Resident VIEW Validation Methods

Sampling Design

The overall objective of the sampling design for this series of studies was two-fold. First was to ensure generalizability to a well-defined population of NH, AFH, and AL/RC residents. Second was to ensure adequate representation of *heterogeneity* among settings across Oregon – especially as it relates to regional variation. To achieve this objective, we used a two-stage stratified sampling design, separately for each setting type.

Table II-1 Information about data source by setting type

	Nursing Homes	**Assisted Living**	**Adult Foster Homes**
Eligible number of settings at project start	93	535	1,483
Number of settings in the final sample	32	31	125
(a) Resident interviews	258	241	220
(b) Direct-care staff surveys	215	84	Not applicable
(c) Administrator, nursing, and owner or provider interviews	55	47	150
(d) Interviewer observations	139	46	155
(e) Administrative data	32	31	125

The first stage for each setting involved recruiting a stratified random sample of facilities from a larger facility list. The target population at this stage included all licensed AL and AFH settings in Oregon. For NH study, it included all NH located within a 100-mile radius of Portland, Oregon or 70 percent of all licensed NH in Oregon (Table II-1). Data collection was separately conducted, and stratifying variables differed slightly by setting type due to differences in availability of information (NH=rurality, profit designation, and quality; AL=region and quality; AFH=region).

The second stage involved recruiting residents from participating NH, AL, and AFH, using the resident census or a list of current residents provided by the setting. We considered all residents eligible except non-English speakers, those who were comatose or had altered levels of consciousness, those who were too ill to participate, or those who were nonverbal and unable to communicate. Although our initial strategy was to randomly select residents from each setting, we interviewed all eligible residents in many participating settings. Overall, due to this complex sampling design and potential differential selection into the sample, we constructed design and non-response weights to account for differences in probability of selection of settings and residents into the final sample.

Survey Process

We recruited settings into the study using multiple methods of contact. The Department of Human Services sent out multiple provider alerts to administrators across the state to inform them of the study. The project manager also attended meetings with partner organizations, such as the Oregon Health Care Association, to personally introduce the study and answer questions from providers. In an attempt to increase participation among adult foster homeowners, we also met with union leaders and solicited their support.

All providers in the sample received a letter in the mail describing the study and informing them that they were randomly selected for participation. We then followed up by phone and email, with up to five outreach attempts. Some administrators and adult foster home providers received more than five outreach attempts if we had reached them and had a promise of recruiting them into the study. This was also the case when providers requested to reschedule our visit. Interviewers called and scheduled their own visits for adult foster homes. Facility visits were coordinated by the project manager to ensure adequate staffing appropriate to the size and location of the facility. We sent the administrator information about the study and a one-page description in plain language to distribute to residents in advance of the visit.

At the setting, the interview team obtained a list of residents from the provider and determined who met the inclusion and exclusion criteria for the study. All eligible residents were divided up amongst team members at facilities and interviewers then went in the order they were listed on their respective face sheets. We often returned to larger facilities in an attempt to interview more residents if there were a sufficient number remaining in the sample who were eligible to participate. All attempts to interview residents and outcomes were recorded. Upon meeting the residents, interviewers would introduce themselves and the study and gauge their interest and ability to participate. If the person was interested, we would proceed with the informed consent and the interview.

When we wrapped up our visits, we would meet with the administrator or AFH owner, or whomever was our point of contact, to obtain information from their records for residents who consented and participated in the study. This included move-in date, payment source, and birth date. We would also conduct the provider interview at this time if we had not done so already. Upon conclusion of the visit, the interview team also completed the sample cover page, which described the number of residents on the census, number and reasons for exclusions, and the number of interviews complete and incomplete (including cases and non-cases, as defined below). Our project team maintained records of all recruitment outreach attempts and all data from sample cover pages from each community we visited.

Sample and Data

Table II-2. Descriptive statistics for settings by type

	NH		AFH		AL/RC	
	Target Population	Sample	Target Population	Sample	Target Population	Sample
Size						
Five beds (%)	X	X	72 [1,063]	79 [99]	X	X
Avg. licensed beds	81.4	78.7	X	X	51.1	60.1
Medicaid contract (%)	95 [88]	94 [31]	90 [1,341]	91 [115]	77 [284]	77 [24]
Non-profit (%)	19 [18]	21 [7]	X	X	5 [20]	7 [2]
Rural/Frontier (%)	28 [26]	33 [11]	25 [367]	21 [27]	41 [153]	45 [14]
Region						
Portland Metro	65 [60]	64 [21]	56 [828]	64 [81]	40 [147]	42 [13]
Willamette Valley	30 [28]	30 [10]	22 [327]	18 [22]	28 [102]	29 [9]
Southern Oregon	0 [0]	0 [0]	14 [204]	10 [13]	14 [53]	13 [4]
Eastern Oregon	5 [5]	6 [2]	8 [124]	8 [10]	18 [68]	16 [5]
Total	93	33	1,483	126	370	31

Notes: Totals may not add up to 100 percent due to rounding. X indicates that information is not available for that setting. Counts are reported in brackets. Information reported here are based on the largest sample size and might differ slightly across different analyses due to missing values.

Portland Metro = Clackamas, Columbia, Multnomah, Washington
Willamette Valley = Benton, Clatsop, Lane, Lincoln, Linn, Marion, Polk, Tillamook, Yamhill
Southern Oregon = Coos, Curry, Douglas, Jackson, Josephine
Eastern Oregon = Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, Wheeler

After data collection was finalized, data were checked for errors and each case was assessed using detailed information about the interviews – including interviewer notes as well as completion records (e.g., what percent of questions were answered before break-off). Overall, 105 cases in the NH data set, 25 cases in the AFH data set, and 15 cases from the AL/RC data set were removed prior to final analyses. NH cases had a higher rate of removal because we originally kept all break-off interviews for the NH study. Due to high rate of removal in the NH study, we switched to the practice of entering AFH and AL/RC cases only if they completed at least five domains of the tool.

Settings that were visited. Table II-2 shows characteristics of NH, AFH, and AL/RC settings in the original target population and our sample. Overall, our sample was comparable (with ~5%) to the target population in terms of Medicaid contract, non-profit, and rurality. For NH and AL/RC, we were also able to mirror the distribution of capacity in the target population. For AFH and AL/RC, the settings among our respondents were slightly larger compared to the general population. For AFH, they were also slightly more likely to be located in the Portland Metro area.

***Responding residents*.** Overall, responding residents in our samples mirrored characteristics of NH, AFH, and AL/RC residents in Oregon (see Table II-3 below). AL/RC residents were more likely to be female compared to NH and AL/RC residents. AL/RC residents were also significantly older compared to NH and AFH residents. AFH residents were slightly more diverse compared to NH and AL/RC residents. Both NH and AFH residents were significantly more likely to pay using Medicaid funds compared to AL/RC residents. NH residents were significantly more likely to share their rooms compared to AFH and AL/RC residents. Length of stay among AFH and AL/RC residents was similar and higher compared to NH residents. AFH and AL/RC residents had similar reported quality of life scores, and both AFH and AL/RC residents had significantly higher scores compared to their NH counterparts. Although PHQ-9 scores were slightly higher among NH residents compared to AL/RC residents, depressive symptoms did not differ significantly across different settings (p > .05).

Table II-3. Characteristics of residents in the analytic sample and comparisons to Oregon-wide studies

	NH (n=258)	OSU17 Data	AFH (n=195)	CBC18 Data	AL/RC (n=227)	CBC18 Data	Pooled (n=680)
Sex							
Male	42	42	47	38	31	30	39
Female	58	58	53	62	69	70	61
Median age	73	X	72	X	84	X	77
Age groups (years)							
<65	20	20	29	23	8	6	18
65-74	34	24	29	19	19	12	27
75-84	27	28	22	21	24	30	24
85 and over	20	28	20	38	49	51	30
Race/ethnicity							
Non-Hispanic White	93	83	87	86	97	90	93
Other	7	17	13	14	3	10	7
Medicaid receipt							
No	39	40	32	43	58	58	43
Yes	61	60	68	57	42	42	57
Room type							
Private	42	X	90	X	85	X	72
Shared	58	X	10	X	15	X	28
Length of stay							
<6 months	48	96	18	36	20	30	29
6-12 months	14	2	14	16	13	15	14
1-2 years	17	1	17	9	26	16	20
More than 2 years	21	1	51	41	42	38	37
QoL-AD (range=0-3)	1.63	X	1.83	X	1.81	X	1.75
PHQ-9 (range=0-3)	0.80	X	0.76	X	0.70	X	0.76

Notes: Only residents with non-missing, valid data were included for each statistic. X indicates a statistic is not available for that group. Totals may not add up to 100 percent due to rounding. Numbers highlighted show similarities between Resident VIEW sample and Oregon-wide studies.

Data. We collected information from multiple types of respondents, including residents, direct-care staff, administrators, nursing, and AFH owner/providers. Our interviewers also took notes of their observations. Finally, we retrieved administrative data about settings that we visited. Table 1 shows a detailed count for availability of data by setting type. Although all data gathered for this study are described below, this report includes findings only from resident interviews. The research team will continue to analyze and report on these data in future reports.

a. **Resident interviews.** These data were collected via face-to-face structured interviews using a structured questionnaire (see Appendix A and B for copies of NH and AFH/AL/RC questionnaires). The original questionnaire included 63 items across 8 domains from the Resident VIEW measure, asking about how important residents perceived each item and to what extent they experienced it. The questionnaire was revised after the NH study to include additional questions related to issues that came up during the NH study, such as those related to food (eating meals when the resident wants to; satisfaction with food), informal/family caregiving, social support, and certain demographic information (e.g., whether the resident had had any children). In addition, MoCA was moved from the middle of the questionnaire and the response categories for the Katz ADL scale were revised to better reflect the original scale. As such, AL/RC and AFH data sets include a larger number of questions compared to NH data set.

Table II-4below shows names, number of items, and conceptual summary for each of the eight domains in the original Resident VIEW tool. The plus signs indicate items that were added after the NH study (a total of 3 items). Each domain was constructed to tap into different areas of practice that directly support and/or reinforce personhood – a concept that is the central focus of this tool – that is, each person has inherent value and is worthy of respect.

The questionnaire also included the Montreal Cognitive Assessment (MoCA; Nasreddine et al., 2005), the Quality of Life for Alzheimer's Disease (QOL-AD; Logsdon, Gibbons, McCurry, & Terri, 2002), Katz Index of Independence in Activities of Daily Living (Hartigen, 2007), Patient Health Questionnaire (PHQ-9; Saliba et al., 2012), and satisfaction items based on the work of Kane, Lum, Cutler, Degenholtz, and Yu (2007). Finally, we collected information about each resident's age, gender, race/ethnicity, room type (private or shared), move-in date, and primary method of payment (Medicaid or private).

Table II-4 Domain descriptions

Domain	# of Items	Concept
Physical Environment	7	Resident’s perceived degree of control over, satisfaction with, and belonging to the physical environment
Meaningful Activity	10+1	Resident’s perceived degree of engagement in various activities that have meaning to the person and provide a sense of purpose
Personalized Care	8	Resident’s evaluation of the extent to which care provided accounts for and are catered to their wishes, needs, and skill set
Knowing the Person	7	Resident’s evaluation of how well people who work at the setting know the resident beyond care needs
Autonomy/Choice	9+1	Resident’s perceived degree of control over choices and decisions that affect them directly or indirectly
Treated Like a Person	8	Resident’s evaluation of how well people who work at the setting relate to and treat the resident
Relationships with Staff	7	Resident’s evaluation of how good their relationships are with people who work in the setting
Organizational Environment	7+1	Resident’s evaluation of how the setting is run and resident’s perceived degree of control over it

We also asked residents the following three open-ended questions:

- “What makes/would make [this setting] feel like home?”
- “What are the most important decisions you make?”
- “How could this place be run better?”

Resident responses to these three questions were coded and analyzed by our team members. These analyses constitute the qualitative findings section of this report, separately for each of the three concepts (home environment, decision-making, and organizational improvement). The sample varied somewhat by question. The “home environment” question excluded short-stay NH residents who were least likely to find this question important or the setting like home. The “important decisions” question focused only on CBC residents. Finally, the “organizational improvement” question included all residents who answered the question.

Analysis began with line-by-line open coding of the responses by a lead team member. Possible codes were discussed with at least one other team member to categorize codes and identify themes. Resident responses were then coded according to the categories and themes established. Coding was initially done with team members blinded to the setting. Once coding was done, responses were matched to resident setting. Comparing responses within and between settings allowed us to identify similarities and differences across settings

***b. Direct-care staff survey*.** Direct-care staff in NH and AL were asked to fill out a brief questionnaire asking about their assessment of person-directed care at the setting, measured by the Staff Assessment of Person-Directed Care (SAPDC) (White, Newton-Curtis, & Lyons, 2008). They also completed the Direct Care Worker Job Satisfaction Scale (Ejaz, Noelker, Menne, & Bagaka, 2008). Staff were asked to rate how many or how often they perceive residents experience person-centered care practices, represented by 39 items that broadly map onto the domains in the Resident VIEW measure administered to residents. In addition, we collected information about several personal (gender, race/ethnicity, education) and job characteristics (hours worked, tenure, job satisfaction, turnover intention).

***c. Administrator, nursing, and AFH provider interviews*.** In NH and AL, we asked administrators, directors of nursing, and RNs about their job responsibilities, previous work experience, and preparation for their role. In AFH, we asked the owner or manager these same questions as well as some questions specific to their setting. In AL and AFH, we asked for their definitions of PCC, what they think residents care most about as it relates to residents’ quality of life, what they think matters most for residents’ quality of life, and what would allow them to provide more PCC.

***d. Interviewer observations and comments*.** At each setting, interviewers used observation checklists about resident engagement and wrote field notes following resident interviews. Based on qualitative comments about NH, AL and AFH checklists were more specific with respect to physical environment, perceived strengths, and concerns about the setting, as perceived by the interviewers. NH qualitative comments were recategorized using the checklists used in AL and AFH for comparability.

***e. Administrative data about each setting*.** Licensing information was provided by Oregon DHS for all eligible settings, including facility characteristics such as size, address, ownership, whether the setting is licensed to provide dementia care, and whether the setting is contracted to serve residents paying primarily via Medicaid.

Missing values. Missing values ranged from zero to 10 percent (Table II-5). Most missing values for NH residents were due to lack of reporting from one facility. QoL-AD and PHQ-9 scores were calculated by averaging non-missing values unless all items in the scale were missing, in which case a missing value was assigned. For the Resident VIEW, QoL-AD, PHQ-9, and general satisfaction items, we used a simple imputation method to ensure we used all available data from responding residents.

Table II-5. Missing values

	NH % [n]	AFH % [n]	AL/RC % [n]
Sex	9 [22]	3 [5]	<1 [1]
Age	9 [24]	3 [6]	<1 [1]
Race/ethnicity	10 [25]	2 [4]	1 [2]
Medicaid	9 [24]	1 [2]	1 [3]
Room type	10 [25]	0 [0]	0 [0]
Length of stay	9 [22]	3 [5]	1 [2]
QoL-AD	<1 [2]	<1 [1]	<1 [3]
PHQ-9	<1 [1]	9 [18]	10 [22]

Quantitative Analyses

To evaluate the Resident VIEW tool as a measurement, we used multiple sources of quantitative evidence. These were descriptive statistics, bivariate statistics, and regression analysis. Each analysis was conducted separately by domain (as originally indicated in the questionnaire) and setting type (NH, AFH, and AL/RC).

***Descriptive statistics*.** For each item in each domain, we calculated percentage of residents who reported that item as being very important, those who reported experiencing or receiving an item, and those who reported an unmet need. We calculated unmet need as share of residents who received an item less than they reported it as important. For instance, if a resident reported that they found an item very important, but also reported receiving it only to some extent or not at all, that resident was considered having an unmet need for that item.

***Bivariate statistics*.** We first examined associations of each item with four resident outcomes. These outcomes were selected because they are indicators of overall well-being of residents and Resident VIEW tool is intended to be used to improve such indicators of well-being. These resident outcomes were likelihood of recommending the setting to someone else (1-item binary), general satisfaction with the setting (measured using 2-item sum score), the Quality of Life for Alzheimer's Disease as an indicator of subjective quality of life, and Patient Health Questionnaire as an indicator of depressive symptoms.

For each domain, we also examined inter-item correlations and Cronbach's alphas (ranges from 0 to 1) to understand agreement among items in the same domain. The latter is typically used as a measure of how well a group of items belong with each other. Higher Cronbach's alpha indicates higher internal consistency for a given domain.

***Multivariate statistics*.** We originally estimated a set of exploratory and confirmatory factor analyses (EFA and CFA) to understand the fit of the original domain structure to the NH data. However, team discussions revealed that these strategies would potentially lead to a homogenous set of items. Consequently, we decided against using EFA or CFA as an overall selection strategy for items.

***Regression analysis*.** For each of the four resident outcomes described above, we estimated a series of regressions using items from each of the eight domains separately. Our primary consideration was the fact that there is a trade-off between resident burden and explanatory power for a given number of items in a domain. Although higher number of items may lead to greater explained variance, our main purpose was to reduce the number of items from the original 63 items down to a more reasonable size for this tool. As such, these regression models were used to select the fewest number of items in each domain without losing the explanatory power of the overall domain.