4.3.4 Validity Testing Results

Provide the statistical results from validity testing for each level and type of validity testing conducted.

***Validity Testing for the Questionnaire Format used in the CoreQ: AL Resident Satisfaction Questionnaire***

A. The face validity of the Domains used in the CoreQ: AL Resident Satisfaction Questionnaire was evaluated via a literature review (described in 2b2.2). Specifically, the research team examined the surveys and reports to identify the different domains that were included. The research team scored the domains by simply counting if an instrument included the domain. Table 2b1.3.a gives the domains that were found throughout the search, as their respective score. An example is the domain food, this was used in 11 out of the 12 surveys. An interpretation of this finding would be that items addressing food are extremely important in satisfaction surveys in AL. These domains were used in developing the pilot CoreQ: AL Resident Satisfaction questionnaire items.

Table 2b1.3.a: Survey Domain Score out of 12

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Domain | Score out of 12 |  | Domain | Score out of 12 |
| Food | 11 |  | Spiritual | 4 |
| Activities | 10 |  | Confidence in Caregivers | 3 |
| Administration | 10 |  | Language and Communication | 3 |
| Clinical Care | 10 |  | Personal Suite | 3 |
| Staff Interaction | 10 |  | Therapy | 3 |
| Choice and Decision Making | 9 |  | Care Access | 2 |
| Facility Environment | 9 |  | Case Manager | 2 |
| Security and Safety | 9 |  | Comfort | 2 |
| Overall | 8 |  | Maintenance | 2 |
| Staff Overall | 7 |  | Move In | 2 |
| Autonomy and Privacy | 6 |  | Non-Clinical Staff Services | 2 |
| Housekeeping | 6 |  | Transitions | 2 |
| Personal Care | 6 |  | Transportation | 2 |
| Recommend facility | 6 |  | Emergency Response | 1 |
| Resident to Resident Friendships | 5 |  | Finances | 1 |
| Family Involvement | 4 |  | Time | 1 |
| Resident to Staff Friendships | 4 |   | Trust | 1 |

**B.** The face validity of the domains was also examined using residents (described above). The following abbreviated table (Table 2b1.3.b) shows the rank of importance for each group of domains. The overall ranking used was 1=Most important and 22=Least important. The ranking of the 4 areas used in the CoreQ: AL Resident Satisfaction questionnaire are shown in Table 2b1.3.b.

Table 2b1.3.b: Average Ranking of CoreQ: AL Resident Satisfaction Questionnaire Items

|  |  |
| --- | --- |
| Domain / Question  | Average Rank |
| Overall (In recommending this facility to your friends and family, how would you rate it overall?) | 2 |
| Staff (Overall, how would you rate the staff?) | 1 |
| Care (How would you rate the care you receive?) | 4 |
| Food (Overall, how would you rate the food?) | 3 |

**C.** The face validity of the pilot CoreQ: AL Resident Satisfaction questionnaire response scale was also examined (described above). Table 2b1.3.c gives the percent of respondents that stated they fully understood how the response scale worked, could complete the scale, AND in cognitive testing understood the scale.

Table 2b1.3.c: Resident Understanding of Response Scale

|  |  |
| --- | --- |
| Scale Format | Residents |
| Yes – No | 100% |
| Yes – Somewhat – No | 100% |
| Always – Usually – Sometimes –Never | 100% |
| Very happy – Somewhat happy – Unhappy | 100% |
| Excellent – Good – Fair – Poor | 100% |
| Very Good – Good – Average – Poor – Very Poor | 100% |
| Very Satisfied – Satisfied – Neither Satisfied or Dissatisfied – Dissatisfied – Very Dissatisfied | 100% |
| 4 Point Satisfaction Scale (1=Very unsatisfied, 2=Unsatisfied, 3=Neutral, 4=Satisfied) | 100% |
| 5 Point Likert Scale (1=Poor, 2=Average, 3=Good, 4=Very Good, 5=Excellent)\* | 100% |
| Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree | 95% |
| 5 Point Importance Scale (1=Very important, 5=Very unimportant) | 95% |
| 5 Point Expectancy Scale (1=Not met, 2=Nearly met, 3=Met, 4=Exceeded, 5=Far exceeded expectations) | 90% |
| 10 Point Satisfaction Scale (1=Poor, 10=Excellent) | 90% |
| 8 Point Satisfaction Scale (1=Very dissatisfied, 2=Dissatisfied, 3=Somewhat dissatisfied, 4=Neither satisfied nor dissatisfied, 5=Somewhat satisfied, 6=Satisfied, 7=Very satisfied, 8=No response) | 85% |

(\*Scale highlighted is used in CoreQ)

D. The CoreQ: AL Resident Satisfaction Questionnaire was purposefully written using simple language. No *a priori* goal for reading level was set, however a Flesch-Kinkaid scale score of six, or lower, is achieved for all questions.

1. ***Testing the Items for the CoreQ: AL Resident Satisfaction Questionnaire***

**A.** The pilot CoreQ: AL Resident Satisfaction questionnaire items all performed well with respect to the distribution of the response scale and with respect to missing responses.

**B.** Using all items in the instruments (excluding the global item Q1 (“How would you rate the facility?”)) exploratory factor analysis (EFA) was used to evaluate the construct validity of the measure. The Eigenvalues from the principal factors 1 and 2 (unrotated) were 10.93 and 0.710, respectively. Sensitivity analyses using principal factors and rotating provide highly similar findings.

**3. *Determine if a Sub-Set of Items could Reliably be used to Produce an Overall Indicator of Satisfaction (The Core Q: AL Resident Measure).***

**A.** To support the construct validity that the idea that the CoreQ items measured a single concept of “satisfaction” – we performed a correlation analysis using all items in the instrument. The analysis identifies the pairs of CoreQ items with the highest correlations. The highest correlations are shown in Table 2b1.3.d. Items with the highest correlation are potentially providing similar satisfaction information. Note, the table provides 7 sets of correlations, the analysis was conducted examining all possible correlations between items. Because items with the highest correlation were potentially providing similar satisfaction information they could be eliminated from the instrument.

Table 2b1.3.d: CoreQ: AL Resident Satisfaction Questionnaire Item Correlations

|  |  |
| --- | --- |
|  | AL Resident  |
| Highest Correlation  | Q10-Q9 (.787) |
| Next highest Correlation | Q6-Q2 (.741) |
| Next highest Correlation | Q10-Q6 (.726) |
| Next highest Correlation | Q10-Q8 (.724) |
| Next highest Correlation | Q9-Q8 (.720) |
| Next highest Correlation | Q20-Q12 (.686) |
| Next highest Correlation | Q10-Q2 (.671) |

**B.** In addition, using all items in the instrument a factor analysis was conducted. Using the global items Q1 (“How satisfied are you with the facility?”) the Cronbach’s Alpha of adding the “best” additional item is shown in table 2b1.3.e. Cronbach’s alpha measures the internal consistency of the values entered into the factor analysis, where a value of 0.7 or higher is generally considered acceptably high. The additional item(s) is considered best in the sense that it is most highly correlated with the existing item, and therefore provides little additional information about the same construct. So, this analysis was also used to eliminate items. Note, the table again provides a limited set of correlations, the analysis was conducted examining all possible correlations between items.

Table 2b1.3.e: Secondary Correlation Analysis of CoreQ: AL Resident Satisfaction Questionnaire Items

|  |  |
| --- | --- |
|  | AL Resident  |
| Q1 + last satisfaction itemADD | Q10 (.867)Q6 (.859)Q5 (.848) |
| Q1 + ADDADD | Q10 + Q6 (.866)Q9 + Q10 (.859)Q2 + Q6 (.854) |
| Q1 + ADDADD | Q10 + Q9 (.870)Q10 + Q5 (.865)Q9 + Q8 (.864) |

Thus, using the correlation information and factor analysis 4 items representing the CoreQ: AL Resident Satisfaction questionnaire were identified.

*4. Validity testing for the Core Q: AL Resident Measure*

The overall intent of the analyses described above was to identify if a sub-set of items could reliably be used to produce an overall indicator of satisfaction, the CoreQ: AL Resident Satisfaction Questionnaire.

A. The items were all scored according to the rules identified elsewhere. The same scoring was used in creating the 4 item CoreQ: AL Resident Satisfaction Questionnaire summary score and the satisfaction score using the Pilot CoreQ: AL Resident Satisfaction Questionnaire. The correlation was identified as having a value of 0.94. That is, the correlation score between the final “CoreQ: AL Resident Satisfaction Measure” and all of the 20 items used in the Pilot instrument indicates that the satisfaction information is approximately the same if we had included either the 4 items or the 20 item Pilot instrument.

**B.** We performed additional validity testing of the facility-level CoreQ: AL Resident Satisfaction Measure by measuring the correlations between the CoreQ: AL Resident Satisfaction measure scores and several other quality metrics from facilities (see Table 2b1.3.f). Therefore, we hypothesize that for each facility in the sample there is a positive correlation with other quality indicators.

*Relationship with Quality Indicator*

 Table 2b1.3.f: CoreQ: AL Resident Satisfaction Correlation with Quality Metrics

|  |  |
| --- | --- |
| Quality Indicator | Correlation with Satisfaction Summary Score |
| Hospitalization | -0.026327 |
| Rehospitalization | -0.04881 |
| Off-label use of Antipsychotic drugs | -0.24531\* |
| LPN Turnover | 0.215385\* |
| Aide Turnover | -0.00052 |
| Administration Turnover | -0.14168\* |
| DON Turnover | 0.084486 |
| All Staff Turnover | -0.32957\* |
| Occupancy | -0.13806\* |

 \*Statistically significant at p=<0.05