Chapter 8

Facility-Wide Observational Approaches

To supplement, our individual-level quality of life (QOL) assessment and observations of the emotions of individual residents, the Task Order evolved to include development and testing of facility-wide observations of interactions that might reflect differential QOL in a nursing home. This strategy of a facility-level observation protocol would potentially provide independent information about QOL in the facility, which could be juxtaposed with self-report data from a sample of residents who could be interviewed. Moreover, some nursing units, particularly dementia care units, might house few, if any, residents capable of responding to questionnaires. The observational protocol included observations on <u>all</u> the units of the facility. A systematic observational protocol at the facility-level could also be a useful screening tool on QOL for regulatory and quality improvement purposes.

This chapter presents information about the development and testing of three iterations of a facility-level observational screening tool on the average QOL in the facility.

Approach

The work on the facility-wide protocols was exploratory in nature. Through literature review and discussion with practitioners, we identified observable positive and negative behaviors of staff and residents in interaction that we reasoned might be associated with better or worse QOL. We chose observable resident-resident, staff-staff, and resident-staff interactions that seemed to be reflective of one or more QOL domains. Some QOL domains had no observable analogues (e.g., spiritual well-being) where as others could relate to multiple domains. For example, observations of a staff member speaking about resident health or other private information in the hearing of others could be a negative sign for both the privacy domain

and the dignity domain. A staff member at eye level with a resident addressing a complaint or question could be a positive sign for comfort, security, relationships, and autonomy.

Observational approaches suffer the problem that many behaviors being observed are relatively rare. This is particularly true for certain important but rare negative behavior like staff shouting at or hitting a resident. Further, it is not feasible to make observations in private spaces. On the other hand, they had an advantage that they could entail observations of individuals who could not be interviewed.

We were mindful that observations need to be systematically performed using samples of time. Systematic observation is labor-intensive both in terms of elapsed time and the need to schedule for specific time periods across the day and week. We developed protocols to walk through each facility at specific time periods including weekends, and to incorporate observations of the meals less likely to be observed by the public (breakfast and dinner) and organized activities. As is discussed below, we modified the observational protocols between Wave 1 and Wave 2, and again for the smaller transferability test. In each case, our own research interviewers achieved a high standard of inter-rater reliability (.9 or better correlation on items).

Wave 1 Protocols

Measures. Separate 1-page observation protocols were used for 4 types of observation: a 10 minute meal observation, a 10-minute activity observation, a 10-minute lobby observation, and a facility walk-through. Four different observation protocols were developed. The meal and activity protocols each contained 24 items, the lobby observation contained 32 items, and the walk-through contained 37 items. The items were chosen to include observable phenomena that were thought to be both positive and negative markers of QOL in the facility. Many observations were included in all 4 protocols, though a few items related specifically to meals

and activities, and the lobby and walk-through protocols were longer because they included elements that would not logically be observed at a meal or a fixed activity. The response metric for each item was: not observed at all, observed once, and observed more than once. The tools themselves for Wave 1 observations are found in Volume 2, Appendix F. Extensive training was conducted on how to define an occurrence and when an observation (e.g. a staff member scolding several residents simultaneously) should be counted as one or two observations.

Data collection. The research interviewers also made the facility observations after extensive training and achieving a high standard of inter-rater reliability on the protocols. Each interviewer in a facility performed two meal observations (one at a dinner, and one at a breakfast), 2 activity observations at activities with at least 6 participants, one lobby observation between the breakfast and dinner hour, and 2 facility walk-throughs. Walk-throughs were done between breakfast and 7 p.m. and at least one walk-through was done on a weekend day. Observers were instructed to walk through the front lobby and all public central space, stopping at dining rooms and activity rooms and looking in. They were to walk through all corridors of each nursing unit, passing the nursing station, looking into day rooms on the unit, and looking to the left and right into resident's rooms where the doors were open. The walk-throughs did not include observations into bedrooms with closed doors or the "backstage" areas of the facility such as staff offices, kitchens, laundries, and the like.

Each interviewer, thus, performed a set of 7 observations. The number of interviewers assigned to a facility ranged from 1 to 5, though ordinarily was 3 or 4. In each facility, we incorporated a reliability test by having two observers walk or observe together and each record the results; analysis showed that inter-rater reliability remained high. We aggregated the observations by averaging the scores of all interviewers. Because of our interest in rare events,

we also examined whether certain observations (e.g. staff member speaking harshly to a resident) were seen during any of the observation periods.

We perceived Wave 1 observations as an opportunity to learn more about the kind of items that might be included in such a tool. Therefore, each observer filled out an open-ended form at the end of each observation where they indicated anything they saw that seemed to them to be related to any of the 11 QOL domains. The simple two-column form listed domains in the first column and a place for corresponding observations that seemed to reflect positive or negative observations related to that domain. We also invited observers to use this form to provide more detail about something that was checked as observed on the first form. We analyzed the content of these forms, but did not identify any additional items to include as a result of the exercise.

The lobby observations proved ineffectual for a number of reasons. Most noteworthy, not all facilities had a distinct front-door or lobby area, and observers did not always concur even on which area should count as the lobby. Moreover, despite the stereotype that much of nursing-home life occurs in the front lobby, we found that in many facilities few or no residents were present in the lobby area during our observation times. Finally, observers reported particular difficulty in distinguishing among staff and visitors in the lobby environment. Thus, we did not incorporate the lobby observations into data analyses reported here and dropped that procedure from future refinements of the observation protocol.

Wave 2 Protocols.

We modified Wave 2 observations to produce a more streamlined instrument, utilizing those data elements that had proven to be associated with facility-level QOL at Wave 1. This led to an instrument with 16 items. At Wave 2, we also standardized the number of observations

to 4 per facility. Moreover, we combined activity and meal observations into the walk-through protocol. The 4 walk-throughs per facility were done on different days and each within a specified time window, namely, between 8.30 and 9.00 a.m., between 9.00 and 11.00 a.m., between 2:00 and 4.00 p.m., and between 4.00 and 6.00 p.m. It was expected that meals would take place during the first and last time slots for observation; observers paused for 5 minutes to watch a meal in progress. The other two time slots coincided with times when organized activities usually occur, and the item "a group activity is taking place" was added to the protocol to capture that phenomenon. (During Wave 1, interviewers sought out activities to observe by consulting the activity calendar, but often found the latter was inaccurate and no such activities were taking place. Thus, we thought that the mere presence of a group activity was a worthwhile item to add.) When the observer encountered an organized activity, he or she was instructed to watch it for 5 minutes.

An additional change was made in the Wave 2 protocol. Because the open-ended comments at Wave 1 suggested that we were not adequately capturing the magnitude of the positive or negative occurrences, we modified the response set to an actual count between 1 and 9 occurrences. As they walked through or observed from a stationary position, they were instructed to make a hatch mark beside each item each time they observed it. At the end, they added the marked and inserted a number from 0 to 9 for the number of times the phenomenon was observed. See Volume 2, Appendix Q for the Wave 2 instrument.

Transferability

During our transferability test of the ability of nursing home staff to make observations that correspond to those of researchers, we had one further opportunity to amend the observation approach. Analysis of Wave 2 had shown little payoff for the laborious counts and we reverted to a simple "seen/not seen" response category. For this test, we used meal observations and

walk-throughs. We decided to add a few environmental elements to the walk through protocols.

Therefore, we added noxious noise levels, unpleasant odors, and clutter in hallways to the walk-

through for a total of 18 items. We included pleasant odors, unpleasant odors, noise levels,

tablecloths or placemats, and centerpieces as environmental items in the resulting 16-item meal

protocol. See Volume 2, Appendix U for the transferability study facility observation

instruments.

<u>Analyses</u>

Our first approach was to make "scales" out of the behaviors that were observed.

Specifically, we counted the number of positive and negative behaviors seen by each observer

to create "positive behavior count" and "negative behavior count" scales. (This technique is

described in more detail where the results are presented). For many of the analyses the

dependent variables were the mean score on each QOL domain for the residents who were

interviewed at that facility.   To study the relationship between observed positive and negative

behaviors and resident-reported QOL, we also created a summary QOL variable, which

we used for some of the analyses.

After Wave 1 data were analyzed, we used item-level analyses to develop a shorter scale of

"best items" for Wave 2.

Given the inconsistencies we found across the three administrations at the scale level, we

conducted some item-level analyses as well. The logic was that some items may behave

differently by administration, which might explain the inconsistencies at the scale level. We

were particularly interested in identifying whether any of these items (all of which had face

validity as positive or negative in a facility) were themselves important markers of how facilities

varied on QOL. Therefore, we combined information about the items from all the observational

items to explore how well these observation items varied across facilities and to identify the

"best" of these observational items to use to distinguish facilities. These results are presented in

the last part of the chapter.

Scale-Level Results

Wave 1 Frequencies

As indicated, we analyzed three separate forms in Wave 1: meal observations, activity

observations, and walk-throughs. Tables 8.1, 8.2, and 8.3 show the frequencies of these

observations for the meal, activity, and walkthrough protocols respectively. These tables reveal that

some of the items were very frequently observed, rendering them unlikely to be useful to distinguish

facilities. On the other hand, some other potentially important observations were seen very rarely.

Table 8.1. Frequency of Observed Items during Meals at Wave 1

Item # and abbreviated content	% observations where item seen
6. residents at a table sit in complete silence	97.1
11. staff pause & answer residents' questions or comments	95.6
2. staff observed offering resident a choice or food or something else	95.5
1. resident makes explicit choice of food or refuses a food offered	88.9
5. residents at a table talking or laughing	88.1
9. staff talk to each other over resident's head while helping resident	72.8
14. residents spontaneous expressions of pleasure overheard	70.4
22. staff inquire about a resident's physical comfort	68.1
24. staff shows specific knowledge of a resident's food preferences	62.2
16. staff overheard comforting a resident in distress or discomfort	60.0
15. residents' spontaneous expressions of displeasure or distress overheard	55.6
12. residents seen being fed slowly with requests for feedback about pace etc.	51.9
18. resident observed helping other residents	50.0
23. staff shows specific knowledge of a resident's interests or background	43.7
8. staff move resident without explaining or asking if ready	43.3
13. residents fed in a way that creates messy dribbles/ or inattention to wiping dribbles	27.2
4. staff discuss residents' health or private business in dining room	26.5
21. residents observed calling out in distress or crying without getting attention	25.0
19. staff observed explaining reason for a rule or policy to resident	24.3
7. staff talk to residents in baby talk	22.2
20. staff observed speaking roughly to resident &/or threatening him/her	11.8
17. quarrels observed among residents	9.6
3. private dining room actually in use by resident and guest	6.7
10. staff ask residents about weight, bowel movements, continence etc. during meal.	4.4

Note: Based on all pairs of meal observations performed at Wave 1 in 40 facilities. Interviewers per facility ranged from 1 to 5.
Each item was scored as seen/not seen and the two observations. The table is based on 135 pairs of meal observations.

Table 8.2. Frequency of Observed Items during Activities at Wave 1

Item # and abbreviated content	% observations where items seen
5. resident visibly enjoying activity	99.3
13. resident's spontaneous expression of pleasure or distress overheard	97.1
11. staff pause & answer residents' questions or comments	92.0
6. resident completely disengaged in activity	89.1
2. staff offers resident a choice about anything	88.5
1. resident makes explicit choice of food or refuses a food offered	86.0
3. staff agree to implement a resident request	75.5
22. staff inquire about a resident's physical comfort	57.2
17. staff comforting or assisting a resident in distress or discomfort	54.7
18. resident observed helping other residents	52.2
23. staff shows specific knowledge of a resident's interests or background	47.4
14. residents spontaneous expressions of pleasure or boredom	34.3
12. staff engaged in own discussion during activity	30.7
8. staff move resident without explaining or asking if ready	29.9
16. resident expression of pain /discomfort	25.5
19. staff observed explaining reason for a rule or policy to resident	25.4
9. staff talk to each other over resident's head while helping resident	22.1
24. staff shows specific knowledge of a resident's food preferences	18.1
15. quarrels observed among residents. Displeasure or distress overheard	11.8
4. staff discuss residents' health or private business in dining room	11.6
21. residents observed calling out in distress or crying without getting attention	11.6
7. staff talk to residents in baby talk	8.0
20. staff observed speaking roughly to resident &/or threatening him/her	5.1
10. staff ask residents about weight, bowel movements, continence etc. in public	1.5

Note: Based on all pairs of activity observations performed at Wave 1 in 40 facilities. Interviewers per facility ranged from 1 to 5. Each item was scored as seen/not seen and the two observations. The table is based on 135 pairs of activity observations.

8.3. Frequency of Observed Items during Walk-throughs at Wave 1

Item # and abbreviated content	% observations where item seen
27. resident sitting at nursing stations or day rooms appear to be doing nothing at all	95.4
17. staff in conversation with residents about topics other than care	87.0
15. staff pause to answer resident question	85.5
25. residents sitting in rows or small groups apparently interacting with each other	84.7
20. resident observed in common place engaged in solitary activity- e.g. reading, doing puzzles, really watching TV.	80.3
1. resident makes explicit request	72.0
23. resident heard expressing happiness or positive emotion	71.8
3. staff agreeing or implementing resident request	68.7
24. resident heard expressing displeasure or negative emotion	66.9
28. resident calling out in distress, pain, or anxiety and not getting attention	66.2
2. staff observed offering resident explicit choice	65.6
32. staff observed assisting or encouraging resident in walking or doing an independent Task	59.5
37. resident appears to be enjoying a group activity	56.1
16. staff get down at wheelchair resident's eye level	50.8
26. staff observed assisting residents with pain & discomfort or inquiring about it	49.6
33. resident seen tidying room, sewing, doing her laundry, arranging/discarding flowers or some such productive task	47.0
13. staff talk to each other over resident while giving care or transporting resident	42.7
4. staff knock, announce selves, & wait before entering resident's room	41.7
5. private meeting or dining rooms actually used by residents and their guests	40.9
8. resident's body uncovered where resident can be seen	40.9
6. staff discuss resident's private information in public place	39.7
7. care routines done in public view (e.g. with bedroom or bathroom doors open)	37.9
18. staff shows specific knowledge of a resident's interest or background	36.6
11. staff move resident in wheelchair without explaining or asking if ready	30.8
22. resident interacting with a child/children	30.5
21. resident interacting with animals	30.3
14. residents lined up in public place for baths, medications, etc.	25.8
31. staff explain a rule or policy to a resident	22.7
19. a highly individualized resident activity-e.g. piano, maintaining a garden	15.4
34. staff observed assisting family to take resident or find a place to visit	15.3
30. staff speak harshly or roughly to a resident	13.0
29. resident in productive community role, e.g. working in store, delivering mail	8.3
9. staff interrupt residents who are talking to other resident (s) or family	7.7
10. staff talk in baby talk to residents	7.6
12. staff ask residents about weight, bowel movements, continence etc in public places	7.6
36. staff observed helping resident make or receive a private phone call	4.5

Note: Based on all pairs of activity observations performed at Wave 1 in 40 facilities. Interviewers per facility ranged from 1 to 5. Each item was scored as seen/not seen and the two observations. The table is based on 135 pairs of walk-through observations.

<u>Wave 1 Scale-Level Analysis</u>

As indicated on the forms themselves, the scoring system for each item went from 0 (not seen) to 2 (seen more than once). We consolidated the 1 and 2 scores into a binary score for each item as seen/not seen on a particular administration. We then developed a 3-level metric: not seen at all, seen on one administration, seen on both administrations. The scores for multiple administrations at a facility were added and averaged by the number of observers who completed the paired observations. We then created separate additive scores for the observations thought to reflect negatively and those thought to reflect positively on QOL.

Table 8.4 shows the relationships between counts of negative observations and QOL scores by domain for each observation context. Table 8.5 present the same analyses for counts of positive observations. Alpha reliabilities for the behavior counts are above .7. The dependent variable for these analyses is the mean QOL score for each domain, adjusted by resident characteristics (age, cognition, and ADL ability).

Table 8.4. Relationship between Negative Observations and QOL by Domain in Wave 1

Domain	Context		
	Activity	Meal	Walk-through
Comfort	-0.36**	-0.39**	-0.33**
Functional Competence	-0.18*	-0.23**	-0.35**
Privacy	-0.52**	-0.14*	-0.20**
Dignity	-0.45**	-0.27*	-0.22**
Meaningful Activity	0.07	-0.04	-0.10
Enjoyment	-0.20**	-0.31**	-0.25**
Individuality	-0.22**	-0.18*	-0.25**
Relationship	-0.17*	-0.28**	-0.22**
Security	-0.19*	-0.45**	-0.43**
Spiritual Well-Being	-0.27**	-0.50**	-0.38**
Autonomy	-0.15**	0.06	-0.05

*p<.05, ** p<.01. QOL scores are adjusted for age, cognitive status, and ADL status

Table 8.5. Relationship between Positive Observations and QOL by Domain in Wave 1

Domain	Context		
	Activity	Meal	Walkthrough
Comfort	**-0.20***	-0.01	**-0.30****
Functional Competence	-0.13	-0.11	-0.06
Privacy	-0.12	-0.05	0.00
Dignity	0.08	0.11	0.19*
Meaningful Activity	0.06	0.01	0.01
Enjoyment	0.04	-0.02	-0.08
Individuality	0.13	0.14	0.25**
Relationship	0.17*	0.17*	0.21**
Security	0.03	0.04	-0.01
Spiritual Well-being	0.05	0.12	0.03
Autonomy	**-0.28****	-0.34**	**-0.13**

*p <0.05, **<0.01. Ccorrelations that are not in the expected direction are bolded.

Tables 8.4 and 8.5 shows only a few significant associations between QOL domain scores for interviewed residents and facility-level observations made in the facility at the same time. Given the large number of possible comparisons, these data are not meaningful. Therefore, the next procedure combined those observations in a facility across the 3 different contexts (meal, activity, and walk-through) to see if stronger associations would then be revealed. Table 8.6 shows these results. The alpha reliabilities of the composite behavioral scores were good.

Table 8.6. Correlation between Overall Behavior Counts and QOL Scores for 11 Domains

QOL Domain	Overall Negative Behavior Count	Overall Positive Behavior Count
Comfort	-0.41**	**-0.24****
Functional Competence	-0.31**	-0.09
Privacy	-0.32**	-0.05
Dignity	-0.35**	0.15*
Meaningful Activity	-0.04	0.03
Enjoyment	-0.29**	-0.04
Individuality	-0.26**	0.21**
Relationship	-0.26**	0.21**
Security	-0.42**	0.09
Spiritual Well-being	-0.44**	0.05
Autonomy	-0.05	**-0.22****

* <0.05, ** <0.01. Correlations that were not in the expected direction are bolded.

Table 8.6 shows a large number of statistically significant correlations, with the instrument largely behaving as we expected it would. For the negative behaviors on the instrument, the more often these behaviors were seen, the lower the QOL scores at that facility for 9 of the 11

domains of QOL. Two domains (Meaningful Activity and Autonomy) were not associated with the negative behavior counts. The pattern of relationships with positive behavior counts was not as clear cut. For example, the more the positive behaviors were seen, the higher the scores at that facility for Dignity, Individuality, and Relationships. However, the opposite pattern emerged for Comfort and Autonomy, with higher levels of positive behaviors predicting <u>lower</u> levels of QOL. Thus, when aggregated across settings, the negative behaviors in the observation instruments were useful in distinguishing among facilities. At this stage in the work, we were, therefore, encouraged about the potentiality of a streamlined facility level observational tool.

When comparing the results of Wave 1 to the other administrations, it is important to remember that the Wave 1 observation instrument contained many more items than the Wave 2 and Transferability instruments. In total, across the three different settings 85 different behaviors were observed in Wave 1 (some of these behaviors were assessed in all three settings). This should be compared to approximately 16 behaviors in the Wave 2 and the transferability study. Given this discrepancy, we would expect stronger results in Wave 1 than in our subsequent data collection.

<u>Streamlining the Tool for Wave 2</u>

Revisions to the observation protocol were undertaken with two goals in mind. Given the length of the instrument and complexity of data collection in Wave 1, the first goal of the revision was to develop a shorter instrument with more streamlined data collection. The second goal was to simplify the instrument by consolidating the context (meal, activity, and walk-through). For Wave 1, the observers used different behavior checklists for each of the settings. Although some of the behaviors were similar across all settings, there were a number of behaviors that were specific to the setting that was observed. To make the instrument easier to

administer, our second goal was to generate a list of items that could be assessed in all contexts.

Two kinds of analyses were undertaken to accomplish these two goals. The first analysis examined each context separately: we call this our *item-level analyses*. For the second set of analyses, we combined items across contexts; we call this our *combined items analyses.*

Item-level analyses. We used a strategy designed to identify the items that worked best in each setting. Specifically, an iterative process using stepwise regression was conducted for each setting, using all of the behaviors observed in that context to predict overall QOL (combining all domains into an overall score). Figure 8.1 shows which items emerged as predictors of over-all QOL for each of the setting-specific observations at Wave 1 (unit-weighted average of QOL, aggregated across all residents to the facility-level). The following items from the Walk-through instrument emerged as predictors of overall QOL at the facility-level.

Meal QOL predictors	Activity QOL predictors	Walk-through QOL predictors
06 residents at a table in silence	06 All residents silent	11 staff moved resident' s wheelchair w/o asking or discussion
08 staff move resident	09 Staff talk with each other over resident's head	
09 staff talk to each other over resident's head	12 Staff pursuing own discussion during resident activity	13 staff talk to each other over resident's head
13 residents fed in a messy way		24 resident expresses displeasure
15 residents expression of displeasure		28 resident calls out in distress
21 residents observed calling out in distress		34 staff seen assisting family

Figure 8.1. Items correlated with Overall QOL in Each Wave 1 Observation Context

Combined-items analyses. Even though the observers used different instruments for each of the three settings, numerous behaviors were assessed in more than one setting. For example, "staff talks over head of resident" was assessed in the Activity, Meal, and Walkthrough settings. We identified all items that appeared multiple times, and averaged them together. The item "resident is disengaged" was expressed differently in the different contexts: no resident talking at a meal table, resident disengaged during activity, and resident seen disengaged at nursing station.

Next, we used these combined-item variables to predict overall QOL at the facility level in a series of stepwise regressions.

The following 5 items emerged from these analyses as important predictors of overall QOL at the facility level.

> Staff talks over head of resident
> Staff moves resident's wheelchair without asking or explaining.
> Resident expresses displeasure
> Resident calls in distress and is ignored
> Resident is disengaged

We concluded that we should definitely retain the 5 items that were associated with overall QOL in all 5 contexts as well as some that worked well in one of the other contexts.

We consolidated the meal and activity observations into a single walk-through protocol. We did 4 walk-throughs at a facility, each in prescribed time windows. Two time periods were during normal meal hours and two during normal activity times. The protocol was reduced to 16 items, using those items that had been fruitful in Wave 1. We adjusted one item "staff member explains a rule to a resident." We had conceptualized this as a positive, resident-enabling occurrence that could be linked to the "security" or "autonomy" domains. According to our interviewer's notes, however, when they observed this item, it was almost entirely in the context of restricting a resident–i.e., explaining to a resident or family member that something they were doing was against the rules or that they were in forbidden areas. Reasoning that this might have accounted for the negative relationship between that element and some of the QOL domains, we modified the item to explicitly be defined as an observation of a staff member imposing a restriction on a resident's behavior. We retained the observation of staff speaking harshly or threateningly to residents simply because of its importance whenever it is observed; its frequency was too rare to be useful in a scale.

In Wave 2, we also attempted to improve sensitivity by allowing for an actual count of each behavior seen during the walk-through to a maximum of 9 occurrences per item.

Wave 2 Frequencies

In Wave 2, observations were completed 4 times per facility; they were assigned to the regular interviewers according to convenience in the schedule. We had 61 facilities available for this analysis (one facility dropped from other analyses because the N of responding residents was less than 28) for this part of the study. Thus, we had 244 walk-throughs available for Wave 2, performed in 61 facilities. Although we had received exact counts of the occurrences of each item at Wave 2 our first descriptive look at the data revealed that very few items were observed more than once. The exception was residents being disengaged at the nursing station where, if it was seen, it tended to be seen for the maximum number of occurrences.

Table 8.7 shows the frequencies for Wave 2. To make the data comparable to Wave 1, we dichotomized the information into a "seen/not seen" variable, taking into account all four opportunities to observe at the facility. As with Wave 1, we later averaged the 4 times of observation to create scores.

Table 8.7. Frequency of Items Observed at Wave 2

Item # and abbreviated content	% NH's where item seen
w10 Resident solo activity	77.5
w04 Staff answer questions or fulfill requests	61.5
w11 Resident disengaged at nursing station	52.5
w15 Group activity w3 + residents (organized or spontaneous)	47.5
w02 Resident in distress	44.3
w06 Resident's body uncovered	36.1
w16 Disengaged during organized activity	28.7
w12 Resident not talking at meals	28.3
w01 Negative resident expression	23.8
w05 Staff talk with each other over resident's head	21.7
w14 Staff assisting resident or family member.	21.7
w03 Staff move resident wheelchairs without asking or discussing	14.3
w08 Staff impose restriction on resident	13.1
w07 Staff discuss resident's private business in public	9.8
w09 Staff speak roughly or threatening	4.1
w13 Resident fed messily	4.1

Results of Scale-Level Analyses, Wave 2

As with Wave 1, we calculated negative and positive behavior counts and compared these scales to the average adjusted QOL scales of the residents who were interviewed. Table 8.8 shows these results. As the table shows, the observation instrument was unrelated to facility QOL in the Wave 2 administration. One potential reason for this is that the items that were used to create the Positive and Negative behavior counts were not highly related to each other. This meant that the scale reliability of the Positive and Negative behavior count scales were very low, which limited our ability to detect significant relationships. Another possible explanation for the lack of findings at Wave 2 was that the effort to create a more sensitive score by using behavior counts may have "overloaded" our observers. For example, they needed to be alert for all behaviors during the entire walk-through, whereas in Wave 1 they no longer needed to watch for behaviors during an observation period after they were seen more than once.

Table 8.8. Correlations between Behavior Counts and Adjusted QOL Scores

Scale	Negative Behavior	Positive Behavior
Comfort	0.058	0.027
Functional Competence	0.008	-0.009
Privacy	-0.161	0.329**
Dignity	-0.094	0.083
Meaningful Activity	0.102	0.142
Enjoyment	-0.095	0.083
Relationship	-0.015	-0.008
Individuality	-0.063	-0.053
Security	-0.113	0.024
Spiritual Well-being	0.06	0.074
Autonomy	0.111	0.057

**Correlation is significant at the $p < 0.01$ level (2-tailed)

Transferability Study Changes

The purpose of the transferability study (which is described in Chapter 11) was to determine whether NH staff could be trained to complete the interview and observation instruments. This was a smaller-scale study, involving personnel from eight NFs; in each NF, we had 24 pairs of interviews completed by research staff and facility staff. We also used this as an opportunity to look further at the ability to create an observation scale correlated with overall facility QOL. We used the researcher observations and the researcher resident interviews for this analysis because presumably these would be the more accurate data, if the data in the paired assessments diverged.

For this protocol, we used the simplest response rubric: seen/not seen. We also added some environmental elements that might be associated with QOL and that could readily be observed during a walk-through. Also, in the transferability study, each participating staff member (4 per facility or 32) was asked to make 2 meal observations and perform 2 walk-throughs. The research observer accompanied the staff members on these walk-throughs and meal observations and independently completed the form.

For the design of the transferability study, it was not necessary to secure MDS or demographic data and, therefore, no adjustment of QOL scores was done.

Transferability Study Frequencies

Table 8.9 presents the frequencies for meal observations for researcher protocols performed in the transferability study, and Table 8.10 presents the frequencies for the walk-throughs.

Table 8.9. Frequency of Researcher Observations in Transferability Study

Item # and abbreviated content	% seen in 8 facilities
3. staff answer questions or fulfill requests	91.9
14. Pleasant odors	73.4
9. Resident not talking at meals	62.9
8. Resident heard laughing	62.1
1. Negative resident expression	46.8
12. Tablecloths or placemats	40.3
11. Staff feeding more than one resident at a time	22.6
13. Centerpiece on each table	20.2
4. Staff talk over resident's head	18.5
2. Staff move resident's wheelchair without asking or discussing	16.1
6. Staff impose restriction	6.5
10. Resident fed messily	5.6
7. Staff speak roughly or threatening	4.9
5. Staff discuss resident's private business in public	4.8
15. Noxious noise levels	3.2
16. Unpleasant odors	0

Note: In 7 of 8 facilities 16 research observations were available for pairs of meals, but in the 8th facility some staff members failed to complete their protocols and we have only 12 pairs of meal observations made by researchers. This table is based on 124 pairs of meal observations. The occurrence is counted if it was seen at either meal.

Table 8.10 Frequency of Research Observations during Transferability Study Walk-Throughs

Item # and abbreviated content	% seen in 8 facilities
12. resident is in a solo activity	93.5
18. clutter in hallways	72.6
4. staff answer questions or fulfill requests	67.7
11. resident disengaged at nursing station	66.1
14. organized activity	62.9
10. resident heard laughing	62.3
13. spontaneous activity	56.5
15. disengaged during organized activity	40.3
1. negative resident expression	38.7
17. unpleasant odors	22.6
16. noxious noise levels	19.4
2. resident in distress	17.7
6. resident's body uncovered	9.7
3. staff move resident's wheelchair without asking or discussing	8.1
5. staff talk over resident's head	1.6
8. staff impose restriction	1.6
7. staff discuss resident's private business in public	0.0
9. staff speak roughly or threatening	0.0

Note: at 7 of the facilities, 8 walkthrough instruments were completed by research observers, whereas at the remaining facility only 7 walk-throughs were completed by researcher observers. Although each of 4 staff members in each facility was expected to complete 2 walk-throughs, for efficiency research staff were allowed to accompany two NF staff members on a walk-through with each independently completing the protocol.

Transferability Study Scale Results

Once again behavior count scores were created. Pairs of meal observations or walk-throughs were averaged for that purpose. Table 8.11 describes the results. There were many more significant correlations in the Transferability study than in Wave 2. Unfortunately, many of the significant relationships were in directions that were contrary to expectations. It is possible that the circumstances of these walk-throughs–e.g., the fact that the researcher was accompanied by a staff member, changed the phenomenon that was being observed.

Table 8.11 Correlation between Behavior Counts and Un-adjusted QOL Scores

Domain	Meal Negative Behavior Count	Meal Positive Behavior Count	Walkthrough Negative Behavior Count	Walkthrough Positive Behavior Count
Comfort	-0.429**	0.244*	-0.609**	**-0.363****
Functional Competence	-0.277*	-0.161	-0.474**	**-0.703****
Privacy	**0.454****	0.389**	-0.039	-0.183
Dignity	-0.161	0.123	-0.244*	-0.191
Meaningful Activity	-0.169	0.618**	0.056	0.306**
Enjoyment	**0.401****	-0.152	**0.569****	0.352**
Individuality	-0.129	0.474**	0.059	0.402**
Relationship	-0.097	0.205	**0.286***	0.373**
Security	-0.136	0.144	-0.281*	**-0.250***
Spiritual Well-being	-0.575**	0.448**	-0.408**	0.007
Autonomy	**0.547****	0.338**	**0.235***	-0.008

** Correlation is significant at the $p < 0.01$ level (2-tailed).
* Correlation is significant at the $p < 0.05$ level (2-tailed).
   Correlations that were not in the expected direction are bolded.

Cross Administration Item Analysis

The scale-level analysis showed an ability to predict QOL domain scores at Wave 1, but did not work for the other two administrations. The changes made in Wave 2 and the transferability study had a negative impact on the usefulness of the measure.

Given the inconsistencies across the three administrations (Wave 1, Wave 2, and Transferability) we conducted further comparative item-level analyses to examine how well each item worked in terms of relating to specific QOL domain scores or an overall summary QOL measure. The multiple tables involved in this analysis are not presented here, but Table 8.12 summarizes conclusions on utility of the item to predict resident QOL reports.

Table 8.12. Summary of Item Behavior in Predicting QOL Across Assessments

Item	Item behavior across 3 administrations	Overall Evaluation
w01 Negative resident expression	with 2 exceptions, correlations with domain scores are either negative or non-significant	useful item
w02 Resident in distress	with 3 exceptions, correlations are non-significant or negative (the exceptions – IND, MA, SEC -- all occurred in the Wave 1 Activity observation)	useful item
w03 Staff move resident wheelchairs without asking or discussing	numerous correlations, mostly negative. Exception is that in the transferability study, this variable correlated positively with 7 QOL domains in the MEAL observation; the only significant positive correlations were in this condition. In Wave 1 meal observation, correlations with this item are negative	potentially useful item if not used in meal observation
w04 Staff answer questions or fulfill requests	pattern of relationships differs by QOL domain; correlations are uniformly positive for MA, SEC, REL, IND, SWB; the significant correlations are negative for AUT; for the remaining QOL domains, the correlations within domain include both positive and negative correlations	because item varies by QOL domain, not useful to predict overall score; potentially useful for various domains, or overall QOL if AUT is not included in summary measure
w05 Staff talk over resident's heads	most of the correlations are negative; in 4 domains – PRI, CMF, AUT, ENJ – the correlation in the transferability study is positive	inconsistencies in direction of correlations suggests that this is not a useful item
w06 Resident's body uncovered	few significant correlations in confusing pattern – negative relationships with MA – positive relationship with DIG in transferability study	small number of significant correlations and mix of positive and negative relationships suggest this is not a useful item
w07 Staff discuss resident's private business in public	negatively related to FC, positively associated with ENJ	small number of significant correlations and mix of positive and negative relationships suggests this is not a useful item
w08 Staff impose restriction	for 6 domains (CMF, MA, SEC,DIG, FC, SWB), the transferability data yielded a confusing pattern (i.e., negatively correlated with QOL during the meal and positively correlated with QOL during the walk-through)	in the transferability study, the effect differed in the meal and walk-through – this inconsistency suggests that this is not a useful item

Table 8.12. Summary of Item Behavior in Predicting QOL Across Assessments Cont'd

Item	Item behavior in 3 administrations	Conclusion
w09 Staff speak roughly or threatening	strong negative correlations with multiple domains, but only in the transferability study; seems positively correlated to autonomy	most significant correlations in the expected direction come from the transferability study – suggests that this item will not be useful in general
w10 Resident solo activity	Few and inconsistent correlations	not a useful item
w11 Resident disengaged at nursing station	seems negatively related to SWB, DIG, FC, SEC, COM in walk-through only	potentially a useful item
w12 Resident not talking at meals	negatively related to ENJ, REL, CMF, SEC, FC, SWB, DIG when assessed during meal; positively correlated with PRI and AUT in transferability study	potentially useful because most correlations negative
w13 Resident fed messily	significantly negatively correlated with many QOL domain; however, positively correlated with SWB and ENJ in Wave 2 data	potentially useful because most correlations negative
w14 Staff assist family	there are very few significant correlations; all of the significant correlations (PRI, DIG, FC, SEC, REL) were from the Wave 1 walkthrough	not a very useful item
W15 Group activity	very confusing pattern of correlations; some positive correlations in transferability for REL, SWB, DIG; for 3 domains (ENJ, IND, SEC) the correlations across the data collections included a mixture of positive and negative correlations	inconsistent patterns suggests this is not a useful item
w16 Disengaged during organized activity	inconsistent pattern of correlations; for SWB, DIG, ENJ, SEC the correlations were negative for the Wave 1 Activity and positive in the transferability study walkthrough; for REL and IND, the correlations in the transferability walk-through were positive and very strong .822 and .704	inconsistent pattern suggests this is not a useful item

Discrimination of Observation Items Across Facilities

In this part of the report, we examine whether the items in the observation instruments discriminated among the facilities. Because there were so few facilities in the transferability study, we used Wave 1 and Wave 2 facilities for these analyses. Tables 8.13, 8.14, and 8.15 show the results for the three observation contexts in Wave 1. The F-values in the tables are from one-way ANOVAs, with facility as the independent variable. Table 8.13 shows that 7 of the 24 items observed during meals distinguished the 40 Wave 1 facilities. Table 8.14 shows that 8 of the 24 items observed during activities distinguished among the 40 Wave 1 facilities. Table 8.15 shows that of the 37 items observed during the walk-throughs at Wave 1, 6 distinguished the 40 facilities.

Table 8.13. Results of One-Way ANOVAs for the Meal Observation in Wave 1

Items	F Value	Significance
1. resident makes explicit choice of food or refuses food offered	0.793	0.782
2. staff observed offering resident a choice of food or something else	0.738	0.848
3. private dining room actually in use by resident and guest	0.699	0.887
4. staff discuss residents' health or private business in dining room	0.800	0.773
5. residents at a table talking or laughing	1.265	0.182
6. residents at a table sit in complete silence	1.720	0.019
7. staff talk to residents in baby talk	1.536	0.050
8. staff move resident without asking if ready	0.854	0.698
9. staff talk to each other over resident's head while helping resident	1.366	0.116
10. staff ask residents about weight, bowel movements, continence, etc.	1.912	0.006
11. staff pause and answer residents' questions or comments	1.116	0.329
12. residents seen being fed slowly with requests for feedback about pace etc.	0.896	0.638
13. residents fed creating messy dribbles &/or inattention to wiping dribbles	1.155	0.284
14. residents spontaneous expressions of pleasure overheard	1.531	0.052
15. residents' spontaneous expressions of displeasure or distress overheard	2.469	0.000
16. staff overheard comforting a resident in distress or discomfort	1.137	0.305
17. quarrels observed among residents	2.026	0.003
18. resident observed helping other residents	1.060	0.399
19. Staff observed explaining reason for a rule or policy to resident	1.628	0.031
20. staff observed speaking roughly to resident &/or threatening him/her	1.347	0.126
21. residents observed calling out in distress or crying without getting attention	1.838	0.010
22. staff inquire about a resident's physical comfort	0.806	0.765
23. staff shows specific knowledge of a resident's interests or background	0.845	0.712
24. staff shows specific knowledge of a resident's food preferences	1.003	0.479

Note: The bolded areas indicate items with significant levels ($p <= 0.05$).

Table 8.14. Results of One-Way ANOVAs for the Activity Observation in Wave 1

Items	F Value	Significance
1. resident makes explicit choice of food or refuses a food offered	1.454	0.076
2. staff offers resident a specific choice about anything	1.239	0.202
3. staff agree to implement a resident request	1.444	0.080
4. staff discuss residents' health or private business in dining room	1.508	0.057
5. a resident visibly enjoying activity	2.983	0.001
6. a resident completely disengaged in activity	1.427	0.086
7. staff talk to a resident in baby talk	1.393	0.101
8. staff move resident without asking if ready	1.661	0.026
9. staff talk to each other over resident's head while helping resident	1.972	0.004
10. staff ask residents about weight, bowel movements, continence etc. during meal	0.955	0.549
11. staff pause and answer residents' questions or comments	1.438	0.082
12. staff engaged in own discussion during activity	1.218	0.221
13. a resident's spontaneous expression of pleasure or enjoyment overheard	2.019	0.003
14. residents spontaneous expressions of displeasure or boredom	2.070	0.002
15. quarrels observed among resident; displeasure or distress overheard	1.043	0.422
16. resident expression of pain/ discomfort	1.579	0.040
17. staff comforting or assisting a resident in distress or discomfort	1.121	0.323
18. resident observed helping other residents	1.214	0.224
19. staff observed explaining reason for a rule or policy to resident	0.860	0.690
20. **staff observed speaking roughly to resident &/or threatening him/her**	1.698	0.021
21. **residents observed called out in distress or crying without getting attention**	2.999	0.001
22. staff inquire about a resident's physical comfort	0.738	0.849
23. staff shows specific knowledge of a resident's interests or background	0.898	0.634
24. staff shows specific knowledge of a resident's food preferences	1.256	0.188

Items that are bolded indicate significance level (p <=0.05)

Table 8.15. Results of One-Way ANOVAs for the Walk-through Observation in Wave 1

Items	F Value	Significance
1. resident makes explicit request	1.461	0.075
2. staff observed offering resident explicit choice	1.017	0.459
3. staff agreeing or implementing resident request	1.371	0.115
4. staff knock, announce selves, & wait before entering resident's room	1.324	0.142
5. private meeting or dining rooms actually used by residents and their guests	1.479	0.068
6. staff discuss residents in public places	1.391	0.105
7. care routines done in public view (e.g. with bedroom or bathroom door open)	1.668	0.026
8. a resident's body uncovered where resident can be seen	1.492	0.064
9. staff interrupt residents talking to other resident (s) or family	1.172	0.269
10. staff talk in baby talk to residents	0.919	0.603
11. staff wheel residents w/o asking or explaining	1.239	0.206
12. staff asks about weight, bowel movement, continence etc.	1.004	0.478
13. staff talk to each other over resident while giving care or transporting resident	1.371	0.115
14. residents lined up in public place for baths, medications, etc.	1.396	0.102
15. staff pause to answer resident question	1.536	0.052
16. staff get at eye level with resident in wheelchair	1.029	0.443
17. staff in conversation with residents about things other than care	0.988	0.501
18. staff shows specific knowledge of a resident's interest or background	1.750	0.017
19. a highly individualized resident activity- e.g. piano, maintaining a garden	1.231	0.213
20. resident observed in common place engaged in solitary activity- e.g., reading, doing, puzzle, really watching TV	1.457	0.076
21. residents seen interacting with animals	1.465	0.073
22. resident interacting with a child/children	1.455	0.077
23. resident heard expressing happiness or positive emotion	1.158	0.283
24. resident heard expressing displeasure or negative emotion	0.684	0.900
25. residents sitting in twos or small groups apparently interacting with each other	1.331	0.138
26. staff observed assisting residents with pain & discomfort or inquiring about it	1.536	0.052
27. resident at nursing stations or day rooms appear to be doing nothing at all	1.218	0.224
28. resident calling out in distress, pain, or anxiety and not getting attention	1.852	0.010
29. resident in productive community role, e.g. working in store, delivering mail	1.584	0.040
30. staff speak harshly or roughly to a resident	2.163	0.002
31. staff explain a rule or policy to a resident	1.206	0.234
32. staff observed assisting or encouraging resident in walking or doing an independent task	1.019	0.456
33. resident seen tidying room, sewing, doing her laundry, arranging/ discarding flowers or some such productive task	1.439	0.083
35. staff observed assisting family to take resident out or find a place to visit	1.580	0.046
36. staff observed helping resident make or receive a private phone call	1.018	0.458
37. resident appears to be enjoying a group activity	1.180	0.260

Items that are bolded indicate significance level (p <=0.05).

Looking across the three assessment contexts in Wave 1, we note that three items were useful in discriminating among the facilities in more than one assessment context. These were: "residents observed calling out in distress or crying without getting attention" (significant in activity, meal, and walk-through), "staff observed speaking roughly to resident &/or threatening him/her" (significant in activity and walk-through), and "residents' spontaneous expressions of displeasure or boredom" (significant in meal and activity).

Six items were significant in only one of the three settings, suggesting that these items are more limited but still useful in distinguishing among facilities. Additional meal observations discriminating among facilities were: staff talks to residents in baby talk; staff asks residents about weight, bowel movements, continence, and other private information in hearing of others; and staff observed explaining reason for a rule or policy to resident (the item we reworded as staff restricting resident in Wave 2). Additional activity observations that discriminated across facilities were: staff move residents in wheelchairs without discussion; staff talk to each other over resident's head while helping resident; and resident's spontaneous expression of pleasure or enjoyment overheard (significant in activity only). An additional walk-through item that distinguished among facilities was the observation of staff showing specific knowledge of a resident's interest or background.

The same procedure to examine discrimination across facilities was performed with the Wave 2 data collected in 61 facilities. Table 8.16 shows the results of those one-way ANOVAs. The table shows that 11 of the 16 items selected for observation at Wave 2 did discriminate across facilities; these items are bolded in the table.

Table 8.16. Results of One-Way ANOVAs for Facility Observations in Wave 2

Item	F Value	Significance
w01 Negative resident expression	1.870	0.001
w02 Resident calling out in distress and not getting attention	2.414	0.001
w03 Staff movie resident wheelchairs without asking or discussing	1.355	0.058
w04 Staff answer questions or fulfill requests	2.069	0.001
w05 Staff talk over resident's head	0.767	0.890
w06 Resident's body uncovered	3.428	0.001
w07 Staff discuss resident's private business in public	2.575	0.001
w08 Staff impose restriction	1.540	0.012
w09 Staff speak roughly or threatening	0.998	0.488
w10 Resident solo activity	4.613	0.001
w11 Resident disengaged at nursing station	6.091	0.001
w12 Resident not talking at meals	0.978	0.527
w13 Resident fed messily	1.054	0.383
w14 Resident assist family	1.494	0.019
w15 Group activity	3.160	0.001
w16 Disengaged during organized activity	1.505	0.017

Items that are bolded indicate significance level (p <=0.05).

Having identified that the items do discriminate among facilities, the next question we asked was whether the differences among the facilities fell into a meaningful pattern. To answer this question, we created a profile for each facility across all of the items within each observation instrument. For the sake of illustration, we present the data for Wave 1 meal observations in Table 8. 17 with positive items listed first and then negative items following. Item #1, a positive item, for example, is "resident makes explicit choice of food or refuses a food offered"), which is followed by 2 other positive items. Item, #4 "staff discusses residents' health or private business in dining room" begins the negative items. The +/- signs underneath the item numbers indicate whether the facility scored higher or lower than the other facilities on that item (a blank indicates that the facility scored around average for that item). Thus, the NF with a code of 1 (first line), scored higher than average on 3 of the positive items (3, 5, and 14) and lower than average on two of the negative items (4 and 9). Using this approach, the facility with the most positive profile across the meal observations is #28, with 6 high scores on positive items and 4 low scores on the negative items. Using this procedure for the Activity and Walk-through items in Wave 1,

and for the Wave 2 items, we similarly were able to identify patterns of positive and negative

observations in specific facilities that would suggest possible QOL problems. Because these

tables are lengthy and difficult to interpret unless read with the items, the rest of the tables are

not presented.

Conclusions

This chapter has provided considerable detail on an approach to making facility-level

observations of staff-resident interactions deemed positive or negative in relation to resident

QOL. We had some success in identifying individual items that are associated with QOL

domains (particularly at Wave 2), but only at Wave 1 could we successfully construct summary

scales of positive and negative behaviors that were correlated with resident-reported QOL for

those residents who were interviewed in the same time period.

If we view the observations as providing intrinsically useful information to supplement

QOL, then we need to know that facilities are differentiated on the items. Here we were able to

demonstrate that many of the items, including half the items fielded at Wave 2, did distinguish

among facilities and that these distinctions form meaningful patterns of positive and negative

findings that characterize the outlier facilities.

Table 8.17. Deviation Scores Across All Items for the Meal Observation in Wave 1

	Positive Items														Negative Items										
NF	1	2	3	5	11	12	14	16	18	19	22	23	24	4	6	7	8	9	10	13	15	17	20	21
1			+		+		++							-				-						
2	+			+				-	-	++	+			+				++						
3												-					+					+		
5								-					+	-										
6			+++					-	+		+	-	+						-					
7	-						-					-							+			-		
8	--	--						+						-			+					+	++	
9				++	+	+																		
10	-	-		-							++	+					+	+		+	+			++
11				+	-		-		+			-									+			
12	+		++	+			+				+									+	-		+	
13				-	-	-	-					-	-											
14				-	+	-		+	-		+			-				-			+			
15	-	-	++							++		+	++							+				
16				+		++		-				-	-	-	-			-	-			-		
17					+		+			++	+											-	++	
18			+																	++	+	++		+++
19	-		+					-	++					-										
20					+	+					+													
21			-				-				-			+		+								+
22	+			+	++			-			-	-	-	-			++				+			
23								-										-			+			
24									+				-				++	+						
25		-				+														++	+	+		+
26		-						++		++	++										+			
27			+													--		-					+	
28	+	+		+	+		+					++	+		--	-	-				-		
29	-	-		-	-								-		---		-	-					
30		+		-			+	+			+							+			+	+		
31				+			-						++		+++	-					++	++	
32							+	-	+	+	-		-	+				+	++			++		+
33	+	+							+				-		+				+	+	+	
35	+			-	-							+	-						+				
36		+		-				+	-		+	+											

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Table 8.17. Deviation Scores Across All Items for the Meal Observation in Wave 1

37	+					-		-		-	-	-		-						-		
40				-		+	-	+			+		+									
41						-		+	-		-				--				-			