of this follow-up survey will be used along with future follow-up surveys to measure Minnesota’s progress in implementing its Olmstead Plan

Focus population

To be eligible to participate in the Olmstead Quality of Life Survey Baseline – 2017, respondents had to be authorized to receive state-paid services in potentially segregated settings in July 2016. The survey was designed as a longitudinal study. This means everyone who took part in the 2017 baseline survey was eligible to participate in the follow-up survey, regardless of whether the person was still receiving services in potentially segregated settings.

The potentially segregated settings included in this study were based on a 2014 report developed by the Minnesota Department of Human Services for the Olmstead Subcabinet.[1] The settings include:

- Boarding Care
- Board and Lodging
- Center Based Employment
- Community Residential Services (Adult Foster Care and Supported Living Services)
- Day Training and Habilitation (DT&H)
- Intermediate Care Facilities for Persons with Developmental Disabilities (ICF/DD)
- Nursing Facilities and Customized Living
- Supported Living Facilities (SLF)

Understanding the results

Past studies conducted by the survey developer showed that noticeable change can only be expected in the short term (about one year) when a large transition has occurred, such as moving from an institution to the community. And even in these studies, changes become statistically significant only at approximately two years. Given that a large transition like deinstitutionalization did not occur during the period of study and the relatively short amount of time between the baseline and follow-up surveys, we expect little to no change in survey scores.

While there were no significant changes noted in overall quality of life in this first follow-up survey it is critical to continue to monitor progress on Minnesota's Olmstead Plan implementation. The initial analysis of follow-up survey results demonstrates that the survey can identify important characteristics affecting overall quality of life.

Data limitations

The results in this report reflect the perceptions of the respondents and speak directly to their individual experiences. The survey sample was selected from well-defined groups of people receiving services in potentially segregated settings. As such, the results are reflective of the experiences of Minnesotans with disabilities who receive services in those settings and cannot be generalized to all people with disabilities in Minnesota.

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[1] MN Department of Human Services. (2014). Minnesota Olmstead Plan: Demographic Analysis, Segregated Setting Counts, Targets and Timelines. Retrieved from: https://www.dhs.state.mn.us/main/groups/olmstead/documents/pub/dhs16_193122.pdf

Future considerations

Through the analysis conducted for this report, several important discoveries were made that will require future research into multiple areas. These areas are fully explained in the final section of this report. A second follow-up survey conducted in 2020 will also be helpful to further monitor and identify key characteristics that are associated with overall quality of life.

Introduction and purpose

Minnesota's Olmstead Plan is a broad series of key activities the state must accomplish to ensure people with disabilities are living, learning, working, and enjoying life in the most integrated setting. The Plan helps achieve a better Minnesota because it helps Minnesotans with disabilities have the opportunity to live close to their family and friends, live more independently, engage in productive employment, and participate in community life.

Minnesota's Olmstead Plan's "Quality Assurance and Accountability" section states that a longitudinal survey should be implemented to measure quality of life over time. The Olmstead Quality of Life Survey is the tool that has been chosen to do this.

The Olmstead Quality of Life Survey was designed as a longitudinal effort. In 2017, a baseline survey was conducted to gather initial data about quality of life for Minnesotans with disabilities who received services in potentially segregated settings. In 2018, the first follow-up survey was conducted with a random sample of people who participated in the baseline survey.

The Olmstead Quality of Life Survey: First Follow-up – 2018 has a dual purpose: to gather information about quality of life for Minnesotans with disabilities who receive services in potentially segregated settings, and to compare this year's information with the baseline results to show any changes in quality of life over time for the focus population.

This report outlines the results of the Olmstead Quality of Life first follow-up survey and compares those results to baseline survey data. This report is intended to be a detailed analysis of the first follow-up survey results, the characteristics associated with quality of life across the outcomes, and the characteristics associated with changes in outcomes between baseline and follow-up. The report also includes considerations for future research.

Background

Minnesota's Olmstead Plan was developed as part of the State of Minnesota's response to two court cases when individuals with disabilities challenged their living settings. In a 1999 civil rights case, *Olmstead v. L.C.*, the U.S. Supreme Court held that it is unlawful for governments to keep people with disabilities in segregated settings when they can be supported in the community. The case was brought by two individuals with disabilities who were confined in an institution even after health professionals said they could move to a community-based program. In its ruling, the U.S. Supreme Court said unjustified segregation of people with disabilities violates the Americans with Disabilities Act.[2] This means states must offer services in the most integrated setting, including providing community-based services when possible. The Court also emphasized it is important for governments to develop and implement a plan to increase integration.

In 2009, individuals who had been secluded or restrained at the Minnesota Extended Treatment Options program filed a federal class action lawsuit, *Jensen et al v. Minnesota Department of Human Services*.[3] The resulting settlement required policy changes to significantly improve the care and treatment of people with developmental and other disabilities in Minnesota. One provision of the *Jensen* settlement agreement required Minnesota to develop and implement an Olmstead Plan.

An Olmstead Plan documents a state's plans to provide services to persons with disabilities in the most integrated setting appropriate to their needs. Minnesota's Olmstead Plan keeps the State accountable to the *Olmstead* ruling. The goal of the plan is to make Minnesota a place where "people with disabilities are living, learning, working, and enjoying life in the most integrated setting."[4]

Olmstead Quality of Life Survey as a multi-year effort

The Olmstead Quality of Life Survey is a longitudinal, multi-year effort to track the quality of life for individuals in potentially segregated settings. In 2017, a baseline survey was conducted to gather initial data about quality of life for Minnesotans with disabilities who receive services in potentially segregated settings. In 2018, the first follow-up survey was conducted with a sample of baseline survey respondents. Future follow-up surveys will be conducted with a new sample selected from the baseline respondents. By sampling from the same group of respondents over time, it is possible to measure changes in quality of life from one year to the next.

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[2] U.S. Department of Justice Civil Rights Division. (Retrieved November 2017). Olmstead: Community Integration for Everyone. Retrieved from: https://www.ada.gov/olmstead/olmstead_about.htm

[3] Minnesota Department of Human Services. (2017). Jensen Settlement. Retrieved from: https://mn.gov/dhs/general-public/featured-programs-initiatives/jensen-settlement/

[4] Olmstead Subcabinet. (2017). Putting the Promise of Olmstead into Practice: Minnesota's Olmstead Plan. Retrieved from: https://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&Rendition=Primary&allowInterrupt=1&noSaveAs=1&dDocName=dhs-292991

Baseline Survey – 2017

The Improve Group was selected to conduct the Olmstead Quality of Life Baseline Survey in 2016. The baseline survey was conducted between February and November of 2017. The baseline survey was a large statewide survey of 2,005 Minnesotans with disabilities who receive services in potentially segregated settings. The baseline survey results function as a point in time measure of quality of life for this focus population. The baseline data are also the standard by which future survey results will be measured to determine any changes in quality of life.

First Follow-up Survey – 2018

The Olmstead Quality of Life Survey: First Follow-up – 2018 was conducted by The Improve Group from June to November of 2018. The follow-up survey was administered to a randomly selected sample of 511 respondents who participated in the baseline survey. The first follow-up survey marks the second year of the longitudinal study. The follow-up surveys use the baseline respondents as the sample group. In each subsequent survey, a random sample will be selected from the baseline respondents. Everyone who participated in the baseline survey is eligible to participate in the survey regardless if they are still receiving services or not, as long as they live in Minnesota.

Past studies conducted by the developer of the survey showed that noticeable change can only be expected in the short term when a large transition has occurred, such as moving from institution to community. And even in these studies, changes become statistically significant only at approximately two years. Given that a large transition like deinstitutionalization did not occur during the period of study and the relatively short amount of time between the baseline and follow-up surveys, we expect little to no change in survey scores.

Minnesota's Olmstead Plan timeline

1999: *Olmstead v. L.C.* U.S. Supreme Court case makes it unlawful for governments to keep people with disabilities in segregated settings. States begin developing Olmstead Plans.

2009: The federal class action lawsuit known as *Jensen et al v. Minnesota Department of Human Services* is filed.

December 2011: The *Jensen et al v. Minnesota Department of Human Services* settlement agreement requires development of a Minnesota Olmstead Plan.

January 2013: Governor Mark Dayton issues Executive Order 13-01 establishing the Olmstead Subcabinet. This group begins developing the Minnesota Olmstead Plan.

June 2013 – June 2015: The Olmstead Implementation Office (OIO) receives more than 400 public comments. The Olmstead Implementation Office and Subcabinet members attended many of the public listening sessions to guide their development of the Plan.

April 2014: The Olmstead Subcabinet votes to approve the Center for Outcome Analysis Quality of Life survey tool as the most appropriate way of measuring the quality of life of people with disabilities. The survey tool was selected because it is designed to be used in longitudinal studies that measure change over time among a sample of individuals with disabilities.

June – December 2014: The Olmstead Quality of Life Survey is piloted by The Improve Group. Approximately 100 people with disabilities participated in the pilot. People with disabilities were hired to conduct the surveys. Considerations from the pilot survey are incorporated into the Quality of Life Survey Administration Plan.

January 2015: Governor Mark Dayton issues Executive Order 15-03 further defining the role and nature of the Olmstead Subcabinet.

September 2015: The U.S. District Court for the District of Minnesota approves the Minnesota Olmstead Plan, citing components that ensure continued improvements for people with disabilities, such as the Quality of Life survey.

July 2016: The Minnesota Department of Human Services' Institutional Review Board (IRB) grants approval to the Olmstead Quality of Life Survey. IRB approval is required because of the significant vulnerability of the people to be surveyed.

February 2017 – November 2017: The Improve Group implements the Olmstead Quality of Life baseline survey with 2,005 people with disabilities across Minnesota.

December 2017: The Improve Group analyzes and reports survey results to the Olmstead Subcabinet as well as the Olmstead Implementation Office.

June 2018 – November 2018: The first follow-up survey is completed with a random sample of baseline survey respondents to detect any changes in quality of life.

Methodology

Survey tool selection

The Olmstead Implementation Office reviewed seven possible tools for consideration and presented them to the Subcabinet. The office used the following criteria, provided by the Subcabinet, to judge the tools:

- applicability across multiple disability groups and ages
- validity and reliability
- ability to measure changes over time
- whether integration is included as an indicator in the survey
- low cost

The Subcabinet voted to use a field-tested survey tool developed by James Conroy, Ph.D., with the Center for Outcome Analysis (COA). The tool was tailored to meet the needs of Minnesota's Olmstead Plan and selected because it best met the selection criteria stated previously.

The COA Quality of Life survey tool meets the selection criteria because it can be used with respondents with any disability type, is designed to be used in longitudinal studies, measures change over time, and includes reliability and validity data. The tool was selected over the National Core Indicators (NCI) Adult Consumer Survey because the COA tool asks for a finer level of detail in all domains of home and community based services, which allows for gathering a more specific list of actionable information.

Focus population

The focus population for the Olmstead Quality of Life Survey is Minnesotans with disabilities who receive services in potentially segregated settings. The survey's focus population includes people of all ages and disability types, in the eight service settings described in Table 1.

Table 1: Description of settings

Setting	Description
Center Based Employment	Center Based Employment programs provide opportunities for people with disabilities to learn and practice work skills in a separate and supported environment. Respondents may be involved in the program on a transitional or ongoing basis, and are paid for their work, generally under a piecework arrangement. The nature of the work and the types of disabilities represented in the workforce vary widely by program and by the area in which the organization is located.

Setting	Description
Day Training and Habilitation (DT&H)	DT&H programs provide licensed supports in a day setting to provide people with help to develop and maintain life skills, participate in community life, and engage in proactive and satisfying activities of their own choosing. Health and social services are directed toward increasing and maintaining the physical, intellectual, emotional, and social functioning of people with developmental disabilities.
Board and Lodging	Board and Lodging facilities are licensed by the Minnesota Department of Health (or local health department) and provide sleeping accommodations and meals to five or more adults for a period of one week or more. They offer private or shared rooms with a private or attached bathroom. There are common areas for dining and other activities. Many offer a variety of supportive services (housekeeping or laundry) or home care services (assistance with bathing or medication administration) to residents. Board and Lodging facilities vary greatly in size—some resemble small homes and others are more like apartment buildings.
Supervised Living Facilities (SLF)	Supervised Living Facilities provide supervision, lodging, meals, counseling, developmental habilitation, or rehabilitation services under a Minnesota Department of Health license to five or more adults who have intellectual disabilities, chemical dependencies, mental illness, or physical disabilities.
Boarding Care	Boarding Care homes are licensed by the Minnesota Department of Health and are homes for people needing minimal nursing care. They provide personal or custodial care and related services for five or more older adults or people with disabilities. They have private or shared rooms with a private or attached bathroom. There are common areas for dining and for other activities.
Nursing Facilities and Customized Living Services (Assisted Living)	Nursing facilities are inpatient health care facilities that provide nursing and personal care over an extended period of time (usually more than 30 days) for people who require convalescent care at a level less than that provided in an acute facility; people who are chronically ill or frail elderly; or people with disabilities. Customized living is a package of regularly scheduled individualized health-related and supportive services provided to a person residing in a residential center (apartment buildings) or housing with services establishment.

Setting	Description
Community Residential Setting (Adult Foster Care and Supported Living Services)	Adult foster care includes individual waiver services provided to persons living in a home licensed as foster care. Foster care services are individualized and based on the individual needs of the person and service rates must be determined accordingly. People receiving supported living services are receiving additional supports within adult foster care.
Intermediate Care Facilities for Persons with Developmental Disabilities (ICF/DD)	Residential facilities licensed as health care institutions and certified by the Minnesota Department of Health provide health or rehabilitative services for people with developmental disabilities or related conditions who require active treatment.

Populations not included

The goal of this survey is to be as inclusive as possible; however, the survey methodology and eligibility criteria does not include all Minnesotans with disabilities.

The eligible population does not include people who are incarcerated, youth living with their parents, people living in their own home or family home who do not receive day services in selected settings, people who are currently experiencing homelessness, or people who are receiving services in settings other than the eight settings identified above. **For these reasons, the survey results can only be generalized for the people receiving services in these eight service settings. Survey results are not representative of the experiences of all Minnesotans with disabilities.**

Selecting the survey sample

The Olmstead Quality of Life Survey uses simple random sampling to generate survey samples. This technique randomly selects a sample from a larger sample or population, where each person in has an equal chance of being selected. Simple random sampling is generally easier to understand and reproduce compared to other sampling techniques like stratification. Simple random sampling also allows for more flexibility to accommodate changes in setting definitions.

For the 2017 baseline survey, a representative random sample was generated from the focus population, with 2,005 respondents completing the survey. From those 2,005 respondents, a random and representative sample was selected as the eligible respondents for the first follow-up survey in 2018. The 2,005 baseline respondents will continue to be the sample from which future follow-up survey respondents will be drawn at random.

The focus population for the first follow-up survey is Minnesotans with disabilities who receive services in potentially segregated settings and who were included in the baseline survey population.

The sample includes people of all disability types, including people with multiple disabilities. Disability types include:

- People with physical disabilities
- People with intellectual/developmental disabilities
- People with mental health needs/dual diagnosis (mental health diagnosis and chemical dependency)
- People who are deaf or hard of hearing
- People who are blind or visually impaired
- People with brain injury

Race and ethnicity

The racial and ethnic diversity of the focus population and of Minnesota were considered in planning the survey. By using the process of simple random sampling to select respondents for the survey, the race/ethnicity breakdown of people selected for the survey was designed to mirror the demographics of Minnesotans receiving services in the selected settings. Thus, the potential sample is representative of the people receiving services in potentially segregated settings, but not the state overall.

Data sources

For the purposes of the baseline survey, four main sources of data were used: Minnesota Department of Human Services (DHS) data, Minnesota Department of Employment and Economic Development (DEED) data, outreach tracking data, and data gathered through use of the Quality of Life Survey itself.

DHS and DEED provided the data for the survey sample. These data consisted primarily of individual demographic data for potential respondents, such as name, birthdate, race/ethnicity, disability, guardianship status, contact information, and information about services received.

DHS holds data for people who receive services in seven of the settings included in this survey. DHS does not hold data for people who receive services in Center Based Employment. DHS provided service and screening data for all potential respondents who were authorized to receive services in potentially segregated settings as of July 2016. DHS and The Improve Group have a data-sharing agreement that allowed The Improve Group to access individual-level data needed for the survey.

The data for people receiving services through Center Based Employment is held by DEED. Initially, DEED could not share identifiable data with The Improve Group. However, DEED did provide ID numbers, provider information, and residential status information for potential respondents in Center Based Employment as of January 2016. Residential status information was used to identify people who were potentially receiving residential services through DHS. The Improve Group used this information to remove individuals who were listed as living in Adult Foster Care or another DHS setting in the DEED data set. Removing these individuals minimized the risk of duplication in the final sample.

Outreach tracking data included details about contact made with the person and/or their guardian to participate in the survey, as well as any contact made with other allies, providers, etc.

For the follow-up survey, The Improve Group requested updated service and screening data from DHS and DEED for the 2,005 people who participated in the baseline survey. The Improve Group used this data to identify individuals who were no longer authorized to receive services in potentially segregated settings. While individuals who were no longer receiving services in potentially segregated settings were eligible to participate in the follow-up survey, The Improve Group acknowledged the potential for additional challenges when attempting to contact such individuals. Based on the data update, The Improve Group estimated that approximately six percent of baseline respondents were no longer authorized to receive services in one of the selected settings in 2018. This included individuals who moved to more integrated settings, individuals who never received the authorized services, individuals who moved out of state, and individuals who were deceased. This data update was completed in the summer of 2018.

Survey outreach and consent process

The Improve Group used multiple contact methods to reach people selected to participate in the follow-up survey. These methods included mail, phone calls, and email.

From June 2018 through November 2018, outreach was conducted on a “rolling basis” to potential respondents from the random sample. This meant that initial contact with potential respondents was based on the date that the respondents completed their baseline survey. The goal was for the follow-up surveys to be administered in the same calendar month as the baseline survey to maximize the duration between surveys.

Outreach

To encourage potential respondents from the randomly selected sample to participate, The Improve Group conducted outreach in a variety of ways. Up to three mailings were sent to potential respondents without guardians, guardians, and service providers. In addition, there were outreach and follow-up conversations via phone and email, when appropriate.

Individuals who did not respond to outreach remained eligible to take the survey until the end of the administration period. The follow-up survey administration period ended November 30, 2018.

For the purposes of protecting individual-level information during outreach and scheduling, potential respondents were assigned identification numbers.

Respondents without guardians

Within 14 days of a mailing being sent, follow-up phone calls were made to potential respondents without guardians. Outreach phone calls were also made to service providers associated with potential respondents, as appropriate. When email addresses were available, emails were also sent.

Respondents with guardians

When potential respondents had legal guardians, The Improve Group conducted outreach to the person’s guardian to obtain consent and schedule the survey. Outreach to guardians was conducted by mail, phone, and email. First, The Improve Group sent a letter notifying the guardian that the person had been selected for the survey. The letter included a consent form and instructions for scheduling the survey. If requested by the guardian on the consent form, The Improve Group contacted the potential respondent or support person directly.

Consent process

For all survey respondents, The Improve Group obtained guardian and/or respondent consent before administering the survey. In cases when guardian contact information was unavailable or not current, The Improve Group contacted providers or case managers (when applicable) to request help in obtaining guardian contact information or in collecting guardian consent forms.

All respondents were given the option to opt out of the survey at any time during the outreach and scheduling process. Respondents without guardians were asked to give informed consent at the time of the interview. Respondents with a legal guardian were asked to assent to the survey using the same consent form. The consent form included a notice of the person’s right to decline or stop the survey at any time. If a respondent declined to consent or did not understand the consent form, he or she was not interviewed.

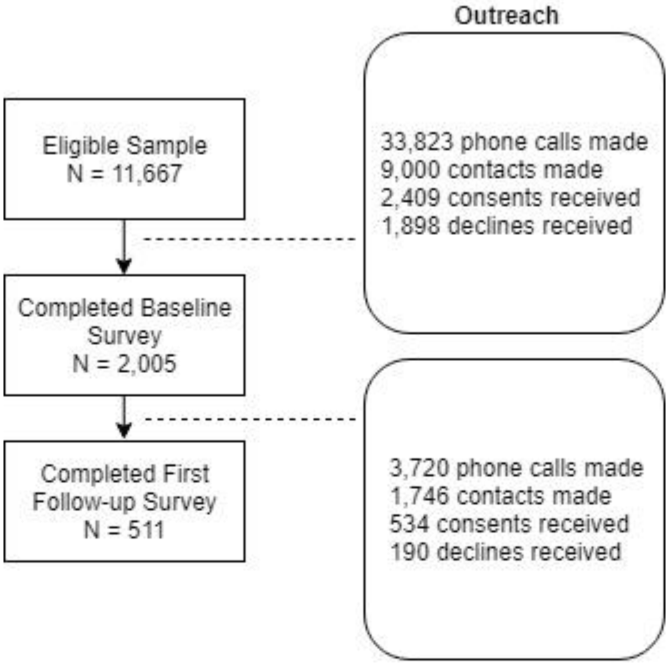
Considerations for consent process

The informed consent process allowed respondents time to formulate their response about taking the survey. The Improve Group recognized that some individuals may not feel comfortable declining to participate in the survey when first approached, especially when speaking to someone in a perceived position of authority.

All communications to providers included information about how The Improve Group and the Olmstead Implementation Office would protect respondents’ privacy and rights during and after the survey. The Improve Group recognized that service providers are asked to support the administration of multiple surveys throughout the year. The Improve Group worked directly with providers to minimize the burden of supporting the Olmstead Quality of Life Survey on staff time.

Outreach results

Table 2: Survey consort diagram with outreach results



Conducting the survey

Survey structure

The Olmstead Quality of Life Survey includes four modules and a series of questions about assistive technology. The sections of the survey are:

- Community integration and engagement
- Choice-making power
- Perceived quality of life
- Closest relationships inventory
- Use of assistive technology

Although the survey was administered as a package, each module is designed to stand on its own. Surveys were considered complete if 75 percent of any module was finished. During the baseline survey, 2,005 surveys were completed and 1,902 (95%) respondents completed all four modules of the survey and the assistive technology questions. For the follow-up survey, 497 (97%) respondents completed all four modules as well as the questions on assistive technology.

Demographic information

To reduce the burden on respondents and streamline the survey process, The Improve Group relied on state agency data for demographic, disability types, and service setting information.

Person-centered approach

Interviewers used person-centered approaches when scheduling and conducting surveys. This meant making the survey as comfortable and accessible as possible for all respondents in terms of survey format, scheduling, and conducting the survey.

Survey modes

Most survey interviews were administered in-person, with an average survey length of 45 minutes. Interviewers read the survey questions to the respondent and entered the responses via a tablet using a secure survey platform. Respondents were given the option to follow along during the survey by using a paper copy of the survey.

The person selected for the survey was intended to be the primary respondent to the survey. However, the respondent could choose a support person to help with the survey or to answer on their behalf. In some cases, the support person was selected by the guardian. Everyone who was present for the survey was asked to sign the consent form.

If possible, the respondent chose the location for the survey. Interview sites included people’s homes, workplaces, provider offices, and a variety of public locations. A respondent’s guardian, staff, or other support person could help choose the location. If the interview was scheduled at a place where the person receives services, The Improve Group worked with the provider to minimize the disruption to service delivery. In the event The Improve Group was unable to honor the respondent’s first choice of location, an alternative location was selected.

Alternative modes

To accommodate the preferences and abilities of potential respondents, people were given the option to complete the survey by phone, videophone, or online. Some respondents chose the phone option. No respondents chose to take the survey via videophone or online.

Communication accommodations

The Improve Group provided reasonable accommodations to complete the survey as requested by the respondent or the support person. If a case manager, provider, or guardian was involved in scheduling interviews, The Improve Group asked if accommodations were needed for the person to participate in the survey. The Improve Group was able to honor all requests for accommodations during the baseline and follow-up surveys.

Accommodations provided include:

- Advance copies of survey materials including consent forms and the survey tool.
- American Sign Language (ASL) interpreters.
- Large print text for respondents who were blind or visually impaired.

- Screen reader-compatible surveys.
- Individuals who were nonverbal or had limited expressive communication were able to use any communication supports needed to respond to the survey. Examples include: personal sign language, technology, or cards to communicate. If needed, The Improve Group worked with the person's staff or another support person to assist with participation in the survey.
- The Improve Group worked with specialized interpreters to accommodate deafblind respondents. If possible, The Improve Group arranged for the respondent to be able to work with a qualified interpreter who is knowledgeable about that individual's communication preferences.
- For non-English speaking respondents, The Improve Group provided interpretation services in the respondent's language.
- While the survey tool itself was not translated into other languages, the consent form and other communication materials could be requested in several languages including Spanish, Somali, and Hmong.
- The Improve Group worked with multiple translation and interpretation providers to minimize barriers to scheduling the interviews.

Barriers to completion

The Olmstead Quality of Life Survey tool was designed to be administered to people of all disability types and accommodations were provided to make it as easy as possible for respondents to complete the survey. However, it was not possible to remove all the barriers people faced in completing the survey. Despite the barriers, 511 people participated in the survey and 95 percent of those respondents completed every module.

The following are examples of the primary barriers respondents faced to completing the survey:

Survey length

On average, the survey took 45 minutes to complete. The survey length was a barrier for some respondents with limited attention spans. If the interviewer observed that the respondent was struggling to concentrate or showed signs of fatigue, the interviewer asked the respondent and/or support person if the respondent wanted to continue the survey. At this point, the respondent could choose to take a break or end the interview. If the respondent wanted to continue, the interviewer would encourage the respondent to take a short activity break before returning to the survey. In addition, the respondent or the support person could request a break or end the survey at any time.

Survey content

Some respondents were not comfortable answering one or more questions on the survey. If the respondent was uncomfortable with the survey content, the interviewer would ask the person if he or she wanted to skip the question, skip to the next module, or end the survey.

If the respondent did not understand the questions, the interviewer would ask if there was someone the person would like to have assist with the survey. If there was not a support person available and the interviewer did not feel comfortable continuing the survey without support, the interviewer would end the survey.

Interruptions to schedule

Some respondents did not handle interruptions to their normal daily schedule well. This could result in severe anxiety or distress. Several individuals did not understand why they were being taken away from their regular activities and, even though they had previously agreed to participate, refused to take the survey. The Improve Group worked with providers, guardians, and support persons to try to anticipate such situations and schedule interviews outside of structured activity times. The interviewer could also work with the individual and the support person to integrate the survey into regular activities.

Communication needs

The Improve Group attempted to provide reasonable accommodations for respondents, including providing interpreters and supporting the use of assistive technology. In the event The Improve Group was unable to honor the request in time for the scheduled survey or new accommodations arose during the survey, the interview was rescheduled.

Outdated contact information

Providers, staff, and guardians were integral to obtaining consent and administering the survey. Sometimes, inaccurate or outdated contact information made survey outreach challenging. At times, The Improve Group was unable to obtain updated provider or guardian contact information for potential respondents. If updated contact information was not available, the person was removed from outreach for the follow-up survey. These individuals remain eligible for subsequent follow-up surveys.

Training of interviewers

During the baseline survey, The Improve Group hired interviewers with diverse backgrounds and from a range of geographic regions around the state. The hiring process was designed to ensure that the interviewers reflected the focus population in many ways. When recruiting potential applicants, The Improve Group partnered with disability service providers to recruit survey interviewers who have personal experiences with disability. This included people who identify as having a disability, people with experience in disability services, and people with significant personal experience with individuals who have a disability. All the follow-up survey interviewers had also worked on the baseline survey.

All project staff members, including interviewers and contractors, were required to complete annual interviewer training, as was required by the IRB-approved survey administration plan. The baseline training consisted of 40 hours of self-guided trainings, presentations, group discussions, and supportive shadowing.

Abuse and neglect

Procedures were in place for documenting and reporting any incidents in which people threatened to hurt themselves or others, or for incidents of reported or suggested abuse or neglect. These procedures required that all incidents of self-reported, observed, or suspected abuse or neglect be reported to the Minnesota Adult Abuse Reporting Center or Common Entry Point (MAARC/CEP) within 24 hours of the interview. All incidents, including incidents that did not require a report, were documented internally and reported to the Olmstead Implementation Office.

Reported incidents of abuse and neglect

Due to the vulnerability of the focus population, interviewers erred on the side of reporting possible abuse or neglect. That means some cases reported by The Improve Group had already been investigated or resolved. In the baseline survey, interviewers reported 15 cases of possible abuse or neglect. For the follow-up survey, interviewers reported one case of possible abuse or neglect.

Olmstead Quality of Life Survey: First Follow-up – 2018 results

Results in this report apply only to Minnesotans with disabilities who receive services in potentially segregated settings. The results cannot be generalized to all people with disabilities in Minnesota.

Respondents were asked about the same five topics in the baseline and follow-up surveys:

- Community integration and engagement
- Choice-making power
- Perceived quality of life
- Closest relationships
- Use of assistive technology

Interviewers recorded respondents’ perceptions of their own lives, which aligns with the survey’s person-centered approach. As such, it is important to note that all results are self-reported. Demographic data such as age, race, and ethnicity were collected through agency records.

Demographic breakdown

The tables below compare survey respondents in the baseline sample, in the follow-up sample, and in the population eligible to take the survey as of July 2016. The eligible population refers to people who could have been selected to participate in the survey because they were authorized to receive services in potentially segregated settings.

The baseline and follow-up survey respondents were representative of Minnesotans with disabilities who receive services in potentially segregated settings.

Table 3: Comparison of eligible population, survey respondents in baseline sample, and survey respondents in follow-up sample by gender

Respondent gender	Eligible population	Baseline respondents	Follow-up respondents
Female	41.9%	43.1%	43.1%
Male	56.2%	54.9%	54.4%
Unknown (not reported)	1.9%	2.0%	2.5%
Total	**100.0%**	**100.0%**	**100.0%**

Participation rates were not significantly different based on gender in the baseline sample or in the follow-up sample. If gender is “unknown,” the individual’s gender was not reported in DHS or DEED data.

Table 4: Comparison of age of eligible population, survey respondents in baseline sample, and survey respondents in follow-up sample

Respondent age	Youngest age	Oldest age	Average age
Eligible population	7	102	47
Baseline respondents	9	90	47
Follow-up respondents	13	79	46

The average age of survey respondents at baseline was 47 and the average age in the follow-up sample was 46. The sample included children who were living in potentially segregated settings. Surveys with minors were completed by proxy with the guardian, the guardian’s appointee, or with the guardian present. The range of ages of follow-up respondents was slightly smaller (13 to 79 years old) than the range of ages of baseline respondents (9 to 90 years old).

Table 5: Comparison of eligible population, survey respondents in baseline sample, and survey respondents in follow-up sample by race

Respondent race	Eligible population	Baseline respondents	Follow-up respondents
Asian	1.7%	1.5%	1.4%
Black	6.9%	4.3%	4.1%
American Indian	2.2%	2.5%	2.1%
White	85.1%	85.9%	86.7%
Two or more races	0.3%	0.2%	0.2%
Other or unknown	3.8%	5.5%	5.5%
Total	**100.0%**	**99.9%**	**100.0%**

Relative to the eligible population, respondent demographics were similar in the baseline sample and in the follow-up sample. Race was “unknown” if it was listed as such in agency data or if race was not provided. While the survey respondents are representative of people receiving services in potentially segregated settings, the eligible population does not completely mirror statewide demographics. The eligible population has a lower proportion of people who identify as Asian or who identify as two or more races than the state overall. In addition, the eligible population has a higher proportion of people who identify as American Indian than the state overall.

Table 6: Comparison of eligible population, survey respondents in baseline sample, and survey respondents in follow-up sample by ethnicity

Respondent ethnicity	Eligible population	Baseline respondents	Follow-up respondents
Hispanic/Latino	1.4%	1.4%	0.6%
Not Hispanic/Latino	88.3%	88.3%	94.7%
Unknown	10.3%	10.3%	4.7%
Total	**100.0%**	**100.0%**	**100.0%**

Participation rates in the follow-up sample were lower for individuals who identify as Hispanic/Latino and individuals whose ethnicity is unknown compared to the baseline sample and the eligible population.

Geographic breakdown

Table 7: Comparison of eligible population, survey respondents in baseline sample, and survey respondents in follow-up sample by region of service

Region of service	Eligible population	Baseline respondents	Follow-up respondents
Central	12.3%	15.8%	15.5%
Metro	45.0%	34.2%	34.6%
Northeast	11.5%	11.5%	11.2%
Northwest	9.2%	13.0%	13.5%
Southeast	9.5%	12.1%	12.3%
Southwest	12.1%	13.5%	12.9%
Total	**99.6%**	**100.0%**	**100.0%**

Participation rates were lower in the seven-county metropolitan area than in the rest of the state in the baseline sample and in the follow-up sample. The regions were based on where the person received services as of July 2016 and have not been updated to reflect any potential location changes (i.e., respondent moved to a different region) at the time of the baseline and follow-up survey.

Breakdown by service setting

Table 8: Comparison of eligible population, survey respondents in baseline sample, and survey respondents in follow-up sample by service setting

Service setting	Eligible population	Baseline respondents	Follow-up respondents
Adult Foster Care	58.6%	73.1%	72.0%
Boarding Care	0.3%	0.3%	0.2%
Board and Lodging	4.3%	3.6%	3.9%

Service setting	Eligible population	Baseline respondents	Follow-up respondents
Center Based Employment	5.0%	4.5%	4.7%
Day Training & Habilitation	37.4%	46.7%	46.8%
Intermediate Care Facilities for Persons with Developmental Disabilities	6.5%	5.3%	4.7%
Nursing Facilities and Customized Living	19.8%	13.0%	11.7%
Supervised Living Facilities	0.5%	0.5%	0.2%

Note: Percentages do not equal 100 due to overlap between settings.

Respondents in Adult Foster Care and Day Training & Habilitation had higher participation rates relative to the eligible population, whereas respondents in Nursing Facilities had lower participation both in the baseline sample and the follow-up sample.

Breakdown by guardianship status

Table 9: Comparison of baseline sample, survey respondents in baseline sample, and survey respondents in follow-up sample by guardianship status

Guardianship status	Baseline sample	Baseline respondents	Follow-up respondents
No guardian	32.9%	25.3%	25.4%
Public guardian	9.5%	11.4%	12.1%
Private guardian	54.3%	54.6%	54.8%
Not provided	7.2%	8.6%	7.6%

During the baseline survey, people who did not have a guardian were less likely to respond to the survey than people under public or private guardianship. The proportion of responses by guardianship status were similar in the baseline sample and follow-up sample. Guardianship status is based on screening data. Guardianship type was tracked for people in the baseline sample but not for the eligible population.

The DHS commissioner is the appointed guardian for people under public guardianship, but most guardianship responsibilities are delegated to the lead agency that serves the individual.[5] Private guardians are often family members and are appointed and ordered by the court to provide guardianship services.[6] Guardianship status was not provided for people who receive services through DEED. If guardianship status was not provided in screening data, it was confirmed during scheduling. However, respondents without a guardianship status from the screening document were excluded from subgroup analysis.

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[5] Minnesota Department of Human Services. (2017). Community-Based Services Manual. Retrieved from: https://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=ID_000896

[6] Minnesota Department of Human Services. (2011). DD Screening Document Codebook. Retrieved from: https://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=ID_008482#privateguardian

Survey module scores

Community integration and engagement: Time, money, and integration during the day

Respondents described their hours in day settings, earnings, and integration levels over the previous week. They were asked to estimate how many hours during the week they worked, on average, in each kind of setting listed. These settings included formal activities such as self-employment, regular competitive employment, supported employment, and unpaid activities like school or volunteering. Respondents were also asked to estimate how much money they earned from each of these activities. To estimate integration levels, respondents were asked to give a rating on their experiences at each setting. The ratings ranged from 1 (completely segregated and never in the presence of people without disabilities) to 5 (completely integrated and nearly always in a situation where people without disabilities might be present).

Table 10: Comparison of survey respondents in baseline sample and survey respondents in follow-up sample by day activity type

Day activity type	Number of baseline respondents	Percent of baseline respondents	Number of follow-up respondents	Percent of follow-up respondents
Go to work	1,319	66.2%	326	63.8%
Go to school	73	5.0%	27	5.3%
Go to other day activities	727	39.6%	166	32.5%

Nearly two-thirds of respondents (64 percent) reported spending time in a work setting and almost one-third (33 percent) said they attend other formal day activities such as an adult day program. As with the baseline survey, this indicates that nearly everyone who responded in the survey attends at least one formal activity during a typical week. It was not uncommon for people to attend more than one activity, such as two different paid activities, or some combination of employment, school, and other day activities.

Table 11: Comparison of survey respondents in baseline sample and survey respondents in follow-up sample by day activity type

Day activity type	Number of baseline respondents	Percent of baseline respondents	Number of follow-up respondents	Percent of follow-up respondents
Self-employed	9	0.4%	-	-
Competitive employment	151	7.5%	36	7.0%
Supported employment	214	10.7%	57	11.2%
Enclave or job crew	323	16.1%	90	17.6%
Sheltered employment or workshop	504	25.1%	130	25.4%
Pre-vocational or vocational rehabilitation	21	1.0%	13	2.5%
Day training and habilitation	209	10.4%	35	6.8%
Other job	28	1.4%	6	1.2%
Private school	-	-	-	-

Day activity type	Number of baseline respondents	Percent of baseline respondents	Number of follow-up respondents	Percent of follow-up respondents
Public school	10	0.5%	2	0.4%
Adult education	31	1.5%	4	0.8%
Other school	32	1.6%	9	1.8%
Adult day program	506	25.2%	123	24.1%
Volunteer work	155	7.7%	34	6.7%
Other day activities	138	6.9%	10	2.0%

The most common day activities across respondents were sheltered employment or workshop, adult day programs, and enclave or job crew. These activities are all considered potentially segregated settings. Additionally, 18.6 percent of respondents at baseline and 18.2 percent of respondents at follow-up reported being in some type of community-based employment, including competitive jobs or supported employment in a competitive job. School settings were the least common day activity across baseline and follow-up. None of the respondents to the follow-up survey reported spending time in self-employment or private school.

The activities asked about in the survey tool are not mutually exclusive and individuals can take part in more than one day activity in a week. Approximately one-quarter of survey respondents reported taking part in more than one activity.

Table 12: Comparison of average weekly hours at baseline and follow-up by day activity type

Day activity type	Number of baseline respondents	Average weekly hours at baseline	Number of follow-up respondents	Average weekly hours at follow-up
Self-employed	1	1.0	-	-
Competitive employment	145	18.4	35	18.9
Supported employment	195	17.7	57	17.4
Enclave or job crew	295	18.9	89	19.0
Sheltered employment or workshop	483	21.6	125	19.9
Pre-vocational or vocational rehabilitation	21	16.5	13	25.7
Day training and habilitation	198	20.9	35	21.2
Other job	27	17.1	5	21.0
Private school	-	-	-	-
Public school	10	25.8	3	37.7
Adult education	28	12.7	3	5.3
Other school	30	8.1	9	8.9
Adult day program	490	19.9	117	20.8
Volunteer work	138	4.4	34	3.2
Other day activities	129	5.9	10	7.2
Weekly average of hours spent in day activities	**1,565**	**24.7**	**392**	**21.2**

Note: Respondents could report hours in more than one day activity.

On average, follow-up respondents reported spending 21.2 hours per week in day activities, down from 24.7 hours reported at baseline. This includes all the hours reported in any day activity. The highest average weekly hours were spent in public school (37.7 hours), pre-vocational or vocational rehabilitation (25.7 hours), day training and habilitation (21.2 hours), other job type (21.0 hours), and adult day programs (20.8 hours). Note that weekly hours were self-reported and may not reflect the actual time spent at each setting.

Table 13: Comparison of average weekly earnings at baseline and follow-up by day activity type

Day activity type	Number of baseline respondents	Average weekly earnings at baseline	Number of follow-up respondents	Average weekly earnings at follow-up
Self-employed earnings	4	$222.02	-	-
Competitive employment earnings	113	$146.25	21	$149.74
Supported employment earnings	151	$131.57	34	$141.02
Enclave or job crew earnings	190	$87.47	53	$86.62
Sheltered employment or workshop earnings	259	$63.01	56	$63.20
Pre-vocational or vocational rehabilitation earnings	8	$70.64	10	$42.53
Day training and habilitation earnings	114	$38.60	12	$23.95
Other Job Earnings	20	$91.50	2	$273.60
All paid activities	**816**	**$95.18**	**181**	**$93.49**

In the follow-up sample,181 respondents reported earnings in one or more employment settings, including wages or piecework. Earnings are based on self-reported amounts and may not reflect actual earnings. If respondents said they were in an employment setting but did not know how much they earned, the field was left blank.

On average, follow-up respondents earned $93.49 per week across all settings, which is similar to the $95.18 reported at baseline. Within this, weekly earnings were higher than average in the two most integrated settings: competitive employment and supported employment ($149.74 per week and $141.02 per week, respectively). Respondents who reported self-employment earnings had the highest weekly earnings; however, these earnings are based on two respondents' earnings and are not generalizable.

Respondents who reported earnings in the remaining four employment settings reported lower than average earnings. More people reported earnings in enclave or job crew and sheltered employment or workshop than in other settings. At baseline and follow-up, earnings in these settings were $87 per week and $63 per week, respectively. At follow-up, this breaks down to $5.52 and $6.16 an hour.

Respondents who reported earnings in pre-vocational or vocational rehabilitation reported weekly earnings of $42.53, or $2.14 per hour. Respondents who reported earnings in day training and habilitation reported weekly earnings of $23.95, or $3.50 per hour. This does not include piecework earnings. However, only two respondents reported piecework earnings at follow-up, compared to 114 respondents who reported piecework earnings at baseline.

It is important to note that some respondents reported a combination of hours and earnings in competitive employment that resulted in an hourly wage that is less than minimum wage. In addition, some people reported weekly earnings in excess of $1,000 or well below the expected wage for the activity type. These responses were considered outliers and were removed from analysis. These results are indicative of the challenges of using self-reported data.

Table 14: Comparison of integration level at baseline and follow-up by day activity type

Day activity type	Number of baseline respondents	Average integration level at baseline	Number of follow-up respondents	Average integration level at follow-up
Self-employed	9	3.8	-	-
Competitive employment	151	4.1	36	4.2
Supported employment	213	3.3	56	3.2
Enclave or job crew	321	2.2	90	2.3
Sheltered employment or workshop	499	1.5	130	1.6
Pre-vocational or vocational rehabilitation	21	1.9	13	1.8
Day training and habilitation	204	1.4	34	1.4
Other job	28	2.3	5	3.8
Private school	-	-	-	-
Public school	10	2.3	2	2.5
Adult education	31	2.3	4	1.8
Other school	30	2.3	9	2.6
Adult day program	493	1.5	122	1.4
Volunteer work	149	3.4	34	3.6
Other day activities	134	2.4	10	2.3
All day activities	**1,608**	**2.1**	**405**	**2.2**

The integration level tells us how much interaction respondents have during their daily activities with people who do not have disabilities. The integration level is scored on a scale of 1 to 5. A higher score indicates more interaction with the general population during the day, while a lower score indicates that people in that work setting are primarily interacting with other individuals with disabilities. An integration score of 3 is between segregated and integrated, indicating some level of interaction with people who do not have disabilities. A score below 3 indicates activities are mostly or completely segregated.

Integration scores (the average integration levels for each day activity) are highest in the more integrated activities such as competitive employment, volunteer work, and supported employment. In contrast, integration scores are lowest in day training and habilitation, sheltered employment or workshops, and adult day programs.

The findings were generally consistent across baseline and follow-up surveys, with many respondents reporting they are mostly segregated during day activities. These scores are still significantly lower than in previous studies in other states and indicate a level of segregation in the community-based settings.

Community integration and engagement: Integrative activities scale

Table 15: Comparison of average monthly outings at baseline and follow-up by outing type

Outing type	Number of baseline respondents	Average number of outings at baseline	Number of follow-up respondents	Average number of outings at follow-up
Visit with close friends, relatives or neighbors	1,629	9.6	408	8.5
Go to a grocery store	1,425	4.0	367	3.7
Go to a restaurant	1,608	3.7	407	3.7
Go to a place of worship	832	3.6	203	3.5
Go to a shopping center, mall or other retail store to shop	1,671	3.6	408	3.3
Go to bars, taverns, night clubs, etc.	189	2.2	43	2.8
Go to a movie	820	1.7	200	1.6
Go to a park or playground	932	4.9	262	3.7
Go to a theater or cultural event (including local school & club events)	393	1.7	93	1.6
Go to a library	646	3.3	158	3.5
Go to a sports event	451	2.1	88	2.2
Go to a health or exercise club, spa, or center	466	6.1	121	6.4
Use public transportation (May be marked "N/A")	564	15.0	152	14.7
Other 1	664	5.6	239	5.0
Other 2	196	5.9	90	5.3
Other 3	43	7.9	23	3.0
Other 4	13	9.4	6	5.0
All outings	**1,969**	**31.9**	**508**	**30.5**

At follow-up, respondents averaged 31 outings per month, which is lower than the baseline average of 32. Respondents also averaged fewer monthly outings than the general population (46 outings outside the house per month not counting work). The most commonly reported activities were visiting friends, relatives or neighbors; going to a restaurant; and shopping.

Nearly three out of four respondents reported five or more different types of outings in the previous month. On average, respondents reported visiting friends, relatives, or neighbors 8.5 times in the previous four weeks and going to a health or exercise club 6.4 times. Respondents reported going to restaurants, the grocery store, and parks or playgrounds nearly once per week. The “other” categories were added to capture common outing types that may be unique to Minnesota. Common responses may be used to suggest new outing types or be integrated into existing categories during follow-up analysis. Frequent responses included participating in sports or physical activities, bingo or other games, and attending group activities such as self-help or arts and crafts groups. These responses were similar in the baseline and follow-up surveys.

Table 16: Comparison of average group size at baseline and follow-up by outing type

Outing type	Number of baseline respondents	Average group size at baseline	Number of follow-up respondents	Average group size at follow-up
Visit with close friends, relatives or neighbors	1,568	4	398	3
Go to a grocery store	1,395	3	359	2
Go to a restaurant	1,565	4	404	3
Go to a place of worship	806	3	198	3
Go to a shopping center, mall or other retail store to shop	1,624	3	402	3
Go to bars, taverns, night clubs, etc.	184	3	43	2
Go to a movie	787	3	199	3
Go to a park or playground	903	4	256	3
Go to a theater or cultural event (including local school & club events)	376	4	91	4
Go to a library	628	3	152	2
Go to a sports event	436	4	88	4
Go to a health or exercise club, spa, or center	447	3	114	3
Use public transportation (May be marked "N/A")	544	3	143	3
Other 1	642	4	231	3
Other 2	189	4	86	3
Other 3	41	5	23	4
Other 4	13	4	6	2
All outing types	**1,951**	**3**	**499**	**3**

In general, respondents reported small to medium group sizes for their outings, with an average group size of three. This was the same average as reported in the baseline survey.

The largest average group sizes for the primary categories were groups of four to sporting events and cultural events. The average group sizes for the “other” outing types ranged from two to four.

It is important to note that research suggests large group sizes (five or more people) can be stigmatizing. However, this group size does not differentiate between a group of people with disabilities or a mixed group. When estimating group size, many respondents said things like “me and my family” or “me and my friends” for these group outings.

Table 17: Comparison of community interactions at baseline and follow-up by outing type

Outing type	Number of baseline respondents	Average community interactions at baseline	Number of follow-up respondents	Average community interactions at follow-up
Visit with close friends, relatives or neighbors	1,592	2.7	400	2.7
Go to a grocery store	1,404	2.5	364	2.6
Go to a restaurant	1,576	2.5	404	2.3
Go to a place of worship	815	3.3	201	3.4
Go to a shopping center, mall or other retail store to shop	1,642	2.5	406	2.4
Go to bars, taverns, night clubs, etc.	188	3.1	42	3.0
Go to a movie	798	2.1	198	2.0
Go to a park or playground	910	2.3	259	2.1
Go to a theater or cultural event (including local school & club events)	385	2.6	91	2.4
Go to a library	634	2.3	154	2.4
Go to a sports event	438	2.9	87	2.8
Go to a health or exercise club, spa, or center	453	2.7	117	2.8
Use public transportation (May be marked "N/A")	555	2.7	151	2.5
Other 1	649	3.1	237	3.1
Other 2	194	3.1	88	2.8
Other 3	43	3.0	23	3.1
Other 4	13	3.5	6	3.3
All outing types	**1,936**	**2.5**	**497**	**2.5**

Average values for community interaction ranged from “a little” (2 on the scale) to “some” (3 on the scale), with an average community interactions score for all outings of 2.5. The average score for all outings was the same in the baseline survey.

The types of activities with the most interaction included going to a place of worship (3.4), going to bars (3.0), and going to sports events (2.8). The activities with the lowest interaction were going to the movies (2.0), going to parks (2.1), and restaurants (2.3).

Outing interactions module score

Outing interactions is a measure based on the number of outings and the average community interaction rating for each of those outings. For ease of interpretation, the score is converted to a 100-point scale based on the individual’s community interaction rating for each outing type. A higher score (closer to 100) indicates more interaction with community members across outing types.

Outing interaction scores apply to Minnesotans with disabilities who received services in potentially segregated settings.

Table 18: Outing interactions score in baseline sample and in follow-up sample

Study	Respondents with an outing interactions score	Outing interactions score
Baseline	1,936	37.7
Follow-up	497	36.5

The average score of 37.7 in the baseline sample and 36.5 in the follow-up sample indicate respondents have few interactions with other community members during their outings. Results showed that there was not a significant difference in respondents’ reports of outing interactions over time. This suggests that respondents were interacting with their community members at similar levels at the time of the baseline and follow-up surveys.

Decision control inventory (choice-making)

Respondents were asked about how much choice they have in their daily decision making across a range of activities. Decision Control Inventory (DCI) scores below 3 indicate that decisions in that area are mostly made by paid staff, and scores above 3 indicate decisions are mostly made by the person and unpaid allies. A score of 3 indicates the decision is equally shared.

Table 19: Comparison of decision control inventory items at baseline and follow-up

Decision control inventory item	Number of baseline respondents	Average baseline rating	Number of follow-up respondents	Average follow-up rating
Choice of support personnel: option to hire and fire support personnel	1,687	1.5	427	1.4
Type of transportation to and from day program or job	1,178	1.5	300	1.5
Choice of agency's support persons/staff (N/A if family)	1,706	1.6	437	1.7
Choice of case manager	1,547	1.8	390	1.7
Amount of time spent working or at day program	1,046	2.0	271	2.3
How to spend residential funds	685	2.2	211	1.8
Choice of people to live with	1,788	2.2	438	2.2
Type of work or day program	947	2.4	236	2.7
Whether to have pet(s) in the home	1,737	2.7	432	2.7
How to spend day activity funds	563	2.8	168	2.9
What foods to buy for the home when shopping	1,928	2.9	495	2.9
What to have for dinner	1,927	3.0	486	3.1
Who goes with you on trips, errands, outings	1,854	3.1	471	3.0
Choice of places to go	1,887	3.6	484	3.7
Choice of house or apartment	1,814	3.6	474	3.9
Choice of furnishings and decorations in the home	1,865	3.8	488	4.1
Choosing restaurants when eating out	1,823	3.9	458	4.0
What to have for breakfast	1,915	3.9	488	3.9
What to do with personal funds	1,869	4.0	491	4.1
Time and frequency of bathing or showering	1,928	4.1	502	4.1
Visiting with friends outside the person's residence	1,747	4.1	424	4.3
Who you hang out with in and out of the home	1,831	4.3	471	4.5
What clothes to buy in store	1,933	4.3	501	4.4

Decision control inventory item	Number of baseline respondents	Average baseline rating	Number of follow-up respondents	Average follow-up rating
"Minor vices" - use of tobacco, alcohol, caffeine, explicit magazines, etc.	1,773	4.4	421	4.5
When to go to bed on weekdays	1,931	4.4	499	4.4
What clothes to wear on weekdays	1,941	4.5	503	4.6
What clothes to wear on weekends	1,941	4.5	501	4.6
When to go to bed on weekends	1,932	4.5	501	4.4
When to get up on weekends	1,925	4.5	496	4.5
Choosing to decline to take part in group activities	1,817	4.5	420	4.5
Express affection, including sexual	1,773	4.5	447	4.6
What to do with relaxation time, such as choosing TV, music, hobbies, outings, etc.	1,916	4.6	499	4.7
Taking naps in evenings and on weekends	1,889	4.7	487	4.9
When, where, and how to worship	1,790	4.7	468	4.7

Respondents had the most choice-making power related to taking naps on evenings and weekends (4.9), how to spend their relaxation time (4.7), when and where to worship (4.7), how they express affection (4.6), and what clothes they wear (4.6). The fact that some of these items score near 5.0 indicates all or nearly all the decisions are made by the person or their allies. Ten items had scores greater than 4.5 (halfway between “mostly unpaid” and “all unpaid”).

Paid staff had more choice-making power in areas that are related to service provision, finances, and staffing. For example, respondents’ DCI scores for hiring and firing support personnel, choice of case manager, and choice of support staff were low, ranging from 1.4 to 1.7. Similarly, the average DCI score for transportation to and from work was 1.5 and the average score for how to spend residential funds was 1.8.

Respondents reported they share decision-making power with paid staff about the type of work or day program they attend (2.7), whether to have pets in the home (2.7), how to spend day activity funds (2.9), what foods to buy for the home (2.9), who goes with the person on trips and outings (3.0), and what to have for dinner (3.1).

Decision control inventory module score

Respondents reported who made decisions in their life pertaining to food, clothes, sleep, recreation, choice of support agencies, and more. This measure provides some understanding of the role of paid staff and unpaid allies in day-to-day decision-making. Paid staff includes people who are paid to provide services or supports in any setting. Public guardians are considered paid staff. Unpaid allies include relatives, friends, and advocates. For example, respondents reported whether paid staff, unpaid allies, or they themselves decided what they could do with their relaxation time. If necessary, interviewers asked clarifying questions to determine if the people making decisions were paid staff or unpaid allies.

A higher score (closer to 100) on the overall decision control inventory scale indicates a higher level of choice-making power for the individual. A very low score indicates more decisions are being made by others for that individual. Previous Center for Outcome Analysis studies have demonstrated that all the items on this scale are related to the underlying concept of freedom to make choices without being controlled by providers.

Scores were calculated for individuals who responded to at least 25 of the 34 items on the decision control inventory scale. Individual scores were averaged for an overall score. The score was then converted to a 100-point scale for ease of interpretation.

Table 20: Decision control inventory score in baseline sample and in follow-up sample

Study	Respondents with decision control inventory score	Decision control inventory score
Baseline	1,942	66.2
Follow-up	504	67.6

Minnesota’s average baseline score (66.2) and average follow-up score (67.6) indicate respondents have a moderate amount of choice-making power. Results showed that there was not a significant difference in respondents’ report of decision control over time. This suggests that respondents had a similar level of choice-making power at the time of the baseline and follow-up surveys.

Perceived quality of life inventory

The perceived quality of life inventory captures the respondent’s perspective of their quality of life. Individuals reported on the quality of their life in 14 different areas including health, happiness, comfort, and overall quality of life. For example, individuals reported whether their privacy was good, bad, or somewhere in between.

Table 21: Comparison of perceived quality of life ratings at baseline and follow-up by item

Perceived quality of life item	Number of baseline respondents	Average baseline rating	Number of follow-up respondents	Average follow-up rating
Running my own life, making choices	1,803	3.8	471	3.8
Getting out and getting around	1,838	3.9	486	3.9
Health	1,897	3.9	496	3.9
What I do all day	1,860	4.0	493	4.0
Family relationships	1,815	4.1	468	4.1
Relationships with friends	1,806	4.1	470	4.1
Food	1,868	4.1	492	4.2
Happiness	1,877	4.1	495	4.1
Comfort	1,859	4.1	494	4.2
Safety	1,874	4.2	497	4.3
Treatment by staff/attendants	1,840	4.2	485	4.2
Privacy	1,838	4.2	494	4.2
Health care	1,854	4.3	498	4.3

This table shows respondents' average scores for 14 questions on how they rate their quality of life in different areas (1 = very bad to 5 = very good). On average, respondents said their quality of life was good in most areas (4 on the scale). There was little to no change in scores across baseline to follow-up. The highest scores were in health care, safety, treatment by staff, privacy, food, and comfort.

In nearly all surveys at baseline (86 percent) and at follow-up (89 percent), each item was answered by the respondent, either by themselves or with support from staff or an ally. This is important because the scores capture the person's own perspective rather than how someone else perceives their quality of life. In eight percent of the surveys, all 14 questions were answered by someone other than the respondent, indicating these surveys were completed by proxy with little to no input from the respondent.

Perceived quality of life module score

Converting the individual perceived quality of life items into a score out of 100 is helpful for understanding the overall results. The score was converted to a 100-point scale based on the individual's average rating for each quality of life item. Scores are not calculated for individuals who responded to fewer than five of the 14 items. A higher score (closer to 100) indicates higher perceived quality of life.

Table 22: Perceived quality of life score in baseline sample and in follow-up sample

Study	Respondents with a quality of life score	Quality of life score
Baseline	1,904	76.6
Follow-up	501	77.4

Minnesota's average baseline score (76.6) and average follow-up score (77.4) indicate respondents perceived their quality of life to be good. Results showed that there was not a significant difference in respondents' report of quality of life over time. This suggests that respondents perceived a similar level of quality of life at the time of the baseline and follow-up surveys.

Closest relationships inventory

Survey interviewers asked respondents about their closest relationships. This included the type of relationship, e.g. relative, staff, housemate, co-worker, etc. A "close relationship" could also be defined by the respondent. Respondents were asked about their five closest relationships; if the respondent did not name any close relationships that was noted as well.

Table 23: Comparison of the number of close relationships reported at baseline and follow-up

Number of relationships reported	Number responding at baseline	Percent of respondents at baseline	Number responding at follow-up	Percent of respondents at follow-up
1	96	5.0%	20	4.0%
2	127	6.7%	50	9.9%
3	227	11.9%	66	13.1%
4	238	12.5%	80	15.8%
5	1,171	61.6%	250	49.5%
None provided	43	2.3%	39	7.7%
Totals	**1,902**	**100.0%**	**505**	**100.0%**

Nearly all respondents named at least one close relationship. Nearly two-thirds of baseline respondents (62 percent) and half of follow-up respondents (50 percent) listed five close relationships. Forty-three respondents did not name a close relationship in the baseline survey and 39 respondents did not name a close relationship in the follow-up survey. The remainder of responses with no relationships is due to respondents ending the survey before the closest relationships module could be completed. Individuals who could not complete this module were not included when calculating total possible relationships. Overall, respondents in the follow-up sample reported a lower number of relationships.

Table 24: Average number of close relationships in baseline sample and follow-up sample

Study	Number who responded	Average number of close relationships
Baseline	1,902	4.1
Follow-up	505	3.7

On average, survey respondents in the baseline sample, and in the follow-up sample, reported four close relationships on a scale from 0 to 5. Results showed that the sample of respondents in the follow-up sample reported fewer close relationships than the baseline sample.

Table 25: Comparison of close relationship types reported at baseline and follow-up by relationship type

Relationship type	Number reporting relationship type at baseline	Percent at baseline	Number reporting relationship type at follow-up	Percent at follow-up
Merchant	20	0.1%	1	0.1%
Neighbor	82	0.6%	14	0.7%
Co-worker or schoolmate	193	1.7%	43	2.3%
Other paid staff (case manager, nurse, etc.)	687	3.2%	68	3.6%
Staff of day program, school, or job	480	4.5%	75	4.0%
Housemate (not family or significant other)	322	4.9%	80	4.2%
Unpaid friend, not relative	2,947	15.0%	288	15.2%
Staff of home	1,422	18.2%	385	20.4%
Relative (includes spouse)	3,661	51.8%	937	49.5%

Relatives were the most commonly reported relationship type in the baseline sample and follow-up sample (52 percent and 50 percent, respectively), followed by staff of home (18 percent in the baseline sample and 20 percent in the follow-up sample). Compared to studies in other states, which typically find rates of unpaid friendships ranging from zero to 15 percent,[7] respondents reported a high number of relationships with unpaid friends in both the baseline and follow-up samples (15 percent).

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[7] Center for Outcome Analysis. (2017). Service Excellence Summary: Baseline Data Summary for Briefing.

Assistive technology

Survey interviewers also asked respondents about assistive technology to learn how it helps those who use it, and why others do not use it. This information will help the State of Minnesota be more effective in connecting people to resources that meet their needs. Because these questions are unique to Minnesota's survey tool, no comparison data exist from previous Center for Outcome Analysis studies. Assistive technology responses apply to Minnesotans with disabilities who receive services in potentially segregated settings.

Table 26: Respondents who reported using assistive technology in baseline sample and in follow-up sample

Response	Number responding at baseline	Percent of respondents at baseline	Number responding at follow-up	Percent of respondents at follow-up
No	786	41.0%	213	42.3%
No, but I need help doing certain tasks and would like to use assistive technology	37	1.9%	8	1.6%
Yes, I have used it in the past	21	1.1%	7	1.4%
Yes, I use it now	1,071	55.9%	275	54.7%
Total	**1,915**	**99.9%**	**503**	**100.0%**

More than half of respondents reported using assistive technology in both the baseline and follow-up samples. Only 1.9 percent of respondents in the baseline sample and 1.6 percent of respondents in the follow-up sample reported that they were not currently using assistive technology but would like to use it in the future.

Table 27: "How much difference has assistive technology made in increasing independence, productivity, and community integration?" at baseline and follow-up

Response	Number responding at baseline	Percent of respondents at baseline	Number responding at follow-up	Percent of respondents at follow-up
A lot	661	62.1%	162	59.3%
Some	208	19.5%	64	23.4%
A little	116	10.9%	31	11.4%
None	80	7.5%	16	5.9%
Total	**1,065**	**100.0%**	**273**	**100.0%**

Of the people who reported they use assistive technology, most respondents in the baseline sample (62 percent) and in the follow-up sample (60 percent) reported that assistive technology had increased their independence, productivity, and community integration "a lot." Only eight percent of people in the baseline sample and six percent of people in the follow-up sample said assistive technology did not have an impact on independence, productivity, and community integration.

Table 28: "How much has your use of assistive technology decreased your need for help from another person?" at baseline and follow-up

Response	Number responding at baseline	Percent of respondents at baseline	Number responding at follow-up	Percent of respondents at follow-up
A lot	371	34.9%	103	38.0%
Some	253	23.8%	73	26.9%
A little	201	18.9%	52	19.2%
None	238	22.4%	43	15.9%
Total	**1,063**	**100.0%**	**271**	**100.0%**

Of the people who reported they use assistive technology, 35 percent in the baseline sample and 38 percent in the follow-up sample said it decreases their need for help from another person "some" or "a lot." However, 22 percent in the baseline sample and 16 percent in the follow-up sample said that assistive technology does not decrease their need for help at all.

People shared similar reasons for not using assistive technology in the baseline and follow-up samples. Respondents reported the following reasons: provider or guardian did not support them using assistive technology; they could not afford it; they lacked knowledge or training about how to use the technology; and they lacked knowledge about the availability of assistive technology. A few people mentioned that they do not want to use assistive technology.

Summary of survey module score results

Overall, there were no major changes to module scores from baseline to follow-up. However, there are valuable findings to note within individual module score summaries:

- **Community integration and engagement –** There was not a significant change in community integration module scores from baseline to follow-up, but scores in this module continue to suggest respondents are not integrated with the broader community during their daily activities. Most respondents continue to participate in daily activities, and many said they spend time in work environments where they earn money. The combination of low integration scores and high rates of participation in daily activities suggests that more effort is needed to ensure day settings include more integrated opportunities.
- **Decision control inventory –** There was not a significant change in decision control inventory module scores from baseline to follow-up. Respondents continue to have a moderate amount of choice in many of their daily routines. The areas where daily choices are most limited are around choice of support personnel and staff, choice of case manager, and transportation.
- **Perceived quality of life inventory –** There was no significant change in perceived quality of life inventory module scores from baseline to follow-up. However, the score of 77.4 indicates that respondents perceive their overall quality of life to be good.

- **Closest relationships inventory –** From baseline to follow-up, there was a statistically significant decrease in the average number of close relationships respondents reported from 4.1 to 3.7. While this change represents a statistical significance, the change does not meet a practical significance threshold of +/- 1 relationship, indicating there is not a meaningful difference in the number of close relationships. This module will require more analysis during the next follow-up survey to identify if there is a trend forming. To do this, additional questions about the type of relationship will need to be added to the next follow-up survey tool.
- **Assistive technology –** Most respondents use assistive technology and describe it as helping both to increase their own independence and decrease their dependence on others. There were no significant changes in the use of assistive technology from baseline to follow-up.

Survey module scores by region

Looking at module scores by region can highlight differences in perceived quality of life, if any, respondents may be experiencing in distinct parts of the state. The survey sample was broken down into six different regions: Northeast, Northwest, Southeast, Southwest, Central, and Metro. These regions are based on standard Minnesota economic zones and are determined for each respondent by county of service.

When looking at differences in scores between regions, a score of +/- 5 points can be used as a rough indicator of significance.

Outing interactions score by region

Table 29: Comparison of outing interactions scores at baseline and follow-up by region

Region	Number of baseline respondents	Average outing interaction score at baseline	Number of follow-up respondents	Average outing interaction score at follow-up
Central	308	37.9	78	36.5
Metro	648	31.9	172	31.1
Northeast	224	34.9	54	37.9
Northwest	255	45.4	67	40.4
Southeast	237	44.5	61	39.2
Southwest	263	40.2	65	50.6
Statewide	**1,935**	**37.7**	**497**	**36.5**

In the follow-up survey, respondents in the Southwest region had the highest outing interactions score of all Minnesota regions (50.6). This is 10 points higher than the baseline results for the Southwest region and 10 points higher than the regions with the next highest scores (Northwest and Southeast). The Metro region had the lowest outing interaction score of all regions at 31.1. The differences between regions meet the significance threshold of +/- 5 points, indicating meaningful differences in the level of community integration by region.

In addition, the outing interactions scores for the Northwest, Southeast, and Southwest regions changed at least 5 points between the baseline and follow-up survey, indicating there are meaningful differences in outing interactions between the baseline and follow-up surveys.

Decision control inventory score by region

Table 30: Comparison of decision control inventory scores at baseline and follow-up by region

Region	Number of baseline respondents	Average DCI score at baseline	Number of follow-up respondents	Average DCI score at follow-up
Central	314	65.3	79	67.5
Metro	656	68.7	174	67.8
Northeast	224	67.0	56	62.4
Northwest	260	61.3	68	67.8
Southeast	225	66.3	63	69.2
Southwest	263	65.1	64	70.0
Statewide	**1,942**	**66.2**	**504**	**67.6**

Overall, the results indicate respondents in all regions have a moderate amount of choice-making power. However, there are differences by region. In the follow-up survey, respondents in the Southwest region had the highest average decision control inventory (DCI) score, followed closely by the Southeast region (70.0 and 69.2, respectively). Respondents in the Northeast region had the lowest average DCI score at 62.4. The differences between regions meet the significance threshold of +/- 5 points, indicating meaningful differences in the level of choice-making by region.

On average, respondents in the Northeast region reported a decrease in choice-making between the baseline and follow-up surveys. This 6.5 point decline is considered a significant change in choice-making. The change in scores in other regions did not meet the threshold of +/- 5 points indicating a significant change.

Perceived quality of life inventory score by region

Table 31: Comparison of perceived quality of life scores at baseline and follow-up by region

Region	Number of baseline respondents	Average quality of life score at baseline	Number of follow-up respondents	Average quality of life score at follow-up
Central	309	76.2	79	75.2
Metro	643	75.0	175	77.5
Northeast	220	77.7	56	83.0
Northwest	248	78.7	68	74.7
Southeast	221	78.5	60	78.0
Southwest	263	76.6	63	77.2
Statewide	**1,904**	**76.6**	**501**	**77.4**

Overall, the results show respondents in all regions reported their quality of life as good. However, differences in perceived quality of life exist by region. On average, respondents in the Northeast region reported higher perceived quality of life than respondents in the other regions. At 83.0, the average perceived quality of life score for the Northeast region was 5 points higher than the Southwest region and 8.3 points higher than the Northwest region, which had the lowest average quality of life scores. The differences in scores meet the significance threshold of +/- 5 points, indicating respondents in the Northeast region experienced meaningful differences in quality of life compared to the rest of the state.

On average, respondents in the Northeast region reported an increase in perceived quality of life between the baseline and follow-up surveys. This 5.3 point increase indicates respondents experienced meaningful changes in perceived quality of life. The scores in other regions did not meet the threshold of +/- 5 points indicating a significant change.

Closest relationships inventory by region

Table 32: Comparison of average number of close relationships at baseline and follow-up by region

Region	Number of baseline respondents	Average number of relationships at baseline	Number of follow-up respondents	Average number of relationships at follow-up
Central	298	4.1	79	3.7
Metro	618	3.9	173	3.9
Northeast	212	3.3	56	3.5
Northwest	247	4.3	69	3.7
Southeast	226	4.4	63	3.1
Southwest	258	4.6	65	4.0
Statewide	**1,859**	**4.2**	**505**	**3.7**

On average, respondents reported fewer close relationships in the follow-up survey compared to the baseline. In the follow-up survey, respondents in the Southwest region reported the highest number of close relationships, followed by the Metro region (4.0 and 3.9 relationships, respectively). Respondents in the Southeast region reported the fewest relationships, averaging 3.1. While the average number of relationships declined in most of the regions, respondents in the Southeast region reported 1.3 fewer relationships in the follow-up survey compared to the baseline. This change meets the significance threshold of +/- 1 relationship, indicating a meaningful difference in number of close relationships.

Table 33: Comparison of closest relationship types at baseline and follow-up by region

Region	Relative at baseline	Staff at baseline	Unpaid friend at baseline	Relative at follow-up	Staff at follow-up	Unpaid friend at follow-up
Metro	55%	22%	23%	49%	25%	26%
Southeast	48%	32%	20%	52%	30%	18%
Southwest	50%	31%	19%	53%	29%	18%
Northeast	50%	25%	25%	39%	39%	23%
Northwest	48%	29%	23%	47%	27%	26%
Central	54%	23%	23%	56%	25%	18%
Statewide	**52%**	**23%**	**25%**	**50%**	**23%**	**27%**

Note: Staff includes total staff at home, total program staff, and other paid staff. The friend category includes total unpaid friends, neighbors, merchants, schoolmates, co-workers, and housemates.

Relatives were the most commonly reported relationship type in the baseline sample and follow-up sample (52 percent and 50 percent, respectively), followed by staff of home (18 percent in the baseline sample and 20 percent in the follow-up sample). When compared to studies in other states, respondents reported a high number of relationships with unpaid friends in both the baseline and follow-up samples (15 percent). Respondents in the Metro and Northwest regions were more likely to have close relationships with people who are not relatives or staff. At follow-up, 26 percent of relationships named in these regions were with unpaid friends.

Assistive technology by region

Table 34: Respondents who use assistive technology at baseline by region

Region	Number of respondents	No	No, but I would like to	Yes, I used it in the past	Yes, I use it now
Metro	634	37%	3%	1%	59%
Southeast	230	42%	1%	1%	56%
Southwest	264	42%	0%	1%	57%
Northeast	224	48%	5%	1%	46%
Northwest	254	41%	0%	2%	57%
Central	309	44%	1%	1%	54%
Statewide	**1,915**	**41%**	**2%**	**1%**	**56%**

Table 35: Respondents who use assistive technology at follow-up by region

Region	Number of respondents	No	No, but I would like to	Yes, I used it in the past	Yes, I use it now
Metro	174	39%	2%	2%	57%
Southeast	61	57%	0%	2%	41%
Southwest	64	55%	0%	2%	44%
Northeast	56	27%	5%	2%	66%
Northwest	69	41%	0%	0%	59%
Central	79	41%	3%	0%	57%
Statewide	**503**	**42%**	**2%**	**1%**	**55%**

In the follow-up sample, 55 percent of respondents reported they currently use assistive technology. Assistive technology use was highest in the Northeast region, where 66 percent of respondents said they use it. Assistive technology use was lowest in the Southeast and Southwest regions, where fewer than half of respondents said they use it (41 and 44 percent, respectively). Assistive technology use increased 20 percentage points in the Northeast region between baseline and follow-up. Assistive technology use decreased 15 percentage points in the Southeast region and 13 percentage points in the Southwest region between baseline and follow-up. Additional research is needed in order to understand the factors contributing to these changes.

Table 36: "How much difference has assistive technology made in increasing your independence, productivity, and community integration?" at baseline by region

Region	Number of respondents	A lot	Some	A little	None
Metro	376	61%	19%	12%	8%
Southeast	129	75%	11%	10%	4%
Southwest	147	63%	18%	16%	3%
Northeast	103	62%	17%	12%	10%
Northwest	144	56%	20%	16%	8%
Central	166	58%	24%	9%	8%
Statewide	**1,063**	**61%**	**19%**	**12%**	**8%**

Table 37: "How much difference has assistive technology made in increasing your independence, productivity, and community integration?" at follow-up by region

Region	Number of respondents	A lot	Some	A little	None
Metro	98	47%	28%	18%	7%
Southeast	25	68%	16%	8%	8%
Southwest	27	78%	7%	11%	4%
Northeast	37	70%	24%	5%	0%
Northwest	41	61%	27%	5%	7%
Central	45	60%	24%	9%	7%
Statewide	**273**	**59%**	**23%**	**11%**	**6%**

In the follow-up sample, 59 percent of respondents reported assistive technology has increased their independence, productivity, and community integration "a lot." By region, the percent of respondents who said "a lot" ranged from 47 percent in the Metro region to 78 percent in the Southwest region. The percent of respondents who said active technology helps “a lot” declined 13 percent in the Metro region between baseline and follow-up. Additional research is needed to understand the factors contributing to these changes.

Table 38: “How much has your use of assistive technology decreased your need for help from another person?” at baseline by region

Region	Number of respondents	A lot	Some	A little	None
Metro	374	37%	26%	15%	22%
Southeast	129	34%	22%	17%	26%
Southwest	148	30%	20%	28%	22%
Northeast	102	27%	21%	24%	28%
Northwest	143	35%	24%	24%	17%
Central	167	39%	25%	14%	22%
Statewide	**1,065**	**32%**	**25%**	**20%**	**23%**

Table 39: “How much has your use of assistive technology decreased your need for help from another person?” at follow-up by region

Region	Number of respondents	A lot	Some	A little	None
Metro	97	37%	29%	22%	12%
Southeast	25	48%	16%	24%	12%
Southwest	27	41%	26%	15%	19%
Northeast	37	32%	32%	30%	5%
Northwest	41	44%	34%	2%	20%
Central	44	32%	18%	21%	30%
Statewide	**271**	**38%**	**27%**	**19%**	**16%**

In the follow-up sample, 38 percent of survey respondents reported assistive technology has decreased their need for help from another person “a lot.” The percent of respondents who said “a lot” ranged from 32 percent in the Northeast and Central regions to 48 percent in the Southeast region. The percent of respondents who said active technology helps “a lot” increased 14 percent in the Southeast region between baseline and follow-up.

Summary of results by region

- **Community integration and engagement –** Overall, outing interactions scores indicate a low level of community integration for respondents across the state, with most respondents reporting little interaction with community members on outings. Respondents in the Southwest region reported the highest average outing interactions scores, while respondents in the Metro region reported the lowest outing interactions scores. The differences between regions meet the significance threshold of +/- 5 points, indicating meaningful differences in the level of community integration by region. These results suggest the state should conduct further research to explore the underlying factors contributing to the change in community integration levels over time as well as the differences in community integration by region.

- **Decision control inventory –** Overall, DCI scores indicate a moderate level of choice-making power across the state. Respondents in the Southeast region reported the highest DCI scores, while respondents in the Northeast region reported the lowest. The difference in scores between the Northeast region and the rest of the state meets the significance threshold of +/- 5 points, indicating there is a meaningful difference in choice-making power in the Northeast region compared to the rest of the state. These results suggest the state should conduct further research to explore the underlying factors contributing to the change in DCI scores over time as well as the differences in choice-making by region.
- **Perceived quality of life inventory –** Overall, the perceived quality of life module scores reported across the state suggest that respondents perceive their quality of life as good. Respondents in the Northeast region reported the highest perceived quality of life scores and respondents in the Northwest region reported the lowest perceived quality of life scores. The difference in scores between the Northeast region and the rest of the state meets the significance threshold of +/- 5 points, indicating there is a meaningful difference in perceived quality of life in the Northeast region compared to the rest of the state. These results suggest the state should conduct further research to explore the underlying factors contributing to the change in quality of life over time as well as the differences by region.
- **Closest relationships inventory –** Overall, respondents reported fewer close relationships on the follow-up survey compared to baseline. The difference in total number of relationships was greatest in the Southeast region, where respondents reported 1.3 fewer relationships, on average. A trend may be forming here, and it will be helpful to add additional questions to future follow-up surveys to monitor this shift more closely. These results suggest the state should conduct further research to explore the underlying factors contributing to the change in number of relationships in the Southeast region. Respondents in the Metro and Northwest regions were more likely to have close relationships with people who are not relatives or staff. This was true both at baseline and follow-up.
- **Assistive technology –** Most respondents use assistive technology and describe it as helping to both increase their own independence and decrease their dependence on others. Statewide, there were no significant changes in the use of assistive technology from baseline to follow-up. However, there were significant differences by region. The percent of respondents who said they use assistive technology increased significantly in the Northeast region and declined in the Southeast and Southwest regions. Additional research is needed to understand the factors contributing to these changes.

Survey module scores by service type

Another useful way to look at Quality of Life Survey scores is by setting. However, the settings from which the survey sample was drawn are often overlapping, which means that one person can be authorized to receive services in multiple settings. This makes it difficult to attribute quality of life to any one setting. Moreover, the definitions of these settings are subject to change and some setting classifications have shifted over the course of baseline and follow-up. While this does not impact the quality of the data, it does affect the ability to analyze the outcomes by setting. Depending on how one defines a setting and reassigns respondent data, outcomes by setting could change.

To address these issues, settings were grouped by day services and residential services. Survey data were then analyzed by service type.

- Day services include Day Training and Habilitation and Center Based Employment.
- Residential services include Adult Foster Care, Boarding Care, Board and Lodging, Intermediate Care Facilities for Persons with Developmental Disabilities (ICF/DD), Nursing Facilities and Customized Living, and Supervised Living Facilities.

Table 40: Comparison of survey respondents in baseline sample and survey respondents in follow-up sample by service type

Service type	Number of baseline respondents	Number of follow-up respondents
Residential services only	977	246
Day services only	212	49
Both day and residential services	816	200

Most respondents receive residential services only, but there is also a large portion receiving both day and residential services. Most respondents who were authorized for two lines of service were authorized for services in a day setting and a residential setting. As a result, there is significant overlap between the residential settings and Day Training and Habilitation, which is categorized as a day service. Future research could examine the differences between respondents who receive only day services, respondents who receive only residential services, and respondents who receive both day and residential services.

Table 41: Comparison of outing interactions scores at baseline and follow-up by service type

Service type	Number of baseline respondents	Average outing interaction score at baseline	Number of follow-up respondents	Average outing interaction score at follow-up
Residential	1,727	37.2	434	35.7
Day	926	38.5	245	36.3
Statewide	**1,936**	**37.7**	**497**	**36.5**

On average, respondents who receive day services reported higher outing interactions scores than respondents who receive residential services. However, the differences between settings do not meet the significance threshold of +/- 5 points, indicating there is not a meaningful difference in community integration by service type. Differences in outing interactions scores between baseline and follow-up also do not meet the significance threshold.

Table 42: Comparison of decision control inventory scores at baseline and follow-up by service type

Service type	Number of baseline respondents	Average DCI score at baseline	Number of follow-up respondents	Average DCI score at follow-up
Residential	1,733	63.8	442	64.9
Day	986	65.8	245	65.8
Statewide	**1,942**	**66.2**	**504**	**67.6**

On average, respondents who receive day services reported higher decision control inventory scores than respondents who receive residential services. However, the differences between settings do not meet the significance threshold of +/- 5 points, indicating there is not a meaningful difference in choice-making by service type. Differences in decision control inventory scores between baseline and follow-up also do not meet the significance threshold.

Table 43: Comparison of perceived quality of life scores at baseline and follow-up by service type

Service type	Number of baseline respondents	Average quality of life score at baseline	Number of follow-up respondents	Average quality of life score at follow-up
Residential	1,695	76.2	437	76.8
Day	967	78.9	244	79.5
Statewide	**1,904**	**76.6**	**501**	**77.4**

On average, respondents who receive day services reported higher quality of life scores than respondents who receive residential services. However, the differences between settings do not meet the significance threshold of +/- 5 points, indicating there is not a meaningful difference in perceived quality of life by service type. Differences in perceived quality of life scores between baseline and follow-up also do not meet the significance threshold.

Table 44: Comparison of the average number of close relationships reported at baseline and follow-up by service type

Service type	Number of baseline respondents	Average number of relationships at baseline	Number of follow-up respondents	Average number of relationships at follow-up
Residential	1,793	3.9	441	3.7
Day	1,028	4.0	246	3.8
Statewide	**1,859**	**4.2**	**505**	**3.7**

On average, respondents who receive day services reported more close relationships than respondents who receive residential services. However, the differences between service types do not meet the significance threshold of +/- 1 relationships, indicating there is not a meaningful difference in number of relationships by service type. Difference in number of relationships between baseline and follow-up also do not meet the significance threshold.

Table 45: Comparison of close relationship types at baseline and follow-up by service type

Service type	Relative at baseline	Staff at baseline	Unpaid friend at baseline	Relative at follow-up	Staff at baseline	Unpaid friend at follow-up
Residential	50%	27%	23%	47%	27%	25%
Day	53%	27%	20%	68%	16%	15%
Statewide	**52%**	**23%**	**25%**	**50%**	**23%**	**27%**

Note: Staff includes total staff at home, total program staff, and other paid staff. The friend category includes total unpaid friends, neighbors, merchants, schoolmates, co-workers, and housemates.

Relatives were the most commonly reported relationship type in the baseline sample (52 percent) and in the follow-up sample (50 percent), followed by staff of home in the baseline sample (18 percent) and in the follow-up sample (20 percent). Respondents reported a high number of relationships with unpaid friends in both the baseline and follow-up samples (15 percent). At follow-up, respondents who receive day services were more likely than respondents who receive residential services to have relationships with relatives. This is a change from the baseline survey where relationship types were similar by service. At follow-up, 25 percent of relationships named by respondents receiving residential services were with unpaid friends, compared to 15 percent of relationships named by respondents receiving day services.

Table 46: Respondents who reported using assistive technology at baseline by service type

Service type	Number of respondents	No	No, but I would like to	Yes, I used it in the past	Yes, I use it now
Residential	1,709	41%	2%	1%	56%
Day	1,028	46%	2%	1%	52%
Statewide	**1,915**	**41%**	**2%**	**1%**	**56%**

Table 47: Respondents who reported using assistive technology at follow-up by service type

Service type	Number of respondents	No	No, but I would like to	Yes, I used it in the past	Yes, I use it now
Residential	243	40%	2%	2%	57%
Day	49	47%	0%	2%	51%
Statewide	**503**	**42%**	**2%**	**1%**	**55%**

In the follow-up sample, 55 percent of survey respondents reported they currently use assistive technology. Assistive technology use was highest among respondents who receive residential services at 57 percent. Assistive technology use by service type was similar between baseline and follow-up.

Table 48: "How much difference has assistive technology made in increasing your independence, productivity, and community integration?" (at baseline by service type)

Service type	Number of respondents	A lot	Some	A little	None
Residential	953	62%	19%	11%	8%
Day	503	59%	21%	11%	8%
Statewide	**1,063**	**61%**	**19%**	**12%**	**8%**

Table 49: "How much difference has assistive technology made in increasing your independence, productivity, and community integration?" (at follow-up by service type)

Service type	Number of respondents	A lot	Some	A little	None
Residential	138	63%	17%	12%	8%
Day	25	60%	28%	8%	4%
Statewide	**273**	**59%**	**23%**	**11%**	**6%**

In the follow-up sample, 59 percent of survey respondents reported assistive technology has increased their independence, productivity, and community integration "a lot." By service type, the percent of respondents who said "a lot" ranged from 63 percent among respondents who receive residential services to 60 percent among respondents who receive day services. The impact of assistive technology use by service type was similar between baseline and follow-up.

Table 50: "How much has your use of assistive technology decreased your need for help from another person?" (at baseline by service type)

Service type	Number of respondents	A lot	Some	A little	None
Residential	951	35%	24%	19%	23%
Day	500	31%	26%	20%	23%
Statewide	**1,065**	**32%**	**25%**	**20%**	**23%**

Table 51: "How much has your use of assistive technology decreased your need for help from another person?" (at follow-up by service type)

Service type	Number of respondents	A lot	Some	A little	None
Residential	138	44%	20%	17%	18%
Day	25	32%	36%	16%	16%
Statewide	**271**	**38%**	**27%**	**19%**	**16%**

In the follow-up sample, 38 percent of survey respondents reported assistive technology has decreased their need for help from another person "a lot." By service type, the percent of respondents who said "a lot" ranged from 44 percent among respondents who receive residential services to 32 percent among respondents who receive day services. The impact of assistive technology use on respondents' need for help from others increased 9 percentage points between baseline and follow-up for respondents receiving residential services.

Summary of results by service type

- **Community integration and engagement –** Overall, outing interactions scores indicate a low level of community integration across the service types, with most respondents reporting little interaction with community members on outings. Respondents in both residential and day services reported a little to some interaction with community members on outings, indicating a low level of community integration. The difference in scores between service types does not meet the significance threshold of +/- 5 points, indicating there are not meaningful differences in the level of community integration by service type.
- **Decision control inventory –** Overall, decision control inventory scores indicate a moderate level of choice-making power across the service types. The difference in scores between the service types does not meet the significance threshold of +/- 5 points, indicating there are not meaningful differences in choice-making power by service type.
- **Perceived quality of life inventory –** Overall, the perceived quality of life module scores indicate respondents in both service types perceive their quality of life to be good. The difference in scores between the service types does not meet the significance threshold of +/- 5 points, indicating there are not meaningful differences in quality of life by service type.
- **Closest relationships inventory –** Overall, respondents reported fewer close relationships on the follow-up survey compared to baseline. On average, respondents who receive day services reported more close relationships than respondents who receive residential services. However, the differences between service types do not meet the significance threshold of +/- 1 relationships, indicating there is not a meaningful difference in number of relationships by service type. At follow-up, 25 percent of relationships named by respondents receiving residential services were with unpaid friends, compared to 15 percent

of relationships named by respondents receiving day services. This is a change from the baseline survey, where relationship types were similar by service type.

- **Assistive technology –** Most respondents use assistive technology and describe it as helping both to increase their own independence and decrease their dependence on others. There were no significant changes in the use of assistive technology by service type from baseline to follow-up.

Survey module scores by guardianship status

Response rates by guardianship status were similar in the baseline sample and follow-up sample. Guardianship status is based on screening data provided for the eligible population. The DHS commissioner is the appointed guardian for people under public guardianship, but most guardianship responsibilities are delegated to the lead agency that serves the individual.[8] Private guardians are appointed and ordered by the court to provide guardianship services.[9] Private guardians are often family members. Guardianship status was not provided for people who receive services through DEED. If guardianship status was not provided in screening data, it was confirmed during scheduling. However, respondents without a guardianship status from the screening document were excluded from subgroup analysis.

Table 52: Comparison of survey respondents in baseline sample and survey respondents in follow-up sample by guardianship status

Guardianship status	Baseline respondents	Follow-up respondents
No guardian	25.3%	25.4%
Public guardian	11.4%	12.1%
Private guardian	54.6%	54.8%
Not provided	8.6%	7.6%

Table 53: Comparison of outing interactions scores at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average outing interaction score at baseline	Number of follow-up respondents	Average outing interaction score at follow-up
No guardian	502	38.2	126	38.0
Public guardian	215	31.7	60	31.1
Private guardian	1050	38.9	274	36.4

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[8] Minnesota Department of Human Services. (2017). Community-Based Services Manual. Retrieved from: https://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=ID_000896

[9] Minnesota Department of Human Services. (2011). DD Screening Document Codebook. Retrieved from: https://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=ID_008482#privateguardian

Guardianship status	Number of baseline respondents	Average outing interaction score at baseline	Number of follow-up respondents	Average outing interaction score at follow-up
Statewide	**1,936**	**37.7**	**497**	**36.5**

On average, respondents who have a public guardian reported lower outing interactions scores than respondents who do not have a guardian or respondents with a private guardian. The differences by guardianship status meet the significance threshold of +/- 5 points, indicating people under public guardianship experience meaningful differences in community integration. Respondents who do not have a guardian reported higher outing interactions scores than respondents with a guardian; however, these differences do not meet the significance threshold.

Table 54: Comparison of decision control inventory scores at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average DCI score at baseline	Number of follow-up respondents	Average DCI score at follow-up
No guardian	504	71.6	130	72.5
Public guardian	215	54.8	62	56.2
Private guardian	1,051	64.2	274	65.8
Statewide	**1,942**	**66.2**	**504**	**67.6**

On average, respondents who do not have a guardian reported higher decision control inventory (DCI) scores than respondents with a guardian. In addition, respondents with a private guardian reported higher DCI scores than respondents with a public guardian. On average, respondents with a public guardian reported a DCI score of 56.2, which indicates individuals with public guardians have a limited amount of decision-making power. The differences in scores by guardianship status meet the significance threshold of +/- 5 points, indicating people experience meaningful differences in choice-making by guardianship status.

Table 55: Comparison of perceived quality of life scores at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average quality of life score at baseline	Number of follow-up respondents	Average quality of life score at follow-up
No guardian	497	73.9	130	76.6
Public guardian	204	76.5	59	76.2
Private guardian	1,030	78.1	273	78.0
Statewide	**1,904**	**76.6**	**501**	**77.4**

On average, respondents with a private guardian reported higher perceived quality of life scores than respondents who do not have a guardian or respondents with a public guardian. However, these differences do not meet the significance threshold of +/- 5 points, indicating there is not a meaningful difference in quality of life by guardianship status.

Table 56: Comparison of average number of closest relationships reported at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average number of relationships at baseline	Number of follow-up respondents	Average number of relationships at follow-up
No guardian	489	4.0	130	3.7
Public guardian	210	3.8	61	3.2
Private guardian	1,029	4.3	276	3.9
Statewide	**1,859**	**4.2**	**505**	**3.7**

On average, respondents who have a public guardian reported fewer close relationships than respondents who do not have a guardian or respondents with a private guardian. However, the differences between guardianship status do not meet the significance threshold of +/- 1 relationships, indicating there are not meaningful differences in number of relationships by guardianship status.

Table 57: Comparison of closest relationship type at baseline and follow-up by guardianship status

Guardianship status	Relative at baseline	Staff at baseline	Unpaid friend at baseline	Relative at follow-up	Staff at follow-up	Unpaid friend at follow-up
No guardian	50%	28%	20%	49%	29%	22%
Public guardian	55%	26%	19%	52%	24%	23%
Private guardian	40%	35%	25%	43%	33%	25%
Statewide	**52%**	**23%**	**25%**	**50%**	**23%**	**27%**

Note: Staff includes total staff at home, total program staff, and other paid staff. The friend category includes total unpaid friends, neighbors, merchants, schoolmates, co-workers, and housemates.

Respondents with a private guardian were less likely to have close relationships with relatives than respondents without a guardian and respondents with a public guardian. This was true at both baseline and follow-up.

Table 58: Respondents who report using assistive technology at baseline by guardianship status

Guardianship status	Number of respondents	No	No, but I would like to	Yes, I used it in the past	Yes, I use it now
No guardian	493	34%	2%	1%	63%
Public guardian	212	54%	3%	1%	42%
Private guardian	1039	42%	2%	1%	56%
Statewide	**1,915**	**41%**	**2%**	**1%**	**56%**

Table 59: Respondents who report using assistive technology at follow-up by guardianship status

Guardianship status	Number of respondents	No	No, but I would like to	Yes, I used it in the past	Yes, I use it now
No guardian	112	36%	1%	3%	61%
Public guardian	25	52%	4%	0%	44%
Private guardian	134	43%	2%	1%	55%
Statewide	**503**	**42%**	**2%**	**1%**	**55%**

In the follow-up sample, 55 percent of survey respondents reported they currently use assistive technology. Assistive technology use was highest among respondents who do not have a guardian and lowest among respondents under public guardianship. Assistive technology use was similar between baseline and follow-up regardless of guardianship status.

Table 60: "How much difference has assistive technology made in increasing your independence, productivity, and community integration?" (at baseline by guardianship status)

Guardianship status	Number of respondents	A lot	Some	A little	None
No guardian	308	66%	18%	9%	7%
Public guardian	87	51%	23%	18%	8%
Private guardian	577	63%	19%	11%	8%
Statewide	**1,063**	**61%**	**19%**	**12%**	**8%**

Table 61: "How much difference has assistive technology made in increasing your independence, productivity, and community integration?" (at follow-up by guardianship status)

Guardianship status	Number of respondents	A lot	Some	A little	None
No guardian	68	72%	13%	7%	7%
Public guardian	11	46%	27%	18%	9%
Private guardian	73	56%	22%	16%	6%
Statewide	**273**	**59%**	**23%**	**11%**	**6%**

In the follow-up sample, 59 percent of respondents reported assistive technology has increased their independence, productivity, and community integration "a lot." By guardianship status, the percent of respondents who said "a lot" ranged from 46 percent among respondents under public guardianship to 72 percent for respondents who do not have a guardian. The percent of respondents who said assistive technology helps "a lot" increased among respondents who do not have a guardian and decreased among respondents with a guardian. These differences are not large enough to indicate meaningful change.

Table 62: "How much has your use of assistive technology decreased your need for help from another person?" (at baseline by guardianship status)

Guardianship status	Number of respondents	A lot	Some	A little	None
No guardian	307	39%	22%	21%	19%
Public guardian	87	30%	22%	21%	28%
Private guardian	576	33%	25%	18%	24%
Statewide	**1,065**	**32%**	**25%**	**20%**	**23%**

Table 63: "How much has your use of assistive technology decreased your need for help from another person?" (at follow-up by guardianship status)

Guardianship status	Number of respondents	A lot	Some	A little	None
No guardian	68	59%	12%	16%	13%
Public guardian	11	27%	18%	18%	36%
Private guardian	73	30%	33%	18%	19%
Statewide	**271**	**38%**	**27%**	**19%**	**16%**

In the follow-up sample, 38 percent of survey respondents reported assistive technology has decreased their need for help from another person "a lot." By guardianship status, the percent of respondents who said "a lot" ranged from 27 percent among respondents under public guardianship to 59 percent among respondents who do not have a guardian. The percent of respondents without guardians who said assistive technology helps "a lot" increased 20 percentage points between baseline and follow-up.

Summary of results by guardianship status

- **Community integration and engagement –** Overall, outing interactions scores indicate a low level of community integration for all respondents, with most respondents reporting little interaction with community members on outings. Respondents under public guardianship reported lower levels of community engagement than respondents who do not have a guardian or respondents with a private guardian. The differences by guardianship status meet the significance threshold of +/- 5 points, indicating people under public guardianship experience meaningful differences in community integration.
- **Decision control inventory –** Overall, DCI scores indicate respondents who do not have a guardian and respondents with private guardians have a moderate level of choice-making power. Respondents with public guardians reported a limited amount of choice-making power. The differences in scores by guardianship status meet the significance threshold of +/- 5 points, indicating

people experience meaningful differences in choice-making by guardianship status.

- **Perceived quality of life inventory –** Overall, the perceived quality of life module scores show that respondents said their perceived quality of life is good regardless of guardianship status. The differences in scores by guardianship status do not meet the significance threshold of +/- 5 points, indicating there are not meaningful differences in quality of life.
- **Closest relationships inventory –** Overall, respondents reported fewer close relationships on the follow-up survey compared to baseline. On average, respondents with a public guardian reported fewer relationships than respondents who do not have a guardian and respondents with a private guardian. However, these differences do not meet the significance threshold of +/- 1 relationships, indicating there is not a meaningful difference in number of relationships by guardianship status. Respondents with a private guardian were less likely to have close relationships with relatives than respondents without a guardian and respondents with a public guardian. This was true at both baseline and follow-up.
- **Assistive technology –** Most respondents use assistive technology and described it as helping both to increase their own independence and decrease their dependence on others. Assistive technology use was significantly higher among respondents with no guardian than among respondents with a guardian. Respondents without guardians were also more likely than respondents under guardianship to say assistive technology increased their independence, productivity, and community integration and decreased their dependence on others "a lot."

Respondent characteristics associated with overall quality of life

Results in this report apply only to Minnesotans with disabilities who receive services in potentially segregated settings. The results cannot be generalized to all people with disabilities in Minnesota.

With the large number of baseline respondents and the addition of a follow-up survey, enough data has been collected to identify respondent characteristics associated, both positively and negatively, with perceived quality of life. This section identifies characteristics that have strong relationships with overall quality of life in both the baseline and follow-up survey samples.

Methodological approach

The Olmstead Quality of Life Survey Advisory Group chose to use a statistical technique known as linear regression to determine how respondent demographics, setting characteristics, and other important characteristics were related to each of the four module scores: outing interactions, decision control (choice-making), perceived quality of life, and closest relationships.

Linear regression is a commonly used type of analysis that is useful in identifying characteristics strongly associated with a specified outcome. For example, a person could run a linear regression model to identify what housing characteristics were strongly associated with price. In relation to the Olmstead Quality of Life Survey, linear regression can point out respondent characteristics that are strongly associated with overall quality of life. In this case, linear regression can help identify the areas that could have the greatest impact on improving overall quality of life.

The analysis had two basic steps. The first step was to examine characteristics related to the module scores using the full baseline sample of 2,005 respondents. The second step examined whether these same characteristics were related to the module scores at follow-up using the 511 respondents who participated in both the baseline and follow-up surveys.

The primary purpose of the baseline survey was to get a point-in-time picture of respondents' overall quality of life across multiple outcomes of interest. The primary purpose of the follow-up survey was to see what changes, if any, respondents reported in the outcomes of interest over the past year. Subsequent surveys will measure the changes from baseline to follow-up over the Olmstead Plan's implementation period.

We did not expect to see significant changes between baseline and follow-up for two reasons. First, the time between the two surveys was not long enough to result in significant changes in the outcomes unless there was a major change in respondents' living or working situations. Second, there were no major policy changes implemented that would lead to a significant impact on the outcomes at a statewide level. Because there were no large statewide changes, we would expect that most of the differences in the outcomes between baseline and follow-up are related to respondents' individual experiences. We do expect that analyses of subsequent follow-up surveys will result in a greater number of significant characteristics related to overall quality of life if there are significant changes in policies or services due to the Olmstead Plan.

Characteristics included in models

Based on previous research and input from the Olmstead Quality of Life Survey Advisory Group, several important characteristics thought to be related to each of the module scores (outing interactions, choice-making power, perceived quality of life, and number of close relationships) were considered. A list of all the characteristics included in the regression models and a description of each are provided below.

Table 64: Description of characteristics included in regression models

Characteristic	Description
Demographics	Respondent demographic information including gender, age, race, and region of service are included in the demographic breakdown section of this report. Demographic data was provided by DHS and DEED.
Guardianship status	Records from DHS and DEED were used to indicate whether respondents had a guardian at the time of the baseline survey. For respondents receiving services through DHS, guardianship data includes the type of guardian, such as public or private.
Cost of services	DHS records were used to calculate the average cost of services per day for each respondent.
Residential setting	Residential settings are services that include housing and other related services. Residential settings include: adult foster care, boarding care, board and lodging, intermediate care facilities for persons with developmental disabilities, nursing facilities and customized living, and supervised living facilities. If respondents were authorized to receive services in any of these settings, they were marked as receiving residential services.
Day setting	Day settings are services that are provided during the day. These services often offer employment, occupational activities, or formal enrichment activities. The two day settings included in the Olmstead Quality of Life Survey are center-based employment and day training and habilitation. If respondents were authorized to receive services in either of these settings, they were marked as receiving day services.
Waiver type	Minnesotans with disabilities or chronic illnessess who need certain levels of care may qualify for home and community-based waiver programs. The majority of survey respondents receive waivered services through the Developmental Disabilities (DD), Community Access for Disability Inclusion (CADI), or Brain Injury (BI) waivers.
Weekly earnings	Average weekly earnings were based on self-reported data. Respondents who participate in day activities where they can earn income were asked to estimate their weekly income. These day activities include: self-employment, competitive employment, supported employment, enclave or job crew, sheltered employment, vocational programs, and day training and habilitation.
Day integration	Respondents were asked about their level of integration with people who do not have disabilities during their day activities (e.g., employment, education, and volunteer work). This day integration scale captures how many hours each respondent spends in each of these activities and how integrated they felt while engaging in these activities.
Total monthly outings	Respondents reported on the number of times they went on a variety of outings over the course of a month. The total number of outings is an overall count of outings of all types in the previous four weeks.
Number of different outing types reported	Respondents reported the types of outings they participated in over the previous four weeks. Outing types include: visits with friends, relatives, or neighbors; and trips to a grocery store, restaurant, place of worship, mall, or sports event.

Characteristic	Description
Average group size on outings	Respondents were asked how many people went with them on each outing. If the respondent reported a range, the interviewer recorded the average group size. The average group size represents the average group size for all reported outings. Average group size included the respondent.
Adaptive behaviors	This scale was created by the Olmstead Quality of Life Survey Advisory Group to assess respondents' adaptive behaviors. The adaptive behaviors scale was created by taking the average score across items from DHS assessments for Long Term Care and Developmental Disabilities programs. This scale is a measure of respondents' independent functioning and helps to account for differences in level of need. Example items included how well a person is able to manage dressing, grooming activities, communication, mobility, and transferring.
Housing size	Respondents were asked to provide the number of people who live in the same house, room, facility, or reasonable subunit as them. This includes roommates, housemates, and staff who live onsite. Respondents were also asked to provide the number of people with disabilities who live in the same location. The number of residents with disabilities in the home is an indicator of segregation, with a higher number indicating greater levels of segregtion.

Regression model findings in baseline samples

Using regression models, several characteristics were found to be significantly associated with the module scores in the baseline and follow-up samples; these are provided in tables 65 through 68. The tables only include the characteristics that are significantly associated with the module scores. Please see Appendix B for the full regression tables. The regression results suggest that these characteristics are areas that have a link to the module scores (i.e., outing interactions, decision control inventory, perceived quality of life, and closest relationship inventory) among Minnesotans in potentially segregated settings.

Regression model findings in follow-up samples

Linear regression models were also used to examine the relationship between respondent characteristics at follow-up. These models included the same variables as the baseline models as well as the respondent's baseline score on each of the module scores. This type of analysis enables us to examine whether any of the characteristics at baseline predict follow-up module scores over time. Because no statistically significant differences emerged on the module scores from baseline to follow-up, we do not expect to see many characteristics associated with module scores at follow-up. This is to be expected given the short amount of time between surveys and the lack of major policy changes during the time. However, it will be important to continue to examine these relationships over time to see if any changes emerge as the state continues to implement the Olmstead Plan.

The tables below present both standardized coefficients and p-values. A standardized coefficient compares the strength and direction of the effect of each characteristic to each of the module scores. The higher the absolute value of the coefficient, the stronger the effect. For example, a coefficient of -0.4 has a stronger effect than a coefficient of 0.2. A positive coefficient indicates that there is a positive relationship between the characteristic and the module score. For a positive relationship, both the characteristic and module score increase. A negative coefficient indicates that there is a negative relationship. For a negative relationship, one variable increases as the other decreases.

Finally, a p-value helps determine whether the relationship is significantly different from zero. A p-value below 0.05 is customarily used in research to suggest that the results are indeed statistically significant. A p-value of 0.05 means that there is only a 5 percent chance that the results of the study occurred by chance alone. Smaller p-values suggest a higher level of confidence that our results did not occur by chance.

Outing interaction scores at baseline and follow-up

Table 65: Characteristics associated with respondents' outing interactions in the baseline and follow-up sample

Characteristic	Standardized coefficient at baseline	P-value at baseline	Standardized coefficient at follow-up	P-value at follow-up
Region (Reference: Metro)				
Southeast	.174 ***	.000	-	-
Southwest	.113 *	.020	-	-
Northwest	.209 ***	.000	-	-
Central	.126 **	.009	-	-
Number of different outing types	.130 **	.005	-	-
Perceived quality of life score	.241 ***	.000	-	-
Total monthly outings	.105 *	.025	-	-
Number of relationships	.090 *	.024	-	-
Outing interaction score at baseline	-	-	.584 ***	.000

Note: * p < .05; ** p < .01; *** p < .001

Characteristics associated with higher outing interaction scores at baseline and follow-up

Perceived quality of life was the characteristic most strongly associated with outing interactions at baseline. It is likely that respondents who report a higher perceived quality of life are more likely to interact with individuals in their community while on outings.

Respondents who went on a greater number of outings per month and had a greater variety of different types of outings also tended to report more outing interactions. This suggests that individuals who are given the opportunity to go on more outings will be more likely to also have more opportunities to interact and engage with other members in their communities while on these outings.

Respondents in the Southeast, Southwest, Northwest, and Central regions reported higher outing interactions than respondents in the Metro region. This suggests that individuals living in these regions are experiencing more opportunities to interact with people in their communities than individuals in the Metro region. The Northeast region was not significantly associated with outing interactions and thus was not included in the table.

The number of close relationships respondents reported were associated with more outing interactions. Individuals who have more close relationships may be more comfortable interacting and engaging with other individuals within their community during outing opportunities.

Only outing interaction scores at baseline were significantly associated with the outing interaction scores at follow-up. This suggests that respondents who experienced more outing interactions at baseline also did at follow-up.

DCI scores at baseline and follow-up

Table 66: Characteristics associated with respondents' DCI scores in the baseline and follow-up sample

Characteristic	Standardized coefficient at baseline	P-value at baseline	Standardized coefficient at follow-up	P-value at follow-up
Region (Reference: Metro)	-	-	-	-
Southwest	-.112 *	.012	-	-
Northwest	-.249 ***	.000	-	-
Central	-.092 *	.037	-	-
Average cost per day	-.089 *	.030	-	-
Guardianship status	-.104 *	.011	-	-
Weekly earnings	.097 *	.018	-	-
Total monthly outings	.180 ***	.000	-	-
Average group size on outings	-.072 *	.045	-	-
Perceived quality of life score	.125 **	.002	-	-
Adaptive behavior scale	.127 **	.006	-	-
Residential services	-.253 ***	.000	-.363 ***	.000
Day services	-.132 *	.016	-.141 *	.040
DCI score at baseline	-	-	.265 **	.001

Note: * p < .05; ** p < .01; *** p < .001

Characteristics associated with higher decision control inventory scores at baseline and follow-up

A greater number of monthly outings was the characteristic most strongly associated with higher DCI scores at baseline. This suggests that respondents who went on more outings tended to also report they had more autonomy in their choice-making power.

Respondents who reported higher perceived quality of life scores at baseline also reported higher DCI scores at baseline. This suggests there is a relationship between the level of choice-making power an individual has and their perceived quality of life.

Respondents with higher adaptive behavior scores tended to report higher DCI scores at baseline. It is possible that respondents who exhibit or are perceived to have more adaptive behaviors are given more autonomy to make decisions in their everyday lives.

Respondents who reported higher weekly earnings tended to report higher DCI scores at baseline. This may be related to the fact that respondents with higher weekly earnings were more likely to work in integrated employment settings, suggesting higher levels of workplace autonomy.

DCI scores at baseline were the only characteristic significantly associated with higher DCI scores at follow-up. This suggests that respondents who were more likely to rate their choice-making power high at baseline were also likely to rate their choice-making power high a year later when asked this question again at the follow-up survey.

Characteristics associated with lower DCI scores at baseline and follow-up

Residential services were the characteristic most strongly associated with lower DCI scores at baseline. Respondents who received residential services reported lower DCI scores than respondents who did not receive these services. To a lesser extent, respondents who received day services also tended to report lower DCI scores than respondents who did not receive these services.

Some meaningful differences emerged in relation to region of service. Respondents in the Southwest, Northwest, and Central regions reported lower DCI scores than respondents in the Metro region. The Southeast and Northeast regions were not significantly associated with decision control and thus were not included in the table.

Respondents with guardians reported lower decision control scores than respondents without guardians. This suggests that respondents without guardians may have more choice-making power in their everyday lives than respondents with guardians.

Respondents who attended outings with a larger group of people tended to report lower DCI scores. This suggests a possible relationship between the level of choice-making and the types of outings in which individuals participate. This relationship is a possible indicator for higher levels of segregation.

Respondents who received services that cost more per day tended to report lower DCI scores. This suggests there is a relationship between the average daily cost of services and an individual's level of choice-making. This relationship is another possible indicator for higher levels of segregation.

Only residential services were significantly associated with lower DCI scores at follow-up. Respondents receiving residential services at baseline were more likely to report lower DCI scores at follow-up than respondents not receiving these services at baseline.

Perceived quality of life scores at baseline and follow-up

Table 67: Characteristics associated with respondents' perceived quality of life scores in the baseline and follow-up sample

Characteristic	Standardized coefficient at baseline	P-value at baseline	Standardized coefficient at follow-up	P-value at follow-up
Gender (female)	.091*	.014	.142 *	.034
Region (Reference: Metro)				
Northwest	-	-	.176 *	.023
Waiver type (Reference: DD)				
CADI Waiver	-.158 **	.008	-	-
BI Waiver	-.177 ***	.000	-	-
Average cost per day	-.107 *	.014	-.246 **	.002
Weekly earnings	-.101 *	.018	-	-
Day integration	.086 *	.030	-	-
Number of different outing types	.106 *	.019	-	-
Outing interaction score	.226 ***	.000	-	-
DCI scores	.139 **	.002	-	-
Number of relationships	.121 **	.002	-	-
Perceived quality of life score at baseline	-	-	.444 ***	.000

Note: * p < .05; ** p < .01; *** p < .001

Characteristics associated with higher perceived quality of life scores at baseline and follow-up

Outing interactions was the characteristic most strongly associated with respondents reporting higher perceived quality of life. This suggests that respondents who have more opportunities to interact with individuals without disabilities within their communities tend to report greater perceived quality of life. To a lesser extent, respondents who reported greater integration at school, work, and other activities throughout the day and respondents who reported going on a greater variety of outings tended to also report greater perceived quality of life. These findings further support the idea that opportunities to interact and engage with community members is important to the quality of life for the focus population.

Respondents who reported greater DCI scores reported greater perceived quality of life. It is likely that respondents who have more autonomy in making decisions about their daily life (e.g., regarding clothing and food selection) also perceived greater overall quality of life.

Respondents who reported a greater number of close relationships reported higher perceived quality of life scores. This finding shows the importance of close relationships in the lives of Minnesotans with disabilities, as individuals with more close relationships feel more satisfied with their overall quality of life.

Female respondents tended to report higher perceived quality of life scores than male respondents at both baseline and at follow-up. More research is needed to understand these gender differences.

The perceived quality of life score at baseline is the characteristic most strongly associated with perceived quality of life at follow-up. This suggests that respondents who were more likely to rate their perceived quality of life high at baseline were also likely to rate their perceived quality of life high at the follow-up survey.

Respondents in the Northwest region rated their perceived quality of life at follow-up higher than respondents in the Metro region. More research is needed to understand differences between the Metro region and greater Minnesota. All other regions were not significantly associated with respondents' perceived quality of life at follow-up and thus were not included in the table.

Characteristics associated with lower perceived quality of life scores at baseline and follow-up

Waiver type was the characteristic most strongly associated with respondents' perceived quality of life. Respondents with a Community Access for Disability Inclusion (CADI) waiver and respondents with a Brain Injury (BI) waiver reported lower perceived quality of life scores than respondents with a Developmental Disabilities (DD) waiver. Further research is needed to better understand the relationship between waiver type and perceived quality of life.

Respondents receiving services that cost more per day reported lower perceived quality of life scores. This suggests there is a relationship between the average daily cost of services and an individual's perceived quality of life. This relationship is a possible indicator of higher levels of segregation.

Respondents receiving greater weekly earnings also tended to report lower perceived quality of life. While respondents who receive higher weekly earnings are more likely to be employed in less segregated settings, this relationship does not seem to be due to employment setting. Further research is needed to better understand the relationship between earnings and perceived quality of life.

Only the average cost of services per day was associated with lower perceived quality of life at follow-up. Respondents who received services at baseline that cost more per day rated their perceived quality of life lower at the time of the follow-up survey.

Number of close relationships at baseline and follow-up

A logistic regression model using the “cbind” function in a statistical software program called “R” was used to examine the association between respondent characteristics and number of close relationships at baseline and follow-up. This approach was taken because the number of close relationships was bounded from zero to five; respondents could not select more than five close relationships. Thus, a linear regression model was not appropriate, and an alternative model was required to examine this relationship.

The table below presents odds ratios rather than standardized coefficients. Odds ratios greater than one indicate that the characteristic is associated with respondents being more likely to report more close relationships. Odds ratios less than one indicate that the characteristic is associated with respondents being less likely to report more close relationships.

Table 68: Characteristics associated with the number of close relationships in the baseline and follow-up sample

Characteristic	Odds ratio at baseline	P-value at baseline	Odds ratio at follow-up	P-value at follow-up
Age	-	-	.949 ***	.000
Gender (female)	-	-	2.152 **	.001
Region (Reference: Metro)				
Southwest	1.699 *	.028	.324 **	.007
Northeast	.344 ***	.000	-	-
Central	.548 **	.002	-	-
Southeast	-	-	.187 ***	.000
Northwest	-	-	.321 **	.005
Race (Reference: White)				
American Indian	4.189 **	.009	-	-
Guardianship status	2.003 ***	.000	-	-
Weekly earnings	1.003 **	.003	-	-
Number of different outing types	1.094 **	.007	1.193 **	.008
Total monthly outings			1.017 *	.019
Outing interactions	1.012 *	.010	-	-
Average group size on outings	1.132 **	.009	-	-
Residential	-	-	4.509 ***	.000
Perceived quality of life score	1.023 ***	.000	-	-
Number of close relationships at baseline	-	-	2.726 ***	.000

Note: * p < .05; ** p < .01; *** p < .001

Characteristics associated with respondents being more likely to have more close relationships at baseline and follow-up

Respondents in the Southwest region were more likely to report more close relationships than respondents in the Metro region at baseline. Further investigation to understand differences between the Metro region and greater Minnesota is needed.

Respondents who identify as American Indian were more likely to report more close relationships at baseline than respondents who identify as white. It is unclear why this relationship exists, and further research is needed to understand these differences.

Respondents with a guardian were more likely to report more close relationships at baseline than respondents without a guardian. It is possible that guardians may encourage individuals to develop close relationships. The regression results only compare respondents with guardians to respondents who do not have guardians. The model does not take into account guardianship type. More research should examine differences between private and public guardians in this area.

Respondents with higher weekly earnings were more likely to report more close relationships at baseline. This suggests that respondents who earn more and perhaps work a greater number of hours may have more opportunities to develop more close relationships.

Respondents who went on a greater number of different outings were more likely to report a greater number of close relationships at baseline and follow-up. This suggests that individuals who have more opportunities to go on outings may be more likely to develop more relationships.

Respondents who reported more outing interactions at baseline were more likely to report more relationships. This suggests that individuals who have more opportunities to interact with people in their communities are more likely to develop a greater number of close relationships.

Respondents who reported greater perceived quality of life at baseline were more likely to report more close relationships. This suggests that individuals who had greater perceived quality of life scores were more likely to have a greater number of close relationships.

Female respondents were more likely to report more close relationships than male respondents at follow-up.

Respondents who report more close relationships at baseline were also more likely to report more close relationships at follow-up.

Respondents who went on more outings at baseline were more likely to have more close relationships at follow-up. This further suggests that individuals who are given more opportunities to interact and engage with people in their communities are more likely to develop a greater number of close relationships.

Respondents who received residential services at baseline were more likely to have more close relationships at follow-up. Additional research is needed to understand differences in number of close relationships by setting type. It may be helpful to examine specific services (e.g., Adult Foster Care, Boarding Care).

Characteristics associated with respondents being less likely to have more close relationships at baseline and follow-up

Respondents in the Northeast and Central regions were less likely to report more close relationships than respondents in the Metro region at baseline.

At follow-up, age was associated with close relationships. Younger respondents were more likely to report more close relationships than older respondents.

Respondents in the Southwest, Central, and Northwest regions were less likely to report more close relationships than respondents in the Metro region at follow-up.

Further investigation to understand differences between the Metro region and other regions in Minnesota is needed.

Overall summary of findings

The Olmstead Quality of Life Survey methodology was designed to ensure the results are representative of Minnesotans with disabilities receiving services in potentially segregated settings. The results are not generalizable to all Minnesotans with a disability. Examination of the demographic characteristics showed that the baseline and follow-up samples looked the same in terms of gender, age, region of service, and setting type. The baseline and follow-up samples appeared to be representative of the eligible population with minimal differences present.

There was no substantial change in module scores over time.

In terms of changes from the baseline survey to the follow-up survey, there were no significant changes for the outing interactions, choice-making, and perceived quality of life module scores. Given the relatively short amount of time between the baseline and follow-up surveys, little to no change in survey scores is expected. Timing a second follow-up survey to occur in 2020 will maximize the chances to see significant change.

There were differences in outcomes by region.

The analysis identified regional differences in perceived quality of life. However, further research is needed to identify how and why these differences exist:

- Overall, daily outing interactions are segregated across the state. However, the Metro region had the lowest outing interactions score by a significant margin.

- Decision control inventory (DCI) scores indicate a moderate amount of choice-making across the state. The Northeast region reported the lowest DCI score by a significant margin.
- Perceived quality of life was reported as good across the state. The Northeast region reported the highest perceived quality of life by a significant margin.
- The average number of close relationships decreased across most regions. The decrease was greatest in the Southeast region, where respondents reported 1.3 fewer relationships, on average.

There was little difference in outcomes between residential and day settings.

There were slight differences in module scores between residential and day settings. However, the differences did not meet the +/- 5 point practical significance threshold.

There were differences in outcomes by guardianship status.

There are specific differences between respondents with and without a guardian. There are also differences between respondents with a private guardian and those with a public guardian:

- Overall, outing interactions scores indicate a low level of community integration for all respondents. However, respondents with a public guardian reported lower levels of community engagement than respondents who do not have a guardian or respondents with a private guardian.
- Overall, decision control inventory scores indicate respondents who do not have a guardian and respondents with private guardians have a moderate level of choice-making power. Respondents with public guardians reported a limited amount of choice-making power.
- Assistive technology use was significantly higher among respondents with no guardian than among respondents with a guardian. Respondents who do not have a guardian were also more likely than respondents with a guardian to say assistive technology increased their independence, productivity, and community integration and decreased their dependence on others “a lot.”

The important characteristics that help to shape overall quality of life are beginning to emerge.

The regression models comparing respondent characteristics to overall quality of life confirmed that the four survey modules are all measuring different facets of quality of life. These models showed that all the module scores (outing interactions, decision control, perceived quality of life, and number of close relationships) are related to one another. This helps validate these characteristics as important constructs of an individual’s quality of life. Through the analysis of baseline and follow-up survey data, several key characteristics were identified as having a strong relationship to survey module scores and thus overall quality of life for the focus population:

- **Region:** The regression models indicate there is an association between region of services and overall perceived quality of life. Most of the differences occurred between the Metro region and greater Minnesota. The results suggest there are measurable differences between rural and urban communities that affect the perceived quality of life of Minnesotans with disabilities who receive services in potentially segregated settings.
- **Average daily cost of services:** On average, higher average daily cost of services is associated with lower perceived quality of life. However, this finding does not suggest that lowering the cost of services for all service recipients will lead to higher perceived quality of life.
- **Service type:** Service type, in addition to service setting, does have an impact on overall quality of life. On average, both day and residential services were associated with lower DCI scores. Service type is not associated with the other module scores.
- **Guardianship status**: Guardianship status is related to overall quality of life. On average, respondents with a public guardian have lower perceived quality of life scores than respondents with a private guardian. Respondents who do not have a guardian have higher DCI scores and fewer close relationships than respondents with a guardian.
- **Outing interaction scores:** On average, respondents with higher outing interaction scores also report higher perceived overall quality of life. This indicates there is a relationship between how much respondents interact with community members outside the home and overall quality of life.

The survey tool works for its intended purposes.

The first follow-up survey confirmed that the Quality of Life Survey tool is reliable and valid for the Minnesota context. The initial analysis of follow-up survey results has shown that the survey instrument can be used to identify important characteristics affecting overall quality of life and can effectively measure changes in overall quality of life over time.

Conclusion and future considerations

This report is intended to be an overview of the Olmstead Quality of Life Survey: First Follow-up – 2018 results. It serves as the first set of data points that can be used with the baseline results to detect and monitor change in quality of life over time for Minnesotans with disabilities who receive services in potentially segregated settings. While there were no significant changes in overall quality of life at the state level in this first follow-up, the longitudinal survey is critical to continue to monitor progress on Minnesota's Olmstead Plan implementation.

The analysis conducted for this report highlighted multiple areas that deserve further research and investigation:

- **Outings interactions:** The state as a whole has relatively low outings interaction scores and the Metro region scores significantly lower than the other regions. If quality of life is to improve for the focus population, outings must become more integrated. A deeper analysis as to how and why outings are not integrated in different parts of the state will be helpful to begin crafting a solution to this issue.
- **Guardianship status:** Respondents with guardians report lower decision control inventory scores and lower perceived quality of life than respondents who do not have guardians. This contrast is even more stark when guardianship is broken down to public and private guardians. Respondents with public guardians tend to report lower perceived quality of life than respondents with private guardians. While there may be justifiable reasons for respondents with guardians to have lower control of daily decision-making, these results call into question if the current guardianship structure supports the goals of Minnesota's Olmstead Plan. The results suggest other models like supported decision-making should be considered in order to decrease the differences in outcomes based on guardianship status. This model currently exists in the state, but it is not widely used. Further analysis into this relationship would be useful.
- **Region:** Where in the state a person lives influences overall quality of life. While it is not possible to say one region is inherently better than another, we now know that there are differences in perceived quality of life in different regions of the state. For example, there are fewer outing interactions in the Metro region, but respondents in this region report higher levels of choice-making power. What this indicates is that there are differences across the state in service availability, service affordability, how agencies provide services, how providers network and learn from each other, and how respondents form and maintain close relationships. All these things interact with quality of life. However, more research is needed to understand the underlying factors related to the significant differences between regions.
- **Cost of services:** Higher average daily cost of services is associated with less decision control and lower perceived quality of life. People with higher needs are often placed in high cost settings. These settings may have more segregated characteristics than lower cost settings. However, individuals now have an annual opportunity to choose more integrated housing and employment options. There are several critical questions here: Are options being presented, are individuals aware of the choices they have, are services available, and are services affordable? Further understanding the answers to these questions would help to illuminate the interplay with cost and appropriate setting of choice.
- **Waiver type:** Respondents with a CADI waiver reported lower perceived quality of life than those with a DD waiver. Similarly, respondents with a BI waiver reported lower perceived quality of life scores than those with a DD waiver. Therefore, further understanding the differences in practices for each waiver type may be helpful in identifying process changes that could improve overall quality of life for individuals across all waiver types.

- **Change in services over time:** Many respondents in the survey sample receive services in more than one setting. Over time, service needs will change and individuals in the sample will have a different mix of services and a choice as to what best fits their needs. Monitoring the changing mix of potentially segregated settings and integrated settings in which people are receiving services will help to provide more information as to whether people are being supported at a level that matches individual needs and choice.
- **Changing expectations:** As more people receiving services in potentially segregated settings realize they have a choice in their services and/or their daily activities, people in these settings may become more dissatisfied with the services they receive. This increasing dissatisfaction could impact overall quality of life and result in lower module scores in future years. It is important to control for changes in expectations in future follow-up surveys. One way to do this is to add questions in other data collection tools to control for changing expectations. For example, inserting a question that asks about individual expectations into the 2020 National Core Indicators survey would be a good way to begin collecting data on this topic. This question could then be refined and inserted into the subsequent Quality of Life Follow-up Surveys.
- **Use of assistive technology:** The availability and use of assistive technology is a critical component to realizing increased community integration. The data collected in the Quality of Life Survey on assistive technology use shed some light on who is currently using and benefiting from assistive technology. However, there are more questions to answer about access to and the benefits of assistive technology. Further research into this area should consider not only the availability of assistive technology, but connectivity as well. As more services are provided over the internet, it is critical that individuals across the state have access to high-speed internet and cellphone service. This includes improving internet services in greater Minnesota and ensuring the state reduces financial barriers to connectivity.

Second follow-up survey

A second follow-up survey will be valuable to continue to monitor the state’s progress in improving quality of life for the focus population. A second follow-up survey will also allow more opportunity to confirm quality of life predictor characteristics that have been identified in this report. As this first follow-up survey showed, a one-year time span between surveys is not long enough to allow for significant changes in quality of life. Therefore, to increase the chances of seeing significant changes in module scores between the baseline survey and the second follow-up survey, it is recommended that the second follow-up survey begin no earlier than summer 2020.

In a second follow-up survey, it is also recommended that new questions be added to the survey instrument, including:

- Additional relationship questions that help to further identify the type and strength of relationships present
- A question or questions that identify changing expectations of services over time

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Appendix A – Subgroup analyses

Subgroup analysis by region

Table 69: Comparison of average day activity hours at baseline and follow-up by region

Region	Number of baseline respondents	Average day activity hours at baseline	Number of follow-up respondents	Average day activity hours at follow-up
Central	255	24.1	53	24.0
Metro	513	24.7	135	19.5
Northeast	178	23.7	54	20.7
Northwest	194	25.6	39	20.2
Southeast	208	25.0	60	22.3
Southwest	217	25.5	51	23.0
Statewide	**1,565**	**24.7**	**392**	**21.2**

Table 70: Comparison of average weekly earnings at baseline and follow-up by region

Region	Number of baseline respondents	Average weekly earnings at baseline	Number of follow-up respondents	Average weekly earnings at follow-up
Central	151	$95.32	37	$104.03
Metro	199	$117.63	51	$90.14
Northeast	107	$81.31	22	$133.95
Northwest	129	$44.77	22	$72.52
Southeast	93	$73.51	18	$120.32
Southwest	137	$63.77	31	$57.01
Statewide	**816**	**$83.15**	**181**	**$93.49**

Note: Respondents could report earnings in more than one day activity type.

Table 71: Comparison of average integration level at baseline and follow-up by region

Region	Number of baseline respondents	Average integration level at baseline	Number of follow-up respondents	Average integration level at follow-up
Central	264	2.4	57	2.2
Metro	534	2.1	141	2.2
Northeast	179	2.1	39	2.6
Northwest	198	2.4	55	2.5
Southeast	212	2.0	60	2.2
Southwest	221	1.8	53	1.7
Statewide	**1,608**	**2.1**	**405**	**2.2**

Table 72: Comparison of average number of monthly outings at baseline and follow-up by region

Region	Number of baseline respondents	Average monthly outings at baseline	Number of follow-up respondents	Average monthly outings at follow-up
Central	311	33.7	79	24.2
Metro	663	29.8	176	28.1
Northeast	228	29.7	56	29.0
Northwest	261	34.5	69	38.5
Southeast	239	33.3	62	32.6
Southwest	266	33.4	66	35.3
Statewide	**1,969**	**31.9**	**508**	**30.5**

Table 73: Comparison of average group size at baseline and follow-up by region

Region	Number of baseline respondents	Average group size at baseline	Number of follow-up respondents	Average group size at follow-up
Central	311	3.4	78	3.2
Metro	652	3.1	172	2.7
Northeast	227	3.4	55	2.4
Northwest	259	3.4	67	3.7
Southeast	238	3.3	61	2.8
Southwest	264	3.3	66	3.5
Statewide	**1,951**	**3.3**	**499**	**3.0**

Subgroup analysis by service type (residential or day)

Table 74: Comparison of average day activity hours at baseline and follow-up by service type

Service type	Number of baseline respondents	Average day activity hours at baseline	Number of follow-up respondents	Average day activity hours at follow-up
Residential	1,369	27.1	330	21.3
Day	944	24.7	229	21.8
Statewide	**1,565**	**24.7**	**392**	**21.2**

Note: Respondents could report hours in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 75: Comparison of average weekly earnings at baseline and follow-up by service type

Service type	Number of baseline respondents	Average weekly earnings at baseline	Number of follow-up respondents	Average weekly earnings at follow-up
Residential	693	$73.47	145	$89.78
Day	509	$71.74	116	$79.67
Statewide	**816**	**$83.15**	**181**	**$93.49**

Note: Respondents could report earnings in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 76: Comparison of average integration level at baseline and follow-up by service type

Service type	Number of baseline respondents	Average integration level at baseline	Number of follow-up respondents	Average integration level at follow-up
Residential	1,127	2.1	343	2.1
Day	973	2.0	238	2.1
Statewide	**1,608**	**2.1**	**405**	**2.2**

Note: Respondents could report integration levels in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 77: Comparison of average monthly outings at baseline and follow-up by service type

Service type	Number of baseline respondents	Average monthly outings at baseline	Number of follow-up respondents	Average monthly outings at follow-up
Residential	1,762	30.4	443	28.6
Day	1,003	35.3	247	32.7
Statewide	**1,969**	**31.9**	**508**	**30.5**

Note: Respondents could report integration levels in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 78: Comparison of average group size at baseline and follow-up by service type

Service type	Number of baseline respondents	Average group size at baseline	Number of follow-up respondents	Average group size at follow-up
Residential	1,744	3.3	436	3.1
Day	996	3.4	246	3.0
Statewide	**1,951**	**3.3**	**499**	**3.0**

Note: Respondents could report integration levels in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Subgroup analysis by service type

Table 79: Comparison of average day activity hours in all day activities at baseline and follow-up by setting

Setting	Number of baseline respondents	Average day activity hours at baseline	Number of follow-up respondents	Average day activity hours at follow-up
Adult foster care	1,206	25.1	296	21.6
Boarding care	3	10.7	-	-
Board and lodging	40	18.1	8	18.9
Center based employment	81	24.9	21	20.6
Day training and habilitation	863	27.3	220	21.9
Intermediate care facilities for persons with developmental disabilities	87	26.9	18	23.5
Nursing facilities and customized living	99	15.0	19	14.2
Supervised living facilities	9	21.9	1	20.0
Statewide	**1,565**	**24.7**	**392**	**21.2**

Note: Respondents could report hours in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 80: Comparison of average weekly earnings in all day activities at baseline and follow-up by setting

Setting	Number of baseline respondents	Average weekly earnings at baseline	Number of follow-up respondents	Average weekly earnings at follow-up
Adult foster care	643	$75.90	135	$89.29
Boarding care	2	$228.00	-	-
Board and lodging	18	$86.28	5	$136.08
Center based employment	65	$182.15	16	$180.31
Day training and habilitation	444	$59.06	107	$67.73
Intermediate care facilities for persons with developmental disabilities	25	$34.54	3	$56.87
Nursing facilities and customized living	29	$115.60	6	$92.41
Supervised living facilities	9	$143.06	-	-
Statewide	**816**	**$83.15**	**181**	**$93.48**

Note: Respondents could report earnings in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 81: Comparison of average integration level in all day activities at baseline and follow-up by setting

Setting	Number of baseline respondents	Average integration level at baseline	Number of follow-up respondents	Average integration level at follow-up
Adult foster care	1,238	2.1	306	2.2
Boarding care	3	1.3	-	-
Board and lodging	40	2.5	8	2.0
Center based employment	85	3.2	21	3.5
Day training and habilitation	888	1.9	229	2.0
Intermediate care facilities for persons with developmental disabilities	87	1.5	20	1.5
Nursing facilities and customized living	100	2.7	20	2.0
Supervised living facilities	9	2.7	1	4.0
Statewide	**1,608**	**2.1**	**405**	**2.2**

Note: Respondents could report integration levels in more than one day activity. Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 82: Comparison of average number of monthly outings at baseline and follow-up by setting

Setting	Number of baseline respondents	Average monthly outings at baseline	Number of follow-up respondents	Average monthly outings at follow-up
Adult foster care	1,441	31.3	366	30.2
Boarding care	7	33.3	1	12.0
Board and lodging	70	24.5	20	22.2
Center based employment	90	43.5	24	45.9
Day training and habilitation	913	34.5	237	32.2
Intermediate care facilities for persons with developmental disabilities	103	22.4	23	20.4
Nursing facilities and customized living	256	27.6	60	21.0
Supervised living facilities	11	35.7	1	45.0
Statewide	**1,969**	**31.9**	**508**	**30.5**

Note: Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 83: Comparison of average group size at baseline and follow-up by setting

Setting	Number of baseline respondents	Average group size at baseline	Number of follow-up respondents	Average group size at follow-up
Adult foster care	1,431	3.3	362	3.1
Boarding care	7	2.8	1	2.3
Board and lodging	69	3.3	19	3.2
Center based employment	90	2.3	23	2.3
Day training and habilitation	906	3.5	236	3.0
Intermediate care facilities for persons with developmental disabilities	98	3.5	23	2.9
Nursing facilities and customized living	252	3.1	57	3.0
Supervised living facilities	11	2.4	1	2.0
Statewide	**1,951**	**3.3**	**499**	**3.0**

Note: Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 84: Comparison of outing interactions scores at baseline and follow-up by setting

Setting	Number of baseline respondents	Average outing interaction score at baseline	Number of follow-up respondents	Average outing interaction score at follow-up
Adult foster care	1417	38.0	361	35.7
Boarding care	7	44.9	1	0.0
Board and lodging	69	35.8	19	48.0
Center based employment	90	39.8	23	42.9
Day training and habilitation	895	38.5	235	36.3
Intermediate care facilities for persons with developmental disabilities	96	31.7	22	22.3
Nursing facilities and customized living	252	33.5	57	38.5
Supervised living facilities	11	35.9	1	25.0
Statewide	**1,935**	**37.7**	**497**	**36.5**

Note: Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 85: Comparison of decision control inventory scores at baseline and follow-up by setting

Setting	Number of baseline respondents	Average DCI score at baseline	Number of follow-up respondents	Average DCI score at follow-up
Adult foster care	1,417	63.0	366	64.3
Boarding care	7	79.1	1	79.3
Board and lodging	71	68.2	20	70.9
Center based employment	90	89.3	23	93.9
Day training and habilitation	896	63.5	235	64.6
Intermediate care facilities for persons with developmental disabilities	100	55.5	22	53.1
Nursing facilities and customized living	257	72.3	60	73.4
Supervised living facilities	11	69.7	1	67.7
Statewide	**1,942**	**66.2**	**504**	**67.6**

Note: Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 86: Comparison of perceived quality of life scores at baseline and follow-up by setting

Setting	Number of baseline respondents	Average quality of life score at baseline	Number of follow-up respondents	Average quality of life score at follow-up
Adult foster care	1,387	77.1	361	77.4
Boarding care	7	72.0	1	100.0
Board and lodging	71	71.5	20	74.1
Center based employment	91	77.6	24	77.9
Day training and habilitation	876	79.0	234	79.3
Intermediate care facilities for persons with developmental disabilities	90	77.0	22	75.9
Nursing facilities and customized living	255	70.6	60	73.9
Supervised living facilities	11	67.4	1	34.1
Statewide	**1,904**	**76.6**	**501**	**77.4**

Note: Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Table 87: Comparison of average number of close relationships reported at baseline and follow-up by setting

Setting	Number of baseline respondents	Average number of relationships at baseline	Number of follow-up respondents	Average number of relationships at follow-up
Adult foster care	1,359	4.2	364	3.7
Boarding care	7	3.9	1	0.0
Board and lodging	69	4.0	20	3.7
Center based employment	88	4.1	23	3.7
Day training and habilitation	865	4.3	236	3.8
Intermediate care facilities for persons with developmental disabilities	91	4.2	23	4.0
Nursing facilities and customized living	243	3.9	60	3.5
Supervised living facilities	11	4.1	1	0.0
Statewide	**1,859**	4.2	**505**	**3.7**

Note: Since respondents can and do experience multiple settings within a day, the total does not equal the number of respondents in each setting due to overlap.

Subgroup analysis by guardianship status

Table 88: Comparison average day activity hours in all day activities at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average day activity hours at baseline	Number of follow-up respondents	Average day activity hours at follow-up
No guardian	302	17.1	73	18.2
Public guardian	175	22.2	45	23.8
Private guardian	956	21.3	245	21.8
Statewide	**1,565**	**24.7**	**392**	**21.2**

Table 89: Comparison of average weekly earnings in all day activities at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average weekly earnings at baseline	Number of follow-up respondents	Average weekly earnings at follow-up
No guardian	173	$101.43	36	$102.31
Public guardian	74	$61.74	18	$85.26
Private guardian	486	$63.75	107	$79.33
Statewide	**816**	**$83.15**	**181**	**$93.48**

Table 90: Comparison of average integration levels in all day activities at baseline and follow-up by guardianship status

Guardianship status	Number of baseline	Average integration	Number of follow-up	Average integration

	respondents	level at baseline	respondents	level at follow-up
No guardian	313	2.4	74	2.3
Public guardian	181	1.7	48	2.0
Private guardian	978	2.0	254	2.1
Statewide	**1,608**	**2.1**	**405**	**2.2**

Table 91: Comparison of average monthly outings at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average monthly outings at baseline	Number of follow-up respondents	Average monthly outings at follow-up
No guardian	503	29.0	130	27.4
Public guardian	220	23.8	62	22.0
Private guardian	1075	34.3	277	32.8
Statewide	**1,969**	**31.9**	**508**	**30.5**

Table 92: Comparison of average group size at baseline and follow-up by guardianship status

Guardianship status	Number of baseline respondents	Average group size at baseline	Number of follow-up respondents	Average group size at follow-up
No guardian	500	3.1	126	3.1
Public guardian	217	3.2	60	3.2
Private guardian	1065	3.5	276	3.0
Statewide	**1,951**	**3.3**	**499**	**3.0**

Appendix B – Regression tables

Table 93: Characteristics associated with respondents' outing interactions scores in the baseline sample

Characteristic	Standardized coefficient	P-value
Gender (female)	-.037	.334
Age	-.065	.116
Region (Reference: Metro)		
Southeast	.174 ***	.000
Southwest	.113 *	.020
Northeast	.043	.349
Northwest	.209 ***	.000
Central	.126 **	.009
Race (Reference: White)		
Asian	-.026	.495
Black	-.012	.757
Two races	-.014	.702
American Indian	.000	.991
Waiver type (Reference: DD)		
CADI Waiver	.023	.707
BI Waiver	.049	.266
Proxy	-.030	.429
Average cost per day	.014	.754
Guardianship status	-.066	.141
Weekly earnings	-.020	.646
Day integration	.020	.624
Number of different outing types	.130 **	.005
Perceived quality of life score	.241 ***	.000
Total monthly outings	.105 *	.025
Average group size on outings	.032	.410
Decision control inventory score	.007	.874
Number of relationships	.090 *	.024
Adaptive behavior scale	-.085	.092
Residential services	-.006	.887
Day services	.010	.873

Note: * p < .05; ** p < .01; *** p < .001

Table 94: Characteristics associated with respondents' decision control inventory scores in the baseline sample

Characteristic	Standardized coefficient	P-value
Gender (female)	-.064	.070
Age	.010	.786
Region (Reference: Metro)		
Southeast	-.066	.119
Southwest	-.112 *	.012
Northeast	-.005	.912
Northwest	-.249 ***	.000
Central	-.092 *	.037
Race (Reference: White)		
Asian	.056	.106
Black	-.011	.752
Two races	.060	.082
American Indian	-.031	.380
Waiver type (Reference: DD)		
CADI Waiver	-.002	.972
BI Waiver	.022	.596
Proxy	-.031	.387
Average cost per day	-.089 *	.030
Guardianship status	-.104 *	.011
Weekly earnings	.097 *	.018
Day integration	.028	.463
Number of different outing types	.004	.933
Outing interactions score	.006	.874
Total monthly outings	.180 ***	.000
Average group size on outings	-.072 *	.045
Perceived quality of life score	.125 **	.002
Number of relationships	-.038	.306
Adaptive behavior scale	.127 **	.006
Residential services	-.253 ***	.000
Day services	-.132 *	.016

Note: * p < .05; ** p < .01; *** p < .001

Table 95: Characteristics associated with respondents' perceived quality of life scores in the baseline sample

Characteristic	Standardized coefficient	P-value
Gender (female)	.091*	.014
Age	.069	.087
Region (Reference: Metro)		
Southeast	.005	.919
Southwest	-.068	.148
Northeast	.086	.053
Northwest	.075	.126
Central	-.011	.816
Race (Reference: White)		
Asian	.008	.820
Black	-.036	.329
Two races	-.041	.267
American Indian	-.028	.451
Waiver type (Reference: DD)		
CADI Waiver	-.158 **	.008
BI Waiver	-.177 ***	.000
Proxy	-.060	.107
Average cost per day	-.107 *	.014
Guardianship status	.017	.688
Weekly earnings	-.101 *	.018
Day integration	.086 *	.030
Number of different outing types	.106 *	.019
Outing interactions score	.226 ***	.000
Total monthly outings	-.013	.767
Average group size on outings	.005	.902
Decision control inventory score	.139 **	.002
Number of relationships	.121 **	.002
Adaptive behavior scale	-.049	.319
Residential services	-.031	.476
Day services	-.035	.544

Note: * p < .05; ** p < .01; *** p < .001

Table 96: Characteristics associated with respondents' number of close relationships in the baseline sample

Characteristic	Odds ratio	P-value
Gender (female)	0.827	.141
Age	0.997	.526
Region (Reference: Metro)		
Southeast	0.995	.998
Southwest	1.699 *	.028
Northeast	0.344 ***	.000
Northwest	0.846	.474
Central	0.548 **	.002
Race (Reference: White)		
Asian	1.219	.635
Black	0.283	.054
Two races	1.023	.959
American Indian	4.198 **	.009
Waiver type (Reference: DD)		
CADI Waiver	0.797	.634
BI Waiver	0.673	.165
Proxy	1.379	.273
Average cost per day	1.007	.204
Guardianship status	2.003 ***	.000
Weekly earnings	1.003	.003
Day integration	0.997	.149
Number of different outing types	1.094 **	.007
Outing interactions score	1.012 ***	.000
Total monthly outings	1.007	.080
Average group size on outings	1.132 **	.009
Decision control inventory score	1.006	.906
Perceived quality of life score	1.023 ***	.000
Adaptive behavior scale	1.004	.454
Residential services	0.943	.835
Day services	0.986	.946

Note: * p < .05; ** p < .01; *** p < .001

Table 97: Characteristics associated with respondents' outing interactions scores in the follow-up sample

Characteristic	Standardized coefficient	P-value
Gender (female)	-.002	.979
Age	-.056	.462
Region (Reference: Metro)		
Southeast	-.038	.632
Southwest	.114	.190
Northeast	.098	.223
Northwest	-.012	.896
Central	-.024	.775
Race (Reference: White)		
Asian	-.034	.623
Black	.059	.404
American Indian	-.053	.463
Waiver type (Reference: DD)		
CADI Waiver	.129	.265
BI Waiver	.015	.860
Proxy	.027	.723
Housing size	-.094	.206
Average cost per day	-.087	.304
Guardianship status	-.001	.987
Weekly earnings	.036	.680
Day integration	-.019	.806
Number of different outing types	.171	.074
Total monthly outings	-.123	.204
Average group size on outings	-.042	.569
Perceived quality of life score	-.013	.877
Decision control inventory score	.019	.823
Number of relationships	.067	.409
Adaptive behavior scale	.040	.60
Residential services	.110	.211
Day services	.116	.336

Characteristic	Standardized coefficient	P-value
Outing interactions score at baseline	.584 ***	.000

Note: * p < .05; ** p < .01; *** p < .001

Table 98: Characteristics associated with respondents' decision control inventory scores in the follow-up sample

Characteristic	Standardized coefficient	P-value
Gender (female)	.053	.417
Age	-.100	.157
Region (Reference: Metro)		
Southeast	.065	.899
Southwest	.034	.669
Northeast	-.084	.261
Northwest	-.047	.567
Central	.005	.947
Race (Reference: White)		
Asian	.035	.580
Black	-.062	.335
American Indian	.067	.305
Waiver type (Reference: DD)		
CADI Waiver	-.169	.107
BI Waiver	.032	.672
Proxy	-.204	.053
Housing size	.111	.100
Average cost per day	-.082	.289
Guardianship status	-.071	.343
Weekly earnings	-.031	.687
Day integration	-.079	.269
Number of different outing types	.055	.528
Outing interactions score	-.077	.302
Total monthly outings	.077	.379
Average group size on outings	-.115	.084
Perceived quality of life score	.056	.474
Number of relationships	-.007	.919
Adaptive behavior scale	.126	.136
Residential services	-.363 ***	.000

Characteristic	Standardized coefficient	P-value
Day services	-.141 *	.040
Decision control inventory score at baseline	.265 **	.001

Note: * p < .05; ** p < .01; *** p < .001

Table 99: Characteristics associated with respondents' perceived quality of life scores in the follow-up sample

Characteristic	Standardized coefficient	P-value
Gender (female)	.142 *	.034
Age	-.048	.503
Region (Reference: Metro)		
Southeast	-.114	.124
Southwest	-.054	.510
Northeast	.176 *	.023
Northwest	-.119	.155
Central	-.050	.534
Race (Reference: White)		
Asian	-.062	.335
Black	-.002	.972
American Indian	.034	.611
Waiver type (Reference: DD)		
CADI Waiver	.063	.556
BI Waiver	.094	.231
Proxy	.031	.657
Housing size	.016	.815
Average cost per day	-.246 **	.002
Guardianship status	-.099	.198
Weekly earnings	-.032	.686
Day integration	-.129	.080
Number of different outing types	.037	.679
Outing interactions score	.077	.312
Total monthly outings	-.004	.962
Average group size on outings	-.037	.586
Decision control inventory score	.151	.058
Number of relationships	.008	.913
Adaptive behavior scale	-.157	.070
Residential services	.098	.227
Day services	.155	.149
Perceived quality of life score at	.444 ***	.000

Note: * p < .05; ** p < .01; *** p < .001

Table 100: Characteristics associated with respondents' number of close relationships in the follow-up sample

Characteristic	Odds ratio	P-value
Gender (female)	2.152 **	.001
Age	0.949 ***	.000
Region (Reference: Metro)		
Southeast	0.187 ***	.000
Southwest	0.324 **	.007
Northeast	1.356	.584
Northwest	0.321 **	.005
Central	0.577	.199
Race (Reference: White)		
Asian	1.017	.987
Black	1.015	.996
American Indian	0.488	.356
Waiver type (Reference: DD)		
CADI Waiver	0.478	.125
BI Waiver	2.706	.122
Proxy	1.329	.686
Housing size	0.998	.903
Average cost per day	0.999	.143
Guardianship status	1.001	.996
Weekly earnings	0.999	.856
Day integration	0.995	.239
Number of different outing types	1.193 **	.008
Total monthly outings	1.017 *	.019
Average group size on outings	0.987	.077
Perceived quality of life score	1.018	.087
Decision control inventory score	1.001	.913
Outing interactions score	0.999	.865
Adaptive behavior scale	1.012	.239
Residential services	4.509 ***	.000
Day services	1.070	.091
Number of relationships at baseline	2.726 ***	.000

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

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