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National Institute of Justice

**Documentation of Resident to Resident Elder Mistreatment
in Residential Care Facilities
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**2010-2013 Prevent, Detect, and Respond to Abuse, Neglect and
Exploitation of Elderly Individuals and Individuals in Residential
Care Facilities Program**

Final Report

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Definition of Terms

Resident-to-resident elder mistreatment (R-REM): negative and aggressive physical, sexual, or verbal interactions between long term care residents, that in a community setting would likely be construed as unwelcome and have high potential to cause physical or psychological distress in the recipient.

Prevalent cohort study: is a longitudinal, observational study used in medicine and social science focused on group of individuals who have a certain condition or who share common characteristics at enrollment into the study.

Gold standard consensus classification: a methodology developed for the adjudication of R-REM “caseness” by a panel of diagnosticians or experts against which the other reporting sources are judged or measured.

Unit of analysis: the focus or the major entity that is being analyzed in a study; “the resident”, in this case.

Prevalence period: a given period (“2-week prevalence”, plus \pm a week for adjudication purposes, in this study) in which the study population has or experienced the studied condition, in this case R-REM.

Convergence of R-REM reports across methods: the extent to which different reporting sources achieve the same common conclusion in the identification of R-REM.

Accuracy of R-REM reports by sources: the extent to which positive R-REM reports by any of the sources are corroborated by the gold standard adjudication of “caseness”.

Positive predictive value: the probability that an individual with a “positive” test result has the studied condition for which the test was conducted. Applied to this project, the probability of an “R-REM” report being adjudicated as a “case” based on the gold standard methodology.

Negative predictive value: the probability that an individual with a “negative” test result is free of the studied condition. Applied to this project, the probability of an “R-REM-free” case is adjudicated as a “non-case”, based on the gold standard methodology.

Sensitivity: the proportion of individuals who have the studied condition with a positive test result. Applied to this project, the proportion of adjudicated “cases” based on the gold standard methodology, who are reported by a specific source as a case.

Specificity: identifies the proportion of individuals who do not have the studied condition with a negative test result. Applied to this project, the proportion of “non cases” based on the gold standard methodology, who are reported by a specific source as “R-REM-free”.

ABSTRACT

Documentation of Resident to Resident Elder Mistreatment in Residential Care Facilities

Statement of purpose: This project addressed a problem of substantial empirical and practical significance: violence and aggression committed by nursing home residents that is directed toward other residents, referred to here as resident-to-resident elder mistreatment (R-REM). Prior pilot data, ongoing research by members of the research team, and a recent publication suggest that such resident-to-resident elder mistreatment is sufficiently widespread to merit concern, and is likely to have serious detrimental outcomes for residents.

The goals of this project were to: enhance institutional recognition of R-REM; examine the convergence of R-REM reports across different methodologies; identify the most accurate mechanism for detecting and reporting R-REM; develop profiles of persons involved with R-REM by reporting source; investigate existing R-REM policies, and; develop institutional guidelines for reporting R-REM episodes.

Design: This is an epidemiological prevalent cohort study with one wave of data collection. The parent study was conducted in five urban and five suburban nursing homes (N= 1405 urban residents; 441 suburban residents). Resident-to-resident abuse information was derived from residents, staff, observations, Incident and Accident reports and chart reviews. A prevalence period of two weeks was used for reporting purposes; one week before and after the prevalence period was allowed for case adjudication purposes using a gold standard consensus classification.

Results: Using “the resident” as a unit of analysis (also the point of reference), within the two-week prevalence period, data were collected from six reporting sources including two added as part of this project, Incident/Accident reports and chart reviews. There were no R-REM-related incidents recorded in the Incident/Accident reports. The charts of five residents (0.4%) reflected R-REM-related incidents during the prevalence period. In general, convergence across all sources was low: pair-sources convergence ranged from 0.3% to 8.4%; the convergence among three-sources from .3% to 2.1%, and among four sources from 0.3% to 0.6%. In terms of the positive and negative predictive value, the resident and staff informants were the best sources (resident PPV=0.96; NPV=0.86; staff PPV=0.95, NPV=0.89) when compared to the gold standard case conference adjudication. Individual descriptive characteristics differed for those involved in R-REM compared to controls not involved in R-REM across sources; cases were more likely to be non-Hispanic White, reside in segregated dementia care units, and on average exhibited higher levels of disturbing behaviors (as reported by either the RAs, the nursing staff or both). Additionally, environmental factors differed on the units of those involved in R-REM and controls. There was more noise, i.e., residents and/or staff calling out or screaming and/or from radio/TV, alarms or bells, and congestion of equipment (more walkers) in public spaces on the units where residents involved in physical R-REM resided.

Eight out of the 9 facilities who provided their abuse policies have existing policies and procedures for reporting R-REM. The majority (56%) addressed R-REM within the purview of “resident abuse” at least tangentially; only three of the facilities had a separate protocol that addressed R-REM specifically, and one of the facilities did not mention R-REM in its Abuse Policy, nor did it have a separate provision for it. Suggested guidelines for reporting were provided.

Discussion: Study results showed that there were distinct differences in rates of R-REM reports across sources and that, in general, convergence across sources was low. Remarkably, there were no documented reports of R-RREM in the Incident/ Accident Reports, and very little documented in the chart despite the observations and reports by staff, residents and research staff documenting relatively high two-week prevalence rates of R-REM. Environmental evaluations appear to suggest that environmental characteristics of a nursing home are associated with and possibly contribute to R-REM.

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EXECUTIVE SUMMARY

The Problem

This project addressed a problem of substantial empirical and practical significance: violence and aggression committed by nursing home residents that is directed toward other residents, referred to here as resident-to-resident elder mistreatment (R-REM). Prior pilot data, ongoing research by members of the research team, and a recent publication suggest that such resident-to-resident elder mistreatment is sufficiently widespread to merit concern, and is likely to have serious detrimental outcomes for residents. However, research on the subject is still limited. There is no systematic case identification methodology or knowledge regarding the best reporting source. The only evidence-based training addressing recognition and reporting of resident-to-resident mistreatment with intervention and implementation strategies extant is the one developed by the reporting research team.

Purpose

The study aims were to:

1. Enhance institutional recognition of R-REM by deriving R-REM information from five different sources. Additionally, a gold standard consensus conference classification was proposed.
2. Examine the convergence of R-REM reports across the five different methodologies;
3. Identify the most accurate mechanism for detecting and reporting R-REM;
4. Develop profiles to describe the types of people reported by each different source;
5. Investigate the existing policies and procedures for reporting R-REM in each facility;
6. Develop institutional guidelines for the reporting of R-REM episodes.

Funded in part by the New York State Department of Health (NYSDOH) and by the National Institute on Aging (NIA), the applicant team conducted collaborative projects aimed at 1) estimating the prevalence of R-REM and 2) developing and evaluating a training program for staff to enhance identification and intervention with respect to episodes of R-REM in five long term care facilities in NYC. As part of these two projects, R-REM information was derived from three sources: (1) Resident interviews (2) Staff informants and (3) Observational data (event logs and shift coupons). The NIJ grant afforded the opportunity (as a piggy-back to these grants) to augment the number of reporting mechanisms by including two additional methods: a forensic examination of medical records and of accident/incident reports, for a total of five distinct reporting sources.

Research Design

The overall goal of the project was to enhance institutional recognition of R-REM by: establishing a gold standard consensus classification on R-REM events, examining the convergence of the different sources in reporting R-REM, and identifying the most accurate mechanism for detecting and reporting R-REM.

Additionally, existing policies and procedures for reporting R-REM in each of the participating facilities were reviewed, and a draft of institutional guidelines for the reporting of R-REM episodes were developed as a working document to be submitted for review to an expert panel. The final version of these reporting guidelines will be submitted to representatives of the New York State Department of Health for review.

Top experts in elder mistreatment were collaborators on this project, representing a variety of fields including: clinical geriatrics, long-term care nursing, and social

gerontology. A total of ten nursing homes participated in the project: five as members of a consortium for the NYSDOH-funded project located in New York City representing the urban sample. An additional five facilities were suburban nursing homes also located in New York. The NIJ-funded study design was to collect data in three of these five suburban facilities and all five of the urban facilities

Findings

The results presented in this report represent the urban sample only.

A. Aim 1: Enhance institutional recognition of R-REM by deriving R-REM information from five different sources or methods.

A review of all sources from which R-REM reports were derived, i.e., Resident report; Staff report; Observation (staff completed real-time description of observed incidents via a “Shift Coupon” & a more in-depth Event Log summary of incidents based on observation, completed by the research team with input from those who reported and/ or observed the incident); Incident/Accident Report, and Forensic Chart Review evidenced different rates of reporting. In aggregate, there were 335 reports of at least one R-REM incident within the two-week prevalence period by any of the different sources. This number does not represent unique incidents given that there is overlap by sources in reporting the same incident(s). Using “the resident” as a unit of analysis (or as the point of reference), within the prevalence period, data were collected from six reporting sources: 1) Residents: of the 670 residents who completed the R-REM report section of the resident interview, 122 (18.2%) residents, reported at least one R-REM incident in which they were involved; 2) Staff: the direct care staff of 166 (12%) residents reported their care-receivers were involved in at least one R-REM incident; 3)

Shift Coupon: there were shift coupons completed describing R-REM incidents for 75 (5.3%) residents; 4) Event logs: there were event logs completed describing R-REM incidents for 87 (6.2%) residents; 5) Incident/Accident reports: there were no R-REM-related incidents recorded in the Incident/Accident reports; 6) Chart review: the charts of five residents (0.4%) reflected R-REM-related incidents. These are not final prevalence estimates as this estimation task is the assignment of the NIA study.

The average number of incidents reported by source within the prevalence period ranged from 0 to 4.3 (s.d.= 0-8.1) where the direct service staff reported the highest average number and the accident/incident reports documented the lowest. The average number of incidents reported within the prevalence period by the residents was 2.5 (s.d.=2.7; n=122) and by the staff was 4.3 (s.d.=8.1;n=166). The average number of incidents documented via the shift coupon, event log, incident/accident reports, and the chart review methodology were 1.5 (s.d.=.9; n=75), 1.6 (s.d.=1.4; n=87), 0 (s.d.=0; n=0) and 2.8 (s.d.=1.6; n=5), respectively.

B. Aim 2: Examine the convergence of R-REM reports across the five different methodologies.

Residents reported to be involved in incidents were matched by sources using the reporting date with a margin of plus or minus a week. “Unmatched” reports (i.e., those that could not be matched with any other source) were documented by all of the sources, i.e., 85 by residents, 108 by the staff, 31 in shift coupons, 10 in the event logs, and 2 in the chart reviews. The source that reported the largest number of “unmatched” unique residents involved in incidents was the staff (102; 32%) followed by the residents (85; 25.4%). Two pair- source matches (resident-event logs (6.6%)) and staff-event logs

(8.4%)) resulted in the highest percentage of convergence. Convergence between any source and the event logs was expected however, because most of the event logs were developed in response to a reported event. In general, excluding any convergence with event logs, the highest convergence identified between report sources was between the staff reports and the shift coupons (3.6%). In general, convergence across sources was low: pair-sources convergence ranged from 0.3% to 8.4%; the convergence among three-sources from .3% to 2.1%, and among four sources from 0.3% to 0.6%

C. Aim 3: Identify the most accurate mechanism for detecting and reporting R-REM

The accuracy of the report sources was determined by contrasting each positive R-REM report within the prevalence period by any of the sources against the gold standard adjudication of “caseness”. The unit of analysis is the resident.

Residents: of the 122 positive reports of R-REM, 117 (95.9%) were confirmed by the gold standard adjudication. Staff: 158 of the 166 (95.2%) positive reports were confirmed by the gold standard. Shift Coupon: 48 of the 75 (64%) positive reports were confirmed by the gold standard. Event logs: 68 of the 87 (78.2%) positive reports were confirmed by the gold standard. Incident/Accident reports: there were no R-REM-related incidents recorded in the Incident/Accident reports. Chart review: three of the five positive reports (60%) were confirmed by the gold standard.

Sensitivity and specificity were examined for all reporting sources.

Sensitivity across sources ranged from 0.01 to 0.60, and specificity ranged from 0.98 to 1.00. These results showed that all sources are more convergent with the “true”

negative case by not mislabeling as R-REM events that do not fit the R-REM definition. On the other hand, the resident (0.60) and the staff informant (0.54) were the sources that demonstrated better sensitivity (i.e., identifying the true positives) in contrast with the other sources.

Positive and negative predictive values as well as the overall correct classifications were computed. The positive predictive value across sources ranged from 0.60 to 0.96, and the negative predictive value ranged from 0.79 to 0.89. These results demonstrated that in terms of the positive predictive value, the resident and staff informants were the best sources (resident PPV=0.96, staff PPV=0.95). That is, if the R-REM events were either reported by the residents or the staff there is a 96%, and 95% chance, respectively, of actually being a confirmed (by gold standard) R-REM case. All sources were very close in terms of their respective negative predictive values; however, the resident and staff informants evidenced the highest values, that is, among those not reported as a case by the residents or the staff, respectively there is an 86%, and 89% chance of being confirmed (by gold standard) as not an R-REM case. When the correct classification proportion is computed taking into consideration true positives and true negatives, the rates ranged from 0.79 to 0.89, consistently showing that the residents and the staff informants were the two sources with the highest accuracy.

The source and/or method reported as most influential in the gold-standard decision for “caseness” determination across raters was examined. The single source identified as the most influential across raters was the staff (29.8%), followed by the resident (19.1%).

D. Aim 4: Develop profiles to describe the types of people reported by each different source.

The characteristics of the individuals involved in R-REM as identified by each of the sources were examined in terms of demographics (age, gender, race and ethnicity), the average number of disruptive behaviors exhibited, and their cognitive and functional (mobility) status as contrasted to those of the “controls” (i.e., “non-cases” or individuals not involved in R-REM). In addition, the environmental characteristics associated with “positive” R-REM events were contrasted with those associated with the “non-cases”. The resident interview provided information about R-REM from the “victim’s” perspective. The data gathered via the staff informant were more likely to provide information about those who were actively engaged in R-REM incidents (even when the actual initiator was not identified), rather than of those on the, “passive/recipient” side of the event. Profiles derived via the shift coupons, event logs, and chart reviews could reflect either victims or perpetrators.

Resident profiles from the different sources were somewhat divergent, given the low convergence of reporting across sources. Noteworthy, however, is that profiles of those residents reported as having been involved in R-REM events by the different sources (excluding the chart reviews, given that only 5 cases were documented) coincided in some salient residents’ characteristics. Those involved in R-REM were likely to be non Hispanic, White, a large proportion resided in segregated units for individuals with dementia, and on average exhibited higher levels of disturbing behaviors including touching others’ property (as reported by either the RAs, the nursing staff or both). Additionally, several types of noise, i.e., coming from residents and/or staff calling out or screaming and/or from radio/TV, alarms or bells were recorded in the

environmental assessment performed by the project director as frequently being part of the immediate physical environment of those involved in R-REM. This seems to suggest that environmental characteristics of a nursing home are associated with and possibly contribute to R-REM.

Findings also underscored the presence of other environmental factors, such as the congestion of equipment, e.g., walkers in public spaces on the units where residents involved in physical R-REM resided.

E. Collaborating facilities' extant R-REM policies

Although the NIJ-funded study involved eight nursing homes, we report on all 10 in this section.

All participating facilities except for one (9/10; 90%) delivered their respective written resident abuse policies. Eight out of these 9 facilities (90%) have existing policies and procedures for reporting R-REM. The majority of the facilities (5/9 or 56%) addressed R-REM within the purview of "resident abuse" at least tangentially; only three of the facilities (33%) had a separate protocol that addressed R-REM specifically, and one of the facilities (11%) did not mention R-REM in its Abuse Policy nor did it have a separate provision for it. The Abuse Policies reviewed varied in terms of the level of detail, specificity, and comprehensiveness with which resident to resident mistreatment was addressed, from not being mentioned at all to having a set of policies tailored specifically to address resident-to resident mistreatment. In general, the most comprehensive policies were provided by those facilities that had established separate

R-REM policies, clearly stating the definition of R-REM, as well as specific guidelines for identifying, reporting, and documenting R-REM.

Discussion

Plausible outcomes of R-REM in nursing home residents are similar to those experienced by community elder mistreatment victims, ranging from proximal injuries and accidents such as falls, fractures, lacerations, abrasions, and other injuries that may require hospitalization, to more distal outcomes that can include depression, anxiety, functional decline, and decrements in quality of life. However, incidents of yelling and insulting remarks by residents to each other (which can potentially escalate to more violent interaction with serious consequences as has been documented by the lay media) were not seen as forms of abuse by nurse aides in a study by Castle¹; consequently they were not reported in his study. Our study findings revealed, however, that although verbal R-REM was the most frequently R-REM type reported by the staff informants and the shift coupons, it was not recorded in the resident charts; thus, it is unclear whether sustained interventions were made in order to prevent future occurrence of those negative interactions.

Study results showed that there were distinct differences in rates of R-REM reports across sources and that, in general, convergence across sources was low. These differences in reporting rates might suggest divergence in the level of sensitivity of R-REM recognition. It can also suggest lack of documentation practice, given for example, the high discrepancy in the report rates between the staff informant and the chart reviews (even when the documentation responsibility of such events most likely falls under the nursing staff duties). Moreover, study results evidenced that out of the

different sources/methods used for identifying R-REM incidents, the staff is the source that reported the highest number of incidents, and that residents and staff informants were the most accurate sources. Again, these results seem to suggest that lack of R-REM reporting by residents and more importantly by staff, during their daily routines in long term care living might not be a function of lack of recognition. Institutional support in the form of staff training as well as in institutional guidelines delineating standard practice on how to address R-REM could potentially improve reporting, documentation, and management of such events. Additionally, reporting guidelines will provide an institutional mechanism for ensuring protection against resident-to-resident abuse.

Examination of the existing resident abuse policies of nine of the ten participating facilities demonstrated that institutional awareness about R-REM is modest at best. Half of the facilities addressed R-REM, some tangentially, some with more specificity, but exclusively within the purview of “resident abuse”. Only three of the facilities provided separate protocols with specific R-REM guidelines, and the remaining facility did not address R-REM either in aggregate form or as distinct separately from its abuse policy. These results are indicative that efforts to improve awareness about R-REM must be initiated and geared not only toward direct care staff but at the administrative level of long-term care facilities. Although conceptually R-REM can fall under the definition of resident abuse, the fact that it is enacted by another resident carries policy and practice implications that warrant a segregated, specified set of guidelines and procedures for its identification, reporting, and intervention above and beyond those applied in the case of staff-to-resident abuse. Thus, documented guidelines regarding R-REM must contain sufficient information to enable any staff member to act pursuant to the standards of

practice of the long-term care facility. Overall, this was not observed in the majority of the abuse policies examined.

Examination of the profiles of those involved in R-REM events by the different sources were, not surprisingly, somewhat divergent given the low convergence of reporting across sources. An additional explanation for this might also be that the perspectives from which the events were reported by the different sources might be different, i.e., the residents reported from the “victims” perspective and the staff could have reported from either the perpetrator’s or the victim’s perspective but most likely from the perpetrator’s perspective. The latter applies to the other sources, e.g., chart reviews and event logs. Noteworthy, however, is that profiles of those residents reported as having been involved in R-REM events by the different sources (excluding the chart reviews given that only 5 cases were documented) coincided in some salient residents’ characteristics. Those involved in R-REM were likely to be non Hispanic, White, a large proportion resided in segregated units for individuals with dementia, and on average exhibited higher levels of disturbing behaviors including touching others’ property (as reported by either the RAs, the nursing staff or both). These findings are supported by previous publications documenting that the prevalence of disruptive and disturbing behaviors on the part of individuals with dementia is a major risk factor for abuse. Segregated units in nursing home such as those for individuals with dementia where patients with dementia and dementia-related behavioral problems are usually congregated, can potentially create opportunities for R-REM as a perpetrator or a victim. Additionally, several types of noise, i.e., coming from residents calling out or screaming and from radio/TV, were reported by the RAs as frequently being part of the

immediate physical environment of those involved in R-REM. This seems to suggest that environmental characteristics of a nursing home are likely to contribute to R-REM. Findings also underscored the presence of other environmental factors, such as the congestion of equipment, e.g., walkers in public spaces, in the units where residents involved in physical R-REM resided. These findings support Pillemer and colleagues by highlighting the complicated and intricate interconnection between individual characteristics of those involved in R-REM and the features of the immediate physical environment in which they reside. These findings set the stage for future projects focusing in the identification of specific environmental risk factors and to examine the interaction between individual (resident) and environmental characteristics as they relate to R-REM. Such knowledge is critical to the development and targeting of interventions for managing R-REM. For example, specific residents' profiles e.g., with different levels of cognitive, functional and/or behavior impairments are likely to require different types of interventions, which might include different types of environmental modifications. Moreover, research projects geared to examine residents' characteristics and contextual factors including but not limited to the institutional physical environment, (e.g., extant R-REM institutional policies, guidelines, and practices, staff support and training, resident/staff ratio, unit size, etc.) are an important next step in understanding R-REM.

Unique or Special Features of the Study:

This project was part of the largest in-depth collaborative effort examining R-REM ever conducted. The facility sample included urban and suburban as well as for profit and not for profit facilities. The resident sample reflects the ethnic diversity of those who reside, particularly, in urban residential care facilities.

Additionally, this is the only study known to the research team, in which multiple sources of R-REM reports were solicited and compared. In contrast to previous studies of R-REM, events were systematically identified from several sources, including resident interviews, staff interviews, direct observation, chart reviews and accident/incident reports, leading to a more comprehensive inventory of the type of event as well as the details involved.

The use of trained interviewers to reconstruct events allowed for more detailed qualitative analysis than has been possible in previous studies. Noteworthy is also that this study uniquely linked resident and staff data, which offered comprehensiveness and depth in the examination of the R-REM phenomenon. Finally, this is the only study to include adjudicated gold standard assessments by a panel of the top experts in R-REM.

Study Limitations

There were several challenges to study implementation. The period in which the study was implemented was one of the most difficult periods in which to conduct long term care research. The reduction of nursing staff along with the increased number of duties assigned to them as a response to financial cuts experienced by the nursing home industry resulted in a distressed working environment. The nursing staff expressed resistance to participating in any activity perceived as “extra”, which in their view conflicted with time deemed necessary for completing their immediate caregiving duties. Similarly, there were issues with obtaining access to chart data at two sites and to Incident/ Accident reports at one site.

Study limitations include the generalizability of the findings. Although our contention is that the results generalize beyond the local level, only one urban and one suburban area was sampled. However, the strength is that this local setting permitted in depth examination of the phenomenon of R-REM, and the sample was representative of larger facilities in New York City and suburban Westchester County, NY.

Conclusions

Adequately managing R-REM is necessary and important to maintain the quality of life of residents and to maintain both staff and resident safety. Nursing homes have both an ethical and legal responsibility and obligation to protect all residents in their care, as well as all employees. The environmental risks in the nursing home are related to the nature of shared living, where there are residents with and without dementia, leading to opportunities for varied group dynamics. R-REM can no longer be ignored, and all forms of R-REM must be recognized and addressed. Study findings suggest that initial steps can consist of providing clear and specific guidelines addressing the identification, reporting and documentation of R-REM events. Institutional support can also be rendered via staff training in order to increase recognition as well as reinforcing intervention strategies for the management of R-REM. Research projects geared to examine residents' characteristics and contextual factors including but not limited to the institutional physical environment, (e.g., extant R-REM institutional policies, guidelines, and practices, staff support and training, resident/staff ratio, unit size, etc.) are an important next step in understanding R-REM.

The following preliminary recommendations for guidelines arising from this study are as follows:

A. Training

- Provide training to staff in recognition and documentation of R-REM
- Provide training on managing R-REM and on disruptive behaviors associated to R-REM
- Provide training on best practices for immediate interventions for the most frequent types of mistreatment

B. Care Practices

- Identify residents who engage in R-REM frequently
- Monitor these residents more closely
- Separate “perpetrators” from their victims
- Reassign roommates, floors, dining partners when necessary
- Engage “perpetrators” in constructive distractions and activities when possible
- Examine R-REM within a team approach in order to develop a care plan for ongoing oversight and monitoring

C. Environment

- Do not place residents in small rooms crowded with other residents and equipment
- Remove obstacles
- Reduce excessive noise

D. Institutional Policies

- Provide institutional guidelines for ensuring protection against resident-to-resident abuse distinct from general abuse policies
- Delineate standard practice on how to address R-REM, i.e., recognition, reporting, documentation, and management of such events.

Deliverables

- A) Forms and Methodologies Developed as part of the Project
 - Event Logs for Case Narrative
 - Template for Data Aggregation for Case Review and Adjudication
 - Gold Standard Consensus Process for Case Adjudication
 - Chart Review Data Extraction Program
- B) Existing Resident-to-Resident Elder Mistreatment Guidelines from Participating Long-term Care Facilities
- C) Suggested Institutional Guidelines for the Reporting of R-REM Episodes
- D) Dissemination and Publications

The R-REM project has been reported in the following venues:

Lachs, M.S. (2013, April) Violence in the Nursing Home: Who's Doing What to Whom? Panel participant, Institute of Medicine's Forum on Global Violence Prevention. Washington, D.C.

Ramirez, M., Dessel R. (2012, November) Staff Training on Prevention of Resident-Resident Elder Mistreatment. LeadingEdge New York, Directors of Nursing Services, Directors of Social Work Annual Conferences & Exposition. Lake George, NY

Lachs, M.S., Teresi, J.A. (2012, June). R-REM in Nursing Homes. NIJ Annual Conference, Arlington, VA.

Lachs, M. (2012, May). The Epidemiology of Physically and Verbally Aggressive Behaviors of Nursing Home Residents Directed at Staff. Oral paper session presented at the American Geriatrics Society Annual Meeting, Seattle, WA. [**AGS Best Paper Award, Health Services and Policy Research**]

Rosen, A.E., Lachs, M., Pillemer, K., & Teresi, J.A. (2012, May) The Epidemiology of Physical and Verbally Aggressive Behaviors of Nursing Home Residents Directed at Staff. Oral poster session presented at the American Geriatrics Society Annual Meeting, Seattle, WA.

Rosen, T., Lachs, M.S., Pillemer, K., Teresi, J.A. (2012, May) Staff Responses to Resident-to-Resident Elder Mistreatment in Nursing Homes: Results of a Multi-Site Survey. American Geriatrics Society Annual Scientific Meeting, Seattle, WA.

Chen, E.K., Pillemer, K., Van Haitsma, K., Teresi, J., & Lachs, M. (2011, November). A Descriptive Typology of Residential Aggression in Nursing

- Homes. Poster session presented at the 64th annual scientific meeting of the Gerontological Society of America (GSA). Boston, MA.
- Lachs, M.S., Rosen, T., Pillemer, K., Teresi, J.A. (2011, October). The Epidemiology of Physically and Verbally Aggressive Behaviors of Nursing Home Residents Directed at Staff. European Congress on Violence in Clinical Psychiatry. Prague, Czech Republic.
- Lachs, M.S., Teresi, J., Haymovitz, E., Van Haitsma, K., Del Carmen, K., & Pillemer, K.A. (2010, November). Why They Fight: Event Reconstruction of Resident to Resident Elder Mistreatment (RREM) in Long Term Care Facilities. Abstract presented at the 63rd annual scientific meeting of the Gerontological Society of America (GSA), New Orleans, LA.
- Watkins, BX., Lachs, M.S., Teresi, J.A., Ramirez, M., & Pillemer, K. (2010, November). Developing a Measure of Resident-to-Resident Elder Mistreatment: The Use of Qualitative Method to Inform Quantitative Design. Abstract presented at the 63rd annual scientific meeting of the Gerontological Society of America (GSA), New Orleans, LA.
- Lachs, M., Teresi, J., Ramirez, M. (2010, June). Elder Mistreatment in Community and Nursing Home Settings. Presentation at The National Institute on Aging and the National Academy of Sciences meeting on research issues in elder mistreatment and financial fraud, Washington, D. C.
- Rosen, T., Lachs, M.S., Pillemer, K. (2010, May). Sexually aggressive resident behavior in long-term care: insights from nursing home focus groups. Oral paper presentation at the American Geriatrics Society Annual Scientific Meeting. Orlando, FL.
- Lachs, M., Teresi, J. (2010, May). R-REM Training Modules. Presentation to the Surveillance & Surveyor Training Division of the New York Department of Health, Albany, N.Y.
- Dessel, R., Ramirez, M., & Reingold, D. (2009, November). Staff Training to Prevent Resident-to-Resident Mistreatment. Poster session presentation at the AAHSA Annual Meeting & Exposition, meeting held in Chicago, IL.
- Teresi, J. (2008, November) Resident-to-Resident aggression and violence in nursing homes: A prevalent but understudied problem. Symposium, presented at the 61st annual scientific meeting of the Gerontological Society of America (GSA) National Harbor, MD.

- Rosen, T., Lachs, M.S., Pillemer, K. (2008, November). Staff-generated strategies for managing resident-to-resident aggression. Under the panel, Resident-to-resident aggression and violence in nursing homes: a prevalent but understudied problem (Discussant: Louis Burgio). Gerontological Society of America Annual Scientific Meeting, National Harbor, MD.
- Rosen, T., Lachs, M.S., Pillemer, K., Bharucha, A.J., Teresi, J.A. (2008, July). Resident-to-resident aggression in long term care. Under the panel, Hidden Abuse: Mistreatment of the Elderly in Residential Care (Moderator: Carrie Mulford). National Institute of Justice Annual Conference, Arlington, VA.
- Rosen, T., Lachs, M.S., Bharucha, A.J., Stevens, S.M., Teresi, J.A., Nebres, F., Pillemer, K. (2008, June). Resident-to-resident aggression in long-term care facilities: insights from focus groups of nursing home residents and staff. Public Health Association of New York City Annual Student Conference, New York, NY.
- Rosen, T., Lachs, M., Pillemer, K. (2008, April-May). Managing resident-to-resident aggression in nursing homes: creative staff-developed strategies exist, but comprehensive evidence-based interventions needed. Presidential Poster Session at the American Geriatrics Society Annual Scientific Meeting. Washington, DC.
- Rosen, T., Lachs, M., Pillemer, K. (2008, February). Managing resident-to-resident aggression in nursing homes: creative staff-developed strategies exist, but comprehensive evidence-based interventions needed. Poster presented at Weill Cornell Medical College Medical Student Research Day. New York, NY. *Poster received award

Several publications were completed:

- Ellis, J., Teresi, J.A., Ramirez, M., Silver, S., Boratgis, G., Kong, J., Eimicke, J.P., Sukha, G., Lachs, M.S., Pillemer, K. (in press). Managing resident to resident elder mistreatment (R-REM) in nursing homes: the SEARCH approach. *The Journal of Continuing Education in Nursing*.
- Teresi, J.A., Ramirez, M., Ellis, J., Silver, S., Boratgis, G., Kong, J., Eimicke, J.P., Pillemer, K.A., Lachs, M.S. (2013). A staff intervention targeting resident-to-resident elder mistreatment (R-REM) in long-term care increased staff knowledge, recognition and reporting: Results from a cluster randomized trial. *International Journal of Nursing Studies*. 50(5): 644-56. doi 10.1016/j.ijnurstu.2012.10.010.

Ramirez, M., Watkins, B., Teresi, J.A., Silver, S., Sukha, G., Bortagis, G., Van Haitsma, K., Lachs, M.S., Pillemer, K. (2013). Using Qualitative Methods to develop a measure of resident-to-resident elder mistreatment in nursing homes. *International Psychogeriatrics*, pp.1-12, doi: 10.1017/S1041610213000264

Teresi, J.A., Ocepek-Welikson, K., Ramirez, M., Eimicke, J.P., Silver, S., Van Haitsma K., Lachs, M.S., Pillemer, K.(2013). Development of an instrument to measure staff-reported resident-to-resident elder mistreatment (R-REM) Using item response theory and other latent variable models. *The Gerontologist*. Advance Access published February 28, 2013. doi:10.1093/geront/gnt001

Lachs, M.S., Rosen, T., Teresi, J.A., Eimicke, J.P., Ramirez, M., Silver, S., Pillemer, K. (2013). Verbal and Physical Aggression Directed at Nursing Home Staff by Residents. *Journal of General Internal Medicine*. Vol. 28 (5), 660-667. Published online: December 8, 2012. doi:10.1007/s11606-012-2284-1

Pillemer, K., Chen, E.K., Van Haitsma, K.S., Teresi, J., Ramirez, M., Silver, S., Sukha, G., Lachs, M.S. Resident-to-Resident Aggression in Nursing Homes: Results from Qualitative Event Reconstruction Study. *The Gerontologist*, 2011, 52(1), 24-33.

Rosen T., Lachs M.S., Teresi J.A., Van Haitsma, K., Pillemer K. (submitted) Staff-Reported Strategies for Prevention and Management of Resident-to-Resident Elder Mistreatment in Long-Term Care. *Journal of the American Geriatric Society*

F) Data collected on behalf of the NIJ project will be archived and made available to the National Archive of Criminal Data.

Chapter I. INTRODUCTION

A. Aims, Research Questions and Conceptual Model

This project addressed a problem of substantial empirical and practical significance: violence and aggression committed by nursing home residents that is directed toward other residents. Prior pilot data, ongoing research by members of the research team ^{2,3}, and a recent study publication⁴ suggests that such resident-to-resident elder mistreatment (R-REM) is sufficiently widespread to merit concern, and is likely to have serious detrimental outcomes for residents. However, little research has been conducted on this topic and no specific training, intervention and implementation strategies existed that addressed this issue. While reporting requirements for resident-to-resident mistreatment have been addressed by the New York State Department of Health (NYSDOH) (letter from Keith Servis, dated October, 2005), because of the lack of practice research, little information is available by way of guidelines for recognition and treatment of the problem.

In response to the NIJ RFA for research projects addressing gaps in the ability to prevent, detect, and respond to abuse, neglect and exploitation of elderly individuals and individuals in residential care facilities, a project examining a variety of methodologies used to report R-REM in long term care facilities was proposed and funded. Building on the applicant team's prior R-REM work and projects, the proposed specific aims were to:

1. Enhance institutional recognition of R-REM by deriving R-REM information from five different sources, including two added for this project: forensic medical record review,

and accident/incident reports. Additionally, a gold standard consensus conference classification was proposed for a random sample of residents.

2. Examine the convergence of R-REM reports across the five different methodologies Resident, Staff, Observations (shift coupon and event logs based on observation), Incident/Accident Report, and Forensic Chart Review;
3. Identify the most accurate mechanism for detecting and reporting R-REM;
4. Develop profiles to describe the types of people reported by each different source;
5. Investigate the existing policies and procedures for reporting R-REM in each facility;
6. Develop institutional guidelines for the reporting of R-REM episodes.

The following research questions were addressed:

- a) Will the reporting of R-REM differ by source?
- b) Which reporting methods will show the highest level of convergence and accuracy in reporting?
- c) What resident characteristics or profiles will predict R-REM across the differing reporting sources?
- d) What are the existing guidelines and/or institutional policies for reporting R-REM?

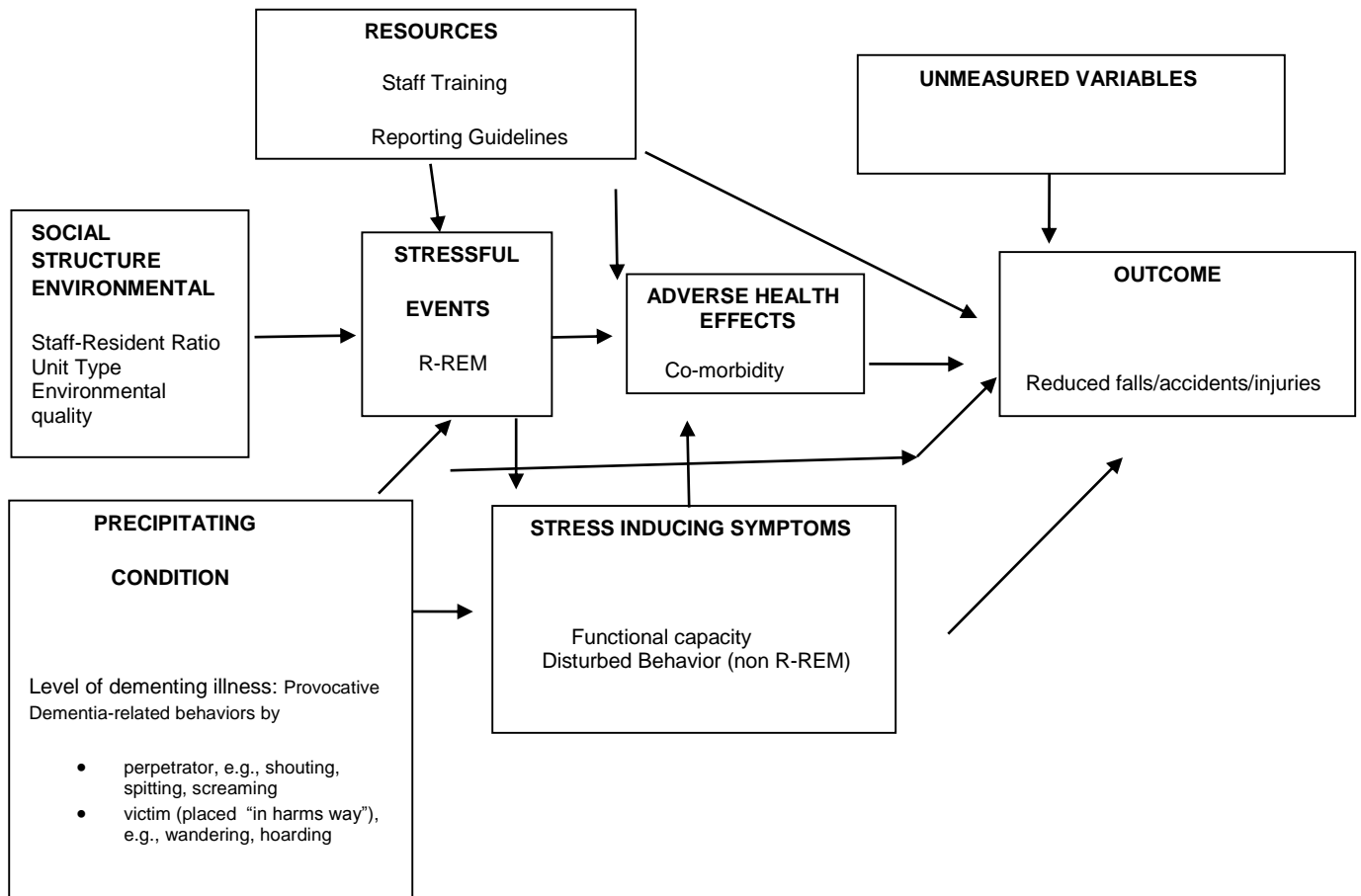
For the purpose of this study, resident-to-resident elder mistreatment (R-REM) was defined as: negative and aggressive physical, sexual, or verbal interactions between long term care residents, that in a community setting would likely be construed as unwelcome and have high potential to cause physical or psychological distress in the

recipient. We hypothesized that R-REM, while contextually different from community elder abuse in many ways, also encompassed a spectrum of clinical phenomena ranging from verbal altercation to physical violence.

Conceptual Model

The theoretical model shown in Figure 1 (see below) incorporates elements from a theoretical path model originally proposed by Teresi et al.⁵ This stress model is based on a conceptualization of the relationships of behavior disorder and dementing illness. The model posits that events such as R-REM constitute stressful life experiences, leading to adverse health effects (compromised health) and leading directly and indirectly to proximal outcomes ranging from injuries and accidents such as falls, fractures, lacerations, abrasions, and other injuries that may require hospitalization, to more distal outcomes that can include depression, anxiety, functional decline, and decrements in quality of life. Causally prior (antecedent) variables include characteristics of the environment and of the “victim” and the “perpetrator”. Recognition of R-REM and efficient reporting are key elements in improving efforts to protect older persons in residential care facilities, and enhancing their quality of life. Thus, adhering to this model, staff training for managing R-REM, and reporting guidelines are posited to impact on R-REM outcomes directly and indirectly through the reduction of R-REM-related stress and of adverse health effects. R-REM was believed to be stressful both to the older person and the staff. However, staff-related variables are not represented in the model.

Figure 1: A stress model positing R-REM as a stressor with potential mediators and outcomes



This report addresses the parts of this conceptual model that focus on precipitating conditions, stressfulness, and institutional resources.

B. Background and Rationale

B.1. Resident to Resident Elder Mistreatment

Over the past two decades, there has been a steadily growing body of knowledge addressing violence experienced by older persons either as victims or perpetrators. The literature on elder mistreatment in the community has grown steadily with a peer-reviewed journal dedicated to the topic.⁶ A smaller but discrete literature on elder mistreatment inflicted upon older people by staff in institutional settings has emerged.⁷ A sizable body of knowledge now exists on the assaultive behaviors experienced by paid and family caregivers in the context of rendering daily assistance to patients with dementia both at home and in institutions.⁸ Concurrent with this research has been an equally dramatic increase in attention to the quality of care in nursing homes, including attention to staffing, families, care planning, and the physical environment.⁹

An area that was virtually unexplored at the onset of this research project, however, is aggressive interactions between residents. In reviewing this literature there is mounting interest in R-REM, as indicated by a number of recent articles^{10,11,12,13,14,15,16,17}, the majority originated by the reporting team. A recent review article¹⁸ identified resident-to-resident abuse as an important topic that has received little attention. There is some evidence that such resident-to-resident mistreatment is sufficiently widespread to be of concern, and argue that it likely has serious physical and psychological consequences. Such incidents are also damaging to nursing facilities, which may incur state and federal sanctions, and also may become liable in civil lawsuits for failing to protect residents who are victims of R-REM. No evidence-

based reports of interventions to reduce or eliminate resident-to-resident mistreatment were identified, prior to that developed by the reporting team.¹⁹

B.2. Prevalence

Precise epidemiological studies of R-REM do not exist. However, converging indirect evidence culled from disparate sources suggests that R-REM in long-term care facilities probably occurs with relative frequency. Two pilot studies speak to the likely high prevalence and impact of R-REM. In the first, conducted prospectively on four floors of a long term care facility involving 82 subjects, 2.4% endorsed personally experiencing physical R-REM and 7.3% endorsed experiencing verbal R-REM; most rated the events as moderately or extremely disruptive to daily activities.²⁰ The second pilot study demonstrated that in a well-characterized cohort of older adults followed for over a decade with respect to health and police interaction, law enforcement intervention for simple assault in a cohort member was more likely to occur as a result of resident to resident abuse after the subject was placed in a nursing home, than while the subject was community-dwelling. In related work performed in the early 1990's wherein the same cohort was linked to adult protective registries, Lachs and colleagues found that Connecticut adult protective services agencies (which at the time had responsibility for investigating both community and nursing home abuse) were far more frequently called to investigate cases of R-REM in nursing homes than physical abuse in the community.²¹

A systematic study of resident-to-resident violent behaviors identified 294 cases of resident-to-resident abuse in Massachusetts nursing homes over a one year period through its official ombudsman program.²² Common injuries included lacerations,

bruises, and fractures. The most common site of an R-REM incident was in residents' rooms, but the hallway and dining room were common R-REM venues.

Although not a formal prevalence study, in a statewide study of all elder sexual abuse cases investigated in Virginia by its adult protective service program, the majority of incidents occurred in nursing homes, not the community, and was perpetrated by other residents, not staff. Residents were also the most common witnesses of these events.²³ However, in these studies, only the most dramatic cases of R-REM were recorded in that they were those reported to official agencies because they resulted in injury or involved sexual assault; more precise methodology measuring a range of R-REM (e.g., verbal altercation, threats of violence) would likely shed light on a far more prevalent problem than these most egregious incidents. This is analogous to the underreporting bias seen in all forms of community domestic violence, wherein official registries vastly underestimate prevalence.²⁴ Finally, a study of adult day health care clients conducted by the NYSDOH and this team²⁵ found that the prevalence of elder mistreatment in a probability sample of adult day health care clients in New York State (reported by social workers) ranged from 1.1% to 12.8%, depending on what indicators were included in the definition.

A very recent publication of R-REM as reported by nurse aides via mailed questionnaires conducted in 249 nursing homes in ten states (Arkansas, Colorado, Delaware, Florida, Kansas, Michigan, Nevada, New York, Oregon, and South Carolina) documented verbal, physical, material, psychological, and sexual abuse among residents, and categorized the report of each type as low, medium or high in each nursing home.²⁶ The most common type as reported was verbal as well as some types of physical abuse. Similarly, Pillemer and colleagues, using a qualitative event

reconstruction methodology to review data collected for this project, identified the major typologies of resident to resident aggression that occur in nursing homes in New York City; the categories were: invasion of privacy or personal integrity, roommate issues, intentional verbal aggression, unprovoked actions, and inappropriate sexual behavior.²⁷ These findings suggest the need for person-centered and environmental interventions to reduce R-REM.

B.3 Indirect Evidence from the Literature on Agitated or Disruptive Behaviors

Beyond these limited data specifically on the topic of R-REM, there is evidence from the larger body of research on disruptive behaviors in the nursing home to suggest R-REM is likely to be common. About half of new admissions to nursing homes are estimated to have dementia,²⁸ and well over 50% of long-term care residents have dementing illnesses,²⁹ with the majority of residents (80% to 90%) evidencing some degree of cognitive impairment, as assessed by neuropsychological tests.³⁰ These illnesses are frequently accompanied by a variety of behavioral disturbances including verbal and physical aggression. A study involving 1152 residents from 22 New York State nursing homes³¹ demonstrated a striking prevalence of these kinds of behaviors, including aggressive behaviors towards staff and other residents.

Although the focus of measuring these behaviors has primarily been with respect to the impact on staff, there is reason to believe that congregating multiple individuals with disinhibited dementia-related behaviors creates an environment for R-REM to occur. For example, being on a dementia or Alzheimer's unit was associated with experiencing R-REM in the aforementioned Massachusetts study. In another study (funded by the NYSDOH dementia grants program) of "co-mingling" of resident with and

without dementia, Teresi and colleagues found that non-impaired residents living with or near residents with dementia had higher rates of dissatisfaction with their living situation.³² While R-REM was not investigated in the study, features that seemed to contribute to dissatisfaction and demoralization included agitated behaviors, noise, and other disturbances reported to be caused by suite or unit-mates.

B.4. Indirect Evidence from the Elder Abuse Literature

Although findings from the community literature cannot be extended to institutional settings,³³ it is worth noting that community surveys of elder abuse have shown a prevalence rate of approximately 3-5%.³⁴ Given that the “exposure prevalence” of many relevant risk factors in the community is far higher in nursing homes (e.g., dementia, frailty) one would expect a substantially higher prevalence of R-REM in that setting.

B.5. Indirect Evidence from Research on Violence toward Nursing Home and Other Health Care Staff

A sizeable literature exists on violent behaviors against staff in nursing homes and other health care facilities by residents; these come primarily from interviews with staff. For example in one study, 40% of certified nursing assistants reported at least one episode of physical violence directed at them by residents during the course of care in the prior year (typically in the setting of providing ADL assistance such as bathing), and 18% said they experienced it on a daily basis.³⁵ Pillemer and Moore found that over three-quarters of nursing home staff had experienced resident-generated aggression of some kind in the preceding year.³⁶ Most recently, data from our current

NIA funded prevalence study documented that staff reported that 15.6 % of residents directed aggressive behaviors toward them.³⁷ Additionally, Ramirez and colleagues found that racial conflict (including name calling) by the largely white nursing home population toward ethnically diverse staff occurs as a result of dementia, and has been found to relate to burnout and demoralization among staff members.³⁸ An even larger literature on staff turnover and burnout documents behavior problems such as physical and verbal assault by residents or staff as a contributing factor.³⁹ While the contextual circumstances that lead an impaired resident to strike a paid caregiver (e.g., during assistance) are likely to be very different than the circumstances that lead to R-REM, many of the “host” mechanisms (e.g. frontal disinhibition) could be similar.

B.6. Clinical Impression and Advocacy

Lay reports from both the news media and advocacy groups have also proliferated regarding the vulnerability of nursing home residents to mistreatment by other residents. One widely publicized report uncovered hundreds of registered sex offenders living in nursing homes.⁴⁰ Similarly, observers of the long-term care system have noted that younger psychiatric patients are being placed in nursing homes, some of whom have both a history of aggression and the physical strength to inflict serious harm on elderly, impaired residents.⁴¹ For example, a Texas jury awarded \$160 million to the surviving family members of a man who experienced R-REM at the hands of another resident who had been newly transferred from an inpatient psychiatric floor of an acute care hospital.⁴² Most recently, a nursing home resident with a history of incarceration and possible psychiatric history murdered his roommate in New York City.⁴³ Although such reports have not been based in scientific research, they represent

important examples of the potentially serious impact of R-REM and the need to gain a more developed knowledge base about it.

B.7. Etiology and Risk Factors

B.7.1 Victims

At the study inception only one publication addressed directly the phenomenon of R-REM in long term care facilities.⁴⁴ This study focused primarily on residents who were the victims of R-REM. Looking at only incidents of physical violence between nursing home residents reported to the State Ombudsman in Massachusetts during a single calendar year, 294 such victim cases were reported. Investigators then assembled a group of 1994 “violence free” controls and compared the subjects with respect to a variety of clinical (e.g. demographics, behavior and functional status) and environmental variables (e.g., residing on a dementia unit). Most of the independent variables used for comparison between the two groups were obtained from the federally mandated MDS (Minimum Data Set) rather than research instruments. Nonetheless, several factors were found to be more prevalent in residents experiencing abuse: male gender, behavioral disturbance (especially wandering), moderate functional dependency, and cognitive impairment. Recent publications do not provide detailed information about the victims.

B.7.2 Perpetrators

Although no literature speaks directly to factors known to be prevalent in perpetrators of nursing home R-REM, there is research that applies indirectly to this topic. First, the community elder abuse literature points to “non-normal caregivers” with problems such as psychiatric illness, alcoholism, and substance abuse as potential

perpetrators of mistreatment (as well as assaultive dementia patients at home).⁴⁵

There is consensus that the above factors play an important role in many forms of violence including family violence. To the extent that many nursing homes now harbor patients, both young and old, with psychiatric illness (such as bipolar disease, and schizophrenia), there is reason to believe that these problems cause some increase in risk of R-REM in those environments when such patients are admixed with frail “custodial” residents. Second, the literature on violence experienced by staff in nursing homes and other settings suggests a reasonable risk profile of perpetrators, and when violent episodes might erupt. Again, dementia and dementia-related behavioral disturbance emerges as an important factor in these episodes.⁴⁶ It is also known that the dementia patient with relatively stable or minimal behavioral disturbance can have an exacerbation of such behavior in the context of environmental changes, acute illnesses, or other metabolic stress.⁴⁷ There is also a literature on predicting who becomes violent in the inpatient psychiatric setting,^{48,49} a paradigm that may be worth exploring in the nursing home. Finally, the literature on agitated behaviors in the nursing home resident suggests circumstances that might provoke R-REM in “susceptible” perpetrators. Some investigators have begun to examine actions of staff that are likely to produce aggressive or agitated behaviors. Burgio, for example, has examined staff actions that may trigger disruptive vocalizations.⁵⁰ Such work may provide insight into behavioral patterns of other residents (as well as staff), which can be a stimulus to commit R-REM.

B.7.3 Environmental Factors

From a purely logistical vantage, at least one study has found that the density and census of residents in an inpatient psychiatry facility was correlated with violent

episodes.⁵¹ This is plausible in the nursing home where a higher density of residents, a long length of stay, and many congregate activities not seen in hospitals (e.g., dining) provide more opportunity for both positive and negative interaction. The second mechanism involves staffing and levels of training; once an R-REM dyad is identified, levels and proficiency of staff in separating two residents who engage in R-REM could conceivably influence the subsequent prevalence of repeat events if they are available to distract or separate the parties. Third, institutional attentiveness to these episodes (such as the willingness to reassign roommates, floors, dining partners, or establish programs to combat R-REM) can certainly influence R-REM chronicity in a facility. Finally, less tangible cultural aspects of life and work in the nursing home may influence the response to, and prevalence of, R-REM. For example, some have posited that a general acclimation to violent and aggressive behavior within the nursing home creates an environment where all dyads are at increased risk – staff-to-staff, resident- to-staff, staff-to-resident,⁵² and resident-to-resident.

B.7.4 The Likely Role of Cognitive Impairment in R-REM for Both Victims and Perpetrators

In the literature on elder abuse in community settings, cognitive impairment has been posited as an important potential risk factor for being a victim of elder mistreatment.⁵³ In a nine-year observational cohort study of elder abuse risk factors, Lachs and colleagues found that cognitive impairment, and worsening cognitive impairment in particular, conferred a five-fold risk of mistreatment in victims.⁵⁴ In part, ADL dependency in that setting creates overwhelming caregiver burden and sets the stage for caregiver abuse.

However, it is also more likely that the prevalence of disruptive and disturbing behaviors on the part of individuals with dementia is a major risk factor for abuse. Indeed, abuse by caregivers of individuals with dementia appears often to occur in the context of frustration regarding care-recipient aggression,⁵⁵ similar findings have emerged regarding staff abuse of residents in nursing homes.⁵⁶ In the nursing home setting multiple patients with dementia and dementia-related behavioral problems are usually congregated, creating frequent opportunities for impaired perpetrators and impaired victims to engage and even exchange roles. Put simply, in nursing home R-REM both victim and perpetrator may be more similar than different as compared to community elder mistreatment dyads. Individuals with dementia may injure other residents in the long-term care setting because of disinhibited behaviors, but they may also place themselves “in harm’s way” because many non-violent behaviors in dementia can be provocative to other impaired and unimpaired residents (e.g., wandering, yelling, “foraging”, and hoarding).

B.8 Relevant Methodological Insights from the Literature on Dementia Related Behaviors

The large and complex literature on agitation and disruptive behaviors in the nursing home has spawned methodology that can aid in R-REM measurement and case finding. Methodology capturing behavioral disturbance in nursing home residents has been summarized by Davis and colleagues.⁵⁷ Broadly, two major strategies for measuring behaviors have been used: direct intensive observation of residents or resident groups for brief periods of time by research staff,^{58,59} or instruments or inventories completed by research or nursing home staff.^{60,61,62} Recently, the concordance between these two methodologies has been compared, with reasonable

agreement in many but not all domains.^{63,64} While none of these instruments are devoted to resident abuse (most ask about violent or agitated behaviors generally), they provide a framework for monitoring residents for R-REM.

B.9 Outcomes of R-REM

No longitudinal studies of health or functional outcomes have been conducted on perpetrators or victims of R-REM in long-term care, although a small literature on post-traumatic stress disorders in older victims of sexual abuse in community and nursing home settings is emerging.⁶⁵

In this case, however, the community elder abuse literature may contribute to the understanding of R-REM. Irrespective of the locus or perpetrator of abuse, victims of R-REM are likely to present with similar clinical manifestations as their community counterparts; this can inform the process of selecting outcome measurement in this area. An osteoporotic fracture sustained in a physical assault has the same radiographic appearance whether inflicted by an adult child co-residing in a community dwelling or a nursing home roommate. Studies have shown elder abuse victims to have a high prevalence of head injuries.⁶⁶ Another study has shown that “color dating” of ecchymoses (bruises) is an unreliable outcome or indicator of abuse,⁶⁷ shattering this long-held belief. This is one of the most common clinical findings used for “diagnosis” and follow-up of suspected abuse (of any type) in nursing homes by surveyors and other experts, yet simple epidemiological studies have now called the practice into question.

Thus, plausible outcomes of R-REM in nursing home residents are many and similar to those experienced by community elder mistreatment victims; they range from proximal injuries and accidents such as falls, fractures, lacerations, abrasions, and other injuries that require on site attention or hospitalization, to more distal outcomes that can include depression, anxiety, functional decline, and decrements in quality of life.

Outcomes for victims of R-REM are of great interest, because even minor injuries in marginally compensated older people may provoke greater physical and psychological distress than in their younger counterparts. Living with a constant threat of such negative interactions may be even more debilitating. Normal aging is associated with a decline in “physiologic reserve”, so that a disequilibrating event may have dramatic consequences.⁶⁸ Many medical and psychosocial examples can be found in the literature – mortality after bereavement, functional decline after hip fracture, high mortality rates from influenza. Nursing homes by their nature harbor the frailest older adults, so that relatively small injuries can theoretically produce major problems (e.g. nominal force producing osteoporotic fractures, altercation producing angina, aggressive behaviors producing clinical depression).

Chapter II. Methods and Procedures

A. Study Design

This is an epidemiological prevalent cohort study with one wave of data collection. The parent study was conducted in five urban and five suburban facilities. Resident-to-resident abuse information was derived from five sources: (1) Resident interviews (2) Staff informants (3) Observational data (shift coupons and event logs) (4) Chart reviews (5) Incident and Accident reports. The overall goal of the project was to enhance institutional recognition of R-REM by: establishing a gold standard consensus classification on R-REM events, examining the convergence of the different sources in reporting R-REM, and identifying the most accurate mechanism for detecting and reporting R-REM.

B. Protection of Human Subjects

The study was approved by the following Institutional Review Boards: Weill Cornell Medical Center protocol #0803009718 (NIA) and Research Division of the Hebrew Home at Riverdale protocol #0308I/P060 (NIA), 0307I/P050 (NYSDOH), 1209I/P066 (NIJ).

Compliance with Health Information Portability and Accountability Act (HIPAA) Regulations: In compliance with HIPAA, individual participant confidentiality was assured using ID codes throughout data processing and analyses. Data collection forms were identified only with IDs; relating of ID code to names required information kept under lock, and supervised by a designated high-level staff member. Additionally, none of the analyses permit identification of any individual by name. The interviewers were aware of the linkage between individual and ID number. At the data processing and

analytic level, individual participants were known only by their ID numbers, which was used as the basis for communication with the interviewer in the event of data anomalies. The clinical/research barrier remained intact, in that it was not necessary for any of the data-processing staff to be familiar with the identity of the participants.

B.1 Data Storage, Data Safety and Security

Data and log sheets are kept in a locked storage area behind a locked, alarmed door. Electronic data were backed up daily or weekly depending upon the receipt of data. Backup disks are stored in a fireproof safe in a different location. PHI is confined to a secure device that is not connected to the internet. All computers are password protected and on a private LAN network. No file and database servers are accessible to the public through the Internet. A hardware-based firewall device protects the network system against hackers and any unauthorized internet access. Spam and email filtering is built-in within the firewall device. The anti-virus software (McAfee Anti Virus) protects the network from threats of viruses, worms and Trojan horses contained in email attachments and also from files downloaded through the internet. Through "push-technology" this anti-virus software is automatically updated for all virus definitions and other updates.

C. Forensic Chart Review

The investigators' past experience suggests that medical charts are likely to contain documentation of R-REM occurrences that do not reach the level of an accident/incident report. Moreover, pilot data suggest that because of lack of clear guidelines, serious incidents are not recorded in the accident/incident reports. There

are two potential paths to identifying R-REM evidence from the medical record: a) events of R-REM documented, and b) potential evidence of R-REM uncovered (e.g., unexplained injuries, requests for room change, etc.). For example, an R-REM incident between roommates resulting in a resident's broken finger, and one involving a resident striking another with a cane were reflected in the medical records, with directives for a room assignment change, but not formally reported.

Using FoxPro Version 9 software, the grantee team developed a comprehensive electronic data extraction program which included both the capability to record documented and potential R-REM. Drop down menus with value options and capacity for fill-in notes were provided in order to standardize and facilitate the forensic chart review task. All sections of the medical chart including nursing, social service, and activities notes, as well as care planning conference reports (and any other relevant documentation) were reviewed for reports of occurrences of R-REM. All noted information in the chart regarding any R-REM event was extracted using this program including: general information about the event, i.e., date or approximate date of occurrence, resident(s) involved and their DOB as well as facility and unit where it occurred. Subdirectories that use drop down menus with value options are also part the electronic program utilized to gather: a) incident's description information, including type, severity and frequency of the event b) incident outcome information, e.g., actions taken and consequences c) medications d) general background information about the triggers of the incident (e.g., change in life events or environmental issues noted) and e) chart revision indication, which records the sources of the data, as well as any indication regarding the confirmation of the event as "definitely", "probably" or "possibly" R-REM. Additionally, the program uses drop down menus to record the reason for the chart

review, the roles of the resident(s) in the incident, and the incident trigger indication. Using the “Note” feature, descriptions of the specific incident trigger(s) when available and trigger(s) description of any other incident(s) noted in the chart were recorded. The program offered the capacity to link in additional incidents when found in the chart. This electronic data entry system facilitated the collection of data and ensured data management within the strictures of the human rights protection guidelines (see data protection and security above).

Prior to the development of this FoxPro-based electronic chart review program Tessa del Carmen, Gerontologist from Weill-Cornell reviewed charts at one site for section identification and potential R-REM –related information. Charts were then reviewed at additional selected sites to confirm the sections. Expert reviews for content and procedure were systematically performed during the development of the electronic chart review program.

After its completion, the electronic forensic chart review program was tested by a chart reviewer with experience reviewing thousands of paper and electronic charts at multiple sites, hired for that purpose. She provided essential insights and assisted with program updates.

C.1 Chart Review Flow Diagrams

Extensive training was conducted in order to standardize the chart review process and to assure the appropriate use of the electronic data entry program. The following flow diagram illustrating how to navigate the program based on availability of R-REM-related data in the charts was used for training purposes.

Chart 1: Initiating a Chart Review

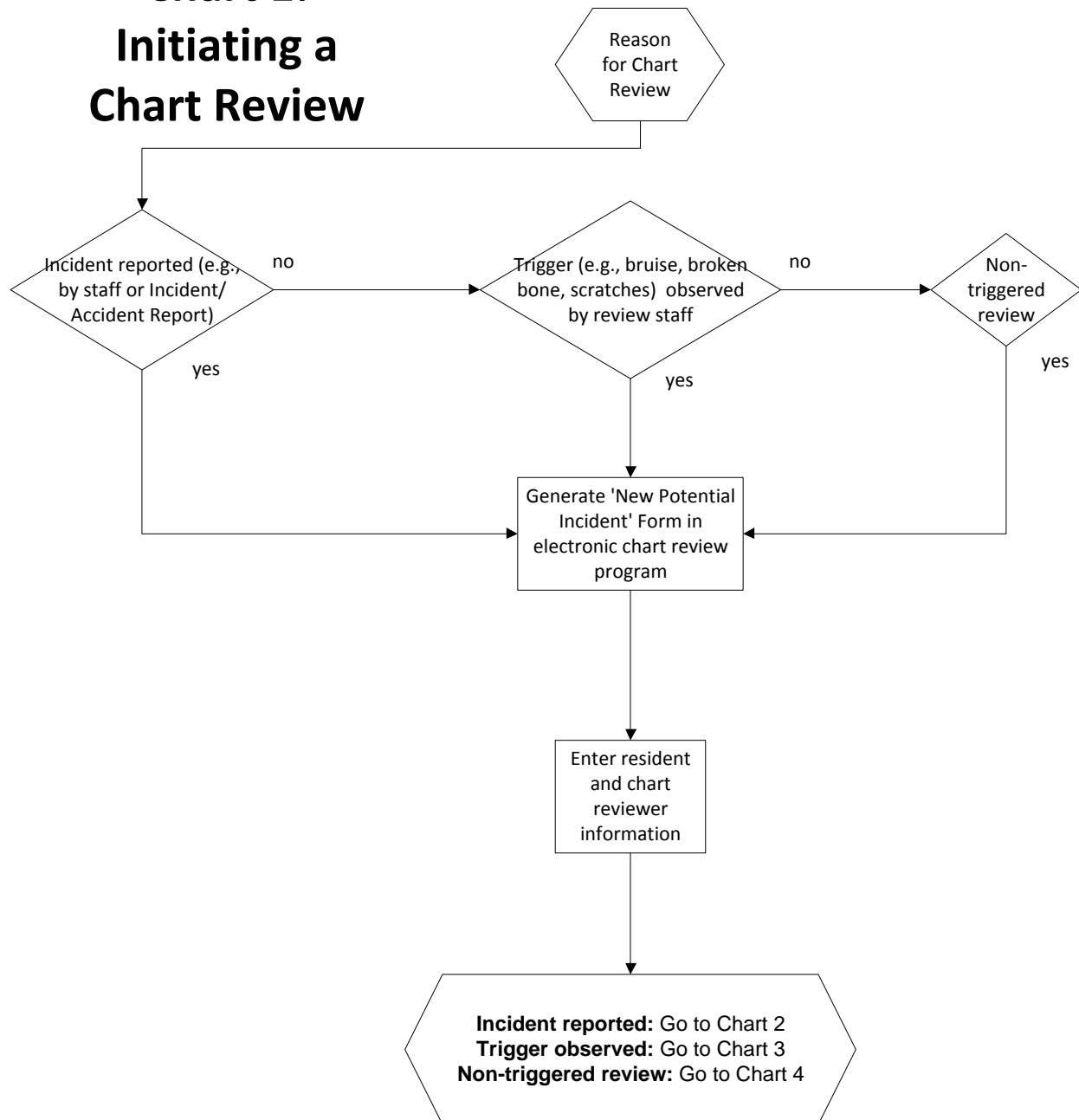


Chart 2: Incident Reported by Staff

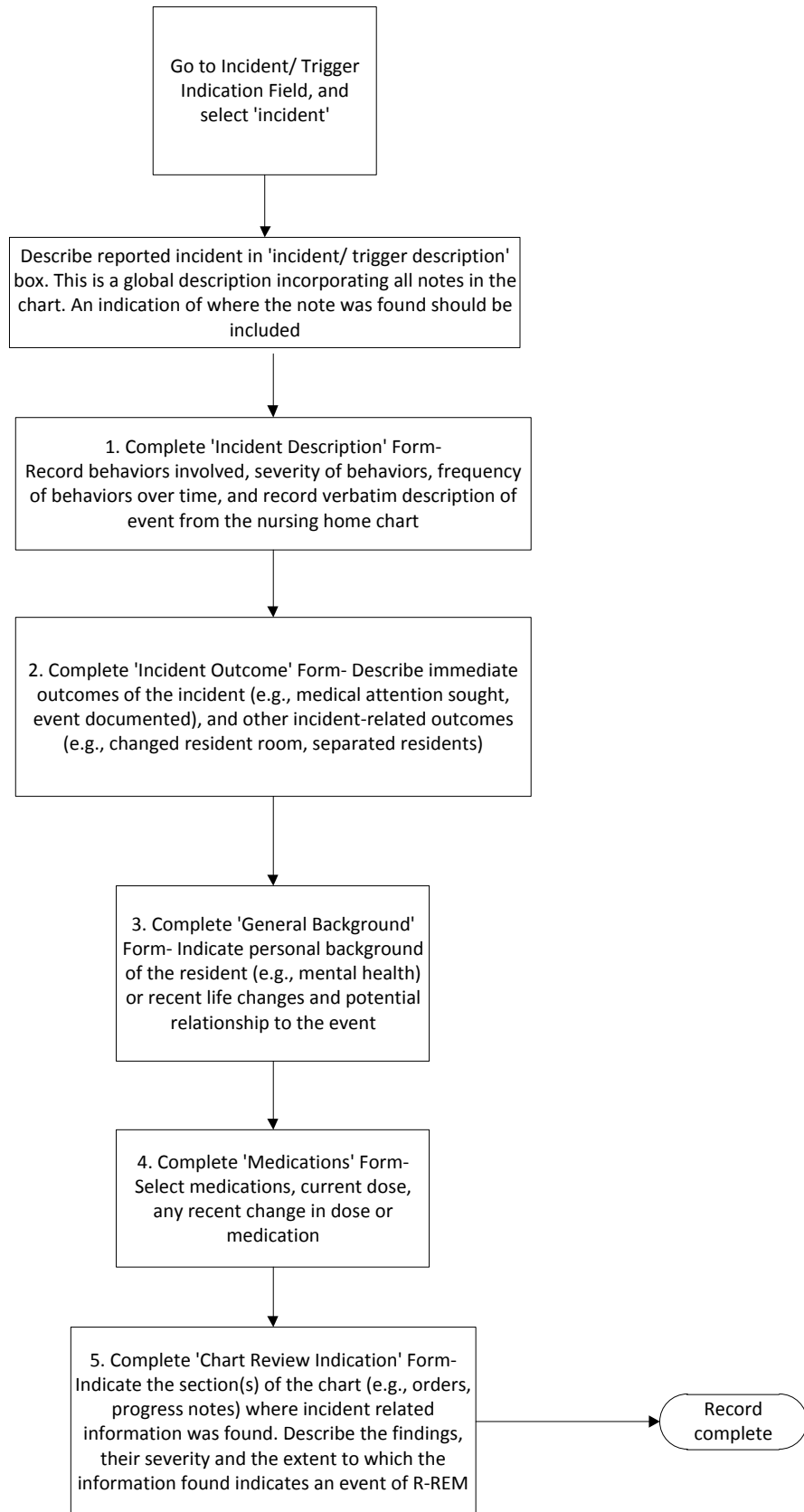


Chart 3: Potential Trigger Observed on Resident or in Chart

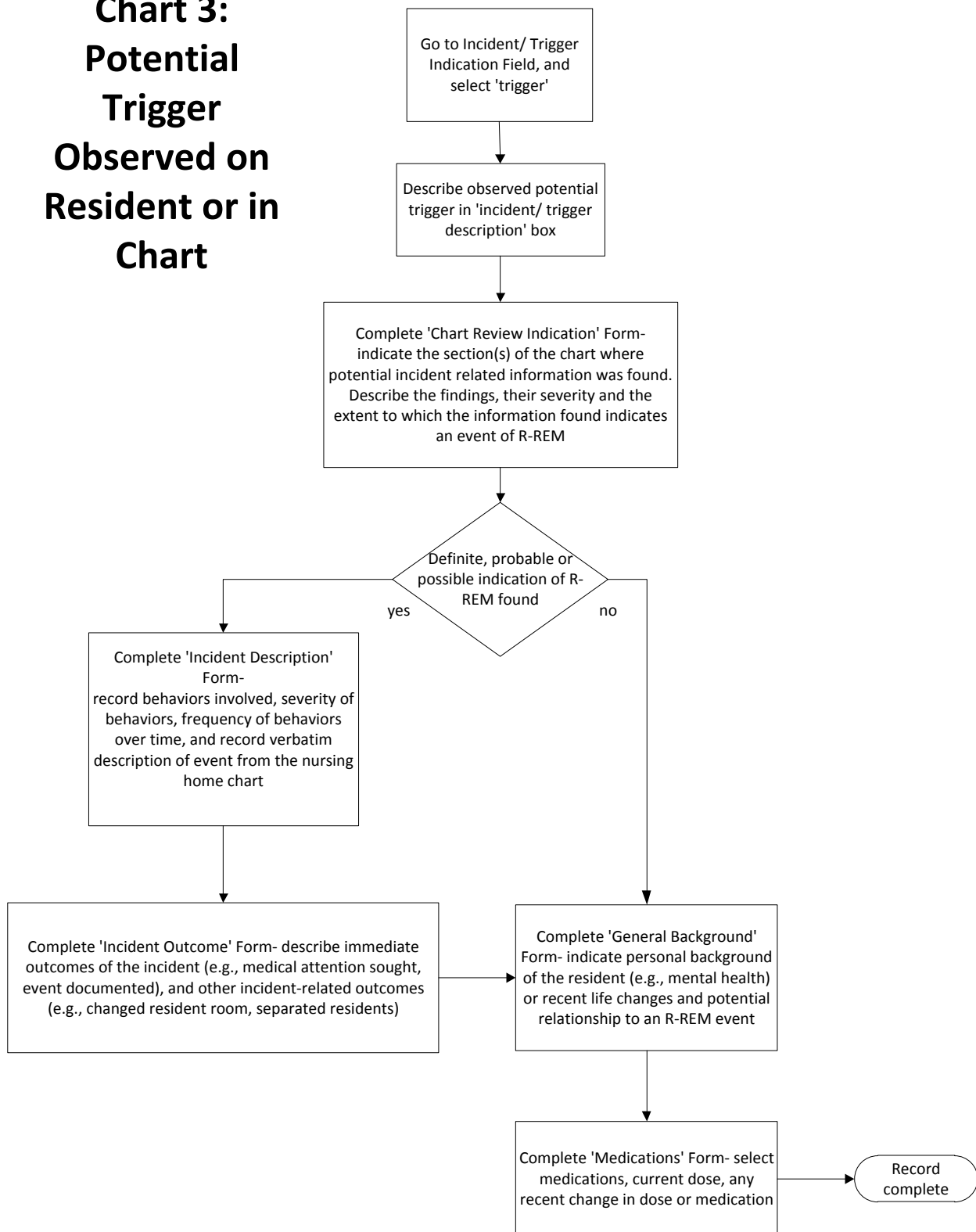
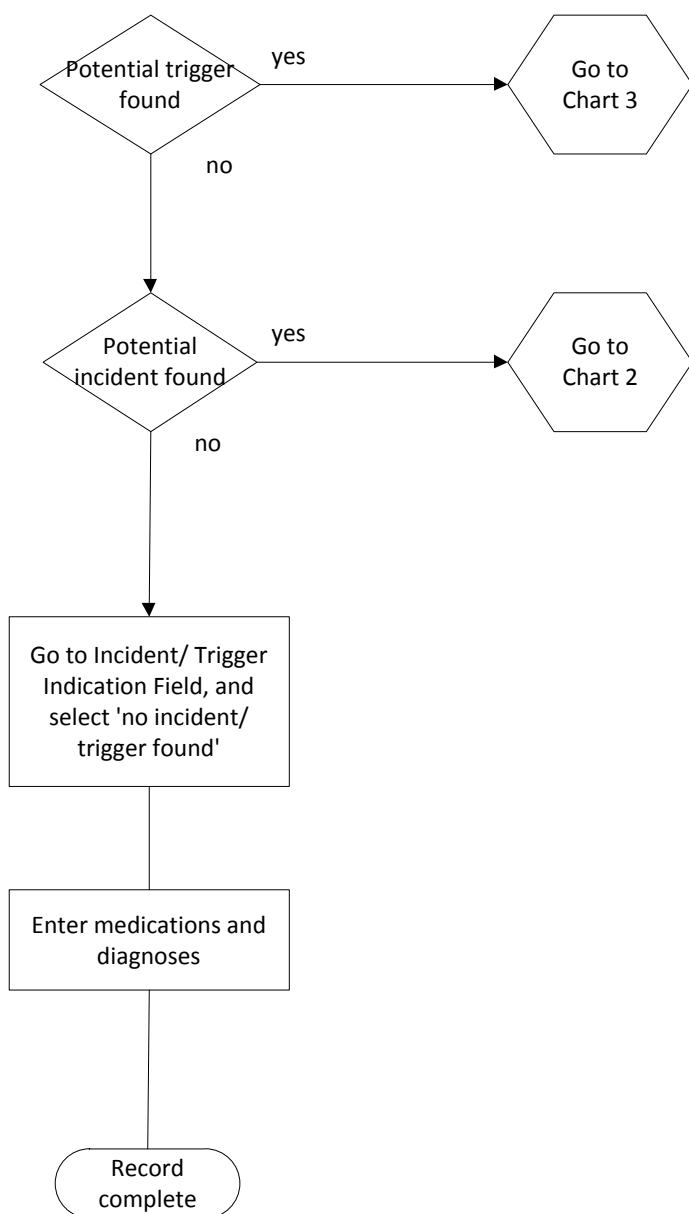


Chart 4: Non-Triggered Chart Review



D. Event Logs and Case Narratives

When an event was reported from a) resident interview b) staff interview c) interviewer observation or d) shift coupon, an Event Log worksheet was completed in order to better understand the circumstances of the R-REM event. This form contained descriptive information about the time and place of the event, the reporting source, the participants, and a brief description of the event and environmental factors at the time of the event. This form was completed by the staff person who performed the follow-up and write-up of the event narrative. Follow-up may have included: Re-interview of involved parties (residents and/ or staff), chart review for resident background data, interview with a staff social worker. A separate set of questions was applied for these follow-up staff interviews. Based on the information collected an event narrative was developed.

The event narrative was a qualitative write-up of the event incorporating information from all of the available aforementioned sources. In order to create a comprehensive narrative, scripted question were developed for those who observed and those who were most familiar with the residents involved. See Appendices B.1.1-B.1.1.6

E. The Gold Standard Consensus Conference Classification”

E.1 Case Review and Adjudication Template

A computerized template (see Appendix B.1.2) to aggregate all available de-identified individual data was created in order to assure a comprehensive review of each participant’s data. All facets of potential R-REM events as gathered via the independent R-REM reporting methods were included in this template. Additionally, in

order to provide contextual information, individual-level background, health, mental health, physical and social functioning data were also merged into the case evaluation template. Several iterations of this template were produced before the final version was approved by the review panel encompassing all the key information necessary for case adjudication. The premise was that in order to make even moderately reliable judgments and meaningful decisions about “caseness”, a structured instrument that gathered all pertinent data into a single form was necessary. Completed forms were disseminated to the panel of experts as hard copies or via electronic mail at least a week in advance of the adjudication teleconference dates for individual review and rating.

E.2 Case Conferencing and Adjudication of “Caseness”

The benchmark for the panel’s deliberation of “caseness” was the National Research Council (NRC) (2003) definition of elder mistreatment, applied to long-term care residents, focusing only on abusive events between residents. The operational definition of R-REM was: “Negative and aggressive physical, sexual, or verbal interactions between long-term care residents that would likely be construed as unwelcome and have high potential to cause physical or psychological distress in the recipient.” This definition guided the gold standard classification consensus in determining and adjudicating “caseness”. A systematic review and discussion of all gathered details about every resident-to-resident incident were required (see process below) in order to evaluate and decide whether the parameters stated in the operational definition of R-REM were met for case adjudication. The specific criteria for “caseness” included that: 1) the action(s) was not just a behavior (e.g. calling out); 2) the action(s) must have a target; 3) must be directed at one or more individuals in close proximity; 4)

the target must be other(s) resident(s); 5) the action(s) may not always be acknowledged by the target recipient (e.g., screaming or verbal insults directed toward a person who does not respond); 6) if the interaction(s) occur in a community setting, it would likely be construed as unwelcome. The latter distinction was added because of the high tolerance for aggressive behaviors that may be viewed as normative in a nursing home, but that would be regarded as unacceptable in most settings.

A panel of seven experts in clinical geriatrics, long-term care nursing, and social gerontology with specific interest and experience in elder abuse was convened for the adjudication of “caseness”. The adjudication process was transparent and decisions were made by consensus. The adjudication consisted of a multi-step process as follows: First, the IDs of those deemed “non cases” were called out by the panel coordinator. Second, consensus was established regarding “non cases”. If immediate consensus was not achieved in any of those records deemed as a “non-case” each of those records was reviewed in detail as a potential case. Third, the remainders, i.e., “potential cases”, were introduced separately through a case summary prepared in advance by the panel coordinator, which contained details of the incident(s), as well as key facts regarding individual-level background, health, mental health, behavior and function. Fourth, the panel chair presented her ratings and other panel members presented their independent ratings from the forms. Ratings on each case were discussed and consensus was recorded. All forms retained original designation for the purpose of inter-rater reliability assessment. Ratings were made in terms of: a) the identification of the most egregious R-REM event (in those cases for which more than one R-REM event was reported) b) the primary and secondary typology for the R-REM event identified as the most egregious c) the primary and secondary etiology for that

same (most egregious) event d) whether or not there was R-REM reported outside of the prevalence period (a month before and after the resident's baseline interview); e) the identification of the most egregious R-REM event (in those cases for which more than one R-REM event was reported); f) the primary and secondary typology for the R-REM event identified as the most egregious outside of the prevalence period and g) the primary and secondary etiology for that event.

Consensus ratings for the gold standard were recorded and entered into the database. As stated, the original individual ratings by panel members were kept intact, i.e., not modified to reflect the consensus. The original ratings were also entered into the database.

A total of 503 cases and a random sample of non-cases were reviewed and adjudicated. The duration of each adjudication teleconference was one hour on average during which 20 cases (on average) were reviewed, and consensual adjudications made.

F. Sample

F.1 Urban

F.1.1 Selection of Facilities

Using the SPSS pseudo random number generator (Statistical Package for the Social Sciences, 1997) procedure, six urban nursing homes were selected from among the population of 21 nursing homes with 250 or more beds in two urban regions: Manhattan and the Bronx. The nursing homes were selected from among this list to represent equally the two boroughs. Facilities with severe survey deficiencies were

excluded. Agreement to participate was obtained from five of the six facilities, yielding a facility response rate of 83 percent.

Representativeness of Selected Facilities and Generalizability: Urban Sample

The final urban sample represented 24% of large facilities (250+ beds) in Manhattan and the Bronx. The determination of the number of subjects needed for the prevalence study dictated the number of facilities selected. In order to determine the level of generalizability, comparison data were obtained from a number of sources and, in preparation for this report, current rates were obtained from the Medicare website of the U.S. Department of Health and Human Services (2012)⁶⁹. Discussed below are the current rates. Data for quality measures, inspection reports and staffing for the sample sites selected were compared to New York State at large and national current data. The reported number of pressure sores for high risk long-term stay residents ranged from 7% to 31%, with an average of 10.6% for the sample of facilities, compared with 8% for New York State, and 6% nationally. The range of long-stay residents reported to have lost weight ranged from 5% to 8%; the New York State and national averages were 7% and 8%, respectively. Reported urinary tract infections ranged from 5% to 10% in the selected facilities, with an average (6.5) somewhat below those of New York State (7%) and the United States (7%). The total number of deficiencies in the last report available publicly ranged from 0 to 4, with an average of 2, compared to a New York and national average of 6 and 7, respectively. The mean certified bed size for the sample is 444, somewhat larger than the mean 271 for all downstate New York facilities. While the breakdown of ownership for sampled facilities (80% non-profit; 20%

proprietary) is quite different from the national average (25% non-profit; 69% proprietary; 6% government), it is consistent with the local (Manhattan/ the Bronx) averages for large nursing homes (68% non-profit; 32% proprietary; 0% government/ other). In summary, the data reviewed above indicated that based on these indicators, the generalizability is most likely beyond local or regional.

F.1.2 Resident sample: Urban

Exclusion/ Inclusion criteria: Because of the longitudinal nature of the parent NYSDOH study, it was desirable to screen out those who were short-stay and those receiving hospice care; however, a sample of short-stay rehabilitation residents was included for the purpose of the linked federal studies. All long-stay residents except those on hospice care were invited to participate. For residents who were unable to complete the consent process (due to e.g., cognitive impairment, language barrier, health impairment), consent was sought by designated proxies (families or legal guardians). Residents unable to respond (due to language other than English or Spanish, or impairment) were excluded from resident level measures; chart review, staff informant, and observational measures were performed on those whose families provided proxy consent.

Response Rate: Including all residents who did not participate regardless of the reason (e.g., refusals, family refusals, sick in the hospital, not on site, expired, language barrier, not alert, physical or cognitively impaired) in the denominator, the overall response rate was 80.2% (1405 enrolled/ 1751 eligible). There were a total of 193 resident and family refusals. Letters requesting proxy consent were sent to 400 key contacts (usually family

members) for residents who were unable to provide consent. A total of 40 (10%) refused

Sample: The final analytic sample for the parent studies was 1405. The proposed NYSDOH study N was 720, actual enrollment was 1405, about twice the number originally proposed. The additional recruitment was partially funded by the linked studies, and was conducted in order to increase the power to detect smaller effects in terms of the falls outcome. Due to this significant over-enrollment, as well as other factors discussed below, data collection took much longer than expected. Thus, a one-year no-cost extension was required.

Data collection was extended as long as possible (until August, 2011).

F.2 Suburban

F.2.1 Selection of Facilities: Suburban

A similar procedure that to the one used to select the urban facilities (discussed above) was used in the selection of six suburban facilities. Because there were only six facilities that fit our definition of “large” nursing homes (250 beds or more), the population of suburban nursing homes included those with 200 or more beds. Six nursing homes were randomly selected from among the population of thirteen large nursing homes (200 or more beds) in Westchester County, NY. Agreement to participate was obtained from five facilities, yielding a facility response rate of 83%.

Representativeness of Selected Facilities and Generalizability: The final sample represented 60% of large facilities (200+ beds) in Westchester. The determination of the

number of subjects needed for the prevalence study dictated the number of facilities selected. In order to determine the level of generalizability, comparison data were obtained from a number of sources and current rates were obtained from the Medicare website of the U.S. Department of Health and Human Services (2012). Discussed below are the rates. Data for quality measures, inspection reports and staffing for the sample sites selected were compared to New York State at large and national current data. The reported number of pressure sores for high risk long-term stay residents ranged from 5 to 7%, with an average of 6.4% for the sample of facilities, compared with 8% for New York State, and 6% nationally. The range of long-stay residents reported to have lost weight ranged from 4% to 8%; the New York State and national averages were 7% and 8%, respectively. Reported urinary tract infections ranged from 4% to 5% in the selected facilities, with an average (4.5) somewhat below those of New York State (7%) and the United States (7%). The total number of deficiencies in the last report available publicly ranged from 0 to 12, with an average of 3, compared to a New York and national average of 6 and 7, respectively. The mean certified bed size for the sample is 232, somewhat larger than the mean of 160 for all Westchester facilities. While the breakdown of ownership for sampled facilities (80% non-profit; 20% proprietary) is quite different from the national average (25% non-profit; 69% proprietary; 6% government), it is consistent with the local (Westchester) averages for large nursing homes (67% non-profit; 25% proprietary; 8% government/ other). In summary, the data reviewed above indicated that based on these indicators, the generalizability is most likely beyond local or regional.

F.2.2 Resident sample: Suburban

Exclusion/ Inclusion criteria: Similar to the urban sample, all long-stay (except those receiving hospice care) and a sample of short-stay residents were invited to participate. For residents who were unable to complete the consent process (due to e.g., cognitive impairment, language barrier, health impairment), consent was sought by designated proxies (families or legal guardians). Residents unable to respond (due to language other than English or Spanish, or impairment) were excluded from resident level measures; chart review, staff informant, and observational measures were performed on those whose families provided proxy consent.

Response Rate: Including all residents who did not participate regardless of the reason (e.g., refusals, family refusals, sick in the hospital, not on site, expired, language barrier, not alert, physical or cognitively impaired) in the denominator, the overall response rate was 58.4% (441 enrolled/ 755 eligible). There were a total of 128 resident and family refusals. Letters requesting proxy consent were sent to 83 key contacts (usually family members) for residents who were unable to provide consent. A total of 5 (6%) refused

Sample: The final analytic sample was 441.

G Instruments

G.1 R-REM Reporting Sources

Resident-to-Resident Elder Mistreatment Measure

The R-REM instrument was developed by combining desirable aspects of the most commonly used instrument in violence research (The Conflict Tactics Scales (CTS))⁷⁰, which contends that violence measures should be based on objective,

observable behaviors, with a valid instrument widely employed to rate behavioral disturbance in nursing homes (the Cohen-Mansfield Agitation Inventory (CMAI)^{71,72,73,74}). Based on qualitative research and the desire to focus on resident-to-resident actions, the items were modified. The extensive qualitative work performed in modification and translation is described in a published manuscript (see reference at the end of this section). Items were selected that were specific to R-REM, and conformed to the tenets of violence measurement as exemplified by the Conflict Tactics Scale. After focus groups with nursing home staff, additional R-REM items were added to create a new instrument (the Resident-to-Resident Elder Mistreatment-Staff version (R-REM-S)). The items range from those low on aggressiveness (such as wandering into another's room) to increasingly aggressive tactics involving physical violence.

An example of a modified item (resident version) is given in the table below

	Development sample	Sample item wording	Response choices	Format
CMAI		Cursing, using obscene language or verbal aggression	Range from 1 (never observed) to 7 (observed several times a day) in the last two weeks	Staff informant
R-REM	Nursing home	First we are going to talk about other residents using bad words that made you feel uncomfortable, which can mean: Other residents cursing, swearing, using words in an angry way, or saying mean things that hurt. These words may have been directed toward you	How many separate times did this happen in the past two weeks? Record # of times	Resident report and Staff observation

		alone, or toward you and others near you.		
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In the ***resident version***, individual items relate to R-REM specific behaviors. For each behavior, residents are asked if the behavior ever occurred in the facility, if it occurred in the past year, and in the past two weeks. If it occurred in the past two weeks, the number of times this occurred, and how bothersome the most bothersome event was (not at all, a little, a lot) were recorded.

Given that several R-REM behaviors may occur during the course of a single event (e.g., a verbal exchange that escalates to a physical interaction), summary items measure the total number of events in the past two weeks referred to during the interview. For each event, a verbatim description of the event is recorded, and behaviors involved are coded. How bothersome the event was overall, and the most bothersome aspect of the incident are recorded. Specifics about the event, where and when it occurred and relationship and sex of the perpetrator are recorded.

The following instructions were given to residents:

“In this next section, we will be talking about things that can happen when people live together. The things I am going to talk about may or may not have happened to you, but we are asking these questions of everyone. We are trying to find out about things other residents may have done to you, such as: Saying mean things to you, touching personal things in your room, hitting you, touching you or saying things to you in ways that made you feel uncomfortable. Remember we are not talking about the staff. I am asking you only about things that other people who live here have done to you.”

R-REM Staff Interview: R-REM is operationalized as *staff* endorsing (or incident reports of) any of 22 items on the R-REM Interview. The staff version of the R-REM instrument uses a slightly different format from the resident version. A list of all potential R-REM behaviors is provided (via a handout) and the number of distinct incidents involving these behaviors is requested. For each incident (up to five), the behaviors involved (see above), and where (e.g., dining area, hallway, resident's room) and when (e.g., morning, noon meal, afternoon) it occurred is recorded. In addition, who started the incident and a description of other participant(s) (sex and relationship) is recorded. The staff reports whether s/he witnessed the incident, and if so, what s/he did about this (e.g., separated residents, redirected residents).

The following instructions were given to staff.

"We are trying to find out about things residents have done to other residents. I'd like you to think about incidents involving (resident) and one or more people living here. We'll focus on different forms of resident to resident mistreatment. This can include verbal incidents like: residents saying mean things to each other, insulting each other's race or ethnic group, and/or screaming at each other. Physical incidents can include: hitting, pushing, and/or grabbing. Sexual incidents may include touching, or saying or doing sexual things that made other residents feel uncomfortable. We are also interested in incidents involving other residents going into rooms without being asked, touching personal things, or throwing things. We are referring to both serious reportable and minor incidents that would not necessarily be formally reported. Remember we are talking about incidents in the past two weeks that involved (resident). Anything you tell us is confidential and used only for research purposes."

In addition, a handout was given to staff describing the different types of behaviors for reference throughout the interview.

In following in the tradition of elder mistreatment reporting in community studies wherein both a global prevalence of the phenomenon is estimated as well as subtypes (e.g., physical, verbal, etc.) sub-categories of R-REM were calculated. The four major categories in this regard were verbal (5 items, e.g., cursing, intimidation, ethnic slurs), physical (7 items, e.g., hitting, kicking, scratching), sexual (3 items, e.g., saying sexual things, inappropriate touching), and other (7 items, e.g., unwanted help, threatening gestures, wandering). The Cronbach's alpha estimate for the R-REM scale was 0.90 for the entire scale. However, these items have been subjected to factor analysis and advanced item response theory, yielding 13 items. Different reliability estimates were obtained from several methods. The alpha estimate from the "psych" R package^{75, 76} was 0.94, omega hierarchical 0.76, omega total 0.97 and Explained Common Variance (ECV) (see ⁷⁷) was 0.59. The SPSS reliability module calculates the corrected item-total correlations, alpha estimates if item deleted, and overall estimate of reliability of the item set. The Cronbach's alpha estimate reliability estimate was 0.74 and the standardized alpha was 0.75. Corrected item-total correlations ranged from 0.28 (item "Going to other residents' rooms without asking") to 0.57 (item "Using bad words"). The alpha estimate would have been lower if the items "Using bad words" and "Screaming at another resident" were omitted (0.69). Thus, the scale is essentially unidimensional, but can be used to assess constructs separately.

Please refer to Ramirez, Watkins, Teresi, Silver, Sukha, Bortagis et al, 2013⁷⁸ and Teresi, Ocepek-Welikson, Ramirez, Eimicke, Silver, Van Haitsma et al, 2013⁷⁹ for more details in the development of the R-REM measure.

Staff Shift Coupons (Behavior Sheets): Behavior sheets (shift coupons) intended to capture real time R-REM events that occur during practice were developed specifically for this project as part of the NIA funded parent grant. These forms were designed as prescription pads to be carried in the pockets of nursing staff. They were distributed at the module 3 training session; additional pads were available at the nursing station. Sheets could be torn off after documenting R-REM. Items include: residents involved, identity of the perpetrator, actions involved, location, potential cause, and what did you (staff) do about it. Boxes for completed forms were placed in a designated location at the nursing station on each unit. These boxes were checked on a weekly basis. Completed forms were removed and brought back to the RD-HHAR. (See also Barriers to Implementation.)

Accident and Incident Reports: The New York State Department of Health (NYSDOH) mandates accident and incident reports as part of licensing standards for all nursing homes in New York State. Federal regulations require the reporting of alleged violations of abuse, mistreatment and neglect, including injuries of unknown origin, immediately to the facility administrator and in accordance with state law, to the Department of Health (Note: CMS has defined *immediately* – as *soon as possible*, but not to exceed 24 hours after the discovery of the incident). Furthermore, both Federal and State regulations require that nursing home staff investigate incidents and complaints. The outcomes of an investigation must be reported to both the nursing home administrator and the NYSDOH within 5 working days. A typical nursing home **accident/incident report** has information such as: the date and time the incident was

discovered; who discovered the incident; how the incident was discovered; a description of the resident or residents involved and any relevant information regarding their condition (medical, psychological, behavioral, etc.) noted prior to the discovery of the incident; names of staff interviewed along with their signed and dated statements; a statement from the resident, if s/he is able to provide a statement about the incident; and statements from other possible witnesses.

Working with the local Information Systems (IS) staff, a database management system (DBMS) was populated with data concerning resident falls, accidents and injuries. In this fashion, longitudinal falls data from the incident accident report and the following sources for the life of the data-collection period was developed.

Resident Chart Review: Nursing, social service, and activities notes, as well as care planning conference reports (and any other relevant documentation) were reviewed for reports of occurrences of R-REM. In some instances the chart contained documentation of R-REM occurrences that do not reach the level of an accident/incident report. Residents' background data, health and mental health history, any history on behavioral disturbance was also collected. The chart review procedure was described in detail earlier the chapter.

G.2 Additional Measures Collected in Collaborative Projects

Demographic Variables from the Resident Chart Review: Demographic variables of interest include age, race, educational attainment, and length of stay in the facility. In addition, the following staff and resident measures were administered:

Rater Observation of Affect: A trained research assistant collected a rating of

affect obtained through observations. Each participating resident was observed for five minutes, once each in the morning, afternoon, and evening plus two other (duplicate) times over a period of five days for a total of 5 observation periods, using a 14-item observational measure of affect. Frequency of affective states are coded as follows: "occurs not at all"; "occurs with very little frequency (once or twice during the observation period)"; "occurs with some frequency (several times)"; "occurs with moderate frequency (many times, but not continuous)"; "occurs with great frequency (almost continuously)". Items measuring affect include "agitated", "crying", "emotionally labile", "smiling/laughing", and "staring blankly". In an urban nursing home sample, the Cronbach's alpha estimates ranged from 0.74 to 0.85 and from 0.85 to .087 in a rural nursing home sample.⁸⁰ This scale is scored in the deviant direction. The Cronbach's alpha estimates for this sample were 0.567 at baseline, 0.608 at 6-month, and 0.579 at 12-month follow up.

Rater Observation of Behavior: These data were collected at the same time and in the same manner as the Rater Observation of Affect (see above). Typical items include: "Disruptive of others"; "Repetitive questioning"; "Wandering"; "Argumentative"; "Asking for help"; "Noisy"; "Uncooperative," and "Picks/pulls clothing." This scale is scored in the deviant direction. The Cronbach's alpha estimates for this sample were 0.675 at baseline, 0.714 at 6-month, and 0.624 at 12-month follow up.

Nurse/CNA Informant Rating of Behaviors: The Nurse/CNA Informant Interview, which includes the short version of the Barrett Behavior Index⁸¹ was used. The short version (31 items), adapted for CNAs was used by staff to rate resident's behavior. Typical items include: "Wanders during the day;" "Repetitive questioning"; "Argumentative"; "Demanding"; and "Disrupts other's activities". Items are rated in

terms of frequency of occurrence: “Not at all”; “Sometimes (1-4 times per week)”; and “Often (5+ times per week)”. In an urban nursing home sample, the Cronbach’s alpha estimate was in the .80s, and in the .60s in a rural nursing home sample.⁸² This scale had a Cronbach’s alpha estimate of 0.871 for this sample at baseline and 0.863 and 0.859 at 6- and 12-month follow-up.

INCARE^{83,84,85,86,87,88,89,90,91} Resident Assessment: The INCARE is a multilevel-multi source instrument that allows at least some assessment to be completed across residents with all levels of cognitive impairment. Information is obtained independently from at least three sources of measurement: resident, nurse informant and rater observation. The first stage of the screen is a determination of capability to provide informed consent. If the resident does not respond to greetings, an assessment is made of ability for arousal and response to verbal or written commands (in the cases of possible aphasia). If an individual is totally unable to respond, the interview is terminated and global ratings and observations are completed by the rater. If an individual is capable of completing the arousal/alertness initial screen, and meets the criteria to provide informed consent, a second stage screen is used to determine cognitive status and ability to continue with an extended interview. Included in the screen is an assessment of (a) arousal, (b) level of alertness, (c) simple commands, (d) cognitive functioning, (orientation, memory, calculation / attention), (e) range of motion and ambulation, (f) performance ADL (PADL) (see detailed description below), (g) affect and (h) behavior. It includes such well-known cognitive screening measures as the Mini-Mental State Examination,⁹² the Blessed Memory-Information-Concentration Test,⁹³ and the Short Portable Mental Status Questionnaire.⁹⁴ Also included are 24 global ratings and behavioral observations for completion by the interviewer at the end of the

interview. This screening measure has been used with over 10,000 residents of nursing homes, and was that used in the NIA-supported study of special care units.⁹⁵ Parts of this screening measure were expanded for use in the NIA-funded North Manhattan Aging Project⁹⁶ of the "Epidemiology of Dementia in an Urban Community"⁹⁷ study as a method for making culturally unbiased classifications of cognitive impairment.

Cognition: CAREDIAG. The main cognitive screening measure used in this study is part of the INCARE, the Care Diagnostic Scale (CAREDIAG). Note that the CAREDIAG has been studied using several advanced psychometric models, including analyses of its relationship to dementia diagnosis.^{98,99} This scale was used to assess cognitive status because it has been found to more culturally fair than others.^{100,101} The Cronbach's alpha estimate coefficient for this sample was 0.875 at baseline, 0.886 at 6- and 0.878 at 12-month follow-up; it was scored in the deviant direction.

Functional Assessment Staging (FAST):¹⁰² Reisberg's Functional assessment staging (FAST) is a 16-stage assessment technique which incorporates elements of functional capacity as well as characteristics of the course of Alzheimer's Disease (AD) used for evaluating functional deterioration in Alzheimer's patients throughout the entire course of the illness. For the purposes of this study, the wordings of several items were modified based on qualitative analyses. The functional capacity categories arising from cognitive impairment range from "no difficulty" to "loss of ability to hold up one's head". CNAs were interviewed by a research staff member to complete the FAST.

Performance Activities of Daily Living (PADL): The PADL¹⁰³ (Cronbach's alpha estimate typically in the .90's)¹⁰⁴ is a 27-item scale that measures an individual's lack of ability to perform certain activities of daily living independently. This scale is scored in the deviant direction. Individuals are assessed for their ability to perform

various upper and lower body movement tasks associated with eating, dressing and grooming, such as putting on a sweater, buttoning and unbuttoning a sweater, guiding a spoon to the mouth, combing hair. Performance times are recorded, and items are rated as to whether the task was performed with or without cueing, or could not be performed at all. The Cronbach's alpha coefficient estimate for this sample was 0.940 at baseline, 0.937 at 6- and 0.873 at 12-month follow-up; it was scored in the deviant direction.

The Therapeutic Environmental Screening Survey for Nursing Homes

(TESS-NH): The TESS-NH ¹⁰⁵(Sloane et al., 2002) measures the characteristics of a unit in six therapeutic constructs: Privacy/control/autonomy; safety/security/health; stimulation; socialization; personalization/ familiarity; and orientation. All items are categorical, with the higher number representing a more favorable attribute of the physical environment. Within the TESS-NH is the special care unit environmental quality scale (SCUEQS). The SCUEQS consists of 18-items that reflect maintenance, cleanliness, safety, lighting, physical appearance/homelikeness, orientation/cueing, and noise. The SCUEQS was shown to have good internal consistency ($\alpha = .83$) in a sample of 96 nursing home SCUs in California, Michigan, Minnesota, North Carolina and Washington and for a sample of 80 non-SCU dementia units ($\alpha = .78$). Cronbach's alpha for 45 non-dementia units was moderate ($\alpha = .63$). Because detailed information is desired for the purpose of this project, specific domains like lighting, noise, and safety will be examined instead of the aggregate scale.

H. Interviewers/Data Collectors and Data Collection Method

Study interviewers and data collectors were primarily nursing or pre-medical students or post BA/BS and graduate school students. They were trained extensively in

formal sessions, with training films and materials as well as practice sessions with the Computerized Assisted Personal Interview electronic data capture system. The training occurred over a one week period, with an additional three weeks of hands-on supervised interviewing and interrater reliability checks before certification. The forensic chart reviews were conducted by RAs with a nursing background trained (as above) specifically in the use of the electronic program developed for this task.

H.1 Computerized Assisted Personal Interview: All data collection instruments were formatted in hard copy. In addition, an electronic data system, a computer aided personal interview system (CAPI) to collect in-person interview data was developed. Interviewers assessed residents using the computerized assessment system. This permitted minimal subsequent data entry and reduced the potential for errors. This method allowed the interviewers to collect data and input them directly into the computer while interviewing subjects, and provided accuracy in data collection because the system does not accept out-of-range values, or allow deviation from prescribed skip patterns.

I. Information Reportable to Facility Administration

The procedures for handling any individual R-REM that was identified in the process of data collection was to report to the nursing staff: (a) any instances of R-REM that were observed to result in bodily harm; and (b) selected lesser instances of physical R-REM, so that the care plan may be modified to address the issue. In the event of case “a” above, interviewers were instructed to contact Mr. Boratgis, Project Director, immediately so that he could report the incident(s) to the respective nursing

administrator, DNS and/or the identified contact person at each facility.

In addition, any reported suicidal ideation with intent or attempt to end life was reported using the system above.

Chapter III. Analytic Plan

Aims 5 and 6 did not require statistical analyses. Thus, they are not included as part of the Analytic Plan Chapter. They were instead addressed in Chapters II (Methods and Procedures) and III (Results), as appropriate.

All these data are zero order data, not adjusted for design effects such as clustering for units.

A. Aim 1: Enhance institutional recognition of R-REM by deriving R-REM information from five different sources or methods, and Aim 2: Examine the convergence of R-REM reported across the five different methodologies.

The potential sources of R-REM are: Resident; Staff; Observations (Shift Coupon and Event Log based on observation); Incident/Accident Report, and Forensic Chart Review. Because the event logs were derived based on multiple sources of data including observations, staff and resident reports they are not considered an independent reporting source.

All protocols were screened based on whether or not the reported events occurred within the defined prevalence period (i.e., two weeks prior to the baseline interview date). Each R-REM incident in the prevalence period was examined for another corroborating source. The prevalence period date was matched across all independent reporting methods and “a match” (convergence) was coded if the description of the event mirrored that of another source within two weeks from the baseline interview date with a margin of plus or minus a week. For example, if the staff and the resident reported an event that was descriptively similar, and the “occurrence date” is not the same but falls within two weeks of the baseline interview, it was

considered a match. Descriptive statistics were performed for each of the independent methods, and the convergence then examined via cross-tabulations.

B. Aim 3 Identify the most accurate mechanism for detecting and reporting R-REM.

The protocols of those records adjudicated as “cases” were reviewed across all raters. The source and/or method most frequently reported as most influential in the gold-standard decision for “caseness” determination across raters was identified. Also a variable gold standard case (yes, no) was created for both the a) subset of cases/non-cases case conferenced and b) the total sample.

Convergence across the sources was examined by performing cross tabulations of gold standard case/non-case against each of the six sources. Additionally, each of the reporting sources was compared against the “gold standard” and summary statistics such as sensitivity, specificity, positive predictive value, and negative predictive value were computed in order to describe the performance (accuracy) in R-REM identification of each of the reporting sources.

C. Aim 4 Develop profiles to describe the types of people reported by each different source.

A descriptive profile of the residents reported to have been involved in R-REM incidents within the prevalence period by each of the reporting sources was developed by examining residents’ demographic characteristics, cognitive and functional status, as well as observed reported behaviors. Environmental characteristics such as noise level, adequacy or lighting, and physical barriers were also examined. These profiles and characteristics were presented in contrast to profiles of those residents who were not involved in R-REM. Similar analyses were performed in order to examine the profiles of

those residents reported to having been involved in verbal and physical R-REM specifically.

Chapter IV. Results

The data presented below are zero order data, not multivariate, and not adjusted for covariates or for design effects such as clustering for units.

A. Aim 1: Enhance institutional recognition of R-REM by deriving R-REM information from five different sources or methods.

R-REM information was derived from five distinct sources: Resident; Staff; Observations (Shift Coupon & Event Log based on observation); Incident/Accident Report, and Forensic Chart Review. The resident interview provided information from the perspective of the resident as victim, responding to the inquiry as to whether or not any of the different types of incidents had happened “to you in the home”: The staff informant provided information regarding the R-REM events in which their assigned residents were involved either as a recipient of R-REM or a perpetrator of R-REM. However, more frequently than not staff reports referred to those who initiated the events. The shift coupon and the event logs (both based on observations) reflected R-REM data about incidents in general. Similarly, the incident/accident reports as well as the chart reviews contained annotated information regarding both recipients and perpetrators or R-REM

A review of all sources from which R-REM reports were derived, i.e., Resident; Staff; Observations (Shift Coupon & Event Log based on observation); Incident/Accident Report, and Forensic Chart Review evidenced different rates of reporting (see Appendix Table 1). In aggregate, there were 335 reports of at least one R-REM incident within the two-week prevalence period by any of the different sources. This number does not represent unique incidents given that there is overlap by sources in reporting the same incident(s). Using “the resident” as a unit of analysis (also the point of reference), within

the prevalence period: a) Residents: of the 670 residents who completed the R-REM report section of the resident interview, 122 (18.2%) residents, reported at least one R-REM incident in which they were involved; b) Staff: the direct care staff of 166 (12%) residents reported their care-receivers were involved in at least one R-REM incident; c) Shift Coupon: there were shift coupons completed describing R-REM incidents for 75 (5.3%) residents; d) Event logs: there were event logs completed describing R-REM incidents for 87 (6.2%) residents; e) Incident/Accident reports: there were no R-REM-related incidents recorded in the Incident/Accident reports during the prevalence period; f) Chart review: the charts of five residents (0.4%) reflected R-REM-related incidents during the prevalence period. (See Appendix Table1.)

The average number of incidents reported by source within the prevalence period ranged from 0 to 4.3 (s.d.= 0-8.1) with the direct service staff reporting the highest average number and the accident/incident reports documenting the lowest. As presented in Appendix Table 2, the average number of incidents reported within the prevalence period by the residents was 2.5 (s.d.=2.7;n=122) and by the staff 4.3 (s.d.=8.1; n=166). The average number of incidents documented via the shift coupon, event log, incident/accident reports, and the chart review methodology were 1.5 (s.d.=0.9; n=75), 1.6 (s.d.=1.4; n=87), 0 (s.d.=0; n=0) and 2.8 (s.d.=1.6; n=5), respectively.

B. Aim 2: Examine the convergence of R-REM reports across the five different methodologies.

Reported residents involved in incidents were matched by sources using the reporting date with a margin of plus or minus a week. “Unmatched” reports (i.e., those

that could not be matched with any other source) were documented by all of the sources, i.e., 85 by residents, 108 by the staff, 31 in shift coupons, 10 in the event logs, and 2 in the chart reviews. The source that reported the largest number of “unmatched” unique residents involved in incidents was the staff (102; 32%) followed by the residents (85; 25.4%). Two pair- source matches (resident-event logs (6.6%)) and staff-event logs (8.4%)) resulted in the highest percentage of convergence. Convergence between any source and the event logs was expected however, because most of the event logs were developed in response to a reported event. In general, excluding any convergence with event logs, the highest convergence identified between report sources was between the staff reports and the shift coupons (3.6%). In general, convergence across sources was low: pair-sources convergence ranged from 0.3% to 8.4%; the convergence among three-sources from .3% to 2.1%, and among four sources from 0.3% to 0.6% (see Appendix Table 3).

C. Aim 3: Identify the most accurate mechanism for detecting and reporting R-REM;

The accuracy of the reporting sources was determined by contrasting each positive R-REM report by any of the sources against the gold standard adjudication of “caseness”. The unit of analysis was the resident. Residents: of the 122 positive reports of R-REM, 117 (95.9%) were confirmed by the gold standard adjudication. Staff: 158 of the 166 (95.2%) positive reports were confirmed by the gold standard adjudication. Shift Coupon: 48 of the 75 (64%) positive reports were confirmed by the gold standard adjudication. Event logs: 68 of the 87 (78.2%) positive reports were confirmed by the gold standard adjudication. Incident/Accident reports: there were no R-REM-related incidents recorded in the Incident/Accident reports. Chart review: three of the five

positive reports (60%) were confirmed by the gold standard adjudication (see Appendix Table 4).

Sensitivity and specificity were examined for all reporting sources. Sensitivity across sources ranged from 0.01 to 0.60, and specificity ranged from 0.98 to 1.00. These results showed that all sources are best more convergent with the "true" negative case by not mislabeling as R-REM events that do not fit the R-REM definition. On the other hand, the resident (0.60) and the staff informant (0.54) were the sources that demonstrated better sensitivity (i.e., identifying the true positives) in contrast with the other sources (see Appendix Table 5).

Positive and negative predictive values as well as the overall correct classifications were computed. The positive predictive value across sources ranged from 0.60 to 0.96, and the negative predictive value ranged from 0.79 to 0.89. These results demonstrated that in terms of the positive predictive value, the resident and staff informants were the best sources (resident PPV=0.96, staff PPV=0.95). That is, if the R-REM events were either reported by the residents or the staff there is a 96%, and 95% chance, respectively, of actually being a confirmed (by gold standard) R-REM case. All sources were very close in terms of their respective negative predictive values, however, the resident and staff informants evidenced the highest values, that is, among those not reported as a case by the residents or the staff, respectively is an 86%, and 89% chance of being confirmed (by gold standard) as not an R-REM case. When the correct classification proportion is computed taking into consideration true positives and true negatives, the rates ranged from 0.79 to 0.89, consistently showing that the residents and the staff informants were the two sources with highest accuracy (see Appendix Table 5).

The source and/or method reported as most influential in the gold-standard decision for “caseness” determination across raters was examined. The single source identified as the most influential across raters was the staff (29.8%), followed by the resident (19.1%) (see Appendix Table 5a).

D. Aim 4: Develop profiles to describe the types of people reported by each different source.

The characteristics of the individuals involved in R-REM as identified by each of the sources were examined in terms of demographics (age, gender, race and ethnicity), the average number of disruptive behaviors exhibited, and their cognitive and functional (mobility) status as contrasted to those of the “controls” (i.e., “non-cases” or individuals not involved in R-REM). In addition, the environmental characteristics associated with “positive” R-REM events were contrasted with those associated with the “non-cases”. As stated previously in the Results section for Aim 1, the resident interview provided information about R-REM from the “victim’s” perspective. The staff informants were more likely to provide information about those who were actively engaged in R-REM incidents (even when the actual initiator was not identified), rather than of those on the, “passive/recipient” side of the event. Profiles derived via the shift coupons, event logs, and chart reviews could reflect either victims or perpetrators.

Resident Interview: Results showed that residents who reported having been involved in R-REM (most likely as victims) tended to be female, younger, and more likely to be White, non-Hispanic, or Hispanic in comparison with those who were not involved in R-REM (non-cases). The R-REM-involved residents exhibited disruptive behaviors at the same level as non-cases; however, they were significantly less cognitively impaired than the non-cases. Higher percentages of R-REM-involved

residents evidenced higher levels of functional impairments than the non-cases, except for ambulation. They were more likely to reside in segregated units for dementia or in ambulatory care units, and in units where residents were more likely to congregate near the nurses stations, and less likely near the dining rooms (excluding meal times) in comparison to the non-cases. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, they were more likely to be exposed to resident screaming, less likely to be exposed to staff calling out or to hear alarms or call bells; there were more equipment present in public areas, similar lighting in all areas but less glare in the hallways as contrasted with the non- cases (see Appendix Table 6).

Staff Interview: Results showed that those residents involved in R-REM as reported by their direct care staff were similar in age and gender but more likely to be White, non-Hispanic, and less likely to be Black in comparison with those who were not involved in R-REM (non-cases). They exhibited, on average, more disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing staff in contrast with non-cases. Their level of cognitive impairment was similar to that of the non-cases but as a group, presented slightly lower levels of functional impairments (particularly with ambulation). They were more likely to reside in segregated units for residents with dementia, and in units where residents were more likely to congregate in the lounges or near the nurses stations. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, they were more exposed to residents calling out and to radio/TV related noise than the non- cases (see Appendix Table 7).

Shift coupons: Results showed that residents reported as having been involved in R-REM via the shift coupons were similar in terms of age, gender and race/ethnicity to those residents who were not involved in R-REM (non-cases). They exhibited on average more disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing staff in contrast with non-cases. There were no significant differences in terms of the level of cognitive impairment, and the rate of functional impairments were also close in both groups. The R-REM-involved residents were more likely to reside in segregated units for residents with dementia but less likely to reside in skilled nursing units, and in units where residents were more likely to congregate near the nurses stations as compared to those considered non-cases. In terms of environmental factors, as recorded in the environmental assessments performed by the project director, they were more exposed to residents calling out, to radio/TV noise and to alarm or bells, but less exposed to staff calling out. The environmental assessment evidenced similar adequacy in terms of lighting and glare in the units except in the bedrooms, where lighting was reported as less adequate and more glare present in contrast with the reports offered for the units where the non-cases resided (see Appendix Table 8).

Event logs: Results showed that residents reported as having been involved in R-REM via the event logs were similar in terms of age, gender and race/ethnicity to those residents who were not involved in R-REM (non-cases). They exhibited on average significantly more disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing staff in contrast with the non-cases. They were significantly less cognitively impaired however, the rates of functional impairments were close with the exception of needing more assistance with dressing,

and less with ambulation as contrasted with the non-cases. They were more likely to reside in segregated units for residents with dementia and in units where residents were more likely to congregate near the nurses stations but less in the dining rooms (excluding at meal times) than those considered non-cases. In terms of environmental factors, as recorded in the environmental assessments performed by the project director, they were more likely to be exposed to residents calling out, to radio/TV noise but less to alarm or bells, or machinery noise than the non-cases. The environmental assessment evidenced on average, lower number of wheelchairs and other equipment but higher number of walkers in public areas than in the areas where the non-cases resided. The environmental assessment evidenced similar adequacy in term of lighting and glare around the units except in the bedrooms, where lighting was reported as less adequate and more glare present in contrast with the reports offered for units where the non-cases resided (see Appendix Table 9).

Chart reviews: (Caveat: These percentages are based on the 5 cases found in the chart reviews thus, caution in the interpretation of these comparisons is recommended). Results showed that residents reported as having been involved in R-REM events in the chart reviews were similar in terms of race/ethnicity to those residents who were not involved in R-REM (non-cases) but they seemed to be younger and males were represented at a larger percentage. They seemed to exhibit more disturbing behaviors, on average, including touching other's property as reported by the research staff as well as by the nursing staff in contrast with non-cases. They seemed to have higher levels of cognitive impairment than the non-cases but presented a larger variability in terms of functional levels from no impairment to unable to sit up. They were more likely to reside in segregated units for residents with dementia and in units

where residents were more likely to congregate in multipurpose rooms as compared to those considered non-cases. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, their exposure to noise and physical barriers were similar to that of the non-cases. The environmental assessment evidenced similar adequacy in terms of lighting and glare around the units where the R-REM-involved cases resided as contrasted to what was recorded about the units where the non-cases resided (see Appendix Table 10).

The Summary Table 1 (below) highlights the findings across all reporting sources. The only consistent residents' characteristic across reports that of more disruptive behaviors among those residents who were involved in R-REM as contrasted with controls. Regarding environmental factors, those involved in R-REM were more likely to reside in segregated units for residents with dementia and in units where residents were more likely to congregate near the nurses stations. Those reported to be involved in R-REM appeared to be more likely to be exposed to residents screaming or calling out and to radio/TV noise than the non-cases.

Summary Table 1: Characteristics of the individuals involved in any type of R-REM as identified by source (as contrasted with controls)*

		R-REM Incident Reported				
		Source				
		Res	Staff	Shift coupons	Event logs	Chart reviews ^a
N's	Controls R-REM cases	548 122	1213 166	1330 75	1318 87	1400 5
RESIDENT CHARACTERISTICS						
Age (0)		L				L
% Race/Ethnicity	White, Non-Hispanic	H	H			
	Black, Non-Hispanic		L			
	Hispanic	H				
	Other					
% Female Client		H				L

		R-REM Incident Reported				
		Source				
		Res	Staff	Shift coupons	Event logs	Chart reviews ^a
N's	Controls	548	1213	1330	1318	1400
	R-REM cases	122	166	75	87	5
Disruptive behaviors (0)			H	H	H	H
Cognitive impairment (0)		L			L	H
Functional impairment (%)		H	L			
ENVIRONMENTAL FEATURES						
Type Of Unit (%)	Dementia Special Care Unit (Segregated)	H	H	H	H	H
	Non Special Care Dementia Unit					
	Long Term Care - Ambulatory Care	H				
	Skilled Nursing			L		
Where Do Residents Primarily Congregate (Excluding Meal Times) (%)	Alcove					
	Dining Room	L			L	
	Elevator / Near Elevator					
	Lounge		H			
	Nurses Station	H	H	H	H	
	Multi-Purpose Room					H
To What Extent Do You Hear - Resident Screaming Or Calling Out (%)		H	H	H	H	
To What Extent Do You Hear Staff Screaming Or Calling Out (%)		L		L		
To What Extent Do You Hear TV / Radio Noise (%)			H	H	H	
To What Extent Do You Hear – Loud Speaker Or Intercom (%)						
To What Extent Do You Hear - Alarm Or Call Bells (%)		L		H	L	
To What Extent Do You Hear – Other Machines (Ice, Buffer) (%)					L	
Equipment present in main public area (0) :walkers					H	
:wheelchairs					L	
:physical barriers						
Lighting (%):						
Light Adequacy - Hallways						
Light Adequacy - Activity Areas						
Light Adequacy - Residents' Rooms				L	L	
Is Glare Present - Hallways						
Is Glare Present - Activity Areas						
Is Glare Present - Residents' Rooms				H	H	

Legend: H= higher mean or higher percentage reported for “cases” in contrast to controls

L= lower mean or lower percentage reported for “cases” in contrast to controls

*Caveat: Results are not adjusted by multivariate modeling. Some results are based on percentages for single item indicators rather than scale or index scores.

^a Note that these results are based on 5 cases and are thus tentative at best.

D.1 Profiles of the types of people involved in verbal R-REM as reported by each different source.

The characteristics of the individuals involved in verbal R-REM as identified by each of the sources were examined in terms of demographics (age, gender, race and ethnicity), level of disruptive behaviors exhibited, and cognitive and functional (mobility) status as contrasted to all the remaining residents (i.e., those not involved in verbal or any R-REM, referred as the “control” group for this set of results). The environmental characteristics associated with “positive” verbal R-REM events were contrasted with those associated with the control group.

Resident Interview: Results showed that residents who reported having been involved in verbal R-REM (most likely as victims) were similar regarding age and gender to those who were not involved in verbal or any R-REM, however, they were more likely to be White, non-Hispanic, or Hispanic. Verbal R-REM-involved residents were significantly less cognitively impaired than the control group. However; both groups exhibited, on average, similar numbers of disturbing behaviors and demonstrated similar rates of functional impairments, except for dressing and urine incontinence (a smaller proportion of the “verbal R-REM” group presented more impairment with dressing, and a larger proportion presented urine incontinence). Verbal R-REM-involved residents more likely to reside in segregated units for residents with dementia or in ambulatory care units, and in units where residents were more likely to congregate near the nurses stations, and less likely in the dining rooms (excluding meal times), in comparison with the control group. In terms of environmental factors, as recorded in the environmental assessments performed by the project director, they were no major

differences regarding the level of noise, the adequacy of lighting, or the level of physical barriers in the units where both groups resided (see Appendix Table 11).

Staff Interview: Results showed that those residents involved in verbal R-REM as reported by their direct care staff (most likely as perpetrators) were similar regarding age and gender to those who were not involved in verbal or any R-REM with the exception that they were more likely to be White, non-Hispanic, but not Black. The verbal R-REM-involved residents, on average, exhibited a significantly higher number of disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing staff in comparison to the control group. They showed similar levels of cognitive impairment but in general, lower levels of functioning except for ambulation (more ambulatory) than the control group. They were more likely to reside in segregated units for residents with dementia, less likely in skilled nursing units; and in units where residents were more likely to congregate near the nurses stations and the lounge areas. In terms of environmental factors, as recorded in the environmental assessments performed by the project director, there were a larger number of wheelchairs around the units where the residents involved in verbal R-REM resided, as well as more noise coming from resident screaming and from radio/TV when compared with the units where the control group resided. The adequacy of lighting was more or less the same for both groups (see Appendix Table 12).

Shift coupons: Results showed that residents reported as having been involved in verbal R-REM via the shift coupons were similar in terms of age, gender and race/ethnicity to those residents who were not involved in verbal or any R-REM. They exhibited on average, a significantly higher number of disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing

staff in comparison to the control group. The level of cognitive and functional impairment was similar for both groups, with the exception of dressing, where a larger proportion of those involved in verbal R-REM were less able to dress by themselves. The verbal R-REM-involved residents were more likely to reside in segregated units for residents with dementia but less likely to reside in skilled nursing units, and in units where residents were more likely to congregate near the nurses stations as compared with the control group. In terms of environmental factors, as recorded in the environmental assessments performed by the project director, they were more exposed to residents calling out and to radio/TV noise but less exposed to alarm or bells or to machinery noise. Similar adequacy in term of lighting in all unit areas was evidenced in the environmental assessment, except for better adequacy in the activity rooms where those involved in verbal R-REM resided in comparison to those where the control group resided (see Appendix Table 13).

Event logs: Results showed that residents reported as having been involved in verbal R-REM via the event logs were similar in terms of age, gender and race/ethnicity to those residents who were not involved in verbal or any R-REM. They exhibited on average, a higher number of disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing staff in comparison with the control group. Their level of cognitive and functional impairment were similar to those of the control group, with the exception of dressing and ambulation where a larger proportion of those involved in verbal R-REM were less able to dress by themselves but were more ambulatory. They were more likely to reside in segregated units for residents with dementia but less likely to reside in skilled nursing units, and in units where residents were more likely to congregate near the nurses stations and in lounges as

compared to the control group. In terms of environmental factors, as recorded in the environmental assessments performed by the project director, they were more exposed to residents calling out and to radio/TV noise but less exposed to alarm or bells or to machinery noise. There seemed to be better lighting in the hallways and rooms in the units where those involved in verbal R-REM resided in comparison with those units where the control group resided, as recorded in the environmental assessment (see Appendix Table 14).

D.2 Profiles of the types of people involved in physical R-REM as reported by each different source.

Similar to analyses performed with verbal R-REM data, the characteristics of the residents involved in physical R-REM as identified by each of the sources were examined in terms of demographics (age, gender, race and ethnicity), average number of disruptive behaviors, and cognitive and functional (mobility) status as contrasted to all the remaining residents (i.e., those not involved in physical or any R-REM, referred to as the control group for this set of results). In addition, the environmental characteristics associated with “positive” physical R-REM events were contrasted with those associated with the control group.

Resident Interview: Results showed that residents who reported having been involved in physical R-REM (most likely as victims) were similar regarding age, gender and race/ethnicity to those who were not involved in physical or any R-REM. Physical R-REM-involved residents and the control group evidenced similar levels of cognitive impairment and average number of disturbing behaviors. The proportion of residents with higher levels of functional impairments was higher in the physical R-REM group

than in the control group. They were more likely to reside in segregated units for residents with dementia or in skilled nursing units, and in units where residents were more likely to congregate near the nurses stations, the elevators or the alcoves as compared to the control group. In terms of environmental factors, as recorded in the environmental assessment, they were more likely to be exposed to residents calling out, to radio/TV noise, and to loud speakers or intercom, than the control group. As per the environmental assessment, they were more likely to be exposed to a higher number of physical barriers (on average) in public spaces than those residents in the control group (see Appendix Table 15).

Staff Interview: Results showed that those residents involved in physical R-REM as reported by their direct care staff (most likely as perpetrators) were similar regarding age, gender, and race/ethnicity to those who were not involved in physical or any R-REM. The physical R-REM-involved residents exhibited more disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing staff than the control group; they evidenced higher levels of cognitive impairment, and a larger proportion of them evidenced higher levels of functional impairment than the control group. They were more likely to reside in segregated units for residents with dementia and less likely in skilled nursing units and in units where residents tended to congregate near the nurses stations. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, there were a slightly larger average number of walkers and other equipment present as physical barriers in the units where the residents involved in physical R-REM resided, as well as more noise coming from varied sources such as resident and/or staff screaming or calling out, and from radio/TV when compared with the units where the

control or non-physical R-REM cases resided. The adequacy of lighting in different parts of the units as per the environmental assessment was more or less the same for the units in which both groups resided (see Appendix Table 16).

Shift coupons: Results showed that residents reported as having been involved in physical R-REM via the shift coupons were similar in terms of age, gender and race/ethnicity to those residents who were not involved in physical or any R-REM. They exhibited more disturbing behaviors including touching other's property as reported by the nursing staff in comparison with the control group. Their level of cognitive and functional impairment evidenced was similar to that of the control group, with the exception of urinary incontinence where a larger proportion of those involved in physical R-REM were incontinent. The physical R-REM- involved residents were more likely to reside in segregated units for residents with dementia but less likely to reside in skilled nursing units, and in units where residents were more likely to congregate near the nurses stations and in the dining rooms (excluding meal times) in comparison to the control group. In terms of environmental factors, as recorded in the environmental assessment, the physical R-REM group was more likely to be exposed to residents and staff screaming/calling out, and to radio/TV noise. Lower adequacy in terms of lighting as well as more glare in the residents rooms where those involved in physical R-REM resided in contrast to the rooms where the control group resided was recorded in the environmental assessment (see Appendix Table 17).

Event logs: Results showed that residents reported as having been involved in physical R-REM via the event logs were similar in terms of age, gender and race/ethnicity to those residents who were not involved in physical or any R-REM. They exhibited on average more disturbing behaviors including touching other's property as

reported by the research staff as well as by the nursing staff in comparison with the control group. The physical R-REM group evidenced similar levels of cognitive impairment than those of the control group; however, a larger proportion of those involved in physical R-REM evidenced higher levels of functional impairment. They were more likely to reside in segregated units for residents with dementia but less likely to reside in skilled nursing units, and in units where residents were more likely to congregate in multi-purpose rooms in comparison with the control group. In terms of environmental factors recorded in the environmental assessment, there was an approximately similar number (on average) of physical barriers present in the public spaces on units where the residents involved in physical R-REM resided; however, they were more likely to be exposed to residents and staff screaming/calling out, and to radio/TV noise than those in the control group. There seemed no to be major differences in terms of lighting in the units where those involved in physical R-REM and those in the control group resided, as recorded in the environmental assessment (see Appendix Table 18).

D.3 Profiles of the types of people involved in other types of R-REM (i.e., other than verbal or physical, e.g. sexual or invasion of privacy) as reported by each different source.

Similar to analyses performed with verbal and physical R-REM data, the characteristics of the residents involved in other types of R-REM (e.g., invasion of privacy or a few instances of sexual R-REM) as identified by each of the sources were examined in terms of demographics (age, gender, race and ethnicity), the average number of disruptive behaviors, and cognitive and functional (mobility) status as contrasted to all the remaining residents (i.e., those not involved in “other” or any R-

REM, referred for this set of results as the control group). In addition, the environmental characteristics associated with “positive” other R-REM events were contrasted with those associated with the control group.

Resident Interview: Results showed that residents who reported having been involved in other types of R-REM (most likely as victims) were similar regarding age, and gender, but were more likely to be White, non-Hispanic but not Black when compared to those who were not involved in verbal, physical or any R-REM. Other R-REM-involved residents evidenced on average more affective and more disturbing behaviors, as reported by the RAs, as compared with the control group. Both groups evidenced similar levels of cognitive impairment. In general, the proportion of residents with higher levels of functional impairments was greater in the “other R-REM” group than in the control group, with the exception of ambulation (lower proportion of not ambulatory). The “other R-REM” group was more likely to reside in segregated units for residents with dementia and less likely in skilled nursing units, and in units where residents were more likely to congregate near the nurses stations, and the elevators in comparison with the control group. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, they were more likely to be exposed to residents calling out, and to loud speakers or intercoms, than the control group. As per the environmental assessment, they were more likely to be exposed to a lower number of wheelchairs but a higher number of other physical barriers (on average) in public spaces where they resided in comparison with the units where those residents in the control group resided. The adequacy of the lighting in the units where both groups resided seemed similar as per the environmental assessment (see Appendix Table 19).

Staff Interview: Results showed that those residents involved in other types of R-REM (e.g., sexual or invasion of privacy) as reported by their direct care staff (most likely as perpetrators) were similar regarding age and gender to those who were not involved in verbal, physical or any type of R-REM; however, they were more likely to be White, non-Hispanic but not Black in terms of race/ethnicity. The other R-REM-involved residents exhibited more disturbing behaviors including touching other's property as reported by the research staff as well as by the nursing staff than the control group; they evidenced higher levels of cognitive impairment, and in general larger proportions of them evidenced higher levels of functional impairment in most of the categories than those in the control group. They were more likely to reside in segregated units for residents with dementia and less likely in skilled nursing units, and in units where residents tended to congregate near the nurses stations. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, there were a slightly larger average number of walkers and other equipment present as physical barriers in the public spaces where the residents involved in "other" R-REM resided, as well as more noise coming from varied sources such as resident and/or staff screaming or calling out, and from radio/TV when compared with the units where the residents in the control group resided. The adequacy of lighting in different parts of the units was recorded as being more or less the same for the units in which both groups resided (see Appendix Table 20).

Shift coupons: Results showed that residents reported as having been involved in "other" R-REM via the shift coupons were similar in terms of age, gender and race/ethnicity to those residents who were not involved in verbal, physical or any type of R-REM. They exhibited more disturbing behaviors including touching other's property

as reported by the nursing staff in comparison with the control group. Their level of cognitive impairment was similar to that of the control group; however, a larger proportion of residents involved in “other” R-REM evidenced greater functional impairment. The other R-REM- involved residents were more likely to reside in segregated units for residents with dementia but less likely to reside in skilled nursing units, and in units where residents were more likely to congregate near the nurses stations and in the dining rooms (excluding meal times) as compared with the control group. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, the “other” R-REM group was more likely to be exposed to residents and staff screaming/calling out, and to radio/TV noise. Lower adequacy in terms of lighting as well as more glare were recorded in the environmental assessment, in the residents rooms where those involved in other R-REM resided in contrast to the rooms where the control group resided (see Appendix Table 21).

Event logs: Results showed that residents reported as having been involved in “other” R-REM via the event logs were similar in terms of age, gender and race/ethnicity to those residents who were not involved in verbal, physical or any type of R-REM. They exhibited on average more disturbing behaviors including touching other’s property as recorded in the environmental assessment as well as by the nursing staff in comparison with the control group. The “other” R-REM group evidenced similar levels of cognitive impairment to those in the control group; however, in general, a larger proportion of those involved in “other” R-REM evidenced higher levels of functional impairment across the different categories. They were more likely to reside in segregated units for residents with dementia, and in units where residents were more likely to congregate near the elevators and nurse stations in comparison with the control

group. In terms of environmental factors, as recorded in the environmental assessment performed by the project director, there were a lower number (on average) of wheelchairs and other physical barriers but more walkers present in the public areas of those units where the “other” R-REM –involved residents resided in comparison with where the control group resided. They were more likely to be exposed to radio/TV noise than those in the control group. Lighting was rated as less adequate in the resident rooms where those involved in “other” R-REM resided in comparison to where those in the control group resided, as recorded in the environmental assessment (see Appendix Table 22).

D.4 Proportion of different types of R-REM as reported by the different sources.

Examination of the total number of R-REM incidents reported by the different sources by type showed that the R-REM type most commonly reported by the residents was in the “other” category (79/122 or 65%) followed by verbal R-REM (72/122 or 59%), whereas the type most commonly reported by the staff (124/166 or 75%), the shift coupon (65/75 or 87%), and the event logs (68/87 or 78%) was verbal R-REM. The second most common type reported by the staff (71/166 or 43%) and the event logs (40/87 or 46%) was the “other” R-REM category and by the shift coupon was physical R-REM (23/75 or 31%). Percentages do not add to 100 because there is reporting overlap across sources. (See Appendix Table 23).

E. Investigate the existing policies and procedures for reporting R-REM in each facility

Inquiries about existing policies addressing R-REM incidents were made to the administrators of each of the participating facilities. All facilities except for one (90%) delivered their respective written policies. The majority of the facilities (5/9 or 56%) addressed R-REM within the purview of “resident abuse” at least tangentially; only three of the facilities (33%) had a separate protocol that addressed R-REM specifically, and one of the facilities (11%) did not mention R-REM in its Abuse Policy nor did it have a separate provision for it. (See Table A below.)

Table A Extant R-REM Policies in the participating facilities

Facility ID	Distinct R-REM Policy	R-REM addressed within Abuse Policy	No R-REM Policy & No mention of R-REM within Abuse Policy
011		X	
012		X	
013	X		
014		X	
015	X		
021	Not made available	Not made available	Not made available
022	X		
023		X	
024		X	
025			X

E.1. Selected policies’ highlights and excerpts addressing R-REM.

Facility 011

Abuse Policy Only; no distinct R-REM policy.

There is a substantive section on Resident to Resident Abuse included as part of the overall Abuse Policy.

- Pg. 6, “When an incident occurs between residents the following steps should be taken: Staff Member, 1., “Upon observing the altercation, staff member shall separate the residents. Assistance should be obtained if needed.”
- Pg. 7: Resident to resident abuse must be reported if one or both of the following occurred: 1. “There are repeated instances of resident assaultive behavior occurring and the facility has not satisfactorily identified or implemented a plan to intervene.” 2. “Residents have been mentally or physically harmed by the aggressor.”
- Reporting is strongly emphasized: pgs. 4-5, with citing of the Elder Justice Act incident reporting
- Sexual abuse is distinctly mentioned and addressed specifically; within this section several points referenced R-REM: “Steps to consider when resident-to-resident sexual abuse occurs, include but are not limited to”: “Staff must report all behaviors of intimate or sexual nature to their direct supervisor immediately;” “Prevention of Abuse Committee determines whether the act was consensual or non-consensual;” “Develop appropriate interventions to be implemented immediately that will ensure resident safety and the rights of the resident.”
- There is a clearly stated passage (pg.6) on how the different disciplines should address resident-to-resident abuse, which is inclusive of Staff member; Nursing Supervisor; Social Worker; and Multidisciplinary team.

Facility 12

Abuse Policy Only

- There is a “Resident-to-Resident Dispute Resolution Policy” (which includes language similar to that used in the context of R-REM-related policy). It is stated that: “It is the policy of [Facility 012] to ensure that residents are provided appropriate guidance and assistance in resolving disputes with their peers.” (Examples): “Verbal harassment, such as teasing, criticizing, or cursing;” “Physical aggression, such as pushing, hitting, pinching, or slapping;” and “Altercations motivated by the behavior of a confused resident.”
- There is a section on Abuse Prohibition Policy which includes resident-to-resident as one of the types of abuse. The Abuse Prohibition Policy pgs. 4-5 states: “Problematic behaviors that require protection of resident. Resident with cognitive loss (dementia) may exhibit the following behavior patterns: Wandering, Verbal Disruption; Verbal Aggression; Physical Aggression; Inappropriate Social/Sexual Behavior; Sexual Abuse; Sexual Molestation; and Auto Eroticism which infringes on the privacy/rights of other residents.”
- Report/Response (pgs. 5-6) of the Abuse Prohibition Program Policy: “The interviewer shall complete the complaint form, sign and submit it, as appropriate, notifying the Department of Health as required when there is reasonable cause to believe abuse has occurred.” For example: “Failure to follow a care plan must be reported if one or both of the following have occurred: Resident harm has occurred; There are repeated failures by staff to follow a resident’s care plan” (pg. 6).
- A “Complaint Investigation” Form is part of the Abuse Prohibition Policy .
- There is a comprehensive policy statement – as part of the Abuse Prohibition Policy - “Patient/Resident Abuse Mistreatment, Neglect” – which provides

guidelines “intended for use in cases of patient/resident abuse, mistreatment or neglect.” It clearly states how the various disciplines should address resident abuse, mistreatment or neglect.

- An Investigation/Assessment form is included as part of the Abuse Policy.

Facilities 013 & 015

Have both R-REM Policy & Abuse Prohibition Policy

R-REM Policy:

- Definition of R-REM: “All altercations, including, but not limited to, raised voices, insults, posturing, and general threatening words, physical and verbal altercations will be addressed immediately and interventions implemented.” (Pg.1.)
- Resident to resident abuse must be reported if one or both of the following have occurred: “There are repeated instances of resident assaultive behavior occurring and the facility has not satisfactorily identified or implemented a plan to intervene.” “Residents have been mentally or physically harmed by the aggressor.” (Pg.1.)
- Reporting: “All cases of verbal abuse as well as all cases of physical or sexual abuse or among residents will be reported to nursing management/administration for immediate investigation, determination and corrective action. If warranted, they will be reported to the Department of Health.” (Pg.1.)
- The policy clearly states how the different disciplines will address any abuse issues, which is inclusive of All Staff; Clinical Nurse Manager/Administrative Nurse Manager; Unit Physician; Director of Nursing; and the Care Team.

Abuse Prohibition Policy

- Pg. 5 of Resident Abuse Prohibition Policy includes a clause pertinent to R-REM under “Prevention”: “6. Evaluates the residents’ plan of care.” “Identifies and monitors resident with aggressive behaviors, self-injurious behaviors, and residents with communication disorders, which might cause conflict with staff or peers.”
- Pg. 6 of Resident Abuse Prohibition Policy includes a clause applicable to R-REM under Nursing/Security. “Makes rounds and observe residents who may be in inappropriate areas.”

Facility 014

Abuse Policy Only

- States as part of the Purpose: “To identify and assess residents who are potential victims and/or potential abusers of physical, psychological, financial, sexual abuse, mistreatment or neglect. (pg.1)
- Reporting: A report is to be filed if an individual has “reasonable cause to believe that a resident has been abused, mistreated, or neglected, or had property misappropriated” by the staff or a resident of this facility and/or by a family member or visitor. (pg.2)
- Provides contact information for an investigative body: “All incidents can be reported to the Office of Health Systems Management 24-hour hotline at 1-888-201-4563. OHSM health care professionals will begin an onsite investigation into alleged physical abuse, mistreatment, or neglect within 48 hours after receiving the telephone report.

- The “Procedure for Investigation” section (pgs. 6-7) clearly states the specific responsibility/action to be taken for the “Reporting of Alleged Abuse, Mistreatment, or Neglect” for each one of various disciplines including: The Reporter; Charge Nurse/Charge Nurse Manager; Charge Nurse Manager and Assistant Director of Nursing; Vice President of Nursing Service/Designee; Social Worker; Assistant Director of Nursing and/Charge Nurse Manager; Vice President of Nursing Services.

Facility 022

Has both RREM Policy & Abuse Policy.

Resident-to Resident Abuse Policy:

- Mission: “It is the policy of [facility 022] to ensure that all residents are protected from physical aggression, verbal, emotional, financial, and personal abuse by other residents.”
- Specific procedures are stated about how and what to do when R-REM is observed.
- There is an Abuse Prevention Risk Assessment for both “Resident with Cognitive Impairment” and “Resident with Capacity as part of the policy”. “All residents in the facility will be assessed via the abuse risk assessment for an admission, quarterly, annually with systemic change of care plan needs and identification of potential abuse risk factors.”
- There is a detailed “handout” for Reporting and Investigating Accidents and Incidents” which is inclusive of Resident to Resident Occurrences, i.e. Verbal Altercation, Physical Altercation, and Sexual altercation.

Abuse Prevention, Reporting and Investigation Policy

- “All allegations of abuse where there is reasonable cause to believe abuse has occurred shall be reported to the New York State Department of Health, Office of Health Systems Management.” (pg. 1).
- Addendum G (Prevention of Abuse Program) includes items pertinent to R-REM for example: “Rotating staff working with difficult or abusive residents; Regularly scheduled in-service training programs to teach staff how to better understand the resident’s abusive actions; Assessing residents with signs of symptoms of behavior problems and developing and implementing care plans that can assist in resolving behavioral issues; and Involving psychiatric medical professionals in aiding the staff to manage difficult or aggressive residents.” (pg. 18)
- Extensive fill-in forms are provided as part of the policy for “Report of Investigation Results” (pgs. 20-25).

Facility 023

Abuse Policy Only

- R-REM is mentioned in the following context: “Residents shall not be subjected to abuse, neglect, and mistreatment by anyone, including, but not limited to facility staff, other residents, consultant or volunteer, staff of other agencies serving the residents, facility members of legal guardians, friends, or other individuals.” (pg. 1)
- Under the “Identification” of abused residents there is a sub category “Possible other Circumstances of Abuse/Neglect” where R-REM is addressed: “Resident to

Resident abuse when: There are repeated instances of aggressive resident behavior that the facility has not satisfactorily identified, or implemented a care plan to intervene, OR Residents have been physically or mentally harmed by the aggressor.” (pgs. 5-6).

- R-REM is referenced in a few points under the “Investigation” section, for example: “This investigation process shall include:” “Development of plan of care to manage the identified inappropriate behavior and minimize the risk of harm to self or others”. “Monitoring the resident for any changes that would identify a potential abusive behavior. (pg. 6)
- Under “Prevention” it is stated that “[Facility 23] will identify residents who are at risk for abusing mistreating other residents or neglect, such as residents with a history of aggressive behaviors, residents with wandering behaviors, self-injurious behaviors and/or communication disorders”.
- Reporting: “Results of the Investigation must be reported to NYSDOH and other officials with 5 working days of the incident and should include completion of Outcome of Investigation (Form).” “Notifies NYSDOH and other agencies , as needed, of alleged or suspected abuse, neglect, mistreatment, or misappropriation of resident property immediately by calling the Hotline and completing DOH-513 within 48 hours and notifies resident and/ or responsible party that NYSDOH is being notified.”

Facility 024

Abuse Policy Only

- One of the introductory/mission points in the policy states: “Residents will be protected against abuse by other residents (pg 1).
- Under “Actions” by the Interdisciplinary Care Plan team is stated: “Continually monitors and identifies residents at risk for potential of abusing other residents (pg.2)
- A point under “Actions” by Supervisor/Department Head/Community Coordinator is stated: “The separation or monitoring of a resident who has abused another resident” (pg.3)
- Under “Actions” by Assistant Administrator for Resident and Clinical Services and Administrator is stated: “Makes a decision to report to the Department of Health based on establishment of reasonable cause using the following guidelines: A statement that physical abuse, mistreatment, or neglect has occurred; There are repeated instances of aggressive resident behavior that the facility has not satisfactorily identified, or implemented a care plan to intervene; Completes the Health Care Facilities Report Form and calls NYSDOH Abuse Hotline within five (5) working days of the incident” (pgs. 3- 4).

Facility 025

Abuse Policy Only

- No specific mention of R-REM. The policy addressed staff to resident actions only.
- Reporting: (pg. 3) includes a 4 item breakdown providing minor detail, with the only mention of the NYSDOH being the listing of the “abuse hotline number.”

Review Summary

The Abuse Policies reviewed varied in terms of the level of detail, specificity, and comprehensiveness with which resident to resident mistreatment was addressed, from not being mentioned at all to having a set of policies tailored specifically to address resident-to resident mistreatment. The most comprehensive policies for Resident to Resident Mistreatment were offered by Facility 022, and Facilities 013 and 015. These facilities had separate R-REM policies which clearly stated the definition, guidelines for identifying, reporting, and documenting R-REM. Facility 022 included additional items such as “Abuse Prevention Risk Assessment” for both cognitively impaired and residents with capacity, and a five page “Report of Investigation Results” (including a Resident Investigation Report Form). While other facilities may have similar assessment report forms as Facility 022, they were not part of their policy document of Resident Abuse. Notably, facility 012, as part of their Resident Abuse Policy, included a “Complaint Investigation” form and offered a “Resident-to-Resident Dispute Resolution Policy” which was a product of the Social Service Department. Facilities 011, 012, and 023 covered the issue of R-REM in extensive detail even though there was not a dedicated policy. Facility 014 covered some of the most basic issues pertaining to R-REM, i.e., definition, and mandatory reporting. Facility 024 did not have a significant R-REM policy as part of their larger abuse policy, including only occasional references to R-REM. Facility 025 had no policy on R-REM and offered little in reporting guidelines. In general, the most comprehensive policies were provided by those facilities that had established separate R-REM policies, clearly stating the definition of R-REM, as well as specific guidelines for identifying, reporting, and documenting R-REM.

F. Develop Institutional Guidelines for the Identification, Reporting, and Investigation of Resident-to-Resident Mistreatment Episodes.

The drafted guidelines for the identification, reporting, and investigation of R-REM episodes in residential settings are presented in Appendix B.3. General tenets (listed below), derived from the reporting team's clinical and research experience, served as the framework for the development of the guidelines (see Appendix B.3).

Tenets:

- Resident-to-resident mistreatment policies and procedures differ across facilities. Staff is responsible for following their facility's abuse protocols in order to promote the safety and well-being of all residents. Knowledge of the specific institutional guidelines should be facilitated by the institutions via staff training.
- R-REM policies and procedures should be constituted separate and apart from policies addressing other forms of abuse.
- Residents' actions have the potential to be abusive. Certain medical conditions, like dementia and depression, may be linked to aggressive behaviors.
- Best practices for immediate interventions can and should be used during the most common mistreatment incidents
- Help from other staff and supervisors should be accessed if necessary.
- Documentation of all resident-to-resident mistreatment is necessary and should be mandatory.

- Any victim of resident-to-resident mistreatment must get the support that s/he needs. Unresolved mistreatment constitutes poor care quality, and can severely decrease quality-of- life.
- Resident-to-resident mistreatment behaviors must be examined within a team approach in order to develop a care plan for ongoing oversight and monitoring.
- Repeated instances that are not resolved through care planning may require formal, external reporting.
- Care of the resident is the top priority. All injuries must be reported to the supervising nurse to insure appropriate follow-up care.
- Immediate reporting of a resident's abusive act or action is required in cases of physical harm. The director of nursing services must be informed as well as the administrator. Some forms of abuse may require formal reporting as outlined in state regulations, and families may need to be informed.

A future item in the reporting team's agenda regarding efforts to address R-REM in long-term residential facilities includes the review and evaluation of the drafted guidelines presented in Appendix B.3 by a panel of experts on elder abuse representing long-term care clinical, legal, and administrative professions, for procedures and content. The ultimate goal is to develop a final version of such guidelines to be submitted for sanction to the Center for Health Care Quality and Surveillance of the Bureau of Professional Credentialing in the New York State Department of Health.

Another future plan by the reporting team is, working with the Information Technology department, to explore the feasibility of using an electronic method for the documentation of R-REM events.

G. Unanticipated Findings and Implications for Further Research

Nursing staff's responses during focus groups and cognitive interviews conducted as part of the R-REM instrument development process evidenced their concern and interest regarding resident-to-staff aggression (RSA). In response to this, primary certified nursing assistants (day shift) were interviewed using a validated instrument initially created to measure R-REM as part of the NIA-funded prevalence grant. The instrument inquired if specific physical, verbal, or sexual behaviors were directed at them by the resident in the previous two weeks. The contextual details of the event including time of day, circumstances and the exact nature of the aggression were also recorded. It was documented that RSA is an extremely common phenomenon. Staff reported that 15.6 % of residents directed aggressive behaviors toward them (2.8 % physical, 7.5 % verbal, 0.5 % sexual, and 4.8 % both verbal and physical). The most commonly reported type was verbal (12.4 %), particularly screaming at the certified nursing assistant (9.0 % of residents). Overall, physical aggression toward staff was reported for 7.6 % of residents, the most common being hitting (3.9 % of residents). Aggressive behaviors occurred most commonly in resident rooms (77.2 %) and in the morning (84.3 %), typically during the provision of morning care. In a logistic regression model, three clinical factors were significantly associated with resident-to-staff aggression: greater disordered behavior (OR=6.48, 95 % CI: 4.55, 9.21), affective disturbance (OR=2.29, 95 % CI: 1.68, 3.13), and need for activities of daily living morning assistance (OR= 2.16, 95 % CI: 1.53, 3.05). Hispanic (as contrasted with White) residents were less likely to be identified as aggressors toward staff (OR=0.57, 95 % CI: 0.36, 0.91).

The data indicate that resident-to-staff aggression in nursing homes is common, particularly during morning care. A variety of demographic and clinical factors was associated with resident-to-staff aggression, which could serve as the basis for evidence-based interventions. Because RSA may negatively affect the quality of care, resident and staff safety, and staff job satisfaction and turnover, further research is needed to understand its causes and consequences and to develop interventions to mitigate its potential impact.

Chapter V Discussion and Conclusions

A. Practice and Policy Implications of Study Results

A large proportion of events involving resident-to-resident mistreatment are ignored by staff in nursing homes as R-REM might not be seen as abuse but rather normative behavior, associated in large part with cognitive impairment. This can leave residents at risk¹⁰⁶ given that in general CNAs are not experienced in dealing with aggressive residents, who often require individualized interventions such as time out and validation.¹⁰⁷

Plausible outcomes of R-REM in nursing home residents are similar to those experienced by community elder mistreatment victims, ranging from proximal injuries and accidents such as falls, fractures, lacerations, abrasions, and other injuries that may require hospitalization, to more distal outcomes that can include depression, anxiety, functional decline, and decrements in quality of life. However, incidents of yelling and insulting remarks by residents to each other (which can potentially escalate to more violent interaction with serious consequences as has been documented by the lay media) were not seen as forms of abuse by nurse aides in a study by Castle;¹⁰⁸ consequently they were not reported. Our study findings revealed, however, that although verbal R-REM was the most frequently reported R-REM type by the staff informants and the shift coupons, it did not make it to the resident charts, thus, it is unclear whether sustained interventions were made in order to prevent future occurrence of those negative interactions.

Study results showed that there were distinct differences in rates of R-REM reports across sources and that, in general, convergence across sources was low. These differences in reporting rates might suggest divergence in the level of sensitivity of R-REM recognition. It can also suggest lack of documentation practice, given for

example, the high discrepancy in the report rates between the staff informant and the chart reviews (even when the documentation responsibility of such events most likely falls under the nursing staff duties). Moreover, study results evidenced that out of the different sources/methods used for identifying R-REM incidents, the staff is the source that reported the highest number of incidents, and that residents and staff informants were the most accurate sources. Again, these results seem to suggest that lack of R-REM reporting by residents and more importantly by staff, during their daily routines in long term care living might not be a function of lack of recognition. Institutional support in the form of staff training as well as in institutional guidelines delineating standard practice on how to address R-REM could potentially improve reporting, documentation, and management of such events. Additionally, reporting guidelines will provide an institutional mechanism for ensuring protection against resident-to-resident abuse.

Examination of the existing resident abuse policies of nine of the ten participating facilities demonstrated that institutional awareness about R-REM is modest at best. Half of the facilities addressed R-REM, some tangentially, some with more specificity, but exclusively within the purview of “resident abuse”. Only three of the facilities provided separate protocols with specific R-REM guidelines, and the remaining facility did not address R-REM either in aggregate form or as distinct from its abuse policy. These results are indicative that efforts to improve awareness about R-REM must be initiated and geared not only toward direct care staff but at the administrative level of the long-term care facilities. Although conceptually R-REM can fall under the definition of resident abuse, the fact that it is enacted by another resident carries policy and practice implications that warrant a segregated, specified set of guidelines and procedures for its identification, reporting, and intervention above and beyond those applied in the case of

staff-to-resident abuse. Thus, documented guidelines regarding R-REM must contain sufficient information to enable any staff member to act pursuant to the standards of practice of the long-term care facility. Overall, this was not observed in the majority of the abuse policies examined.

Recognition of R-REM and efficient reporting are key elements in improving efforts to protect older persons in residential care facilities, and enhancing their quality of life. With the diversity of types of resident to resident abuse, a person-centered approach to the management and prevention of these incidents is crucial. As supported by our findings, it is through identifying incidents and documenting them, that patterns of resident's behaviors can be identified and individual strategies planned, implemented and assessed. Yet, as stated, no incidents were recorded on the incident/accident report and few were documented in the chart (5 cases).

Examination of the profiles of those involved in R-REM events by the different sources were, not surprisingly, somewhat divergent given the low convergence of reporting across sources. An additional explanation for this might also be that the perspectives from which the events were reported by the different sources might be different, i.e., the residents reported from the "victims" perspective and the staff could have reported from either the perpetrator's or the victim's perspective but most likely from the perpetrator's perspective. The latter applies to the other sources, e.g., chart reviews and event logs. Noteworthy, however, is that profiles of those residents reported as having been involved in R-REM events by the different sources (excluding the chart reviews given that only 5 cases were documented) coincided in some salient residents' characteristics. Those involved in R-REM were likely to be non Hispanic, White, a large proportion resided in segregated units for individuals with dementia, and

on average exhibited higher levels of disturbing behaviors including touching others' property (as reported by either the RAs, the nursing staff or both). These findings are supported by previous publications documenting that the prevalence of disruptive and disturbing behaviors on the part of individuals with dementia is a major risk factor for abuse^{109,110}. Segregated units in nursing home such as those for individuals with dementia where patients with dementia and dementia-related behavioral problems are usually congregated, can potentially create opportunities for R-REM as a perpetrator or a victim. Additionally, several types of noise, i.e., coming from residents calling out or screaming and from radio/TV, were reported by the RAs as frequently being part of the immediate physical environment of those involved in R-REM. This seems to suggest that environmental characteristics of a nursing home are likely to contribute to R-REM. Findings also underscored the presence of other environmental factors, such as the congestion of equipment, e.g., walkers in public spaces, in the units where residents involved in physical R-REM resided. These findings support Pillemer and colleagues'¹¹¹ by highlighting the complicated and intricate interconnection between individual characteristics of those involved in R-REM and the features of the immediate physical environment in which they reside.

B. Implications for Further Research

These findings set the stage for future projects focusing in the identification of specific environmental risk factors and examining the interaction between individual (resident) and environmental characteristics as they relate to R-REM. Such knowledge is critical to the development and targeting of interventions for managing R-REM. For example, specific residents' profiles e.g., with different levels of cognitive, functional

and/or behavior impairments are likely to require different types of interventions, which might include different types of environmental modifications. Moreover, research projects geared to examine residents' characteristics and contextual factors including but not limited to the institutional physical environment, (e.g., extant R-REM institutional policies, guidelines, and practices, staff support and training, resident/staff ratio, unit size, etc.) are an important next step in understanding R-REM.

C. Unique or Special Features of the Study

This study offers unique features as follows: This project was part of the largest collaborative effort examining R-REM ever conducted. The facility sample included urban and suburban facilities as well as for profit and not for profit facilities. The resident sample reflects the ethnic diversity of those who reside, particularly, in urban residential care facilities.

Additionally, this is the only study known to the research team, in which multiple sources of R-REM reports were solicited and compared. In contrast to previous studies of R-REM, events were systematically identified from several sources, including resident interviews, staff interviews, and direct observation, chart reviews and accident/incident reports, leading to a more comprehensive inventory of the type of event as well as the details involved

The use of trained interviewers to reconstruct events allowed for more detailed qualitative analysis than has been possible in previous studies. Noteworthy also is that this study uniquely linked resident and staff data, which offered comprehensiveness and depth in the examination of the R-REM phenomenon.

D. Study Limitations

There were several challenges to study implementation. The period in which the study was implemented was one of the most difficult periods in which to conduct long term care research. The reduction of nursing staff along with the increased number of duties assigned to them as a response to financial cuts experienced by the nursing home industry resulted in a distressed working environment. The nursing staff expressed resistance to participating in any activity perceived as “extra”, which in their view conflicted with time deemed necessary for completing their immediate caregiving duties. Similarly, there were issues obtaining access to chart data at two sites and to Incident/ Accident reports at one site.

Study limitations include the generalizability of the findings. Although our contention is that the results generalize beyond the local level, only one urban and one suburban area was sampled. However, the strength is that this local setting permitted in depth examination of the phenomenon of R-REM, and the sample was representative of larger facilities in New York City and Westchester County, NY. Additionally, the sampling strategy excluded facilities with severe survey deficiencies. This fact, coupled with the need for informed consent or proxy consent in the case of residents with dementia, could have potentially resulted in an underestimation of the prevalence of R-REM.

E. Conclusions

Adequately managing R-REM is necessary and important to maintain all residents’ quality of life and to maintain both staff and residents’ safety. Nursing homes have both an ethical and legal responsibility and obligation to protect all residents in

their care, as well as all employees. The environmental risks in the nursing home are related to the nature of shared living, where interactions among residents with and without dementia lead to opportunities for varied group dynamics. R-REM can no longer be ignored, and all forms of R-REM must be recognized and addressed. Study findings suggest that initial steps can consist of providing clear and specific guidelines addressing the identification, reporting and documentation of R-REM events. Institutional support can also be rendered via staff training in order to increase recognition as well as reinforcing intervention strategies for the management of R-REM. Research projects geared to examine residents' characteristics and contextual factors including but not limited to the institutional physical environment, (e.g., extant R-REM institutional policies, guidelines, and practices, staff support and training, resident/staff ratio, unit size, etc.) are an important next step in understanding R-REM.

The following preliminary recommendations for guidelines arising from this study are as follows:

A. Training

- Provide training to staff in recognition and documentation of R-REM
- Provide training on managing R-REM and on disruptive behaviors associated to R-REM
- Provide training on best practices for immediate interventions for the most frequent types of mistreatment

B. Care Practices

- Identify residents who frequently engage in R-REM
- Monitor these residents more closely
- Separate “perpetrators” from their victims
- Reassign roommates, floors, dining partners when necessary
- Engage “perpetrators” in constructive distractions and activities when possible
- Examine R-REM within a team approach in order to develop a care plan for ongoing oversight and monitoring

C. Environment

- Do not place residents in small rooms crowded with other residents and equipment
- Remove obstacles
- Reduce excessive noise

D. Institutional Policies

- Provide institutional guidelines for ensuring protection against resident-to-resident abuse distinct from general abuse policies
- Delineate standard practice on how to address R-REM, i.e., recognition, reporting, documentation, and management of such events.

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National Institute of Justice

**Documentation of Resident to Resident Elder Mistreatment
in Residential Care Facilities
FYO 42USC3721**

**2010-2013 Prevent, Detect, and Respond to Abuse, Neglect and
Exploitation of Elderly Individuals and Individuals in Residential
Care Facilities Program**

Appendix

March 28, 2014

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A. Result Tables

Appendix Table 1: R-REM report during prevalence period by source.

		n	%	Valid %
Incident Reported By Any Source	No	1070	76.2	76.2
	Yes	335	23.8	23.8
Sources				
Resident Interview	No	548	39.0	81.8
	Yes	122	8.7	18.2
	Partially complete	38	2.7	.0
	Sick/In Hospital	1	.1	.0
	Patient Refusal	23	1.6	.0
	Hearing Impairment	1	.1	.0
	Expired	1	.1	.0
	Not Eligible For Instrument	671	47.8	.0
Staff Interview	No	1213	86.3	88.0
	Yes	166	11.8	12.0
	Staff Unavailable	26	1.9	.0
Shift Coupon	No	1330	94.7	94.7
	Yes	75	5.3	5.3
Event Log	No	1318	93.8	93.8
	Yes	87	6.2	6.2
Incident/Accident Reports	No	1405	100.0	100.0
Chart Review	No	1400	99.6	99.6
	Yes	5	.4	.4
Number Of Sources Incident Reported By	None	1070	76.2	.0
	One	236	16.8	70.4
	Two	81	5.8	24.2
	Three	15	1.1	4.5
	Four	3	.2	.9

Appendix Table 2: R-REM average report during prevalence period by source.

	Mean	Std. Dev.	Min.	Max.
Number Of Incidents Reported During Prevalence Period:				
Resident	2.5	(2.7)	1	17
Staff	4.3	(8.1)	1	57
Shift Coupon	1.5	(.9)	1	5
Event Log	1.6	(1.4)	1	9
Incident/Accident Reports	.0	(.0)	0	0
Chart Review	2.8	(1.6)	1	5

Appendix Table 3: Report convergence during prevalence period.

		n	%	Valid %
Matched Sources	No Incident Reported	1070	76.2	.0
	Resident	85	6.0	25.4
	Resident, Staff	2	.1	.6
	Resident, Staff, Shift Coupon	3	.2	.9
	Resident, Staff, Shift Coupon, Event Log	2	.1	.6
	Resident, Staff, Event Log	1	.1	.3
	Resident, Shift Coupon	4	.3	1.2
	Resident, Shift Coupon, Event Log	3	.2	.9
	Resident, Event Log	22	1.6	6.6
	Staff	108	7.7	32.2
	Staff, Shift Coupon	12	.9	3.6
	Staff, Shift Coupon, Event Log	7	.5	2.1
	Staff, Shift Coupon, Event Log, Chart Review	1	.1	.3
	Staff, Event Log	28	2.0	8.4
	Staff, Event Log, Chart Review	1	.1	.3
	Staff, Chart Review	1	.1	.3
	Shift Coupon	31	2.2	9.3
	Shift Coupon, Event Log	12	.9	3.6
	Event Log	10	.7	3.0
	Chart Review	2	.1	.6

Appendix Table 4. Comparisons of Reported Events by Source Against Gold Standard

		Case conference determination of RREM case (GOLD STANDARD)					
		No			Yes		
		n	Row %	Column %	n	Row %	Column %
Resident Interview	No	469	85.6	98.9	79	14.4	40.3
	Yes	5	4.1	1.1	117	95.9	59.7
Staff Interview	No	1076	88.7	99.3	137	11.3	46.4
	Yes	8	4.8	.7	158	95.2	53.6
Shift Coupon	No	1080	81.2	97.6	250	18.8	83.9
	Yes	27	36.0	2.4	48	64.0	16.1
Event Log	No	1088	82.5	98.3	230	17.5	77.2
	Yes	19	21.8	1.7	68	78.2	22.8
Incident/Accident Reports	No	1107	78.8	100.0	298	21.2	100.0
Chart Review	No	1105	78.9	99.8	295	21.1	99.0
	Yes	2	40.0	.2	3	60.0	1.0

Appendix Table 5. Sensitivity, specificity, positive and negative predictive value, and overall correct classification across reporting methodologies.

	Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value	Overall Correct Classification
Resident	.60	.99	.96	.86	.87
Staff	.54	.99	.95	.89	.89
Shift Coupon	.16	.98	.64	.81	.80
Event Log	.23	.98	.78	.83	.82
Incident/Accident Report79	.
Chart Review	.01	1.00	.60	.79	.79

Appendix Table 5a. Most influential source in the gold-standard decision for “caseness” determination across raters

	Frequency	Percent	Valid Percent	Cumulative Percent
1 Resident	36	19.1	19.1	19.1
2 Staff	56	29.8	29.8	48.9
3 Shift Coupon	22	11.7	11.7	60.6
4 Narrative	35	18.6	18.6	79.3
5 Incident/Accident Report	3	1.6	1.6	80.9
6 Chart Review	5	2.7	2.7	83.5
7 Resident and Staff	3	1.6	1.6	85.1
Valid 8 Resident and Shift Coupon	1	.5	.5	85.6
9 Resident and Narrative	11	5.9	5.9	91.5
11 Staff and Narrative	9	4.8	4.8	96.3
12 Staff and Chart	2	1.1	1.1	97.3
13 Staff, Narrative, and Incident/Accident Report	1	.5	.5	97.9
14 Shift Coupon and Narrative	2	1.1	1.1	98.9
15 Narrative and Chart	2	1.1	1.1	100.0
Total	188	100.0	100.0	

Appendix Table 6. Profile of residents involved in R-REM as reported by the residents.

		Incident Reported During The RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
RESIDENT DEMOGRAPHICS						
Age, Mean (s.d.)		84.01	(9.96)	82.30	(10.95)	0.093
Race/Ethnicity	White, Non-Hispanic	369	67.3	91	74.6	0.034 ^E
	Black, Non-Hispanic	99	18.1	11	9.0	
	Hispanic	76	13.9	20	16.4	
	Other	4	.7	0	.0	
Female Client	Male	165	30.1	39	32.0	0.688
	Female	383	69.9	83	68.0	
BEHAVIOR						
Affect (RA), Mean (s.d.)		5.69	(2.10)	5.85	(1.99)	0.436
Behavior (RA), Mean (s.d.)		5.29	(1.96)	5.60	(2.13)	0.122
Disturbing Behaviors (STAFF), Mean (s.d.)		8.28	(7.73)	8.55	(7.34)	0.730
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)		7.92	(7.23)	8.21	(6.97)	0.689
COGNITION/STAGING						
CARE Diagnostic (RESIDENT), Mean (s.d.)		4.82	(2.99)	4.04	(3.07)	0.010
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.	179	33.1	39	32.5	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.	30	5.6	10	8.3	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.	15	2.8	3	2.5	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.	31	5.7	8	6.7	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.	20	3.7	5	4.2	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.	32	5.9	4	3.3	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.	58	10.7	12	10.0	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.	21	3.9	3	2.5	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).	37	6.9	11	9.2	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).	76	14.1	21	17.5	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du	1	.2	1	.8	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I	2	.4	0	.0	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).	31	5.7	3	2.5	
	Ability To Sit Up Without Assistance Lost.	5	.9	0	.0	

		Incident Reported During The RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
Loss Of The Ability To Hold Up Head.		2	.4	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		1.28	(3.18)	.95	(2.18)	0.327
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	24	4.4	10	8.2	
	Non Special Care Dementia Unit	21	3.8	4	3.3	
	Long Term Care	198	36.1	47	38.5	
	Long Term Care - Ambulatory Care	18	3.3	8	6.6	
	Long Term Care – Behavioral	3	.5	2	1.6	
	Skilled Nursing	238	43.4	47	38.5	
	Medical Skilled Nursing	34	6.2	2	1.6	
	Mild Skilled Nursing	12	2.2	2	1.6	
Resident Capacity, Mean (s.d.)		40.48	(6.28)	41.38	(5.28)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	28	5.8	9	8.0	
	Dining Room	98	20.3	13	11.5	
	Elevator / Near Elevator	16	3.3	2	1.8	
	Lounge	114	23.7	29	25.7	
	Nurses Station	44	9.1	15	13.3	
	Multi-Purpose Room	182	37.8	45	39.8	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	1	.2	0	.0	
	Sometimes	86	17.3	26	22.4	
	Not At All	409	82.5	90	77.6	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	68	13.7	10	8.6	
	Not At All	428	86.3	106	91.4	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	66	13.3	18	15.5	
	Sometimes	379	76.4	88	75.9	
	Not At All	51	10.3	10	8.6	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	253	51.6	69	59.5	
	Not At All	237	48.4	47	40.5	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	279	56.3	55	47.4	
	Not At All	217	43.8	61	52.6	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	7	1.4	1	.9	
	Sometimes	142	28.6	38	32.8	
	Not At All	347	70.0	77	66.4	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		5.85	(4.81)	5.08	(4.61)	
Walkers: Total Number, Mean (s.d.)		1.45	(1.64)	1.35	(1.46)	
Canes: Total Number, Mean (s.d.)		.45	(.85)	.66	(1.12)	
Other: Total Number, Mean (s.d.)		1.06	(1.73)	1.40	(2.74)	
Lighting						
Light Intensity - Hallways	Good	217	43.8	49	42.2	
	Ample	279	56.3	67	57.8	
Light Intensity - Activity Areas	Good	297	59.9	61	52.6	
	Ample	199	40.1	55	47.4	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	9	1.8	1	.9	
	Good	369	74.4	81	69.8	
	Ample	118	23.8	34	29.3	
Is Glare Present - Hallways	In Many Areas	10	2.0	2	1.7	
	In A Few Areas	351	70.8	78	67.2	
	A Little Or None	135	27.2	36	31.0	

		Incident Reported During The RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
Is Glare Present - Activity Areas	In A Few Areas	353	71.2	85	73.3	
	A Little Or None	143	28.8	31	26.7	
Is Glare Present - Residents' Rooms	In Many Areas	18	3.6	3	2.6	
	In A Few Areas	395	79.6	96	82.8	
	A Little Or None	83	16.7	17	14.7	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	421	84.9	90	77.6	
	Even Throughout The Area	75	15.1	26	22.4	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	386	77.8	87	75.0	
	Even Throughout The Area	110	22.2	29	25.0	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	10	2.0	1	.9	
	Mostly Even Throughout The Area	454	91.5	108	93.1	
	Even Throughout The Area	32	6.5	7	6.0	

Appendix Table 7. Profile of residents involved in R-REM as reported by the staff.

			Incident Reported During The STAFF Interview				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.48	(9.76)	85.62	(7.99)	0.095
Race/Ethnicity	White, Non-Hispanic		698	57.6	113	68.1	0.003 ^E
	Black, Non-Hispanic		237	19.6	15	9.0	
	Hispanic		209	17.2	30	18.1	
	Other		17	1.4	1	.6	
	Unknown		51	4.2	7	4.2	
Female Client	Male		333	27.5	40	24.1	0.356
	Female		880	72.5	126	75.9	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.78	(2.60)	6.54	(2.34)	0.272
Behavior (RA), Mean (s.d.)			5.23	(2.09)	5.68	(2.09)	0.009
Disturbing Behaviors (STAFF), Mean (s.d.)			8.78	(7.36)	17.48	(9.48)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			8.38	(6.91)	16.24	(8.80)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.89	(4.78)	8.21	(4.25)	0.395
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		237	19.5	24	14.5	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		45	3.7	9	5.5	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		23	1.9	2	1.2	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		44	3.6	8	4.8	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		35	2.9	8	4.8	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		50	4.1	19	11.5	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		127	10.5	8	4.8	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		36	3.0	13	7.9	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		80	6.6	8	4.8	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		262	21.6	47	28.5	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		36	3.0	2	1.2	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		17	1.4	3	1.8	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		147	12.1	12	7.3	

		Incident Reported During The STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	40	3.3	2	1.2	
	Loss Of The Ability To Smile.	10	.8	0	.0	
	Loss Of The Ability To Hold Up Head.	24	2.0	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.12	(4.55)	2.45	(4.88)	0.505
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	98	8.1	37	22.3	
	Non Special Care Dementia Unit	75	6.2	12	7.2	
	Long Term Care	342	28.2	62	37.3	
	Long Term Care - Ambulatory Care	27	2.2	3	1.8	
	Long Term Care – Behavioral	25	2.1	0	.0	
	Skilled Nursing	578	47.7	44	26.5	
	Medical Skilled Nursing	52	4.3	4	2.4	
	Mild Skilled Nursing	16	1.3	4	2.4	
Resident Capacity, Mean (s.d.)		40.71	(6.16)	43.62	(5.87)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	61	5.6	5	3.5	
	Dining Room	276	25.3	22	15.5	
	Elevator / Near Elevator	31	2.8	2	1.4	
	Lounge	214	19.6	50	35.2	
	Nurses Station	100	9.2	21	14.8	
	Multi-Purpose Room	409	37.5	42	29.6	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	28	2.5	11	7.7	
	Sometimes	318	28.4	64	44.8	
	Not At All	774	69.1	68	47.6	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	134	12.0	25	17.5	
	Not At All	986	88.0	118	82.5	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	170	15.2	35	24.5	
	Sometimes	782	69.8	91	63.6	
	Not At All	168	15.0	17	11.9	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	646	58.3	62	43.4	
	Not At All	462	41.7	81	56.6	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	670	59.8	62	43.4	
	Not At All	450	40.2	81	56.6	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	1.1	0	.0	
	Sometimes	319	28.5	23	16.1	
	Not At All	789	70.4	120	83.9	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.91	(4.90)	5.24	(4.26)	
Walkers: Total Number, Mean (s.d.)		1.65	(1.80)	2.03	(2.21)	
Canes: Total Number, Mean (s.d.)		.48	(.98)	.16	(.58)	
Other: Total Number, Mean (s.d.)		2.10	(3.37)	2.39	(3.21)	
Lighting						
Light Intensity - Hallways	Good	417	37.2	56	39.2	
	Ample	703	62.8	87	60.8	
Light Intensity - Activity Areas	Good	588	52.5	77	53.8	
	Ample	532	47.5	66	46.2	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	24	2.1	10	7.0	
	Good	792	70.7	93	65.0	
	Ample	304	27.1	40	28.0	
Is Glare Present - Hallways	In Many Areas	50	4.5	13	9.1	

		Incident Reported During The STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	730	65.2	83	58.0	
	A Little Or None	340	30.4	47	32.9	
Is Glare Present - Activity Areas	In A Few Areas	737	65.8	99	69.2	
	A Little Or None	383	34.2	44	30.8	
Is Glare Present - Residents' Rooms	In Many Areas	46	4.1	12	8.4	
	In A Few Areas	904	80.7	119	83.2	
	A Little Or None	170	15.2	12	8.4	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	905	80.8	132	92.3	
	Even Throughout The Area	215	19.2	11	7.7	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	814	72.7	96	67.1	
	Even Throughout The Area	306	27.3	47	32.9	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	52	4.6	21	14.7	
	Mostly Even Throughout The Area	969	86.5	118	82.5	
	Even Throughout The Area	99	8.8	4	2.8	

Appendix Table 8. Profile of residents involved in R-REM as capture by the shift coupons.

			Incident Reported During The SHIFT COUPON				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.62	(9.67)	83.97	(7.06)	0.449
Race/Ethnicity	White, Non-Hispanic		785	59.1	41	54.7	0.455 ^E
	Black, Non-Hispanic		241	18.1	13	17.3	
	Hispanic		226	17.0	16	21.3	
	Other		18	1.4	0	.0	
	Unknown		59	4.4	5	6.7	
Female Client	Male		362	27.2	18	24.0	0.537
	Female		968	72.8	57	76.0	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.77	(2.61)	6.55	(2.09)	0.379
Behavior (RA), Mean (s.d.)			5.27	(2.18)	5.83	(2.32)	0.031
Disturbing Behaviors (STAFF), Mean (s.d.)			9.58	(7.95)	14.30	(10.25)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.10	(7.43)	13.30	(9.39)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.94	(4.76)	8.36	(4.26)	0.472
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		252	19.3	9	12.2	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		50	3.8	4	5.4	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		23	1.8	2	2.7	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		48	3.7	4	5.4	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		42	3.2	1	1.4	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		63	4.8	6	8.1	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		128	9.8	7	9.5	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		45	3.4	4	5.4	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		83	6.3	5	6.8	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		292	22.3	17	23.0	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		35	2.7	4	5.4	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		20	1.5	1	1.4	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		154	11.8	7	9.5	

		Incident Reported During The SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	40	3.1	2	2.7	
	Loss Of The Ability To Smile.	10	.8	0	.0	
	Loss Of The Ability To Hold Up Head.	23	1.8	1	1.4	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.13	(4.45)	2.67	(6.30)	0.563
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	125	9.4	21	28.0	
	Non Special Care Dementia Unit	84	6.3	3	4.0	
	Long Term Care	394	29.6	18	24.0	
	Long Term Care - Ambulatory Care	26	2.0	4	5.3	
	Long Term Care - Behavioral	25	1.9	0	.0	
	Skilled Nursing	605	45.5	24	32.0	
	Medical Skilled Nursing	55	4.1	1	1.3	
	Mild Skilled Nursing	16	1.2	4	5.3	
Resident Capacity, Mean (s.d.)		41.04	(6.16)	42.92	(6.38)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	6.0	0	.0	
	Dining Room	285	24.0	14	20.3	
	Elevator / Near Elevator	32	2.7	1	1.4	
	Lounge	266	22.4	10	14.5	
	Nurses Station	106	8.9	17	24.6	
	Multi-Purpose Room	429	36.1	27	39.1	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	38	3.1	7	10.1	
	Sometimes	360	29.5	29	42.0	
	Not At All	821	67.4	33	47.8	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	151	12.4	12	17.4	
	Not At All	1068	87.6	57	82.6	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	183	15.0	25	36.2	
	Sometimes	849	69.6	35	50.7	
	Not At All	187	15.3	9	13.0	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	679	56.3	34	49.3	
	Not At All	526	43.7	35	50.7	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	712	58.4	29	42.0	
	Not At All	507	41.6	40	58.0	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	1.0	0	.0	
	Sometimes	335	27.5	12	17.4	
	Not At All	872	71.5	57	82.6	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.79	(4.91)	5.81	(3.54)	
Walkers: Total Number, Mean (s.d.)		1.66	(1.84)	2.26	(2.07)	
Canes: Total Number, Mean (s.d.)		.44	(.94)	.55	(1.00)	
Other: Total Number, Mean (s.d.)		2.12	(3.34)	3.07	(3.74)	
Lighting						
Light Intensity - Hallways	Good	463	38.0	24	34.8	
	Ample	756	62.0	45	65.2	
Light Intensity - Activity Areas	Good	646	53.0	28	40.6	
	Ample	573	47.0	41	59.4	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	27	2.2	8	11.6	
	Good	851	69.8	52	75.4	
	Ample	341	28.0	9	13.0	
Is Glare Present - Hallways	In Many Areas	65	5.3	7	10.1	

		Incident Reported During The SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	784	64.3	40	58.0	
	A Little Or None	370	30.4	22	31.9	
Is Glare Present - Activity Areas	In A Few Areas	806	66.1	45	65.2	
	A Little Or None	413	33.9	24	34.8	
Is Glare Present - Residents' Rooms	In Many Areas	54	4.4	8	11.6	
	In A Few Areas	985	80.8	57	82.6	
	A Little Or None	180	14.8	4	5.8	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	999	82.0	58	84.1	
	Even Throughout The Area	220	18.0	11	15.9	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	877	71.9	44	63.8	
	Even Throughout The Area	342	28.1	25	36.2	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	65	5.3	15	21.7	
	Mostly Even Throughout The Area	1052	86.3	51	73.9	
	Even Throughout The Area	102	8.4	3	4.3	

Appendix Table 9. Profile of residents involved in R-REM as captured by the event logs.

			Incident Reported During The EVENT LOG				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.69	(9.54)	83.08	(9.61)	0.128
Race/Ethnicity	White, Non-Hispanic		767	58.2	59	67.8	0.201 ^E
	Black, Non-Hispanic		242	18.4	12	13.8	
	Hispanic		229	17.4	13	14.9	
	Other		18	1.4	0	.0	
	Unknown		61	4.6	3	3.4	
Female Client	Male		357	27.1	23	26.4	0.902
	Female		961	72.9	64	73.6	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.77	(2.60)	6.60	(2.35)	0.550
Behavior (RA), Mean (s.d.)			5.25	(2.17)	5.93	(2.41)	0.005
Disturbing Behaviors (STAFF), Mean (s.d.)			9.58	(7.94)	13.62	(10.17)	0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.09	(7.42)	12.80	(9.33)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			8.04	(4.74)	6.77	(4.54)	0.018
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		242	18.7	19	22.1	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		51	3.9	3	3.5	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		23	1.8	2	2.3	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		48	3.7	4	4.7	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		41	3.2	2	2.3	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		57	4.4	12	14.0	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		129	10.0	6	7.0	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		46	3.5	3	3.5	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		84	6.5	4	4.7	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		289	22.3	20	23.3	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		38	2.9	1	1.2	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		19	1.5	2	2.3	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		156	12.0	5	5.8	

		Incident Reported During The EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	40	3.1	2	2.3	
	Loss Of The Ability To Smile.	10	.8	0	.0	
	Loss Of The Ability To Hold Up Head.	23	1.8	1	1.2	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.20	(4.69)	1.67	(2.32)	0.523
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	133	10.1	13	14.9	
	Non Special Care Dementia Unit	84	6.4	3	3.4	
	Long Term Care	374	28.4	38	43.7	
	Long Term Care - Ambulatory Care	30	2.3	0	.0	
	Long Term Care - Behavioral	25	1.9	0	.0	
	Skilled Nursing	596	45.2	33	37.9	
	Medical Skilled Nursing	56	4.2	0	.0	
	Mild Skilled Nursing	20	1.5	0	.0	
Resident Capacity, Mean (s.d.)		41.03	(6.27)	43.00	(4.26)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	6.0	0	.0	
	Dining Room	287	24.3	12	15.4	
	Elevator / Near Elevator	28	2.4	5	6.4	
	Lounge	256	21.7	20	25.6	
	Nurses Station	111	9.4	12	15.4	
	Multi-Purpose Room	427	36.2	29	37.2	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	45	3.7	0	.0	
	Sometimes	359	29.7	30	38.0	
	Not At All	805	66.6	49	62.0	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	149	12.3	14	17.7	
	Not At All	1060	87.7	65	82.3	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	177	14.6	31	39.2	
	Sometimes	839	69.4	45	57.0	
	Not At All	193	16.0	3	3.8	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	669	56.0	44	55.7	
	Not At All	526	44.0	35	44.3	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	716	59.2	25	31.6	
	Not At All	493	40.8	54	68.4	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	11	.9	1	1.3	
	Sometimes	339	28.0	8	10.1	
	Not At All	859	71.1	70	88.6	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.87	(4.90)	4.78	(3.54)	
Walkers: Total Number, Mean (s.d.)		1.65	(1.83)	2.26	(2.15)	
Canes: Total Number, Mean (s.d.)		.45	(.96)	.33	(.66)	
Other: Total Number, Mean (s.d.)		2.29	(3.42)	.19	(1.15)	
Lighting						
Light Intensity - Hallways	Good	454	37.6	33	41.8	
	Ample	755	62.4	46	58.2	
Light Intensity - Activity Areas	Good	636	52.6	38	48.1	
	Ample	573	47.4	41	51.9	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	23	1.9	12	15.2	
	Good	860	71.1	43	54.4	
	Ample	326	27.0	24	30.4	
Is Glare Present - Hallways	In Many Areas	72	6.0	0	.0	

		Incident Reported During The EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	768	63.5	56	70.9	
	A Little Or None	369	30.5	23	29.1	
Is Glare Present - Activity Areas	In A Few Areas	797	65.9	54	68.4	
	A Little Or None	412	34.1	25	31.6	
Is Glare Present - Residents' Rooms	In Many Areas	50	4.1	12	15.2	
	In A Few Areas	979	81.0	63	79.7	
	A Little Or None	180	14.9	4	5.1	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	986	81.6	71	89.9	
	Even Throughout The Area	223	18.4	8	10.1	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	850	70.3	71	89.9	
	Even Throughout The Area	359	29.7	8	10.1	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	68	5.6	12	15.2	
	Mostly Even Throughout The Area	1038	85.9	65	82.3	
	Even Throughout The Area	103	8.5	2	2.5	

Appendix Table 10. Profile of residents involved in R-REM as captured by the chart reviews.

			Incident Reported During The CHART REVIEW				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.60	(9.55)	81.80	(8.90)	
Race/Ethnicity	White, Non-Hispanic		823	58.8	3	60.0	
	Black, Non-Hispanic		253	18.1	1	20.0	
	Hispanic		241	17.2	1	20.0	
	Other		18	1.3	0	.0	
	Unknown		64	4.6	0	.0	
Female Client	Male		378	27.0	2	40.0	
	Female		1022	73.0	3	60.0	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.76	(2.58)	6.60	(2.07)	
Behavior (RA), Mean (s.d.)			5.30	(2.19)	5.20	(2.68)	
Disturbing Behaviors (STAFF), Mean (s.d.)			9.81	(8.14)	14.40	(10.24)	
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.31	(7.60)	12.80	(8.61)	
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.96	(4.74)	8.25	(5.56)	
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		260	18.9	1	20.0	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		54	3.9	0	.0	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		25	1.8	0	.0	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		52	3.8	0	.0	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		43	3.1	0	.0	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		69	5.0	0	.0	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		134	9.7	1	20.0	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		48	3.5	1	20.0	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		88	6.4	0	.0	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		308	22.4	1	20.0	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		39	2.8	0	.0	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		21	1.5	0	.0	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		161	11.7	0	.0	

		Incident Reported During The CHART REVIEW				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	41	3.0	1	20.0	
	Loss Of The Ability To Smile.	10	.7	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.7	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.16	(4.58)	1.00	(1.41)	
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	144	10.3	2	40.0	
	Non Special Care Dementia Unit	87	6.2	0	.0	
	Long Term Care	410	29.3	2	40.0	
	Long Term Care - Ambulatory Care	30	2.1	0	.0	
	Long Term Care - Behavioral	25	1.8	0	.0	
	Skilled Nursing	628	44.9	1	20.0	
	Medical Skilled Nursing	56	4.0	0	.0	
	Mild Skilled Nursing	20	1.4	0	.0	
Resident Capacity, Mean (s.d.)		41.12	(6.18)	47.80	(1.10)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	5.7	0	.0	
	Dining Room	298	23.8	1	20.0	
	Elevator / Near Elevator	33	2.6	0	.0	
	Lounge	275	21.9	1	20.0	
	Nurses Station	123	9.8	0	.0	
	Multi-Purpose Room	453	36.2	3	60.0	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	44	3.4	1	20.0	
	Sometimes	386	30.1	3	60.0	
	Not At All	853	66.5	1	20.0	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	162	12.6	1	20.0	
	Not At All	1121	87.4	4	80.0	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	206	16.1	2	40.0	
	Sometimes	883	68.8	1	20.0	
	Not At All	194	15.1	2	40.0	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	711	56.0	2	40.0	
	Not At All	558	44.0	3	60.0	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	740	57.7	1	20.0	
	Not At All	543	42.3	4	80.0	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	.9	0	.0	
	Sometimes	347	27.0	0	.0	
	Not At All	924	72.0	5	100.0	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.74	(4.86)	6.80	(2.05)	
Walkers: Total Number, Mean (s.d.)		1.69	(1.86)	3.33	(2.31)	
Canes: Total Number, Mean (s.d.)		.44	(.95)	.00	(.00)	
Other: Total Number, Mean (s.d.)		2.18	(3.37)	2.50	(3.79)	
Lighting						
Light Intensity - Hallways	Good	486	37.9	1	20.0	
	Ample	797	62.1	4	80.0	
Light Intensity - Activity Areas	Good	671	52.3	3	60.0	
	Ample	612	47.7	2	40.0	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	34	2.7	1	20.0	
	Good	900	70.1	3	60.0	
	Ample	349	27.2	1	20.0	
Is Glare Present - Hallways	In Many Areas	71	5.5	1	20.0	

		Incident Reported During The CHART REVIEW				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	821	64.0	3	60.0	
	A Little Or None	391	30.5	1	20.0	
Is Glare Present - Activity Areas	In A Few Areas	848	66.1	3	60.0	
	A Little Or None	435	33.9	2	40.0	
Is Glare Present - Residents' Rooms	In Many Areas	61	4.8	1	20.0	
	In A Few Areas	1038	80.9	4	80.0	
	A Little Or None	184	14.3	0	.0	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1052	82.0	5	100.0	
	Even Throughout The Area	231	18.0	0	.0	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	918	71.6	3	60.0	
	Even Throughout The Area	365	28.4	2	40.0	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	78	6.1	2	40.0	
	Mostly Even Throughout The Area	1100	85.7	3	60.0	
	Even Throughout The Area	105	8.2	0	.0	

Appendix Table 11. Profile of residents involved in verbal R-REM as reported by the residents.

			Verbal Behaviors Reported RESIDENT Interview				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			83.94	(9.89)	81.74	(12.10)	0.141
Race/Ethnicity	White, Non-Hispanic		408	68.2	52	72.2	0.087 ^E
	Black, Non-Hispanic		104	17.4	6	8.3	
	Hispanic		82	13.7	14	19.4	
	Other		4	.7	0	.0	
Female Client	Male		182	30.4	22	30.6	0.983
	Female		416	69.6	50	69.4	
BEHAVIOR							
Affect (RA), Mean (s.d.)			5.73	(2.09)	5.67	(2.00)	0.820
Behavior (RA), Mean (s.d.)			5.31	(1.94)	5.65	(2.38)	0.167
Disturbing Behaviors (STAFF), Mean (s.d.)			8.35	(7.75)	8.18	(6.80)	0.863
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			8.00	(7.28)	7.76	(6.31)	0.794
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			4.82	(2.99)	3.53	(3.01)	0.001
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		193	32.8	25	35.2	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		36	6.1	4	5.6	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		16	2.7	2	2.8	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		34	5.8	5	7.0	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		22	3.7	3	4.2	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		35	5.9	1	1.4	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		63	10.7	7	9.9	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		22	3.7	2	2.8	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		40	6.8	8	11.3	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		85	14.4	12	16.9	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		2	.3	0	.0	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		2	.3	0	.0	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		32	5.4	2	2.8	
	Ability To Sit Up Without Assistance Lost.		5	.8	0	.0	

		Verbal Behaviors Reported RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
Loss Of The Ability To Hold Up Head.		2	.3	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		1.24	(3.11)	1.07	(2.21)	0.685
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	29	4.8	5	6.9	
	Non Special Care Dementia Unit	25	4.2	0	.0	
	Long Term Care	214	35.8	31	43.1	
	Long Term Care - Ambulatory Care	21	3.5	5	6.9	
	Long Term Care - Behavioral	4	.7	1	1.4	
	Skilled Nursing	257	43.0	28	38.9	
	Medical Skilled Nursing	36	6.0	0	.0	
	Mild Skilled Nursing	12	2.0	2	2.8	
Resident Capacity, Mean (s.d.)		40.57	(6.20)	41.19	(5.40)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	32	6.1	5	7.5	
	Dining Room	105	19.9	6	9.0	
	Elevator / Near Elevator	16	3.0	2	3.0	
	Lounge	126	23.9	17	25.4	
	Nurses Station	49	9.3	10	14.9	
	Multi-Purpose Room	200	37.9	27	40.3	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	1	.2	0	.0	
	Sometimes	100	18.4	12	17.4	
	Not At All	442	81.4	57	82.6	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	73	13.4	5	7.2	
	Not At All	470	86.6	64	92.8	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	73	13.4	11	15.9	
	Sometimes	415	76.4	52	75.4	
	Not At All	55	10.1	6	8.7	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	282	52.5	40	58.0	
	Not At All	255	47.5	29	42.0	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	303	55.8	31	44.9	
	Not At All	240	44.2	38	55.1	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	7	1.3	1	1.4	
	Sometimes	158	29.1	22	31.9	
	Not At All	378	69.6	46	66.7	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		5.81	(4.78)	4.86	(4.67)	
Walkers: Total Number, Mean (s.d.)		1.45	(1.65)	1.26	(1.23)	
Canes: Total Number, Mean (s.d.)		.46	(.88)	.69	(1.10)	
Other: Total Number, Mean (s.d.)		1.12	(1.94)	1.20	(2.26)	
Lighting						
Light Intensity - Hallways	Good	237	43.6	29	42.0	
	Ample	306	56.4	40	58.0	
Light Intensity - Activity Areas	Good	323	59.5	35	50.7	
	Ample	220	40.5	34	49.3	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	10	1.8	0	.0	
	Good	402	74.0	48	69.6	
	Ample	131	24.1	21	30.4	
Is Glare Present - Hallways	In Many Areas	11	2.0	1	1.4	
	In A Few Areas	379	69.8	50	72.5	
	A Little Or None	153	28.2	18	26.1	

		Verbal Behaviors Reported RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
Is Glare Present - Activity Areas	In A Few Areas	388	71.5	50	72.5	
	A Little Or None	155	28.5	19	27.5	
Is Glare Present - Residents' Rooms	In Many Areas	20	3.7	1	1.4	
	In A Few Areas	434	79.9	57	82.6	
	A Little Or None	89	16.4	11	15.9	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	457	84.2	54	78.3	
	Even Throughout The Area	86	15.8	15	21.7	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	421	77.5	52	75.4	
	Even Throughout The Area	122	22.5	17	24.6	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	11	2.0	0	.0	
	Mostly Even Throughout The Area	498	91.7	64	92.8	
	Even Throughout The Area	34	6.3	5	7.2	

Appendix Table 12. Profile of residents involved in verbal R-REM as reported by the staff.

Appendix Table 12: Profile of residents involved in verbal R-R events as reported by the staff.

			Verbal Behaviors Reported STAFF Interview				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.53	(9.69)	85.44	(8.29)	0.254
Race/Ethnicity	White, Non-Hispanic		724	57.7	87	70.2	0.002 ^E
	Black, Non-Hispanic		241	19.2	11	8.9	
	Hispanic		216	17.2	23	18.5	
	Other		18	1.4	0	.0	
	Unknown		55	4.4	3	2.4	
Female Client	Male		346	27.6	27	21.8	0.157
	Female		909	72.4	97	78.2	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.78	(2.59)	6.44	(2.35)	0.156
Behavior (RA), Mean (s.d.)			5.24	(2.09)	5.73	(2.06)	0.012
Disturbing Behaviors (STAFF), Mean (s.d.)			9.02	(7.49)	18.02	(9.92)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			8.58	(7.01)	16.83	(9.21)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.95	(4.77)	7.78	(4.19)	0.682
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		240	19.1	21	17.1	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		46	3.7	8	6.5	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		23	1.8	2	1.6	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		47	3.7	5	4.1	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		37	2.9	6	4.9	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		55	4.4	14	11.4	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		128	10.2	7	5.7	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		40	3.2	9	7.3	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		81	6.5	7	5.7	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		276	22.0	33	26.8	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		37	2.9	1	.8	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		19	1.5	1	.8	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		151	12.0	8	6.5	

		Verbal Behaviors Reported STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	41	3.3	1	.8	
	Loss Of The Ability To Smile.	10	.8	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.9	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.10	(4.51)	2.75	(5.25)	0.228
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	108	8.6	27	21.8	
	Non Special Care Dementia Unit	79	6.3	8	6.5	
	Long Term Care	352	28.0	52	41.9	
	Long Term Care - Ambulatory Care	27	2.2	3	2.4	
	Long Term Care - Behavioral	25	2.0	0	.0	
	Skilled Nursing	593	47.3	29	23.4	
	Medical Skilled Nursing	53	4.2	3	2.4	
	Mild Skilled Nursing	18	1.4	2	1.6	
Resident Capacity, Mean (s.d.)		40.80	(6.20)	43.74	(5.51)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	63	5.6	3	2.9	
	Dining Room	282	25.0	16	15.2	
	Elevator / Near Elevator	31	2.7	2	1.9	
	Lounge	226	20.0	38	36.2	
	Nurses Station	104	9.2	17	16.2	
	Multi-Purpose Room	422	37.4	29	27.6	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	33	2.9	6	5.7	
	Sometimes	340	29.4	42	39.6	
	Not At All	784	67.8	58	54.7	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	141	12.2	18	17.0	
	Not At All	1016	87.8	88	83.0	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	178	15.4	27	25.5	
	Sometimes	805	69.6	68	64.2	
	Not At All	174	15.0	11	10.4	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	662	57.8	46	43.4	
	Not At All	483	42.2	60	56.6	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	691	59.7	41	38.7	
	Not At All	466	40.3	65	61.3	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	1.0	0	.0	
	Sometimes	327	28.3	15	14.2	
	Not At All	818	70.7	91	85.8	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.92	(4.88)	4.57	(3.96)	
Walkers: Total Number, Mean (s.d.)		1.68	(1.82)	1.90	(2.20)	
Canes: Total Number, Mean (s.d.)		.47	(.97)	.19	(.64)	
Other: Total Number, Mean (s.d.)		2.12	(3.37)	2.28	(3.18)	
Lighting						
Light Intensity - Hallways	Good	431	37.3	42	39.6	
	Ample	726	62.7	64	60.4	
Light Intensity - Activity Areas	Good	606	52.4	59	55.7	
	Ample	551	47.6	47	44.3	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	26	2.2	8	7.5	
	Good	816	70.5	69	65.1	
	Ample	315	27.2	29	27.4	
Is Glare Present - Hallways	In Many Areas	56	4.8	7	6.6	

		Verbal Behaviors Reported STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	750	64.8	63	59.4	
	A Little Or None	351	30.3	36	34.0	
Is Glare Present - Activity Areas	In A Few Areas	758	65.5	78	73.6	
	A Little Or None	399	34.5	28	26.4	
Is Glare Present - Residents' Rooms	In Many Areas	49	4.2	9	8.5	
	In A Few Areas	935	80.8	88	83.0	
	A Little Or None	173	15.0	9	8.5	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	939	81.2	98	92.5	
	Even Throughout The Area	218	18.8	8	7.5	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	835	72.2	75	70.8	
	Even Throughout The Area	322	27.8	31	29.2	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	59	5.1	14	13.2	
	Mostly Even Throughout The Area	998	86.3	89	84.0	
	Even Throughout The Area	100	8.6	3	2.8	

Appendix Table 13. Profile of residents involved in verbal R-REM as reported in shift coupons.

			Verbal Behaviors Reported SHIFT COUPON				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.64	(9.66)	83.62	(6.86)	0.255
Race/Ethnicity	White, Non-Hispanic		790	59.0	36	55.4	0.471 ^E
	Black, Non-Hispanic		244	18.2	10	15.4	
	Hispanic		228	17.0	14	21.5	
	Other		18	1.3	0	.0	
	Unknown		59	4.4	5	7.7	
Female Client	Male		364	27.2	16	24.6	0.757
	Female		976	72.8	49	75.4	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.77	(2.60)	6.54	(2.13)	0.483
Behavior (RA), Mean (s.d.)			5.26	(2.18)	5.97	(2.38)	0.011
Disturbing Behaviors (STAFF), Mean (s.d.)			9.57	(7.93)	15.23	(10.57)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.09	(7.41)	14.17	(9.68)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.94	(4.75)	8.39	(4.41)	0.468
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		255	19.3	6	9.4	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		51	3.9	3	4.7	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		24	1.8	1	1.6	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		48	3.6	4	6.3	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		42	3.2	1	1.6	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		64	4.9	5	7.8	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		128	9.7	7	10.9	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		46	3.5	3	4.7	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		84	6.4	4	6.3	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		293	22.2	16	25.0	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		36	2.7	3	4.7	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		20	1.5	1	1.6	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		154	11.7	7	10.9	

		Verbal Behaviors Reported SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	40	3.0	2	3.1	
	Loss Of The Ability To Smile.	10	.8	0	.0	
	Loss Of The Ability To Hold Up Head.	23	1.7	1	1.6	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.11	(4.43)	3.02	(6.75)	0.399
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	129	9.6	17	26.2	
	Non Special Care Dementia Unit	84	6.3	3	4.6	
	Long Term Care	397	29.6	15	23.1	
	Long Term Care - Ambulatory Care	27	2.0	3	4.6	
	Long Term Care - Behavioral	25	1.9	0	.0	
	Skilled Nursing	607	45.3	22	33.8	
	Medical Skilled Nursing	55	4.1	1	1.5	
	Mild Skilled Nursing	16	1.2	4	6.2	
Resident Capacity, Mean (s.d.)		41.07	(6.15)	42.69	(6.60)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	5.9	0	.0	
	Dining Room	287	24.0	12	20.0	
	Elevator / Near Elevator	32	2.7	1	1.7	
	Lounge	266	22.2	10	16.7	
	Nurses Station	108	9.0	15	25.0	
	Multi-Purpose Room	434	36.2	22	36.7	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	38	3.1	7	11.7	
	Sometimes	364	29.6	25	41.7	
	Not At All	826	67.3	28	46.7	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	153	12.5	10	16.7	
	Not At All	1075	87.5	50	83.3	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	187	15.2	21	35.0	
	Sometimes	854	69.5	30	50.0	
	Not At All	187	15.2	9	15.0	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	684	56.3	29	48.3	
	Not At All	530	43.7	31	51.7	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	714	58.1	27	45.0	
	Not At All	514	41.9	33	55.0	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	1.0	0	.0	
	Sometimes	337	27.4	10	16.7	
	Not At All	879	71.6	50	83.3	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.77	(4.91)	6.02	(3.58)	
Walkers: Total Number, Mean (s.d.)		1.67	(1.85)	2.29	(2.03)	
Canes: Total Number, Mean (s.d.)		.44	(.95)	.46	(.93)	
Other: Total Number, Mean (s.d.)		2.13	(3.34)	3.03	(3.77)	
Lighting						
Light Intensity - Hallways	Good	465	37.9	22	36.7	
	Ample	763	62.1	38	63.3	
Light Intensity - Activity Areas	Good	651	53.0	23	38.3	
	Ample	577	47.0	37	61.7	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	29	2.4	6	10.0	
	Good	858	69.9	45	75.0	
	Ample	341	27.8	9	15.0	
Is Glare Present - Hallways	In Many Areas	65	5.3	7	11.7	

		Verbal Behaviors Reported SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	788	64.2	36	60.0	
	A Little Or None	375	30.5	17	28.3	
Is Glare Present - Activity Areas	In A Few Areas	815	66.4	36	60.0	
	A Little Or None	413	33.6	24	40.0	
Is Glare Present - Residents' Rooms	In Many Areas	56	4.6	6	10.0	
	In A Few Areas	992	80.8	50	83.3	
	A Little Or None	180	14.7	4	6.7	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1006	81.9	51	85.0	
	Even Throughout The Area	222	18.1	9	15.0	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	884	72.0	37	61.7	
	Even Throughout The Area	344	28.0	23	38.3	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	67	5.5	13	21.7	
	Mostly Even Throughout The Area	1059	86.2	44	73.3	
	Even Throughout The Area	102	8.3	3	5.0	

Appendix Table 14. Profile of residents involved in verbal R-REM as reported in event logs.

			Verbal Behaviors Reported EVENT LOG				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.62	(9.54)	83.93	(9.77)	0.557
Race/Ethnicity	White, Non-Hispanic		778	58.2	48	70.6	0.114 ^E
	Black, Non-Hispanic		246	18.4	8	11.8	
	Hispanic		233	17.4	9	13.2	
	Other		18	1.3	0	.0	
	Unknown		61	4.6	3	4.4	
Female Client	Male		363	27.2	17	25.0	0.695
	Female		974	72.8	51	75.0	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.77	(2.59)	6.56	(2.45)	0.496
Behavior (RA), Mean (s.d.)			5.26	(2.17)	6.01	(2.58)	0.006
Disturbing Behaviors (STAFF), Mean (s.d.)			9.59	(7.94)	14.51	(10.60)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.11	(7.42)	13.60	(9.70)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			8.01	(4.73)	7.00	(4.83)	0.095
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		249	18.9	12	17.9	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		51	3.9	3	4.5	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		23	1.7	2	3.0	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		48	3.7	4	6.0	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		43	3.3	0	.0	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		61	4.6	8	11.9	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		130	9.9	5	7.5	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		47	3.6	2	3.0	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		84	6.4	4	6.0	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		293	22.3	16	23.9	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		38	2.9	1	1.5	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		19	1.4	2	3.0	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		156	11.9	5	7.5	

		Verbal Behaviors Reported EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	40	3.0	2	3.0	
	Loss Of The Ability To Smile.	10	.8	0	.0	
	Loss Of The Ability To Hold Up Head.	23	1.7	1	1.5	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.19	(4.66)	1.68	(2.36)	0.490
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	136	10.2	10	14.7	
	Non Special Care Dementia Unit	86	6.4	1	1.5	
	Long Term Care	379	28.3	33	48.5	
	Long Term Care - Ambulatory Care	30	2.2	0	.0	
	Long Term Care - Behavioral	25	1.9	0	.0	
	Skilled Nursing	605	45.3	24	35.3	
	Medical Skilled Nursing	56	4.2	0	.0	
	Mild Skilled Nursing	20	1.5	0	.0	
Resident Capacity, Mean (s.d.)		41.04	(6.24)	43.19	(4.45)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	5.9	0	.0	
	Dining Room	290	24.2	9	14.5	
	Elevator / Near Elevator	29	2.4	4	6.5	
	Lounge	259	21.7	17	27.4	
	Nurses Station	114	9.5	9	14.5	
	Multi-Purpose Room	433	36.2	23	37.1	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	45	3.7	0	.0	
	Sometimes	364	29.7	25	40.3	
	Not At All	817	66.6	37	59.7	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	152	12.4	11	17.7	
	Not At All	1074	87.6	51	82.3	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	185	15.1	23	37.1	
	Sometimes	847	69.1	37	59.7	
	Not At All	194	15.8	2	3.2	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	679	56.0	34	54.8	
	Not At All	533	44.0	28	45.2	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	719	58.6	22	35.5	
	Not At All	507	41.4	40	64.5	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	11	.9	1	1.6	
	Sometimes	342	27.9	5	8.1	
	Not At All	873	71.2	56	90.3	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.84	(4.89)	4.81	(3.65)	
Walkers: Total Number, Mean (s.d.)		1.66	(1.84)	2.32	(2.15)	
Canes: Total Number, Mean (s.d.)		.45	(.96)	.31	(.62)	
Other: Total Number, Mean (s.d.)		2.27	(3.41)	.23	(1.26)	
Lighting						
Light Intensity - Hallways	Good	461	37.6	26	41.9	
	Ample	765	62.4	36	58.1	
Light Intensity - Activity Areas	Good	642	52.4	32	51.6	
	Ample	584	47.6	30	48.4	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	26	2.1	9	14.5	
	Good	870	71.0	33	53.2	
	Ample	330	26.9	20	32.3	
Is Glare Present - Hallways	In Many Areas	72	5.9	0	.0	

		Verbal Behaviors Reported EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	778	63.5	46	74.2	
	A Little Or None	376	30.7	16	25.8	
Is Glare Present - Activity Areas	In A Few Areas	808	65.9	43	69.4	
	A Little Or None	418	34.1	19	30.6	
Is Glare Present - Residents' Rooms	In Many Areas	53	4.3	9	14.5	
	In A Few Areas	992	80.9	50	80.6	
	A Little Or None	181	14.8	3	4.8	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1000	81.6	57	91.9	
	Even Throughout The Area	226	18.4	5	8.1	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	865	70.6	56	90.3	
	Even Throughout The Area	361	29.4	6	9.7	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	71	5.8	9	14.5	
	Mostly Even Throughout The Area	1051	85.7	52	83.9	
	Even Throughout The Area	104	8.5	1	1.6	

Appendix Table 15. Profile of residents involved in physical R-REM as reported by residents.

			Physical Behaviors Reported RESIDENT Interview				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			83.72	(10.22)	82.77	(6.99)	0.738
Race/Ethnicity	White, Non-Hispanic		448	68.2	12	92.3	0.098 ^E
	Black, Non-Hispanic		110	16.7	0	.0	
	Hispanic		95	14.5	1	7.7	
	Other		4	.6	0	.0	
Female Client	Male		201	30.6	3	23.1	0.764 ^E
	Female		456	69.4	10	76.9	
BEHAVIOR							
Affect (RA), Mean (s.d.)			5.70	(2.06)	6.46	(2.96)	0.195
Behavior (RA), Mean (s.d.)			5.32	(1.92)	6.54	(4.29)	0.328
Disturbing Behaviors (STAFF), Mean (s.d.)			8.29	(7.63)	10.62	(8.79)	0.278
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			7.92	(7.16)	10.31	(8.07)	0.236
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			4.68	(3.01)	4.54	(3.60)	0.864
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		216	33.4	2	15.4	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		39	6.0	1	7.7	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		17	2.6	1	7.7	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		38	5.9	1	7.7	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		24	3.7	1	7.7	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		36	5.6	0	.0	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		68	10.5	2	15.4	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		24	3.7	0	.0	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		46	7.1	2	15.4	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		95	14.7	2	15.4	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		2	.3	0	.0	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		2	.3	0	.0	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		33	5.1	1	7.7	
	Ability To Sit Up Without Assistance Lost.		5	.8	0	.0	

		Physical Behaviors Reported RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
Loss Of The Ability To Hold Up Head.		2	.3	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		1.24	(3.05)	.18	(.60)	<0.001
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	31	4.7	3	23.1	
	Non Special Care Dementia Unit	25	3.8	0	.0	
	Long Term Care	244	37.1	1	7.7	
	Long Term Care - Ambulatory Care	26	4.0	0	.0	
	Long Term Care - Behavioral	5	.8	0	.0	
	Skilled Nursing	278	42.3	7	53.8	
	Medical Skilled Nursing	35	5.3	1	7.7	
	Mild Skilled Nursing	13	2.0	1	7.7	
Resident Capacity, Mean (s.d.)		40.66	(6.06)	39.92	(8.73)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	35	6.0	2	15.4	
	Dining Room	108	18.6	3	23.1	
	Elevator / Near Elevator	16	2.7	2	15.4	
	Lounge	142	24.4	1	7.7	
	Nurses Station	55	9.5	4	30.8	
	Multi-Purpose Room	226	38.8	1	7.7	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	1	.2	0	.0	
	Sometimes	106	17.7	6	46.2	
	Not At All	492	82.1	7	53.8	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	76	12.7	2	15.4	
	Not At All	523	87.3	11	84.6	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	81	13.5	3	23.1	
	Sometimes	457	76.3	10	76.9	
	Not At All	61	10.2	0	.0	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	313	52.8	9	69.2	
	Not At All	280	47.2	4	30.8	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	328	54.8	6	46.2	
	Not At All	271	45.2	7	53.8	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	8	1.3	0	.0	
	Sometimes	176	29.4	4	30.8	
	Not At All	415	69.3	9	69.2	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		5.73	(4.79)	4.45	(4.25)	
Walkers: Total Number, Mean (s.d.)		1.45	(1.61)	.64	(.92)	
Canes: Total Number, Mean (s.d.)		.50	(.92)	.22	(.44)	
Other: Total Number, Mean (s.d.)		1.06	(1.91)	3.88	(2.85)	
Lighting						
Light Intensity - Hallways	Good	264	44.1	2	15.4	
	Ample	335	55.9	11	84.6	
Light Intensity - Activity Areas	Good	355	59.3	3	23.1	
	Ample	244	40.7	10	76.9	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	10	1.7	0	.0	
	Good	442	73.8	8	61.5	
	Ample	147	24.5	5	38.5	
Is Glare Present - Hallways	In Many Areas	12	2.0	0	.0	
	In A Few Areas	423	70.6	6	46.2	
	A Little Or None	164	27.4	7	53.8	

		Physical Behaviors Reported RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
Is Glare Present - Activity Areas	In A Few Areas	431	72.0	7	53.8	
	A Little Or None	168	28.0	6	46.2	
Is Glare Present - Residents' Rooms	In Many Areas	21	3.5	0	.0	
	In A Few Areas	481	80.3	10	76.9	
	A Little Or None	97	16.2	3	23.1	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	501	83.6	10	76.9	
	Even Throughout The Area	98	16.4	3	23.1	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	468	78.1	5	38.5	
	Even Throughout The Area	131	21.9	8	61.5	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	11	1.8	0	.0	
	Mostly Even Throughout The Area	550	91.8	12	92.3	
	Even Throughout The Area	38	6.3	1	7.7	

Appendix Table 16. Profile of residents involved in physical R-REM as reported by staff.

			Physical Behaviors Reported STAFF Interview				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.57	(9.61)	86.27	(7.80)	0.287
Race/Ethnicity	White, Non-Hispanic		784	58.5	27	73.0	0.107 ^E
	Black, Non-Hispanic		249	18.6	3	8.1	
	Hispanic		235	17.5	4	10.8	
	Other		18	1.3	0	.0	
	Unknown		55	4.1	3	8.1	
Female Client	Male		363	27.0	10	27.0	0.998
	Female		979	73.0	27	73.0	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.74	(2.56)	6.92	(2.83)	0.681
Behavior (RA), Mean (s.d.)			5.26	(2.08)	6.24	(2.27)	0.005
Disturbing Behaviors (STAFF), Mean (s.d.)			9.46	(7.79)	23.03	(9.82)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			8.99	(7.28)	21.35	(9.10)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.86	(4.72)	10.35	(3.80)	0.002
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		261	19.5	0	.0	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		53	4.0	1	2.7	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		25	1.9	0	.0	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		49	3.7	3	8.1	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		41	3.1	2	5.4	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		65	4.8	4	10.8	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		134	10.0	1	2.7	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		45	3.4	4	10.8	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		86	6.4	2	5.4	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		296	22.1	13	35.1	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		36	2.7	2	5.4	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		19	1.4	1	2.7	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		157	11.7	2	5.4	

		Physical Behaviors Reported STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	40	3.0	2	5.4	
	Loss Of The Ability To Smile.	10	.7	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.8	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.12	(4.58)	3.70	(4.88)	0.130
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	120	8.9	15	40.5	
	Non Special Care Dementia Unit	82	6.1	5	13.5	
	Long Term Care	399	29.7	5	13.5	
	Long Term Care - Ambulatory Care	29	2.2	1	2.7	
	Long Term Care - Behavioral	25	1.9	0	.0	
	Skilled Nursing	611	45.5	11	29.7	
	Medical Skilled Nursing	56	4.2	0	.0	
	Mild Skilled Nursing	20	1.5	0	.0	
Resident Capacity, Mean (s.d.)		40.93	(6.18)	45.92	(4.44)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	64	5.3	2	5.7	
	Dining Room	294	24.5	4	11.4	
	Elevator / Near Elevator	32	2.7	1	2.9	
	Lounge	255	21.3	9	25.7	
	Nurses Station	111	9.3	10	28.6	
	Multi-Purpose Room	442	36.9	9	25.7	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	35	2.9	4	11.4	
	Sometimes	357	29.1	25	71.4	
	Not At All	836	68.1	6	17.1	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	152	12.4	7	20.0	
	Not At All	1076	87.6	28	80.0	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	189	15.4	16	45.7	
	Sometimes	858	69.9	15	42.9	
	Not At All	181	14.7	4	11.4	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	690	56.7	18	51.4	
	Not At All	526	43.3	17	48.6	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	719	58.6	13	37.1	
	Not At All	509	41.4	22	62.9	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	1.0	0	.0	
	Sometimes	336	27.4	6	17.1	
	Not At All	880	71.7	29	82.9	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.76	(4.88)	5.47	(3.89)	
Walkers: Total Number, Mean (s.d.)		1.69	(1.84)	2.11	(2.31)	
Canes: Total Number, Mean (s.d.)		.45	(.95)	.18	(.66)	
Other: Total Number, Mean (s.d.)		2.07	(3.32)	3.96	(3.62)	
Lighting						
Light Intensity - Hallways	Good	464	37.8	9	25.7	
	Ample	764	62.2	26	74.3	
Light Intensity - Activity Areas	Good	653	53.2	12	34.3	
	Ample	575	46.8	23	65.7	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	32	2.6	2	5.7	
	Good	859	70.0	26	74.3	
	Ample	337	27.4	7	20.0	
Is Glare Present - Hallways	In Many Areas	59	4.8	4	11.4	

		Physical Behaviors Reported STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	799	65.1	14	40.0	
	A Little Or None	370	30.1	17	48.6	
Is Glare Present - Activity Areas	In A Few Areas	817	66.5	19	54.3	
	A Little Or None	411	33.5	16	45.7	
Is Glare Present - Residents' Rooms	In Many Areas	56	4.6	2	5.7	
	In A Few Areas	992	80.8	31	88.6	
	A Little Or None	180	14.7	2	5.7	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1004	81.8	33	94.3	
	Even Throughout The Area	224	18.2	2	5.7	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	895	72.9	15	42.9	
	Even Throughout The Area	333	27.1	20	57.1	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	67	5.5	6	17.1	
	Mostly Even Throughout The Area	1059	86.2	28	80.0	
	Even Throughout The Area	102	8.3	1	2.9	

Appendix Table 17. Profile of residents involved in physical R-REM as reported in the shift coupons

			Physical Behaviors Reported SHIFT COUPON				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.59	(9.58)	84.65	(7.41)	0.975
Race/Ethnicity	White, Non-Hispanic		813	58.9	13	56.5	0.699
	Black, Non-Hispanic		250	18.1	4	17.4	
	Hispanic		236	17.1	6	26.1	
	Other		18	1.3	0	.0	
	Unknown		64	4.6	0	.0	
Female Client	Male		377	27.3	3	13.0	0.101
	Female		1005	72.7	20	87.0	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.75	(2.59)	7.22	(2.15)	0.390
Behavior (RA), Mean (s.d.)			5.29	(2.20)	5.96	(1.89)	0.146
Disturbing Behaviors (STAFF), Mean (s.d.)			9.72	(8.07)	16.22	(10.09)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.23	(7.54)	14.78	(9.09)	0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.94	(4.75)	9.52	(3.97)	0.128
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		259	19.1	2	8.7	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		53	3.9	1	4.3	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		23	1.7	2	8.7	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		52	3.8	0	.0	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		42	3.1	1	4.3	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		68	5.0	1	4.3	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		135	9.9	0	.0	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		48	3.5	1	4.3	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		83	6.1	5	21.7	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		304	22.4	5	21.7	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		37	2.7	2	8.7	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		20	1.5	1	4.3	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		160	11.8	1	4.3	

		Physical Behaviors Reported SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	41	3.0	1	4.3	
	Loss Of The Ability To Smile.	10	.7	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.8	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.14	(4.52)	3.46	(7.45)	0.535
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	136	9.8	10	43.5	
	Non Special Care Dementia Unit	85	6.2	2	8.7	
	Long Term Care	404	29.2	8	34.8	
	Long Term Care - Ambulatory Care	29	2.1	1	4.3	
	Long Term Care - Behavioral	25	1.8	0	.0	
	Skilled Nursing	628	45.4	1	4.3	
	Medical Skilled Nursing	55	4.0	1	4.3	
	Mild Skilled Nursing	20	1.4	0	.0	
Resident Capacity, Mean (s.d.)		41.06	(6.16)	46.13	(5.18)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	5.7	0	.0	
	Dining Room	290	23.4	9	50.0	
	Elevator / Near Elevator	33	2.7	0	.0	
	Lounge	274	22.1	2	11.1	
	Nurses Station	120	9.7	3	16.7	
	Multi-Purpose Room	452	36.5	4	22.2	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	44	3.5	1	5.6	
	Sometimes	375	29.5	14	77.8	
	Not At All	851	67.0	3	16.7	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	155	12.2	8	44.4	
	Not At All	1115	87.8	10	55.6	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	197	15.5	11	61.1	
	Sometimes	879	69.2	5	27.8	
	Not At All	194	15.3	2	11.1	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	704	56.1	9	50.0	
	Not At All	552	43.9	9	50.0	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	736	58.0	5	27.8	
	Not At All	534	42.0	13	72.2	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	.9	0	.0	
	Sometimes	344	27.1	3	16.7	
	Not At All	914	72.0	15	83.3	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.75	(4.87)	5.50	(3.40)	
Walkers: Total Number, Mean (s.d.)		1.68	(1.84)	2.94	(2.63)	
Canes: Total Number, Mean (s.d.)		.44	(.95)	.30	(.95)	
Other: Total Number, Mean (s.d.)		2.15	(3.34)	4.00	(4.82)	
Lighting						
Light Intensity - Hallways	Good	485	38.2	2	11.1	
	Ample	785	61.8	16	88.9	
Light Intensity - Activity Areas	Good	665	52.4	9	50.0	
	Ample	605	47.6	9	50.0	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	29	2.3	6	33.3	
	Good	895	70.5	8	44.4	
	Ample	346	27.2	4	22.2	
Is Glare Present - Hallways	In Many Areas	71	5.6	1	5.6	

		Physical Behaviors Reported SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	819	64.5	5	27.8	
	A Little Or None	380	29.9	12	66.7	
Is Glare Present - Activity Areas	In A Few Areas	838	66.0	13	72.2	
	A Little Or None	432	34.0	5	27.8	
Is Glare Present - Residents' Rooms	In Many Areas	56	4.4	6	33.3	
	In A Few Areas	1032	81.3	10	55.6	
	A Little Or None	182	14.3	2	11.1	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1040	81.9	17	94.4	
	Even Throughout The Area	230	18.1	1	5.6	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	911	71.7	10	55.6	
	Even Throughout The Area	359	28.3	8	44.4	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	73	5.7	7	38.9	
	Mostly Even Throughout The Area	1093	86.1	10	55.6	
	Even Throughout The Area	104	8.2	1	5.6	

Appendix Table 18. Profile of residents involved in physical R-REM as reported in the event logs.

			Physical Behaviors Reported				p-value
			EVENT LOG				
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.61	(9.54)	82.94	(10.64)	0.474
Race/Ethnicity	White, Non-Hispanic		814	58.7	12	70.6	0.832 ^E
	Black, Non-Hispanic		251	18.1	3	17.6	
	Hispanic		240	17.3	2	11.8	
	Other		18	1.3	0	.0	
	Unknown		64	4.6	0	.0	
Female Client	Male		378	27.2	2	11.8	0.181 ^E
	Female		1010	72.8	15	88.2	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.75	(2.58)	7.41	(3.04)	0.294
Behavior (RA), Mean (s.d.)			5.27	(2.16)	7.06	(3.73)	0.037
Disturbing Behaviors (STAFF), Mean (s.d.)			9.73	(8.09)	17.59	(9.28)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.24	(7.56)	16.35	(8.18)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.95	(4.73)	9.25	(5.21)	0.274
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		261	19.1	0	.0	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		54	4.0	0	.0	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		24	1.8	1	5.9	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		52	3.8	0	.0	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		43	3.2	0	.0	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		68	5.0	1	5.9	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		132	9.7	3	17.6	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		48	3.5	1	5.9	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		86	6.3	2	11.8	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		304	22.3	5	29.4	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		38	2.8	1	5.9	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		19	1.4	2	11.8	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).		161	11.8	0	.0	

		Physical Behaviors Reported EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	41	3.0	1	5.9	
	Loss Of The Ability To Smile.	10	.7	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.8	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.16	(4.59)	1.88	(2.42)	0.859
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	140	10.1	6	35.3	
	Non Special Care Dementia Unit	87	6.3	0	.0	
	Long Term Care	405	29.2	7	41.2	
	Long Term Care - Ambulatory Care	30	2.2	0	.0	
	Long Term Care - Behavioral	25	1.8	0	.0	
	Skilled Nursing	625	45.0	4	23.5	
	Medical Skilled Nursing	56	4.0	0	.0	
	Mild Skilled Nursing	20	1.4	0	.0	
Resident Capacity, Mean (s.d.)		41.09	(6.18)	45.65	(3.77)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	5.7	0	.0	
	Dining Room	294	23.7	5	29.4	
	Elevator / Near Elevator	32	2.6	1	5.9	
	Lounge	274	22.1	2	11.8	
	Nurses Station	121	9.8	2	11.8	
	Multi-Purpose Room	449	36.2	7	41.2	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	45	3.5	0	.0	
	Sometimes	376	29.6	13	76.5	
	Not At All	850	66.9	4	23.5	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	158	12.4	5	29.4	
	Not At All	1113	87.6	12	70.6	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	197	15.5	11	64.7	
	Sometimes	879	69.2	5	29.4	
	Not At All	195	15.3	1	5.9	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	704	56.0	9	52.9	
	Not At All	553	44.0	8	47.1	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	736	57.9	5	29.4	
	Not At All	535	42.1	12	70.6	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	.9	0	.0	
	Sometimes	347	27.3	0	.0	
	Not At All	912	71.8	17	100.0	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.75	(4.87)	5.82	(3.07)	
Walkers: Total Number, Mean (s.d.)		1.68	(1.84)	3.00	(2.39)	
Canes: Total Number, Mean (s.d.)		.45	(.95)	.27	(.65)	
Other: Total Number, Mean (s.d.)		2.20	(3.38)	.78	(2.33)	
Lighting						
Light Intensity - Hallways	Good	484	38.1	3	17.6	
	Ample	787	61.9	14	82.4	
Light Intensity - Activity Areas	Good	666	52.4	8	47.1	
	Ample	605	47.6	9	52.9	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	30	2.4	5	29.4	
	Good	897	70.6	6	35.3	
	Ample	344	27.1	6	35.3	
Is Glare Present - Hallways	In Many Areas	72	5.7	0	.0	

		Physical Behaviors Reported EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
	In A Few Areas	813	64.0	11	64.7	
	A Little Or None	386	30.4	6	35.3	
Is Glare Present - Activity Areas	In A Few Areas	840	66.1	11	64.7	
	A Little Or None	431	33.9	6	35.3	
Is Glare Present - Residents' Rooms	In Many Areas	57	4.5	5	29.4	
	In A Few Areas	1030	81.0	12	70.6	
	A Little Or None	184	14.5	0	.0	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1041	81.9	16	94.1	
	Even Throughout The Area	230	18.1	1	5.9	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	909	71.5	12	70.6	
	Even Throughout The Area	362	28.5	5	29.4	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	75	5.9	5	29.4	
	Mostly Even Throughout The Area	1091	85.8	12	70.6	
	Even Throughout The Area	105	8.3	0	.0	

Appendix Table 19. Profile of residents involved in other than verbal or physical R-REM as reported by residents.

		Other Behaviors Reported RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
RESIDENT DEMOGRAPHICS						
Age, Mean (s.d.)		83.76	(10.25)	83.27	(9.53)	0.684
Race/Ethnicity	White, Non-Hispanic	399	67.5	61	77.2	0.058 ^E
	Black, Non-Hispanic	104	17.6	6	7.6	
	Hispanic	84	14.2	12	15.2	
	Other	4	.7	0	.0	
Female Client	Male	177	29.9	27	34.2	0.515
	Female	414	70.1	52	65.8	
BEHAVIOR						
Affect (RA), Mean (s.d.)		5.65	(2.08)	6.25	(2.07)	0.015
Behavior (RA), Mean (s.d.)		5.28	(1.93)	5.87	(2.32)	0.012
Disturbing Behaviors (STAFF), Mean (s.d.)		8.22	(7.61)	9.19	(7.97)	0.289
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)		7.85	(7.12)	8.86	(7.58)	0.241
COGNITION/STAGING						
CARE Diagnostic (RESIDENT), Mean (s.d.)		4.70	(3.00)	4.53	(3.20)	0.641
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.	197	33.9	21	26.6	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.	33	5.7	7	8.9	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.	15	2.6	3	3.8	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.	34	5.9	5	6.3	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.	20	3.4	5	6.3	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.	33	5.7	3	3.8	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.	61	10.5	9	11.4	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.	23	4.0	1	1.3	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).	41	7.1	7	8.9	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).	81	13.9	16	20.3	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du	1	.2	1	1.3	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I	2	.3	0	.0	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).	33	5.7	1	1.3	

		Other Behaviors Reported RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
	Ability To Sit Up Without Assistance Lost.	5	.9	0	.0	
	Loss Of The Ability To Hold Up Head.	2	.3	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		1.25	(3.12)	.98	(2.17)	0.505
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	26	4.4	8	10.1	
	Non Special Care Dementia Unit	21	3.6	4	5.1	
	Long Term Care	213	36.0	32	40.5	
	Long Term Care - Ambulatory Care	20	3.4	6	7.6	
	Long Term Care - Behavioral	4	.7	1	1.3	
	Skilled Nursing	259	43.8	26	32.9	
	Medical Skilled Nursing	35	5.9	1	1.3	
	Mild Skilled Nursing	13	2.2	1	1.3	
Resident Capacity, Mean (s.d.)		40.52	(6.22)	41.56	(5.25)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	32	6.2	5	6.7	
	Dining Room	103	19.8	8	10.7	
	Elevator / Near Elevator	16	3.1	2	2.7	
	Lounge	122	23.5	21	28.0	
	Nurses Station	49	9.4	10	13.3	
	Multi-Purpose Room	198	38.1	29	38.7	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	1	.2	0	.0	
	Sometimes	93	17.4	19	25.0	
	Not At All	442	82.5	57	75.0	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	72	13.4	6	7.9	
	Not At All	464	86.6	70	92.1	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	72	13.4	12	15.8	
	Sometimes	410	76.5	57	75.0	
	Not At All	54	10.1	7	9.2	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	274	51.7	48	63.2	
	Not At All	256	48.3	28	36.8	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	296	55.2	38	50.0	
	Not At All	240	44.8	38	50.0	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	7	1.3	1	1.3	
	Sometimes	157	29.3	23	30.3	
	Not At All	372	69.4	52	68.4	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		5.87	(4.82)	4.53	(4.32)	
Walkers: Total Number, Mean (s.d.)		1.46	(1.63)	1.24	(1.43)	
Canes: Total Number, Mean (s.d.)		.46	(.87)	.68	(1.12)	
Other: Total Number, Mean (s.d.)		1.06	(1.73)	1.59	(3.07)	
Lighting						
Light Intensity - Hallways	Good	234	43.7	32	42.1	
	Ample	302	56.3	44	57.9	
Light Intensity - Activity Areas	Good	317	59.1	41	53.9	
	Ample	219	40.9	35	46.1	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	9	1.7	1	1.3	
	Good	396	73.9	54	71.1	
	Ample	131	24.4	21	27.6	
Is Glare Present - Hallways	In Many Areas	11	2.1	1	1.3	
	In A Few Areas	378	70.5	51	67.1	

		Other Behaviors Reported RESIDENT Interview				p-value
		No		Yes		
		N	%	N	%	
Is Glare Present - Activity Areas	A Little Or None	147	27.4	24	31.6	
	In A Few Areas	380	70.9	58	76.3	
Is Glare Present - Residents' Rooms	A Little Or None	156	29.1	18	23.7	
	In Many Areas	19	3.5	2	2.6	
Is Lighting Even - Hallways	In A Few Areas	428	79.9	63	82.9	
	A Little Or None	89	16.6	11	14.5	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	451	84.1	60	78.9	
	Even Throughout The Area	85	15.9	16	21.1	
Is Lighting Even - Residents' Rooms	Mostly Even Throughout The Area	414	77.2	59	77.6	
	Even Throughout The Area	122	22.8	17	22.4	
Is Lighting Even - Activity Areas	Uneven; Many Shadows Throughout Area	10	1.9	1	1.3	
	Mostly Even Throughout The Area	491	91.6	71	93.4	
	Even Throughout The Area	35	6.5	4	5.3	

Appendix Table 20. Profile of residents involved in other than verbal or physical R-REM as reported by staff.

			Other Behaviors Reported STAFF Interview				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.58	(9.68)	85.20	(7.17)	0.600
Race/Ethnicity	White, Non-Hispanic		762	58.3	49	69.0	0.016 ^E
	Black, Non-Hispanic		248	19.0	4	5.6	
	Hispanic		227	17.4	12	16.9	
	Other		17	1.3	1	1.4	
	Unknown		53	4.1	5	7.0	
Female Client	Male		358	27.4	15	21.1	0.237
	Female		950	72.6	56	78.9	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.75	(2.58)	6.73	(2.26)	0.960
Behavior (RA), Mean (s.d.)			5.28	(2.09)	5.44	(2.08)	0.530
Disturbing Behaviors (STAFF), Mean (s.d.)			9.29	(7.67)	19.55	(10.39)	<0.001
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			8.85	(7.19)	17.92	(9.63)	<0.001
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.85	(4.73)	9.46	(4.19)	0.008
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		254	19.4	7	9.9	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		51	3.9	3	4.2	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		25	1.9	0	.0	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		49	3.7	3	4.2	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		41	3.1	2	2.8	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		62	4.7	7	9.9	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		131	10.0	4	5.6	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		43	3.3	6	8.5	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		85	6.5	3	4.2	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		287	22.0	22	31.0	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		36	2.8	2	2.8	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		17	1.3	3	4.2	

		Other Behaviors Reported STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).	151	11.6	8	11.3	
	Ability To Sit Up Without Assistance Lost.	41	3.1	1	1.4	
	Loss Of The Ability To Smile.	10	.8	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.8	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.12	(4.58)	2.97	(4.84)	0.273
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	116	8.9	19	26.8	
	Non Special Care Dementia Unit	80	6.1	7	9.9	
	Long Term Care	387	29.6	17	23.9	
	Long Term Care - Ambulatory Care	29	2.2	1	1.4	
	Long Term Care - Behavioral	25	1.9	0	.0	
	Skilled Nursing	600	45.9	22	31.0	
	Medical Skilled Nursing	54	4.1	2	2.8	
	Mild Skilled Nursing	17	1.3	3	4.2	
Resident Capacity, Mean (s.d.)		40.92	(6.15)	43.59	(6.49)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	64	5.5	2	3.1	
	Dining Room	287	24.6	11	17.2	
	Elevator / Near Elevator	31	2.7	2	3.1	
	Lounge	245	21.0	19	29.7	
	Nurses Station	108	9.2	13	20.3	
	Multi-Purpose Room	434	37.1	17	26.6	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	34	2.8	5	7.8	
	Sometimes	345	28.8	37	57.8	
	Not At All	820	68.4	22	34.4	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	145	12.1	14	21.9	
	Not At All	1054	87.9	50	78.1	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	186	15.5	19	29.7	
	Sometimes	835	69.6	38	59.4	
	Not At All	178	14.8	7	10.9	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	680	57.3	28	43.8	
	Not At All	507	42.7	36	56.3	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	700	58.4	32	50.0	
	Not At All	499	41.6	32	50.0	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	1.0	0	.0	
	Sometimes	328	27.4	14	21.9	
	Not At All	859	71.6	50	78.1	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.78	(4.88)	5.56	(4.31)	
Walkers: Total Number, Mean (s.d.)		1.66	(1.82)	2.38	(2.31)	
Canes: Total Number, Mean (s.d.)		.46	(.96)	.16	(.55)	
Other: Total Number, Mean (s.d.)		2.10	(3.35)	2.77	(3.30)	
Lighting						
Light Intensity - Hallways	Good	449	37.4	24	37.5	
	Ample	750	62.6	40	62.5	
Light Intensity - Activity Areas	Good	633	52.8	32	50.0	
	Ample	566	47.2	32	50.0	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	29	2.4	5	7.8	
	Good	840	70.1	45	70.3	

		Other Behaviors Reported STAFF Interview				p-value
		No		Yes		
		N	%	N	%	
Is Glare Present - Hallways	Ample	330	27.5	14	21.9	
	In Many Areas	57	4.8	6	9.4	
	In A Few Areas	782	65.2	31	48.4	
	A Little Or None	360	30.0	27	42.2	
Is Glare Present - Activity Areas	In A Few Areas	798	66.6	38	59.4	
	A Little Or None	401	33.4	26	40.6	
Is Glare Present - Residents' Rooms	In Many Areas	52	4.3	6	9.4	
	In A Few Areas	972	81.1	51	79.7	
	A Little Or None	175	14.6	7	10.9	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	978	81.6	59	92.2	
	Even Throughout The Area	221	18.4	5	7.8	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	871	72.6	39	60.9	
	Even Throughout The Area	328	27.4	25	39.1	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	63	5.3	10	15.6	
	Mostly Even Throughout The Area	1035	86.3	52	81.3	
	Even Throughout The Area	101	8.4	2	3.1	

Appendix Table 21. Profile of residents involved in other than verbal or physical R-REM as captured in shift coupons.

		Other Behaviors Reported SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
RESIDENT DEMOGRAPHICS						
Age, Mean (s.d.)		84.60	(9.58)	83.94	(6.90)	0.784
Race/Ethnicity	White, Non-Hispanic	819	59.0	7	43.8	0.206 ^E
	Black, Non-Hispanic	251	18.1	3	18.8	
	Hispanic	236	17.0	6	37.5	
	Other	18	1.3	0	.0	
	Unknown	64	4.6	0	.0	
Female Client	Male	376	27.1	4	25.0	1.000 ^E
	Female	1013	72.9	12	75.0	
BEHAVIOR						
Affect (RA), Mean (s.d.)		6.76	(2.59)	6.25	(1.73)	0.429
Behavior (RA), Mean (s.d.)		5.29	(2.19)	5.75	(2.24)	0.406
Disturbing Behaviors (STAFF), Mean (s.d.)		9.74	(8.02)	17.50	(13.88)	0.041
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)		9.25	(7.50)	15.94	(12.69)	0.052
COGNITION/STAGING						
CARE Diagnostic (RESIDENT), Mean (s.d.)		7.96	(4.75)	8.07	(3.97)	0.932
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.	260	19.0	1	6.3	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.	53	3.9	1	6.3	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.	25	1.8	0	.0	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.	50	3.7	2	12.5	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.	42	3.1	1	6.3	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.	67	4.9	2	12.5	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.	135	9.9	0	.0	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.	46	3.4	3	18.8	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).	86	6.3	2	12.5	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).	306	22.4	3	18.8	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du	38	2.8	1	6.3	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I	21	1.5	0	.0	

		Other Behaviors Reported SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).	161	11.8	0	.0	
	Ability To Sit Up Without Assistance Lost.	42	3.1	0	.0	
	Loss Of The Ability To Smile.	10	.7	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.8	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.16	(4.54)	2.08	(6.61)	0.952
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	139	10.0	7	43.8	
	Non Special Care Dementia Unit	86	6.2	1	6.3	
	Long Term Care	406	29.2	6	37.5	
	Long Term Care - Ambulatory Care	29	2.1	1	6.3	
	Long Term Care - Behavioral	25	1.8	0	.0	
	Skilled Nursing	628	45.2	1	6.3	
	Medical Skilled Nursing	56	4.0	0	.0	
	Mild Skilled Nursing	20	1.4	0	.0	
Resident Capacity, Mean (s.d.)		41.10	(6.18)	45.44	(5.09)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	5.7	0	.0	
	Dining Room	294	23.6	5	38.5	
	Elevator / Near Elevator	33	2.7	0	.0	
	Lounge	275	22.1	1	7.7	
	Nurses Station	120	9.6	3	23.1	
	Multi-Purpose Room	452	36.3	4	30.8	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	45	3.5	0	.0	
	Sometimes	380	29.8	9	69.2	
	Not At All	850	66.7	4	30.8	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	159	12.5	4	30.8	
	Not At All	1116	87.5	9	69.2	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	200	15.7	8	61.5	
	Sometimes	880	69.0	4	30.8	
	Not At All	195	15.3	1	7.7	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	705	55.9	8	61.5	
	Not At All	556	44.1	5	38.5	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	737	57.8	4	30.8	
	Not At All	538	42.2	9	69.2	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	12	.9	0	.0	
	Sometimes	346	27.1	1	7.7	
	Not At All	917	71.9	12	92.3	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.75	(4.86)	5.54	(3.76)	
Walkers: Total Number, Mean (s.d.)		1.69	(1.85)	2.46	(2.60)	
Canes: Total Number, Mean (s.d.)		.44	(.94)	.78	(1.20)	
Other: Total Number, Mean (s.d.)		2.15	(3.34)	5.00	(5.29)	
Lighting						
Light Intensity - Hallways	Good	485	38.0	2	15.4	
	Ample	790	62.0	11	84.6	
Light Intensity - Activity Areas	Good	668	52.4	6	46.2	
	Ample	607	47.6	7	53.8	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	31	2.4	4	30.8	
	Good	897	70.4	6	46.2	

		Other Behaviors Reported SHIFT COUPON				p-value
		No		Yes		
		N	%	N	%	
Is Glare Present - Hallways	Ample	347	27.2	3	23.1	
	In Many Areas	72	5.6	0	.0	
	In A Few Areas	818	64.2	6	46.2	
	A Little Or None	385	30.2	7	53.8	
Is Glare Present - Activity Areas	In A Few Areas	839	65.8	12	92.3	
	A Little Or None	436	34.2	1	7.7	
Is Glare Present - Residents' Rooms	In Many Areas	58	4.5	4	30.8	
	In A Few Areas	1033	81.0	9	69.2	
	A Little Or None	184	14.4	0	.0	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1046	82.0	11	84.6	
	Even Throughout The Area	229	18.0	2	15.4	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	912	71.5	9	69.2	
	Even Throughout The Area	363	28.5	4	30.8	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	76	6.0	4	30.8	
	Mostly Even Throughout The Area	1094	85.8	9	69.2	
	Even Throughout The Area	105	8.2	0	.0	

Appendix Table 22. Profile of residents involved in other than verbal or physical R-REM as captured in event logs.

			Other Behaviors Reported EVENT LOG				p-value
			No		Yes		
			N	%	N	%	
RESIDENT DEMOGRAPHICS							
Age, Mean (s.d.)			84.66	(9.56)	82.25	(8.84)	0.116
Race/Ethnicity	White, Non-Hispanic		799	58.6	27	67.5	0.521 ^E
	Black, Non-Hispanic		249	18.3	5	12.5	
	Hispanic		234	17.2	8	20.0	
	Other		18	1.3	0	.0	
	Unknown		64	4.7	0	.0	
Female Client	Male		372	27.3	8	20.0	0.294
	Female		993	72.7	32	80.0	
BEHAVIOR							
Affect (RA), Mean (s.d.)			6.76	(2.59)	6.65	(2.49)	0.789
Behavior (RA), Mean (s.d.)			5.27	(2.17)	6.23	(2.83)	0.007
Disturbing Behaviors (STAFF), Mean (s.d.)			9.74	(8.03)	13.00	(11.05)	0.071
Disturbing Behaviors (Without Aggressive Behavior And Touches Other Property)(STAFF), Mean (s.d.)			9.24	(7.51)	12.15	(9.90)	0.073
COGNITION/STAGING							
CARE Diagnostic (RESIDENT), Mean (s.d.)			7.99	(4.75)	7.00	(4.16)	0.192
Functioning And Self-Care (STAFF)	No Difficulty, Either Subjectively Or Objectively.		251	18.7	10	25.0	
	Complains Of Forgetting Location Of Objects. Subjective Work Difficulties.		52	3.9	2	5.0	
	Decreased Job Function Evident To Co-Worker. Decreased Organizational Capacity.		25	1.9	0	.0	
	Decreased Ability To Perform Complex Tasks, Handling Personal Finances, Difficulty Marketing, Etc.		51	3.8	1	2.5	
	Requires Any Assistance In Choosing Proper Clothing, Occasionally Or More Frequently Over The Past Month.		41	3.1	2	5.0	
	Improperly Putting On Clothes Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		65	4.8	4	10.0	
	Unable To Bathe Properly Without Assistance Or Cueing, Occasionally Or More Frequently Over The Past Month.		133	9.9	2	5.0	
	Inability To Handle Mechanics Of Toileting, Occasionally Or More Frequently Over The Past Month.		47	3.5	2	5.0	
	Urinary Incontinence (Occasionally Or More Frequently Over The Past Month).		86	6.4	2	5.0	
	Fecal Incontinence (Occasionally Or More Frequently Over The Past Month).		299	22.3	10	25.0	
	Ability To Speak Limited To Approximately A Half A Dozen Different Words Or Fewer, In The Course Of An Average Day Or Du		39	2.9	0	.0	
	Speech Ability Limited To The Use Of A Single Intelligible Word In An Average Day Or During The Course Of An Intensive I		20	1.5	1	2.5	

		Other Behaviors Reported EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
	Ambulatory Ability Lost (Cannot Walk Without Person Assistance).	158	11.8	3	7.5	
	Ability To Sit Up Without Assistance Lost.	41	3.1	1	2.5	
	Loss Of The Ability To Smile.	10	.7	0	.0	
	Loss Of The Ability To Hold Up Head.	24	1.8	0	.0	
FUNCTION/MOBILITY						
PADL Total (RESIDENT), Mean (s.d.)		2.16	(4.63)	2.16	(2.67)	0.999
ENVIRONMENTAL FEATURES						
Type Of Unit	Dementia Special Care Unit (Segregated)	140	10.3	6	15.0	
	Non Special Care Dementia Unit	85	6.2	2	5.0	
	Long Term Care	398	29.2	14	35.0	
	Long Term Care - Ambulatory Care	30	2.2	0	.0	
	Long Term Care - Behavioral	25	1.8	0	.0	
	Skilled Nursing	611	44.8	18	45.0	
	Medical Skilled Nursing	56	4.1	0	.0	
	Mild Skilled Nursing	20	1.5	0	.0	
Resident Capacity, Mean (s.d.)		41.12	(6.21)	42.13	(5.08)	
Where Do Residents Primarily Congregate (Excluding Meal Times)	Alcove	71	5.8	0	.0	
	Dining Room	293	24.0	6	16.2	
	Elevator / Near Elevator	29	2.4	4	10.8	
	Lounge	271	22.2	5	13.5	
	Nurses Station	115	9.4	8	21.6	
	Multi-Purpose Room	442	36.2	14	37.8	
To What Extent Do You Hear - Resident Screaming Or Calling Out	Constantly Or High Intensity	45	3.6	0	.0	
	Sometimes	377	30.2	12	31.6	
	Not At All	828	66.2	26	68.4	
To What Extent Do You Hear – Staff Screaming Or Calling Out	Sometimes	157	12.6	6	15.8	
	Not At All	1093	87.4	32	84.2	
To What Extent Do You Hear – TV / Radio Noise	Constantly Or High Intensity	190	15.2	18	47.4	
	Sometimes	866	69.3	18	47.4	
	Not At All	194	15.5	2	5.3	
To What Extent Do You Hear – Loud Speaker Or Intercom	Sometimes	692	56.0	21	55.3	
	Not At All	544	44.0	17	44.7	
To What Extent Do You Hear - Alarm Or Call Bells	Sometimes	731	58.5	10	26.3	
	Not At All	519	41.5	28	73.7	
To What Extent Do You Hear – Other Machines (Ice, Buffer)	Constantly Or High Intensity	11	.9	1	2.6	
	Sometimes	344	27.5	3	7.9	
	Not At All	895	71.6	34	89.5	
Type of equipment present in main public area						
Wheelchairs: Total Number, Mean (s.d.)		6.82	(4.89)	4.14	(2.34)	
Walkers: Total Number, Mean (s.d.)		1.67	(1.85)	2.41	(2.03)	
Canes: Total Number, Mean (s.d.)		.44	(.95)	.46	(.74)	
Other: Total Number, Mean (s.d.)		2.23	(3.39)	.00	(.00)	
Lighting						
Light Intensity - Hallways	Good	469	37.5	18	47.4	
	Ample	781	62.5	20	52.6	
Light Intensity - Activity Areas	Good	657	52.6	17	44.7	
	Ample	593	47.4	21	55.3	
Light Intensity - Residents' Rooms	Barely Adequate / Inadequate	29	2.3	6	15.8	
	Good	879	70.3	24	63.2	

		Other Behaviors Reported EVENT LOG				p-value
		No		Yes		
		N	%	N	%	
Is Glare Present - Hallways	Ample	342	27.4	8	21.1	
	In Many Areas	72	5.8	0	.0	
	In A Few Areas	797	63.8	27	71.1	
	A Little Or None	381	30.5	11	28.9	
Is Glare Present - Activity Areas	In A Few Areas	829	66.3	22	57.9	
	A Little Or None	421	33.7	16	42.1	
Is Glare Present - Residents' Rooms	In Many Areas	56	4.5	6	15.8	
	In A Few Areas	1012	81.0	30	78.9	
	A Little Or None	182	14.6	2	5.3	
Is Lighting Even - Hallways	Mostly Even Throughout The Area	1025	82.0	32	84.2	
	Even Throughout The Area	225	18.0	6	15.8	
Is Lighting Even - Activity Areas	Mostly Even Throughout The Area	887	71.0	34	89.5	
	Even Throughout The Area	363	29.0	4	10.5	
Is Lighting Even - Residents' Rooms	Uneven; Many Shadows Throughout Area	74	5.9	6	15.8	
	Mostly Even Throughout The Area	1073	85.8	30	78.9	
	Even Throughout The Area	103	8.2	2	5.3	

Appendix Table 23. Types of R-REM most commonly reported by source.

Resident

		Incident reported during prevalence period			
		No		Yes	
		n	%	n	%
Physical behavior reported	No	548	100.0	109	89.3
	Yes	0	.0	13	10.7
Verbal behavior reported	No	548	100.0	50	41.0
	Yes	0	.0	72	59.0
Other behavior reported	No	548	100.0	43	35.2
	Yes	0	.0	79	64.8

Staff

		Incident reported during prevalence period			
		No		Yes	
		n	%	n	%
Physical behavior reported	No	1213	100.0	129	77.7
	Yes	0	.0	37	22.3
Verbal behavior reported	No	1213	100.0	42	25.3
	Yes	0	.0	124	74.7
Other behavior reported	No	1213	100.0	95	57.2
	Yes	0	.0	71	42.8

Shift Coupon

		Incident reported during prevalence period			
		No		Yes	
		n	%	n	%
Physical behavior reported	No	1330	100.0	52	69.3
	Yes	0	.0	23	30.7
Verbal behavior reported	No	1330	100.0	10	13.3
	Yes	0	.0	65	86.7
Other behavior reported	No	1330	100.0	59	78.7
	Yes	0	.0	16	21.3

Event Log

		Incident reported during prevalence period			
		No		Yes	
		n	%	n	%
Physical behavior reported	No	1318	100.0	70	80.5
	Yes	0	.0	17	19.5
Verbal behavior reported	No	1318	100.0	19	21.8
	Yes	0	.0	68	78.2
Other behavior reported	No	1318	100.0	47	54.0
	Yes	0	.0	40	46.0

B. Deliverables

B.1 Forms and Methodologies Developed as part of the Project

B.1.1 Event Logs for Case Narrative

EVENT LOG

1 Date of event: _____

2 Time of event: _____

3 Duration of event (circle one): <1 min 1-3 min 3-5 min 5-7 min 7-9 min 10+ min

4 Facility: _____ _____ _____ _____ _____

5 Unit: _____

6 Where did this happen: (circle one)

1 Own room-private	5 Dining area	9 In/near elevator
2 Own room-shared	6 Off the unit	10 Outside
3 Other resident's rm	7 Activity area	77 Unknown
4 Hallway	8 Nurse's station	88 Refusal

7 Reporting Source: 1 Resident 2 CNA 3 RA observed 4 Other Specify: _____

Res ID: _____

Res Rm Num: _____

8 Reporter Name: _____

9 Information about residents involved:

	Residents Name/ID:	Sex:	Indicate Perpetrator	Primary CNA	Private Aide	Able to be interviewed	Describe ambulation
1							
2							
3							
4							

10 Witnesses (specify how many on line): _____ Staff _____ Resident _____

11 Brief description:

12 Description of event (circle all that apply):

Using bad words	1	Grabbing	8	Sexual physical	15
Screaming	2	Pushing	9	Throwing things	16
Trying to scare w/words	3	Biting	10	Unwanted help	17
Bossing around	4	Scratching	11	Wandering	18
Insulting race/ethnicity	5	Spitting	12	Taking / touching things	19
Hitting	6	Sexual verbal	13	Damaging things	20
Kicking	7	Sexual non-physical	14	Threatening gestures	21
				Other (specify)	22

Just before the incident:

13 What were you doing?

14 What was victim doing?

15 What was perpetrator doing?

16 What was happening on the floor?

Environmental factors (check all that apply)

17 Was room:

_____ Noisy? _____ Bright? _____ Hot? _____ Cool?

18 Was room crowded with (check all that apply):

<input type="checkbox"/> Assistive devices?	<input type="checkbox"/> Housekeeping/maintenance equipment?	<input type="checkbox"/> Too many people? (How many: <input type="text"/>)
--	---	--

19 Name of interviewer: _____

20 Any additional notes: _____

B.1.1.1 EVENT RECONSTRUCTION INTERVIEW OUTLINE

1. GENERAL INTRODUCTION

2. EVENT LOG

3. CNA / RA/ COMPANION INTERVIEW

- a. CONFIRM AWARENESS**
- b. DETAIL – PROVOCATION & CONCLUSION OF INCIDENT**
- c. DETAIL – BEFORE INCIDENT**
- d. FAMILIARITY (LABELING & PATTERN)**
- e. SOCIAL CHANGES**
- f. RESULT OF INCIDENT (REPORTED ANYWHERE / INJURIES)**
- g. OTHER POSSIBLE WITNESSES**
- h. OPINIONATED PROBES**

4. RN INTERVIEW

- a. CONFIRM AWARENESS**
- b. FAMILIARITY (LABELING & PATTERN)**
- c. INDIVIDUAL HISTORY BREAKDOWN**
- d. MEDICATION**
- e. SOCIAL CHANGES**
- f. RESULT OF INCIDENT (REPORTED ANYWHERE / INJURIES)**
- g. OTHER POSSIBLE WITNESSES**
- h. OPINIONATED PROBES**

5. STAFF STRATEGIES LIST

B.1.1.2 Incident Reconstruction Interviews

1. GENERAL INTRO:

"Hi. My name is _____. I work with the _____ here and, as you know, we are currently involved in a number of studies of resident-to-resident mistreatment. If you have a moment, I would like to ask you some questions and gather more information about a recent incident that occurred. This should only take a few minutes."

"According to my understanding, there was recently an incident logged between [resident X and Y] that occurred in the past few weeks. This incident took place in (location) during the (specify) shift. Here's what I read that happened between resident X and Y."

2. [*Describe the event log*]

B.1.1.3 CNA/ RA/ COMPANION Interview

NAME:

SPECIFY POSITION/ DEPARTMENT:

CONFIRM AWARENESS

3a. “Were you aware of this incident?”

[If not aware, skip to RN interview (next page)]

DETAIL – PROVOCATION & CONCLUSION OF INCIDENT

3b_1. “Can you tell me what else you may know about what happened - in as much detail as possible - step by step?”

[Record any additional details]

***3b_2. “How did the aggression start?”**

“What seemed to be the reason for this incident?”

***3b_3. “Was this incident provoked? Or, would you say that the aggression came out of nowhere?”**

3b_4. “Was the intent to harm? Was this resident trying to be mean?”

3b_5. “Would you say that the incident was in response to something the other resident did?”

“How did Resident 1 react?”

“Were (Resident X or Y) trying to protect himself/herself?”

***3b_6. “Did anyone try to intervene?”**

“If so, how?”

3b_7. “Were you/either of the participants hurt in any way?”

“How?”

“Did anyone need medical attention?”

DETAIL – BEFORE INCIDENT

3c_1. “What were you doing just before the incident?”

3c_2. “What was the victim (Resident 1) doing just before the incident?”

3c_3. “What was the perpetrator (Resident 2) doing just before the incident?”

3c_4. “What was happening on the unit before the event occurred (e.g., morning “set-up”, passing meds, mealtime, etc.)?”

3c_5. “Can you tell me more about what was going on in the room?”

-----Was it noisy?

-----How bright was it?

-----Was it hot in the room?

-----Was it cool in the room?

-----Were other staff members around?

If so, how many?

What were they doing?

-----Was it crowded with equipment (i.e. walkers, canes, wheelchairs, etc)?

-----or with people?

-----How many people were together in this area?

FAMILIARITY (LABELING & PATTERN)

3d_1. “Is this a regular occurrence from either Resident 1 and 2?”

3d_2. “Do you think this will happen again with either of these residents?”

“Why or why not?”

SOCIAL CHANGES

3e_3. “Has (Resident 1) recently experienced:

-----death of spouse?

-----death or any other family member?

-----death of close friend(s)?

-----any decrease in frequency of visitors?

-----any decrease in contact (i.e. phone, mail) with anyone?”

---- any decrease in activity level (e.g. participation, attendance, cancellation)?

-----any change in primary CNA/companion?

3e_4. “Has (Resident 2) recently experienced:

- death of spouse?**
- death or any other family member?**
- death of close friend(s)?**
- any decrease in frequency of visitors?**
- any decrease in contact (i.e. phone, mail) with anyone?”**
- any decrease in activity level (e.g. participation, attendance, cancellation)?**
- any change in primary CNA/companion?**

RESULT OF INCIDENT (REPORTED ANYWHERE / INJURIES)

***3f_1. “What happened immediately after the incident ended?”**

3f_2. “Was this incident:

- mentioned to any supervisors?**
- reported in his/her chart?**
- reported in an incident/accident report?**
- reported or in any care planning procedures?”**

3f_3. “Were you/either of the participants hurt in any way?”

“How?”

“Did anyone need medical attention?”

3f_4. “Were any other residents involved in the incident?”

“If so, how?”

3f_5. “Was any other staff involved in the incident?”

“If so, how?”

OTHER POSSIBLE WITNESSES

3g_1. “Were there other people around?”

“Do you remember who they were?”

“Could I speak with them?”

“Is there any language barrier I should be aware of?”

“Do you think they would remember this event?”

OPINION PROBES

3h_1. “Do you believe that the incident could have been prevented?”

“If so, what might have been done?”

3h_2. “Do you think this event would have occurred in another environment (i.e. a different unit or room)?”

3h_3. “How might it have played out differently elsewhere?”

Well, that's about it. I have a really good sense of what happened. You have been so helpful. Thank you so much for your time!

B.1.1.4 RN Interview

NAME:

CONFIRM AWARENESS

4a. “Were you aware of this incident?”

FAMILIARITY (LABELING & PATTERN)

4b_1. “Are you familiar with each of these residents?”

4b_2. “Is this a regular occurrence?”

***4b_3. “Is there a history of conflict or aggression between them before this incident?”**

“If so, have problems been getting worse between them recently?”

4b_4. “Do you think this will happen again with either of these residents?”

“Why or why not?”

***4b_5. “Is it clear who the aggressor and victim were in this incident? Or was it mutual, or hard to tell who the victim was?”**

INDIVIDUAL HISTORY BREAKDOWN

4c_1. “I’d like to get some background information about each resident. We’ll start with (victim or Resident 1 if unable to identify as ‘victim’)? What is (Resident 1) like?”

4c_2. “How does he/she usually get along with others (residents/staff)?”

“If there is a history of aggression?”

“Does the family know about it?”

“Does he/she have cognitive impairment that affects his/her behavior?”

“Is there a history of mental illness?”

“Is he/she verbal enough to be interviewed?”

“Is there any language barrier I should be aware of?”

4c_3. “What is (perpetrator or Resident 2 if unable to identify as ‘perpetrator’) like?”

4c_4. “How does he/she usually get along with others (residents/staff)?”

“If there is a history of aggression?”

“Does the family know about it?”

“Does he/she have cognitive impairment that affects his/her behavior?”

“Is there a history of mental illness?”

“Is he/she verbal enough to be interviewed?”

“Is there any language barrier I should be aware of?”

MEDICATION

4d. “So I’d like us to focus a little more about changes that may have occurred in their life. Lets talk a little bit about medication usage.”

4d_1. “First we’ll discuss (Resident 1).

What (classification or specific name) of medications is he/she presently using?

Has there been any recent changes:

-----in type of medication?

-----in dosage?

-----when medication is being administered?

-----in form of administration?

4d_2. “Now with (Resident 2).

What classification of medications is he/she presently using?

Has there been any recent changes:

-----in type of medication?

-----in dosage?

-----when medication is being administered?

-----in form of administration?”

SOCIAL CHANGES

4e. “Now let’s discuss any recent social changes.”

4e_1. “Has (Resident 1) recently experienced:

- death of spouse?**
- death or any other family member?**
- death of close friend(s)?**
- any decrease in frequency of visitors?**
- any decrease in contact (i.e. phone, mail) with anyone?**
- any decrease in activity level (e.g. participation, attendance, cancellation)?**
- any change in primary CNA/companion?”**

4e_2. “Has (Resident 2) recently experienced:

- death of spouse?**
- death or any other family member?**
- death of close friend(s)?**
- any decrease in frequency of visitors?**
- any decrease in contact (i.e. phone, mail) with anyone?**
- any decrease in activity level (e.g. participation, attendance, cancellation)?**
- any change in primary CNA/companion?”**

RESULT OF INCIDENT (REPORTED ANYWHERE / INJURIES)

***4f_1. “What happened immediately after the incident ended?**

4f_2. “Can you tell me about what happened as a result of this incident?”

[Record any details]

4f_3. “Was this incident reported:

- in his/her chart?**
- in an incident/accident report?**
- or in any care planning procedures?”**

4f_4. “Were you/either of the participants hurt in any way?”

“How?”

“Did anyone need medical attention?”

4f_5. “Were any other residents involved in the incident?”

“If so, how?”

4f_6. “Was any other staff involved in the incident?”

“If so, how?”

OTHER POSSIBLE WITNESSES

4g. “Were there other people around?”

“Do you remember who they were?”

“Could I speak with them?”

“Do you think they would remember this event?”

OPINION PROBES

4h_1. “Do you believe that the incident could have been prevented?”

“If so, what might have been done?”

4h_2. “Do you think this event would have occurred in another environment (i.e. a different unit or room)?”

4h_3. “How might it have played out differently elsewhere?”

Well, that's about it. I have a really good sense of what happened. You have been so helpful. Thank you so much for your time!

B.1.1.5 COMMON STAFF STRATEGIES FOR MANAGING RESIDENT-TO-RESIDENT AGGRESSION:

STRATEGY UTILIZED

Allowed residents to argue with each other.....	1
Altered medication.....	2
Anticipated resident needs.....	3
Asked resident to quiet down.....	4
Contacted security.....	5
Established a routine.....	6
Explained to resident that other resident is confused / demented.....	7
Explained to residents the nature of communal living.....	8
Gave resident headphones.....	9
Made entry in behavior log.....	10
Moved the resident to a different seat.....	11
Notified nursing supervisor.....	12
Notified Social Services / change resident room.....	13
Notified the nurse / CNA.....	14
Nylon barricade with alarm to prevent room entry by wanderers, at night.....	15
Offered to find resident an equally good seat.....	16
Physically intervened / separated residents.....	17
Redirected or distracted residents.....	18
Removed one resident from room to the nursing station.....	19
Removed resident from dining room or public area / changed seating arrangements...	20
Requested physician or psychiatric consult.....	21
Talked calmly to aggressive residents – settle them down.....	22
Tried to convince residents to compromise.....	23
Verbally intervened to diffuse situation.....	24
Watched residents vigilantly.....	25
No action taken.....	26
Other.....	66
Did not observe incident.....	55

B.1.1.6 SUMMARY OF CONTENTS FOR CASE RECONSTRUCTION SUMMARIES

Site/ Unit:

Initial Reporting Source: (CNA interview, Resident Interview, Staff Report, Interviewer Observation)

Setting and Environment: (Lounge, Dining Room, Activity Room, Resident Room)

Temperature

Configuration (crowding, noise)

Details: (describe event):

Intervention/Aftermath:

(Interventions by staff – how situation was resolved)

Dyad History: (History of altercations or interactions)

Resident Background:

(description of characteristics of actors: cognition, behavior, mental health background, socialization)

Interpretation:

(Interpretation of etiology and circumstances of event based on staff reports)

Interviewed:

(Identification of type of staff interviewed)

B.1.2 Template for Data Aggregation for Case Review and Evaluation

(SEE NEXT PAGE)

ID: _____
CASE #: _____

TYPE OF UNIT: _____

R-REM CASE CONFERENCE INFORMATION PROTOCOL

RESIDENT DEMOGRAPHICS

Age: _____

Gender: _____

Race/Ethnicity: _____

Level of cognitive impairment: _____

RREM FROM RESIDENT INTERVIEW- PAST TWO WEEKS

Date of resident interview: _____

Administration: _____

Number of incidents within past two weeks: _____

Resident Incident 2Weeks #1

Verbatim response:	
Behaviors included:	
Bothered resident:	
Location:	
Time of day:	
Relationship of who did it the most:	
Gender of resident who did it the most:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Resident Incident 2Weeks #2

Verbatim response:	
Behaviors included:	
Bothered resident:	
Location:	
Time of day:	
Relationship of who did it the most:	
Gender of resident who did it the most:	

Resident Incident 2Weeks #3

Verbatim response:	
Behaviors included:	
Bothered resident:	
Location:	
Time of day:	
Relationship of who did it the most:	
Gender of resident who did it the most:	

Resident Incident 2Weeks #4

Verbatim response:	
Behaviors included:	
Bothered resident:	
Location:	
Time of day:	
Relationship of who did it the most:	
Gender of resident who did it the most:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Resident Incident 2Weeks #5

Verbatim response:	
Behaviors included:	
Bothered resident:	
Location:	
Time of day:	
Relationship of who did it the most:	
Gender of resident who did it the most:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

RREM FROM RESIDENT INTERVIEW (continued)- PAST YEAR

Date of resident interview: _____
Administration: _____
Number of incidents within past year: _____

Resident Incident Past Year #1

Verbatim response:	
About how many months ago this occurred:	
Behaviors included:	
Bothered resident:	
Location:	
Time of day:	
Relationship of who did it the most:	
Gender of resident who did it the most:	

Resident Incident Past Year #2

Verbatim response:	
About how many months ago this occurred:	
Behaviors included:	
Bothered resident:	
Location:	
Time of day:	
Relationship of who did it the most:	
Gender of resident who did it the most:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

RREM FROM STAFF INFORMANT- PAST TWO WEEKS

Date of staff informant interview: _____
Administration: _____
Number of incidents within past two weeks: _____

Staff Incident 2Weeks #1

Verbatim response:	
Behaviors included:	
Location:	
Time of day:	
Resident started it:	
If no, relationship of who started it:	
If no, gender of who started it:	
Number of other residents involved:	
Relationship of who was mostly involved:	
Gender of most involved:	
Staff witnessed:	
Actions taken:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Staff Incident 2 Weeks #2

Verbatim response:	
Behaviors included:	
Location:	
Time of day:	
Resident started it:	
If no, relationship of who started it:	
If no, gender of who started it:	
Number of other residents involved:	
Relationship of who was mostly involved:	
Gender of most involved:	
Staff witnessed:	
Actions taken:	

Staff Incident 2 Weeks #3

Verbatim response:	
Behaviors included:	
Location:	
Time of day:	
Resident started it:	
If no, relationship of who started it:	
If no, gender of who started it:	
Number of other residents involved:	
Relationship of who was mostly involved:	
Gender of most involved:	
Staff witnessed:	
Actions taken:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Staff Incident 2 Weeks #4

Verbatim response:	
Behaviors included:	
Location:	
Time of day:	
Resident started it:	
If no, relationship of who started it:	
If no, gender of who started it:	
Number of other residents involved:	
Relationship of who was mostly involved:	
Gender of most involved:	
Staff witnessed:	
Actions taken:	

Staff Incident 2 Weeks #5

Verbatim response:	
Behaviors included:	
Location:	
Time of day:	
Resident started it:	
If no, relationship of who started it:	
If no, gender of who started it:	
Number of other residents involved:	
Relationship of who was mostly involved:	
Gender of most involved:	
Staff witnessed:	
Actions taken:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

RREM FROM STAFF INFORMANT (continued)- PAST YEAR

Date of staff informant interview: _____
Administration: _____
Number of incidents within past year (other
than previously reported): _____

Staff Incident Past Year #1

Verbatim response:	
Behaviors included:	
Location:	
Time of day:	
Resident started it:	
If no, relationship of who started it:	
If no, gender of who started it:	
Number of other residents involved:	
Relationship of who was mostly involved:	
Gender of most involved:	
Staff witnessed:	
Actions taken:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Staff Incident Past Year #2

Verbatim response:	
Behaviors included:	
Location:	
Time of day:	
Resident started it:	
If no, relationship of who started it:	
If no, gender of who started it:	
Number of other residents involved:	
Relationship of who was mostly involved:	
Gender of most involved:	
Staff witnessed:	
Actions taken:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

SHIFT COUPONS

Shift Coupon #1

Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Did resident start the incident?	
Number of residents involved:	
Physical behaviors included:	
Verbal behaviors included:	
Other behaviors included:	
Location:	
Cause:	
Action taken:	
Verbatim description:	

Shift Coupon #2

Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Did resident start the incident?	
Number of residents involved:	
Physical behaviors included:	
Verbal behaviors included:	
Other behaviors included:	
Location:	
Cause:	
Action taken:	
Verbatim description:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

LABELING AND PATTERN OF RREM FROM NARRATIVE

Narrative verbatim response:	
Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Is it clear who the perpetrator(s) and victim(s) are in this incident (indicate yes, no, or unclear):	
Description of perpetrator(s):	
Sex:	
Age:	
Race:	
Description of victim(s):	
Sex:	
Age:	
Race:	
Was this in response to something or unprovoked:	
Is this a regular occurrence:	
Is there a history of RREM between these individuals:	
Is this expected to happen again:	
Could this have been prevented, specify how:	
Would incident occur in another setting:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

INDIVIDUAL HISTORY BREAKDOWN FROM NARRATIVE

Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Identifying details of perpetrator(s):	
Describe ambulation:	
Any dementia:	
Any dementia-related disorder:	
Any psychiatric diagnoses:	
Any history of substance abuse:	
Any history of alcoholism:	
Any history of aggression:	
Able to be interviewed (can convey needs):	
Identifying details of victim(s):	
Describe ambulation:	
Any dementia:	
Any dementia-related disorder:	
Any psychiatric diagnoses:	
Any history of substance abuse:	
Any history of alcoholism:	
Any history of aggression:	
Able to be interviewed (can convey needs):	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

MEDICATION CHANGES FROM NARRATIVE

Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Medication of perpetrator(s):	
Current Rx:	
Any changes in type of medication:	
Any changes in dosage:	
Any changes in form of administration (e.g. oral, suppository, IV,etc.):	
Any changes when medication is being given:	
Medication of victim(s):	
Current Rx:	
Any changes in type of medication:	
Any changes in dosage:	
Any changes in form of administration (e.g. oral, suppository, IV,etc.):	
Any changes when medication is being given:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

SOCIAL CHANGES FROM NARRATIVE

Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Recent social changes of perpetrator(s):	
Verbatim response:	
Illness or death of spouse:	
Illness or death of any other family members:	
Illness or death of any close friends:	
Any decrease in frequency of visitor(s):	
Any decrease in contact (i.e. phone, mail) with anyone:	
Any decrease in activity level (e.g. participation, attendance):	
Any decrease in activities offered (e.g. cancellation, shortage of activities staff or supervisors):	
Any changes in primary CNA/companions/private aides (e.g. staff shortage):	
Recent social changes of victim(s):	
Verbatim response:	
Illness or death of spouse:	
Illness or death of any other family members:	
Illness or death of any close friends:	
Any decrease in frequency of visitor(s):	
Any decrease in contact (i.e. phone, mail) with anyone:	
Any decrease in activity level (e.g. participation, attendance):	
Any decrease in activities offered (e.g. cancellation, shortage of activities staff or supervisors):	
Any changes in primary CNA/companions/private aides (e.g. staff shortage):	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

PROCEDURAL OUTCOME FROM NARRATIVE

Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Mentioned to any supervisor(s):	
Recorded in his/her chart:	
Recorded in an incident/accident report:	
Reported in any care planning procedures:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

SELF-REPORTING DETAILS FROM EXTENDED INTERVIEW

Date of interview:	
Time of interview:	
Description of how s/he gets along with people on unit:	
Satisfaction with tablemates:	
Private or shared room:	
Description of how s/he gets along with roommate:	
Believes roommate has a serious problem:	
Has had to make changes because of this problem:	
Finds problem upsetting:	
Problem affects health:	
Problem affects sleep:	
Finds sharing room to be problematic:	
Due to lack of privacy, loss of dignity:	
Due to lack of space:	
Due to roommate's mental disabilities:	
Due to roommate's physical disabilities:	
Due to arguments, suspicion, or other mood alterations:	
Specified 'other mood alterations':	
Complains of long waits to use toilet:	
Complains of lack of privacy when using toilet:	
Has applied for a single room or sought help from social services:	
Has changed roommates due to:	
Illness or death of roommate:	
Illness of self:	
Couldn't get along:	
Major move by all residents:	
Other reason:	
Specified 'other reason':	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

INCIDENT/ACCIDENT REPORTS

Incident/ Accident Report #1

Date of incident:	
Time of incident:	
Number of residents involved in incident:	
Number of staff involved in incident:	
If more than one person involved, incident direction:	
Incident classification:	
If assault, resident abuse, resident fight, behaviors included:	
If assault, resident abuse, resident fight, this resident was:	
Location:	
Resident injury:	
Incident outcome:	

Incident/ Accident Report #2

Date of incident:	
Time of incident:	
Number of residents involved in incident:	
Number of staff involved in incident:	
If more than one person involved, incident direction:	
Incident classification:	
If assault, resident abuse, resident fight, behaviors included:	
If assault, resident abuse, resident fight, this resident was:	
Location:	
Resident injury:	
Incident outcome:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

TRIGGERS FROM EVENT LOGS

Environmental factors (Event logs)	
Date of incident:	
Time of incident:	
Reporting source (CNA, LPN, RN, Recreational, Social Worker, RA):	
Verbatim response:	
Was room/area:	
Noisy:	
Bright:	
Hot:	
Cool:	
Was room/area overcrowded with:	
Assistive devices:	
Housekeeping / maintenance equipment:	
People:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

UNIT ENVIRONMENTAL CHARACTERISTICS FROM TESS (NOT INCIDENT SPECIFIC)

Lighting:	Intensity	Glare present	Lighting even
Lighting in Hallways:			
Lighting in Activity Areas:			
Lighting in Resident's Rooms:			
Noise:			
Resident screaming or calling out:			
Staff screaming or calling out:			
TV/Radio noise:			
Loud speaker or intercom:			
Alarm or call bells:			
Other machines (ice, buffer):			
Main Public Area:			
Primary congregation area (excluding meal times):			
Seating capacity:			
Square footage:			
Observation period 1:			
Date:			
Time			
Structured activity occurring			
Types of people present:	# of Residents:____	# of Staff:____	# of Visitors:____
Types of equipment present:	Total #:	# Near residents:	# On periphery of room:
Wheelchairs:			
Walkers:			
Canes:			
Other:			

ID: _____
CASE #: _____

TYPE OF UNIT: _____

MOOD FROM STAFF INFORMANT

In typical week, how often did resident:	
Look to be in good spirit:	
Look sad and depressed:	
Cry:	

In month prior to interview, resident:

Was mostly pleasant:	
Was more irritable (angry) than usual:	
Consumed a significantly decreased amount of food:	
Lost significant and noticeable weight:	
Was usually friendly, easy to get along with:	
Has 1 or 2 close friends:	
Has difficulties with roommate(s):	
Was suspicious towards others:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

EXHIBITING DISTURBING BEHAVIORS FROM STAFF INFORMANT

Eating sloppy, slow, refuses, gets up from table frequently, etc.:	
Up during the night:	
Complains:	
Coldness (lacks feelings for others):	
Cries:	
Seeks reassurance:	
Rejects others:	
Repetitive questioning:	
Misplaces, loses things:	
Demanding:	
Argumentative:	
Aggressive towards staff and peers:	
Confused:	
Lives in past:	
Poor concentration:	
Does not participate in activities:	
Disrupts others' activities:	
Wanders during the day:	
Likely to inflict harm on self or others (scratching, biting, picking skin, etc.):	
Has delusions / hallucinations:	
Uncooperative with bathing / showering:	
Uncooperative with changing clothes:	
Uncooperative with clinic appointments:	
Uncooperative with going to eat in MDR / UDR:	
Screams:	
Moans:	
Suspicious of others:	
Verbal disruption with nurse intervention:	
Socially inappropriate behavior:	
Touches other resident's property, intrusion toward others:	
Other (specify below):	
Specify other: _____	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

FORENSIC CHART REVIEW

Incident/ Trigger #1

Incident/ Trigger Dates/ Date Range:	
Incident/ Trigger Time:	
Incident/ Trigger Indication:	
Role of Resident:	

Incident Description Form

Incident/ Trigger Description: Selected behaviors, severity and frequency:	
Incident/ Trigger Verbatim Description:	

Incident Outcome Form

Selected action taken #1:	
Selected action notes #1:	
Date of action #1 (if different from incident/ trigger date):	
Selected action taken #2:	
Selected action notes #2:	
Date of action #2 (if different from incident/ trigger date):	
Selected action taken #3:	
Selected action notes #3:	
Date of action #3 (if different from incident/ trigger date):	
Additional outcome action notes:	

Incident/ Trigger #2

Incident/ Trigger Dates/ Date Range:	
Incident/ Trigger Time:	
Incident/ Trigger Indication:	
Role of Resident:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Incident Description Form

Incident/ Trigger Description: Selected behaviors, severity and frequency:	
Incident/ Trigger Verbatim Description:	

Incident Outcome Form

Selected action taken #1:	
Selected action notes #1:	
Date of action #1 (if different from incident/ trigger date):	
Selected action taken #2:	
Selected action notes #2:	
Date of action #2 (if different from incident/ trigger date):	
Selected action taken #3:	
Selected action notes #3:	
Date of action #3 (if different from incident/ trigger date):	
Additional outcome action notes:	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Medications

[illegible]

ID: _____
CASE #: _____

TYPE OF UNIT: _____

General Background Information Form

Background item	Event date	Notes	Relationship to incident/ trigger
Mental health background #1:			
Mental health background #2:			
Mental health background #3:			
Psychiatric diagnosis #1:			
Psychiatric diagnosis #2:			
Psychiatric diagnosis #3:			
Social change #1:			
Social change #2:			
Social change #3:			
Change in number of visitors #1:			
Change in number of visitors #2:			
Change in number of visitors #3:			
Other change/ life event #1:			
Other change/ life event #2:			
Other change/ life event #3:			
Environmental issue #1:			
Environmental issue #2:			
Environmental issue #3:			
Incident Background Notes from chart:			
Incident Background Notes from reviewer:			

ID: _____
CASE #: _____

TYPE OF UNIT: _____

Chart Review Indication Form (source(s) of findings from the chart)

Chart Section	Findings	Severity of finding	Incident Indication Level	Event date
Orders #1:				
Orders #2:				
Orders #3:				
Progress Notes #1:				
Progress Notes #2:				
Progress Notes #3:				
Consult Notes #1:				
Consult Notes #2				
Consult Notes #3				
Rehab/PT/OT #1				
Rehab/PT/OT #2				
Rehab/PT/OT #3				
C.N.A Flow Sheets #1				
C.N.A Flow Sheets #2				
C.N.A Flow Sheets #3				
MDS #1				
MDS #2				
MDS #3				
Social Services #1				
Social Services #2				
Social Services #3				
Care Plan #1				
Care Plan #2				
Care Plan #3				
Notes				

ID: _____
CASE #: _____

TYPE OF UNIT: _____

RATER SUMMARY

Rater: _____

Date of rating: _____

Date of consensus: _____

	RREM Incident Present?	Primary (Most Egregious) Type of Case	Secondary Type of Case	Confidence With Decision	Description of Incident
Sources:	N = No; PO = Possible; PR = Probable; D = Definite; I = Insufficient Information; NA = Not Applicable/Unavailable	0 = Not a case; 1 = Verbal; 2 = Physical; 3 = Sexual; 4 = Other; 9 = Not Applicable		0 = No doubt; 1 = A few doubts; 2 = Moderate doubts; 3 = Grave doubts; 9 = Not App	
(1a) Resident Report 2 Weeks #1	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(1b) Resident Report 2 Weeks #2	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(1c) Resident Report 2 Weeks #3	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(1d) Resident Report 2 Weeks #4	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(1e) Resident Report 2 Weeks #5	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(1f) Resident Report Past Year #1	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(1g) Resident Report Past Year #2	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(2a) Staff Report 2 Weeks #1	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(2b) Staff Report 2 Weeks #2	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

	RREM Incident Present?	Primary (Most Egregious) Type of Case	Secondary Type of Case	Confidence With Decision	Description of Incident
Sources:	N = No; PO = Possible; PR = Probable; D = Definite; I = Insufficient Information; NA = Not Applicable/Unavailable	0 = Not a case; 1 = Verbal; 2 = Physical; 3 = Sexual; 4 = Other; 9 = Not Applicable		0 = No doubt; 1 = A few doubts; 2 = Moderate doubts; 3= Grave doubts; 9=Not App	
(2c) Staff Report 2 Weeks #3	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(2d) Staff Report 2 Weeks #4	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(2e) Staff Report 2 Weeks #5	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(2f) Staff Report Past Year #1	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(2g) Staff Report Past Year #2	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(3a) Shift Coupon #1	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(3b) Shift Coupon #2	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(4a) Narrative #1	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(4b) Narrative #2	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(5a) Incident/ Accident Report #1	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(5b) Incident/ Accident Report #2	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(6) Forensic Chart Review in prevalence period	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	

ID: _____
CASE #: _____

TYPE OF UNIT: _____

	RREM Incident Present?	Primary (Most Egregious) Type of Case	Secondary Type of Case	Confidence With Decision	Description of Incident
Sources:	N = No; PO = Possible; PR = Probable; D = Definite; I = Insufficient Information; NA = Not Applicable/Unavailable	0 = Not a case; 1 = Verbal; 2 = Physical; 3 = Sexual; 4 = Other; 9 = Not Applicable		0 = No doubt; 1 = A few doubts; 2 = Moderate doubts; 3 = Grave doubts; 9 = Not App	
(6a) Forensic Chart Review prior to prevalence period	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	
(6b) Forensic Chart Review after prevalence period	N PO PR D I NA	0 1 2 3 4 9	0 1 2 3 4 9	0 1 2 3 9	

Final designation based on all reporting sources: Was the person involved in any RREM? <i>NOTE:</i> If questionable, please rate only yes or no based on your best judgment from the information available.	YES	NO	Confidence With Decision				
			No doubt 0	A few doubts 1	Moderate doubts 2	Grave doubts 3	Not App 9
Was there corroboration of caseness among multiple sources? <i>NOTE:</i> Complete this item regardless of previous response- that is, if this person is a case, did multiple available sources inform the determination that this is a case; similarly, if this is NOT A CASE, indicate whether multiple sources informed this decision; e.g., did the available sources indicate no or questionable R-REM.	YES	NO	0	1	2	3	9
If yes, please circle all corroborating sources that informed caseness OR non-caseness. <i>NOTE:</i> Do not circle a source if it was not available	1a 1b 1c 1d 1e 1f 1g 2a 2b 2c 2d 2e 2f 2g 3a 3b 4a 4b 5a 5b 6						
Most influential source? Please circle one .	1a 1b 1c 1d 1e 1f 1g 2a 2b 2c 2d 2e 2f 2g 3a 3b 4a 4b 5a 5b 6						

KEY					
(1a) Resident Report 2 Weeks #1	(1f) Resident Report Past Year #1	(2d) Staff Report 2 Weeks #4	(3b) Shift Coupon #2	(6) Forensic Chart Review in prevalence period	
(1b) Resident Report 2 Weeks #2	(1g) Resident Report Past Year #2	(2e) Staff Report 2 Weeks #5	(4a) Narrative #1		
(1c) Resident Report 2 Weeks #3	(2a) Staff Report 2 Weeks #1	(2f) Staff Report Past Year #1	(4b) Narrative #2		
(1d) Resident Report 2 Weeks #4	(2b) Staff Report 2 Weeks #2	(2g) Staff Report Past Year #2	(5a) Incident/ Accident Report #1		
(1e) Resident Report 2 Weeks #5	(2c) Staff Report 2 Weeks #3	(3a) Shift Coupon #1	(5b) Incident/ Accident Report #2		

R-REM TYPOLOGIES

REVIEWER NAME _____ DATE COMPLETED _____

INITIATOR ID _____ OTHERS INVOLVED ID _____; _____

Directions:

- 1) Based on your review of the data, indicate whether any R-REM is described. If yes, briefly describe the most egregious aspect of the incident; if no R-REM is described, do NOT complete this form.
- 2) Circle the '1' in the row with the **ONE subcategory** that best represents the most egregious aspect of the incident (primary); circle also the '2' in the row with the ONE subcategory that describes the second most egregious aspect of the incident.
- 3) Circle the '1' in the row with the **ONE relationship** that best describes the dyad (if 'other', write relationship in the space provided). If there is an additional relationship, circle the '2' in the row that describes the secondary relationship. If the relationship is unknown, select 'DK'.
- 4) Indicate whether the most egregious act was **provoked** (circle Y (yes) or N (no)) and whether it was **intentional** or not. If this is unknown, select 'DK'.
- 5) In the possible etiology fields, circle the '1' in the row with the **primary etiology** and, if applicable, circle the '2' in the row with the **secondary etiology**. If Other is selected, indicate the other possible etiology.

Is there any incident of R-REM? Yes No

If yes, consider ONLY the most egregious aspect of the incident(s)

Briefly describe the most egregious aspect of the incident:

Subcategory	Description	Primary	Secondary
Verbal		<i>Circle the '1' in the row describing the primary typology</i>	<i>Circle the '2' in the row describing the secondary typology</i>
Argument/Disagreement:	An argument between 2 individuals about behavior, i.e. music being played too loudly, room temperature, sitting in another's seat; Aggressive verbal exchanges in which two residents engage in an angry dispute about a topic.	1	2
Accusations:	Resident reports that a personal belonging has been taken from his/her room. In a threatening manner, a resident (inaccurately) accuses another resident of having stolen something.	1	2
Aggressive or passive aggressive verbal:	Antagonistic remarks, insults, mean-spirited responses or statements made during a typical interaction with another resident. Sarcasm, jeering, or making fun of a resident; trying to scare with words. Using "Bad words"; screaming at another resident	1	2
Imperious commands:	Imperative statements made with the intent of changing another resident's behavior, most often to prevent another resident from being disruptive or to conform to a normative standard for the setting. "Bossing around" and "Demanding"	1	2
Physical			
Aggressive physical contact:	Physical assault of any kind including physical aggression prompted by the aggressor's desire or attempt to move through a space; collisions or scuffling that occurs between proximate residents trying to move about. Do not include threatening gestures (separate category below). Examples: Hitting, kicking, grabbing, pushing, biting, scratching, spitting, and throwing things at another resident.	1	2
Sexual			
	Saying sexual things, unwanted sexual advances and intentional nudity or exposure in the present of other residents	1	2
Other			
Inappropriate caregiving:	Resident suggests or instructs another in an attempt to take on the role of a caregiver; one resident performs caregiving activities for another, e.g., pushing wheelchair. Helping when not asked for help.	1	2
Menacing gestures or facial expressions:	Threatening actions or expressions	1	2
Invasion of room privacy:	Resident enters another's room without invitation, sometimes touching his/her belongings or making him/her feel threatened or uncomfortable, damaging another resident's belongings	1	2
Other – specify:		1	2

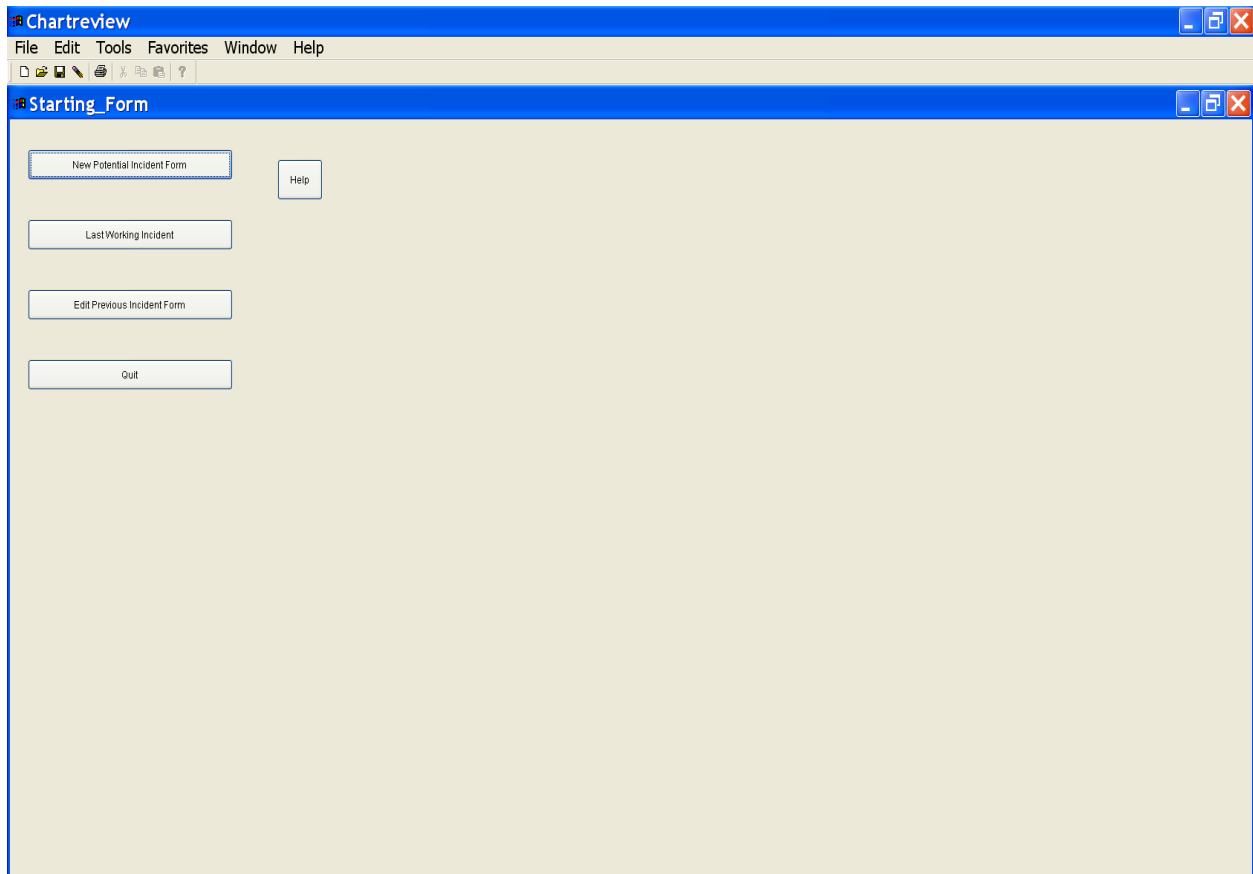
Consider *ONLY* the most egregious aspect of the incident(s)

Relationship of Dyad		Primary	Secondary
Roommate:		1	2
Tablemate:		1	2
Other - specify:		1	2
Significant other/ spouse:		1	2
Don't know:		1	2
Intention		Primary	
Provoked:		Y N DK	
Intentional:		Y N DK	
Possible Etiology	Examples of etiologies	Primary etiology	Secondary etiology
Crowding:	Physical environment too crowded with either equipment, people or both.	1	2
Cognitive impair/ Disruptive behavior:	Behaviors associated with cognitive impairment	1	2
Psychiatric disorder/ history:	The commingling of persons with significant history of mental illness	1	2
Breaking point, noise:	Repetitive, loud, noxious noise leading to a "breaking point".	1	2
Language barrier:	Misunderstandings due to limited comprehension or use of English language.	1	2
Clash of habits/preferences:	Persons with radically different personalities, habits, and/or preferences who are living in close proximity with limited opportunities to avoid each other.	1	2
Lack of meaningful stimulation:	Lack of meaningful stimulation or things to do.	1	2
Unmanaged pain:	Repetitive pain behaviors (e.g., calling out, moaning) that annoy others.	1	2
Incursion on personal space:	Invasion of personal space.	1	2
Racial conflict:	Use of racial slurs, disparaging comments related to someone's race/ethnicity	1	2
Other – specify:	Could include a "negative climate" due to budget cuts, etc.	1	2
Don't know:		1	2
Not Applicable:			2

B.1.3 Gold Standard Consensus Process for Case Adjudication

The process is discussed in detail in Chapter III: Methods, Section E of the report.

B.1.4 Chart review data extraction program



Chartreview

File Edit Tools Favorites Window Help

Incident/ Trigger Background Information Form

Chart_# 60

Incident/Trigger Date (mm/dd/yyyy) / /

Incident/Trigger Time (hh:mm:ss AM/PM) : :

No Accurate Incident/Trigger Date or Time

Incident/Trigger Date Between (mm/dd/yyyy) / / And (mm/dd/yyyy) / /

Approx. Incident/Trigger Date(mm/dd/yyyy) / /

Incident/Trigger Time (Others)

Time (Others) Look Up

Breakfast time
Morning
Lunchtime
Noontime

Resident ID Last_name First_Name Search Resident Information

Facility Unit Date of Birth Help

Caregiver Name Caregiver Position Incident Description Information Save

Chart Reviewer (lastname.firstname) Chart Review Date (MM/DD/YYYY) Incident Outcome Information Exit

Reason for Chart Review
1.General Chart Review-Data Collection (eg Research)
2.Medication Review
3.Quality Control
4.State Reporting

Role of Resident in Incident/Trigger
1.Perpetrator_per_CNA
2.Victim_per_CNA
3.Victim_per_Resident
4.Perpetrator_per_Reviewer

Incident/Trigger Indication
1.Incident from External Reporting Source
2.Incident Found in Chart
3.Trigger from External Reporting Source
4.Trigger Found in Chart

Incident/ Trigger Description

Additional Incident Found in Chart 1.Yes 2.No Additional Incident Chart Review# Note for Additional Incident (max 250 letters)

Chartreview

File Edit Tools Favorites Window Help

Incident Description Information Form

Input information then click Save

Select Mode: ☐ Listing Mode ☒ Add Mode

Chart# 60

Approx. Incident/Trigger DATE (mm/dd/yyyy) / /

Description Item	Severity	Frequency	Date

Description Item: 1. Verbal: Cursing, 2. Verbal: Screaming, 3. Verbal: Threatening, 4. Verbal: Bossiness, 5. Verbal: Racial/Ethnic slurs, 6. Verbal: Others

Severity: 1. Very Severe, 2. Moderately Severe, 3. Somewhat Severe, 4. Not Very Severe

Frequency of Action (e.g., a few times a year, a few times a month...)

Date if Different from Incident/Trigger Date (mm/dd/yyyy) / /

Incident Description Note

Save Exit Help

Chartreview

File Edit Tools Favorites Window Help

Incident Outcome Information Form

Input information then click Save

Select Mode: ☐ Listing Mode ☒ Add Mode

Chart # 60

Approx. Incident/Trigger DATE (mm/dd/yyyy) / /

Actions	Action short note	Date	Rec #

Actions:

- 1.Immediate Action: Police called
- 2.Immediate Action: Management involved
- 3.Immediate Action: Relative notified
- 4.Immediate Action: Medical attention
- 5.Immediate Action: Contacted security
- 6.Immediate Action: Documented event
- 7.Immediate Action: Other immediate action

Outcome/Action Short Note (max 250 letters)

Action Date If Different from Incident/Trigger Date (mm/dd/yyyy) / /

Incident Outcome/Action Detail Note

Save Exit Help

Chartreview

File Edit Tools Favorites Window Help

Medication Form

Input information then click Save

Select Mode: ☐ Listing Mode ☒ Add Mode

Chart # 60

Approx. Incident/Trigger DATE (mm/dd/yyyy) / /

Medication	Frequency	By Times	Dose	Med. date	Dose Change	Quantity of Chan

Medication Searching: [Text Box]

Frequency: 1. Daily 2. Weekly 3. Monthly 4. Yearly

Times: [Text Box]

Dose: [Text Box]

Medication Start Date (mm/dd/yyyy): / /

Time Administered (AM, PM, After Food, etc): [Text Box]

Change in Dose (compared to previous): 1. Decreasing 2. Increasing 3. No change

Amount of Dose Change: [Text Box]

Date of Change: / /

Incident Medication Note: [Text Box]

Save Exit Help

Chartreview

File Edit Tools Favorites Window Help

General Background Information Form

Input information then click Save

Select Mode: ☐ Listing Mode ☒ Add Mode

Chart # 60

Approx. Incident/Trigger DATE (mm/dd/yyyy) / /

Background Item	Background note	Incident relation	Event date Re

Background Item: 1. Mental health background, 2. Psychiatric diagnoses, 3. Social changes, 4. Change in number of visitors, 5. Other changes/ life events, 6. Environmental issues

Background Note

Relationship to the Incident: 1. Direct relation from chart, 2. Indirect relation from chart, 3. Direct relation chart reviewer eva, 4. Indirect relation chart reviewer ev

Event Date if Different from Incident/Trigger Date (mm/dd/yyyy) / /

Incident Background Notes from Chart

Incident Background Notes from Reviewer

Save Help Exit

Chartreview

File Edit Tools Favorites Window Help

Chart Review Indication Form

Input information then click Save

Select Mode: ☐ Listing Mode ☒ Add Mode

Chart # 60

Approx. Incident/Trigger DATE (mm/dd/yyyy) / /

Incident Indication	Chart Section	Finding	Severity of Finding	Event Date

Chart Section: 1. Orders 2. Progress Notes 3. Consult Notes 4. Rehab/PT/OT

Finding:

Incident Indication: 1. Definite Indication 2. Probable Indication 3. Possible Indication 4. Definitely Not

Event Date if Different from Incident/Trigger Date (mm/dd/yyyy) / /

Incident Descriptive Note:

Help On Severity

Save Exit Help

B.2. Existing Resident-to-Resident Elder Mistreatment Guidelines from Participating Long-term Care Facilities

(Included as a separate document. See Appendix A)

B.3 Suggested Guidelines for the Identification, Reporting, and Investigation of Resident-to-Resident Mistreatment (R-REM) in a Residential Setting

NOTE: Some of the elements contained in this document were taken from existing facility guidelines addressing resident abuse in general or resident to resident abuse specifically.

WORKING DOCUMENT

POLICY: The Residential Facility will ensure that all residents have the right to be free from physical or verbal aggression, unwelcome sexual behavior or advances, psychological mistreatment and misappropriation of property by other residents, all considered resident-to-resident mistreatment. The staff is responsible for protecting residents, educating staff in prevention and identification of resident –to-resident mistreatment, for investigating, documenting, and immediately reporting resident-to-resident mistreatment to the nursing management and administration. In cases when it is determined that a resident has been emotionally or physically harmed by other resident there will be a planned intervention or corrective actions taken, and reporting to the New York State Department of Health (reports must be made to NYSDOH immediately upon achieving a reasonable cause threshold of R-REM, which should not exceed twenty-four hours).

I. Identification of Signs & Symptoms of Resident to Resident Mistreatment:

Premise: The entire Care Team must be observant and is responsible for the identification of all and any signs and symptoms potentially associated with all and any forms of R-REM. The following list of signs includes but is not limited to: Resident admits to being physically abused.

- Resident denies abuse, or is unable to express oneself due to cognitive impairment. However physical exam reveals bruises, lacerations, fractures or multiple injuries in various stages of healing.
- Resident describes in a hesitant, embarrassed, or evasive manner the circumstances surrounding the injury or alleged “accident” involving other(s) resident(s).
- Difficulty in walking or sitting.
- Torn, stained, or bloody under-clothing.
- Pain or itching in genital area.
- Bruises or bleeding in external genitalia, vaginal and/ or anal area.
- Unexplained sexually transmitted disease.
- Obsessive bathing, hand washing, and/ or tooth brushing.
- Resident displays excessive or unexplained fears.
- Resident exhibits ambivalence, resignation, is withdrawn, or trembling.
- Shows fear of being with other residents.
- Resident exhibits anger, denial or unresponsiveness.
- Resident displays obsessive compulsive behavior such as constant sucking, biting, or rocking.

- Irrational behavior.

II. Reporting Procedure

All resident to resident mistreatment occurrences, which are inclusive of verbal, and/or physical altercations, unwelcome sexual behavior and/or advances, and misappropriation of property, must follow a reporting protocol:

- Immediate notification to the Charge Nurse.
- Immediate notification to the Nursing Supervisors, inclusive of the Clinical Nurse Manager and the Director of Nursing/Nursing Administration by the Charge Nurse.
- Inform and schedule a meeting with residents' family (if applicable)
- Timely notification to the Care Team comprised of all the professionals having a direct care responsibility to both the victim(s) of abuse and the alleged perpetrator(s).
- Depending of the severity of the R-REM event, timely reporting to the Administrators Office.
- In cases where a resident to resident altercation results in injury:
 - In addition to the above steps, immediate notification to the Medical Director and to the physician assigned to the injured resident(s);
 - Notification to the NYSDOH, following a thorough investigation and a detailed documentation of the entire R-REM incident.

The Charge Nurse is responsible for making sure that all reportable R-REM incidents on his/her unit are documented in:

- a) the twenty-four hour report;
- b) the nursing notes for both the resident victim and the resident perpetrator;
- c) an incident/accident report; and
- d) in a residential facility investigation report. The latter will be used in the determination (after review and approval of the Administrator or his/her designee) of whether or not the R-REM event will require reporting to NYSDOH, and/or if any other procedural action must be taken.

III. Investigation of R-REM and Documentation of the Results. (See Forms included at the end of the document).

Investigation of the incident must be initiated immediately upon discovery of resident-to-resident mistreatment (no later than 24 hours after the event) by the Clinical/Administrative Nurse Manager. Documentation of the event must be implemented upon completion of the investigation (see policy addendum for checklist).

Investigation and review of the incident may include but is not limited to:

- Physical exam of resident alleged to have been abused and the perpetrator including a physicians' examination if appropriate. In cases of alleged sexual abuse the physician will be notified for transfer to the ER for a physical exam.
- Any emergency or first aid rendered to the resident.

- Questioning (including signed, dated statements) of the victim resident(s), eye witnesses, visitors, or employees and the resident alleged to have committed the abuse by the Clinical/Administrative Nurse Manager.
- Questioning, and signed, dated statements from all other employees on duty on the unit and/or in the proximity of the location of the alleged incident. If no knowledge of the incident, their statement should indicate so.
- A brief description of the psychological state of each resident involved, including the resident alleged to have been abused, as well as the perpetrator, including cognitive status, and any notable changes in mental, physical, and/or health status.
- Review of the medical chart of the residents (victim and perpetrator) noting **any prior** incidents of abuse (This should be done last so as not to sway the investigator's opinion regarding the allegation.)
- The Residential Facility Investigation form will be completed for all R-REM investigations.
- All persons questioned will be informed that the statements they make may be turned over to the NYSDOH or other governmental agencies.

IV Implementation of Immediate Interventions and Corrective Actions

Interventions and actions will be taken as immediate and/or preventative measures with the purpose of deterring the R-REM event and/or preventing recurrences of the R-REM event. The plan of action will be developed by the care team in conjunction and/or consultation with the residents' family. The actions include but are not limited to:

- Immediate separation and protection of each resident as deemed appropriate by the care team, up to and including transfer of all parties to another room location
- Notification of victim and perpetrator's physician
- Notification of the resident's family or designated representative
- Psychiatric consults for the resident displaying the aggressive behavior and the victim, as ordered by the physician
- Social Services consult for the victim and perpetrator to ascertain mental status and feelings of safety for the former, for appropriate follow up
- Development/revision of a Comprehensive Care Plan for each resident. Interventions will be explored by the Care plan team through the care plan process and the plan will be evaluated no less than quarterly.

INVESTIGATION FORM (Suggested Template)

(To be used to investigate R-REM events, including allegations of physical aggression, verbal, sexual, physical, psychological abuse, and misappropriation of property by other residents)

Name of Resident (alleged) Victim:

Unit _____

Room Number: _____

Name of resident (alleged) perpetrator:

Unit _____

Room Number: _____

Date Incident/Accident Occurred: _____

Time: _____ [] AM [] PM

Date Incident/Accident Reported: _____

Time: _____ [] AM [] PM

Place of occurrence:

☐ Resident's room

☐ Dining room

☐ Elevator/near elevator

☐ Off the Unit

☐ Other (specify) _____

☐ Activity room/common area

☐ Hallway

☐ Nurse's station/near nurse's station

☐ Outside/outdoors

Reported By: _____

Title(s): _____

Reported To: _____

Title(s): _____

Type of Alleged Abuse: ☐ Verbal ☐ Physical ☐ Sexual ☐ Other _____

Summary of the incident as reported:

Name(s) of witness(es) to the incident: _____

Investigation initiated due to:

☐ Report of Incident by staff

☐ Resident Allegation of R-REM event

☐ Family Allegation of R-REM event

☐ Other (specify) _____

Resident(s) Injured: ☐ Yes (describe injuries) ☐ No

Injuries required medical attention: ☐ No ☐ Yes (describe i.e.,: sent to ER, hospitalized, examined by physician, etc.) Explain:

Did the medical record review indicate any previous or unexplained injuries?

☐ Yes (describe) ☐ No

Summary of report by alleged victim:

Summary of report by alleged perpetrator:

Summary of witness(es), report, e.g., (other staff, residents, visitors, etc.):

Investigative Findings: Was R-REM substantiated? ☐ Yes ☐ No

Provide brief explanation for the answer.

Intervention(s) and Corrective Action(s) Taken:

REPORT OF INVESTIGATION RESULTS (Suggested Template)

On _____, _____ reported an incident to
(Date) (Reporter's Name)

_____; alleging that abuse/mistreatment or misappropriation
(Name/Title)

of resident property by another resident may have occurred regarding _____ on
(Resident's Name)

_____.
(Date)

The facility's Administration has conducted a thorough investigation, of the alleged incident.

Based on the investigation, the incident was/was not reported to the NYSDOH, Office of
(Circle one)

Health Systems Management; and _____ was informed of this
(Reporter's Name)

decision on _____.

(Signature/Title)

Investigative checklist to assure all items are included in the investigation.

- ☐ Statement of informant
- ☐ Statement of all witnesses
- ☐ Statement of residents: victim(s) and perpetrator(s) (if applicable)

Review of :

- ☐ Incident report
- ☐ Care plans for all residents involved in the R-REM event: victim and alleged perpetrator
- ☐ Medical records for residents involved in the R-REM event: victim and alleged perpetrator
- ☐ Relevant nurses' notes for residents involved in the R-REM event: victim and alleged perpetrator
- ☐ Physicians current orders and progress notes for residents involved in the R-REM event: victim and alleged perpetrator

B.4 Publications.

Ellis, J., Teresi, J.A., Ramirez, M., Silver, S., Boratgis, G., Kong, J., Eimicke, J.P., Sukha, G., Lachs, M.S., Pillemer, K. (in press). Managing resident to resident elder mistreatment (R-REM) in nursing homes: the SEARCH approach. *The Journal of Continuing Education in Nursing*.

Teresi, J.A., Ramirez, M., Ellis, J., Silver, S., Boratgis, G., Kong, J., Eimicke, J.P., Pillemer, K.A., Lachs, M.S. (2013). A staff intervention targeting resident-to-resident elder mistreatment (R-REM) in long-term care increased staff knowledge, recognition and reporting: Results from a cluster randomized trial. *International Journal of Nursing Studies*. 50(5): 644-56. doi 10.1016/j.ijnurstu.2012.10.010.

Ramirez, M., Watkins, B., Teresi, J.A., Silver, S., Sukha, G., Boratgis, G., Van Haitsma, K., Lachs, M.S., Pillemer, K. (2013). Using Qualitative Methods to develop a measure of Resident-to-Resident elder measurement in nursing homes. *International Psychogeriatrics*, pp.1-12, doi: 10.1017/S1041610213000264

Teresi, J.A., Ocepek-Welikson, K., Ramirez, M., Eimicke, J.P., Silver, S., Van Haitsma K., Lachs, M.S., Pillemer, K. (2013). Development of an instrument to measure staff-reported resident-to-resident elder mistreatment (R-REM) Using item response theory and other latent variable models. *The Gerontologist*. Advance Access published February 28, 2013. doi:10.1093/geront/gnt001

Lachs, M.S., Rosen, T., Teresi, J.A., Eimicke, J.P., Ramirez, M., Silver, S., Pillemer, K. (2013). Verbal and Physical Aggression Directed at Nursing Home Staff by Residents. *Journal of General Internal Medicine*. Vol. 28 (5), 660-667. Published online: December 8, 2012. doi:10.1007/s11606-012-2284-1

Pillemer, K., Chen, E.K., Van Haitsma, K.S., Teresi, J., Ramirez, M., Silver, S., Sukha, G., Lachs, M.S. Resident-to-Resident Aggression in Nursing Homes: Results from a Qualitative Event Reconstruction Study. *The Gerontologist*, 2011, 52(1), 24-33.

Rosen T., Lachs M.S., Teresi J.A., Van Haitsma, K., Pillemer K. (submitted) Staff-Reported Strategies for Prevention and Management of Resident-to-Resident Elder Mistreatment in Long-Term Care. *Journal of the American Geriatric Society*

B.5 Conferences and Presentations

- Lachs, M.S. (2013, April) Violence in the Nursing Home: Who's Doing What to Whom? Panel participant, Institute of Medicine's Forum on Global Violence Prevention. Washington, D.C.
- Ramirez, M., Dessel R. (2012, November) Staff Training on Prevention of Resident-Resident Elder Mistreatment. LeadingEdge New York, Directors of Nursing Services, Directors of Social Work Annual Conferences & Exposition. Lake George, NY
- Lachs, M.S., Teresi, J.A. (2012, June). R-REM in Nursing Homes. NIJ Annual Conference, Arlington, VA.
- Lachs, M. (2012, May). The Epidemiology of Physically and Verbally Aggressive Behaviors of Nursing Home Residents Directed at Staff. Oral paper session presented at the American Geriatrics Society Annual Meeting, Seattle, WA. **[AGS Best Paper Award, Health Services and Policy Research]**
- Rosen, A.E., Lachs, M., Pillemer, K., & Teresi, J.A. (2012, May) The Epidemiology of Physical and Verbally Aggressive Behaviors of Nursing Home Residents Directed at Staff. Oral poster session presented at the American Geriatrics Society Annual Meeting, Seattle, WA.
- Rosen, T., Lachs, M.S., Pillemer, K., Teresi, J.A. (2012, May) Staff Responses to Resident-to-Resident Elder Mistreatment in Nursing Homes: Results of a Multi-Site Survey. American Geriatrics Society Annual Scientific Meeting, Seattle, WA.
- Chen, E.K., Pillemer, K., Van Haitsma, K., Teresi, J., & Lachs, M. (2011, November). A Descriptive Typology of Residential Aggression in Nursing Homes. Poster session presented at the 64th annual scientific meeting of the Gerontological Society of America (GSA). Boston, MA.
- Lachs, M.S., Rosen, T., Pillemer, K., Teresi, J.A. (2011, October). The Epidemiology of Physically and Verbally Aggressive Behaviors of Nursing Home Residents Directed at Staff. European Congress on Violence in Clinical Psychiatry. Prague, Czech Republic.
- Lachs, M.S., Teresi, J., Haymovitz, E., Van Haitsma, K., Del Carmen, K., & Pillemer, K.A. (2010, November). Why They Fight: Event Reconstruction of Resident to Resident Elder Mistreatment (RREM) in Long Term Care Facilities. Abstract presented at the 63rd annual scientific meeting of the Gerontological Society of America (GSA), New Orleans, LA.

- Watkins, B.X., Lachs, M.S., Teresi, J.A., Ramirez, M., & Pillemer, K. (2010, November). Developing a Measure of Resident-to-Resident Elder Mistreatment: The Use of Qualitative Method to Inform Quantitative Design. Abstract presented at the 63rd annual scientific meeting of the Gerontological Society of America (GSA), New Orleans, LA.
- Lachs, M., Teresi, J., Ramirez, M. (2010, June). Elder Mistreatment in Community and Nursing Home Settings. Presentation at The National Institute on Aging and the National Academy of Sciences meeting on research issues in elder mistreatment and financial fraud, Washington, D. C.
- Rosen, T., Lachs, M.S., Pillemer, K. (2010, May). Sexually aggressive resident behavior in long-term care: insights from nursing home focus groups. Oral paper presentation at the American Geriatrics Society Annual Scientific Meeting. Orlando, FL.
- Lachs, M., Teresi, J. (2010, May). R-REM Training Modules. Presentation to the New York State Department of Health, Albany, N.Y.
- Dessel, R., Ramirez, M., & Reingold, D. (2009, November). Staff Training to Prevent Resident-to-Resident Mistreatment. Poster session presentation at the AAHSA Annual Meeting & Exposition, meeting held in Chicago, IL.
- Teresi, J. (2008, November) Resident-to-Resident aggression and violence in nursing homes: A prevalent but understudied problem. Symposium, presented at the 61st annual scientific meeting of the Gerontological Society of America (GSA) National Harbor, MD.
- Rosen, T., Lachs, M.S., Pillemer, K. (2008, November). Staff-generated strategies for managing resident-to-resident aggression. Under the panel, Resident-to-resident aggression and violence in nursing homes: a prevalent but understudied problem (Discussant: Louis Burzio). Gerontological Society of America Annual Scientific Meeting, National Harbor, MD.
- Rosen, T., Lachs, M.S., Pillemer, K., Bharucha, A.J., Teresi, J.A. (2008, July). Resident-to-resident aggression in long term care. Under the panel, Hidden Abuse: Mistreatment of the Elderly in Residential Care (Moderator: Carrie Mulford). National Institute of Justice Annual Conference, Arlington, VA.
- Rosen, T., Lachs, M.S., Bharucha, A.J., Stevens, S.M., Teresi, J.A., Nebres, F., Pillemer, K. (2008, June). Resident-to-resident aggression in long-term care facilities: insights from focus groups of nursing home residents and staff. Public Health Association of New York City Annual Student Conference, New York, NY.

Rosen, T., Lachs, M., Pillemer, K. (2008, April-May). Managing resident-to-resident aggression in nursing homes: creative staff-developed strategies exist, but comprehensive evidence-based interventions needed. Presidential Poster Session at the American Geriatrics Society Annual Scientific Meeting. Washington, DC.

Rosen, T., Lachs, M., Pillemer, K. (2008, February). Managing resident-to-resident aggression in nursing homes: creative staff-developed strategies exist, but comprehensive evidence-based interventions needed. Poster presented at Weill Cornell Medical College Medical Student Research Day. New York, NY. *Poster received award.

C. Interim Reports Submitted

**U.S. DEPARTMENT OF JUSTICE
Office of Justice Programs
CATEGORICAL/DISCRETIONARY ASSISTANCE PROGRESS REPORT**

1. Grantee: Joan & Sanford I. Weill Medical College of Cornell University
2. Agency Grant Number: 2009-IJ-CX-0001
3. Report Number: 1
4. Implementing Subgrantee: Research Division, Hebrew Home at Riverdale
5. Reporting Period: 1/01/10 – 6/30/10
6. Short Title of Project: Physician Documentation of Resident to Resident Mistreatment in Residential Care Facilities
7. Grant Amount: \$521,562
8. Type of Report: Regular
9. Name and Title of Project Director: Mark S. Lachs, M.D., Professor of Medicine
10. Signature of Project Director
11. Date of Report: 7/30/10

1. Status of Goals Carried Over from Previous Reporting Period:

Not Applicable

2. Status of Goals for Current Reporting Period:

Goal	Status
G1. Introduce the chart review component to participating nursing homes	Complete
G2. Refine Incident/ Accident Reporting forms:	Complete

Goal	Status
<p><i>G3. Create electronic entry forms for entry of chart data:</i></p> <p>Initially, we planned to use a Computer Assisted Telephone Interview (CATI) style system. It was later determined that a FoxPro based software system that would allow for dropdown menus and easier movement between screens depending on the type of information would be better suited to the project. This has been developed incorporating comments and suggestions by all senior staff and consultants. Two in-person meetings and additional phone conferences have been held to review the progress of software development. According to the timeline, the program was to be developed during months 1 and 2 of the project. While the program has not yet been finalized, it is in the last stages of testing. We expect to be able to maintain our timeline for the remainder of the project.</p>	Pilot testing phase
<p><i>G4. Hire and certify a forensic chart reviewer:</i></p> <p>Liz Ciampa, M.S. has extensive experience reviewing thousands of long term care and hospital charts. She has been hired and has assisted with development of and pilot testing of the chart review software, and to conduct qualitative interviews for case conferencing (see below).</p>	Complete
<p><i>G5. Develop Case Conference documentation forms:</i></p> <p>An additional source of data has been added in order to increase the richness of the data available at the case conference. When any incident of Resident-to-Resident Mistreatment is reported by staff, residents, or research assistants either during the research interview or by reported observation, an Incident Form is completed. Soon after, the reporter of the incident is approached and a formal qualitative interview is held. Formal sets of questions for Certified Nursing Assistants, nurses, social workers, chart review, research assistants and residents have been developed. These questionnaires serve to elicit additional information about the environment where the event occurred (e.g., noise level, crowd size), background about each of the participants (e.g., psychiatric history, recent life changes, medication changes) and previous issues between the residents. To date, 92 such reviews have been performed at 3 nursing homes.</p>	Complete
<p><i>G6. Begin data collection:</i></p> <p>See Goal 3 above</p>	Not initiated

3. Corrective Action Planned to Resolve Implementation Problems; Effect of these Problems on the Remaining Schedule for Achieving the Project Remaining Goals:

A formal group meeting is scheduled for the end of July. Ms. Ciampa will report on the findings from the pilot process and final updates will be discussed. Given the level of experience of the

hired forensic chart reviewer, and the additional time built into our timeline, it is not expected that this delay will affect our ability to meet our goals.

4. Changes to the Implementation Plan to Overcome Problems:

None at this time

5. Technical Assistance Required from the Grantor to Help Resolve Implementation Problems:

None

6. Results to date:

None available

U.S. DEPARTMENT OF JUSTICE
Office of Justice Programs
CATEGORICAL/DISCRETIONARY ASSISTANCE PROGRESS REPORT

1. Grantee: Joan & Sanford I. Weill Medical College of Cornell University
2. Agency Grant Number: 2009-IJ-CX-0001
3. Report Number: 2
4. Implementing Subgrantee: Research Division, Hebrew Home at Riverdale
5. Reporting Period: 7/01/10 – 12/31/10
6. Short Title of Project: Physician Documentation of Resident to Resident Mistreatment in Residential Care Facilities
7. Grant Amount: \$521,562
8. Type of Report: Regular
9. Name and Title of Project Director: Mark S. Lachs, M.D., Professor of Medicine
10. Signature of Project Director
11. Date of Report: 1/30/11

1. Status of Goals Carried Over from Previous Reporting Period:

Goal	Status
<i>G1. Create electronic entry forms for entry of chart data:</i> The FoxPro based software system that allows for dropdown menus and easier movement between screens has been developed incorporating comments and suggestions by all senior staff and consultants. Additional testing and revisions have led to the completion of the software development.	Almost Complete- will be completed by February 1, 2011

2. Status of Goals for Current Reporting Period:

Goal	Status
<i>G1. Perform data collection:</i> Data collection was initiated. Approximately 65 chart reviews have been performed to pilot the newly developed instrument and software.	Ongoing

Goal	Status
<p><i>G2. Collect Case-Narratives</i></p> <p>We continue to perform formal qualitative interviews for reported incidents. Approximately 160 of these interviews have been performed. In addition to the qualitative description of events, a data entry form has been created and variables have been extracted from these data. These data have been entered and included in the case conferencing form (see G3).</p>	Ongoing
<p><i>G3. Case Conferencing</i></p> <p>Case conferencing was proposed to begin in month 6. Due to the delay in finalizing the chart reviews, sufficient data were not available and this process has not yet begun. The forms have been populated with data from several sources and once scheduling can be finalized, case conference will begin.</p>	To be initiated
<p><i>G4. Cleaning and Scoring of Data</i></p> <p>Due to the delay in creating the electronic data entry program, cleaning programs have not been finalized. This will be completed during the next reporting period.</p>	Not complete

3. Corrective Action Planned to Resolve Implementation Problems; Effect of these Problems on the Remaining Schedule for Achieving the Project Remaining Goals:

Data cleaning and scoring programs will be developed within the next month, and the processes will be initiated immediately following. Case conferencing will begin shortly. Given the additional time built into our timeline for pilot testing, it is not expected that this delay will affect our ability to meet our goals.

4. Changes to the Implementation Plan to Overcome Problems:

None at this time

5. Technical Assistance Required from the Grantor to Help Resolve Implementation Problems:

None

6. Results to date:

None available

U.S. DEPARTMENT OF JUSTICE
Office of Justice Programs
CATEGORICAL/DISCRETIONARY ASSISTANCE PROGRESS REPORT

1. Grantee: Joan & Sanford I. Weill Medical College of Cornell University
2. Agency Grant Number: 2009-IJ-CX-0001
3. Report Number: 3
4. Implementing Subgrantee: Research Division, Hebrew Home at Riverdale
5. Reporting Period: 1/01/11 – 06/30/11
6. Short Title of Project: Physician Documentation of Resident to Resident Mistreatment in Residential Care Facilities
7. Grant Amount: \$521,562 total award
8. Type of Report: Regular
9. Name and Title of Project Director: Mark S. Lachs, M.D., Professor of Medicine
10. Signature of Project Director
11. Date of Report: 7/31/11

1. Status of Goals Carried Over from Previous Reporting Period:

Goal	Status
<i>G1. Create electronic entry forms for entry of chart data:</i> The FoxPro based software system that allows for dropdown menus and easier movement between screens has been developed incorporating comments and suggestions by all senior staff and consultants. Additional testing and revisions have led to the completion of the software development.	Complete
<i>G2. Cleaning and scoring of data:</i> Cleaning programs have been developed. These remain to be finalized.	Ongoing

2. Status of Goals for Current Reporting Period:

Goal	Status
<i>G1. Perform data collection:</i>	Ongoing

Goal	Status
Data collection is in progress in the five downstate nursing homes.	
<p><i>G2. Collect Case-Narratives</i></p> <p>As events are reported, additional Event Logs are completed and entered into a database. Based on these logs, additional case narratives have been collected through March, 2011. At that time, the investigators reviewed the narratives to create a set of typologies (a classification based on empirically observable characteristics of each incident and patterns in the events that allow them to be placed in meaningful categories). The initial typologies were developed by the PI and consultants. In order to test the reliability of the typology rating sheet, a focus group for study interview staff was led by Dr. Van Haitsma, a study consultant, and Dr. Teresi.</p> <p>Dr. Van Haitsma provided examples of each of the 16 R-REM types determined by the PI and consultants. Prior to coming to the focus group, each participant was asked to bring at least one example of an R-REM event. Each participant described these events to the group. Participants were then given a rating sheet with the 16 categories and rated each event in two ways: 1) identifying which category they considered to be the best fit to describe the event (Primary) and, if needed, an additional category that might also represent a good fit to describe the event (secondary); 2) rate their confidence in their selection of category using the following scale- 1= completely confident, 2= very confident; 3= fairly confident; 4= somewhat confident; 5= not at all confident. Following the rating of the events, the facilitators returned a second time to the events and asked participants to share how they had rated them.</p> <p>Revisions were made based on the focus group and analyses of disagreements. An updated typologies rating sheet was created (see attached) and a random sample of 30 cases were reviewed by senior project staff and data collectors to test the updated types and establish reliability.</p>	Ongoing
<p><i>G3. Case Conferencing</i></p> <p>Case conferencing was proposed to begin in month 6 but have been delayed slightly to test the empirical typologies. We do not believe this will effect the overall time of the project because of addition time budgeted for piloting data collection methods. While this testing is being conducted, the forms have been populated with data from several sources. Once the typologies are finalized, this rating field will be added to the case conferencing form and conferencing will commence.</p>	To be initiated

3. Corrective Action Planned to Resolve Implementation Problems; Effect of these Problems on the Remaining Schedule for Achieving the Project Remaining Goals:

Case conferencing will begin shortly. Given the additional time built into our timeline for pilot testing, it is not expected that this delay will affect our ability to meet our goals.

There was one unanticipated development during this reporting period: One of the for-profit nursing homes participating in the study declared bankruptcy. While it continues to operate, the home's management that agreed to participate in the study was replaced, and the new administrator had to be convinced to continue to participation in the R_REM studies. PI Lachs spent many hours assuring the facility and administrator and reminding them of the study's value, and he was successful with respect to the overall projects but requires further assurance with respect to continuing the chart review component. We are hopeful that we will be allowed to complete the required chart reviews.

4. Changes to the Implementation Plan to Overcome Problems:

None at this time

5. Technical Assistance Required from the Grantor to Help Resolve Implementation Problems:

None

6. Results to date:

A manuscript, titled "Resident-to-Resident Aggression in Nursing Homes: A Social-Ecological Typology" is under review in *The Gerontologist*. NIJ is cited as a sponsor. Please see attached.

REVIEWER NAME _____ DATE _____
 EVENT # _____ INITIATION ID _____ OTHERS INVOLVED ID _____; _____

Proposed R-REM typologies: Revisions based on focus groups and analyses of disagreements

Directions: **1)** For each event, select the **ONE subcategory** that best represents the most egregious aspect of the event. **2)** In the selected category, mark (Y or X) in the box for the **ONE relationship** that best describes the dyad (if ‘other’, write relationship in the space provided). If the relationship is unknown, select ‘DK’. **3)** Mark (Y or X) the **ONE intention** that best describes the most egregious aspect of the event. If this is unknown, select ‘DK’. **4)** In the possible etiology fields, indicate the **primary etiology** (write a 1 in the box) and, if applicable, the **secondary etiology** (write a 2 in the box). If Other is selected, indicate the other possible etiology.

Subcategory	Description	Relationship of Dyad				Intention		Possible etiology								
		Room mate	Table mate	Other	DK	Pro-voked	In-tentional	Crowd-ing	Cognitive Impair / Disruptive Behavior	Breaking point, noise	Language barrier	Clash of habits/prefs	Lack of mean. stim	Unmana-ged Pain	Incursion on personal space	O th er D K
Verbal																
Argument / Disagreement	An argument between 2 individuals about behavior, i.e. music being played too loudly, room temperature, sitting in another’s seat; Aggressive verbal exchanges in which two residents engage in an angry dispute about a topic.					Y	Y									
						N	N									
						DK	DK									
Accusations	Resident reports that a personal belonging has been taken from his/her room. In a threatening manner, a resident (inaccurately) accuses another resident of having stolen something.					Y	Y									
						N	N									
						DK	DK									
Aggressive or passive aggressive verbal	Antagonistic remarks, insults, mean-spirited responses or statements made during a typical interaction with another resident. Sarcasm, jeering, or making fun of a resident that was perceived as hurtful.					Y	Y									
						N	N									
						DK	DK									
Imperious commands	Imperative statements made with the intent of changing another resident’s behavior, most often to prevent another resident from being disruptive or to conform to a normative standard for the setting.					Y	Y									
						N	N									
						DK	DK									

Physical																	
Aggressive physical contact	Physical Assault; Physical aggression prompted by the aggressor's desire or attempt to move through a space; collisions or scuffling that occurs between proximate residents trying to move about.					Y N DK	Y N DK										
Sexual																	
	Unwanted sexual advances and intentional nudity or exposure in the present of other residents.					Y N DK	Y N DK										
Other																	
Inappropriate Caregiving	Resident suggests or instructs another in an attempt to take on the role of a caregiver; one resident performs caregiving activities for another, e.g., pushing wheelchair.					Y N DK	Y N DK										
Menacing gestures or facial expressions						Y N DK	Y N DK										
Invasion of room privacy	Resident enters another's room without invitation, sometimes touching his/her belongings or making him/her feel threatened or uncomfortable.					Y N DK	Y N DK										

Examples for etiologies:

- 1) CROWDING: physical environment too crowded with either equipment, people or both.
- 2) COGNITIVE IMPAIR / DISRUPTIVE BEHAVIOR: persons with cognitive impairment misinterpreting another's behavior.
- 3) BREAKING POINT, NOISE: repetitive, loud, noxious noise leading to a "breaking point".
- 4) LANGUAGE BARRIER: misunderstandings due to limited comprehension or use of English language.
- 5) CLASH OF HABITS or PREFERENCES: Persons with radically different personalities, habits, and/or preferences who are living in close proximity with limited opportunities to avoid each other.
- 6) LACK OF MEANINGFUL STIMULATION: Lack of meaningful stimulation or things to do.
- 7) UNMANAGED PAIN: repetitive pain behaviors (e.g., calling out, moaning) that annoy others.
- 8) INCURSION ON PERSONAL SPACE: invasion of personal space.
- 9) OTHER: Could include racial conflict, the commingling of persons with significant history of mental illness, a "negative climate" due to budget cuts, etc.

U.S. DEPARTMENT OF JUSTICE
Office of Justice Programs
RESEARCH PERFORMANCE PROGRESS REPORT

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| 1. | Grantee: | Joan & Sanford I. Weill Medical College of
Cornell University |
| 2. | Agency Grant Number: | 2009-IJ-CX-0001 |
| 3. | Report Number: | 5 |
| 4. | Implementing Subgrantee: | Research Division, Hebrew Home at Riverdale |
| 5. | Reporting Period: | 1/01/12 – 06/30/12 |
| 6. | Short Title of Project: | Physician Documentation of Resident to Resident
Mistreatment in Residential Care Facilities |
| 7. | Grant Amount: | |
| 8. | Type of Report: | Regular |
| 9. | Name and Title of Project Director: | Mark S. Lachs, M.D., Professor of Medicine |
| 10. | Signature of Project Director | |
| 11. | Date of Report: | 7/31/12 |

MANDATORY REPORTING CATEGORIES

- What are the major goals and objectives of the project?

Aim 1. Enhance institutional recognition of R-REM by deriving R-REM information from five different sources, including two added for this project: forensic medical record review, and accident/incident reports. Additionally, a gold standard consensus conference classification is proposed for a random sample of residents.

G1. Perform Forensic Chart Reviews: Nursing, social service, and activities notes, as well as care planning conference reports (and any other relevant documentation) are reviewed for reports of occurrences of R-REM. The investigators' past experience suggests that medical charts are likely to contain documentation of R-REM occurrences that do not reach the level of an accident/incident report. Moreover, pilot data suggest that because of lack of clear guidelines, serious incidents are not recorded in the accident/incident reports.

G2. Collect Incident/ Accident Reports: A typical nursing home accident/incident report has information such as: the date and time the incident was discovered; who discovered the incident; how the incident was discovered; a description of the resident or residents involved and any relevant information regarding their condition (medical, psychological, behavioral, etc.) noted prior to the discovery of the incident; names of staff interviewed along with their signed and dated statements; a statement from the resident, if s/he is able to provide a statement about

the incident; and statements from other possible witnesses. Based on the documented circumstances surrounding the incident and its consequences we will determine if the reported incident/accident was in anyway related to or a result of an R-REM episode.

G3. Case Conferencing: A protocol for case conferencing incidents of R-REM has been developed in order to assign a gold-standard designation of caseness. This method is used to evaluate the accuracy of various reporting sources. In order to assist with the case conferencing, an additional step was included:

G4. Collect Case-Narratives: When cases of R-REM are reported by staff, resident, or interviewer observation, further data are collected for a sample of incidents to better understand the circumstances of the R-REM event. In order to create a comprehensive narrative, scripted questions have been developed for those who observed and those who are most familiar with the residents involved. Additional sources include: other staff present during the incident, primary caregivers (e.g., CNA, RN, LPN, social worker), and forensic medical record review.

Aim 2. Examine the convergence of R-REM reports across the five different methodologies;

Aim 3. Identify the most accurate mechanism for detecting and reporting R-REM;

Aim 4. Develop profiles to describe the types of people reported by each different source;

Aim 5. Investigate the existing policies and procedures for reporting R-REM in each facility;

Aim 6. Develop institutional guidelines for the reporting of R-REM episodes.

- What was accomplished under these goals?

Data collection as part of Aim 1 is ongoing. *G1.* Forensic chart reviews are completed at one urban site and nearly complete at the remaining four; reviews have been initiated at the three upstate sites. Thus far, a total of 651 chart reviews have been completed. *G2.* Incident/ Accident Reports completed for all participants are reviewed for potential cases of R-REM. These data are entered into an electronic data capture (CAPI) system. All incident/ accident reports have been collected for the five urban facilities. In the urban sample, there are a total of 5,073 reports; to date, 3,600 of these have been entered into the data base. *G3.* To date 54 cases have been reviewed via case conference and an additional 26 cases have been prepared for conferencing. *G4.* A total of 151 case narratives across the five urban sites have been written up. All data collection is ongoing at the three suburban sites.

- What opportunities for training and professional development has the project provided?

In order to carry out data collection for the three R-REM related projects, 35 interns and interviewers have been employed. These staff are primarily nursing and premed bachelor's and master's students from minority ethnic backgrounds. All are provided with several weeks' worth

of training in using the data collection tools and observation prior to certification to conduct data collection.

- How have the results been disseminated to communities of interest?

Several papers have been published/ prepared and presentations given for the scientific community. In the past reporting period, an article entitled, “A staff intervention targeting resident-to-resident elder mistreatment (R-REM) in long-term care increased staff knowledge, recognition and reporting of R-REM: Evaluation results from a cluster randomized trial” was submitted to the International Journal of Nursing Studies. A manuscript entitled, “Who Exactly is Abusing Whom? Verbal and Physical Aggression Directed at Nursing Home Staff by Residents” has been submitted to Annals of Internal Medicine. NIJ is cited as a sponsor for both (see attached).

In addition, two methodological articles addressing the development of the Resident-to-Resident Mistreatment (R-REM) measure are being prepared. The first article (Dr. Ramirez et al.) discusses the purpose and results of a combination of qualitative methods (including the work of a panel of experts, focus groups, and structured and in-depth cognitive interviews) used for item development of the R-REM measure. This article describes the development strategy and the incremental modification and refinement of items using qualitative methods. It also presents how these multiple qualitative methods aided in flagging problematic items, helped to highlight the nature of the problem(s) and provided suggestions for item modification and improvement. The benefits and limitations of this approach for measure development are also discussed.

The second article (Dr. Teresi et al.) presents modern psychometric analyses of the R-REM instrument including both exploratory and confirmatory factor analyses and item response theory. These articles are being prepared as companion papers.

Finally, a paper related to staff interventions and R-REM (Dr. Rosen) is also in preparation.

- What do you plan to do during the next reporting period to accomplish the goals and objectives?

All data collection will continue in the three upstate sites. We expect to near completion of the collection of the forensic chart reviews and incident/ accident reports during this period. Case conferencing and collection of case narratives will continue. Analyses required to address aims 2 through 6 will occur at the completion of data collection.

OPTIONAL CATEGORIES (the categories listed below are being REQUIRED by NIJ)

- Products: What has the project produced?

A FoxPro based software system with drop down menus has been developed for input of forensic medical chart review data. This software was created by a programmer at the Research Division at the Hebrew Home at Riverdale with the input of physicians and a medical chart review expert.

In addition, a protocol for case conferencing incidents of R-REM has been developed in order to assign a gold-standard designation of caseness. This method is used to evaluate the accuracy of various reporting sources.

- Impact: What is the impact of the project? How has it contributed?

Data collection is ongoing; however, numerous presentations have been given, increasing awareness among a variety of policy makers about the importance and implications of R-REM.

- Changes/Problems: Are changes in approach necessary? What are the reasons for the change? What are the significant impacts of the change? Are there anticipated problems?
Please also list any change of scope or change of project period GANs submitted during the reporting period.

There are no changes in the approach, but due to issues with recruitment of sites and delays in obtaining approval to initiate data collection at the suburban sites, we have applied for a no-cost extension to allow additional time to complete data collection and analyses. Also, please see the budget report for current changes to the budget.

- Special Reporting Requirements: Are there any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements? If so, any information related to these requirements should be specified in this section.

Not Applicable

U.S. DEPARTMENT OF JUSTICE
Office of Justice Programs
RESEARCH PERFORMANCE PROGRESS REPORT

- | | | |
|-----|-------------------------------------|--|
| 1. | Grantee: | Joan & Sanford I. Weill Medical College of
Cornell University |
| 2. | Agency Grant Number: | 2009-IJ-CX-0001 |
| 3. | Report Number: | 6 |
| 4. | Implementing Subgrantee: | Research Division, Hebrew Home at Riverdale |
| 5. | Reporting Period: | 7/01/12 – 12/31/12 |
| 6. | Short Title of Project: | Physician Documentation of Resident to Resident
Mistreatment in Residential Care Facilities |
| 7. | Grant Amount: | |
| 8. | Type of Report: | Regular |
| 9. | Name and Title of Project Director: | Mark S. Lachs, M.D., Professor of Medicine |
| 10. | Signature of Project Director | |
| 11. | Date of Report: | 1/31/13 |

MANDATORY REPORTING CATEGORIES

ACCOMPLISHMENTS

- What are the major goals and objectives of the project?

Aim 1. Enhance institutional recognition of R-REM by deriving R-REM information from five different sources, including two added for this project: forensic medical record review, and accident/incident reports. Additionally, a gold standard consensus conference classification is proposed for a random sample of residents.

G1. Perform Forensic Chart Reviews: Nursing, social service, and activities notes, as well as care planning conference reports (and any other relevant documentation) are reviewed for reports of occurrences of R-REM. The investigators' past experience suggests that medical charts are likely to contain documentation of R-REM occurrences that do not reach the level of an accident/incident report. Moreover, pilot data suggest that because of lack of clear guidelines, serious incidents are not recorded in the accident/incident reports.

G2. Collect Incident/ Accident Reports: A typical nursing home accident/incident report has information such as: the date and time the incident was discovered; who discovered the incident; how the incident was discovered; a description of the resident or residents involved and any relevant information regarding their condition (medical, psychological, behavioral, etc.)

noted prior to the discovery of the incident; names of staff interviewed along with their signed and dated statements; a statement from the resident, if s/he is able to provide a statement about the incident; and statements from other possible witnesses. Based on the documented circumstances surrounding the incident and its consequences we will determine if the reported incident/accident was in anyway related to or a result of an R-REM episode.

G3. Case Conferencing: A protocol for case conferencing incidents of R-REM has been developed in order to assign a gold-standard designation of caseness. This method is used to evaluate the accuracy of various reporting sources. In order to assist with the case conferencing, an additional step was included:

G4. Collect Case-Narratives: When cases of R-REM are reported by staff, resident, or interviewer observation, further data are collected for a sample of incidents to better understand the circumstances of the R-REM event. In order to create a comprehensive narrative, scripted questions have been developed for those who observed and those who are most familiar with the residents involved. Additional sources include: other staff present during the incident, primary caregivers (e.g., CNA, RN, LPN, social worker), and forensic medical record review.

Aim 2. Examine the convergence of R-REM reports across the five different methodologies;

Aim 3. Identify the most accurate mechanism for detecting and reporting R-REM;

Aim 4. Develop profiles to describe the types of people reported by each different source;

Aim 5. Investigate the existing policies and procedures for reporting R-REM in each facility;

Aim 6. Develop institutional guidelines for the reporting of R-REM episodes.

- What was accomplished under these goals?

Data collection as part of Aim 1 is ongoing. *G1.* Forensic chart reviews are completed at all five urban sites; reviews have been completed at one upstate site and are in progress at the remaining two sites. Thus far, a total of 955 chart reviews have been completed. *G2.* Incident/ Accident Reports completed for all participants are reviewed for potential cases of R-REM. These data are entered into an electronic data capture (CAPI) system. All incident/ accident reports have been collected and entered for the five urban facilities. We are in the process of collecting these in the upstate sites. *G3.* To date 81 cases have been reviewed via case conference. We plan to oversample the number of cases for conferencing and have selected an additional 141 cases; preparation for conferencing all of these cases has been initiated. *G4.* A total of 151 case narratives across the five urban sites have been written up. All data collection is ongoing at the three suburban sites.

U.S. DEPARTMENT OF JUSTICE
Office of Justice Programs
RESEARCH PERFORMANCE PROGRESS REPORT

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|-----|-------------------------------------|--|
| 1. | Grantee: | Joan & Sanford I. Weill Medical College of
Cornell University |
| 2. | Agency Grant Number: | 2009-IJ-CX-0001 |
| 3. | Report Number: | 7 |
| 4. | Implementing Subgrantee: | Research Division, Hebrew Home at Riverdale |
| 5. | Reporting Period: | 01/01/13 – 06/30/13 |
| 6. | Short Title of Project: | Physician Documentation of Resident to Resident
Mistreatment in Residential Care Facilities |
| 7. | Grant Amount: | |
| 8. | Type of Report: | Regular |
| 9. | Name and Title of Project Director: | Mark S. Lachs, M.D., Professor of Medicine |
| 10. | Signature of Project Director | |
| 11. | Date of Report: | 7/31/13 |

MANDATORY REPORTING CATEGORIES

ACCOMPLISHMENTS

- What are the major goals and objectives of the project?

Aim 1. Enhance institutional recognition of R-REM by deriving R-REM information from five different sources, including two added for this project: forensic medical record review, and accident/incident reports. Additionally, a gold standard consensus conference classification is proposed for a random sample of residents.

G1. Perform Forensic Chart Reviews: Nursing, social service, and activities notes, as well as care planning conference reports (and any other relevant documentation) are reviewed for reports of occurrences of R-REM. The investigators' past experience suggests that medical charts are likely to contain documentation of R-REM occurrences that do not reach the level of an accident/incident report. Moreover, pilot data suggest that because of lack of clear guidelines, serious incidents are not recorded in the accident/incident reports.

G2. Collect Incident/ Accident Reports: A typical nursing home accident/incident report has information such as: the date and time the incident was discovered; who discovered the incident; how the incident was discovered; a description of the resident or residents involved and any relevant information regarding their condition (medical, psychological, behavioral, etc.)

noted prior to the discovery of the incident; names of staff interviewed along with their signed and dated statements; a statement from the resident, if s/he is able to provide a statement about the incident; and statements from other possible witnesses. Based on the documented circumstances surrounding the incident and its consequences we will determine if the reported incident/accident was in anyway related to or a result of an R-REM episode.

G3. Case Conferencing: A protocol for case conferencing incidents of R-REM has been developed in order to assign a gold-standard designation of caseness. This method is used to evaluate the accuracy of various reporting sources. In order to assist with the case conferencing, an additional step was included:

G4. Collect Case-Narratives: When cases of R-REM are reported by staff, resident, or interviewer observation, further data are collected for a sample of incidents to better understand the circumstances of the R-REM event. In order to create a comprehensive narrative, scripted questions have been developed for those who observed and those who are most familiar with the residents involved. Additional sources include: other staff present during the incident, primary caregivers (e.g., CNA, RN, LPN, social worker), and forensic medical record review.

Aim 2. Examine the convergence of R-REM reports across the five different methodologies;

Aim 3. Identify the most accurate mechanism for detecting and reporting R-REM;

Aim 4. Develop profiles to describe the types of people reported by each different source;

Aim 5. Investigate the existing policies and procedures for reporting R-REM in each facility;

Aim 6. Develop institutional guidelines for the reporting of R-REM episodes.

- What was accomplished under these goals?

Data collection as part of Aim 1 is ongoing. *G1.* Forensic chart reviews are completed at all five urban sites and all three upstate sites. A total of 1086 chart reviews were completed. *G2.* Incident/ Accident Reports completed for all participants are reviewed for potential cases of R-REM. These data are entered into an electronic data capture (CAPI) system. All incident/ accident reports have been collected and entered for the five urban facilities, and two of the three upstate facilities. We are in the process of collecting these in the final upstate site. *G3.* To date 262 cases have been reviewed via case conference (181 during the current reporting period). We plan to have 1 final meeting during the next reporting period to review the final cases; preparation for conferencing all of these cases has been initiated. *G4.* A total of 151 case narratives across the five urban sites have been written up. Data collection is ongoing at one of the three upstate sites.

- What opportunities for training and professional development has the project provided?

In order to carry out data collection for the three R-REM related projects, over 35 interns and interviewers have been employed. These staff are primarily nursing and premed bachelor's and master's students from minority ethnic backgrounds. All are provided with several weeks' worth of training in using the data collection tools and observation prior to certification to conduct data collection.

- How have the results been disseminated to communities of interest?

Nothing to Report

- What do you plan to do during the next reporting period to accomplish the goals and objectives?

All data collection will be completed. Case conferencing will be completed. Analyses required to address aims 2 through 6 will occur at the completion of data collection.

OPTIONAL CATEGORIES (the categories listed below are being REQUIRED by NIJ)

- Products: What has the project produced?

A FoxPro based software system with drop down menus has been developed for input of forensic medical chart review data. This software was created by a programmer at the Research Division at the Hebrew Home at Riverdale with the input of physicians and a medical chart review expert.

In addition, a protocol for case conferencing incidents of R-REM has been developed in order to assign a gold-standard designation of caseness. This method is used to evaluate the accuracy of various reporting sources.

- **Publications, conference papers, and presentations:** Several papers have been published/prepared and presentations given for the scientific community.

1- Dr. Lachs was a panel participant at the Institute of Medicine's April 17-18, 2013 meeting on elder abuse.

2- An article entitled, "A staff intervention targeting resident-to-resident elder mistreatment (R-REM) in long-term care increased staff knowledge, recognition and reporting of R-REM: Evaluation results from a cluster randomized trial" was published by the International Journal of Nursing Studies. (see doi: 10.1016/j.ijnurstu.2012.10.010), May 2013 issue.

3- A manuscript entitled "Verbal and Physical Aggression Directed at Nursing Home Staff by Residents" was published in the Journal of General Internal Medicine, May 2013 issue.

4- A methodological article titled, "Development of an instrument to measure staff-reported resident-to-resident elder mistreatment (R-REM) using item response theory and other latent

variable models” (Dr. Teresi et al.) was made available (ePub ahead of print) in the Gerontologist. This article presents modern psychometric analyses of the R-REM instrument including both exploratory and confirmatory factor analyses and item response theory.

5- A second methodological article titled “Using qualitative methods to develop a measure of resident-to-resident elder mistreatment in nursing homes” addressing the qualitative development of the Resident-to-Resident Mistreatment (R-REM) was made available on March 14, 2013 and will be published in International Psychogeriatrics in August, 2013. This article (Dr. Ramirez et al.) discusses the purpose and results of a combination of qualitative methods (including the work of a panel of experts, focus groups, and structured and in-depth cognitive interviews) used for item development of the R-REM measure. This article describes the development strategy and the incremental modification and refinement of items using qualitative methods. It also presents how these multiple qualitative methods aided in flagging problematic items, helped to highlight the nature of the problem(s) and provided suggestions for item modification and improvement. The benefits and limitations of this approach for measure development are also discussed.

6- Finally, a paper related to staff interventions and R-REM (Dr. Rosen) is also in preparation.

NIJ is cited as a sponsor for all of these articles.

PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS: Who has been involved?

What individuals have worked on the project?

***There are no foreign collaborations

Mark Lachs, MD, MPH, PI, 1.2 calendar months, no change

Jeanne A. Teresi, EdD, PhD, subcontract PI, 0.60 calendar months, no change

Mildred Ramirez, PhD, Project Coordinator, 1.2 calendar months, no change

Stephanie Silver, MPH, Project Coordinator, 1.2 calendar months, no change

Jian Kong, MS, Biostatistician, 1.2 calendar months, no change

Joseph Eimicke, MS, Data Manager, 1.2 calendar months, no change

Martha Heatley, BA, Coordinator, 0.24 calendar months, no change

Maria Badri, AA, Research Aide, 1.2 calendar months, no change

What other organizations have been involved as partners?

During the current reporting period, the following institutions have participated as data collection sites:

Sarah Neuman Center, Jewish Home Lifecare, Mamaroneck, NY

Have other collaborators or contacts been involved?

Nothing to Report

- Impact: What is the impact of the project? How has it contributed?

Data collection is ongoing; however, numerous presentations have been given, increasing awareness among a variety of policy makers about the importance and implications of R-REM.

What is the impact on other disciplines?

Nothing to Report

What is the impact on the development of human resources?

Nothing to Report

What is the impact on physical, institutional, and information resources that form infrastructure?

Nothing to Report

What is the impact on technology transfer?

Nothing to Report

What dollar amount of the award's budget is being spent in foreign country(ies)?
\$0

- Changes/Problems: Changes in approach and reasons for change. Actual or anticipated problems or delays and actions or plans to resolve them

There are no changes in the approach, but due to issues with recruitment of sites and delays in obtaining approval to initiate data collection at the suburban sites, we have applied for a no-cost extension to allow additional time to complete data collection and analyses.

Changes that have a significant impact on expenditures

There is no significant impact on expenditures

Significant changes in use or care of human subjects, vertebrate animals, and/or Biohazards

Nothing to report

Change of primary performance site location from that originally proposed

Nothing to report

- Special Reporting Requirements: Are there any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements? If so, any information related to these requirements should be specified in this section.

Not Applicable