

RESIDENT AND FAMILY SURVEYS FOR ASSISTED LIVING PROJECT

FINAL REPORT 2022



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INTRODUCTION

The Minnesota Department of Human Services (DHS) and the Minnesota Board of Aging are developing a report card to measure quality in Assisted Living (AL) settings throughout the state. Report cards will draw on multiple data points and results will be made publicly available to assist Minnesota residents in locating care and to support AL facilities in quality improvement efforts. Resident Quality of Life (QOL) and Family Satisfaction (FS) Surveys will be two key inputs for the forthcoming AL Report Card.

The current report describes the first wave of statewide data collection, which launched in September 2021 with interviewer recruitment and training. The following goals guided statewide data collection, initially:

1. Collect data, for both resident and family surveys, from all AL facilities in the state of Minnesota with a capacity to serve eight or more residents.
2. Pilot data collection procedures at facilities serving fewer than eight residents.
3. Provide facility-level reports according to the following guidelines¹:
 - ≥ 11 responses would get an item-level report
 - 5-10 responses would receive a domain-level report
 - < 5 responses would not get a report
4. Test the stability of the reliability and validity results of both surveys that were found during pilot testing in 2021.

The first phase of data collection began in September 2021 and continued through early March 2022. In this time frame data collection was completed at 97 AL facilities. However, there were many challenges with data collection due to the COVID-19 pandemic, historic workforce shortages faced by facilities, and the ability for facilities to opt-out of participating should they choose. As such, data collection goals had to be modified in January 2022, for the second phase of statewide data collection, which occurred March through June 2022. The revised goals were to:

1. Test the feasibility of collecting resident data via mail, phone, and remote video survey administration.
2. Statistically compare survey results across all modes of data collection (including in-person data collection from Phase 1) to see if results varied as a function of data collection mode.
3. Explore data collection using in-person, mailed and phone surveys in facilities serving fewer than 8 residents as a pilot study.

For Phase 2 of data collection, no facility-level reports were included in the scope of work given questions regarding the reliability and validity of data collection across the different modes.

¹ Reporting guidelines determined by the Department of Human Services Institutional Review Board (IRB).

Throughout this report, we refer to in-person data collection in facilities with eight or more residents from September 2021 through early March 2022 as ‘Phase 1.’ Data collection in facilities with eight or more residents where multiple modes of data collection were tested is called ‘Phase 2.’ Finally, data collection conducted in facilities with fewer than eight residents is called the ‘Small Facility Pilot.’

TABLE I. PHASES OF DATA COLLECTION

Phase 1	In-person only	September 2021-early March 2022
Phase 2	Mail and phone administration + Video feasibility test	March 2022-June 2022
Small Facility Pilot	In-person, mail, and phone administration	March 2022-June 2022

The DHS Institutional Review Board (IRB) provided oversight and approval of all data collection and facility-level reporting procedures prior to any work being implemented and when any changes were made in data collection approaches.

DATA COLLECTION PROCEDURES

PHASE I: IN-PERSON DATA COLLECTION

Facility Recruitment

DHS provided Vital with a list of all licensed AL facilities in the state in August 2021. The state had just implemented new licensure requirements at the time of the August 2021 data extract and the universe of AL facilities was 1,819. Of those, 858 facilities had a capacity for eight or more residents and 961 facilities had a capacity for fewer than eight residents. DHS sent notification letters to all facilities to share details about the project and invite facilities to participate, given participation was not mandated legislatively. In Phase 1, 447 facilities were contacted via phone by Vital (after DHS mailed notification letters) and were invited to participate. The project shifted to Phase 2 before all 858 eligible facilities were able to be contacted.

Vital’s standard scheduling procedures included confirming participation with facilities prior to interview date(s) to ensure the facility was COVID-19-free. Upon learning about any positive COVID-19 cases, facility visits were rescheduled within a specific time frame that aligned with state and federal guidelines. Outbreaks were so common at the earliest stages of data collection that data collection was paused for six weeks to revise scheduling and staffing procedures. Some facilities were not able to be rescheduled given continued COVID-19 outbreak status and other logistical constraints such as interviewer availability and the data delivery date of June 30, 2022.

Resident + Family Recruitment

Once facilities confirmed participation, the Vital team scheduled data collection for one or more days based on the target number of interviews to be completed. The Vital team requested a facility census list during scheduling that included basic contact/location information for all residents and a responsible party's contact information and mailing address for distribution of the FS survey. Based on each facility's number of residents, Vital applied the sampling formula provided by DHS to determine the minimum number of completed surveys needed to consider the facility's data collection complete. For the resident survey, the goal was to interview enough residents at each facility to have a 95% confidence interval and a margin of error of +/- 10% at the dimension level and +/- 5% at the total score level. Residents who did and did not receive memory care services were sampled and interviewers noted on the survey which residents received memory care. When the target number of completed interviews was lower than a facility's occupancy, Vital randomly sampled residents and provided the list of resident names to interviewers prior to their scheduled visit. For facilities where sampling was not possible, Vital simply provided all resident names to interviewers ahead of their scheduled visit. When interviewers arrived at facilities to conduct data collection, they met a facility contact who helped orient them to the facility and provided a list of residents to exclude based on guardian refusals and isolations due to infectious diseases. In some cases, only one interviewer was assigned to a facility and in other cases interviewers worked in teams of 2-4 to complete the needed number of interviews. As interviewers approached potential respondents, they utilized a script that described the purpose of the survey and that it was voluntary (see Appendix A for script). All respondents provided verbal consent to participate before the survey was conducted. All interviewers completed a comprehensive training program that included classroom instruction and field experience. They learned how to administer a structured interview the same way to each resident and were taught strategies to build rapport with all residents.

For the FS survey, all individuals listed as the responsible party in facility census lists were mailed a survey and a postage paid return envelope. An introductory letter accompanied each survey. The letter described the option to complete the survey online. If the responsible parties did not complete the survey by mail or online after six weeks, they were contacted by phone with the option to complete the survey via phone instead, after providing consent.

PHASE 2: PHONE, MAIL + VIDEO DATA COLLECTION

Facility + Participant Recruitment

Due to the continued challenges related to COVID-19 and in-person data collection, the focus of the project shifted in February 2022 to maximize data collection while testing phone, mailed, and video-based survey administration. The goal for phone and mailed administrations was to obtain up to 1,000 surveys per mode, with a minimum of 400 surveys needed per mode to test differences in survey results by mode. For video-based administration, the goal was simply to test the feasibility of collecting data in this way. With the shift in data collection objectives, facilities with eight or more residents that had not participated in Phase 1 and did not have memory care licenses were eligible

for Phase 2. Facilities with memory care licenses were excluded from Phase 2 given concerns over conducting interviews via phone and mail with memory care residents. The remaining facilities were randomly assigned to phone, mail, or video administration.

DHS sent a new letter to all facilities that received a notification letter in fall 2021 to advise them of the changes in data collection and Vital followed-up with scheduling calls. For mail administration, a census list was no longer required. Instead, Vital asked for the number of residents at each facility and mailed a box with the appropriate number of surveys for residents with return envelopes to the facility to then distribute. An introductory letter accompanied each of the surveys describing the intent and voluntary nature of participation. A phone number to contact Vital if residents had questions about participation was included in the letter. By sending a completed survey back, residents consented to participate in the study. No resident-level sampling was conducted for facilities assigned to mailed administration.

For phone administration, a census list was required with resident phone numbers and responsible parties' contact information including their mailing address. Facilities were assigned to a data collection window and interviewers were provided resident lists. Unlike Phase 1, no resident-level sampling was conducted for facilities assigned to phone administration, only facility-level sampling. Interviewers called participating facility administrators every morning to obtain daily activity lists and guardian refusal lists prior to beginning resident calls. When interviewers called potential respondents, they followed a script that Vital provided describing the survey and asking for voluntary consent to participate.

Lastly, for video administration just two facilities were contacted due to logistical constraints with interviewer availability, the need to continue collecting data via other modes, and the project timeline. Participation was based on interviewer availability, as well as their proximity to sampled facilities. Because video-based data collection was conducted to assess feasibility of the mode, no resident-level sampling strategy was used. Rather, the goal was to conduct as many interviews as possible.

Family surveys were not collected in Phase 2 given the time involved in preparing, mailing, and receiving surveys and the data submission deadline.

SMALL FACILITY PILOT

For facilities with fewer than eight respondents, the goal for data collection was to obtain statistically representative results based on the universe of small facilities (961) and to assess the feasibility of collecting data in-person and via mail and phone administration. Across the three modes of data collection, 184 surveys were needed, 62 of each mode. Facilities were randomly sampled and invited to participate ensuring that some sites were standalone sites and others shared ownership/administration across several sites. For the mail and phone modes, only facilities that were not licensed for memory care were sampled/invited to participate, while facilities licensed for memory

care were included for in-person surveys. The procedures described above for in-person, mail, and phone survey administration modes, were followed for all small facilities.

INSTRUMENTS

RESIDENT QUALITY OF LIFE

The resident and family surveys used in statewide data collection can be found in Appendices B and C, respectively. The resident survey consisted of 43 items split into the eight domains listed below, which were determined during pilot testing in 2021. There were an additional two items that asked individuals about their overall perception of the facility, two items that asked about residents' experiences with COVID-19, and nine demographic items.

- The people who work here
- Physical environment
- Food
- Meaningful activities/social engagement
- Choice/autonomy
- Religion/spirituality
- Security, safety, & privacy
- Finances

FAMILY SATISFACTION

The family survey used in Phase 1 consisted of 39 items split into the eight domains listed below, which were determined during pilot testing in 2021. There were an additional three items that asked individuals about their overall perception of the facility, one COVID-19 item, and seven demographic items.

- Care experience
- Choice/preference
- Personal care needs
- Cost of care
- Housekeeping
- Meals
- Physical environment
- Quality of staff care

FACILITY, RESIDENT, + FAMILY PARTICIPANTS

FACILITIES

Facility participation rates across modes are presented in Table 2 below. During Phase 1 of in-person interviewing, 447 facilities were contacted by email and/or phone to invite them to participate in the project. One-hundred forty-seven facilities agreed to participate in Phase 1, while 74 facilities declined participation representing a 33% response rate based on the 447 facilities contacted. Voice mail messages were left with many facilities, but it is not clear if messages were received by the intended recipient or if non-response was a soft refusal. Of the 147 facilities that

agreed to participate, 50 could not participate due to COVID-19 outbreaks and, in some cases, interviewer availability.

Participation rates for phone and mail survey administration are also presented in the table below. Participation rates were somewhat higher than in-person data collection likely due to multiple factors including the COVID-19 pandemic, visitation restrictions and guidelines, and differing levels of burden on facility staff to prepare for project participation as a function of the data collection mode.

TABLE 2. PARTICIPATION RATES FOR FACILITIES ACROSS MODES

	Phase I	Phase II*	Phase II*
	In-person	Phone	Mail
Facilities Invited by Phone/Email Outreach	447	76	74
Facilities Agreed/Data Not Collected	50 (11%)	1 (1%)	14 (19%)
Facilities Agreed/Data Collected	97 (22%)	38 (50%)	37 (50%)
Facilities Refused	74 (17%)	37 (49%)	23 (31%)
Participation Rate**	22%	50%	50%

*Phase 2 data highlights facilities with a capacity of >8 residents only; smaller facility participation is presented below.

**Participation rates account for facilities only where data was able to be collected.

The most common reasons that facilities gave for not participating in in-person interviews during Phase 1 were staffing shortages leading to reduced capacity to participate, concerns over COVID-19 risks, and preference not to participate since the survey was optional. For both phone and mail administration, many facilities did not state why they did not want to participate (20 and 10 facilities, respectively). Additionally, several facilities contacted had fewer than eight residents so were not eligible for participation in this portion of the project. Of the remaining facilities, for phone administration, six refusals were linked to administrators’ concerns that phone calls would be upsetting or disorienting for residents and for three, refusal was due to residents’ potential hearing challenges. For mailed administration, refusal rates were lower, but when administrators did refuse, in two cases it was due to the facility conducting their own facility survey in the same period and concern over potential confusion between the two surveys for residents.

The tables on the following pages display overall facility participation based on size, license type, and town population.

TABLE 3. PARTICIPATION RATES FOR FACILITY SIZE ACROSS MODES: NUMBER (%)

	In-person	Phone	Mail
0-7 beds	27 (22%)	39 (49%)	35 (40%)
8-25 beds	32 (26%)	15 (19%)	21 (24%)
26-50 beds	29 (23%)	16 (20%)	17 (20%)
51-75 beds	15 (12%)	7 (9%)	5 (6%)
76+ beds	21 (17%)	2 (3%)	9 (10%)
Total Facilities	124	79	87

TABLE 4. PARTICIPATION RATES FOR FACILITY TOWN POPULATION ACROSS MODES: NUMBER (%)

	In-person	Phone	Mail
Rural (Population less than 2,500)	26 (21%)	16 (20%)	22 (25%)
Suburban (Population 2,500-50,000)	73 (59%)	37 (47%)	40 (46%)
Urban (Population more than 50,000)	25 (20%)	26 (33%)	25 (29%)
Total Facilities	124	79	87

*Note that all data includes results from facilities with a capacity of <8 residents.

TABLE 5. PARTICIPATION RATES FOR FACILITY LICENSE TYPE ACROSS MODES: NUMBER (%)

	In-person	Phone	Mail
Assisted Living Facility	77 (62%)	79 (100%)	87 (100%)
Assisted Living Facility Dementia Care	47 (38%)	0	0
Total Facilities	124	79	87

*Note that all data includes results from facilities with a capacity of <8 residents.

RESIDENTS

During Phase 1, in-person interviews only, the resident response rate was 93% considering partial and complete responses. Enough surveys were completed at 78 AL facilities to reach the target confidence interval and margins of error, while 19 facilities had some data completion, but not enough to reach the targets. Resident response rates for mail and phone administration were substantially lower at 20% and 41%, respectively.

TABLE 6. RESPONSE RATES FOR RESIDENT SURVEY ACROSS MODES

	Phase I	Phase II*	Phase II*
	In-person	Phone	Mail
Residents Approached/Called or Surveys Mailed	1,765	1,198	2,629
Surveys Completed	1,636	487	517
Surveys Partially Completed	56	30	0
Response Rate	93%	41%	20%

*Note that phase 2 data includes results from facilities with a capacity of <8 residents.

The reasons why residents did not finish interviews after beginning them are presented in Table 7. Most commonly residents were unable to respond or refused to continue, therefore, interviews were suspended. Incomplete reasons for mailed surveys are unknown, as residents completed the surveys independently.

TABLE 7. RESIDENT INCOMPLETE REASONS FOR RESIDENT INTERVIEWS

Refusal Reason*	In-Person	Phone
Unable to Respond	28 (52%)	3 (10%)
Refusal	12 (22%)	17 (59%)
Resident Fatigue	6 (11%)	4 (14%)
Other Reason	6 (11%)	4 (14%)
Resident Illness/Clinical Care	2 (4%)	1 (3%)

*Note that not all incomplete interviews were assigned reasons and data includes results from facilities with a capacity of <8 residents.

The reasons why interviews were never started during in-person data collection with sampled individuals are presented in Table 8. Most commonly, interviewers were unable to locate the residents.

TABLE 8. INTERVIEWS NEVER STARTED REASONS FOR IN-PERSON RESIDENT INTERVIEWS

Never Started Reason*	Number (Percent)
Unable to Locate	38 (52%)
Refusal	10 (14%)
Other Reason	7 (10%)
Out of Facility	5 (7%)
Resident Illness	5 (7%)
Discharged/Moved	3 (5%)
Unable to Respond	3 (5%)

*Note that not all interviews never started were assigned reasons.

Overall, nine percent of residents who participated in the survey this year were in memory care, 37% received help with personal care in the past month, and 72% reported receiving mobility assistance within the past month. Additionally, 45% were involved with their facility finances and 77% reported that they spoke to loved ones outside of the facility at least weekly. Additional resident demographics by phase and survey administration mode are presented in Table 9. It cannot be determined if respondents are representative of the population served by assisted living facilities in the state due to limited data on those served by assisted living facilities statewide.

TABLE 9. DEMOGRAPHICS (FREQUENCIES AND PERCENTS) OF RESIDENT RESPONDENTS ACROSS DATA COLLECTION MODES

	Phase I	Phase II*	Phase II*
	In-person	Phone	Mail
Average Age	85	79	83
Age Max. – Min.	20-103	22-81	23-105
%Male	453 (28%)	168 (35%)	148 (29%)
% Female	1,144 (70%)	317 (65%)	353 (68%)
% White	1,325 (81%)	397 (82%)	468 (91%)
% Black	9 (1%)	27 (6%)	16 (3%)
% Hispanic / Latino/a	4 (<1%)	5 (1%)	3 (1%)

	Phase I	Phase II*	Phase II*
	In-person	Phone	Mail
% Middle Eastern/North African	2 (<1%)	4 (1%)	0 (0%)
% Native Hawaiian/Pacific Islander	4 (<1%)	0 (0%)	0 (0%)
% Asian	6 (<1%)	0 (0%)	4 (1%)
% American Indian/Alaskan Native	12 (1%)	8 (2%)	2 (<1%)
% Other Race/Ethnicity	193 (12%)	30 (6%)	0 (0%)
% Lived in facility for <1 year	586 (36%)	157 (32%)	173 (35%)

*Note that phase 2 data includes results from facilities with a capacity of <8 residents.

FAMILY MEMBERS / RESPONSIBLE PARTY

Facilities were required to send an electronic census list to Vital through a secure online platform in advance of their interview date that included residents' representative names and corresponding contact information. While Minnesota statutes require facilities to have contact information for representatives of all residents, 83 facilities submitted representative information for fewer than 90% of residents, with the amount of representative information provided ranging from 2-89%.

Overall, 4,580 resident representatives were included in Phase 1 census lists. Of the representatives provided, 185 were determined to not be involved in the resident's life and were ineligible to complete a survey. Vital also tracked invalid contact information using the National Change of Address (NCOA) system and by tracking returned mail. Facilities submitted a total of 628 representatives without valid mailing addresses. All uninvolved representatives and representatives with invalid contact information were removed from the sample, leaving a total of 3,767 representatives who were mailed surveys. In total, 2,399 surveys were completed for an overall response rate of 64%. The number of surveys completed by administration mode are presented in Table 10.

TABLE 10. FAMILY DATA SUMMARY

Method	Number of Completed Surveys	Percent
Mail	1,925	80.2%
Phone	340	14.2%
Online	134	5.6%
TOTAL	2,399	100%

Family members who participated in Phase 1 of statewide data collection ranged in age from 25 to 102 years old with an average age of 63. Of participating family members, 62% identified as female, while 34% identified as male. In terms of race or ethnicity, 93% of respondents identified as White/Caucasian/European American. Less than one percent of respondents identified as American Indian or Alaskan Native, <1% Asian or Asian American, <1% Black or African American, and <1% Hispanic or Latino/a/x. Respondents were asked their relation to the resident. Most respondents, 77%, were the spouse/partner, while 18% were a child or son/daughter-in-law of the resident, 1% were the sibling, and 3% were another type of relative. Additionally, < 1% were guardians/conservators/power of attorney/case managers.

ANALYTIC PLAN

Descriptive statistics were calculated for each mode of resident and family data collection separately to understand variability in responses and use of the full response scale as well as the extent to which residents and family members could answer each of the items on the survey by examining the rate of *Not Applicable/Don't Know/No response* and missing responses. Additionally, practically significant differences in response frequencies were assessed to determine differences in responses as a function of data collection mode. For this, a cut-off of $\pm 8\%$ was used given the margins of error that were targeted in data collection. If items had a *Not Applicable/Don't Know/No response* or missing rate of 20% or higher, they were removed from the factor analysis and flagged for possible removal from the survey if non-response was not due to skip patterns. Descriptive statistics comparing residents from Phase 1 who were in memory care with those who were not were also calculated. In addition, descriptive statistics for residents who were in facilities with a capacity for fewer than eight residents were also calculated.

Correlations between items were assessed to see if any items were so highly correlated that they might be measuring the same thing. A correlation of 0.80 was used as a cut-off and no item-level correlations were found at this level.

To assess the underlying factor structure for items in each survey, a common factor analysis (principal axis factoring) with varimax rotation was conducted on the data pooling all complete data. Factor analysis is a statistical method that allows researchers to measure complex, unobservable constructs utilizing a set of items that conceptually are linked to the underlying construct. Through factor analysis a larger set of items can be distilled down to fewer factors that can be better interpreted by the intended audience. This particular type of factor analysis was used because it was used during pilot testing and it assumes that total variance is comprised of common and unique variance among items. Missing data was handled by substituting the mean of answered items within a domain when just one item in any given domain was missing. After the best factor structure was determined, internal consistency, or reliability, was assessed by calculating Cronbach's alpha for each of the identified factors. Internal consistency is how closely a set of items are related as a group. A Cronbach's alpha of 0.6 or higher is considered acceptable. In addition, item-level correlations for

items within sub-domains were compared to item-level correlations with items outside of the sub-domain (item-total correlations). These results are not presented here, but the strength of correlations of items within sub-domains was higher than correlations with items in other sub-domains indicating that items within domains are more related to each other than to items in other domains.

Finally, differences in average scores of each factor comparing each mode of data collection were examined. One-way ANOVA's were used to detect statistically significant differences in mean-level factor scores by survey administration mode for both surveys.

RESIDENT QOL RESULTS

DESCRIPTIVE STATISTICS BY MODE + POPULATION

Frequencies and percents of response categories by item and survey mode are presented below in Tables 11-25. Items that had a *Don't Know/Not Applicable/No Response* and missing rate of 20% or higher (not because of a skip pattern) are highlighted. Because the sample sizes for each mode are so large the chances of finding statistically significant differences increases. Therefore, we considered the practical significance of differences in results. As such, differences of eight points or more are presented in bold.

In general, results were quite positive across all modes and the *Rarely/Never* response option was not selected frequently. The practically significant differences in responses as a function of survey administration mode were varied.

TABLE II. DESCRIPTIVE STATISTICS FOR ITEMS IN THE PEOPLE WHO WORK HERE SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/NR	
		n	%	n	%	n	%	n	%
Q1. How often do the people who work here try to get to know you?	In-Person	1,116	65%	381	22%	130	8%	98	6%
	Phone	362	74%	79	16%	23	5%	23	5%
	Mail	366	71%	129	25%	13	3%	7	1%
Q2. How often do the people who work here treat you with respect?	In-Person	1,539	89%	127	7%	25	1%	34	2%
	Phone	444	91%	28	6%	10	2%	5	1%
	Mail	468	91%	44	9%	2	<1%	3	<1%
Q3. How often do you feel comfortable asking for help when you need it?	In-Person	1,271	74%	220	13%	85	5%	149	9%
	Phone	383	79%	42	9%	27	6%	35	7%
	Mail	408	79%	83	16%	17	3%	9	2%
Q4. How often do the people who work here come quickly when you need help?	In-Person	1,117	65%	296	17%	54	3%	258	15%
	Phone	365	75%	63	13%	10	2%	49	10%
	Mail	380	74%	90	18%	10	2%	31	6%

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q5. How often do the people who work here follow through when you have a complaint or problem?	In-Person	1,043	61%	301	17%	72	4%	309	18%
	Phone	331	68%	60	12%	22	5%	74	15%
	Mail	350	68%	114	22%	17	3%	33	6%
Q6. How often do you get enough help with your everyday activities if you need it?	In-Person	1,134	66%	202	12%	82	5%	307	18%
	Phone	343	70%	42	9%	19	4%	83	17%
	Mail	356	69%	64	13%	7	1%	86	17%
Q7. How often are you confident the people who work here can address your healthcare needs?	In-Person	1,234	72%	261	15%	57	3%	173	10%
	Phone	380	78%	48	10%	15	3%	44	9%
	Mail	359	70%	108	21%	44	2%	34	7%

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q8. How often are you satisfied with how your mediations are managed?	In-Person	1,079	63%	141	8%	42	2%	463	27%
	Phone	277	57%	29	6%	12	3%	169	35%
	Mail	297	59%	48	10%	8	2%	153	30%
Q9. How often are you confident the people who work here know what to do if you have a medical emergency?	In-Person	1,244	72%	242	14%	62	4%	177	10%
	Phone	394	81%	46	9%	20	4%	27	6%
	Mail	394	77%	76	15%	14	3%	26	5%

TABLE 12. DESCRIPTIVE STATISTICS FOR ITEM REGARDING FRIENDS

		Yes		No		NA/DK/ NR	
		n	%	n	%	n	%
Q10. Do you have friends here?	In-Person	1,300	75%	366	21%	59	3%
	Phone	379	78%	95	20%	13	3%
	Mail	428	87%	41	8%	25	5%

TABLE 13. DESCRIPTIVE STATISTICS FOR ITEMS IN THE PHYSICAL ENVIRONMENT SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q11. How often are the common areas well maintained?	In-Person	1,501	87%	118	7%	12	1%	94	5%
	Phone	440	90%	29	6%	7	1%	11	2%
	Mail	461	91%	38	8%	4	1%	6	1%
Q12. How often is it quiet enough for you to sleep here?	In-Person	1,602	93%	83	5%	20	1%	20	1%
	Phone	450	92%	25	5%	9	2%	3	1%
	Mail	466	91%	38	8%	4	1%	2	<1%
Q13. How often are there places for residents to socialize with other residents?	In-Person	1,273	74%	200	12%	41	2%	211	12%
	Phone	409	84%	46	9%	7	1%	25	5%
	Mail	435	86%	59	12%	5	1%	7	1%

TABLE 14. DESCRIPTIVE STATISTICS FOR ITEMS IN THE FOOD SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/NR	
		n	%	n	%	n	%	n	%
Q14. How often does the facility offer access to healthy foods, like fruits and vegetables, if you want them?	In-Person	1,259	73%	214	12%	81	5%	171	10%
	Phone	328	67%	63	13%	17	4%	79	16%
	Mail	335	66%	116	23%	27	5%	27	5%
Q15. How often is there enough variety in the meals offered here?	In-Person	1,008	58%	520	30%	111	6%	86	5%
	Phone	260	53%	120	25%	36	7%	71	15%
	Mail	268	53%	191	38%	31	6%	18	4%
Q16. How often do you have enough choice in the meals offered by the facility?	In-Person	952	55%	386	22%	241	14%	146	9%
	Phone	252	52%	94	19%	59	12%	82	17%
	Mail	272	54%	142	28%	57	11%	33	7%
Q17. How often do you look forward to mealtimes?	In-Person	1,054	61%	384	22%	151	9%	136	8%
	Phone	312	64%	68	14%	37	8%	70	14%
	Mail	287	57%	153	30%	35	7%	29	6%

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q18. How often do you like the food served here?	In-Person	1,000	58%	429	25%	166	10%	130	8%
	Phone	289	59%	82	17%	40	8%	76	16%
	Mail	280	55%	153	30%	44	9%	29	6%
Q19. How often can you eat your meals when you want to?	In-Person	872	51%	267	16%	348	20%	238	14%
	Phone	221	45%	70	14%	111	23%	85	18%
	Mail	265	53%	115	23%	74	15%	50	10%

Item 20 was not included in the initial survey that was fielded starting in September 2021. After the pause in data collection (described above) item 20 was added because it was evident that residents' participation in activities was dramatically impacted by the COVID-19 pandemic. If residents answered no to item 20 the interviewer or survey form skipped ahead to item 27. Because this skip sequence was introduced part way through data collection the number of responses to items 21-26 does not align with the number of yes responses to item 20.

TABLE 15. DESCRIPTIVE STATISTICS FOR ITEM REGARDING MEANINGFUL ACTIVITIES

		Yes		No		NA/DK/ NR	
		n	%	n	%	n	%
Q20. Do you participate in activities here?	In-Person	944	64%	479	32%	56	4%
	Phone	355	73%	117	24%	15	3%
	Mail	385	79%	82	17%	22	5%

TABLE 16. DESCRIPTIVE STATISTICS FOR ITEMS IN THE MEANINGFUL ACTIVITIES/SOCIAL ENGAGEMENT SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q21. How often do you like the activities here?	In-Person	725	61%	349	29%	49	4%	69	6%
	Phone	254	72%	92	26%	7	2%	2	1%
	Mail	223	50%	194	44%	14	3%	13	3%
Q22. How often are there things to do here on the weekends that you enjoy?	In-Person	294	25%	383	32%	364	31%	151	13%
	Phone	114	32%	118	33%	104	29%	19	5%
	Mail	92	21%	172	39%	139	32%	38	9%
Q23. How often do you have enough activities to keep your mind active?	In-Person	778	65%	271	23%	66	6%	77	7%
	Phone	272	77%	51	14%	17	5%	15	4%
	Mail	293	67%	100	23%	18	4%	25	6%
Q24. How often is there enough variety in the activities here?	In-Person	608	51%	368	31%	99	8%	116	10%
	Phone	228	64%	81	23%	38	11%	8	2%
	Mail	223	50%	152	34%	48	11%	21	5%

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q25. How often do you enjoy the way you spend your time most days?	In-Person	838	70%	270	23%	42	4%	42	4%
	Phone	269	76%	61	17%	15	4%	10	4%
	Mail	285	64%	133	30%	18	4%	8	4%
Q26. How often do you feel included in things that are happening here?	In-Person	894	75%	209	18%	35	3%	53	5%
	Phone	302	85%	40	11%	9	3%	4	1%
	Mail	373	83%	55	12%	13	3%	6	1%

TABLE 17. DESCRIPTIVE STATISTICS FOR ITEMS IN THE CHOICE/AUTONOMY SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/NR	
		n	%	n	%	n	%	n	%
Q27. How often can you decide how to spend your time each day?	In-Person	1,395	81%	197	11%	58	3%	75	4%
	Phone	425	87%	46	9%	11	2%	5	1%
	Mail	431	85%	66	13%	4	1%	8	2%
Q28. How often do you spend as much time outdoors as you would like?	In-Person	798	46%	365	21%	359	21%	203	12%
	Phone	308	63%	97	20%	59	12%	23	5%
	Mail	223	44%	167	33%	75	15%	40	8%
Q29. How often are you allowed to personalize your room?	In-Person	1,486	86%	98	6%	21	1%	120	7%
	Phone	446	92%	13	3%	8	2%	20	4%
	Mail	423	84%	47	9%	7	1%	29	6%
Q30. How often are the services you receive here provided the way you want?	In-Person	1,219	71%	242	14%	51	3%	213	12%
	Phone	378	78%	46	9%	14	3%	49	10%
	Mail	341	67%	66	13%	13	3%	86	17%

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q31. How often are you as involved in decisions about the services you receive here as you want to be?									
	In-Person	836	49%	353	21%	235	14%	301	17%
	Phone	301	62%	84	17%	45	10%	57	12%
	Mail	272	53%	142	28%	47	9%	49	10%

TABLE 18. DESCRIPTIVE STATISTICS FOR ITEMS IN THE RELIGION/SPIRITUALITY SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/NR	
		n	%	n	%	n	%	n	%
Q32. How often are there enough opportunities for you to practice your religious or spiritual beliefs here?	In-Person	1,139	66%	255	15%	149	9%	182	11%
	Phone	365	75%	53	11%	35	7%	34	7%
	Mail	369	73%	85	17%	20	4%	33	7%
Q33. How often are the people who work here respectful of your religious or spiritual practices?	In-Person	1,343	78%	83	5%	35	2%	264	15%
	Phone	400	82%	17	4%	8	2%	62	13%
	Mail	435	86%	31	6%	1	<1%	39	8%
Q34. How often are the people who work here respectful of your culture?	In-Person	1,244	72%	86	5%	21	1%	374	22%
	Phone	369	76%	17	4%	8	2%	93	19%
	Mail	395	78%	25	5%	8	2%	79	16%

TABLE 19. DESCRIPTIVE STATISTICS FOR ITEMS IN THE SAFETY, SECURITY, & PRIVACY SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/NR	
		n	%	n	%	n	%	n	%
Q35. How often are your personal belongings safe here?	In-Person	1,496	87%	131	8%	37	2%	61	4%
	Phone	440	90%	28	6%	11	2%	8	2%
	Mail	444	87%	47	9%	9	2%	9	2%
Q36. How often do you feel safe here?	In-Person	1,638	95%	64	4%	11	1%	10	1%
	Phone	460	95%	16	3%	7	1%	4	1%
	Mail	475	93%	28	6%	4	1%	2	<1%
Q37. How often do the people who work here ever get angry at you?	In-Person	41	2%	140	8%	1,455	84%	89	5%
	Phone	9	2%	22	5%	440	90%	16	3%
	Mail	33	7%	40	8%	383	76%	49	10%
Q38. How often do you feel comfortable voicing a complaint or concern?	In-Person	1,117	65%	273	16%	141	8%	194	11%
	Phone	359	74%	49	10%	28	6%	51	11%
	Mail	312	62%	129	25%	40	8%	26	5%

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q39. How often do you feel you have enough privacy here?	In-Person	1,527	89%	130	8%	40	2%	26	2%
	Phone	446	92%	28	6%	8	2%	4	1%
	Mail	430	84%	61	12%	16	3%	3	1%
Q40. How often do the people who work here ask to come in before entering your room?	In-Person	1,381	80%	169	10%	96	6%	79	5%
	Phone	431	89%	26	5%	13	3%	17	4%
	Mail	415	82%	63	12%	21	4%	10	2%

Item 41 introduces a skip sequence in the survey such that if a respondent indicates they are not involved in their finances the survey should skip the next two finance-related items and continue with item 44.

TABLE 20. DESCRIPTIVE STATISTICS FOR ITEM REGARDING INVOLVEMENT IN FINANCES

		Yes		No		NA/DK/ NR	
		n	%	n	%	n	%
Q41. Are you involved with your finances here?	In-Person	701	41%	950	55%	72	4%
	Phone	273	56%	206	42%	8	2%
	Mail	337	68%	139	28%	21	4%

TABLE 21. DESCRIPTIVE STATISTICS FOR ITEMS IN THE FINANCES SUB-DOMAIN

		Always or most of the time		Some of the time		Rarely or never		NA/DK/ NR	
		n	%	n	%	n	%	n	%
Q42. How often do you understand what is included in monthly fees here?	In-Person	547	78%	92	13%	35	5%	24	3%
	Phone	241	88%	24	9%	5	2%	3	1%
	Mail	297	75%	68	17%	17	4%	16	4%
Q43. How often do you believe you are getting value for your money here?	In-Person	466	66%	162	23%	31	4%	43	6%
	Phone	244	82%	31	11%	9	3%	9	3%
	Mail	258	66%	104	27%	15	4%	12	3%

TABLE 22. RESULTS FOR ITEM 44 ASKING ‘OVERALL, WHAT GRADE WOULD YOU GIVE (NAME OF FACILITY) WHERE A IS THE BEST IT COULD BE AND F IS THE WORST IT COULD BE?’

	A		B		C		D		F		NA/DK/ NR	
	n	%	n	%	n	%	n	%	n	%	n	%
In-Person	586	34%	727	42%	279	16%	45	3%	8	1%	80	5%
Phone	257	53%	159	33%	42	9%	11	2%	7	1%	11	2%

	A		B		C		D		F		NA/DK/ NR	
	n	%	n	%	n	%	n	%	n	%	n	%
Mail	248	48%	195	38%	48	9%	16	3%	2	<1%	8	2%

TABLE 23. RESULTS FOR ITEM 45 ASKING 'OVERALL, WOULD YOU RATE YOUR QUALITY OF LIFE AS:'

	Excellent		Very Good		Good		Fair		Poor		NA/DK/ NR	
	n	%	n	%	n	%	n	%	n	%	n	%
In-Person	291	17%	676	39%	519	30%	150	9%	26	2%	62	4%
Phone	105	22%	185	38%	131	27%	43	9%	12	3%	11	2%
Mail	88	17%	213	41%	153	30%	50	10%	5	1%	5	1%

TABLE 24. RESULTS FOR ITEM 46 ASKING ‘OVERALL, HAS THE COVID-19 PANDEMIC IMPACTED YOUR QUALITY OF LIFE?’

	A Lot		Some		Little or Not at All		NA/DK/ NR	
	n	%	n	%	n	%	n	%
In-Person	427	25%	743	43%	462	27%	91	5%
Phone	120	25%	196	40%	151	31%	20	4%
Mail	96	19%	269	52%	132	26%	18	4%

TABLE 25. RESULTS FOR ITEM 47 ASKING ‘SINCE THE CORONAVIRUS OUTBREAK BEGAN, HAVE YOU HAD MORE CONTACT WITH FAMILY AND FRIENDS, LESS CONTACT WITH FAMILY AND FRIENDS OR ABOUT THE SAME?’

	More		About The Same		Less		NA/DK/ NR	
	n	%	n	%	n	%	n	%
In-Person	94	6%	960	56%	577	34%	92	5%
Phone	33	7%	275	57%	154	32%	25	5%
Mail	17	3%	302	59%	174	34%	21	4%

Descriptive Statistics: Memory Care versus No Memory Care

Practically significant differences in results were observed for most items when comparing respondents who were in memory care with those who were not. In general, responses from those who were not in memory care were more positive than those who were in memory care. All descriptive statistics for memory care and non-memory care residents are presented in Appendix D.

Video Administration Results

Descriptive results of video administration are not presented given just 24 surveys were administered at two facilities. Video administration was possible in two facilities, yet several constraints/considerations are discussed in the section ‘Practical Considerations + Cost by Survey Administration Mode.’

FACTOR ANALYSIS + RELIABILITY

Results of the factor analysis of the resident QOL survey are presented in Table 26. All surveys across modes and facilities of all sizes were included. Missing data was handled such that if one item was missing in any domain that had more than three items, the missing data was imputed based on the average of the other items answered in that domain. The items regarding activities (questions 20-26) and finances (questions 41-43) were not included in the factor analysis due to skip sequences in the survey resulting in a significant amount of missing data. Additionally, items 34 (How often are the people who work here respectful of your culture?) and 8 (How often are you satisfied with how your medications are managed?) were omitted from the factor analysis because more than 20% of responses were missing, don't know/not applicable/no response.

Factor analysis results are based on 1,776 responses. The initial solution using principal axis factoring with a varimax rotation resulted in seven factors. However, in examining the scree plot, eigenvalues, and the variance explained, six- and five-factor solutions were also explored with five factors resulting in the best fit, the most meaningful solution, and explaining 44.61% of the variance. The first factor explained 25.77% of the variance while the second and third factors explained 6.03% and 4.96% of the variance, respectively. The fourth and fifth factors explained 4.33% and 3.52% of the common variance, respectively.

TABLE 26. ROTATED FACTOR MATRIX RESULTS FOR RESIDENT QOL SURVEY (N=1,776)

	Factor	Factor	Factor	Factor	Factor
	1	2	3	4	5
Q5. How often do the people who work here follow through when you have a complaint or a problem?	0.616	0.236	0.161	0.128	0.055
Q7. How often are you confident the people who work here can address your healthcare needs?	0.602	0.174	0.225	0.216	0.041
Q4. How often do the people who work here come quickly when you need help?	0.579	0.190	0.191	0.177	0.022
Q6. How often do you get enough help with your everyday activities if you need it?	0.529	0.188	0.141	0.119	0.025
Q9. How often are you confident the people who work here know what to do if you have a medical emergency?	0.529	0.191	0.187	0.312	0.040
Q3. How often do you feel comfortable asking for help when you need it?	0.488	0.136	0.343	0.123	0.084
Q2. How often do the people who work here treat you with respect?	0.469	0.130	0.461	-0.016	0.214
Q1. How often do the people who work here try to get to know you?	0.445	0.151	0.123	0.197	0.100
Q30. How often are the services you receive here provided the way you want?	0.367	0.271	0.231	0.350	0.106
Q15. How often do you like the food served here?	0.176	0.722	0.224	0.056	0.012

	Factor	Factor	Factor	Factor	Factor
	1	2	3	4	5
Q18. How often is there enough variety in the meals offered here?	0.174	0.692	0.103	0.134	0.102
Q16. How often do you have enough choice in the meals offered here?	0.171	0.663	0.078	0.168	0.119
Q17. How often do you look forward to mealtimes here?	0.201	0.639	0.205	0.105	0.032
Q19. How often can you eat your meals when you want to?	0.135	0.434	0.029	0.113	0.064
Q14. How often does [insert facility name] offer access to healthy foods, like fruits and vegetables, if you want them?	0.157	0.430	0.191	0.141	0.011
Q39. How often do you feel you have enough privacy here?	0.140	0.125	0.549	0.261	0.020
Q36. How often do you feel safe here?	0.141	0.109	0.525	0.133	0.089
Q35. How often are your personal belongings safe here?	0.211	0.143	0.467	0.204	0.025
Q12. How often is it quiet enough for you to sleep here?	0.131	0.093	0.390	0.120	0.067
Q40. How often do the people who work here ask to come in before entering your room?	0.064	0.099	0.361	0.285	0.027
Q38. How often do you feel comfortable voicing a complaint or concern?	0.241	0.116	0.293	0.235	0.064
Q37. How often do the people who work here ever get angry at you?	0.162	0.080	0.288	-0.025	0.078
Q11. How often are the common areas well maintained?	0.248	0.139	0.277	0.161	0.114
Q29. How often are you allowed to personalize your room?	0.115	0.048	0.218	0.448	0.064
Q27. How often can you decide how to spend your time each day?	0.094	0.132	0.175	0.399	0.111
Q31. How often are you as involved in decisions about the services you receive here as you want to be?	0.259	0.223	0.093	0.387	0.132
Q28. How often do you spend as much time outdoors as you would like?	0.155	0.111	0.042	0.387	0.121
Q13. How often are there places for residents to socialize with other residents?	0.226	0.110	0.200	0.295	0.165
Q10. Do you have friends here?	0.118	0.084	0.086	0.257	0.121

	Factor	Factor	Factor	Factor	Factor
	1	2	3	4	5
Q33. How often are the people who work here respectful of your religious or spiritual practices?	0.095	0.077	0.199	0.222	0.664
Q32. How often are there enough opportunities for you to practice your religious or spiritual beliefs here?	0.076	0.120	0.083	0.275	0.587

Reliability

The resident QOL survey factors were found to have satisfactory to high internal consistencies evidenced by Cronbach's alphas ranging from 0.60 to 0.85 for each of the five factors (Table 27) in addition to items related to activities and finances. Item-total correlations are presented in Appendix E.

TABLE 27. CRONBACH'S ALPHAS FOR EACH OF THE SEVEN FACTORS

Factor Number	Cronbach alpha	Number of Items
1	0.85	9
2	0.82	6
3	0.69	8
4	0.60	6
5	0.71	2
Activities	0.77	6
Finances	0.55	2

DIFFERENCES BY MODE

Mean Factor-Level Score Differences by Mode

Significant differences in mean-level scores for each factor as a function of survey administration mode were calculated using one-way ANOVA's and the Scheffe post hoc test (Table 28). To do this, scores were calculated for each factor by recoding items such that Always most of the time = 100, Some of the time = 50 and Rarely/Never = 0. Then, a score was computed for the factor by taking a weighted average of all items in the factor when each respondent answered one more than half the items in the factor. Because there were so many more in-person surveys conducted than phone or mail surveys, a random sample of 500 in-person surveys was used in these analyses. Additionally, the analyses were conducted using the full sample of in-person surveys with differences in the results noted in the table notes. Some statistically significant differences emerged, mostly that results obtained via phone administration tended to be slightly higher than those obtained via in-person

interviewing and mailed surveys. Practically, the differences between in-person and mailed results were minor and no greater than three points.

TABLE 28. FACTOR-LEVEL MEAN DIFFERENCES BY MODE FOR RESIDENT QOL

	In Person (n=473-498)	Phone (n=416-485)	Mail (n=482-510)	Significant Difference: P value
Factor 1	84.87	89.01	87.15	In-person/Phone: 0.001
Factor 2	75.54	76.56	74.53	--
Factor 3 ^A	91.81	94.42	90.61	In-person/Phone: 0.004 Phone/Mail: 0.000
Factor 4	83.42	88.12	84.81	In-person/Phone: 0.000 Phone/Mail: 0.005
Factor 5 ^B	87.58	90.69	91.05	In-person/Mail: 0.046
Activities*	74.80	79.26	73.70	In-person/Phone: 0.020 Phone/Mail: 0.001
Finances*	83.89	92.37	84.64	In-person/Phone: 0.000 Phone/Mail: 0.000

* Due to skip patterns in the survey, n's for activities and finances were lower than for the five factors.

^A When analyzed using the full sample of in-person survey data there were significant differences in results of the Mail and In-person modes at a p-value of 0.035.

^B When analyzed using the full sample of in-person survey data there were significant differences in results of the Phone and In-person modes at a p-value of 0.011.

Practical Considerations + Cost by Survey Administration Mode

As described earlier, Phase 1 of data collection was hampered by challenges due to the COVID-19 pandemic, staffing shortages, and the possibility for facilities to decide not to participate. The revised goals for Phase 2 included the administration of mail, phone, and remote video survey administration to test feasibility at facilities serving eight or more residents. Facilities not surveyed during Phase 1, excluding those with a memory care license, were randomly assigned to phone or mail administration. The minimum number of phone and mailed surveys was 400 across facilities. Video administration was only included for testing of the process and protocols needed, which occurred at two facilities geographically near an experienced interviewer. In addition to the results described above, feasibility of phone and/or mailed surveys will depend on facility and resident participation, resident inclusion, and operational limitations and cost.

Phone and Mailed Surveys

Facility Participation

The success of the AL report card will be contingent on facility participation. Only half of invited facilities agreed to participate in a phone or mailed survey whereas the participation rate for the in-

person survey was even lower at 22%. The ramifications of the COVID-19 pandemic and the voluntary nature of the survey played a large role in facility participation rates. In future years, the results will be shared on a public report card and pandemic protocols will be further developed, which will likely result in higher participation rates.

Resident Participation

The AL report card will require enough interviews completed at each facility to meet the desired margin of error to ensure results represent the population at each facility and can be compared across facilities. Resident response rates were low for mailed and phone surveys, 20% and 41% respectively, compared to in-person resident response rates of 93%. Unless resident response rates increase post-pandemic, the administration of mailed surveys would only be feasible in facilities with more than 150 residents based on the current margin of error, which represents 4.8% of the total number of facilities with eight or more residents, based on the facility sample list received in August 2021. Solely based on response rates, phone interviews with a 41% response rate may be feasible from an implementation standpoint at facilities with more than 55 residents (38.4% of facilities with eight or more residents). As a reference, 19.6% of facilities that participated in the in-person survey did not meet the required number of interviews to meet the margin of error.

Resident Inclusion

One of DHS' core values is the focus on people, not programs. It is certainly critical to examine feasibility from the standpoint of meeting the required number of interviews at the facility level. It may be even more important to consider resident inclusion (e.g., those in memory care) and ensuring that most residents invited to participate are able to share their individual experiences. The ability to participate increases with in-person survey administration, as evidenced in resident response rates. It is not known how many memory care residents were able to participate in the mailed and phone surveys as memory care status was not information that was permitted to be collected at the resident level. Other information about resident functioning was also not available, although anecdotally, hearing impairments did present challenges for phone administration.

Operational Limitations

The implementation of the phone and mailed surveys involved a few additional operational limitations. The mailed survey administration required facility staff to distribute surveys to residents, which may not have occurred in 14 out of 74 facilities (19%). Those facilities agreed to participate but no completed surveys were received. The protocol also relied on (overburdened) facility staff to follow protocol and distribute the surveys to all residents and not a subset. It is not known if all residents at participating facilities received a survey to complete.

A limitation of the phone survey included the lack of direct phone lines for all residents in 70% of participating facilities. A mix of direct resident lines and central facility lines was available to phone interviewers, which likely limited access to a portion of residents. Some facilities requested for phone interviewers to call central lines during certain hours only to not tie up the line and for staff

to be available for phone distribution to residents. The phone restrictions made it more challenging for interviewers to connect with residents.

Cost Considerations

Cost considerations for future statewide implementations should include both labor and direct expenses within the scope of work. Table 29 highlights scope of work differences for each of the three administration methods.

TABLE 29. SCOPE OF WORK DIFFERENCES BETWEEN ADMINISTRATION METHODS

	In-person	Phone	Mail
Interviewer recruitment and training	X	X	
Interviewing time	X	X	
Travel expenses	X		
Survey printing and mailing, including postage			X
Census list management	X	X	
Processing of paper surveys			X
Scheduling interview dates and assigning interviewers	X	X	

The administration of mailed surveys would considerably decrease both labor and direct expenses since there would not be any interviewer expenses nor census list management. The primary cost would be related to communication with facilities followed by printing, mailing, and processing of completed surveys.

It took interviewers 546 hours for 486 phone interviews to be completed (0.89 interviews/hour), similar for both large and small facilities, which is almost double the time needed for in-person interviews. The only major cost reduction for phone interviews compared to in-person interviews would be travel expenses.

Video Administration

The video conferencing mode consisted of a Vital representative inviting residents to participate in a video interview administered by a remote interviewer to avoid exposure longer than a few minutes. Residents were able to participate by engaging in a video interview on a tablet positioned on a mobile stand by the representative on-site. A total of 24 interviews were successfully completed at two facilities with a similar number of interviews completed per day compared to in-person interviewing. However, with one staff member on-site and a second staff member remote,

administering video interviews would double the interviewing cost with no savings of other cost items.

FAMILY SATISFACTION RESULTS

DESCRIPTIVE STATISTICS BY MODE

In general, FS results were high with most respondents strongly agreeing or agreeing with positive statements about their resident's facility (Tables 30-42). The full range of the response scale was used although *Disagree* and *Strongly disagree* were selected infrequently. No items had a *Not Applicable/Don't Know/No Response* or missing rate that was higher than 20%. There were many practical differences in responses when comparing mail, phone, and on-line survey administration modes. Differences of eight points or more are presented in bold. Generally, on-line responses were somewhat higher or more positive than phone and mailed survey responses.

TABLE 30. DESCRIPTIVE STATISTICS FOR ITEMS IN THE CARE EXPERIENCE SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK /NR	
		n	%	n	%	n	%	n	%	n	%
Q1. I feel welcome when I visit.	Mail	323	65%	160	32%	7	1%	2	0%	4	1%
	Phone	202	59%	133	39%	2	1%	0	0%	3	1%
	On-line	94	71%	39	29%	0	0%	0	0%	0	0%
Q2. People who work here try to get to know me.	Mail	175	35%	252	51%	56	11%	1	<1%	11	2%
	Phone	123	36%	190	56%	14	4%	2	1%	11	3%
	On-line	60	45%	59	44%	9	7%	0	0%	6	5%
Q3. The leaders of this facility are able to speak with me, if needed.	Mail	255	51%	199	40%	22	4%	4	1%	17	3%
	Phone	144	42%	164	48%	18	5%	2	1%	12	4%
	On-line	78	58%	49	37%	5	4%	1	<1%	1	1%
Q4. I am comfortable voicing a complaint or concern.	Mail	246	49%	212	43%	22	4%	3	1%	15	3%
	Phone	137	40%	170	50%	16	5%	0	0%	17	5%
	On-line	72	54%	50	37%	6	5%	0	0%	6	5%

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK /NR	
		n	%	n	%	n	%	n	%	n	%
Q5. People who work here respond promptly to my concerns.	Mail	213	43%	233	47%	29	6%	5	1%	18	4%
	Phone	130	38%	186	55%	14	4%	0	0%	10	3%
	On-line	69	52%	54	40%	5	4%	1	1%	5	4%
Q6. I am pleased with how the people who work here treat my resident.	Mail	289	58%	185	37%	18	4%	2	<1%	1	<1%
	Phone	163	48%	167	49%	8	2%	0	0%	2	1%
	On-line	80	60%	48	36%	2	2%	1	1%	2	2%
Q7. The facility offers enough meaningful activities my resident enjoys.	Mail	162	33%	223	45%	61	12%	20	4%	30	6%
	Phone	110	32%	163	48%	40	12%	1	<1%	26	8%
	On-line	53	40%	61	46%	10	8%	1	1%	7	5%
Q8. My resident looks forward to participating in activities.	Mail	128	26%	222	45%	67	14%	19	4%	60	12%
	Phone	81	24%	157	46%	50	15%	2	1%	50	15%
	On-line	41	31%	57	43%	15	11%	3	2%	18	13%

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK /NR	
		n	%	n	%	n	%	n	%	n	%
Q9. My resident seems happy at this facility.	Mail	206	42%	238	48%	38	8%	6	1%	7	1%
	Phone	121	36%	185	55%	25	7%	1	<1%	8	2%
	On-line	70	52%	52	39%	10	8%	1	1%	1	1%

TABLE 31. DESCRIPTIVE STATISTICS FOR ITEMS IN THE CHOICE/PREFERENCE SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q10. I have enough opportunities to provide input into decisions about my resident's care.	Mail	193	39%	249	50%	28	6%	3	1%	25	5%
	Phone	126	37%	191	56%	8	2%	1	<1%	14	4%
	On-line	64	48%	53	40%	9	7%	1	1%	7	5%
Q11. My resident's spiritual beliefs are respected.	Mail	206	42%	230	46%	5	1%	4	1%	51	10%
	Phone	137	40%	177	52%	1	0%	0	0%	25	7%
	On-line	65	49%	57	43%	1	1%	0	0%	11	8%
Q12. People who work here respect my resident's culture.	Mail	207	42%	235	48%	2	0%	0	0%	51	10%
	Phone	137	40%	182	54%	0	0%	0	0%	21	6%
	On-line	65	49%	56	42%	0	0%	0	0%	12	9%
Q13. People who work here care about my resident.	Mail	258	52%	228	46%	8	2%	0	0%	2	<1%
	Phone	166	49%	171	50%	2	1%	0	0%	1	<1%
	On-line	80	60%	50	38%	2	2%	0	0%	1	1%
Q14. My resident has a choice in the care they receive.	Mail	192	39%	239	48%	25	5%	1	<1%	41	8%
	Phone	103	30%	193	57%	14	4%	0	0%	30	9%
	On-line	66	49%	59	44%	4	3%	1	<1%	4	3%

TABLE 32. DESCRIPTIVE STATISTICS FOR ITEMS IN THE PERSONAL CARE NEEDS SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q15. I receive timely updates about changes in my resident's status.	Mail	188	38%	231	47%	42	9%	7	1%	28	6%
	Phone	130	38%	179	53%	22	7%	3	1%	6	2%
	On-line	63	47%	55	41%	10	8%	0	0%	5	4%
Q16. I am satisfied with the amount of information I receive about my resident.	Mail	180	36%	239	48%	57	12%	4	1%	16	3%
	Phone	116	34%	193	57%	24	7%	2	1%	5	2%
	On-line	57	43%	61	46%	11	8%	1	1%	3	2%
Q17. My resident is given the opportunity to be as independent as they can be.	Mail	236	48%	235	47%	5	1%	1	<1%	19	4%
	Phone	139	41%	191	56%	4	1%	0	0%	6	2%
	On-line	79	59%	53	40%	2	2%	0	0%	0	0%
Q18. I am confident that my resident's service plan is being delivered as promised.	Mail	195	39%	222	45%	36	7%	7	1%	35	7%
	Phone	127	37%	181	53%	19	6%	2	1%	11	3%
	On-line	56	42%	60	45%	11	8%	2	2%	5	4%

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q19. There is enough staff during weekdays.	Mail	123	25%	212	43%	69	14%	21	4%	69	14%
	Phone	71	21%	188	55%	41	12%	2	1%	38	11%
	On-line	42	32%	55	41%	11	8%	4	3%	21	16%
Q20. There is enough staff on weekends.	Mail	91	19%	186	38%	91	19%	39	8%	86	17%
	Phone	50	15%	173	51%	67	20%	9	3%	41	12%
	On-line	25	19%	53	40%	19	14%	10	8%	25	19%

TABLE 33. DESCRIPTIVE STATISTICS FOR ITEM REGARDING COST OF CARE

		Yes		No	
		n	%	n	%
Q21. Are you involved with your resident's finances?	Mail	421	85%	75	15%
	Phone	274	81%	66	19%
	On-line	118	88%	16	12%

TABLE 34. DESCRIPTIVE STATISTICS FOR ITEMS IN THE COST OF CARE SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q22. I understand what is covered in my resident's monthly fees.	Mail	190	46%	206	49%	17	4%	2	1%	2	1%
	Phone	90	33%	170	62%	10	4%	1	<1%	3	1%
	On-line	65	55%	46	39%	6	5%	0	0%	1	1%
Q23. Monthly fees are appropriate for the quality of services provided.	Mail	107	26%	207	50%	64	15%	20	5%	19	5%
	Phone	60	22%	181	66%	19	7%	0	0%	14	5%
	On-line	43	37%	49	42%	14	12%	3	3%	8	7%

TABLE 35. DESCRIPTIVE STATISTICS FOR ITEMS IN THE HOUSEKEEPING SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q24. My resident's living unit/personal space is well maintained. (e.g., the living unit is kept in good condition)	Mail	208	42%	244	49%	34	7%	4	1%	6	1%
	Phone	119	35%	204	60%	12	4%	0	0%	5	2%
	On-line	62	47%	58	44%	11	8%	0	0%	2	2%
Q25. The common areas in and around the facility are well maintained. (e.g., kept in good condition)	Mail	268	54%	219	44%	11	2%	0	0%	0	0%
	Phone	140	41%	191	56%	3	1%	1	<1%	5	2%
	On-line	75	56%	54	41%	3	2%	0	0%	1	1%
Q26. The facility is clean.	Mail	275	55%	214	43%	7	1%	1	<1%	0	0%
	Phone	145	43%	191	56%	1	0%	0	0%	3	1%
	On-line	81	61%	50	38%	1	1%	0	0%	0	0%
Q27. The facility is free of offensive odors.	Mail	272	55%	215	43%	9	2%	1	<1%	1	<1%
	Phone	134	39%	197	58%	2	1%	0	0%	7	2%
	On-line	80	61%	49	37%	2	2%	1	1%	0	0%

TABLE 36. DESCRIPTIVE STATISTICS FOR ITEMS IN THE MEALS SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q28. There is enough variety in the meals.	Mail	116	23%	231	46%	59	12%	23	5%	69	14%
	Phone	78	23%	172	51%	39	12%	10	3%	41	12%
	On-line	31	23%	60	45%	12	9%	7	5%	23	17%
Q29. My resident looks forward to mealtimes.	Mail	117	24%	230	46%	64	13%	32	6%	54	11%
	Phone	78	23%	179	53%	50	15%	9	3%	24	7%
	On-line	42	31%	52	39%	17	13%	7	5%	16	12%
Q30. My resident likes the food served here.	Mail	102	21%	227	46%	81	17%	41	8%	40	8%
	Phone	63	19%	190	56%	58	17%	8	2%	21	6%
	On-line	32	24%	61	46%	19	14%	8	6%	14	10%

TABLE 37. DESCRIPTIVE STATISTICS FOR ITEMS IN THE PHYSICAL ENVIRONMENT SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q31. This facility has accommodations to ensure my resident's physical safety. (e.g., like hand railings, no area rugs)	Mail	262	53%	229	46%	2	<1%	1	<1%	3	1%
	Phone	135	50%	202	59%	0	0%	0	0%	3	1%
	On-line	82	61%	50	37%	1	1%	0	0%	1	1%
Q32. I feel confident my resident is safe.	Mail	256	51%	231	46%	7	1%	2	<1%	2	<1%
	Phone	141	42%	196	58%	3	1%	0	0%	0	0%
	On-line	86	64%	44	33%	4	3%	0	0%	0	0%
Q33. My resident's belongings are safe.	Mail	222	45%	239	48%	20	4%	6	1%	10	2%
	Phone	116	34%	208	61%	13	4%	0	0%	3	1%
	On-line	72	54%	58	44%	2	2%	1	1%	0	0%

TABLE 38. DESCRIPTIVE STATISTICS FOR ITEMS IN THE QUALITY OF STAFF CARE SUB-DOMAIN

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q34. People who work here seem happy to work here.	Mail	177	36%	261	53%	18	4%	0	0%	36	7%
	Phone	86	25%	224	66%	7	2%	0	0%	23	7%
	On-line	64	48%	60	45%	2	2%	0	0%	8	6%
Q35. There is a sense of community among the people who live and work at this facility.	Mail	187	38%	227	46%	25	5%	2	<1%	55	11%
	Phone	93	27%	206	61%	7	2%	0	0%	34	10%
	On-line	61	46%	55	42%	3	2%	0	0%	13	10%
Q36. I have peace of mind about the care my resident is getting.	Mail	230	47%	228	46%	20	4%	5	1%	12	2%
	Phone	121	36%	206	61%	12	4%	0	0%	1	<1%
	On-line	73	55%	52	39%	5	4%	2	2%	1	1%
Q37. People who work here treat my resident with respect.	Mail	263	53%	213	43%	8	2%	1	<1%	9	2%
	Phone	134	39%	198	58%	4	1%	0	0%	4	1%
	On-line	84	63%	48	36%	1	1%	0	0%	1	1%

		Strongly Agree		Agree		Disagree		Strongly Disagree		NA/DK/NR	
		n	%	n	%	n	%	n	%	n	%
Q38. People who work here take the time to get to know my resident.	Mail	217	44%	229	46%	17	3%	2	<1%	30	6%
	Phone	126	37%	196	58%	8	2%	0	0%	10	3%
	On-line	71	53%	56	42%	1	1%	0	0%	5	4%
Q39. People who work here are knowledgeable about my resident's service plan.	Mail	175	35%	223	45%	23	5%	5	1%	70	14%
	Phone	88	26%	206	61%	14	4%	0	0%	32	9%
	On-line	60	45%	55	41%	7	5%	0	0%	12	9%

TABLE 39. RESULTS FOR ITEM 40 ASKING 'OVERALL, ON A SCALE WHERE A=EXCELLENT, B=VERY GOOD, C=AVERAGE, D=BELOW AVERAGE, AND F=FAILING, HOW WOULD YOU GRADE THE QUALITY OF THIS FACILITY AS A PLACE TO LIVE?'

	A – Excellent		B		C		D		F - Failing	
	n	%	n	%	n	%	n	%	n	%
Mail	231	47%	204	41%	57	12%	3	1%	2	<1%
Phone	197	58%	120	35%	19	6%	3	1%	0	0%
On-line	78	58%	45	34%	10	8%	1	1%	0	0%

TABLE 40. RESULTS FOR ITEM 41 ASKING 'OVERALL, ON A SCALE WHERE 5=EXTREMELY CONFIDENT AND 1=NOT AT ALL CONFIDENT, HOW CONFIDENT ARE YOU THAT YOUR RESIDENT IS WELL CARED FOR WHETHER YOU ARE PRESENT OR NOT?'

	1 - Not at all confident		2		3		4		5 - Extremely Confident	
	n	%	n	%	n	%	n	%	n	%
Mail	4	1%	5	1%	45	9%	162	33%	280	57%
Phone	1	<1%	3	1%	26	8%	86	25%	223	66%
On-line	0	0%	2	2%	13	10%	40	30%	77	58%

TABLE 41. RESULTS FOR ITEM 42 ASKING 'OVERALL, ON A SCALE WHERE 5=EXTREMELY HIGH AND 1=EXTREMELY LOW, HOW ENTHUSIASTICALLY WOULD YOU RECOMMEND THIS FACILITY TO ANOTHER FAMILY?'

	1 - Extremely low		2		3		4		5 - Extremely High	
	n	%	n	%	n	%	n	%	n	%
Mail	9	2%	8	2%	65	13%	161	32%	255	51%
Phone	2	1%	3	1%	40	12%	80	24%	213	63%
On-line	0	0%	3	2%	12	9%	41	31%	78	58%

TABLE 42. RESULTS FOR ITEM 43 ASKING 'OVERALL, HAS THE COVID-19 PANDEMIC IMPACTED YOUR SOCIAL CONNECTION TO FAMILY OR FRIENDS AT THIS FACILITY?'

	To a Great Extent		To Some Extent		Little or Not at All	
	n	%	n	%	n	%
Mail	128	26%	277	56%	86	18%
Phone	124	37%	142	42%	69	21%
On-line	39	29%	73	55%	22	16%

FACTOR ANALYSIS + RELIABILITY

Results of the factor analysis of the FS survey are presented in Table 43. As with the resident survey, factor analysis here was used to understand how sets of items might be related to an underlying construct, thereby conceptually reducing many items into fewer factors. All surveys across data collection modes and participating facilities were included in this analysis. Missing data was handled such that if one item was missing in any domain that had more than three items, the missing data was imputed based on the average of the other items answered in that domain. The items regarding finances (questions 21-23) were not included in the factor analysis due to skip sequences in the survey resulting in a significant amount of missing data.

Factor analysis results are based on 1,586 responses. The initial solution using principal axis factoring with a varimax rotation resulted in six factors. Each of the six factors had an eigenvalue >0.9. The six-factor solution explained 70.77% of the variance. The first factor explained 52.58% of the variance while the second and third factors explained 5.39% and 4.52% of the variance, respectively. The fourth and fifth factors explained 3.03% and 2.68% of the common variance, respectively. The sixth factor explained 2.56% of the variance.

TABLE 43. ROTATED FACTOR MATRIX RESULTS FOR FS SURVEY (N=1,586)

	Factor	Factor	Factor	Factor	Factor	Factor
	1	2	3	4	5	6
Q3. The leaders of this facility are available to speak with me, if needed.	0.689	0.174	0.167	0.163	0.161	0.066
Q16. I am satisfied with the amount of information I receive about my resident.	0.686	0.269	0.205	0.105	0.272	0.103
Q10. I have enough opportunities to provide input into decisions about my resident's care.	0.666	0.222	0.219	0.184	0.160	0.158
Q4. I am comfortable voicing a complaint or concern.	0.660	0.178	0.213	0.163	0.164	0.133
Q15. I receive timely updates about changes in my resident's status.	0.659	0.271	0.168	0.117	0.272	0.104
Q5. People who work here respond promptly to my concerns.	0.652	0.225	0.227	0.161	0.252	0.152
Q18. I am confident that my resident's service plan is being delivered as promised.	0.574	0.285	0.310	0.157	0.334	0.196
Q12. People who work here respect my resident's culture.	0.561	0.350	0.373	0.115	0.013	0.285
Q17. My resident is given the opportunity to be as independent as they can be.	0.552	0.323	0.336	0.154	0.117	0.212
Q2. People who work here get to know me.	0.551	0.129	0.227	0.127	0.154	0.223

	Factor	Factor	Factor	Factor	Factor	Factor
	1	2	3	4	5	6
Q13. People who work here care about my resident.	0.539	0.284	0.464	0.128	0.106	0.242
Q1. I feel welcome when I visit.	0.538	0.226	0.248	0.149	0.035	0.205
Q11. My resident's spiritual beliefs are respected.	0.536	0.334	0.253	0.112	0.009	0.303
Q14. My resident has a choice in the care they receive.	0.519	0.264	0.369	0.150	0.191	0.276
Q6. I am pleased with how the people who work here treat my resident.	0.516	0.247	0.397	0.186	0.154	0.245
Q26. The facility is clean.	0.221	0.830	0.206	0.153	0.139	0.163
Q25. The common areas in and around the facility are well maintained.	0.242	0.778	0.184	0.150	0.164	0.177
Q27. The facility is free of offensive odors.	0.280	0.726	0.243	0.155	0.118	0.137
Q24. My resident's living unit/personal space is well maintained.	0.260	0.571	0.187	0.156	0.268	0.221
Q31. This facility has accommodations to ensure my resident's physical safety.	0.418	0.524	0.343	0.185	0.030	0.055
Q32. I feel confident my resident is safe.	0.448	0.517	0.392	0.178	0.079	0.068
Q33. My resident's belongings are safe.	0.386	0.466	0.398	0.168	0.138	0.073
Q37. People who work here treat my resident with respect.	0.401	0.394	0.638	0.143	0.105	0.147
Q38. People who work here take the time to get to know my resident.	0.392	0.293	0.609	0.118	0.185	0.192
Q36. I have peace of mind about the care my resident is getting.	0.447	0.342	0.555	0.178	0.236	0.156
Q35. There is a sense of community among the people who live and work at this facility.	0.382	0.310	0.547	0.179	0.254	0.188
Q34. People who work here seem happy to work here.	0.370	0.301	0.522	0.180	0.319	0.138
Q39. People who work here are knowledgeable about my resident's service plan.	0.417	0.297	0.481	0.168	0.310	0.157
Q30. My resident likes the food served here.	0.147	0.137	0.110	0.892	0.123	0.139

	Factor	Factor	Factor	Factor	Factor	Factor
	1	2	3	4	5	6
Q29. My resident looks forward to mealtimes.	0.185	0.167	0.126	0.812	0.111	0.188
Q28. There is enough variety in the meals.	0.206	0.184	0.140	0.760	0.177	0.090
Q20. There is enough staff on weekends.	0.307	0.176	0.194	0.257	0.706	0.160
Q19. There is enough staff during weekdays.	0.351	0.220	0.227	0.229	0.662	0.124
Q8. My resident looks forward to participating in activities.	0.240	0.184	0.136	0.206	0.112	0.602
Q9. My resident seems happy at this facility.	0.339	0.251	0.285	0.247	0.151	0.523
Q7. The facility offers enough meaningful activities my resident enjoys.	0.392	0.202	0.143	0.234	0.234	0.438

Because the first factor was comprised of 15 items, which was nearly 40% of all the items on the family survey, a secondary factor analysis was conducted on the first factor items (Table 44). The default result of the secondary factor was still one factor, but when two and three-factor solutions were examined, the three-factor structure made sense conceptually and the reliabilities of the sub-factors (reported below) were high. The three factors which explained 70.93% of the variance with the first factor explaining 59.71% of the variance and the second and third factors explaining 6.06% and 5.16%, respectively.

TABLE 44. ROTATED FACTOR MATRIX RESULTS FOR FIRST FACTOR OF FS SURVEY (N=1,9891)

	Factor	Factor	Factor
	1a	1b	1c
Q.3 The leaders of this facility are available to speak with me, if needed.	0.666	0.256	0.302
Q5. People who work here respond promptly to my concerns.	0.658	0.319	0.355
Q4. I am comfortable voicing a complaint or concern.	0.625	0.332	0.307
Q1. I feel welcome when I visit.	0.625	0.302	0.184
Q2. People who work here get to know me.	0.586	0.267	0.262
Q6. I am pleased with how the people who work here treat my resident.	0.564	0.452	0.267

	Factor	Factor	Factor
	1a	1b	1c
Q12. People who work here respect my resident's culture.	0.333	0.796	0.234
Q11. My resident's spiritual beliefs are respected.	0.262	0.756	0.251
Q14. My resident has a choice in the care they receive.	0.422	0.576	0.327
Q13. People who work here care about my resident.	0.499	0.571	0.284
Q17. My resident is given the opportunity to be as independent as they can be.	0.386	0.559	0.368
Q10. I have enough opportunities to provide input into decisions about my resident's care.	0.468	0.482	0.386
Q16. I am satisfied with the amount of information I receive about my resident.	0.354	0.319	0.798
Q15. I receive timely updates about changes in my resident's status.	0.347	0.302	0.747
Q18. I am confident that my resident's service plan is being delivered as promised.	0.459	0.446	0.471

Reliability

Chronbach's alphas were calculated to assess how closely related a set of items were as a group. The FS survey factors were found to have high internal consistencies evidenced by Cronbach's alphas ranging from 0.79 to 0.95 for each of the factors (Table 45). Reliability was also calculated for the items related to finances or cost of care. Item-total correlations are presented in Appendix F.

TABLE 45. CRONBACH'S ALPHAS FOR EACH OF THE FACTORS FOR THE FS SURVEY

Factor Number	Cronbach alpha	Number of Items
1a	0.89	6
1b	0.91	6
1c	0.88	3
2	0.92	7
3	0.93	6
4	0.92	3
5	0.90	2
6	0.79	3
Finances	0.75	2

MEAN FACTOR-LEVEL SCORE DIFFERENCES BY MODE

Differences in average scores of each factor comparing each mode of data collection were also examined. Mean-level scores for each factor by survey administration mode were calculated using one-way ANOVA's and the Scheffe post hoc test (Table 46). To do this, scores were calculated for each factor by recoding items such that Strongly Agree = 100, Agree = 67, Disagree = 33 and Strongly Disagree = 0. Then, a score was computed for the domain by taking a weighted average of all items in the domain when each respondent answered one more than half the times within the domain. Because there were so many more mail surveys conducted than phone or on-line surveys, a random sample of 500 mail surveys was used in these analyses. Additionally, the analyses were conducted using the full sample of mail surveys with differences in the results noted in the table notes. Some differences emerged, mostly that results obtained via on-line administration tended to be slightly higher than those obtained via phone interviewing and mailed surveys. Practically, the differences between on-line and mailed or phone results for the factors where significant differences were observed, were minor. Difference in average scores of these factors were no greater than five points.

TABLE 46. FACTOR-LEVEL MEAN DIFFERENCES BY MODE

	Mail (n=421-499)	Phone (n=308-339)	On-line (n=113-134)	Significant Difference: <i>p</i> value
Factor 1a ^A	80.51	79.83	84.33	Phone/On-line: 0.024
Factor 1b ^B	79.52	79.40	83.31	Phone/On-line: 0.046 Mail/On-line: 0.041
Factor 1c	74.52	76.04	77.99	--
Factor 2	82.29	79.39	84.88	Mail/Phone: 0.025 Phone/On-line: 0.002
Factor 3	77.89	76.42	82.99	Phone/On-line: 0.000 Mail/On-line: 0.006
Factor 4	65.73	66.75	67.27	--
Factor 5	63.18	65.48	67.25	--
Factor 6 ^C	71.06	72.26	75.90	--
Finances*	73.71	74.38	78.03	--

* Due to skip patterns in the survey, n's for finances were substantially lower than for the six factors.

^A When the analysis was conducted with the full sample of mail surveys, there was a statistically significant difference in the results for the Mail and On-line modes ($p= 0.017$).

^B When the analysis was conducted with the full sample of mail surveys, there were no statistically significant difference across modes.

^C When the analysis was conducted with the full sample of mail surveys, there was a statistically significant difference in the results for the Mail and On-line modes ($p= 0.034$).

SMALL FACILITY PILOT RESULTS

DESCRIPTIVE STATISTICS

Overall, 101 facilities with a capacity to serve fewer than eight residents participated after 64 small facilities declined to participate when initially contacted and another 18 cancelled prior to their scheduled interview date. The number and percent of responses for each item for residents living in facilities with a capacity of fewer than eight people are presented below in Tables 47-61. There were not particularly high rates of *Not Applicable/Don't Know/Non-Response* or missing items in small facilities indicating that the items asked in larger facilities are of relevance in small facilities as well. In addition, the full response scale was used although responses of *Rarely/Never* were not frequent.

TABLE 46. DESCRIPTIVE STATISTICS FOR ITEMS IN THE PEOPLE WHO WORK HERE SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK /NR	
	n	%	n	%	n	%	n	%
Q1. How often do the people who work here try to get to know you?	119	61%	52	27%	15	8%	9	5%
Q2. How often do the people who work here treat you with respect?	147	75%	35	18%	7	4%	6	3%
Q3. How often do you feel comfortable asking for help when you need it?	121	62%	43	22%	19	10%	11	6%
Q4. How often do the people who work here come quickly when you need help?	131	68%	41	21%	8	4%	14	7%
Q5. How often do the people who work here follow through when you have a complaint or problem?	116	60%	43	22%	15	8%	20	10%
Q6. How often do you get enough help with your everyday activities if you need it?	135	70%	24	12%	19	10%	15	8%
Q7. How often are you confident the people who work here can address your healthcare needs?	131	69%	34	18%	15	8%	11	6%
Q8. How often are you satisfied with how your mediations are managed?	149	78%	20	11%	10	5%	11	6%
Q9. How often are you confident the people who work here know what to do if you have a medical emergency?	146	77%	21	11%	17	9%	6	3%

TABLE 47. DESCRIPTIVE STATISTICS FOR ITEM REGARDING FRIENDS

	Yes		No		NA/DK/NR	
	n	%	n	%	n	%
Q10. Do you have friends here?	121	64%	65	34%	4	2%

TABLE 48. DESCRIPTIVE STATISTICS FOR ITEMS IN THE PHYSICAL ENVIRONMENT SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK /NR	
	n	%	n	%	n	%	n	%
Q11. How often are the common areas well maintained?	159	84%	20	11%	4	2%	7	4%
Q12. How often is it quiet enough for you to sleep here?	152	80%	29	15%	6	3%	2	1%
Q13. How often are there places for residents to socialize with other residents?	145	77%	22	12%	8	4%	13	7%

TABLE 49. DESCRIPTIVE STATISTICS FOR ITEMS IN THE FOOD SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK /NR	
	n	%	n	%	n	%	n	%
Q14. How often does the facility offer access to healthy foods, like fruits and vegetables, if you want them?	148	78%	22	12%	13	7%	6	3%
Q15. How often do you like the food served here?	110	58%	54	29%	20	11%	5	3%
Q16. How often do you have enough choice in the meals offered here?	104	55%	46	24%	27	14%	12	6%
Q17. How often do you look forward to mealtimes here?	104	55%	51	27%	24	13%	9	5%
Q18. How often is there enough variety in the meals offered here?	115	61%	40	21%	25	13%	8	4%
Q19. How often can you eat your meals when you want to?	116	62%	36	19%	28	15%	8	4%

TABLE 50. DESCRIPTIVE STATISTICS FOR ITEM REGARDING MEANINGFUL ACTIVITIES

	Yes		No		NA/DK/NR	
	n	%	n	%	n	%
Q20. Do you participate in activities here?	106	56%	71	38%	11	6%

TABLE 51. DESCRIPTIVE STATISTICS FOR ITEMS IN THE MEANINGFUL ACTIVITIES/SOCIAL ENGAGEMENT SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK /NR	
	n	%	n	%	n	%	n	%
Q21. How often do you like the activities here?	65	60%	38	35%	4	4%	2	2%
Q22. How often are there things to do here on the weekends that you enjoy?	46	42%	31	28%	27	25%	5	5%
Q23. How often do you have enough activities to keep your mind active?	65	60%	29	27%	11	10%	3	3%
Q24. How often is there enough variety in the activities here?	55	51%	31	28%	19	17%	4	4%
Q25. How often do you enjoy the way you spend your time?	77	71%	24	22%	5	5%	3	3%
Q26. How often do you feel included in things that are happening here?	77	72%	25	23%	5	5%	0	0%

TABLE 52. DESCRIPTIVE STATISTICS FOR ITEMS IN THE CHOICE/AUTONOMY SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK /NR	
	n	%	n	%	n	%	n	%
Q27. How often can you decide how to spend your time each day?	145	78%	26	14%	11	6%	4	2%
Q28. How often do you spend as much time outdoors as you would like?	109	59%	46	25%	26	14%	5	3%
Q29. How often are you allowed to personalize your room?	157	84%	18	10%	4	2%	8	4%
Q30. How often are the services you receive here provided the way you want?	123	66%	34	18%	17	9%	13	7%
Q31. How often are you as involved in decisions about the services you receive here as you want to be?	99	53%	42	23%	31	17%	15	8%

TABLE 53. DESCRIPTIVE STATISTICS FOR ITEMS IN THE RELIGION/SPIRITUALITY SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK /NR	
	n	%	n	%	n	%	n	%
Q32. How often are there enough opportunities for you to practice your religious or spiritual beliefs here?	116	62%	23	12%	28	15%	19	10%
Q33. How often are the people who work here respectful of your religious or spiritual practices?	140	75%	17	9%	9	5%	20	11%
Q34. How often are the people who work here respectful of your culture?	142	76%	15	8%	8	4%	21	11%

TABLE 54. DESCRIPTIVE STATISTICS FOR ITEMS IN THE SAFETY, SECURITY, & PRIVACY SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK /NR	
	n	%	n	%	n	%	n	%
Q35. How often are your personal belongings safe here?	149	80%	25	13%	8	4%	4	2%
Q36. How often do you feel safe here?	159	86%	21	11%	4	2%	2	1%
Q37. How often do the people who work here ever get angry at you?	10	5%	42	23%	128	69%	6	3%
Q38. How often do you feel comfortable voicing a complaint or concern?	117	63%	35	19%	20	11%	13	7%
Q39. How often do you feel you have enough privacy here?	141	76%	31	17%	10	5%	3	2%
Q40. How often do the people who work here ask to come in before entering your room?	135	73%	31	17%	15	8%	4	2%

TABLE 55. DESCRIPTIVE STATISTICS FOR ITEM REGARDING INVOLVEMENT IN FINANCES

	Yes		No		NA/DK/NR	
	n	%	n	%	n	%
Q41. Are you involved with your finances here?	95	51%	80	43%	11	6%

TABLE 56. DESCRIPTIVE STATISTICS FOR ITEMS IN THE FINANCES SUB-DOMAIN

	Always or most of the time		Some of the time		Rarely or never		NA/DK/NR	
	n	%	n	%	n	%	n	%
Q42. How often do you understand what is included in monthly fees here?	71	74%	13	14%	11	12%	1	1%
Q43. How often do you believe you are getting value for your money here?	70	74%	16	17%	5	5%	4	4%

TABLE 57. RESULTS FOR ITEM 44 ASKING 'OVERALL, WHAT GRADE WOULD YOU GIVE (NAME OF FACILITY) WHERE A IS THE BEST IT COULD BE AND F IS THE WORST IT COULD BE?'

A		B		C		D		F		NA/DK/NR	
n	%	n	%	n	%	n	%	n	%	n	%
79	43%	51	28%	32	17%	12	7%	7	4%	4	2%

TABLE 58. RESULTS FOR ITEM 45 ASKING 'OVERALL, WOULD YOU RATE YOUR QUALITY OF LIFE AS:'

Excellent		Very Good		Good		Fair		Poor		NA/DK/NR	
n	%	n	%	n	%	n	%	n	%	n	%
42	23%	48	26%	46	25%	38	21%	6	3%	5	3%

TABLE 59. RESULTS FOR ITEM 46 ASKING 'OVERALL, HAS THE COVID-19 PANDEMIC IMPACTED YOUR QUALITY OF LIFE:'

A Lot		Some		Little or Not at All		NA/DK/NR	
n	%	n	%	n	%	n	%
44	24%	63	34%	68	37%	10	5%

TABLE 60. RESULTS FOR ITEM 47 ASKING ‘SINCE THE CORONAVIRUS OUTBREAK BEGAN, HAVE YOU HAD MORE CONTACT WITH FAMILY AND FRIENDS, LESS CONTACT WITH FAMILY AND FRIENDS OR ABOUT THE SAME?’

More		About the Same		Less		NA/DK/NR	
n	%	n	%	n	%	n	%
12	7%	97	52%	67	36%	9	5%

FEASIBILITY

Several challenges and considerations emerged in data collection at facilities with a capacity for fewer than eight residents. Scheduling challenges emerged due to language barriers with on-site staff, disinterest in participation, and lack of overall project knowledge for administrators. One important consideration of data collection in small facilities is the inability to provide item-level reports for facilities due to IRB guidelines. While different grouping options are possible, the practical relevance of data at an aggregate level is reduced.

CONCLUSIONS + KEY LEARNINGS

LIMITATIONS

One significant limitation in data collection was that participation in the two surveys was voluntary at the facility level. As such, there is potential bias in the results that could influence the general tendencies observed. For example, it is possible that facilities with higher perceived quality opted in at higher rates than those with lower perceived quality from the perspective of facility administrators/owners. Similarly, because data collection took place during the COVID-19 pandemic when staffing shortages were greatly exacerbated, it is possible that facilities with lower staffing rates participated at lower rates than other facilities. One suggestion is to legislatively mandate participation in the resident QOL and FS surveys to reduce potential bias in results.

Additionally, the different modes of administration were tested at different time points throughout the COVID-19 pandemic which could have introduced potential bias in how participants scored facilities. For example, in-person data collection began during a particularly acute phase of the pandemic which may have impacted survey responses. Phone and mail data collection were introduced later in the pandemic and may influence results although the direction of this influence is not known.

SURVEY RESULTS

Overall, reliability and validity of the two surveys was confirmed through the first year of large-scale data collection. The factor structure of each survey largely relates to the domains delineated in the

survey and items that conceptually fit together, are statistically linked as well. Just two items (8 and 34) may be considered for removal on the resident QOL survey given high rates of missingness or *Not Applicable/Don't Know/Non response*.

Differences in mean-level results as a function of survey administration mode were observed for both surveys. For the resident survey, phone-based data collection yielded results that were significantly different from in-person and mail administration when comparing mean level scores across factors. Because of this and practical considerations described below, the recommendation is to collect data via in-person administration as much as possible moving forward. Only in situations where in-person may not be possible for example due to continuing COVID-19 outbreaks, would mail surveys be used as a second option with phone follow-up conducted only when needed to reach facility-level targets.

For the family survey, there were fewer differences by mode, and the most prevalent modes, mail and phone, had just one statistically significant difference when comparing mean-level scores across factors. Because of this, we suggest continuing data collection primarily via mail and phone administration moving forward. The on-line option could also be maintained, simply to offer that convenience for those who prefer to fill out the survey on-line.

Additional analyses of both resident and family survey results are needed. Questions regarding how well the surveys work for different segments of the population, remain. For example, it is not known if there are differences in responses as a function of respondent characteristics such as race, ethnicity, or cognitive capacity. The following questions should be explored with the existing data set:

1. Do survey results vary as a function of respondents' gender, age, self-reported health status, or self-reported quality of life?
2. Do survey results vary as a function of facility characteristics such as size or geographic location?
3. To what extent do domain level results relate to specific items within the survey such as the overall grade given facilities?
4. Do factor analysis results remain stable in conducting confirmatory factor analysis? How do factors relate to domains identified previously in research literature?

Given the current resident sample of respondents was mostly White and that cognitive capacity of residents are not known, additional research would be needed to answer questions regarding how well the survey works across different races or ethnicities and with residents with varying levels of cognitive capacity. Additional data is also needed to assess to what extent respondents represent the broader population of AL residents and/or their representatives. One suggestion to bolster information about the resident population and further test the surveys in subsequent rounds of data collection would be to expand the data permitted to be collected on facility census lists.

DATA COLLECTION PROCEDURES

In-person data collection resulted in the highest response rates at the resident level, when compared with mail or phone administration. In-person data collection also seems to be the most inclusive mode of data collection given accommodations that can be made for residents who have varied communication methods and abilities, including hearing, vision, and cognitive impairments. Additionally, in-person data collection was the only mode where residents in memory care were intentionally included in data collection. However, in-person data collection had a higher refusal rate at the facility-level when compared to phone and mail administration. The burden on facilities is higher for in-person as compared with phone and mail administration given the census-level data required and support, although minimal, on data collection days. Vital Research will continually work to improve processes and minimize burden on facility staff.

Phone administration presented multiple challenges as evidenced by the low participation rate when compared with in-person data collection. Many residents did not have dedicated phone numbers or did not answer phone numbers they did not recognize, so reaching residents was challenging. When residents were reached, they did not always have prior knowledge of the survey, despite facilities being provided with resident notification letters and posters to display in advance, often resulting in initial resident distrust of interviewers. Additionally, residents with hearing impairments were likely excluded disproportionately from phone as compared with in-person or mailed administration although there are no data to support this claim. Overall, 30 (6%) of phone interviews that began ended prior to completion. Moving forward the suggestion is to minimize phone administration for the resident survey and use it only when needed to reach facility-level targets after attempting in-person and mailed administration. Mailed administration was logistically the most straight-forward method of data collection. This mode presents less burden on facilities, yet it had the lowest resident response rate.

Data collection in small facilities, with a capacity for fewer than eight residents, was challenging given some instances of language barriers with administrators, general lack of awareness about the project and disinterest in participation. Some of these barriers could be overcome with increased and targeted communication to small facilities, interpreter services for scheduling and other strategies. However, the largest constraint of data collection in smaller facilities is the inability to report results at the facility level in most cases given IRB guidelines and approvals. The population that smaller facilities serve may be systematically different from those that serve larger populations. These voices are essential to include in state reporting. As such, we suggest determining the most meaningful way to report results in smaller facilities that could include grouping facilities or combining results across resident and family surveys in some way. Administrators and owners of small facilities should be consulted to learn from them what is most meaningful. With a few options for reporting, additional wider spread data collection would follow using the same approach as in larger facilities.

Taken together, results from survey testing across modes, facility and individual response rates and prioritizing resident inclusion, we recommend moving forward with in-person interviewing as much

as possible. Given that the COVID-19 context will be relevant in Fall 2022, we suggest a tiered plan for data collection that minimizes phone-based survey administration for residents. In-person data collection should be attempted in all cases and if a facility goes into COVID outbreak status and cannot have visitors for an agreed upon time period (possible 4 weeks due to census list data collection) then the facility would be moved to the mailed mode of survey administration. Finally, in facilities where the target number of interviews is not met through mailed surveys, phone call follow-up would be used to hit targets.