# CIVIL MONEY PENALTY (CMP) FUNDED PROJECT FINAL REPORT

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# Wisconsin Nursing Home Clinical Performance Measures – Phase I

## I. Executive Summary

Wisconsin needs high quality nursing homes to meet the needs of its most vulnerable citizens. In order to achieve high quality nursing home care and to continuously improve it, the Department must first define quality and determine how to measure it. This report documents the first phase of this initiative, to produce a nursing home quality performance measurement system tested for credibility and ready for statewide implementation. The proposed next phase will recruit several WI nursing homes to pilot test the reporting system, including selecting which measures are most useful and identifying appropriate resources and protocols to employ to improve or maintain a high level of measured performance. The ultimate outcome of these efforts is to improve clinical outcomes for WI nursing home residents, which will also improve their quality of life.

WI DHS engaged the Center for Health Systems Research and Analysis (CHSRA) of the University of Wisconsin – Madison to conduct the first phase of this initiative. Specifically,

- CHSRA researched nursing home performance data sources and measures, including experiences/concerns of those currently using these data sources and measures.
- CHSRA solicited Wisconsin nursing home stakeholder input in the process of defining, testing, implementing and managing a nursing home performance measurement system.
- CHSRA designed a prototype of such a system and test it for statistical validity, reliability and credibility.
- CHSRA presented a successfully tested, data-driven nursing home clinical performance measurement system ready for statewide implementation.

The CMP funding for this project may only be used for the benefit and protection of nursing home residents. Therefore, once complete, the nursing home quality performance measurement system will be available to Wisconsin nursing home trade associations and Department staff responsible for the regulation of nursing homes.

Based on discussions with the Department and stakeholders, the scope of the initial reporting system is limited to the following:

- <u>Clinical performance measures</u> (outcome and process measures): This excludes, for example, measures that deal exclusively with resident quality of life which are often based on satisfaction surveys.
- <u>MDS –based quality indicator/quality measures</u> (QIQM's): Only measures derived exclusively from MDS 3.0 data are employed in the initial version f the system. No measures that require

payer-specific claim or encounter data or that rely on self-reported data by the facility are included.

- <u>Nursing homes only</u>: For example, ICF/IID facilities are excluded, since they are beyond the scope of the CMP funding for this initiative. Also, MDS resident assessment data is not available for ICF/IID facilities.
- <u>All residents</u>: That is, the reporting system and measures are not restricted to Medicaid residents. Some measures, by their definition, may exclude or treat residents differently depending on characteristics that are related to their payment source.
- <u>Quality Improvement Audience</u>: The initial audience for the reporting system is restricted to Department staff responsible for the regulation of nursing homes and nursing home trade association staff. If the initiative proceeds to Phase II, the audience will be expanded to nursing home staff. These initial versions of the reporting system are not intended to be used by the public.

Data from resident MDS 3.0 assessments is used to construct the performance measures presented in the report. All of the performance measures take the form of quality indicators / quality measures (QIQM's). Each QIQM is the ratio of the number of residents exhibiting a characteristic of interest (the numerator) to the number of residents in a population of interest (the denominator). For example, CMS.0674 is the percentage of long-stay residents who experienced a fall with a major injury during the reporting period.

The QIQM's in the report are based on those used by CMS on the Nursing Home Compare web site or as part of the CASPER reports, those used by Minnesota in it's nursing home reporting system, or the MDS-based QCLI's used in the new QIS nursing home survey system. There are 69 QIQM's currently included in the reporting system. Of the 69 QIQM's, 26 are risk-adjusted based on characteristics ("factors") of the residents in the denominator.

The QIQM's are grouped into 15 domains. Some domains contain a single measure, while others have several. The reporting tool allows the user to collapse or expand the displayed contents for each domain.

QIQM's are computed for each quarter starting with 2011Q1. In addition, annual values provide a more reliable measure that can be used if the quarterly QIQM denominators are small. The report also displays the change in annual QIQM values for the most recent two years. This provides an indication of whether performance is improving or declining and the resulting change can be compared to that of other facilities. In addition to the three standard reporting periods (most recent quarter, most recent year and the most recent annual change), the entire history of quarterly QIQM values and percentiles are available to the user.

Three peer groups are used to compute percentile rankings for each QIQM value on the report. The first two peer groups are fixed and the third can be selected from 16 options available to the user. The first fixed peer group is "Statewide", which includes all facilities with QIQM denominators of at

least five. The second fixed peer group is "4/5-Star", which is composed on all facilities with a 4-star or 5-star overall rating on the CMS Nursing Home Compare web site.

Appendix A presents a variety of statistical results for the initial set of reported measures, including historical statewide quarterly average values, correlation coefficients, regression analyses with resident risk factors and tabulations of risk-adjustment and peer grouping effects on facility percentile rankings.

The reporting tool for the system is an Excel spreadsheet prepared for each facility. The spreadsheet contains the history of facility QIQM values since the first quarter of 2011, as well as each QIQM's percentile ranking among each of 16 peer groups. The spreadsheet approach allows the user to select the desired peer group and to collapse/expand the QIQM results for each of the 15 domains of care. Quarterly updates to the spreadsheet will add the most recent reporting quarter of QIQM values. A secured file transfer mechanism (website) will be used to deliver the reports.

The proposed next phase will recruit several WI nursing homes to pilot test the reporting system, including selecting which measures are most useful and identifying appropriate resources and protocols to employ to improve or maintain a high level of measured performance. More specifically, CHSRA will seek CMP funding to pilot the reporting system with 20 to 30 nursing homes over a one-year study period. This project will be coordinated with efforts by the Wisconsin Department of Health Services staff and will solicit the support and participation of the two large provider associations, LeadingAge Wisconsin and the Wisconsin Health Care Association. The final report will recommend next steps to roll out and maintain the final version of the reporting system for the benefit of all WI nursing homes.

## II. Scope of Nursing Home Clinical Performance System

There are several dimensions of a performance measurement system for which boundaries needed to be defined, including the service providers, population receiving services, the services provided, the type of performance being measured and the reporting period.

## A. Nursing Home Service Providers

The scope of provider types to be included in the reporting system was discussed with project stakeholders. The following decisions were made early in the project development.

## 1. Should ICF/IDs (stand-alone and distinct-part) be included?

Including ICF/IDs is challenging in two ways. First, the population served differs so significantly from the elderly/disabled population typically served by nursing facilities. So, if included, the results for these providers must be segregated from the results for nursing facilities. Second, ICF/IDs are not required to submit MDS resident assessment information. Consequently, there are no MDS-based quality indicators available.

DECISION: <u>Exclude ICF/IDs</u>

#### 2. What licensing/certification categories should be included?

Most nursing facilities are licensed for skilled care. A few are limited to providing intermediate care (Zimmerman in Reedsburg and Sky View in Hurley). One is licensed as an institute for mental disease (Trempealeau County). Within the skilled care facilities, there are units that specialize in treating residents with brain injuries (e.g., Clearview in Dodge County) or with behavioral problems (e.g., Clearview and Ravenwood in La Crosse County).

#### DECISION: <u>Initially, include all facilities for which measurement data is available (e.g.,</u> <u>MDS data)</u>

Most nursing facilities are certified to provide both Medicare and Medicaid services. Some are only Medicare certified (12) or only Medicaid certified (11). A few are neither Medicare nor Medicaid certified (including Zimmerman, the Trempealeau IMD, the county behavioral facilities and a small 6-bed facility in Delafield). As with ICF/IDs, nursing facilities that are not Medicare or Medicaid certified are not required to submit MDS assessments to CMS.

DECISION: <u>Again, include all facilities for which measurement data is available</u>

#### 3. Should swing bed hospitals be included?

There are 56 swing bed hospitals with beds that can be converted to nursing home care. Swing bed residents are often covered by Medicare Part A for post-acute and rehabilitation services following an acute hospital stay. Some states provide Medicaid coverage in swing beds in areas with limited access to conventional nursing facilities.

Non-critical access hospitals must complete MDS 3.0 assessments according to the Medicare SNF PPS schedule, but are not required to complete those required by OBRA (i.e., the comprehensive annual and partial quarterly care planning assessments). Critical access hospitals are exempt from submission of MDS 3.0 assessments for swing bed residents (although they must perform and document appropriate care planning).

DECISION: \_\_\_Exclude (MDS data is not available)\_\_\_\_

## B. Target Population Served

Within a nursing facility, the resident population can be characterized in several ways. As summarized below, stakeholders agreed to include all residents for which data is available.

#### 1. Which payer populations should be included?

A dually-certified skilled care nursing facility may have residents covered solely by Medicare (e.g., non-Medicaid post-acute Part A stays), solely by Medicaid (e.g., frail elders with functional or cognitive care needs), by both Medicare and Medicaid (e.g., Medicare Part A stays after 20 days with Medicaid paying the daily copayment), or by neither Medicare nor Medicaid (e.g., private-pay residents).

DECISION: <u>Include all residents</u>

#### 2. Which service populations should be included?

A nursing facility resident may receive post-acute care, chronic medical care, functional/cognitive/behavioral care, hospice care, or a combination of these service types.

While most post-acute care may be covered by Medicare, some is covered by Medicaid and other payers. As noted above, Medicare and Medicaid share the cost of Part A stays after 20 days for Medicaid eligible residents. (The current copayment is \$148 per day.) The CMS quality measures differentiate between short-stay episodes and long-stay episodes based solely on the number of days of care since admission, without regard to payer or services utilized. So, the labels "Medicare", "Post-Acute" and "Short-Stay" are not equivalent. Each of the three dimensions should be assessed for inclusion in the performance measurement system.

Residents receiving highly specialized services, such as brain injury care, should be considered for exclusion or special attention in the reporting system. Similarly, residents whose care goals differ significantly from most residents, such as those receiving hospice care, should be excluded or given special attention.

If all residents are included in the performance reporting, then care must be taken in defining measures appropriate for each population and in comparing results across facilities with different population mixes.

DECISION: <u>Include all residents</u> (but consider various resident populations as basis for risk adjustment or facility peer grouping)\_\_\_\_\_\_

## C. Services Subject to Clinical Performance Measurement

Not all services provided by nursing facilities can be characterized as clinical. When considering candidate performance measures, some will clearly be clinical (e.g., a process measure that indicates the percentage of residents at risk for pressure sores who receive appropriate preventive care) and others will clearly be non-clinical (e.g., the percentage of residents with HD-TV in their room). Other measures will combine clinical and non-clinical aspects. For example, the percentage of residents engaging socially with other residents measures both quality of life and the cognitive benefits of remaining active. Still others may be positively correlated with quality of life, but negatively correlated with clinical performance. For example, the percentage of residents complaining of discomfort may be at odds with efforts at aggressive rehabilitation. A criteria is needed to determine which candidate measures satisfy the clinical focus for the performance measurement system.

DECISION: <u>Focus initially on clinical measures, but include other measures which do not</u> require additional data collection

#### D. Measurement Type

Measures can be characterized as resident-level process measures, resident-level outcome measures, facility-level process measures and facility-level outcome measures.

#### 1. Resident-level process measures

Resident-level process measures assess, resident by resident, whether appropriate steps were taken to prevent, identify and treat health problems of the resident (medical, functional, cognitive and behavioral). For example, the percentage of residents receiving a flu vaccination assesses compliance with an accepted care norm. Aside from numerous vaccination quality measures, there are very few resident-level process measures included in CMS's Nursing Home Compare or CASPER reporting systems. In fact, the other CMS process measures (use of restraints, catheters and anti-psychotic drugs) focus on possible excessive use of certain care options, rather than on providing care when appropriate.

The MDS Care Area Assessment process (CAA) uses MDS 3.0 items to trigger up to 20 different care areas that may require additional assessment and care planning. A possible approach to defining additional resident-level process measures is to determine whether a facility properly follows up on triggered CAA's. Unfortunately, much of the information needed to make this determination is not conveniently available and would need to be self-reported.

#### 2. Resident-level outcome measures

Resident-level outcome measures identify residents with undesirable (or desirable) outcomes during their stay. Most of the CMS quality measures fall into this category, including QM's related to falls, pressure ulcers, decline in functional status, urinary tract infections, depression, weight loss, pain, and incontinence.

Since many factors may affect whether a resident experiences an undesirable outcome, not all of which are attributable to the provider, outcome measures should be appropriately risk-adjusted to remove the impact of these uncontrollable factors.

If the provider exhibits an unexpectedly high risk-adjusted rate of undesirable outcomes, the implication is that the care provided was inadequate. This inference is confounded by sampling error for small facilities. That is, if only a few residents are the basis for the facility outcome rate, poor results may be entirely due to a chance occurrence of the outcome, despite the best efforts of the facility. So, some form of credibility adjustment is needed when reporting aggregated resident-level outcome measures. The most common approach is not to report measures based on fewer that a specified number of residents (10 to 30, typically). Another approach, less frequently adopted, is the use confidence intervals or a similar statistical assessment of the strength of evidence.

#### 3. Facility-level process measures

Facility-level process measures, for our purpose, are not simply an aggregation of resident-level process measures. Rather, they include measures based on facility-wide information not easily broken down by resident and typically within the control of the facility. For example, the percentage of staff completing a specific training program might serve as such a measure. Skilled nursing staff hours per case-mix-adjusted resident day might be another. Participation in certified quality improvement programs might serve as a candidate in this area as well.

Risk adjustment can be critical for some of these measures (e.g., staffing levels) and not as important for others (e.g., evidence of a strong training program). Credibility adjustment is probably not a significant concern, since we can directly observe the characteristics of interest (e.g., payroll data for staffing, training documentation, certifications). Data reliability may be an issue, since many of the measures may be based on self-reported data.

## 4. Facility-level outcome measures

Again, facility-level outcome measures, for our purpose, are not simply aggregates of resident-level outcomes. Results from recent facility surveys (i.e., deficiency-based measures) fall into this category. Survey results are commonly used in measurement systems, often without any risk adjustment. This may be appropriate within a single reporting state where the same protocols are used for every survey. If the reporting system includes facilities in multiple states or a single state in which the survey protocols are changing (e.g., the rollout of QIS), then differences in expected deficiency citation patterns by state and protocol system should be identified and removed from the reported results. Data reliability for deficiency-based measures should be good since the process is subject to facility review and appeal. The need for credibility adjustment depends on the details of the survey protocol (sample sizes, etc.).

Profitability, cost effectiveness, market share, lawsuits, regulatory sanctions, public image and staff retention are examples of outcomes that are affected, in varying degrees, by the facility's success or failure in managing the care of its residents. While it may be impossible to separate the impact of the facility's clinical performance in these outcomes, they may be useful when identifying an appropriate peer group for comparison of other process or outcome measures. For example, these facility-level outcomes might be used to identify a high-performing comparison group whose average process/outcome measure results would serve as a performance goldstandard for other facilities. DECISION: Initially, limit the reporting system to resident-level process and outcome measures based on available MDS data (requiring no additional data collection from facilities or residents).

## E. Reporting Period

The reporting period and frequency are dictated by the data sources used to generate the measures. MDS data is collected at least quarterly for each resident and is subject to a submission/processing lag.

DECISION: <u>Since CMS's quality measurement system employs a quarterly reporting period, it</u> was decided to use the same reporting period for the WI system.

## III. Data Sources

## A. MDS assessment and tracking records

Minimum Data Set (MDS) data is available for all residents in any facility certified to provide either Medicare or Medicaid services. Annual comprehensive and quarterly partial assessments are required as the basis for care planning under OBRA (the Omnibus Reconciliation Act). With the advent of the Medicare SNF Prospective Payment System in 1998, additional assessments are required for SNF Part residents at 5, 14, 30, 60 and 90 days so that residents can be classified into Resource Utilization Groups (RUGs) for payment purposes. Additional tracking records (admission, re-entry and discharge) are also required. In addition to care planning and rate determination, MDS records are also used to compute quality indicators, intended to partially offset the incentive to minimize expenditures on care associated with a prospective pricing system.

Many states, including Wisconsin, have adopted variations on CMS's Medicare RUG-based payment system for use in setting Medicaid payment rates.

The MDS assessment process, the RUG resident classification system and the quality indicators were revised effective October 1, 2010. A point of emphasis for the update was to improve the validity and reliability of the MDS items. (See the Rand report at <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIMDS30.html">http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIMDS30.html</a> )

While the MDS data is self-reported by facilities, great effort has been taken to standardize the process of collecting and reporting the data, relying heavily on the professionalism of the nursing staff for the accuracy of the information. The nursing home audit process includes a component intended to audit the MDS process based on a random sample of assessment records. Medicare Fiscal Intermediaries and, more recently, Recovery Audit Contractors (RACs) are responsible for identifying erroneous or fraudulent claims for reimbursement of Medicare services, including the accuracy of RUG classifications derived from MDS data. DECISION: Use the same MDS 3.0 data employed in setting WI nursing home case mix index values to compute candidate QIQM values for performance reporting system.

## B. Survey and complaint deficiencies

Nursing home surveys (unannounced inspections performed by the state every 9 to 15 months) and complaint investigations result in possible deficiency citations in the areas of resident safety, quality of care and quality of life. Each cited deficiency is assigned a scope and severity code. The process is subject to appeal. Summaries of the cited deficiencies (by specific category, or F-tag) and scope/severity levels are commonly reported in NH performance measurement systems. This data is readily available and is stored nationally in the OSCAR database.

DECISION: While this information was not used to define any of the initial performance measures, it was used to define facility peer groups in the reporting system with similar deficiency histories.

## C. Staffing (payroll)

Many NH performance measurement systems report nursing staff levels per resident day, possibly adjusted for the case mix of the residents. CMS uses staffing data collected during the survey process and stored in OSCAR for its staffing measures. The survey-based staffing data relates to the 14 days preceding the survey. Aside from the OSCAR staffing data and staffing information in the provider cost reports, there are no other publicly available data sources on NH staffing levels.

DECISION: <u>Again, this information was not used to define any of the initial performance</u> <u>measures, but it was used to define facility peer groups in the reporting system with similar</u> <u>staffing levels.</u>

## IV. Measurement Issues

There are a variety of issues that must be addressed when selecting or designing performance measures.

## A. Reporting frequency and lag

Ideally, performance measurements would be immediately available and continuously updated. Due to data constraints and the cost of generating and reporting results, discrete reporting will be at some specified frequency and subject to some processing lag.

Given that MDS-based quality indicators are the major component of the system and MDS data submission is quarterly for most residents, a quarterly reporting cycle is reasonable. Except for Medicare residents, only one third of residents would have new MDS data on a monthly cycle. Reporting less frequently than quarterly would delay recognition of emerging trends unnecessarily. MDS data used for determining WI Medicaid NH case mix indices is lagged five months from the picture date to the extract date and six months to the rate effective date. If the same extract lag is employed in the performance measurement system, the reports for a calendar quarter would be generated in the sixth month after the close of the quarter. So, for example, results for 4Q2013 would be released on July 1, 2014. In this setting, preliminary results for 1Q2014 could be generated with the understanding that final values for 1Q2014 would not be released until October 1, 2014.

DECISION: <u>Quarterly performance measures will be reported in the sixth month after the</u> <u>close of the quarter</u>. If requested, a preliminary tabulation of results could be released in the <u>third month after the quarter</u>.

#### B. Risk adjustment

Risk adjustment of performance measures attempts to isolate the portion of a measure for which the provider is to be held accountable. Of the many factors that can affect the occurrence of a resident-level outcome, for example, we seek to remove the impact of only those factors over which the provider has no control and for which the provider is not expected to take preventative action. Obviously, this can be a contentious issue.

For example, suppose that an undesirable resident outcome is known (clinically or empirically) to increase in frequency with resident acuity. To provide a fair comparison between two facilities with differing resident acuity levels, it might seem appropriate to risk-adjust the outcome measure using each facility's case mix index. So, if Facility A has a CMI of 1.00 and an unadjusted outcome measure of 10%, while Facility B has a CMI of 1.20 and an unadjusted outcome rate of 12%, then we might conclude their performance was equivalent (assuming, for simplicity, that the outcome rate is directly proportional to the CMI). This seems fair until we recognize that the direct care rate paid to Facility B is 20% greater than that paid to Facility A. Now the performance comparison is not so clear. The question of interest is "Given the difference in CMI's and payment rates, what is the expected outcome rate for each facility?" You might reasonably conclude that the differences in CMI are offset by differences in rate payments, so that we should remove CMI as a risk adjustment factor. You might also reasonably conclude that, even if Facility B targets all of the additional daily rate at minimizing the undesirable outcome rate, that the expected rate will still exceed that of Facility A.

Once the appropriate risk adjustment factors are identified, there are two common approaches to removing their impact on the measure. The simplest approach is to partition the residents into low-risk and high-risk populations and compute the measure separately for each group. The relative performance of two facilities is based on comparing the low-risk rates for each facility and then comparing the high-risk rates. One facility may out-perform the other on both groups, just one group or neither group. Note that if the high-risk group measure is not reported, the risk adjustment become an additional exclusion in the definition of the quality indicator. This approach is simple in structure, even though the high-risk classification may involve several factors in a complicated decision tree. The second common approach to risk adjustment uses regression modeling to compute the expected quality indicator rate given the mix of risk adjustment factors present in the nursing home's resident population. The regression model would be fit periodically to a large aggregation of NH residents, possibly drawn from facilities considered to provide adequate or superior care. The fitted QI formula would then be applied to residents of the report facility with the facility-level expected QI aggregated from these results. The unadjusted QI measure is then compared to the expected (or predicted) QI value. This is usually done by subtracting the expected QI from the unadjusted QI and adding the difference to the average QI for all facilities. This results in a hypothetical estimate of what the QI might be if the facility had an average mix of risk factors.

The regression approach is more challenging to explain and to implement than the prior highlow risk classification method. The regression model must be periodically refit and explained to the audience. This may be complicated, for example, if the signs of the regression coefficients applied to the risk factors are not as expected. This may happen if the risk factors themselves are correlated (i.e., collinear). In this case, it may be prudent to constrain the regression to force the coefficients to have the "proper" sign.

Another technical issue associated with the regression method is assuring the fitted expected QI model behaves in a reasonable fashion for facilities whose risk factor profile is significantly different than the average facility used to fit the model. The fitted model may work well for modest variations in average risk factors, but make some heroic assumptions when extrapolating expected results for outlying facilities. The most extreme action the high-low risk group method can generate is to place an outlying facility entirely in the high-risk (or low-risk) category.

The regression method does provide for a finer breakdown of expected resident outcomes. If the low-risk group in the first method encompasses a wide range of outcome rates, despite have removed the residents at the highest risk, then the regression method may better reflect this variation within each risk grouping. On the other hand, it may be possible to expand the two-category risk grouping to three or four categories, as appropriate. In fact, any instance of the regression method can be closely approximated by expanding the number of risk categories and using the fitted regression model to determine to which category a resident belongs.

The other obvious difference of this method versus the high-low risk classification method, is that the regression method merges the assessments of low-risk and high-risk group performance. If the observed QI rate is 5% lower then the expected QI rate, we do not know if this is true for both risk levels or whether one group (say, the low-risk group) was 10% below expected while the other group (high-risk) was 5% above expected.

DECISION: <u>Given the merits of both risk adjustment mechanisms, it was decided that</u> <u>unadjusted</u>, regression-risk-adjusted and high/low-risk-adjusted versions of several of the candidate performance measures will be provided in the initial version of the reporting system. Feedback during Phase II will be used to determine the best approach to risk adjustment going forward.

## C. Credibility (based on volume of data)

As mentioned previously, the credibility of any resident-level outcome measure is less than 100%. All such measures rely on observed outcome rates to estimate unobservable "true" outcome rates for which the provider is accountable, in part. For example, based on the quality of care provided by Nursing Home A and the characteristics of its residents, the true fall rate might be 5% per reporting quarter. The actual fall rate observed could reasonably be zero or 20%, depending on the number of residents. The larger the resident population (sample size), the smaller will be the expected deviation of the observed rate from the true rate. While the observed rate is the best available estimate of the true rate, the audience should be made aware of the likelihood that the true value differs significantly from the observed rate.

Another issue related to the decreased credibility of measures with small denominators arises in the comparison of facility results. A common approach to assessing a facility's measure is to determine its percentile placement among, say, all other facilities in the state. If large and small facilities are co-mingled in setting these percentiles, we will find that small facilities dominate the outer percentiles, simply because their observed outcome rates are more volatile than large facility rates.

Most measurement systems recognize this problem by masking results if they are based on fewer than "n" residents. This approach is simple. It gives, however, the benefit of the doubt (forever) to very small facilities on undesirable outcome measures. It also only modestly addresses the percentile issue.

Another approach is to report confidence intervals for these measures. Large facility values will have narrow confidence intervals, while small facilities will have wide intervals. This, of course complicates the explanation and presentation of the results. It does allow for presentation of all results, even for very small facilities. It is not clear how the confidence intervals should be used to for appropriate percentile rankings.

A third approach is to employ confidence intervals for reporting an individual facility's own results, but to assign percentile rankings only among facilities of a similar size. So, a small facility with an observed outcome rate of 10% might be at the 65%-tile of small facilities. The same rate for a large facility might be at the 90%-tile. This approach adds an additional layer of complication in reporting results. We must also be on guard for differences in the average (or median) outcome rate by facility size. If we blindly group facilities into size groups and assign percentiles, the resulting rankings will be indirectly risk-adjusted for facility size. This should be a conscience decision in designing the system, not an unanticipated by-product of credibility adjustment. If no size-based risk adjustment is wanted, the outcome distributions

for each size grouping might be shifted so that the adjusted medians are all equal before percentiles within each size group are assigned.

An approach that might be used to increase to credibility of small facility results is to use a longer reporting period. This will increase the denominators of the outcome rates and shrink the width of the confidence intervals, but will make the reported results less timely. Also, if the same resident is included both of two quarters that are combined, the two observations cannot be considered independent. If the computation of the confidence interval is not adjusted appropriately, it will be too small. The appropriate adjustment to the confidence interval is not difficult to apply, but will be difficult to explain (if necessary).

A final method that is receiving some attention employs hierarchical modeling or mixed effect modeling. In these approaches, the true facility outcome rate is considered an unobservable random effect at the facility level shared by all residents in the same facility. Best Linear Unbiased Estimates (or the empirical Bayesian equivalent – see Arling, et al) serve as credibility-adjusted estimates of each facility's true outcome rate. In most cases, these estimates can be considered a weighted average of two competing estimates of a facility's true value. The first estimate is that obtained by ignoring other facility results and simply giving full credibility to the observed outcome rate for the facility. The second estimate gives zero credibility to the observed rate for the facility and uses the average outcome rate for all facilities combined. Greater weight is given to the first estimate as the facility's size increases. Under various assumptions, this weight average estimator can be shown to be a more reliable estimator of the true facility outcome rate. Such estimators are sometimes call "shrinkage" estimates, since adjusted rates are the observed rates "shrunken" toward the global mean. The smaller the facility, the greater is the shrinkage. Note that this method again give the benefit of the doubt to small facilities. They are assumed to be average unless the observed result is dramatically different from average. This mix effect regression method can combine both risk-adjustment and credibility-adjustment in one regression step. It is, of course, very complicated to explain and present. It is also subject to the same issues mentioned for the regression risk-adjustment method above. Appropriate assignment of percentile rankings is quite challenging since, after adjustment, small facility results are less volatile than the results for large facilities. So, it may still be appropriate to assign percentile rankings only within facility size groups.

DECISION: <u>A combination of masking results based on small denominators and providing</u> <u>annual results to supplement the quarterly values was adopted for the initial version of the</u> <u>reporting system</u>. Users are also able to select a peer group of similar-sized facilities for <u>determining percentile rankings</u>. Other, more complicated, approaches to the credibility issue <u>will be considered for future adoption</u>.

#### D. Aggregation of measures

Depending upon the intended audience for the reporting system, it may be desirable to present an aggregated performance score. For example, for public reporting, an overall star

rating might be useful in narrowing down nursing home selection. In providing performance information to nursing homes to encourage quality improvement efforts, such aggregates may not be needed. In fact, a satisfactory overall score may mask the need to address component care areas needing improvement.

If needed, aggregate measures can range from weighted averages of component measures to counts of care areas with measures surpassing some threshold. The first approach is relatively simple, but requires appropriate weights to be developed or specified by the user. The second approach focuses on areas needing improvement and ignores superior performance in other areas.

There are statistical techniques for reducing the dimensionality of a set of facility measures. Principal components analysis would analyze the measures for a sample of facilities. If each facility has, say, ten measure values, the analysis would find the first two or three linear combinations of measure values that explain most of the variation from facility to facility. From another perspective, if the analysis observes significant correlation among the ten measures, it will suggest a reduced number of combinations from which the observed values can be approximately recreated. This may be of interest to those managing the reporting system, but would be difficult to explain to the primary audience.

DECISION: <u>Since the reported measures are limited to use by facility staff and regulators,</u> there is little need for aggregate performance measures in the initial version of the reporting system. Nevertheless, to quickly identify potential problem areas, a collapsed version of the report will display the worst percentile ranking among measures within each domain of measures. The user can then expand sections indicating possible concerns to inspect the component measures.

#### E. Measure standards

Once a measure is calculated, it is helpful to provide a comparison value to determine whether some action is appropriate. These thresholds or standards can be absolute or relative. Resident-level process measures might have a clinical basis from which an absolute standard can be established. These absolute standards can range from zero tolerance (sentinel events) to attainable rates based on prior research with the process. Relative standards might be appropriate for outcomes that are undesirable, but cannot realistically be set at zero. Relative standards might involve first determining the percentile ranking of the facility's measurement among an appropriate facility peer group. The resulting ranking then measures the degree to which the facility has successfully managed the care area.

DECISION: Focus on relative standards (since absolute standards are not generally available), i.e., percentile rankings among facility peer groups. The initial reporting system allows the report user to select an appropriate peer grouping.

## F. Reporting measure trends

After several reporting periods have passed, the need to display historical progressions of measure values should be evaluated. Historical value displays can range from simply providing the current measure values in a tabular format along with prior values to displaying time series plots, possibly highlighting trends and seasonal patterns. Unusual sequences of values could also be flagged for possible investigation. Time series plots could display measure values for the facility and an appropriate peer group, or display percentile rankings over time. Improvement in measures from period to period could become a spin-off measure subject to its own standards or percentile rankings.

The statistical significance of statewide or facility trends can be obtained by incorporating time variables into regression models otherwise used for risk adjustment or credibility adjustment.

DECISION: <u>The initial reporting system includes historical quarters from 2011 through 2013</u> with the initial reporting period results and provides tabular displays of the measure values and percentile rankings over time. Changes in recent annual results and the percentile rankings of these changes are also presented.

## G. Feedback, correction and refinement of reporting system

If the reporting system is to improve with use, it is essential to include a feedback process. This is especially true regarding the results of follow-up investigations triggered by quality indicators exceeding initial action thresholds. Such feedback might lead to additional measure exclusions or risk adjustment factors. It could simply lead to improved thresholds yielding a better balance of false positives and false negatives. Feedback could also serve to collect approaches to successfully investigate and address problems that are confirmed. Of course, feedback can also guide clarifications in the presentation of reported results and suggest ways that the results might be made more useful to the nursing home providers.

DECISION: <u>Initially</u>, provide for a feedback page on the reporting website, including an optional short survey. During Phase II, document opportunities for more detailed feedback from users confirming or rejecting reported indications of poor or superior care.

## V. Existing Measurement Systems

Existing nursing home performance measurement systems include values currently reported by WI DQA, the CMS Nursing Home Compare system, the CASPER reporting system, quality indicators used in the new QIS survey process, and measures reported by other states. The goals of these systems vary, but they do offer candidate measures that can be included or revised for inclusion in a WI NH clinical performance reporting system.

## A. CMS Quality Measures

CMS has defined the following 30 quality measures, some of which are reported on Nursing Home Compare (see the "NHC" column in the table below) and some of which are reported on CASPER (see the "CASPER" column in the table below).

Description	Short/Long Stay	NHC	CASPER
Percent of Residents Who Self-Report Moderate to Severe Pain	Short Stay	Y	Y
Percent of Residents With Pressure Ulcers That Are New or Worsened	Short Stay	Y	Y
Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine	Short Stay	Y	N
Percent of Residents Who Received the Seasonal Influenza Vaccine	Short Stay	Ν	N
Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine	Short Stay	Ν	N
Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine	Short Stay	Ν	Ν
Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine	Short Stay	Y	N
Percent of Residents Who Received the Pneumococcal Vaccine	Short Stay	Ν	N
Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine	Short Stay	Ν	N
Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine	Short Stay	Ν	N
Percent of Short-Stay Residents Who Newly Received an Antipsychotic Medication	Short Stay	Y	N
Percent of Residents Experiencing One or More Falls with Major Injury	Long Stay	Y	Y
Percent of Residents Who Self-Report Moderate to Severe Pain	Long Stay	Y	Y
Percent of High-Risk Residents With Pressure Ulcers	Long Stay	Y	Y
Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine	Long Stay	Y	N
Percent of Residents Who Received the Seasonal Influenza Vaccine	Long Stay	Ν	N
Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine	Long Stay	N	N
Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine	Long Stay	Ν	N
Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine	Long Stay	Y	N

Percent of Residents Who Received the	Long Stay	Ν	N
Pneumococcal Vaccine			
Percent of Residents Who Were Offered and	Long Stay	Ν	Ν
Declined the Pneumococcal Vaccine			
Percent of Residents Who Did Not Receive, Due to	Long Stay	Ν	N
Medical Contraindication, the Pneumococcal Vaccine			
Percent of Residents With a Urinary Tract Infection	Long Stay	Y	Y
Percent of Low Risk Residents Who Lose Control of	Long Stay	Y	Y
Their Bowel or Bladder			
Percent of Residents Who Have/Had a Catheter	Long Stay	Y	Y
Inserted and Left in Their Bladder			
Percent of Residents Who Were Physically	Long Stay	Y	Y
Restrained			
Percent of Residents Whose Need for Help with	Long Stay	Y	Y
Activities of Daily Living Has Increased			
Percent of Residents Who Lose Too Much Weight	Long Stay	Y	Y
Percent of Residents Who Have Depressive	Long Stay	Y	Y
Symptoms			
Percent of Long-Stay Residents Who Received An	Long Stay	Y	N
Antipsychotic Medication			

The technical definitions for these QM's are included in the QM Users Manual at <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-">www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-</a> Instruments/NursingHomeQualityInits/Downloads/MDS-30-QM-Users-Manual-V60.pdf .

DECISION: Include the CMS measures reported performance measures. Include unadjusted CMS measures within the performance reporting system for convenient reference and comparison. Also include high/low-risk-adjusted version of the three CMS regression-risk-adjusted QIQM's.

## B. CMS Nursing Home Compare

The Nursing Home Compare website, <u>www.medicare.gov/NursingHomeCompare</u>, provided public information on nursing home characteristics, staffing, survey results and quality measures. Each of the last three categories is assigned up to five stars and an overall 5-star rating is assigned. The technical user document, <u>www.cms.gov/Medicare/Provider-</u> <u>Enrollment-and-Certification/CertificationandComplianc/Downloads/usersguide.pdf</u>, provides details on the measures used and the methodology for assigning the star ratings.

 Health Inspections - Measures based on outcomes from State health inspections: Facility ratings for the health inspection domain are based on the number, scope, and severity of deficiencies identified during the three most recent annual inspection surveys, as well as substantiated findings from the most recent 36 months of complaint investigations. All deficiency findings are weighted by scope and severity. This measure also takes into account the number of revisits required to ensure that deficiencies identified during the health inspection survey have been corrected.

Points are assigned to each health deficiency based on scope and severity as well as additional points for uncorrected deficiencies on the 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> revisit. Points from the most recent survey (or most recent 12 months of complaints) are weighted 50%, the prior survey 33%, and the first survey 17%. At least two surveys are required for any star rating to be published. The top 10% (lowest point totals) receive five starts, the middle 70% receive 2-4 stars in three equal groupings, and the worst 20% receive 1 star. While the point percentiles are updated for each state every month, a facility's star ranking is fixed until new deficiency data for that facility is received.

Staffing - Measures based on nursing home staffing levels: Facility ratings on the staffing domain are based on two measures: 1) RN hours per resident day; and 2) total staffing hours (RN+ LPN+ nurse aide hours) per resident day. Other types of nursing home staff such as clerical, administrative, or housekeeping staff are not included in these staffing numbers. These staffing measures are derived from the CMS CASPER Certification and Survey Provider Enhanced Reports (CASPER) system, and are casemix adjusted based on the distribution of MDS 3.0 assessments by RUG-III group. (This must use the MDS 3.0/MDS 2.0 crosswalk logic to assign RUG-III classifications using MDS 3.0 assessments.)

Star ratings for staffing are based only on the case-mix-adjusted RN and total nursing staffing levels per resident day. Cut points are fixed for two-year periods by CMS.

• QMs - Measures based on MDS quality measures (QMs): Facility ratings for the quality measures are based on performance on 9 of the 18 QMs that are currently posted on the Nursing Home Compare web site, and that are based on MDS 3.0 resident assessments.

The 18 QMs reported are indicated in the CMS QM table above. The nine used in the star rating system include 7 long-stay measures and 2 short-stay measures are as follows:

Long-Stay Residents:

- Percent of residents whose need for help with activities of daily living has increased
- Percent of high risk residents with pressure sores
- Percent of residents who have/had a catheter inserted and left in their bladder
- o Percent of residents who were physically restrained
- o Percent of residents with a urinary tract infection
- o Percent of residents who self-report moderate to severe pain

o Percent of residents experiencing one or more falls with major injury

Short-stay residents:

- Percent of residents with pressure ulcers (sores) that are new or worsened
- o Percent of residents who self-report moderate to severe pain

Each of the nine quality measures is computed for the most recent three calendar quarters (a weighted average of the risk-adjusted quarterly values, weighted by the quarterly denominators). These values are each translated to a percentile ranking based on national results for the last three quarters of 2011, except for the ADL measure which uses state-specific percentiles. The percentile values are summed and the total points are used to assign star rankings.

The overall star rating is found as follows:

Step 1: Start with the health inspection five-star rating.

Step 2: Add one star to the Step 1 result if staffing rating is four or five stars and greater than the health inspection rating; subtract one star if staffing is one star. The overall rating cannot be more than five stars or less than one star.

Step 3: Add one star to the Step 2 result if quality measure rating is five stars; subtract one star if quality measure rating is one star. The overall rating cannot be more than five stars or less than one star.

Step 4: If the Health Inspection rating is one star, then the Overall Quality rating cannot be upgraded by more than one star based on the Staffing and Quality Measure ratings.

Step 5: If the nursing home is a Special Focus Facility (SFF) that has not graduated, the maximum Overall Quality rating is three stars.

DECISION: <u>Include the CMS NHC star rating components within the new reporting system to</u> <u>define facility peer groups for performance measure percentile rankings.</u>

## C. CMS CASPER QM's

The CASPER reporting system presents a subset of CMS's quality measures (see the CMS QM table above) plus four additional measures not used elsewhere, for use by state surveyors and nursing facility staff.

Short/Long Stay	Quality Measure
Short	Self-Reported Moderate/Severe Pain

New/Worsened Pressure Ulcers
Self-Reported Moderate/Severe Pain
High-Risk Residents with Pressure Ulcers
Physical Restraints
Falls*
Falls with Major Injury
Psychoactive Medication Use in Absence of Psychotic or Related Condition*
Antianxiety/Hypnotic Medication Use*
Behavior Symptoms Affecting Others*
Depressive Symptoms
Urinary Tract Infection
Catheter Inserted and Left in Bladder
Low-Risk Residents Who Lose Bowel/Bladder Control
Excessive Weight Loss
Need for Help with ADLs Has Increased

\*Only available on CASPER

DECISION: <u>See comments following CMS Quality Measures section above.</u>

## D. QIS Survey QCI's

The new nursing home survey process makes use of facility measures based on MDS data and data collected on site. The following table lists these QIS Quality of Care and Quality of Life Indicators (QCLIs). Complete specifications and thresholds for further investigation can be found at www.qtso.com/download/qcli/July 2012 Dictionary for Posting.pdf .

QCLI Description	Sample							
Abuse								
1 QP205 Abuse (Resident Observation	Census							
2 QP236 Abuse (Family Interview	Census							
3 QP253 Abuse (Resident Interview								
Abuse Prohibition Review								
4 QP205 Abuse Prohibition (Resident Observation	Census							
5 QP236 Abuse Prohibition (Family Interview	Census							
6 QP253 Abuse Prohibition (Resident Interview	Census							
Accidents								
7 QP092 Dangerous Device Use (Resident Observation	Census							
8 QP218 Potential Accident Hazards / Bed Side Rails (Resident Observation	Census							
9 QP265 Fall and/or Fracture in Last 30 Days (Staff Interview	Census							
Activities								
10 QP096 Structured Activities for Cognitively Impaired (Resident Observation	Census							
11 QP208 Activities (Resident Interview	Census							
12 QP239 Activities (Family Interview	Census							
Activities of Daily Living, Cleanliness and Grooming								

ADL	
13 QP017 Incidence of Decline in Late Loss ADLs (Previous & Most Recent	MDS
(excl.Adm. MDS)	
14 QP027 Dressing Decline Since Admission (Admission & 90-Day MDS	MDS
15 QP028a Dressing Severe Decline (Admission & 90-Day MDS	MDS
16 QP028b Dressing Severe Decline (Previous & Most Recent (excl.Adm. MDS)	MDS
17 QP031 Eating Decline Since Admission (Admission & 90-Day MDS	MDS
18 QP034 Toileting Decline Since Admission (Admission & 90-Day MDS	MDS
19 QP038 Locomotion Decline Since Admission (Admission & 90-Day MDS	MDS
20 QP039a Locomotion Severe Decline (Admission & 90-Day MDS	MDS
21 QP039b Locomotion Severe Decline (Previous & Most Recent (excl.Adm. MDS)	MDS
22 QP238 ADL Assistance (Family Interview	Census
Cleanliness and Grooming	
23 QP074 Dressing [Not Dressed] (Resident Observation/CenRecord/Most	Census
24 QP075 Cleanliness/Grooming/Oral (Resident Observation	Census
25 QP256 Cleanliness/Grooming/Oral (Resident Interview	Census
Admission, Transfer, and Discharge Review	
26 QP183 Admission Process (Family Interview	Census
27 QP250 Exercise of Rights (Resident Interview	Census
28 QP251 Exercise of Rights (Family Interview	Census
Behavioral and Emotional Status	
29 QP043a Increase in Physical Abuse (Admission & 90-Day MDS	MDS
30 QP106a Increase in Rejection of Care (Admission & 90-Day MDS	MDS
31 QP106b Increase in Rejection of Care (Previous & Most Recent (excl.Adm.	MDS
MDS)	
Choices	
32 QP234 Choices (Resident Interview	Census
33 QP244 Choices (Family Interview	Census
Community Discharge	
34 QP071 Lack of Community Discharge (AdmRecord/Most Recent MDS	Admission
Death	
35 QP059 Death (AdmRecord/Most Recent MDS	Admission
Dental Status and Services	
36 QP216 Oral Health Status (Resident Observation	Census
37 QP217 Oral/Dental Problems (Most Recent Full MDS	MDS
38 QP245 Oral Health Status (Family Interview	Census
39 QP254 Oral Health Status (Resident Interview	Census
Dignity	
40 QP212 Dignity (Resident Interview	Census
41 QP240 Dignity (Family Interview	Census
42 QP266 Dignity (Resident Observation	Census

Environmental Observations	
Family Interview	
43 QP248 Building and Environment (Family Interview	Census
Resident Interview	
44 QP201 Building and Environment (Resident Interview	Census
Resident Room Review	
45 QP140 Resident Care Equipment (Resident Observation	Census
46 QP147 Room Accommodations (Resident Observation	Census
47 QP151 Bedroom Privacy (Resident Observation	Census
48 QP152 Clean Linens Available (Resident Observation	Census
49 QP221 Room Odors (Resident Observation	Census
50 QP222 Room Furnishings (Resident Observation	Census
51 QP223 Lighting Levels (Resident Observation	Census
52 QP224 Comfortable Room Temperatures Maintained (Resident Observation	Census
53 QP225 Comfortable Sound Levels Maintained (Resident Observation	Census
54 QP226 Pest Control (Resident Observation	Census
55 QP228 Electric Cords and Outlets (Resident Observation	Census
56 QP229 Ambulation, Transfer, and Therapy Equipment [Resident Use]	Census
(Resident Observation	
57 QP230 Bathing Safety Equipment (Resident Observation	Census
58 QP231 Functioning Call System (Resident Observation	Census
Food Quality	
59 QP249 Food Quality [Resident Level] (Resident Interview	Census
Hearing	
60 QP214 Lack of Corrective Action for Auditory Problems (Most Recent MDS	MDS
Hospitalization	
61 QP058 Hospitalization Within 30 Days (AdmRecord	Admission
Hydration	
62 QP015 Prevalence of Dehydration (Most Recent MDS	MDS
63 QP182 Hydration (Resident Observation	Census
64 QP258 Hydration (Resident Interview	Census
Infections (non-UTI related	
65 QP061 Wound Infection (Most Recent MDS	MDS
Notification of Change	
66 QP252 Notification of Change (Family Interview	Census
Nutrition	
67 QP013 Prevalence of Weight Loss (Most Recent MDS	MDS
68 QP081 Significant Weight Loss (CenRecord/Most Recent MDS	Census
69 QP082 Underweight and No Supplements (Staff Interview/CenRecord/Most	Census
Recent MDS	
70 QP105 Weight Loss Since Admission (AdmRecord/Most Recent MDS	Admission
Pain Recognition and Management	
71 QP129 Pain (Resident Observation	Census

72 QP255 Pain (Resident Interview	Census
Participation in Care Planning	
73 QP210 Participation in Care Planning (Resident Interview	Census
74 QP242 Participation in Care Planning (Family Interview	Census
Personal Funds Review	
75 QP121a Personal Funds (Family Interview	Census
76 QP121b Medicaid Costs (Family Interview	Census
77 QP199 Personal Funds (Resident Interview	Census
Personal Property	
78 QP194 Personal Property (Resident Interview	Census
79 QP241 Personal Property (Family Interview	Census
Physical Restraints	
80 QP022 Prevalence of a Daily Physical Restraint (Most Recent MDS	MDS
81 QP089 Potential Restraints (Resident Observation	Census
82 QP093 Side Rails (Staff Interview	Census
Positioning	
83 QP233 Positioning (Resident Observation	Census
Pressure Ulcers	
84 QP024_H Prevalence of Stage I-IV Pressure Ulcers (High Risk) (Most Recent	MDS
MDS)	
85 QP024_L Prevalence of Stage I-IV Pressure Ulcers (Low Risk) (Most Recent	MDS
MDS)	
86 QP049 Presence of Pressure Ulcer (Staff Interview	Census
87 QP050 Presence of Stage 3 or 4 Pressure Ulcer (Staff Interview	Census
88 QP109 Pressure Ulcer Incidence or Worsening (AdmRecord	Admission
89 QP262 Presence of Pressure Ulcer (CenRecord	Census
90 QP263 Presence of Stage 3 or 4 Pressure Ulcer (CenRecord	Census
Privacy	
91 QP204 Privacy (Resident Interview	Census
92 QP243 Privacy (Family Interview	Census
Range of Motion	
93 OP018 Incidence of Decline in Range of Motion (Previous & Most Recent	
	MDS
(excl.Adm. MDS)	MDS
(excl.Adm. MDS) 94 QP076 Contracture - Presence of (Resident Observation	MDS Census
<ul> <li>(excl.Adm. MDS)</li> <li>94 QP076 Contracture - Presence of (Resident Observation</li> <li>95 QP077 Contracture Without a Splint Device (Resident Observation</li> </ul>	MDS Census Census
<ul> <li>(excl.Adm. MDS)</li> <li>94 QP076 Contracture - Presence of (Resident Observation</li> <li>95 QP077 Contracture Without a Splint Device (Resident Observation</li> <li>96 QP264 Contracture Without ROM or Splint Device (Staff Interview</li> </ul>	MDS Census Census Census
(excl.Adm. MDS) 94 QP076 Contracture - Presence of (Resident Observation 95 QP077 Contracture Without a Splint Device (Resident Observation 96 QP264 Contracture Without ROM or Splint Device (Staff Interview Rehabilitation	MDS Census Census Census
<ul> <li>(excl.Adm. MDS)</li> <li>94 QP076 Contracture - Presence of (Resident Observation</li> <li>95 QP077 Contracture Without a Splint Device (Resident Observation</li> <li>96 QP264 Contracture Without ROM or Splint Device (Staff Interview</li> <li>Rehabilitation</li> <li>97 QP119 Lack of Transferring Rehabilitation Progress (5- &amp; 30-Day MDS</li> </ul>	MDS Census Census Census MDS
<ul> <li>(excl.Adm. MDS)</li> <li>94 QP076 Contracture - Presence of (Resident Observation</li> <li>95 QP077 Contracture Without a Splint Device (Resident Observation</li> <li>96 QP264 Contracture Without ROM or Splint Device (Staff Interview</li> <li>Rehabilitation</li> <li>97 QP119 Lack of Transferring Rehabilitation Progress (5- &amp; 30-Day MDS</li> <li>Skin Conditions (non-pressure related</li> </ul>	MDS Census Census Census MDS
(excl.Adm. MDS)94 QP076 Contracture - Presence of (Resident Observation95 QP077 Contracture Without a Splint Device (Resident Observation96 QP264 Contracture Without ROM or Splint Device (Staff InterviewRehabilitation97 QP119 Lack of Transferring Rehabilitation Progress (5- & 30-Day MDSSkin Conditions (non-pressure related98 QP261 Other Skin Conditions (Resident Observation	MDS Census Census Census MDS Census
(excl.Adm. MDS)94 QP076 Contracture - Presence of (Resident Observation95 QP077 Contracture Without a Splint Device (Resident Observation96 QP264 Contracture Without ROM or Splint Device (Staff InterviewRehabilitation97 QP119 Lack of Transferring Rehabilitation Progress (5- & 30-Day MDSSkin Conditions (non-pressure related98 QP261 Other Skin Conditions (Resident ObservationSocial Services	MDS Census Census Census MDS Census
<ul> <li>(excl.Adm. MDS)</li> <li>94 QP076 Contracture - Presence of (Resident Observation</li> <li>95 QP077 Contracture Without a Splint Device (Resident Observation</li> <li>96 QP264 Contracture Without ROM or Splint Device (Staff Interview</li> <li>Rehabilitation</li> <li>97 QP119 Lack of Transferring Rehabilitation Progress (5- &amp; 30-Day MDS</li> <li>Skin Conditions (non-pressure related</li> <li>98 QP261 Other Skin Conditions (Resident Observation</li> <li>Social Services</li> <li>99 QP246 Interaction With Others (Resident Interview</li> </ul>	MDS Census Census Census MDS Census Census

Sufficient Nursing Staff Review	
101 QP232 Sufficient Staff (Resident Interview	Census
102 QP237 Sufficient Staff (Family Interview	Census
Tube Feeding	
103 QP014 QP014 Removed due to April 2012 MDS changes (Most Recent	MDS
MDS	
104 QP084 QP084 Removed due to April 2012 changes (CenRecord/Most	Census
Recent MDS	
Urinary Catheter Use	
105 QP010 Prevalence of Indwelling Catheter (Most Recent MDS	MDS
106 QP079 Unjustified Use of a Catheter (Staff Interview	Census
Urinary Incontinence	
107 QP047 Continence Decline Since Admission (Admission & 90-Day MDS	MDS
108 QP260 Presence of Incontinence (Resident Observation	Census
Urinary Tract Infections	
109 QP012 Prevalence of Urinary Tract Infections (Most Recent MDS	MDS
Vision	
110 QP213 Lack of Corrective Action for Visual Problems (Most Recent MDS	MDS

DECISION: Include MDS-based QCLI measures as in the initial performance measurement system, with appropriate adjustments to definitions, risk adjustment, etc.

#### E. Measures used in other states

Arling ("Medicaid Nursing Home Pay for Performance: Where Do We Stand?", Gerontologist, 2009) summarizes key aspects of several state nursing home pay-for-performance systems that include a variety of performance measures. Of particular interest are the quality indicators used in Minnesota, which are more heavily risk adjusted than their CMS counterparts. Ohio has a relatively new system in place.

#### 1. Minnesota NH Quality Indicators

MDS 3.0-based quality indicators used in Minnesota's NH scorecard system include the following:

- Worsening Resident Behavior Problems
- Prevalence of Physical Restraints
- Worsening Bowel Continence
- Worsening Bladder Continence
- Prevalence of Indwelling Catheters
- Prevalence of Urinary Tract Infection
- Prevalence of Infections
- Prevalence of Residents with Unexplained Weight Loss
- Prevalence of New Pressure Sores

- Incidence of Cured Pressure Sores
- Prevalence of Antipsychotics w/o a Psychosis Dx
- Improved Ability to Function
- Increased Need for ADL Help
- Walking as Well or Better than on Previous Assessment
- Worsening Ability to Move Around Room

#### Technical specifications can be found at

www.dhs.state.mn.us/main/idcplg?IdcService=GET\_DYNAMIC\_CONVERSION&Revisio nSelectionMethod=LatestReleased&dDocName=id\_051946 . The documentation provided lists the risk adjustment factors used for each of these QIs. We have requested additional detail on how the risk adjustment is implemented.

DECISION: Include the MN QI's as performance measures, especially as examples of more aggressively risk adjusted measures. As with the regression-risk-adjusted CMS QIQM's, include unadjusted and high/low-risk-adjusted versions along with the regression-risk-adjusted versions used by MN.

#### 2. Ohio NH Quality Incentives

Ohio recently implemented a new NH scorecard system that relies heavily on selfreported data. The process, criteria and selected measures are documented at <a href="https://www.healthtransformation.ohio.gov/LinkClick.aspx?fileticket=UDuPraAa4No%3d&tab">www.healthtransformation.ohio.gov/LinkClick.aspx?fileticket=UDuPraAa4No%3d&tab</a> <a href="https://www.healthtransformation.ohio.gov/LinkClick.aspx?fileticket=UDuPraAa4No%3d&tab">www.healthtransformation.ohio.gov/LinkClick.aspx?fileticket=UDuPraAa4No%3d&tab</a>

DECISION: <u>Consider self-reported OH QI's for future expansions of the new</u> performance reporting system.

#### 3. Other states

Additional states cited as having NH performance measurement systems include Colorado, Georgia, Iowa, Kansas, Oklahoma, Rhode Island, Utah, Maryland, Texas, Indiana, Virginia and Massachusetts

DECISION: <u>Assemble MDS-based QI's used in other states as time permits for</u> incorporation into future versions of the WI performance reporting system.

## VI. Key Features of the Reporting System

#### A. Overview

See Figure 1 below for a view of a portion of the Executive Summary report for a hypothetical facility. During Phase II of the project, each participating facility will receive an Excel spreadsheet containing the report for that facility. The spreadsheet contains the history of quarterly QIQM values for the facility as well as the percentile rankings of each quarterly

QIQM among facilities with similar selected characteristics (peer facilities). The user can select from 16 peer facility characteristics (e.g., facilities with similar bed counts, ownership type, etc. – See Figure 3 below.) Each quarter, an updated version of the spreadsheet will be provided to each facility which adds QIQM results for the most recent reporting quarter. This spreadsheet approach allows the facility to adjust the presentation of the data to meet its needs by selecting peer groups and collapsing/expanding QIQM's within domains.

Data from resident MDS 3.0 assessments is used to construct the performance measures presented in the reporting system. All of the current performance measures take the form of quality indicators / quality measures (QIQM's). Each QIQM is the ratio of the number of residents exhibiting a characteristic of interest (the numerator) to the number of residents in a population of interest (the denominator). For example, CMS.0674 is the percentage of long-stay residents who experienced a fall with a major injury during the reporting period.

The QIQM's are based on those used by a) CMS on the Nursing Home Compare web site or as part of the CASPER reports, b) those used by Minnesota in it's nursing home reporting system, or, c) the MDS-based QCLI's used in the new QIS nursing home survey system. There are more than 80 QIQM's available to the reporting system. Of these, 69 are included in the report. The reporting spreadsheet has a hidden table that can be modified to include or exclude each candidate QIQM. Some of the currently included QIQM's are similar to others, but all differ in some detail of their definition or presentation. As the system matures, it is likely that some of these "redundant" measures will be excluded, others will be refined and new measures will be added.

#### B. Risk Adjustment

Of the 69 QIQM's, 26 are risk-adjusted based on characteristics ("factors") of the residents in the denominator. Logistic regression modeling is used to predict a residents likelihood of triggering the QIQM numerator based on that resident's factors. After the model is fit, the expected contribution of each resident to the numerator is summed and divided by the denominator to yield the "expected" QIQM value for the facility. A "risk-adjusted" QIQM is obtained by comparing the unadjusted QIQM value to this expected QIQM value. For the report, we display the unadjusted minus the expected values as the risk-adjusted ("A-to-E") value. An A-to-E value of zero indicates that the facility performed as expected based on its mix of resident factors. Deviations from zero have the same orientation (i.e., desirable vs. undesirable) as the underlying unadjusted QIQM value.

Three of the CMS measures are risk-adjusted using this regression-based approach. The factors and the fitted regression coefficients are published by CMS. All 23 of the Minnesota QIQM's are regression-risk-adjusted. Minnesota publishes the factors used in the regression, but does not publish the fitted coefficients. CHSRA has used WI MDS 3.0 data from 2011Q1 through 2013Q2 to fit the coefficients used to risk adjust these QIQM's in this report. None of the QIS measures are regression-risk- adjusted, although many are defined for very specific denominator populations that are less likely to warrant such adjustment.

For each of the 26 regression-based risk-adjusted QIQM's, the report also provides an alternate approach to the adjustment process. Rather than comparing the facility-wide unadjusted QIQM value to the facility-wide expected QIQM, we split the residents in the QIQM denominator into low-risk and high-risk groups. We use the regression-based expected value for each resident to assign them to one group or the other. For the Minnesota QIQM's, we used the statewide mean QIQM value as the boundary between the two groups. Those with expected values above the mean are assigned to the high-risk group; others are assigned to the low-risk group. (For the three CMS QIQM's, we set the boundaries a bit differently. See the analytic report for more details.) The QIQM ratio is then computed separately for each risk group and peer group percentile rankings are separately derived for each risk group. This approach uncovers a good deal of information that is masked when only combined results are used. For example, a facility may do very well with high-risk residents and very poorly with low-risk residents. Under this alternate approach, this would be apparent from the percentile rankings of each risk group. The facility-wide risk-adjusted result, however, is likely to indicate average overall performance, with one group's performance subsidizing the other's performance. Using only the facility-wide risk-adjusted result could result in a missed opportunity to take corrective action with the low-risk group or to learn from the superior performance of the high-risk group.

Note that the orientation of the low-risk and high-risk groupings of residents is the same as the orientation of the underlying QIQM. So, for example, "high-risk" for improved ADL functioning (MN\_ADLB), corresponds to an increased likelihood of ADL improvement.

## C. Reporting Periods

QIQM's have been computed for each quarter from 2011Q1 through 2013Q2. In addition to quarterly values, annual values have been computed by summing the numerators and the denominators of the corresponding quarterly values. These annual values provide a more reliable measure that can be used if the quarterly QIQM denominators are small. The report also displays the change in annual QIQM values for the most recent two years. This provides an indication of whether performance is improving or declining and the resulting change can be compared to that of other facilities.

## D. Measure Orientation

Note that most of the QIQM's are oriented such that larger values are undesirable, e.g., the fall rate with major injury. There are some QIQM's, however, that have the reverse orientation, e.g., the percent of residents appropriately receiving flu immunization shots. To quickly distinguish between the two orientations, QIQM headings in the first group are highlighted in light red, while those in the other group are highlighted in light green.

## E. Peer Groups and Percentile Rankings

The Executive Summary compares the selected facility's values (quarterly, annual and change in annual) to other facilities by displaying each QIQM value's percentile ranking. The percentile ranking is the percentage of facilities in the peer group with more desirable ("better") values than the current facility's value. If there are ties with the current facility, then half of the tied facilities are included in the count of "better" results.

Three peer groups are used to compute percentile rankings for each QIQM value on the Executive Summary. The first two groups are fixed and the third can be selected from 16 options on the "Peer Groups" tab (see Figure 3 below). The first fixed peer group is "Statewide", which includes all facilities with QIQM denominators of at least five. The second fixed peer group is "4/5-Star", which is composed on all facilities with a 4-star or 5-star overall rating on the CMS Nursing Home Compare web site.

Note that , regardless of the QIQM orientation, the percentile ranking is the percent performing better than the current facility. So, small percentile rankings are desirable for all QIQM's. This convention allows the user to quickly scan all of the rankings without needing to adjust for each QIQM's orientation.

Large percentile rankings are highlighted in red (e.g., values greater than 90%), while small values are highlighted in green (e.g., values less than 10%). The user can adjust the threshold for each of these highlighting formats. This helps to identify areas where the facility appears to be performing well vs. those possibly needing attention.

## F. Detailed Measure History

In addition to the three standard reporting periods (most recent quarter, most recent year and the most recent annual change), the entire history of quarterly QIQM values and percentiles are shown on the right side of the Executive Summary. See Figures 2a, 2b and 2c below for examples.

## G. Measure Domains

The QIQM's are grouped into 15 domains. Some domains contain a single measure, while others have several. The Executive Summary allows the user to collapse or expand the displayed contents for each domain. When collapsed, only the domain name and aggregated percentile rankings are shown. The aggregated rankings are obtained by taking either the average or the maximum percentile ranking from all of the QIQM's within the domain. The user can select whether to display the maximum or the average. The maximum is a quick method to identify which domains contain at least one QIQM result that deserves attention when all of the domain displays are collapsed. The average percentile ranking within a domain is a simple indication of overall domain performance. Note that there are no simple aggregations available for the QIQM values, since they vary in orientation and have differing interpretations.

## H. Measure Masking

QIQM values with denominators less than five are masked on the Executive Summary. This threshold can be adjusted by the user. (At some point, this option may be removed.) In addition, percentile rankings are masked if the number of facilities in the peer group is less

than 20. Again, this threshold can be adjusted by the user. Currently, masked values are displayed as "#N/A". It is most likely that quarter QIQM values will be masked due to small denominators. In such cases, the annual QIQM value is often available. The greater stability of the most recent annual QIQM value relative to the most recent quarterly value, of course, is somewhat offset by its dampened response to recent changes.

## VII. Measure Definitions, Statistics and Comparisons

The operational definitions of each performance measure are provided in the "Candidate QIs" supporting spreadsheet. This spreadsheet provides precise definitions of QIQM denominators, numerators, exclusions, and resident risk adjustment factors.

Appendix A provides results from an analysis of the statistical properties of the QIQM values included in the reporting system. The eleven sets of tables show historical statewide QIQM averages and correlations, regression results for resident risk factors, the impact of risk-adjustment on facility rankings, and the percentage of facility-to-facility QIQM variation explained by peer-group factors.

Appendix B identifies QIQM's with similar definitions, e.g., three QIQM's related to worsening ADL functioning. The appendix compares the average QIQM values, compares the average QIQM denominators and provides the correlation coefficient between any CMS and MN pairings. Additional notes identify key difference in the resident populations or risk adjustment employed by the QIQM's.

# Figure 1 - Sample QIQM Report (Partial View of Executive Summary)

	Name	TYPICAL NURSING HOME							Facility ID	(MDS)	0123	1	NPI	1234567890	)		User-Specified Peer Group								
	City	WISCON	SIN CITY							PopID		012	L	_ic #	9999					Ownership :	= For profit				
	County	SOUTHE	HEAST						Medicare I	dicare ID 555555															
		5		20			10%	90%	Max																
				Rep	oorting Qua	arter (2013	-Q2)			Reporting Year (FY13-Q2)							Annual Change (DFY13_Q2)								
	Measure	QI	QI	Peer (	Group Ave	rages	P	ercentiles		QI	QI	Peer Group Averages		P	ercentiles		QI	QI	Peer Group Averages		rages	Percentiles			
++	ID	Denom	Value	Statewide	4/5-Star	User PG	Statewide	4/5-Star	User PG	Denom	Value	Statewide	4/5-Star	User PG	Statewide	4/5-Star	User PG	Denom	Value	Statewide	4/5-Star	User PG	Statewide	4/5-Star	User PG
+	DOMAIN: Acci	ident																							
							62.5%	64.2%	64.6%						32.7%	35.2%	34.3%						90.8%	91.3%	89.9%
		ļ								l								1							
-	DOMAIN: Beh	navioral ai	nd Emotio	nal Status			E9 00/	E0 E9/	62.29/	1		1			70.5%	74.0%	74.09/	1	- 1				04.49/	06 5%	02.8%
	CMS 0690	Percent	f Residen	 ts Who Hay	e Denressi	ive Symnt	oms (I ong	Stav)	02.3%	I.		ļ			70.5%	74.9%	74.0%	Ļ					94.4%	90.5%	92.0%
	Observed	28	0.036	0.056	0.057	0.045	50.0%	49.8%	56.3%	143	0.035	0.065	0.063	0.057	41.6%	43.9%	45.8%	143	(0.073)	(0.009)	(0.011)	(0.004)	5.3%	5.9%	4.7%
																			(,	(00000)	(0.0)	(0.000)			
	MN_MOD1	Prevalen	ce of Dep	ression Syn	nptoms (Lo	ong Stay)																			
	Observed	27	-	0.023	0.024	0.018	23.9%	23.7%	27.6%	130	0.015	0.025	0.025	0.020	50.6%	52.1%	56.0%	130	(0.003)	(0.002)	(0.002)	(0.001)	45.3%	47.2%	46.0%
	A-to-E	27	(0.029)	(0.003)	(0.002)	(0.008)	5.9%	6.9%	7.8%	130	(0.012)	(0.002)	(0.001)	(0.006)	48.4%	49.5%	54.0%	130	(0.005)	(0.002)	(0.002)	(0.001)	36.0%	37.3%	36.1%
	Low Risk	15	-	0.016	0.017	0.013	32.9%	33.2%	35.9%	79	-	0.017	0.017	0.014	18.1%	20.7%	19.7%	79	(0.017)	(0.003)	(0.003)	(0.001)	15.9%	17.9%	15.2%
	High Risk	12	-	0.038	0.039	0.029	30.8%	29.6%	34.2%	51	0.039	0.039	0.040	0.031	64.8%	65.6%	71.0%	45	0.017	(0.001)	(0.000)	0.001	73.3%	74.8%	72.3%
	CMS.SV04	S SV04 Prevalence of Behavior Symptoms Affecting Others (Long Story)								I.		ļ			l			ļ							
	Observed	28	0.250	0.255	0.247	0.242	57.7%	59.5%	59.5%	141	0.298	0.253	0.240	0.240	70.5%	74.9%	74.0%	141	0.136	0.008	0.003	0.021	94.4%	96.5%	92.8%
	MN_BEHA	Incidence	of Worse	ning or Se	rious Resid	dent Beha	vior Sympt	oms (Long	Stay)																
	Observed	27	-	0.018	0.017	0.015	27.4%	29.4%	30.4%	130	-	0.017	0.017	0.014	12.1%	13.1%	13.2%	130	-	(0.000)	(0.000)	0.002	45.8%	47.4%	41.3%
	A-to-E	27	(0.024)	0.002	0.001	(0.001)	1.4%	2.1%	1.3%	130	(0.019)	0.001	0.001	(0.002)	1.7%	2.1%	1.7%	130	(0.002)	0.000	(0.000)	0.002	33.4%	33.1%	26.1%
	Low Risk	14	-	0.009	0.008	0.008	40.1%	41.4%	40.9%	76	-	0.008	0.008	0.007	28.2%	29.6%	29.4%	76	-	(0.000)	(0.000)	0.001	51.6%	51.2%	47.3%
	High Risk	13	-	0.030	0.029	0.025	31.1%	32.8%	35.6%	54	-	0.030	0.030	0.024	15.7%	16.1%	18.3%	54	-	0.001	0.001	0.004	48.2%	47.2%	45.5%
	QP043a In	I Icrease in	Physical	l Abuse (Adm	nission/90-I	Dav)				ı		ļ							- 1						
	Observed	5	-	0.024	0.026	0.016	37.8%	37.4%	40.7%	14	-	0.029	0.031	0.022	23.0%	24.1%	25.3%	14		0.000	0.002	0.001	51.6%	50.2%	51.5%
	QP106b In	crease in	Rejection	of Care (P	revious/Mo	st Recent	(excl. Adm	issions))							1			1							
	Observed	49	0.041	0.046	0.046	0.043	58.0%	57.4%	62.3%	198	0.030	0.047	0.046	0.045	43.5%	46.3%	46.3%	159	0.030	0.003	0.002	0.005	86.8%	87.7%	86.4%
+	DOMAIN: Con	tinence		1						1								1	I						
	DOMAIN. CON	unence		1		1	96.4%	97.6%	95.4%	1		1			71.6%	76.8%	72.6%	1					97.5%	96.9%	97.2%
							00.170	01.070	001170						1.11070	10.070	12.070						01.070	00.070	011270
+	DOMAIN: Den	ntal																							
							47.2%	48.4%	52.0%						56.5%	57.8%	62.6%						64.7%	68.4%	63.6%
		1		I						I		l			I			I							
+	DOMAIN: Fun	ictioning		1			00.0%	00.006	00.706	ĺ		1			00.0%	00.00	00.70	1	- 1				00.00	00.004	00.004
							98.9%	99.0%	98.7%						99.6%	99.8%	99.7%						99.3%	99.3%	99.2%

# Figure 2a - Sample QIQM Report (Partial View of QIQM History)

Measure					Quarterly QI Values							Annual QI Values			Annual Changes	
ID	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2	FY11-Q4	FY12-Q4	FY13-Q2	FY12-Q4	FY13-Q2	
DOMAIN: Beh	avioral an	d Emotion	al Status													
CMS.0690	Percent of	Residents	Who Have	e Depressi	ve Sympto	oms (Long	Stay)				n					
Observed	0.067	0.200	0.178	0.109	0.048	0.093	0.050	-	0.057	0.036	0.138	0.048	0.035	(0.090)	(0.073)	
MN_MOD1	1 Prevalence of Depression Symptoms (Long Stay)															
Observed	0.045	0.023	0.025	0.024	-	0.023	0.028	-	0.033	-	0.030	0.013	0.015	(0.017)	(0.003)	
A-to-E	0.023	(0.003)	(0.001)	0.001	(0.022)	(0.003)	0.003	(0.026)	0.005	(0.029)	0.005	(0.012)	(0.012)	(0.017)	(0.005)	
Low Risk	0.027	0.034	0.043	0.030	-	-	-	-	-	-	0.033	-	-	(0.033)	(0.017)	
High Risk	0.143	-	-	-	-	0.077	0.077	-	0.083	-	0.022	0.043	0.039	0.021	0.017	
CMS.SV04	Prevalence	e of Beha	vior Symp	toms Affec	ting Other	s (Long St	ay)									
Observed	0.209	0.163	0.190	0.196	0.119	0.140	0.250	0.325	0.364	0.250	0.190	0.206	0.298	0.016	0.136	
MN_BEHA	Incidence	of Worsen	ing or Ser	ious Resid	lent Behav	vior Sympt	oms (Long	j Stay)								
Observed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A-to-E	(0.014)	(0.014)	(0.015)	(0.017)	(0.018)	(0.019)	(0.017)	(0.017)	(0.021)	(0.024)	(0.015)	(0.018)	(0.019)	(0.003)	(0.002)	
Low Risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
High Risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
QP043a Inc	crease in F	hysical A	buse (Adm	ission/90-E	Day)											
Observed			-	-						-	-	-	-	-	-	
QP106b In	crease in F	Rejection o	of Care (Pr	evious/Mo	st Recent	(excl. Adm	issions))									
Observed	-	0.043	-	-	-	-	0.038	0.039	-	0.041	0.010	0.020	0.030	0.010	0.030	

Measure				Quarte	erly Statev	vide Perce	entiles				Annual Percentiles			Annual Changes	
ID	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2	FY11-Q4	FY12-Q4	FY13-Q2	FY12-Q4	FY13-Q2
DOMAIN: Behavioral and Emotional Status															
	90.7%	92.9%	92.4%	78.7%	46.9%	82.3%	82.9%	74.2%	80.2%	58.0%	85.3%	70.4%	70.5%	80.3%	94.4%
CMS.0690	Percent of	Residents	Who Have	e Depressi	ve Sympto	ms (Long	Stay)								
Observed	49.7%	92.9%	92.4%	78.7%	46.9%	73.1%	52.3%	10.8%	57.7%	50.0%	85.3%	47.8%	41.6%	3.0%	5.3%
MN_MOD1	Prevalenc	e of Depre	ession Sym	ptoms (Lo	ng Stay)						1			-	
Observed	75.1%	53.5%	62.7%	63.9%	19.4%	62.0%	68.8%	21.3%	73.4%	23.9%	64.3%	44.5%	50.6%	21.4%	45.3%
A-to-E	75.8%	53.4%	60.8%	66.5%	35.5%	61.8%	70.8%	18.2%	71.3%	5.9%	65.6%	46.5%	48.4%	21.7%	36.0%
Low Risk	65.7%	72.1%	83.9%	75.3%	30.3%	30.2%	31.1%	30.6%	32.2%	32.9%	75.3%	15.7%	18.1%	9.8%	15.9%
High Risk	90.7%	26.6%	29.5%	28.9%	27.9%	82.3%	82.9%	28.9%	80.2%	30.8%	47.8%	70.4%	64.8%	80.3%	73.3%
CMS.SV04	Prevalence	e of Beha	vior Symp	toms Affec	ting Other	s (Long St	ay)				r				
Observed	46.9%	33.7%	44.3%	47.7%	20.4%	25.1%	57.4%	74.2%	78.8%	57.7%	43.0%	46.0%	70.5%	59.9%	94.4%
MN_BEHA	Incidence	of Worsen	ing or Ser	ious Resid	lent Behav	ior Sympt	oms (Long	Stay)			1			1	
Observed	28.7%	29.5%	29.1%	28.1%	28.3%	29.4%	27.6%	27.6%	28.7%	27.4%	13.7%	12.9%	12.1%	49.1%	45.8%
A-to-E	41.5%	38.2%	32.8%	18.0%	11.6%	5.1%	15.6%	15.6%	3.3%	1.4%	15.3%	3.5%	1.7%	32.9%	33.4%
Low Risk	41.5%	40.6%	41.1%	40.7%	39.9%	40.6%	40.3%	40.7%	42.0%	40.1%	28.9%	27.5%	28.2%	48.1%	51.6%
High Risk	31.5%	31.8%	32.1%	30.7%	31.6%	32.3%	30.4%	31.5%	31.8%	31.1%	16.6%	16.8%	15.7%	49.6%	48.2%
QP043a In	crease in F	hysical A	buse (Adm	ission/90-D	Day)						1				
Observed			39.0%	38.6%						37.8%	22.4%	19.8%	23.0%	46.8%	51.6%
QP106b In	crease in F	Rejection of	of Care (Pr	evious/Mo	st Recent (	excl. Adm	issions))				1		1		
Observed	19.7%	67.7%	15.8%	10.8%	8.8%	9.0%	54.5%	54.4%	7.3%	58.0%	19.0%	26.1%	43.5%	61.5%	86.8%

# Figure 2b - Sample QIQM Report (Partial View of QIQM Percentile History – Statewide Peer Group)

# Figure 2c - Sample QIQM Report (Partial View of QIQM Denominator History)

Measure	Quarterly QI Denominators										Annual QI Denominators			Annual Changes	
ID	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2	FY11-Q4	FY12-Q4	FY13-Q2	FY12-Q4	FY13-Q2
DOMAIN: Beh	avioral an	d Emotion	al Status												
CMS.0690	Percent of	Residents	Who Have	e Depressi	ve Sympto	oms (Long	Stay)								
Observed	45	45	45	46	42	43	40	40	35	28	181	165	143	165	143
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)														
Observed	44	43	40	41	40	43	36	37	30	27	168	156	130	156	130
A-to-E	44	43	40	41	40	43	36	37	30	27	168	156	130	156	130
Low Risk	37	29	23	33	33	30	23	23	18	15	122	109	79	109	79
High Risk	7	14	17	8	7	13	13	14	12	12	46	47	51	46	45
CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)														
Observed	43	43	42	46	42	43	40	40	33	28	174	165	141	165	141
MN_BEHA	MN_BEHA Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)														
Observed	44	43	39	41	39	43	36	37	30	27	167	155	130	155	130
A-to-E	44	43	39	41	39	43	36	37	30	27	167	155	130	155	130
Low Risk	31	30	25	25	22	23	23	23	16	14	111	91	76	91	76
High Risk	13	13	14	16	17	20	13	14	14	13	56	64	54	56	54
QP043a Increase in Physical Abuse (Admission/90-Day)															
Observed	4	4	8	7	1	4	4	4	1	5	23	13	14	13	14
QP106b In	crease in l	Rejection of	of Care (Pr	evious/Mo	st Recent (	(excl. Adm	issions))								
Observed	14	23	20	41	47	51	53	51	45	49	98	202	198	98	159

## Figure 3 - Sample QIQM Report (Partial View of Peer Group Options and Selection)

Cat 2 Peer Group Variable to display on Executive Summary

1

Peer Group Scheme (There is currently only one scheme - do not change this value.)

		Peer Group Variable ID, Description and Values for Facility 0123														
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5	Num 1	Num 2	Num 3	Num 4	Num 5	Num 6	Num 7	Num 8	Num 9	Num10	Num11
Quarter	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing	Medicaid Non-DD Case Mix Index	All-Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All-Resident Non-DD Average Census	Non-DD Medicaid Ratio
2010-Q4	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	Up to 0.900	Up to 0.900	25 up to 75	25 up to 75	70% up to 80%
2011-Q1	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	Up to 0.900	0.900 up to 1.000	25 up to 75	25 up to 75	70% up to 80%
2011-Q2	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	4-5 Stars	1.000 up to 1.100	1.100+	25 up to 75	25 up to 75	50% up to 70%
2011-Q3	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	4-5 Stars	0.900 up to 1.000	0.900 up to 1.000	25 up to 75	25 up to 75	50% up to 70%
2011-Q4	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	4-5 Stars	0.900 up to 1.000	0.900 up to 1.000	25 up to 75	25 up to 75	50% up to 70%
2012-Q1	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	4-5 Stars	0.900 up to 1.000	0.900 up to 1.000	25 up to 75	25 up to 75	50% up to 70%
2012-Q2	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	1-3 Stars	1-3 Stars	1-3 Stars	1-3 Stars	4-5 Stars	0.900 up to 1.000	0.900 up to 1.000	25 up to 75	25 up to 75	50% up to 70%
2012-Q3	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	4-5 Stars	1-3 Stars	4-5 Stars	1-3 Stars	4-5 Stars	Up to 0.900	0.900 up to 1.000	Up to 25	25 up to 75	50% up to 70%
2012-Q4	Southeastern	For profit	Non-Hosp- Based	Non-Chain- Affiliated	Medicaid	50 to 99	4-5 Stars	1-3 Stars	4-5 Stars	1-3 Stars	4-5 Stars	Up to 0.900	0.900 up to 1.000	Up to 25	25 up to 75	50% up to 70%
2013-Q1	Southeastern	For profit	Non-Hosp- Based	Chain- Affiliated	Medicaid	50 to 99	4-5 Stars	4-5 Stars	4-5 Stars	4-5 Stars	4-5 Stars	0.900 up to 1.000	0.900 up to 1.000	Up to 25	25 up to 75	50% up to 70%
2013-Q2	Southeastern	For profit	Non-Hosp- Based	Chain- Affiliated	Medicaid	50 to 99	4-5 Stars	4-5 Stars	4-5 Stars	4-5 Stars	4-5 Stars	0.900 up to 1.000	0.900 up to 1.000	Up to 25	25 up to 75	Up to 50%

## VIII. Recommended Next Steps

The first phase of this initiative produced a nursing home quality performance measurement system tested for credibility, reviewed by nursing home stakeholders (see Appendix C), and ready for statewide implementation. The proposed next phase will recruit several WI nursing homes to pilot test the reporting system, including selecting which measures are most useful and identifying appropriate resources and protocols to employ to improve or maintain a high level of measured performance. The final report will recommend next steps to roll out and maintain the final version of the reporting system for the benefit of all WI nursing homes.

## A. Specific Objective of Phase II

CHSRA will seek CMP funding to pilot the reporting system with 20 to 30 nursing homes over one year. This project will be coordinated with efforts by the Wisconsin Department of Health Services staff and will solicit the support and participation of the two large provider associations, LeadingAge Wisconsin and the Wisconsin Health Care Association. The key objectives include:

- Assess the usefulness of the QIQM reporting system as a tool for nursing home staff to identify areas for quality improvement, especially within the context of current or future quality improvement initiatives sponsored by the provider associations or other stakeholders, such as CMS's Quality Assurance & Performance Improvement (QAPI) program.
- Build linkages to follow-up protocols in the Wisconsin Clinical Resource Center (WCRC) to employ when a QIQM identifies an area of concern. Suggest, if necessary, additional WCRC content that would be useful in such situations.
- 3) Determine which QIQM values should be retained, removed or modified for future use in the reporting system. Determine which nursing home peer groups should be retained, removed or modified.
- 4) Estimate the cost and resources necessary to roll out and maintain the reporting system statewide. Suggest approaches to funding the statewide operational system.
- 5) Recommend strategies for improving and expanding the scope of the reporting system.

## **B. Project Timeline:**

- 1) Jan Mar 2015
  - a. Work with LeadingAge and WHCA to identify 20-30 pilot facilities
  - b. Recruit these facilities
- c. Work with LeadingAge and WHCA to define their role in assessing pilot NH use of reports and related WCRC content
- d. Generate baseline reports for each facility for 1Q2011 through 3Q2014
- e. Assemble links for each QIQM (or domain) to related WCRC content
- 2) Apr 2015
  - a. Kickoff meeting (webinar)
    - i. Emphasize QAPI context
    - ii. Training to use of baseline report content and WCRC linkages
    - iii. Roles and responsibilities of pilot NH's
  - b. Make CHSRA Help Desk available (through end of pilot)
- 3) May Jun 2015
  - a. LeadingAge and WHCA each meet with their pilot NH's (as per item 1c above) to assess the role of the QIQM reports and WCRC protocols in facilitating the QAPI process
  - b. CHSRA staff available, if needed, to address questions about QIQM report/WCRC content
  - c. LeadingAge and WHCA summarize results prior to next webinar (4b, below)
- 4) Jul 2015
  - a. Distribute next quarter of QIQM results (i.e., append an additional quarter to the baseline set of results)
  - b. Follow-up webinar
    - i. Review new QIQM results
    - ii. Discuss efforts by pilot NH's to integrate reports and WCRC protocols into QAPI program
    - iii. Solicit feedback on needed report/linkage changes
- 5) Aug Sep 2015
  - a. Associations' second round of meetings with their pilot NH's
- 6) Oct 2015
  - a. Distribute next quarter of QIQM results
  - b. Follow-up webinar
- 7) Nov 2015
  - a. Conduct survey of pilot NH's
    - i. Partly standardized questions
    - ii. Partly questions tailored to QI results of the facility (e.g., "How did you assess/address QI #7's flagging values?")
  - b. Interview provider association and DHS staff
- 8) Dec 2015

- a. Summarize feedback from webinars, surveys, Help desk and other contact with pilot NH's
- b. Summarize changes in QIQM's reported (changes in any QIQM definitions and the resulting impact on reported QIQM values)
- c. Estimate the resources and costs associated with rolling out and maintaining the system statewide; discuss ongoing funding options
- d. Outline recommendations in final report and present to QAIC, DHS and the NH associations

As with the prior phase, the ultimate outcome of this initiative is to improve clinical outcomes for WI nursing home residents, which will also improve their quality of life.

### **Appendix A - QIQM Analysis Tables**

The tables that follow provide a variety of analytic results for the QIQM's calculated for Wisconsin nursing homes.

	Appendix Pages
<ul> <li>Table A1 - Quarterly QIQM History</li> <li>Quarters 2011-Q1 through 2013-Q2</li> <li>Shows WI statewide average QIQM values by quarter and the average annual change (slope)</li> </ul>	1-12
<ul> <li>Table A2 - Quarterly QIQM Autocorrelation Coefficients</li> <li>Quarters 2011-Q1 through 2013-Q2 Combined</li> <li>Shows QIQM auto-correlation coefficients – i.e., the correlation coefficient between QIQM value from consecutive quarters</li> </ul>	<i>13-15</i> es
<ul> <li>Table A3 - Quarterly QIQM Cross-Correlation Coefficients</li> <li>Quarters 2011-Q1 through 2013-Q2 Combined</li> <li>Shows the correlation coefficients among QIQMs from the same quarter, where the absolute correlation is greater than 30%</li> </ul>	16-22
<ul> <li>Table A4 - Minnesota QIQM Logistic Regression Results</li> <li>Fit to 2011-Q1 through 2013-Q2 Wisconsin NH Data</li> <li>Summary of logistic regression of MN QIQM's against resident risk factors</li> <li>The collective risk factors for each QIQM are statistically significant, except for MN_PAI1 (Decrease in Pain), possibly due to the small number of observations</li> <li>Some individual risk factors for some QIQM's are not significant (roughly 1/3 of the factors, on average, are not significant based on 2.5 yrs. of data)</li> </ul>	23-26
<ul> <li>Table A5 - Minnesota QIQM Ordinary Least Squares Regression Results</li> <li>Fit to 2011-Q1 through 2013-Q2 Wisconsin NH Data</li> <li>Summary of ordinary least squares regression of MN QIQM's against resident risk factors</li> </ul>	27-28
<ul> <li>Table A6 - Minnesota QIQM Logistic Regression Results – By QIQM</li> <li>Fit to 2011-Q1 through 2013-Q2 Wisconsin NH Data</li> <li>Detailed logistic regression results for each MN QIQM – quarterly regressions and overall regression</li> </ul>	29-42

#### Table A7 - Minnesota QIQM Ordinary Least Squares Regression Results – By QIQM

Fit to 2011-Q1 through 2013-Q2 Wisconsin NH Data

 Detailed ordinary least squares regression results for each MN QIQM – quarterly regressions and overall regression

#### Table A8 - CMS and MN Risk-Adjustment Impact on Percentile Ranking

Qtr 2012-Q4, FY 2012-Q4 and Change from FY 2011-Q4 to FY 2012-Q4

• Plots and tabulations comparing unadjusted and risk-adjusted QIQM facility percentile rankings and comparing high-risk and low-risk resident QIQM percentile rankings – using a single quarter, a calendar year and the change in calendar year values

# Table A9 - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile Ranking

Qtr 2012-Q4

- Summary of the impact of risk adjustment on facility percentile ranking using QIQM's from a single quarter
- The percentage of high-risk residents varies modestly from facility to facility, less so over longer periods of time. (7/26 of qtly QIQM's have stdev < 12%)
- The percentage of facility-level QIQM variation explained by the average resident expected values is less than 5% for 16/26 QIQM's. The average R-sq is 6% for quarterly QIQM's and 10% for annual QIQM's. Only 2 QIQM's have R-sq > 20%.
- Reducing the resident-level information to high vs. low risk grouping and then aggregating to the facility level yields almost the same variance reduction, i.e., the R-sq drops 1% on average
- Ranking facilities based on unadjusted QIQM's vs risk-adjusted QIQM's, has a modest impact. (14/26 QIQM's have less than 2.5% of facilities changing 90%-tile flagging status. 20% is max possible. Only 5/26 have 5%+ change status. The average is 3%.)
- Ranking the low-risk and high-risk QIQM values for each facility separately, there is little correlation between the two rankings. (Only 1/26 of QIQM's have a correlation between high and low-risk QIQM's greater than 50%. The average is 24% for quarterly QIQM's.)
- The frequency of false positive and false negative flagging's when comparing separate low/highrisk rankings to facility-wide rankings (assuming the separate rankings are "correct") averages 10% to 12% depending on whether we use quarterly vs annual QIQM's and whether we compare to unadjusted vs. risk-adjusted facility-wide values. 30% is the maximum possible error rate.

#### Table A10 - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile Ranking

Calendar Year 2012

- Summary of the impact of risk adjustment on facility percentile ranking using annual QIQM values
- The percentage of high-risk residents varies modestly from facility to facility, less so over longer periods of time. (11/26 of gtly QIQM's have stdev < 12%)
- The percentage of facility-level QIQM variation explained by the average resident expected values is less than 5% for 14/26 QIQM's. The average R-sq is 10% for annual QIQM's. Only 4 QIQM's have R-sq > 20%.

56-133

134-140

43-55

141-147

- Reducing the resident-level information to high vs. low risk grouping and then aggregating to the facility level yields almost the same variance reduction, i.e., the R-sq drops 2% on average
- Ranking facilities based on unadjusted QIQM's vs risk-adjusted QIQM's, has a modest impact. (14/26 QIQM's have less than 2.5% of facilities changing 90%-tile flagging status. 20% is max possible. Only 5/26 have 5%+ change status. The average is 3%.)
- Ranking the low-risk and high-risk QIQM values for each facility separately, there is little correlation between the two rankings. (Only 5/26 of QIQM's have a correlation between high and low-risk QIQM's greater than 50%. The average is 37% for annual QIQM's.)
- The frequency of false positive and false negative flagging's when comparing separate low/highrisk rankings to facility-wide rankings (assuming the separate rankings are "correct") averages 10% to 12% depending on whether we use quarterly vs annual QIQM's and whether we compare to unadjusted vs. risk-adjusted facility-wide values. 30% is the maximum possible error rate.

### Table A11 - QIQM Variation Explained by Peer Group

Calendar Year 2012

148-174

- Percent of QIQM facility-to-facility variation explained (R<sup>2</sup>) by various facility peer grouping schemes
- Peer grouping explains 2% of NH QIQM variation; largest effects using region, QIQM star rating, resident acuity (CMI); Medicaid percentage

# Table A1 - Quarterly QIQM History

Quarters 2011-Q1 through 2013-Q2

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
CMS.0674	Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)	Unadjusted	0.020	0.025	0.027	0.026	0.024	0.023	0.026	0.025	0.026	0.026	0.001
CMS.0675	The Percentage of Residents on a Scheduled Pain Medication Regimen on Admission Who Self-Report a Decrease in Pain Intensity or Frequency (Short Stay)	Unadjusted	0.686	0.673	0.669	0.683	0.704	0.698	0.689	0.693	0.702	0.689	0.009
CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	Unadjusted	0.244	0.227	0.230	0.236	0.226	0.223	0.214	0.214	0.206	0.208	(0.015)
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	Unadjusted	0.135	0.130	0.129	0.129	0.127	0.125	0.119	0.118	0.116	0.115	(0.009)
		Risk-Adj	0.013	0.007	0.005	0.003	(0.000)	(0.001)	(0.008)	(0.009)	(0.012)	(0.014)	(0.012)
		Low Risk	0.091	0.089	0.086	0.082	0.079	0.076	0.079	0.074	0.075	0.071	(0.008)
		High Risk	0.208	0.204	0.203	0.211	0.200	0.208	0.187	0.192	0.180	0.184	(0.012)
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	Unadjusted	0.026	0.024	0.023	0.023	0.023	0.020	0.017	0.018	0.019	0.019	(0.003)
		Risk-Adj	0.005	0.002	0.001	0.000	0.000	(0.002)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
		Low Risk	0.016	0.015	0.013	0.013	0.012	0.012	0.010	0.008	0.008	0.009	(0.003)
		High Risk	0.037	0.036	0.034	0.034	0.035	0.029	0.025	0.028	0.029	0.027	(0.005)

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
CMS.0679	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	0.056	0.056	0.050	0.048	0.051	0.046	0.048	0.046	0.047	0.045	(0.004)
CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	0.902	0.904	0.835	0.857	0.905	0.918	0.853	0.879	0.922	0.923	0.013
CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	0.747	0.753	0.694	0.710	0.739	0.757	0.718	0.739	0.775	0.788	0.019
CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	0.141	0.137	0.124	0.133	0.147	0.146	0.120	0.127	0.134	0.123	(0.005)
CMS.0680C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	0.013	0.014	0.017	0.014	0.018	0.015	0.014	0.014	0.014	0.012	(0.001)
CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	0.982	0.976	0.914	0.910	0.987	0.978	0.913	0.928	0.986	0.976	0.002
CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	0.882	0.876	0.817	0.814	0.888	0.879	0.817	0.834	0.893	0.884	0.005
CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	0.090	0.090	0.087	0.085	0.089	0.089	0.085	0.081	0.081	0.081	(0.004)

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
CMS.0681C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	0.010	0.010	0.011	0.011	0.010	0.010	0.011	0.013	0.012	0.011	0.001
CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	Unadjusted	0.901	0.889	0.873	0.889	0.907	0.916	0.901	0.909	0.923	0.921	0.016
CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	Unadjusted	0.760	0.750	0.733	0.754	0.771	0.782	0.775	0.786	0.799	0.799	0.025
CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	Unadjusted	0.128	0.129	0.126	0.122	0.123	0.119	0.112	0.112	0.111	0.110	(0.010)
CMS.0682C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Short Stay)	Unadjusted	0.012	0.011	0.014	0.013	0.013	0.015	0.014	0.011	0.012	0.012	(0.000)
CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	Unadjusted	0.984	0.983	0.977	0.979	0.982	0.983	0.979	0.982	0.983	0.982	0.000
CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	Unadjusted	0.905	0.903	0.894	0.897	0.902	0.901	0.897	0.901	0.902	0.902	(0.000)

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	Unadjusted	0.074	0.075	0.078	0.077	0.074	0.076	0.076	0.073	0.074	0.073	(0.001)
CMS.0683C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Long Stay)	Unadjusted	0.006	0.005	0.005	0.006	0.006	0.006	0.006	0.007	0.008	0.007	0.001
CMS.0684	Percent of Residents With a Urinary Tract Infection (Long Stay)	Unadjusted	0.069	0.073	0.075	0.070	0.070	0.064	0.060	0.055	0.054	0.057	(0.009)
CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	Unadjusted	0.420	0.408	0.421	0.419	0.420	0.424	0.430	0.427	0.434	0.428	0.008
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	Unadjusted	0.047	0.044	0.045	0.043	0.044	0.043	0.041	0.040	0.041	0.040	(0.003)
		Risk-Adj	0.010	0.007	0.007	0.006	0.007	0.006	0.004	0.003	0.004	0.003	(0.003)
		Low Risk	0.034	0.031	0.032	0.029	0.029	0.030	0.029	0.029	0.032	0.030	(0.001)
		High Risk	0.074	0.071	0.071	0.071	0.072	0.067	0.062	0.059	0.059	0.056	(0.008)
CMS.0687	Percent of Residents Who Were Physically Restrained (Long Stay)	Unadjusted	0.010	0.011	0.011	0.010	0.010	0.009	0.010	0.010	0.009	0.007	(0.001)
CMS.0688	Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	Unadjusted	0.172	0.166	0.163	0.164	0.163	0.155	0.146	0.149	0.151	0.143	(0.012)

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
CMS.0689	Percent of Residents Who Lose Too Much Weight (Long Stay)	Unadjusted	0.072	0.074	0.071	0.074	0.073	0.072	0.070	0.075	0.085	0.072	0.002
CMS.0690	Percent of Residents Who Have Depressive Symptoms (Long Stay)	Unadjusted	0.081	0.079	0.074	0.075	0.072	0.072	0.067	0.066	0.066	0.055	(0.009)
CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	Unadjusted	0.195	0.189	0.189	0.191	0.190	0.190	0.189	0.181	0.177	0.174	(0.008)
CMS.AP02	Percent of Residents Who Newly Received an Antipsychotic Medication (Short Stay)	Unadjusted	0.018	0.018	0.018	0.018	0.020	0.022	0.018	0.015	0.013	0.017	(0.001)
CMS.SV01	Prevalence of Falls (Long Stay)	Unadjusted	0.386	0.444	0.468	0.464	0.463	0.466	0.469	0.462	0.463	0.457	0.018
CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	Unadjusted	0.142	0.138	0.136	0.140	0.138	0.137	0.133	0.125	0.117	0.113	(0.012)
CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	Unadjusted	0.100	0.095	0.092	0.095	0.094	0.089	0.089	0.087	0.080	0.078	(0.009)
CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	Unadjusted	0.243	0.247	0.245	0.242	0.245	0.248	0.255	0.248	0.250	0.256	0.005
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	Unadjusted	0.122	0.114	0.111	0.111	0.112	0.108	0.097	0.098	0.103	0.099	(0.010)
		Risk-Adj	0.006	0.000	(0.001)	0.001	0.004	0.002	(0.006)	(0.005)	0.001	(0.003)	(0.003)
		Low Risk	0.059	0.057	0.054	0.059	0.054	0.054	0.049	0.053	0.055	0.052	(0.003)

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
		High Risk	0.215	0.203	0.212	0.200	0.209	0.207	0.196	0.188	0.197	0.190	(0.010)
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	Unadjusted	0.285	0.290	0.297	0.301	0.293	0.305	0.301	0.301	0.299	0.323	0.011
		Risk-Adj	(0.014)	(0.011)	(0.004)	(0.002)	(0.011)	0.001	(0.003)	(0.005)	(0.007)	0.016	0.008
		Low Risk	0.225	0.224	0.230	0.234	0.224	0.246	0.241	0.233	0.231	0.253	0.009
		High Risk	0.357	0.361	0.375	0.378	0.367	0.375	0.370	0.368	0.366	0.397	0.008
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	Unadjusted	0.014	0.015	0.017	0.018	0.018	0.016	0.018	0.017	0.016	0.017	0.001
		Risk-Adj	(0.002)	(0.001)	(0.000)	0.002	0.002	(0.000)	0.002	0.001	0.000	0.001	0.001
		Low Risk	0.006	0.007	0.008	0.008	0.008	0.009	0.007	0.009	0.007	0.009	0.001
		High Risk	0.025	0.025	0.027	0.031	0.031	0.027	0.031	0.030	0.032	0.030	0.002
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	Unadjusted	0.045	0.042	0.042	0.040	0.040	0.041	0.038	0.038	0.038	0.038	(0.003)
		Risk-Adj	0.004	0.001	0.001	(0.001)	(0.001)	(0.001)	(0.004)	(0.003)	(0.003)	(0.004)	(0.003)
		Low Risk	0.026	0.026	0.026	0.024	0.024	0.025	0.022	0.022	0.022	0.021	(0.002)
		High Risk	0.090	0.086	0.087	0.081	0.085	0.083	0.079	0.080	0.078	0.082	(0.004)
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	Unadjusted	0.071	0.072	0.075	0.070	0.069	0.061	0.058	0.055	0.054	0.056	(0.010)
		Risk-Adj	0.011	0.011	0.014	0.009	0.008	(0.001)	(0.003)	(0.006)	(0.007)	(0.006)	(0.010)
		Low Risk	0.040	0.040	0.048	0.046	0.042	0.038	0.041	0.039	0.033	0.031	(0.005)
		High Risk	0.100	0.099	0.099	0.093	0.095	0.083	0.076	0.073	0.074	0.079	(0.014)
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	Unadjusted	0.276	0.262	0.273	0.268	0.272	0.265	0.277	0.273	0.276	0.264	0.000

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
		Risk-Adj	0.003	(0.011)	(0.002)	(0.005)	(0.003)	(0.011)	(0.002)	(0.004)	(0.001)	(0.010)	(0.002)
		Low Risk	0.132	0.119	0.126	0.134	0.131	0.128	0.128	0.128	0.134	0.131	0.002
		High Risk	0.446	0.435	0.448	0.433	0.440	0.426	0.445	0.433	0.440	0.422	(0.006)
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	Unadjusted	0.258	0.249	0.254	0.241	0.249	0.245	0.247	0.235	0.246	0.236	(0.007)
		Risk-Adj	0.007	(0.001)	0.003	(0.009)	(0.001)	(0.005)	(0.006)	(0.016)	(0.006)	(0.013)	(0.007)
		Low Risk	0.152	0.147	0.152	0.146	0.148	0.150	0.144	0.136	0.148	0.146	(0.003)
		High Risk	0.393	0.378	0.381	0.368	0.374	0.365	0.372	0.354	0.370	0.353	(0.013)
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	Unadjusted	0.536	0.549	0.539	0.542	0.539	0.546	0.534	0.541	0.537	0.548	0.000
		Risk-Adj	(0.004)	0.009	0.002	0.003	0.003	0.011	0.004	0.008	0.005	0.012	0.004
		Low Risk	0.313	0.326	0.317	0.318	0.322	0.331	0.325	0.335	0.326	0.338	0.008
		High Risk	0.760	0.777	0.771	0.766	0.763	0.774	0.766	0.765	0.761	0.765	(0.002)
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	Unadjusted	0.280	0.272	0.258	0.268	0.267	0.265	0.253	0.257	0.254	0.263	(0.008)
		Risk-Adj	0.012	0.005	(0.006)	0.004	0.006	0.006	(0.002)	0.001	(0.001)	0.006	(0.002)
		Low Risk	0.144	0.136	0.128	0.137	0.140	0.137	0.126	0.131	0.134	0.139	(0.002)
		High Risk	0.558	0.554	0.548	0.544	0.545	0.557	0.549	0.551	0.536	0.558	(0.002)
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	Unadjusted	0.771	0.773	0.781	0.775	0.776	0.783	0.788	0.776	0.791	0.791	0.008
		Risk-Adj	(0.061)	(0.058)	(0.050)	(0.054)	(0.053)	(0.046)	(0.042)	(0.050)	(0.036)	(0.036)	0.010
		Low Risk	0.668	0.661	0.648	0.640	0.650	0.660	0.667	0.659	0.669	0.668	0.005

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
		High Risk	0.850	0.852	0.858	0.864	0.861	0.863	0.872	0.855	0.876	0.878	0.010
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	Unadjusted	0.724	0.729	0.737	0.739	0.748	0.755	0.750	0.756	0.767	0.776	0.021
		Risk-Adj	(0.027)	(0.022)	(0.013)	(0.011)	(0.003)	0.004	(0.001)	0.006	0.016	0.025	0.021
		Low Risk	0.714	0.718	0.725	0.728	0.737	0.744	0.737	0.744	0.758	0.764	0.021
		High Risk	0.743	0.748	0.757	0.756	0.765	0.776	0.777	0.771	0.782	0.797	0.021
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	Unadjusted	0.155	0.154	0.152	0.155	0.153	0.155	0.152	0.139	0.135	0.130	(0.010)
		Risk-Adj	0.010	0.009	0.007	0.009	0.007	0.009	0.006	(0.006)	(0.011)	(0.016)	(0.011)
		Low Risk	0.140	0.140	0.137	0.130	0.133	0.132	0.127	0.120	0.113	0.110	(0.014)
		High Risk	0.175	0.176	0.173	0.177	0.171	0.173	0.168	0.154	0.151	0.148	(0.013)
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	Unadjusted	0.005	0.005	0.006	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.000
		Risk-Adj	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	0.000	0.001	0.001	0.001	0.000	0.001
		Low Risk	0.003	0.004	0.003	0.003	0.002	0.003	0.004	0.003	0.003	0.003	0.000
		High Risk	0.008	0.007	0.009	0.007	0.008	0.009	0.009	0.011	0.011	0.010	0.002
MN_INFX	Prevalence of Infections (Long Stay)	Unadjusted	0.046	0.047	0.043	0.043	0.043	0.039	0.037	0.039	0.041	0.039	(0.003)
		Risk-Adj	0.004	0.005	0.000	0.000	0.000	(0.004)	(0.006)	(0.004)	(0.002)	(0.004)	(0.004)
		Low Risk	0.024	0.026	0.025	0.023	0.022	0.022	0.020	0.020	0.020	0.020	(0.003)
		High Risk	0.079	0.077	0.070	0.066	0.071	0.065	0.057	0.062	0.065	0.064	(0.007)
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	Unadjusted	0.031	0.031	0.027	0.027	0.028	0.026	0.026	0.026	0.025	0.023	(0.003)

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
		Risk-Adj	0.005	0.005	0.000	0.001	0.001	(0.001)	(0.000)	(0.001)	(0.001)	(0.003)	(0.003)
		Low Risk	0.025	0.024	0.020	0.020	0.019	0.018	0.018	0.017	0.016	0.016	(0.004)
		High Risk	0.044	0.044	0.038	0.039	0.045	0.040	0.038	0.041	0.042	0.037	(0.002)
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	Unadjusted	0.616	0.590	0.611	0.526	0.571	0.628	0.579	0.556	0.620	0.575	(0.005)
		Risk-Adj	0.019	(0.007)	0.013	(0.071)	(0.026)	0.031	(0.018)	(0.041)	0.023	(0.022)	(0.005)
		Low Risk	0.586	0.604	0.591	0.542	0.569	0.589	0.622	0.553	0.627	0.603	0.010
		High Risk	0.634	0.575	0.617	0.535	0.580	0.639	0.575	0.557	0.610	0.553	(0.015)
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	Unadjusted	0.237	0.226	0.241	0.243	0.227	0.223	0.223	0.228	0.212	0.213	(0.011)
		Risk-Adj	0.004	(0.007)	0.007	0.010	(0.007)	(0.010)	(0.010)	(0.005)	(0.022)	(0.020)	(0.011)
		Low Risk	0.239	0.220	0.221	0.221	0.213	0.227	0.242	0.229	0.182	0.202	(0.012)
		High Risk	0.237	0.227	0.244	0.239	0.227	0.223	0.216	0.233	0.210	0.210	(0.012)
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	Unadjusted	0.150	0.146	0.146	0.146	0.143	0.141	0.135	0.137	0.133	0.133	(0.008)
		Risk-Adj	0.012	0.005	0.004	0.005	0.002	(0.002)	(0.008)	(0.006)	(0.010)	(0.010)	(0.010)
		Low Risk	0.141	0.134	0.133	0.132	0.130	0.126	0.120	0.122	0.122	0.120	(0.009)
		High Risk	0.188	0.184	0.179	0.193	0.182	0.182	0.169	0.167	0.159	0.168	(0.012)
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	Unadjusted						0.009	0.007	0.008	0.007	0.009	(0.000)
		Risk-Adj						0.002	0.000	0.000	(0.000)	0.001	(0.001)
		Low Risk						0.006	0.003	0.006	0.004	0.006	0.001
		High Risk						0.036	0.038	0.034	0.037	0.037	0.000

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
MN_PRUB	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	0.057	0.054	0.048	0.048	0.050	0.047	0.046	0.044	0.043	0.044	(0.005)
		Risk-Adj	0.014	0.005	(0.003)	(0.002)	(0.000)	(0.003)	(0.004)	(0.004)	(0.006)	(0.004)	(0.006)
		Low Risk	0.028	0.027	0.020	0.024	0.025	0.021	0.021	0.023	0.021	0.021	(0.002)
		High Risk	0.318	0.251	0.230	0.213	0.221	0.233	0.210	0.218	0.215	0.216	(0.030)
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	Unadjusted	0.418	0.441	0.418	0.390	0.419	0.360	0.378	0.336	0.337	0.344	(0.046)
		Risk-Adj	0.046	0.080	0.058	0.035	0.065	0.005	0.025	(0.017)	(0.012)	(0.007)	(0.039)
		Low Risk	0.377	0.385	0.361	0.332	0.378	0.311	0.309	0.283	0.277	0.299	(0.048)
		High Risk	0.520	0.623	0.596	0.559	0.551	0.563	0.589	0.568	0.596	0.547	0.000
MN_RES1	Prevalence of Physical Restraints (Long Stay)	Unadjusted	0.010	0.011	0.010	0.009	0.009	0.009	0.010	0.010	0.009	0.007	(0.001)
		Risk-Adj	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	(0.002)	(0.001)
		Low Risk	0.008	0.008	0.008	0.006	0.006	0.006	0.007	0.007	0.006	0.005	(0.001)
		High Risk	0.020	0.022	0.022	0.021	0.017	0.020	0.019	0.019	0.016	0.015	(0.003)
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	Unadjusted	0.059	0.061	0.058	0.060	0.059	0.056	0.053	0.060	0.066	0.057	0.000
		Risk-Adj	(0.000)	0.002	(0.001)	0.001	0.000	(0.003)	(0.005)	0.001	0.008	(0.001)	0.001
		Low Risk	0.041	0.044	0.040	0.044	0.041	0.041	0.039	0.044	0.047	0.043	0.001
		High Risk	0.080	0.082	0.081	0.081	0.084	0.076	0.075	0.081	0.094	0.080	0.001
QP010	Prevalence of Indwelling Catheter (Most Recent)	Unadjusted	0.095	0.095	0.095	0.082	0.080	0.078	0.078	0.078	0.076	0.076	(0.010)
QP012	Prevalence of Urinary Tract Infections (Most Recent)	Unadjusted	0.141	0.134	0.127	0.108	0.105	0.098	0.098	0.098	0.095	0.094	(0.021)
QP013	Prevalence of Weight Loss (Most Recent)	Unadjusted	0.116	0.113	0.104	0.093	0.090	0.088	0.087	0.092	0.097	0.091	(0.010)

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
QP015	Prevalence of Dehydration (Most Recent)	Unadjusted	0.007	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.003	(0.001)
QP017	Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	Unadjusted	0.081	0.089	0.104	0.125	0.122	0.115	0.115	0.113	0.111	0.103	0.009
QP018	Incidence of Decline in Range of Motion (Previous/Most Recent (excl. Admissions))	Unadjusted	0.043	0.041	0.042	0.045	0.047	0.044	0.050	0.047	0.049	0.043	0.002
QP022	Prevalence of a Daily Physical Restraint (Most Recent)	Unadjusted	0.002	0.004	0.004	0.006	0.007	0.006	0.007	0.007	0.006	0.005	0.001
QP024_H	Prevalence of Stage I- IV Pressure Ulcers - High-Risk (Most Recent)	Unadjusted	0.160	0.143	0.132	0.103	0.101	0.098	0.094	0.098	0.096	0.098	(0.027)
QP024_L	Prevalence of Stage I- IV Pressure Ulcers - Low-Risk (Most Recent)	Unadjusted	0.044	0.047	0.042	0.035	0.033	0.033	0.030	0.033	0.032	0.032	(0.007)
QP027	Dressing Decline Since Admission (Admission/90-Day)	Unadjusted	0.105	0.088	0.101	0.093	0.101	0.082	0.083	0.075	0.079	0.076	(0.012)
QP028b	Dressing Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	0.037	0.042	0.047	0.065	0.073	0.065	0.060	0.059	0.067	0.068	0.012
QP031	Eating Decline Since Admission (Admission/90-Day)	Unadjusted	0.176	0.151	0.144	0.166	0.148	0.169	0.154	0.148	0.157	0.163	(0.002)
QP034	Toileting Decline Since Admission (Admission/90-Day)	Unadjusted	0.127	0.091	0.099	0.103	0.102	0.094	0.097	0.093	0.089	0.085	(0.011)
QP038	Locomotion Decline Since Admission (Admission/90-Day)	Unadjusted	0.145	0.119	0.119	0.147	0.152	0.149	0.133	0.156	0.127	0.135	0.002

Measure ID	Measure Description	Туре	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	Slope
QP039b	Locomotion Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	0.048	0.052	0.065	0.074	0.084	0.082	0.079	0.081	0.078	0.075	0.013
QP043a	Increase in Physical Abuse (Admission/90- Day)	Unadjusted	0.034	0.030	0.026	0.028	0.035	0.028	0.035	0.032	0.029	0.027	(0.001)
QP047	Continence Decline Since Admission (Admission/90-Day)	Unadjusted	0.075	0.064	0.079	0.074	0.080	0.070	0.073	0.087	0.062	0.046	(0.006)
QP061	Wound Infection (Most Recent)	Unadjusted	0.025	0.022	0.021	0.017	0.015	0.014	0.014	0.015	0.014	0.014	(0.005)
QP106b	Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	Unadjusted	0.036	0.040	0.038	0.044	0.047	0.043	0.046	0.047	0.048	0.046	0.005
QP119	Lack of Transferring Rehabilitation Progress (5-Day/30- Day)	Unadjusted	0.683	0.665	0.687	0.712	0.704	0.681	0.685	0.698	0.697	0.698	0.008
QP213	Lack of Corrective Action for Visual Problems (Most Recent)	Unadjusted	0.038	0.042	0.042	0.048	0.050	0.051	0.052	0.050	0.049	0.050	0.005
QP214	Lack of Corrective Action for Auditory Problems (Most Recent)	Unadjusted	0.164	0.173	0.182	0.215	0.216	0.215	0.213	0.211	0.211	0.207	0.019
QP217	Oral/Dental Problems (Most Recent Full)	Unadjusted	0.224	0.239	0.243	0.257	0.261	0.262	0.260	0.262	0.270	0.275	0.019

# Table A2 - Quarterly QIQM Autocorrelation Coefficients

Quarters 2011-Q1 through 2013-Q2 Combined

Measure ID	Measure Description	Unadj usted	Risk- Adj	Low Risk	High Risk
CMS.0674	Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)	60%			
CMS.0675	The Percentage of Residents on a Scheduled Pain Medication Regimen on Admission Who Self- Report a Decrease in Pain Intensity or Frequency (Short Stay)	51%			
CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	58%			
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	66%	65%	51%	54%
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	41%	42%	48%	33%
CMS.0679	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	50%			
CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	63%			
CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	64%			
CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	69%			
CMS.0680C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay)	53%			
CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	29%			
CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	47%			
CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	83%			
CMS.0681C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Long Stay)	74%			
CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	84%			
CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	80%			
CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	78%			
CMS.0682C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Short Stay)	56%			
CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	72%			
CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	85%			
CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	89%			
CMS.0683C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Long Stay)	90%			
CMS.0684	Percent of Residents With a Urinary Tract Infection (Long Stay)	59%			
CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	77%			
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	65%	65%	56%	52%
CMS.0687	Percent of Residents Who Were Physically Restrained (Long Stay)	86%			

Measure ID	Measure Description	Unadj usted	Risk- Adj	Low Risk	High Risk
CMS.0688	Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	34%			
CMS.0689	Percent of Residents Who Lose Too Much Weight (Long Stay)	50%			
CMS.0690	Percent of Residents Who Have Depressive Symptoms (Long Stay)	83%			
CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	91%			
CMS.AP02	Percent of Residents Who Newly Received an Antipsychotic Medication (Short Stay)	45%			
CMS.SV01	Prevalence of Falls (Long Stay)	80%			
CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	88%			
CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	74%			
CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	87%			
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	26%	31%	17%	25%
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	45%	41%	27%	31%
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	53%	50%	37%	39%
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	63%	64%	60%	61%
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	61%	61%	42%	46%
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	70%	64%	38%	64%
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	74%	71%	31%	76%
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	78%	72%	64%	64%
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	75%	63%	45%	59%
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	79%	78%	71%	77%
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	91%	91%	89%	86%
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	88%	87%	79%	80%
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	14%	13%	2%	12%
MN_INFX	Prevalence of Infections (Long Stay)	53%	52%	37%	41%
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	70%	70%	61%	60%
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	15%	10%	26%	11%
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	35%	35%	9%	32%
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	67%	67%	57%	36%
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	3%	1%	-1%	4%
MN_PRUB	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	50%	33%	23%	36%
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	33%	31%	27%	28%
MN_RES1	Prevalence of Physical Restraints (Long Stay)	86%	85%	77%	73%
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	40%	40%	26%	30%

Measure ID	Measure Description	Unadj usted	Risk- Adj	Low Risk	High Risk
QP010	Prevalence of Indwelling Catheter (Most Recent)	73%			
QP012	Prevalence of Urinary Tract Infections (Most Recent)	72%			
QP013	Prevalence of Weight Loss (Most Recent)	73%			
QP015	Prevalence of Dehydration (Most Recent)	50%			
QP017	Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	42%			
QP018	Incidence of Decline in Range of Motion (Previous/Most Recent (excl. Admissions))	46%			
QP022	Prevalence of a Daily Physical Restraint (Most Recent)	81%			
QP024_H	Prevalence of Stage I-IV Pressure Ulcers - High-Risk (Most Recent)	67%			
QP024_L	Prevalence of Stage I-IV Pressure Ulcers - Low-Risk (Most Recent)	42%			
QP027	Dressing Decline Since Admission (Admission/90-Day)	24%			
QP028b	Dressing Severe Decline (Previous/Most Recent (excl. Admissions))	32%			
QP031	Eating Decline Since Admission (Admission/90-Day)	13%			
QP034	Toileting Decline Since Admission (Admission/90-Day)	20%			
QP038	Locomotion Decline Since Admission (Admission/90-Day)	15%			
QP039b	Locomotion Severe Decline (Previous/Most Recent (excl. Admissions))	36%			
QP043a	Increase in Physical Abuse (Admission/90-Day)	22%			
QP047	Continence Decline Since Admission (Admission/90-Day)	21%			
QP061	Wound Infection (Most Recent)	68%			
QP106b	Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	55%			
QP119	Lack of Transferring Rehabilitation Progress (5-Day/30-Day)	53%			
QP213	Lack of Corrective Action for Visual Problems (Most Recent)	84%			
QP214	Lack of Corrective Action for Auditory Problems (Most Recent)	91%			
QP217	Oral/Dental Problems (Most Recent Full)	92%			

### Table A3 - Quarterly QIQM Cross-Correlation Coefficients

Quarters 2011-Q1 through 2013-Q2 Combined (Cases where correlation exceeds 30% in magnitude)

Measu	ure IDs	Measure Descriptions					
CMS.0674		Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)					
	MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	48%				
CMS.0676		Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)					
	MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	71%				
	CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	38%				
	MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	38%				
CMS.0677		Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)					
	MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	93%				
	CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	38%				
	MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	31%				
CMS.0678		Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)					
	MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	38%				
CMS.0679		Percent of High-Risk Residents With Pressure Ulcers (Long Stay)					
	MN_PRUB	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	94%				
	QP024_H	Prevalence of Stage I-IV Pressure Ulcers - High-Risk (Most Recent)	45%				
CMS.0680		Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)					
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	74%				
	CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	58%				
	CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	53%				
	CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	45%				
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	40%				
CMS.0680A		Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)					
	CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	74%				
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	60%				
	CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	45%				
	CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	43%				
	CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	40%				
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	30%				
	CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	-34%				
	CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	-46%				
CMS.0680B		Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)					
	CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	69%				
	CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	37%				

Measu	ure IDs	Measure Descriptions					
	CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	32%				
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	-37%				
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	-46%				
CMS.0681		Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)					
	CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	84%				
	CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	53%				
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	40%				
CMS.0681A		Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)					
	CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	84%				
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	45%				
	CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	45%				
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	37%				
	CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	-32%				
	CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	-47%				
CMS.0681B		Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)					
	CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	57%				
	CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	32%				
	CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	31%				
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	-43%				
	CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	-47%				
CMS.0682		Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)					
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	73%				
	CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	58%				
	CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	49%				
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	43%				
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	35%				
CMS.0682A		Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)					
	CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	73%				
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	60%				
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	50%				
	CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	40%				
	CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	35%				
	CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	-36%				
	CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	-37%				
	CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	-52%				
CMS.0682B		Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)					
	CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	69%				
	CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	48%				

Measu	ure IDs	Measure Descriptions					
	CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	31%				
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	-34%				
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	-52%				
CMS.0683		Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)					
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	67%				
	CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	49%				
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	35%				
CMS.0683A		Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)					
	CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	67%				
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	50%				
	CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	37%				
	CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	35%				
	CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	30%				
		Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Long					
	CMS.0683C	Stay)	-34%				
	CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	-43%				
	CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	-72%				
CMS.0683B		Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)					
	CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	57%				
	CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	48%				
	CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	37%				
	CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	-32%				
	CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	-36%				
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	-72%				
CMS.0683C		Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Long Stay)					
	CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	-34%				
CMS.0684		Percent of Residents With a Urinary Tract Infection (Long Stay)					
	MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	93%				
	QP012	Prevalence of Urinary Tract Infections (Most Recent)	53%				
CMS.0685		Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)					
	MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	32%				
	MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	-40%				
	MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	-57%				
CMS.0686		Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)					
	MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	90%				
	QP010	Prevalence of Indwelling Catheter (Most Recent)	50%				
	MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	-33%				

Meas	ure IDs	Measure Descriptions	Corr. Coeff.
CMS.0687		Percent of Residents Who Were Physically Restrained (Long Stay)	
	MN_RES1	Prevalence of Physical Restraints (Long Stay)	98%
	QP022	Prevalence of a Daily Physical Restraint (Most Recent)	81%
CMS.0688		Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	
	MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	80%
	QP017	Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	62%
CMS.0689		Percent of Residents Who Lose Too Much Weight (Long Stay)	
	MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	84%
	QP013	Prevalence of Weight Loss (Most Recent)	51%
CMS.0690		Percent of Residents Who Have Depressive Symptoms (Long Stay)	
	MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	80%
	CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	34%
CMS.AP01		Prevalence of Antipsychotic Medication Use (Long Stay)	
	MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	84%
	CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	82%
	CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	39%
	MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	32%
	CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	31%
CMS.SV02		Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	
	MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	90%
	CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	82%
	CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	30%
CMS.SV03		Prevalence of Antianxiety/Hypnotic Use (Long Stay)	
	MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	31%
	CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	30%
CMS.SV04		Prevalence of Behavior Symptoms Affecting Others (Long Stay)	
	MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	57%
	QP106b	Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	56%
	CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	39%
	CMS.0690	Percent of Residents Who Have Depressive Symptoms (Long Stay)	34%
	MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	33%
MN_ADLA		Incidence of Worsening or Serious Functional Dependence (Long Stay)	
	CMS.0688	Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	80%
	QP017	Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	51%
MN_ADLB		Incidence of Improved or Maintained Functional Independence (Long Stay)	
	MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	30%
MN_BEHA		Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	

Meas	ure IDs	Measure Descriptions	Corr. Coeff.
	CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	57%
	CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	32%
	QP106b	Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	32%
MN_CAT2		Prevalence of Indwelling Catheter (Long Stay)	
	CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	90%
	QP010	Prevalence of Indwelling Catheter (Most Recent)	46%
	MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	-33%
MN_CNT4		Prevalence of Urinary Tract Infection (Long Stay)	
	CMS.0684	Percent of Residents With a Urinary Tract Infection (Long Stay)	93%
	QP012	Prevalence of Urinary Tract Infections (Most Recent)	49%
MN_CNTA		Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	
	MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	60%
	CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	32%
	MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	-32%
	MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	-71%
MN_CNTB		Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	
	MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	-47%
MN_CNTC		Incidence of Improved or Maintained Bowel Continence (Long Stay)	
	MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	53%
	CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	-40%
	MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	-71%
MN_CNTD		Incidence of Improved or Maintained Bladder Continence (Long Stay)	
	MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	30%
	MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	-32%
	CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	-57%
MN_CNTE		Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	
	MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	33%
	CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	-33%
	MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	-33%
MN_DRG1		Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	
	CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	90%
	CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	84%
	CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	33%
	CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	31%
MN_FAL1		Prevalence of Falls with Major Injury (Long Stay)	
	CMS.0674	Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)	48%
MN_MOD1		Prevalence of Depression Symptoms (Long Stay)	

Meas	ure IDs	Measure Descriptions	Corr. Coeff.
	CMS.0690	Percent of Residents Who Have Depressive Symptoms (Long Stay)	80%
MN_PAI2		Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	
	CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	71%
	MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	33%
	CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	31%
MN_PAI3		Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	
	CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	93%
	CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	38%
MN_PRUA		Prevalence of New or Worsening Pressure Ulcers (Short Stay)	
	CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	38%
MN_PRUB		Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	
	CMS.0679	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	94%
	QP024_H	Prevalence of Stage I-IV Pressure Ulcers - High-Risk (Most Recent)	47%
MN_RES1		Prevalence of Physical Restraints (Long Stay)	
	CMS.0687	Percent of Residents Who Were Physically Restrained (Long Stay)	98%
	QP022	Prevalence of a Daily Physical Restraint (Most Recent)	80%
MN_WGT1		Prevalence of Unexplained Weight Loss (Long Stay)	
	CMS.0689	Percent of Residents Who Lose Too Much Weight (Long Stay)	84%
	QP013	Prevalence of Weight Loss (Most Recent)	46%
QP010		Prevalence of Indwelling Catheter (Most Recent)	
	CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	50%
	MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	46%
QP012		Prevalence of Urinary Tract Infections (Most Recent)	
	CMS.0684	Percent of Residents With a Urinary Tract Infection (Long Stay)	53%
	MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	49%
QP013		Prevalence of Weight Loss (Most Recent)	
	CMS.0689	Percent of Residents Who Lose Too Much Weight (Long Stay)	51%
	MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	46%
QP017		Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	
	CMS.0688	Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	62%
	MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	51%
QP022		Prevalence of a Daily Physical Restraint (Most Recent)	
	CMS.0687	Percent of Residents Who Were Physically Restrained (Long Stay)	81%
	MN_RES1	Prevalence of Physical Restraints (Long Stay)	80%
QP024 H		Prevalence of Stage I-IV Pressure Ulcers - High-Risk (Most Recent)	
	MN PRUB	Percent of High-Risk Residents With Pressure Ulcers (Long Stav)	47%
	CMS.0679	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	45%

Meas	ure IDs	Measure Descriptions	
QP027		Dressing Decline Since Admission (Admission/90-Day)	
	QP034	Toileting Decline Since Admission (Admission/90-Day)	48%
QP034		Toileting Decline Since Admission (Admission/90-Day)	
	QP027	Dressing Decline Since Admission (Admission/90-Day)	48%
	QP038	Locomotion Decline Since Admission (Admission/90-Day)	33%
QP038		Locomotion Decline Since Admission (Admission/90-Day)	
	QP034	Toileting Decline Since Admission (Admission/90-Day)	33%
QP106b		Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	
	CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	56%
	MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	32%

## Table A4a - Minnesota QIQM Logistic Regression Results

		LOGISTIC MODEL								
Measure ID	Measure Description	p- value*	t-ratio	R <sup>2</sup> - All	n	E(QIQM)	Std(QIQM)	# Cov	# Sig Cov**	
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	0.0001	2,266	6.3%	218,914	0.108	0.311	19	12	
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	0.0001	1,547	3.5%	218,914	0.304	0.460	12	11	
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	0.0001	475	1.0%	232,322	0.017	0.128	13	12	
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	0.0001	1,267	3.0%	211,219	0.041	0.199	6	5	
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	0.0001	777	1.8%	222,243	0.060	0.238	8	5	
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	0.0001	9,188	21.4%	211,767	0.274	0.446	12	9	
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	0.0001	5,545	14.3%	211,767	0.249	0.433	12	8	
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	0.0001	14,061	28.4%	214,777	0.538	0.499	12	11	
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	0.0001	11,306	25.9%	218,564	0.264	0.441	12	9	
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	0.0001	2,376	6.2%	99,301	0.831	0.374	3	3	
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	0.0001	149	0.3%	120,433	0.751	0.432	3	3	
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	0.0001	391	0.5%	193,997	0.145	0.352	3	2	
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	0.0001	47	0.2%	236,574	0.006	0.074	36	9	
MN_INFX	Prevalence of Infections (Long Stay)	0.0001	830	2.0%	222,198	0.043	0.202	8	7	
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	0.0001	223	0.5%	236,171	0.026	0.160	12	10	
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	0.9887	(1)	0.0%	7,047	0.597	0.491	2	-	

		LOGISTIC MODEL										
мeasure ID	Measure Description	p- value*	t-ratio	R <sup>2</sup> - All	n	E(QIQM)	Std(QIQM)	# Cov	# Sig Cov**			
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	0.0001	18	0.0%	121,228	0.234	0.423	2	2			
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	0.0001	345	0.4%	190,424	0.142	0.349	2	2			
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	0.0001	130	2.1%	58,220	0.007	0.085	11	7			
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	0.0001	3,521	12.6%	170,025	0.049	0.215	6	5			
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	0.0001	186	3.7%	17,897	0.356	0.479	5	2			
MN_RES1	Prevalence of Physical Restraints (Long Stay)	0.0001	334	0.7%	236,243	0.009	0.093	4	3			
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	0.0001	522	1.0%	222,243	0.058	0.234	8	6			

\*The collective risk factors for each QIQM are statistically significant, except for MN\_PAI1 (Decrease in Pain), possibly due to the small number of observations.

\*\* Some individual risk factors for some QIQM's are not significant (roughly 1/3 of the factors, on average, are not significant based on 2.5 yrs. of data).

## Table A4b - Minnesota QIQM Logistic Regression Results (cont.)

				LOGISTIC			
Measure ID	Measure Description	Percent Concordant	Percent Discordant	Percent Tied	Somers' D	Gamma	с
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	72.6%	26.7%	0.6%	45.9%	46.2%	73.0%
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	61.2%	38.1%	0.7%	23.1%	23.3%	61.6%
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	70.4%	25.8%	3.8%	44.5%	46.3%	72.3%
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	69.1%	28.4%	2.5%	40.7%	41.7%	70.3%
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	64.4%	33.7%	2.0%	30.7%	31.3%	65.3%
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	77.8%	21.9%	0.3%	56.0%	56.1%	78.0%
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	71.9%	27.8%	0.4%	44.1%	44.3%	72.1%
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	80.8%	19.0%	0.2%	61.7%	61.8%	80.9%
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	80.3%	19.4%	0.3%	61.0%	61.2%	80.5%
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	68.3%	31.0%	0.7%	37.3%	37.6%	68.7%
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	51.8%	45.3%	2.9%	6.6%	6.8%	53.3%
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	55.2%	41.8%	3.0%	13.4%	13.8%	56.7%
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	57.3%	26.0%	16.6%	31.3%	37.5%	65.6%
MN_INFX	Prevalence of Infections (Long Stay)	67.5%	30.4%	2.1%	37.1%	37.9%	68.5%
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	58.7%	34.9%	6.3%	23.8%	25.4%	61.9%
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	26.6%	26.5%	46.9%	0.1%	0.3%	50.1%

		LOGISTIC MODEL									
Measure ID	Measure Description	Percent Concordant	Percent Discordant	Percent Tied	Somers' D	Gamma	С				
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	10.3%	9.0%	80.7%	1.3%	6.8%	50.7%				
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	27.1%	19.1%	53.8%	8.1%	17.4%	54.0%				
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	68.6%	14.4%	17.0%	54.2%	65.3%	77.1%				
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	76.6%	19.9%	3.4%	56.7%	58.7%	78.3%				
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	66.7%	31.6%	1.7%	35.0%	35.7%	67.5%				
MN_RES1	Prevalence of Physical Restraints (Long Stay)	55.4%	26.9%	17.7%	28.6%	34.7%	64.3%				
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	60.8%	36.7%	2.6%	24.1%	24.7%	62.1%				

# Table A5 - Minnesota QIQM Ordinary Least Squares Regression Results

		OLS Model											
Measure ID	Measure Description	p-value	t-ratio	R <sup>2</sup> - All	n	E(QIQM)	Std(QIQM )	# Cov	# Sig Cov	Max Part R <sup>2</sup>	# Part R <sup>2</sup> ≥ 0.1%		
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	<.0001	2,354	6.2%	218,914	0.108	0.311	19	13	1.9%	6		
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	<.0001	1,556	3.4%	218,914	0.304	0.460	12	11	1.1%	5		
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	<.0001	464	1.0%	232,322	0.017	0.128	13	12	0.8%	2		
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	<.0001	1,600	2.6%	211,219	0.041	0.199	6	5	0.8%	4		
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	<.0001	583	1.0%	222,243	0.060	0.238	8	6	0.6%	2		
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	<.0001	9,876	18.6%	211,767	0.274	0.446	12	9	4.0%	5		
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	<.0001	6,129	12.4%	211,767	0.249	0.433	12	9	2.7%	7		
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	<.0001	16,698	27.6%	214,777	0.538	0.499	12	11	4.9%	8		
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	<.0001	15,218	25.4%	218,564	0.264	0.441	12	10	5.4%	4		
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	<.0001	2,526	5.9%	99,301	0.831	0.374	3	3	2.6%	3		
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	<.0001	143	0.3%	120,433	0.751	0.432	3	3	0.2%	1		
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	<.0001	413	0.5%	193,997	0.145	0.352	3	2	0.4%	1		
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	<.0001	44	0.2%	236,574	0.006	0.074	36	9	0.0%	-		

MN_INFX	Prevalence of Infections (Long Stay)	<.0001	745	1.3%	222,198	0.043	0.202	8	7	0.5%	5
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	<.0001	243	0.5%	236,171	0.026	0.160	12	10	0.4%	4
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	0.9887	(1)	0.0%	7,047	0.597	0.491	2	-	0.0%	-
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	<.0001	18	0.0%	121,228	0.234	0.423	2	2	0.0%	-
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	<.0001	360	0.4%	190,424	0.142	0.349	2	2	0.3%	1
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	<.0001	294	2.3%	58,220	0.007	0.085	11	7	2.1%	4
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	<.0001	6,732	12.1%	170,025	0.049	0.215	6	5	11.2%	3
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	<.0001	180	3.1%	17,897	0.356	0.479	5	3	3.1%	1
MN_RES1	Prevalence of Physical Restraints (Long Stay)	<.0001	470	0.6%	236,243	0.009	0.093	4	3	0.3%	2
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	<.0001	458	0.8%	222,243	0.058	0.234	8	7	0.4%	2

### Table A6 - Minnesota QIQM Logistic Regression Results – By QIQM

MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)													
Mode	l p-value /	′ R-Sq>	0.0001	6.3%	6.4%	6.6%	6.8%	6.3%	6.9%	6.2%	6.8%	5.9%	6.5%	5.6%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(1.479)	(1.613)	(1.535)	(1.671)	(1.171)	(1.551)	(1.409)	<u>(1.809</u> )	(1.284)	(1.353)	(1.337)
FEMALE	0.693	0.461	0.7184	0.006	0.005	0.005	0.047	(0.005)	(0.012)	0.056	(0.005)	(0.035)	(0.050)	0.044
AGE	82.8	11.6	0.0001	0.011	0.010	0.011	0.013	0.009	0.013	0.008	0.012	0.008	0.013	0.010
	8.7	11.6	0.0001	(0.017)	(0.016)	(0.016)	(0.019)	(0.013)	(0.014)	(0.017)	<u>(0.023</u> )	<u>(</u> 0. <u>018</u> )	(0.015)	(0.018)
C_CPS	1.82	1.92	0.0001	0.053	0.074	0.056	0.043	0.036	0.051	0.070	0.098	0.051	0.022	0.019
C_BIMS	7.6	5.7	0.0001	(0.059)	(0.053)	(0.057)	(0.062)	(0.072)	(0.057)	(0.055)	(0.042)	(0.056)	(0.075)	<u>(</u> 0.067)
C_BIMS_Miss	0.208	0.406	0.0001	0.147	0.231	0.187	0.195	(0.010)	0.132	0.140	0.247	0.166	(0.011)	0.095
A_CVA	0.161	0.367	0.0003	0.084	0.039	0.146	0.066	0.062	0.173	0.032	0.117	(0.137)	0.163	0.157
A_PARAP	0.009	0.093	0.0074	0.249	0.083	(0.392)	0.477	0.223	0.093	0.439	0.210	0.029	0.494	0.576
A_HEMIP	0.095	0.294	0.9081	0.004	0.007	<u>(0.131)</u>	<u>(0.010)</u>	0.006	0.122	(0.056)	<u>(0.067</u> )	0.080	0.085	(0.003)
A_PARK	0.074	0.261	0.0001	0.280	0.447	0.289	0.297	0.264	0.311	0.239	0.239	0.265	0.091	0.328
A_ALZH	0.178	0.383	0.6027	0.010	0.017	(0.046)	0.076	0.005	0.062	0.033	0.058	(0.000)	(0.040)	<u>(</u> 0.103)
P_TRANSFER	2.424	1.304	0.0001	(0.230)	(0.178)	<u>(0.104)</u>	(0.181)	(0.265)	(0.169)	(0.303)	(0.290)	(0.184)	(0.332)	(0.337)
P_TRANSFER_Miss	0.000	0.006	0.8268	(10.969)		(25.829)			7.245	(2.278)	(10.192)			
P_BED_MOB	2.346	1.282	0.0001	(0.264)	(0.299)	(0.380)	(0.320)	(0.235)	(0.279)	(0.227)	(0.266)	(0.314)	(0.118)	(0.137)
P_BED_MOB_Miss	0.000	0.008	0.9389	0.081	(8.580)	16.012	(8.642)		(8.783)	(9.416)	(8.762)			
P_EATING	1.143	1.302	0.0001	(0.482)	(0.502)	<u>(0.413</u> )	(0.460)	(0.466)	(0.520)	(0.448)	(0.497)	(0.503)	(0.560)	(0.467)
P_EATING_Miss	0.000	0.006	0.2986	1.254		-	(7.499)	(8.143)	(0.962)	-	16.224	-	-	-
	2.593	1.194	0.0001	0.138	0.162	0.108	0.137	0.143	0.072	0.193	0.185	0.167	0.098	0.084
P_TOILET_Miss	0.000	0.007	0.2254	1.296	-	-	24.275	(7.192)	(8.462)	(8.759)	(7.498)	(6.347)		
					n>	218,914	E	(QIQM)>	0.108	Stdev	(QIQM)>	0.311		

MN_ADLB	Inciden	Incidence of Improved or Maintained Functional Independence (Long Stay)												
Мос	lel p-value ,	/ R-Sq>	0.0001	3.5%	3.5%	3.9%	3.5%	3.3%	3.6%	3.7%	3.3%	3.2%	3.4%	3.5%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(0.032)	(0.257)	0.130	(0.184)	(0.159)	0.077	0.047	(0.025)	(0.151)	0.060	0.131
FEMALE	0.693	0.461	0.0001	(0.086)	(0.044)	(0.134)	(0.067)	(0.072)	(0.110)	(0.140)	(0.060)	(0.117)	(0.031)	(0.078)
A <u>GE</u>	82.8	11.6	0.0001	(0.009)	(0.009)	(0.012)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.007)	(0.011)	<u>(0.009</u> )
	8.7	11.6	0.0001	(0.010)	(0.007)	(0.011)	(0.008)	<u>(0.013)</u>	(0.008)	(0.009)	<u>(0.009</u> )	<u>(</u> 0.009)	(0.011)	(0.011)
C_CPS	1.82	1.92	0.0001	(0.059)	(0.049)	(0.057)	(0.073)	(0.046)	(0.089)	(0.055)	(0.057)	(0.059)	(0.048)	(0.056)
C_BIMS	7.6	5.7	0.0001	0.035	0.042	0.039	0.035	0.038	0.028	0.035	0.036	0.034	0.034	0.031
C_BIMS_Miss	0.208	0.406	0.0001	(0.116)	(0.133)	(0.110)	<u>(0.118)</u>	(0.092)	(0.130)	(0.070)	(0.084)	<u>(</u> 0.079)	(0.125)	(0.214)
A_CVA	0.161	0.367	0.2422	(0.017)	0.036	<u>(</u> 0.047)	0.047	(0.040)	(0.093)	0.000	0.047	0.002	(0.025)	(0.106)
A_PARAP	0.009	0.093	0.0001	(0.385)	(0.347)	(0.544)	(0.169)	(0.406)	(0.424)	(0.378)	(0.356)	(0.375)	<u>(0.413)</u>	<u>(</u> 0.460)
С_СОМА	0.002	0.040	0.0001	(1.872)	(1.206)	(12.230)	(12.070)	(1.216)	(2.167)	(2.344)	(2.257)	<u>(</u> 1. <u>446</u> )	(11.213)	(0.806)
A_HEMIP	0.095	0.294	0.0001	(0.175)	(0.220)	<u>(</u> 0.203)	(0.144)	(0.147)	(0.069)	(0.232)	(0.197)	(0.222)	(0.258)	(0.075)
A_PARK	0.074	0.261	0.0001	(0.304)	(0.384)	(0.206)	(0.329)	(0.191)	(0.346)	(0.392)	(0.232)	(0.336)	(0.335)	<u>(</u> 0.301)
A_ALZH	0.178	0.383	0.0001	(0.069)	(0.036)	(0.007)	(0.059)	(0.029)	(0.065)	(0.184)	(0.058)	(0.088)	(0.142)	(0.032)
				n>	218,914	E(	(QIQM)>	0.304	Stdev	(QIQM)>	0.460			

MN_BEHA	Incidend	ce of Wor	sening or	Serious R	esident Be	havior Sy	mptoms (	Long Stay	()					
Мо	del p-value /	/ R-Sq>	0.0001	1.0%	1.3%	1.3%	1.1%	1.3%	1.1%	0.9%	1.3%	0.9%	0.9%	1.1%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(1.673)	(1.619)	(1.234)	(1.168)	(1.200)	(1.687)	(2.218)	(2.306)	(1.640)	(1.769)	(1.975)
FEMALE	0.695	0.460	0.0001	(0.196)	(0.219)	(0.345)	(0.263)	(0.005)	(0.158)	(0.257)	(0.065)	(0.238)	(0.168)	(0.211)
AGE	83.0	11.5	0.0001	(0.023)	(0.023)	(0.024)	(0.027)	(0.029)	(0.023)	(0.016)	(0.018)	(0.025)	(0.021)	(0.020)
LOSQ	8.6	11.4	0.0020	0.004	0.014	0.006	0.001	0.005	0.002	(0.002)	(0.002)	(0.002)	(0.001)	0.001
C_CPS	1.87	1.94	0.0001	(0.045)	(0.113)	(0.106)	(0.050)	(0.064)	(0.021)	(0.005)	(0.010)	0.043	(0.053)	(0.050)
C_BIMS	7.4	5.8	0.0001	(0.144)	(0.159)	(0.161)	(0.152)	(0.159)	(0.145)	(0.119)	(0.146)	(0.130)	(0.140)	<u>(</u> 0.134)
C_BIMS_Miss	0.221	0.415	0.0082	(0.126)	(0.078)	(0.163)	(0.216)	(0.062)	(0.240)	0.104	<u>(0.162</u> )	(0.278)	(0.030)	(0.165)
A_CVA	0.161	0.367	0.0002	(0.172)	(0.359)	(0.412)	(0.329)	(0.193)	0.056	0.043	(0.016)	(0.268)	(0.187)	(0.208)
A_ALZH	0.183	0.386	0.0001	0.380	0.455	0.484	0.376	0.455	0.460	0.389	0.414	0.280	0.353	0.109
A_DEMT	0.520	0.500	0.0001	0.302	0.311	0.300	0.419	0.152	0.459	0.215	0.209	0.206	0.176	0.545
C_MSUN	0.229	0.420	0.0804	0.076	0.076	(0.239)	0.005	0.282	0.082	0.011	0.319	(0.042)	0.122	0.137
A_DEPR	0.572	0.495	0.0001	0.236	0.268	0.082	0.130	0.231	0.174	0.125	0.504	0.326	0.172	0.410
	0.027	0.163	0.0001	0.795	0.773	1.112	0.465	0.908	0.882	0.586	1.059	0.820	0.776	0.471
C_UNDS	0.303	0.459	0.0011	0.136	(0.012)	0.263	0.255	0.084	0.160	0.066	(0.121)	0.285	0.272	0.077
					n>	232,322	E	QIQM)>	0.017	Stdev	(QIQM)>	0.128		

MN_CAT2		Prevale	nce of Inc	dwelling C	Catheter (L	ong Stay)									
l	lodel	l p-value /	′ R-Sq>	0.0001	3.0%	2.8%	3.1%	3.0%	3.0%	3.2%	2.3%	3.1%	3.3%	3.2%	3.6%
Covariate		E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT		1.000		<u> </u>	(1.541)	(1.130)	(1.090)	(1.077)	(1.400)	(1.592)	(1.608)	(1.807)	(1.947)	(1.884)	(2.143)
FEMALE		0.704	0.457	0.0001	(0.880)	(0.800)	(0.799)	(0.824)	(0.875)	(0.839)	(0.922)	(0.889)	(0.958)	(0.933)	(1.023)
AGE		83.1	11.4	0.0001	(0.010)	(0.014)	(0.015)	(0.016)	(0.012)	(0.009)	(0.009)	(0.007)	(0.004)	(0.005)	(0.002)
LOSQ		8.6	11.4	0.0001	(0.053)	(0.053)	(0.052)	(0.048)	(0.049)	(0.047)	(0.046)	(0.062)	(0.059)	(0.057)	(0.069)
A_CVA		0.160	0.366	0.0618	0.055	0.102	0.072	0.162	0.068	(0.005)	0.003	0.092	0.035	(0.158)	0.134
A_PARAP		0.005	0.068	0.0001	2.152	1.990	2.110	2.173	2.026	2.406	1.935	2.178	2.257	2.362	2.088
A_QUADP		0.005	0.071	0.0001	1.426	1.359	1.566	1.210	1.483	1.247	0.981	1.556	1.446	1.390	1.913
						n>	211,219	E	(QIQM)>	0.041	Stdev	(QIQM)>	0.199		
MN_CNT4	Prevale	nce of Uri	nary Trac	t Infection	(Long Sta	ıy)									
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Mode	el p-value /	′ R-Sq>	0.0001	1.8%	1.9%	1.7%	1.6%	1.7%	1.9%	1.7%	1.7%	1.9%	1.7%	2.5%	
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2	
	1.000			(2.921)	(2.722)	(2.907)	(2.844)	(2.725)	(3.013)	(3.277)	<u>(</u> 3.119)	(2.635)	(3.178)	(2.909)	
FEMALE	0.692	0.462	0.0001	0.282	0.370	0.378	0.334	0.262	0.211	0.358	0.245	0.189	0.144	0.253	
AGE	82.8	11.7	0.8295	0.000	(0.002)	0.001	0.000	(0.001)	0.002	0.003	0.002	(0.004)	0.002	(0.002)	
	8.7	11.6	0.0001	(0.059)	(0.058)	(0.058)	(0.051)	(0.059)	(0.056)	(0.060)	(0.061)	(0.067)	(0.060)	(0.069)	
A_CVA	0.161	0.367	0.1986	0.031	0.069	0.035	0.108	0.020	0.121	0.063	0.083	(0.045)	(0.016)	(0.224)	
A_PARAP	0.009	0.094	0.0001	0.894	0.571	0.788	0.879	0.770	1.019	0.410	0.800	1.062	1.328	1.155	
C_LOCOM_ON	2.065	1.511	0.0001	0.149	0.155	0.126	0.125	0.135	0.166	0.153	0.151	0.157	0.157	0.203	
C_LOCOM_ON_Miss	0.000	0.012	0.6717	(0.432)	(4.998)	(7.834)	(10.051)	(8.874)	(5.881)	(8.776)	(8.401)	(7.847)	1.879	( <u>8.78</u> 1)	
A_QUADP	0.009	0.095	0.0001	0.849	0.427	0.691	0.846	0.912	1.065	0.959	0.953	0.711	0.717	1.123	
					n>	222,243	E	(QIQM)>	0.060	Stdev	(QIQM)>	0.238			

MN_CNTA	Incidend	ce of Wor	sening or	Serious B	owel Inco	ntinence (	Long Stay	/)						
Mode	: l p-value /	/ R-Sq>	0.0001	21.4%	21.2%	22.9%	23.0%	21.4%	20.3%	21.8%	20.9%	21.4%	20.5%	20.6%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(1.818)	(1.695)	(1.694)	(1.729)	(1.793)	(1.834)	(1.809)	(1.930)	(1.814)	(2.044)	(1.892)
FEMALE	0.697	0.459	0.0001	(0.100)	(0.075)	(0.149)	(0.155)	<u>(0.135</u> )	(0.039)	(0.054)	(0.081)	(0.129)	(0.113)	(0.074)
AGE	83.2	11.3	0.0001	(0.019)	(0.018)	(0.022)	(0.020)	(0.020)	(0.019)	(0.020)	(0.017)	(0.018)	(0.016)	<u>(</u> 0.018)
	8.7	11.4	0.0001	0.004	0.000	0.004	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.003
C_CPS	1.83	1.92	0.0001	0.087	0.085	0.095	0.083	0.095	0.101	0.074	0.091	0.085	0.084	0.078
C_BIMS	7.6	5.7	0.0001	(0.033)	(0.031)	(0.031)	(0.041)	(0.025)	(0.021)	(0.037)	(0.034)	(0.039)	(0.034)	<u>(</u> 0.035)
C_BIMS_Miss	0.209	0.406	0.0001	0.369	0.459	0.367	0.337	0.408	0.406	0.399	0.357	0.307	0.322	0.320
C_LOCOM_ON	2.063	1.504	0.0001	0.154	0.151	0.159	0.152	0.164	0.155	0.147	0.144	0.161	0.140	0.170
C_LOCOM_ON_Miss	0.000	0.012	0.4501	0.395	(7.016)	12.063	(9.446)	(9.721)	11.800	0.380	(7.777)	(7.450)	0.374	0.944
C_BED_MOB	2.357	1.281	0.0001	0.163	0.167	0.167	0.166	0.154	0.171	0.124	0.142	0.159	0.197	0.191
C_BED_MOB_Miss	0.000	0.008	0.5503	0.506		1.009		11.238	(9.522)	11.513				(9.243)
C_TRANSFER	2.422	1.308	0.0001	0.578	0.506	0.596	0.605	0.572	0.530	0.649	0.602	0.590	0.580	0.564
C_TRANSFER_Miss	0.000	0.005	0.8713	(7.418)	-	-	-	(10.138)	-	(19.263)	-	-	-	0.675
					n>	211,767	E(	QIQM)>	0.274	Stdev(	QIQM)>	0.446		

MN_CNTB	Incidend	ce of Wor	sening or	Serious B	ladder Inc	ontinence	e (Long St	ay)						
Mode	el p-value /	/ R-Sq>	0.0001	14.3%	14.8%	15.0%	14.7%	14.3%	14.2%	14.3%	14.2%	14.3%	13.8%	13.8%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(1.773)	(1.726)	(1.861)	(1.606)	(1.513)	(1.699)	(1.884)	(2.014)	(1.898)	(1.726)	(1.880)
FEMALE	0.697	0.459	0.0001	0.089	0.049	0.136	0.061	0.067	0.150	0.057	0.122	0.071	0.082	0.086
AGE	83.2	11.3	0.0001	(0.014)	(0.012)	(0.013)	(0.014)	(0.017)	(0.016)	(0.013)	(0.013)	(0.014)	(0.015)	<u>(</u> 0.014)
	8.7	11.4	0.0001	0.007	0.007	0.006	0.007	0.007	0.008	0.006	0.006	0.007	0.008	0.007
C_CPS	1.83	1.92	0.0001	0.111	0.086	0.110	0.101	0.111	0.126	0.129	0.137	0.116	0.095	0.107
C_BIMS	7.6	5.7	0.0007	(0.006)	(0.014)	(0.007)	(0.018)	(0.005)	0.002	(0.007)	0.004	(0.004)	(0.006)	<u>(</u> 0.003)
C_BIMS_Miss	0.209	0.406	0.0001	0.583	0.568	0.561	0.491	0.577	0.682	0.545	0.640	0.557	0.627	0.585
C_LOCOM_ON	2.063	1.504	0.0001	0.116	0.138	0.115	0.113	0.123	0.099	0.104	0.122	0.106	0.117	0.134
C_LOCOM_ON_Miss	0.000	0.012	0.9435	(0.039)	(7.943)	11.766	(9.724)	(8.812)	11.989	(10.136)	(7.864)	(7.728)	(9.834)	1.197
C_BED_MOB	2.357	<u>1.281</u>	0.2644	0.011	0.009	0.043	0.002	0.022	0.004	(0.016)	0.026	0.029	0.010	(0.002)
C_BED_MOB_Miss	0.000	0.008	0.6659	(0.364)		0.630		10.425	(9.881)	(9.638)				( <u>9.77</u> 3)
C_TRANSFER	2.422	1.308	0.0001	0.405	0.387	0.389	0.419	0.380	0.396	0.447	0.370	0.430	0.410	0.415
C_TRANSFER_Miss	0.000	0.005	0.5790	0.768	-	-	-	0.417	-	(7.887)	-	-	-	0.096
					n>	211,767	E(	QIQM)>	0.249	Stdev	(QIQM)>	0.433		

MN_CNTC	Incidend	ce of Imp	roved or N	laintained	Bowel Co	ontinence	(Long Sta	ıy)						
Mode	el p-value /	/ R-Sq>	0.0001	28.4%	28.7%	29.2%	29.9%	28.6%	27.9%	28.3%	28.1%	28.3%	28.0%	27.7%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000			0.693	0.538	0.492	0.736	0.732	0.620	0.445	0.655	0.943	0.954	0.882
FEMALE	0.695	0.461	0.0001	0.149	0.154	0.155	0.186	0.150	0.117	0.141	0.153	0.187	0.136	0.113
AGE	82.9	11.5	0.0001	0.017	0.016	0.019	0.017	0.017	0.018	0.020	0.016	0.014	0.014	0.015
	8.7	11.6	0.0001	(0.009)	(0.007)	(0.007)	<u>(0.010)</u>	(0.009)	(0.011)	(0.010)	<u>(0.010</u> )	(0.011)	(0.010)	(0.008)
C_CPS	1.82	1.92	0.0001	(0.075)	(0.081)	(0.104)	(0.088)	(0.077)	(0.085)	(0.048)	(0.056)	(0.073)	(0.070)	(0.068)
C_BIMS	7.6	5.7	0.0001	0.070	0.073	0.063	0.069	0.065	0.063	0.077	0.075	0.072	0.076	0.069
C_BIMS_Miss	0.209	0.406	0.0001	(0.306)	(0.345)	(0.390)	<u>(0.378)</u>	(0.350)	(0.381)	(0.260)	(0.280)	(0.203)	(0.151)	(0.296)
C_LOCOM_ON	2.066	1.508	0.0001	(0.147)	(0.129)	(0.127)	(0.138)	(0.160)	(0.159)	(0.149)	(0.163)	(0.158)	(0.143)	(0.151)
C_LOCOM_ON_Miss	0.000	0.012	0.0008	(1.591)	8.260	(10.602)	(3.464)	(0.872)	(10.004)	0.716	(1.670)	8.058	(0.523)	(1.455)
C_BED_MOB	2.370	1.280	0.0001	(0.263)	(0.218)	(0.247)	(0.249)	(0.234)	(0.281)	(0.274)	<u>(0.279</u> )	(0.246)	(0.337)	(0.311)
C_BED_MOB_Miss	0.000	0.008	0.0292	(2.078)		(2.462)		(8.712)	(10.577)	(20.846)			<u> </u>	(0.663)
C_TRANSFER	2.437	1.309	0.0001	(0.502)	(0.499)	(0.510)	(0.529)	(0.519)	(0.447)	(0.514)	(0.484)	(0.545)	(0.479)	(0.483)
C_TRANSFER_Miss	0.000	0.005	0.5844	0.801	-	-	-	(2.254)	-	8.030	-	-	-	(8.766)
					n>	214,777	E	(QIQM)>	0.538	Stdev	(QIQM)>	0.499		

MN_CNTD	Incidend	ce of Imp	roved or N	laintained	Bladder	Continenc	e (Long S	tay)						
Mode	l p-value /	/ R-Sq>	0.0001	25.9%	26.0%	25.8%	26.2%	25.3%	25.3%	26.2%	26.3%	26.5%	26.0%	26.2%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000		<u> </u>	0.418	0.239	0.371	0.544	0.468	0.579	0.305	0.316	0.363	0.399	0.571
FEMALE	0.693	0.461	0.0001	(0.049)	(0.034)	(0.083)	(0.060)	<u>(0.058</u> )	(0.051)	(0.071)	(0.031)	(0.050)	(0.005)	(0.045)
AGE	82.9	11.6	0.0129	(0.001)	(0.000)	(0.001)	(0.003)	(0.001)	(0.001)	0.001	(0.001)	(0.002)	(0.001)	<u>(</u> 0.001)
	8.7	11.5	0.0001	(0.005)	(0.002)	(0.003)	(0.006)	(0.005)	(0.008)	(0.002)	<u>(</u> 0.005)	<u>(</u> 0. <u>005</u> )	(0.008)	(0.006)
C_CPS	1.81	1.92	0.0001	(0.039)	(0.036)	(0.030)	(0.037)	(0.036)	(0.076)	(0.053)	(0.029)	(0.003)	(0.030)	(0.054)
C_BIMS	7.6	5.7	0.0001	0.063	0.071	0.063	0.064	0.054	0.052	0.063	0.070	0.077	0.066	0.053
C_BIMS_Miss	0.207	0.405	0.0397	0.049	0.001	(0.037)	<u>(0.018)</u>	0.038	(0.020)	0.104	0.105	0.223	0.082	0.041
C_LOCOM_ON	2.063	1.510	0.0001	(0.089)	(0.083)	<u>(0.101)</u>	(0.084)	(0.102)	(0.090)	(0.068)	(0.098)	(0.089)	(0.091)	(0.089)
C_LOCOM_ON_Miss	0.000	0.012	0.1800	(0.734)	9.740	(10.823)	(0.432)	(10.318)	(8.517)	(9.083)	<u>(10.471)</u>	0.666	(10.141)	0.099
C_BED_MOB	2.370	1.281	0.0001	(0.386)	(0.370)	(0.343)	(0.372)	(0.369)	(0.365)	(0.337)	(0.470)	(0.450)	(0.416)	(0.388)
C_BED_MOB_Miss	0.000	0.008	0.1850	(1.214)		<u>(11.655</u> )		(9.775)	(9.784)	(9.625)				0.674
C_TRANSFER	2.438	1.311	0.0001	(0.354)	(0.339)	(0.369)	(0.359)	(0.358)	(0.360)	(0.427)	(0.274)	(0.321)	(0.344)	<u>(</u> 0.379)
C_TRANSFER_Miss	0.000	0.005	0.8264	(0.296)	-	-	-	8.294	-	(10.586)	-	-	-	(10.663)
					n>	218,564	E(	(QIQM)>	0.264	Stdev	QIQM)>	0.441		

MN_CNTE	Preval	ence of Oc	casional	to Full Bla	dder Incor	ntinence v	vithout a	Foileting I	Plan (Long	g Stay)		_		
M	lodel p-value	e / R-Sq>	0.0001	6.2%	5.5%	5.9%	6.4%	6.5%	6.3%	6.0%	5.8%	6.5%	6.6%	6.8%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000	<u> </u>		(1.130)	(1.065)	(1.135)	(1.347)	(1.104)	(1.107)	(1.163)	(0.956)	(1.121)	(1.189)	(1.103)
FEMALE	0.682	2 0.466	0.0001	0.863	0.787	0.832	0.814	0.902	0.878	0.875	0.836	0.882	0.872	0.961
AGE	82.3	3 <u>12.0</u>	0.0001	0.024	0.024	0.025	0.027	0.024	0.024	0.025	0.022	0.024	0.026	0.024
LOSQ	8.9	9 12.2	0.0001	0.030	0.027	0.025	0.029	0.031	0.033	0.028	0.029	0.032	0.032	0.032
					n>	99,301	E	(QIQM)>	0.831	Stdev	(QIQM)>	0.374		

MN_CNTF	Prevale	nce of Oc	casional t	o Full Bow	vel Inconti	inence wi	thout a To	oileting Pl	an (Long 🗄	Stay)				
Mod	el p-value ,	/ R-Sq>	0.0001	0.3%	0.4%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000	-		1.873	1.923	1.770	1.939	1.854	1.842	1.872	1.938	1.891	1.744	1.971
FEMALE	0.699	0.459	0.0063	0.041	0.093	(0.025)	(0.011)	0.051	0.103	0.070	0.011	0.008	0.040	0.093
AGE	83.0	11.6	0.0001	(0.010)	(0.013)	(0.010)	(0.012)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.007)	(0.009)
LOSQ	9.5	12.1	0.0001	0.006	0.004	0.005	0.006	0.006	0.007	0.006	0.006	0.006	0.008	0.005
					n>	120,433	E	(QIQM)>	0.751	Stdev	(QIQM)>	0.432		

MN_DRG1	Prevale	nce of An	tipsychoti	c Medicati	ons witho	ut a Diagi	nosis of Pa	sychosis (l	_ong Stay	)				
Mod	el p-value /	/ R-Sq>	0.0001	0.5%	0.5%	0.5%	0.4%	0.5%	0.4%	0.4%	0.5%	0.4%	0.5%	0.4%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000			(0.451)	(0.421)	(0.412)	(0.470)	(0.384)	(0.440)	(0.444)	(0.380)	<u>(</u> 0. <u>558</u> )	(0.458)	(0.496)
FEMALE	0.697	0.459	0.0001	(0.119)	(0.152)	(0.185)	(0.162)	(0.160)	(0.079)	(0.106)	(0.110)	(0.088)	(0.072)	(0.066)
AGE	83.4	11.3	0.0001	(0.015)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.016)	(0.015)	(0.017)	(0.017)
LOSQ	8.2	10.4	0.9088	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	0.000	0.000	0.002	0.000	(0.000)	0.001
					n>	193,997	E	(QIQM)>	0.145	Stdev	(QIQM)>	0.352		

MN_FAL1	Prevaler	nce of Fal	lls with Ma	ajor Injury	(Long Sta	ay)								
Mode	el p-value /	' R-Sq>	0.0001	0.2%	0.3%	0.3%	0.6%	0.6%	0.4%	0.5%	0.3%	0.3%	0.3%	0.5%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(4.884)	(6.440)	(5.437)	(5.563)	(6.416)	(3.650)	(4.803)	<u>(5.544</u> )	(4.317)	(3.423)	(4.224)
FEMALE	0.694	0.461	0.0001	0.385	(0.006)	0.522	0.367	0.301	0.335	0.449	0.544	0.543	0.745	0.225
AGE	82.9	11.6	0.0020	0.009	0.027	0.009	0.018	0.017	(0.002)	0.005	0.003	0.009	(0.007)	0.016
LOSQ	8.6	11.4	0.0001	(0.032)	(0.021)	(0.024)	(0.043)	(0.071)	(0.036)	(0.006)	(0.036)	(0.044)	(0.046)	(0.019)
C_CPS	1.88	1.95	0.3021	(0.024)	(0.009)	0.088	0.001	0.050	(0.052)	(0.069)	0.001	(0.005)	(0.042)	(0.165)
C_BIMS	7.4	5.8	0.0001	(0.049)	(0.021)	(0.021)	(0.055)	(0.021)	(0.058)	(0.061)	(0.015)	(0.074)	(0.058)	<u>(0.101</u> )
C_BIMS_Miss	0.222	0.416	0.9106	(0.011)	(0.170)	<u>(0.254)</u>	<u>(0.127)</u>	(0.036)	<u>0.31</u> 9	0.171	0.376	(0.207)	(0.184)	(0.092)
A_CVA	0.161	0.368	0. <u>428</u> 9	(0.074)	0.202	0.315	(0.283)	0.008	0.261	(0.645)	(0.183)	(0.396)	(0.178)	( <u>0.01</u> 8)
A_PARAP	0.009	0.093	0.3837	(0.440)	(6.932)	(7.251)	0.572	(6.578)	(7.157)	(6.931)	0.194	(7.298)	0.335	0 <u>.715</u>
C_COMA	0.002	0.041	0.0054	1.442	(6.958)	2.207	(6.599)	2.901	2.700	(6.714)	(7.031)	(6.937)	(6.933)	(6.225)
A_HEMIP	0.094	0.292	0. <u>035</u> 3	(0.308)	(0.522)	(0.207)	(0.244)	0.157	(1.215)	0.060	(0.580)	(0.539)	0.182	(0.529)
A_PARK	0.075	0.263	0.0892	0.185	0.817	(0.456)	0.661	0.023	(0.062)	0.207	(0.017)	(0.260)	0.583	<u>(</u> 0.641)
P_TRANSFER	2.419	1.318	<u>0.7817</u>	(0.016)	(0.097)	(0.077)	(0.099)	(0.049)	(0.033)	(0.061)	<u>(</u> 0.094)	0.104	0.138	0.123
P_TRANSFER_Miss	0.015	0.123	0 <u>.592</u> 9	2.147	15.076	29.831	29.720	19.840	19.753	10.408	(7.897)	27.048	23.910	15.911
P_BED_MOB	2.341	1.293	0.3517	(0.045)	(0.036)	(0.019)	(0.255)	(0.278)	0.106	0.151	0.156	0.086	(0.045)	<u>(</u> 0.232)
P_BED_MOB_Miss	<u>0.015</u>	0.123	<u>0.88</u> 47	0.705	0.750	( <u>9.79</u> 7)	(8.108)	<u> </u>	(6.399)	(9.319)	(6.746)			
P_EATING	1.171	<u>1.318</u>	0.0005	(0.113)	0.169	(0.122)	(0.136)	(0.131)	(0.283)	(0.082)	(0.191)	(0.204)	(0.086)	(0.095)
P_EATING_Miss	0.015	0.123	0.7183	1.549			(6.384)	(6.798)	8.187	20.063	(0.731)	-		<u>(6.920</u> )
P_TOILET	2.581	1.216	0.3755	(0.042)	(0.215)	0.093	0.244	(0 <u>.081</u> )	<u>(</u> 0.078)	(0.308)	0.003	(0.072)	(0.194)	0.106
P_TOILET_Miss	0.015	0.123	0.9316	0.391		<u> </u>	5.987	(6.710)	(8.147)	(8.873)	<u>44.783</u>	(7.513)		
P_WALKROOM	2.593	1.585	0.0093	(0.095)	(0.129)	0.096	(0.072)	0.056	0.019	(0.191)	(0.043)	(0.246)	(0.070)	(0.223)
P_WALKROOM_Miss	<u>0.016</u>	0.124	<u>0.91</u> 37	(0.500)	7.045	( <u>6.15</u> 0)	(6.309)	3 <u>.687</u>	<u>(8.130)</u>		(0.196)	(5.422)	(6.264)	(6.829)
P_WALKCORR	2.686	1.566	0.0844	(0.055)	(0.051)	(0.152)	(0.036)	(0.089)	(0.195)	0.020	(0.195)	0.131	(0.156)	0.054
P_WALKCORR_Miss	0.016	0.124	0.7877	(1.189)	(7.896)	(6.735)	(0.539)	1 <u>2.24</u> 5	1.068		<u>(8.429</u> )	(7.280)	(7.961)	(7.539)
P_LOCOM_ON	2.072	1.509	0.0549	(0.071)	(0.012)	( <u>0.18</u> 4)	(0.122)	<u>(0.164</u> )	0.122	(0.101)	(0.123)	0.024	(0.066)	(0.060)
P_LOCOM_ON_Miss	0.015	0.123	0.8025	2.056	-		(0.980)	(0.628)	1.281	(2.197)	(5.751)	(0.770)	(1.417)	20.501
P_LOCOMOFF	2.246	1.547	0.3502	0.028	(0.015)	0.115	0.147	0.152	0.041	(0.050)	0.037	<u>(</u> 0. <u>100</u> )	(0.008)	(0.027)
P_LOCOMOFF_Miss	0.015	0.123	0.8909	<u>(1.0</u> 07)	(7.846)	( <u>8.26</u> 3)	<u> </u>	(5 <u>.836</u> )	(9.009)					
P_DRESSING	2.649	1.058	0.1428	0.072	0.100	0.135	0.287	0.362	(0.186)	0.252	0.059	(0.421)	0.149	(0.051)
P_DRESSING_Miss	0.015	0.124	0.8995	(0.720)		9.322	(6.287)	(4.466)	1 <u>6.15</u> 0	3.869	(6 <u>.895</u> )			0.233
P_HYGIENE	2.602	1.104	<u>0.51</u> 76	<u>(0.0</u> 31)	0.087	(0.201)	(0.336)	0.097	<u>(</u> 0. <u>167</u> )	(0.036)	(0.089)	0.259	0.036	0.114
P_HYGIENE_Miss	0.015	0.124	0.9339	(0.466)				(3.354)	(7.937)	(5.914)				(7.172)
P_BATHING	3.155	0.849	0.4523	(0.033)	(0.015)	(0.097)	(0.037)	(0.106)	0.047	0.048	0.262	<u>(</u> 0. <u>074</u> )	(0.127)	(0.282)
P_BATHING_Miss	0.016	0.125	<u>0.46</u> 85	<u>(3.2</u> 30)	(8.263)	( <u>8.10</u> 2)	(7.966)	(7 <u>.188</u> )	<u>(</u> 7. <u>819</u> )	(7.331)	(7.411)	(7.782)	(9.017)	(8.400)
A <u>_HYPOT</u>	0.017	0.130	0.2618	0.220	0.384	0.988	0.155	(0.643)	0.419	0.664	0.020	0.395	(0.136)	(7.557)
A_SEIZ	0.084	0.277	0.3583	0.105	0.467	(0.756)	0.333	(0.097)	0.019	(0.552)	0.352	0.492	0.066	<u>0</u> .150
A_EYES	0.165	0.372	0.0018	0.221	(0.230)	0.152	0.0 <b>79</b> ·	- 37 <sub>0.557</sub>	0.478	0.124	0.196	(0.023)	0.351	0.524
					n>	236,574	E	(QIQM)>	0.006	Stdev(	(QIQM)>	0.074		

MN_INFX	Prevale	nce of Inf	ections (L	ong Stay)										
Mod	el p-value /	′ R-Sq>	0.0001	2.0%	2.7%	2.1%	2.3%	1.9%	2.1%	1.6%	1.6%	1.9%	1.9%	2.2%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(1.354)	(1.446)	(1.308)	(1.243)	(1.326)	(1.073)	(1.760)	(1.556)	(1.241)	(1.540)	(1.156)
FEMALE	0.692	0.462	0.0001	(0.411)	(0.513)	(0.323)	(0.371)	(0.508)	(0.333)	(0.428)	(0.399)	(0.451)	(0.472)	(0.362)
AGE	82.8	11.7	0.0001	(0.017)	(0.013)	(0.015)	(0.017)	(0.018)	(0.021)	(0.014)	(0.017)	(0.019)	(0.013)	(0.020)
	8.7	11.6	0.0001	(0.064)	(0.075)	(0.068)	(0.065)	(0.046)	(0.063)	(0.060)	<u>(</u> 0.053)	<u>(</u> 0. <u>064</u> )	(0.074)	(0.072)
A_CVA	0.161	0.367	0.0178	(0.068)	(0.139)	(0.155)	0.068	(0.062)	0.005	0.003	(0.105)	(0.050)	(0.210)	(0.062)
A_PARAP	0.009	0.094	0.0001	0.947	1.013	0.953	1.274	1.139	0.820	0.705	0.952	0.825	0.968	0.759
C_LOCOM_ON	2.065	1.511	0.0001	0.124	0.147	0.094	0.076	0.135	0.156	0.168	0.120	0.137	0.109	0.120
C_LOCOM_ON_Miss	0.000	0.012	0.8140	(0.241)	(4.805)	<u>24.847</u>	(8.828)	(8.676)	(5.316)	(9.127)	(9.153)	(7.885)	(9.012)	( <u>9.25</u> 0)
A_QUADP	0.009	0.095	0.0061	0.225	0.003	0.223	0.327	0.247	(0.001)	0.145	0.327	0.123	0.053	0.667
					n>	222,198	E	(QIQM)>	0.043	Stdev(	QIQM)>	0.202		

MN_MOD1	Prevale	nce of De	pression S	Symptoms	(Long Sta	y)								
Mode	el p-value /	′ R-Sq>	0.0001	0.5%	0.5%	0.6%	0.4%	0.4%	0.7%	0.4%	0.7%	0.5%	0.6%	0.6%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(4.330)	(4.320)	(4.157)	(3.910)	(3.994)	(4.543)	(4.416)	(4.075)	(5.022)	(4.590)	(4.886)
FEMALE	0.694	0.461	0.1449	(0.042)	(0.036)	( <u>0.19</u> 3)	(0.016)	0.085	(0.030)	0.002	0.053	(0.210)	(0.144)	0.050
AGE	83.0	11.5	0.0006	(0.004)	0.000	(0.000)	(0.008)	(0.010)	(0.002)	(0.007)	(0.008)	0.000	(0.003)	<u>(</u> 0.001)
LOSQ	8.5	11.4	0.0001	(0.016)	(0.015)	(0.015)	(0.021)	(0.017)	(0.012)	(0.010)	(0.024)	(0.013)	(0.020)	(0.017)
C_CPS	1.87	1.94	0.0001	0.141	0.118	0.134	0.110	0.127	0.171	0.201	0.158	0.135	0.172	0.132
C_BIMS	7.4	5.8	0.0001	0.064	0.052	0.047	0.071	0.081	0.061	0.071	0.056	0.085	0.082	0.071
C_BIMS_Miss	0.221	0.415	0.0001	0.590	0.416	0.412	0.575	0.505	0.487	0.727	0.368	0.910	1.016	0.855
A_CVA	0.161	0.368	0.0001	(0.165)	(0.179)	<u>(</u> 0.226)	(0.164)	(0.300)	(0.112)	(0.210)	(0.291)	(0.025)	(0.050)	(0.051)
A_ALZH	0.182	0.385	0.0001	(0.162)	(0.092)	(0.074)	(0.007)	(0.121)	(0.289)	(0.161)	(0.232)	(0.230)	(0.209)	<u>(</u> 0.314)
A_DEMT	0.518	0.500	0.0001	0.117	0.135	0.221	0.163	0.266	(0.097)	0.173	0.176	0.142	(0.041)	0.053
C_MSUN	0.229	0.420	0.0001	0.193	0.170	0.077	0.111	0.100	0.315	0.191	0.152	0.347	0.262	0.225
C_EATING	1.257	1.348	0.0001	0.169	0.171	0.154	0.140	0.186	0.218	0.161	0.217	0.172	0.120	0.200
C_EATING_Miss	0.000	0.006	0.0590	2.028	(6.333)	(6.570)	(6.836)	(5.988)	-	20.689	-	-	(6.758)	(7.094)
					n>	236,171	E(	(QIQM)>	0.026	Stdev(	QIQM)>	0.160		

MN_PAI1	Decreas	e in Pain	when Adı	mitted on	a Pain Me	dication F	Regimen (	Short Stag	y)					
Ma	del p-value	/ R-Sq>	0.9887	0.0%	0.4%	0.2%	0.1%	0.9%	0.2%	0.4%	0.3%	0.1%	0.5%	0.6%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			0.395	0.545	0.327	0.381	0.304	0.352	0.631	0.386	0.362	0.428	0.258
A_ARTHR	0.399	0.490	0.9021	(0.006)	(0.238)	0.130	0.021	(0.108)	(0.113)	(0.175)	0.158	(0.004)	0.060	0.168
A_CANCER	0.085	0.279	0.9345	0.007	(0.197)	0.184	0.200	(0.726)	0.292	(0.343)	(0.231)	(0.212)	0.626	0.452
					n>	7,047	E	(QIQM)>	0.597	Stdev	(QIQM)>	0.491		

MN_PAI2		Prevale	nce of Re	sidents W	ho Report	Moderate	to Severe	e Pain (Sh	nort Stay)						
	Model	p-value /	′ R-Sq>	0.0001	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Covariate		E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT		1.000	-		(1.173)	(1.114)	(1.149)	(1.116)	(1.116)	(1.208)	(1.174)	(1.224)	(1.138)	(1.298)	(1.209)
A_ARTHR		0.092	0.289	0.0001	(0.127)	(0.121)	(0.194)	(0.190)	(0.202)	(0.116)	(0.064)	0.001	(0.115)	(0.074)	(0.172)
A_CANCER		0.026	0.159	0.0074	(0.119)	(0.042)	0.063	(0.183)	(0.132)	(0.145)	(0.166)	0.011	(0.177)	(0.300)	(0.183)
	•					n>	121,228	E(	(QIQM)>	0.234	Stdev	(QIQM)>	0.423		

MN_PAI3	Prevale	nce of Re	sidents W	ho Report	Moderate	to Sever	e Pain (Lo	ong Stay)						
Мос	lel p-value ,	/ R-Sq>	0.0001	0.4%	0.3%	0.5%	0.5%	0.5%	0.3%	0.4%	0.5%	0.3%	0.3%	0.4%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(1.916)	(1.833)	(1.914)	(1.921)	(1.900)	(1.889)	(1.911)	(1.957)	(1.944)	(1.969)	(1.954)
A_ARTHR	0.270	0.444	0.0001	0.362	0.321	0.422	0.424	0.403	0.324	0.338	0.446	0.285	0.320	0.365
A_CANCER	0.038	0.190	0.0001	0.190	0.322	0.083	0.192	0.151	0.240	0.401	(0.042)	0.272	0.174	0.131
					n>	190,424	E(	(QIQM)>	0.142	Stdev	(QIQM)>	0.349		

MN_PRUA	Prevale	nce of Ne	w or Wor	sening Pre	ssure UIc	ers (Short	Stay)							
Mode	l p-value /	′ R-Sq>	0.0001	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	1.2%	2.4%	2.3%	2.2%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(6.832)	-	-		-	-	(5.558)	(5.047)	(6.480)	(7.898)	(7.977)
FEMALE	76.658	12.213	0.2628	0.005			<u> </u>	<u> </u>	_	(0.006)	(0.001)	0.010	0.013	0.013
AGE	0.3	0.2	0.0008	0.403					<u> </u>	0.930	0.158	0.247	0.403	0.273
	0.001	0.025	0.0188	1.830					<u> </u>	(11.453)	(14.419)	(7.104)	(8.870)	(9.581)
P_TRANSFER	0.747	1.293	0.0241	0.376	-		-	-	-	(0.042)	0.049	0.241	0.324	0.825
P_TRANSFER_Miss	0.730	0.444	0.9781	6.517					<u> </u>	0.707	(0.152)	6.843	1.541	1.154
C_TERM	0.056	0.229	0.0001	2.529					<u> </u>	2.432	2.805	2.494	2.669	2.459
P_BED_MOB	0.727	1.263	0.8193	0.041	-	_				0.299	0.041	(0.041)	0.197	(0.307)
P_BED_MOB_Miss	0.730	0.444	0.9813	(5.573)				-		-		(6.910)	-	_
A_ULC_RES	0.627	0.484	0.0077	(0.266)						(0.336)	(0.182)	<u>(</u> 0. <u>501</u> )	(0.462)	0.255
P_PRUX	0.032	0.175	0.0066	0.521	-					0.867	0.566	0.669	0.100	0.224
A_MALN	0.014	0.118	0.0007	0.876	-	-	-	-	-	0.216	0.970	1.572	0.736	0.742
					n>	58,220	E	(QIQM)>	0.007	Stdev	(QIQM)>	0.085		

MN_PRUB		Percent	of High-R	lisk Reside	ents with F	Pressure U	lcers (Lor	ng Stay)							
/	Model	l p-value /	/ R-Sq>	0.0001	12.6%	16.2%	14.0%	12.9%	10.7%	10.9%	13.2%	13.2%	11.8%	12.7%	12.7%
Covariate		E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT		1.000			(2.070)	(2.550)	(2.191)	(2.164)	(1.911)	(2.062)	(1.834)	(1.973)	(2.086)	(1.714)	(2.216)
FEMALE		83.388	11.405	0.0001	(0.018)	(0.009)	( <u>0.01</u> 5)	(0.018)	(0.021)	(0.017)	(0.021)	(0.021)	(0.019)	(0.022)	(0.018)
AGE		8.7	11.4	0.0001	(0.016)	(0.009)	(0.014)	(0.015)	(0.010)	(0.021)	(0.026)	(0.019)	(0.024)	(0.021)	(0.011)
		0.002	0.049	0.4400	(0.180)	0.513	0.577	(12.642)	0.429	(1.172)	(0.987)	(0.860)	(0.838)	(0.453)	(0.617)
C_TERM		0.053	0.224	0.0001	0.724	0.833	0.937	0.550	0.556	0.625	0.776	0.810	0.698	0.614	0.871
A_ULC_RES		0.098	0.298	0.0001	2.613	2.918	2.662	2.685	2.468	2.419	2.627	2.686	2.573	2.599	2.664
P_PRUX		0.710	0.454	0.0004	(0.093)	(0.268)	(0.120)	(0.135)	0.015	0.014	(0.079)	(0.153)	0.063	(0.118)	(0.154)
						n>	170,025	E	(QIQM)>	0.049	Stdev	(QIQM)>	0.215		

MN_PRUC	Incidend	ce of Heal	led Pressu	ire Ulcers	(Long Sta	y)								
Ma	odel p-value /	/ R-Sq>	0.0001	3.7%	2.1%	3.0%	4.1%	3.4%	2.4%	4.3%	6.1%	6.6%	6.6%	4.8%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			(0.898)	(0.936)	0.006	(0.649)	(1.048)	(0.282)	(0.755)	(1.105)	(1.662)	(1.421)	(1.109)
FEMALE	0.627	0.484	0.0011	(0.109)	(0.214)	(0.036)	(0.133)	(0.219)	(0.077)	0.149	(0.078)	(0.334)	(0.056)	(0.112)
AGE	80.1	13.1	0.0942	0.002	0.004	(0.007)	0.000	0.005	(0.005)	(0.002)	0.003	0.012	0.005	0.003
LOSQ	4.1	8.4	0.0001	0.052	0.031	0.043	0.051	0.046	0.040	0.057	0.085	0.070	0.075	0.062
C_COMA	0.003	0.054	0.4412	0.233	0.169	0.268	(0.328)	0.917	(0.075)	1.430	0.060	0.138	(2.209)	0.298
C_TERM	0.079	0.270	0.2379	(0.070)	(0.229)	(0.057)	0.273	(0.142)	0.122	(0.100)	0.121	(0.400)	(0.221)	<u>(0.193</u> )
					n>	17,897	E	(QIQM)>	0.356	Stdev	QIQM)>	0.479		

MN_RES1	Prevale	nce of Ph	ysical Res	straints (Lo	ong Stay)									
Mod	el p-value /	/ R-Sq>	0.0001	0.7%	0.5%	0.6%	0.4%	0.6%	0.7%	0.8%	0.6%	1.1%	1.0%	1.1%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000			(2.451)	(2.158)	(2.230)	(2.444)	(2.194)	(2.445)	(2.437)	(3.118)	(2.657)	(2.717)	(2.299)
FEMALE	0.694	0.461	0.3705	0.043	0.057	0.191	0.121	0.113	0.016	(0.055)	(0.012)	(0.067)	(0.007)	(0.016)
AGE	82.9	11.6	0.0001	(0.032)	(0.033)	(0.034)	(0.031)	(0.036)	(0.033)	(0.032)	(0.024)	(0.030)	(0.031)	(0.038)
LOSQ	8.6	11.4	0.0001	0.013	0.008	0.007	0.011	0.014	0.014	0.014	0.016	0.017	0.019	0.019
RES1_ADJ	0.062	0.240	0.0001	1.412	1.157	1.416	1.223	1.385	1.336	1.511	1.437	1.682	1.527	1.518
					n>	236,243	E	(QIQM)>	0.009	Stdev	(QIQM)>	0.093		

MN_WGT1	Prevale	nce of Un	explained	l Weight L	oss (Long	Stay)								
Mode	el p-value /	′ R-Sq>	0.0001	1.0%	1.2%	1.0%	0.9%	1.0%	1.3%	1.0%	1.0%	1.1%	1.3%	1.1%
Covariate	E(Cov)	Std(Cov)	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000			(2.818)	(3.081)	(2.674)	(3.022)	(2.852)	(2.956)	(3.169)	(2.560)	(2.235)	(2.987)	(2.676)
FEMALE	0.692	0.462	0.1871	0.027	0.135	0.073	0.046	<u>(0.052</u> )	0.058	0.037	0.055	(0.049)	(0.017)	(0.014)
AGE	82.8	11.7	0.0001	0.007	0.008	0.005	0.008	0.006	0.007	0.009	0.002	0.001	0.012	0.008
LOSQ	8.7	11.6	0.0001	(0.035)	(0.036)	(0.037)	(0.038)	(0.042)	(0.032)	(0.026)	(0.041)	(0.038)	(0.033)	(0.032)
C_CPS	1.82	1.93	0.0726	(0.012)	0.002	(0.026)	0.014	0.013	0.009	(0.017)	(0.022)	(0.004)	(0.027)	(0.070)
C_BIMS	7.6	5.7	0.0001	(0.047)	(0.036)	(0.047)	(0.039)	(0.032)	(0.046)	(0.044)	(0.042)	(0.052)	(0.062)	<u>(</u> 0.068)
C_BIMS_Miss	0.208	0.406	0.0001	0.221	0.294	0.213	0.192	0.301	0.238	0.257	0.264	0.199	0.106	0.166
C_COMA	0.002	0.040	0.0011	(1.351)	(0.318)	(11.011)	0.271	(11.155)	(11.012)	(10.946)	(10.934)	(11.139)	(10.717)	(0.649)
A_CANCER	0.031	0.174	0.0001	0.388	0.415	0.520	0.189	0.183	0.785	0.596	0.399	0.362	0.335	<u>(</u> 0.049)
	_CANCER 0.031				n>	222,243	E	(QIQM)>	0.058	Stdev(	QIQM)>	0.234		

## Table A7 - Minnesota QIQM Ordinary Least Squares Regression Results – Overall and by Quarter

Fit to 2011-Q1 through 2013-Q2 Wisconsin NH Data

MN_ADLA	Incidend	e of Wor	sening or	Serious F	unctional	Depende	nce (Long	Stay)							
Model p-v	alue / R-S	quared>		<.0001	6.2%	6.2%	6.4%	6.5%	6.6%	6.6%	6.0%	6.5%	5.8%	6.4%	5.6%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.2257	0.2160	0.2267	0.2179	0.2618	0.2244	0.2216	0.1946	0.2299	0.2397	0.2254
FEMALE	0.693	0.461	0.00%	0.3828	0. <u>001</u> 3	0.0009	0.0017	0.0049	0.0002	0.0004	0.0059	0.0006	(0.0023)	(0.0042)	0.0036
AGE	82.8	11.6	0.05%	0.0000	0.0006	0.0006	0.0006	0.0007	0.0005	0.0008	0.0005	0.0006	0.0004	0.0007	0.0005
	8.7	11.6	0.16%	0.0000	(0.0011)	(0.0011)	<u>(0.0011)</u>	(0.0012)	(0.0009)	(0.0010)	(0.0011)	(0.0013)	(0.0011)	(0.0009)	(0.0010)
C_CPS	1.82	1.92	0.06%	0.0000	0.0041	0.0064	0.0043	0.0031	0.0027	0.0045	0.0053	0.0070	0.0036	0.0017	0.0015
C_BIMS	7.6	5.7	1.19%	0.0000	(0.0059)	(0.0058)	(0.0060)	(0.0063)	(0.0075)	(0.0058)	(0.0055)	(0.0041)	(0.0054)	(0.0070)	(0.0058)
C_BIMS_Miss	0.208	0.406	0.01%	0.0004	0.0080	0.0137	0.0114	0.0124	(0.0061)	0.0088	0.0069	0.0145	0.0092	(0.0031)	0.0059
A_CVA	0.161	0.367	0.01%	0.0007	0.0069	0.0035	0.0126	0.0054	0.0048	0.0160	0.0019	0.0079	(0.0104)	0.0144	0.0125
A_PARAP	0.009	0.093	0.01%	0.0000	0.0284	0.0184	(0.0043)	0.0420	0.0276	0.0189	0.0416	0.0250	0.0127	0.0485	0.0482
A_HEMIP	0.095	0.294	0.00%	0.3238	0.0026	0.0026	(0 <u>.007</u> 5)	0.0007	0.0034	0.0102	0.0003	(0.0011)	0.0086	0.0070	0.0010
A_PARK	0.074	0.261	0.03%	0.0000	0.0205	0.0371	0.0218	0.0212	0.0192	0.0237	0.0177	0.0159	0.0191	0.0056	0.0237
A_ALZH	0.178	0.383	0.00%	0.3476	(0.0017)	(0.0000)	(0.0068)	0.0052	(0.0010)	0.0029	0.0010	0.0019	(0.0032)	(0.0070)	(0.0118)
P_TRANSFER	2.424	1.304	1.16%	0.0000	(0.0257)	(0.0220)	<u>(0.0133)</u>	(0.0205)	(0.0311)	(0.0196)	(0.0339)	(0.0308)	(0.0207)	(0.0347)	(0.0325)
P_TRANSFER_Miss	0.000	0.006	0.01%	0.0044	(0.4482)		(0.9824)			(0.0473)	(0.2174)	(0.2305)			-
P_BED_MOB	2.346	1.282	1.91%	0.0000	(0.0335)	(0.0375)	(0.0454)	(0.0393)	(0.0312)	(0.0355)	(0.0304)	(0.0328)	(0.0381)	(0.0184)	(0.0191)
P_BED_MOB_Miss	0.000	0.008	0.00%	0. <u>864</u> 8	<u>(</u> 0. <u>018</u> 3)	(0.2163)	0.7874	(0.2175)		(0.1603)	<u>(0.1672)</u>	(0.1354)			
P_EATING	1.143	1.302	1.80%	_	(0.0320)	(0.0361)	(0.0286)	(0.0311)	(0.0324)	(0.0353)	(0.0309)	(0.0300)	(0.0316)	(0.0355)	(0.0276)
P_EATING_Miss	0.000	0.006	0.00%	0.1528	0.1910		-	(0.0578)	(0.1078)	(0.0612)	-	0.6809			-
P_TOILET	2.593	1.194	0.58%	0.0000	0.0197	0.0233	0.0163	0.0198	0.0215	0.0118	0.0276	0.0250	0.0233	0.0138	0.0120
P_TOILET_Miss	0.000	0.007	0.00%	0.1713	0.1546	-	-	1.0401	(0.0001)	(0.0356)	(0.0420)	(0.5245)	0.0408	-	
COLLINEARITY			-0.74%			n>	218,914	E(	QIQM)>	0.108	Stdev	(QIQM)>	0.311		

MN_ADLB	Incidend	ce of Impr	oved or	Maintaine	d Function	al Indepe	ndence (L	ong Stay	)						
Model p-v	alue / R-S	quared>		<.0001	3.4%	3.4%	3.8%	3.5%	3.2%	3.5%	3.6%	3.2%	3.1%	3.4%	3.4%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000			<u> </u>	0.4661	0.4172	0.4978	0.4315	0.4393	0.4836	0.4859	0.4703	0.4422	0.4865	0.5070
FEMALE	0.693	0.461	0.03%	0.0000	<u>(</u> 0.0179)	(0.0087)	(0.0274)	(0.0136)	(0.0149)	(0.0225)	(0.0295)	(0.0125)	(0.0245)	(0.0063)	<u>(0.0171)</u>
AGE	82.8	11.6	0.25%	0.0000	(0.0020)	(0.0018)	(0.0024)	(0.0016)	(0.0018)	(0.0020)	(0.0020)	(0.0021)	(0.0016)	(0.0023)	(0.0020)
	8.7	11.6	<u>0.18%</u>	0.0000	(0.0017)	(0.0012)	<u>(0.0018)</u>	(0.0013)	(0.0022)	(0.0015)	(0.0016)	(0.0016)	(0.0017)	(0.0018)	(0.0021)
C_CPS	1.82	1.92	0.20%	0.0000	(0.0107)	(0.0087)	(0.0102)	(0.0132)	(0.0082)	(0.0158)	(0.0102)	(0.0105)	(0.0107)	(0.0085)	(0.0106)
C_BIMS	7.6	5.7	1.05%	0.0000	0.0082	0.0095	0.0090	0.0084	0.0086	0.0069	0.0083	0.0082	0.0079	0.0078	0.0075
C_BIMS_Miss	0.208	0.406	0.01%	0.0007	(0.0113)	(0.0127)	(0.0094)	(0.0103)	(0.0073)	(0.0117)	(0.0035)	(0.0066)	(0.0055)	(0.0133)	(0.0320)
A_CVA	0.161	0.367	0.00%	0.2235	(0.0037)	0.0067	(0.0095)	0.0095	(0.0081)	(0.0185)	(0.0001)	0.0096	0.0003	(0.0052)	(0.0226)
A_PARAP	0.009	0.093	0.03%	0.0000	(0.0818)	(0.0718)	(0.1117)	(0.0356)	(0.0852)	(0.0890)	(0.0815)	(0.0768)	(0.0800)	(0.0866)	(0.1017)
	0.002	0.040	0.03%	0.0000	(0.1901)	<u>(0.1496)</u>	<u>(0.2443)</u>	<u>(0.2150)</u>	(0.1469)	(0.1902)	(0.2229)	(0.2114)	<u>(0.1635)</u>	(0.2400)	(0.1202)
A_HEMIP	0.095	0.294	0.05%	0.0000	(0.0364)	(0.0436)	(0.0409)	(0.0301)	(0.0307)	(0.0150)	(0.0485)	<u>(0.0411)</u>	(0.0459)	(0.0525)	(0.0171)
A_PARK	0.074	0.261	0.12%	0.0000	(0.0609)	(0.0729)	(0.0417)	(0.0649)	(0.0388)	(0.0679)	(0.0786)	(0.0476)	(0.0672)	(0.0663)	(0.0632)
A_ALZH	0.178	0.383	0.01%	0.0000	(0.0127)	(0.0064)	(0.0014)	(0.0106)	(0.0055)	(0.0115)	(0.0345)	(0.0107)	(0.0162)	(0.0261)	(0.0063)
COLLINEARITY			1.40%			n>	218,914	E	(QIQM)>	0.304	Stdev	QIQM)>	0.460		

MN_BEHA	Incident	ce of Wor	sening o	r Serious I	Resident B	ehavior S	ymptoms	(Long Sta	y)						
Model p-v	, /alue / R-S	quared>		<.0001	1.0%	1.3%	1.2%	1.0%	1.3%	1.1%	1.0%	1.1%	1.0%	1.0%	1.0%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.0591	0.0584	0.0668	0.0674	0.0678	0.0616	0.0487	0.0460	0.0590	0.0581	0.0566
FEMALE	0.695	0.460	0.01%	0.0000	(0.0031)	(0.0034)	(0.0054)	(0.0041)	0.0001	(0.0026)	(0.0043)	(0.0010)	(0.0038)	(0.0027)	(0.0037)
AGE	83.0	11.5	0.10%	0.0000	(0.0004)	(0.0003)	(0.0004)	(0.0004)	(0.0005)	(0.0004)	(0.0003)	(0.0003)	(0.0004)	(0.0003)	(0.0003)
	8.6	11.4	0.00%	0.0049	0.0001	0.0005	0.0002	(0.0000)	0.0001	0.0000	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
C_CPS	1.87	1.94	0.05%	0.0000	(0.0015)	(0.0033)	(0.0031)	(0.0016)	(0.0022)	(0.0010)	(0.0003)	(0.0007)	0.0006	(0.0018)	<u>(0.0017)</u>
C_BIMS	7.4	5.8	0.82%	0.0000	(0.0020)	(0.0023)	(0.0024)	(0.0021)	(0.0022)	(0.0021)	(0.0015)	(0.0019)	(0.0017)	(0.0020)	(0.0021)
C_BIMS_Miss	0.221	0.415	0.01%	0.0012	0.0030	0.0039	0.0022	0.0009	0.0057	0.0006	0.0092	0.0027	(0.0008)	0.0045	0.0010
A_CVA	0.161	0.367	0.01%	0.0001	(0.0029)	(0.0052)	(0.0057)	(0.0051)	(0.0034)	0.0007	0.0007	(0.0006)	(0.0041)	(0.0032)	(0.0037)
A_ALZH	0.183	0.386	0.05%	0.0000	0.0071	0.0080	0.0089	0.0068	0.0089	0.0096	0.0080	0.0084	0.0047	0.0063	0.0009
A_DEMT	0.520	0.500	0.02%	0.0000	0.0036	0.0038	0.0037	0.0053	0.0010	0.0063	0.0026	0.0020	0.0018	0.0015	0.0075
C_MSUN	0.229	0.420	0.00%	0.1721	0.0010	0.0007	(0.0045)	(0.0002)	0.0049	0.0011	(0.0001)	0.0052	(0.0010)	0.0020	0.0024
A_DEPR	0.572	0.495	0.02%	0.0000	0.0033	0.0034	0.0008	0.0015	0.0031	0.0025	0.0017	0.0073	0.0046	0.0024	0.0063
A_BIPOLAR	0.027	0.163	0.04%	0.0000	0.0162	0.0158	0.0261	0.0074	0.0193	0.0193	0.0106	0.0234	0.0162	0.0157	0.0086
C_UNDS	0.303	0.459	0.00%	0.0097	0.0018	(0.0006)	0.0041	0.0037	0.0009	0.0022	0.0007	(0.0026)	0.0044	0.0043	0.0009
COLLINEARITY			-0.13%			n>	232,322	E	(QIQM)>	0.017	Stdev	(QIQM)>	0.128		

MN_CAT2	Prevale	nce of Ind	lwelling	Catheter (	Long Stay	)									
Model p-v	alue / R-S	quared>		<.0001	2.6%	2.5%	2.8%	2.6%	2.6%	2.7%	2.1%	2.5%	2.6%	2.7%	2.8%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000	-			0.1147	0.1390	0.1395	0.1405	0.1228	0.1138	0.1111	0.0994	0.0963	0.0960	0.0847
FEMALE	0.704	0.457	0.84%	-	(0.0398)	(0.0390)	(0.0378)	(0.0389)	(0.0399)	(0.0380)	(0.0409)	(0.0384)	(0.0430)	(0.0397)	(0.0437)
AGE	83.1	11.4	0.07%	0.0000	(0.0005)	(0.0007)	(0.0008)	(0.0008)	(0.0006)	(0.0005)	(0.0004)	(0.0003)	(0.0002)	(0.0003)	(0.0001)
LOSQ	8.6	11.4	0.36%	0.00000	(0.0010)	(0.0011)	(0.0011)	(0.0010)	(0.0011)	(0.0010)	(0.0009)	(0.0011)	(0.0011)	(0.0010)	(0.0011)
A_CVA	0.160	0.366	0.00%	0.1013	0.0019	0.0046	0.0029	0.0072	0.0025	(0.0006)	(0.0003)	0.0033	0.0009	(0.0060)	0.0046
A_PARAP	0.005	0.068	0.77%	-	0.2561	0.2461	0.2635	0.2661	0.2327	0.3059	0.2143	0.2499	0.2626	0.2771	0.2366
A_QUADP	0.005	0.071	0.21%	0.0000	0.1275	0.1381	0.1698	0.1149	0.1538	0.0981	0.0694	0.1237	0.1127	0.1096	0.1731
COLLINEARITY			0.32%			n>	211,219	E	(QIQM)>	0.041	Stdev	(QIQM)>	0.199		

MN_CNT4	Prevale	nce of Uri	nary Tra	ct Infectio	n (Long St	ay)									
Model p-v	, value / R-S	quared>		<.0001	1.0%	1.1%	1.0%	1.0%	1.0%	1.2%	1.0%	1.0%	1.1%	1.0%	1.5%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000				0.0583	0.0700	0.0584	0.0608	0.0686	0.0532	0.0407	0.0484	0.0725	0.0455	0.0627
FEMALE	0.692	0.462	0.07%	0.0000	0.0136	0.0193	0.0205	0.0186	0.0132	0.0103	0.0168	0.0106	0.0076	0.0054	0.0108
AGE	82.8	11.7	0.00%	0.0028	(0.0001)	(0.0003)	(0.0001)	(0.0001)	(0.0002)	(0.0001)	0.0000	(0.0001)	(0.0003)	(0.0000)	(0.0003)
	8.7	11.6	0.59%	0.0000	(0.0016)	(0.0016)	(0.0017)	(0.0016)	(0.0017)	(0.0017)	(0.0016)	(0.0015)	(0.0015)	(0.0014)	(0.0016)
A_CVA	0.161	0.367	0.00%	0.1245	0.0021	0.0051	0.0026	0.0074	0.0014	0.0079	0.0039	0.0050	(0.0021)	(0.0008)	(0.0109)
A_PARAP	0.009	0.094	0.08%	0.0000	0.0732	0.0414	0.0668	0.0800	0.0640	0.0901	0.0249	0.0584	0.0907	0.1109	0.1027
C_LOCOM_ON	2.065	1.511	0.24%	0.0000	0.0077	0.0087	0.0073	0.0074	0.0073	0.0090	0.0076	0.0071	0.0072	0.0072	0.0095
C_LOCOM_ON_Miss	0.000	0.012	0.00%	0.7284	(0.0150)	0.0313	(0.0569)	(0.0640)	(0.0518)	0.0081	(0.0436)	<u>(0.0797)</u>	<u>(0.0411)</u>	0.2056	(0.0435)
A_QUADP	0.009	0.095	0.08%	0.0000	0.0708	0.0325	0.0555	0.0725	0.0813	0.0990	0.0730	0.0771	0.0608	0.0523	0.1026
COLLINEARITY			-0.03%			n>	222,243	E	(QIQM)>	0.060	Stdev	(QIQM)>	0.238		

MN_CNTA	Inciden	ce of Wor	sening o	r Serious I	Bowel Inco	ontinence	(Long Sta	ıy)							
Model p-v	alue / R-S	quared>		<.0001	18.6%	19.0%	19.7%	20.1%	18.8%	17.8%	18.6%	18.3%	18.4%	17.7%	17.8%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000	-			0.2355	0.2343	0.2533	0.2506	0.2342	0.2132	0.2494	0.2216	0.2427	0.2125	0.2418
FEMALE	0.697	0.459	0.03%	0.0000	(0.0169)	(0.0123)	(0.0244)	(0.0249)	(0.0215)	(0.0071)	(0.0102)	(0.0147)	(0.0224)	(0.0194)	(0.0128)
AGE	83.2	11.3	0.71%		(0.0033)	(0.0032)	(0.0037)	(0.0034)	(0.0035)	(0.0034)	(0.0035)	(0.0031)	(0.0032)	(0.0029)	(0.0033)
	8.7	11.4	0.08%	0.0000	0.0011	0.0003	0.0010	0.0013	0.0013	0.0014	0.0012	0.0013	0.0012	0.0010	0.0009
C_CPS	1.83	1.92	1.11%	0.0000	0.0246	0.0233	0.0264	0.0240	0.0260	0.0275	0.0226	0.0252	0.0240	0.0235	0.0226
C_BIMS	7.6	5.7	0.02%	0.0001	(0.0012)	(0.0010)	(0.0001)	(0.0020)	0.0002	0.0007	(0.0016)	(0.0018)	(0.0024)	(0.0019)	(0.0020)
C_BIMS_Miss	0.209	0.406	1.37%	<u> </u>	0.1286	0.1444	0.1289	0.1268	0.1350	0.1323	0.1368	0.1258	0.1186	0.1185	0.1184
C_LOCOM_ON	2.063	1.504	1.22%		0.0327	0.0328	0.0332	0.0327	0.0335	0.0326	0.0307	0.0311	0.0341	0.0310	0.0354
C_LOCOM_ON_Miss	0.000	0.012	0.00%	0.4395	0.0638	<u>(0.1933)</u>	0.8967	(0.1032)	(0.1429)	0.7185	(0.0094)	(0.1583)	(0.1087)	0.0705	0.1930
C_BED_MOB	2.357	1.281	0.07%	0.0000	0.0093	0.0134	0.0117	0.0103	0.0089	0.0124	0.0031	0.0062	0.0061	0.0105	0.0091
C_BED_MOB_Miss	0.000	0.008	0.00%	0.9597	0.0069		0.1014		0.3391	(0.3648)	0.3862				(0.3391)
C_TRANSFER	2.422	1.308	4.01%		0.0683	0.0612	0.0670	0.0690	0.0673	0.0641	0.0743	0.0724	0.0705	0.0711	0.0672
C_TRANSFER_Miss	0.000	0.005	0.00%	0.3660	(0.1887)	-	-	-	(0.3320)	-	(0.2531)	-	-	-	(0.0064)
COLLINEARITY			9.98%			n>	211,767	E	(QIQM)>	0.274	Stdev	(QIQM)>	0.446		

MN_CNTB	Inciden	ce of Wor	sening o	r Serious I	Bladder In	continenc	e (Long S	tay)							
Model p-v	, /alue / R-S	quared>		<.0001	12.4%	13.2%	13.1%	12.9%	12.3%	12.5%	12.4%	12.4%	12.0%	11.9%	11.8%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.1579	0.1672	0.1442	0.1834	0.1989	0.1579	0.1412	0.1130	0.1462	0.1694	0.1492
FEMALE	0.697	0.459	0.02%	0.0000	0.0139	0.0083	0.0209	0.0095	0.0107	0.0238	0.0081	0.0185	0.0102	0.0131	0.0131
AGE	83.2	11.3	0.41%	0.0000	(0.0025)	(0.0022)	(0.0024)	(0.0024)	(0.0029)	(0.0027)	(0.0023)	(0.0022)	(0.0025)	(0.0026)	(0.0024)
	8.7	11.4	0.13%	0.0000	0.0014	0.0014	0.0013	0.0014	0.0013	0.0016	0.0011	0.0013	0.0014	0.0016	0.0014
C_CPS	1.83	1.92	1.54%	-	0.0280	0.0224	0.0278	0.0259	0.0277	0.0311	0.0315	0.0332	0.0288	0.0244	0.0269
C_BIMS	7.6	5.7	0.12%	0.0000	0.0026	0.0009	0.0025	0.0006	0.0029	0.0042	0.0028	0.0044	0.0031	0.0023	0.0029
C_BIMS_Miss	0.209	0.406	2.16%		0.1566	0.1535	0.1522	0.1411	0.1534	0.1752	0.1513	0.1681	0.1510	0.1636	0.1551
C_LOCOM_ON	2.063	1.504	0.63%	0.0000	0.0229	0.0277	0.0232	0.0231	0.0235	0.0197	0.0205	0.0236	0.0208	0.0229	0.0252
C_LOCOM_ON_Miss	0.000	0.012	0.00%	0.9845	0.0016	(0.2687)	0.8535	(0.1324)	(0.1390)	0.7230	(0.2365)	<u>(0</u> .1512)	(0.1304)	(0.1390)	0.2512
C_BED_MOB	2.357	1.281	0.01%	0.0231	(0.0035)	(0.0036)	0.0021	(0.0043)	(0.0015)	(0.0034)	(0.0073)	(0.0012)	(0.0027)	(0.0047)	(0.0064)
C_BED_MOB_Miss	0.000	0.008	0.00%	0.5502	(0.0815)	-	0.0845	-	0.3793	(0.3606)	(0.1805)	-	-	-	(0.3490)
C_TRANSFER	2.422	1.308	2.70%	0.0000	0.0543	0.0539	0.0518	0.0569	0.0506	0.0543	0.0593	0.0488	0.0555	0.0558	0.0548
C_TRANSFER_Miss	0.000	0.005	0.00%	0.7959	0.0543	-	-	-	0.0738	-	0.0908	-	-	-	(0.0877)
COLLINEARITY			4.70%			n>	211,767	E	(QIQM)>	0.249	Stdev	QIQM)>	0.433		

MN_CNTC	Incident	ce of Impr	oved or	Maintaine	d Bowel C	ontinence	e (Long St	ay)							
Model p-v	, /alue / R-S	quared>		<.0001	27.6%	28.1%	28.4%	29.0%	27.9%	27.1%	27.3%	27.3%	27.3%	27.0%	26.8%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000	-			0.5941	0.5777	0.5718	0.6005	0.6032	0.5882	0.5496	0.5808	0.6272	0.6286	0.6164
FEMALE	0.695	0.461	0.07%	0.0000	0.0280	0.0285	0.0292	0.0339	0.0277	0.0224	0.0270	0.0292	0.0350	0.0258	0.0216
A <u>GE</u>	82.9	11.5	0.45%	0.0000	0.0029	0.0028	0.0033	0.0029	0.0029	0.0031	0.0034	0.0029	0.0025	0.0025	0.0027
	8.7	11.6	0.14%	0.0000	(0.0016)	(0.0013)	<u>(0.0012)</u>	(0.0016)	(0.0016)	(0.0020)	(0.0018)	(0.0018)	(0.0019)	(0.0017)	(0.0014)
C_CPS	1.82	1.92	0.22%	0.0000	(0.0123)	(0.0127)	(0.0169)	(0.0141)	(0.0126)	(0.0136)	(0.0083)	(0.0087)	(0.0124)	(0.0117)	<u>(0.0109)</u>
C_BIMS	7.6	5.7	2.54%		0.0138	0.0144	0.0124	0.0134	0.0128	0.0129	0.0146	0.0150	0.0141	0.0149	0.0137
C_BIMS_Miss	0.209	0.406	0.26%	0.0000	(0.0622)	(0.0695)	<u>(0.0782)</u>	(0.0745)	(0.0710)	(0.0723)	(0.0592)	(0.0546)	(0.0438)	(0.0348)	(0.0615)
C_LOCOM_ON	2.066	1.508	1.06%		(0.0340)	(0.0299)	(0.0292)	(0.0317)	(0.0364)	(0.0365)	(0.0345)	(0.0372)	(0.0363)	(0.0337)	(0.0353)
C_LOCOM_ON_Miss	0.000	0.012	0.00%	0.0005	(0.2952)	0.3537	(0.7597)	(0.5815)	<u>(0.1745)</u>	<u>(0.4796)</u>	0.0455	<u>(0.2980</u> )	0.2722	(0.1110)	(0.2077)
C_BED_MOB	2.370	1.280	1.06%	0.0000	(0.0401)	(0.0362)	(0.0401)	(0.0387)	(0.0357)	(0.0442)	(0.0403)	(0.0418)	(0.0340)	(0.0486)	(0.0440)
C_BED_MOB_Miss	0.000	0.008	0.00%	0.0287	(0.3129)		(0.3475)		(0.1921)	(0.5445)	(0.6623)				(0.0707)
C_TRANSFER	2.437	1.309	4.89%		(0.0842)	(0.0856)	(0.0852)	(0.0869)	(0.0862)	(0.0757)	(0.0848)	(0.0815)	(0.0915)	(0.0810)	(0.0821)
C_TRANSFER_Miss	0.000	0.005	0.00%	0.6977	0.0854	-	-	-	(0.3838)	-	(0.0179)	-	-	-	(0.4697)
COLLINEARITY			16.90%			n>	214,777	E	(QIQM)>	0.538	Stdev	(QIQM)>	0.499		

MN_CNTD	Inciden	ce of Impr	oved or	Maintaine	d Bladder	Continen	ce (Long S	Stay)							
Model p-v	, value / R-S	quared>		<.0001	25.4%	25.4%	25.3%	25.5%	24.9%	24.9%	25.8%	25.7%	26.1%	25.5%	25.7%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.5916	0.5586	0.5782	0.5986	0.6019	0.6017	0.5798	0.5796	0.5969	0.5952	0.6236
FEMALE	0.693	0.461	0.01%	0.0000	(0.0083)	(0.0060)	(0.0141)	(0.0096)	(0.0091)	(0.0083)	(0.0119)	(0.0064)	(0.0087)	(0.0016)	(0.0075)
AGE	82.9	11.6	0.02%	0.0000	(0.0006)	(0.0004)	(0.0006)	(0.0009)	(0.0006)	(0.0006)	(0.0003)	(0.0006)	(0.0007)	(0.0006)	(0.0006)
	8.7	11.5	0.00%	0.0002	(0.0003)	(0.0001)	(0.0000)	(0.0004)	(0.0003)	(0.0007)	0.0001	(0.0002)	(0.0002)	(0.0006)	(0.0004)
C_CPS	1.81	1.92	0.01%	0.0040	0.0019	0.0016	0.0034	0.0027	0.0022	(0.0015)	0.0000	0.0031	0.0051	0.0027	0.0002
C_BIMS	7.6	5.7	2.63%		0.0125	0.0143	0.0129	0.0130	0.0110	0.0117	0.0124	0.0130	0.0134	0.0124	0.0107
C_BIMS_Miss	0.207	0.405	0.25%	0.0000	0.0540	0.0510	0.0449	0.0499	0.0499	0.0513	0.0595	0.0593	0.0692	0.0567	0.0512
C_LOCOM_ON	2.063	1.510	0.08%	0.0000	(0.0082)	(0.0075)	(0.0099)	(0.0069)	(0.0107)	(0.0083)	(0.0053)	(0.0091)	(0.0078)	(0.0079)	(0.0081)
C_LOCOM_ON_Miss	0.000	0.012	0.00%	0.1579	(0.1060)	0.4249	(0.3371)	(0.0764)	(0.2316)	(0. <u>133</u> 9)	(0.0840)	<u>(0</u> .4581)	0.1629	(0.1835)	0.0389
C_BED_MOB	2.370	<u>1.281</u>	<u>5.38%</u>	<u> </u>	(0.0798)	(0.0759)	<u>(0.0703)</u>	(0.0753)	(0.0767)	(0.0758)	(0.0707)	(0.0952)	(0.0928)	(0.0872)	(0.0824)
C_BED_MOB_Miss	0.000	0.008	0.00%	0.0367	(0.2681)	-	(0.5245)	-	(0.2748)	(0.4047)	(0.2431)	-	-	-	0.0799
C_TRANSFER	2.438	1.311	4.51%		(0.0714)	(0.0701)	(0.0753)	(0.0727)	(0.0729)	(0.0728)	(0.0850)	(0.0566)	(0.0639)	(0.0678)	(0.0750)
C_TRANSFER_Miss	0.000	0.005	0.00%	0.6010	(0.1030)	-	-	-	(0.0964)	-	(0.4026)	-	-	-	(0.7446)
COLLINEARITY			12.55%			n>	218,564	E	(QIQM)>	0.264	Stdev	(QIQM)>	0.441		

MN_CNTE	Prevaler	nce of Oc	casional	to Full Bla	adder Inco	ntinence	without a	Toileting	Plan (Lon	g Stay)					
Model p-v	alue / R-Se	quared>		<.0001	5.9%	5.3%	5.6%	6.0%	6.1%	6.0%	5.9%	5.4%	6.1%	6.1%	6.4%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000	-			0.4136	0.4170	0.4026	0.3743	0.4144	0.4171	0.4133	0.4364	0.4115	0.4180	0.4339
FEMALE	0.682	0.466	2.62%	-	0.1303	0.1209	0.1278	0.1254	0.1377	0.1331	0.1300	0.1285	0.1345	0.1266	0.1381
AGE	82.3	12.0	1.41%	-	0.0037	0.0037	0.0038	0.0042	0.0036	0.0036	0.0038	0.0034	0.0037	0.0038	0.0035
LOSQ	8.9	12.2	0.67%	0.0000	0.0025	0.0025	0.0024	0.0024	0.0026	0.0027	0.0024	0.0025	0.0027	0.0025	0.0025
COLLINEARITY	COLLINEARITY 1.		1.16%			n>	99,301	E	(QIQM)>	0.831	Stdev	(QIQM)>	0.374		

MN_CNTF	Prevale	nce of Oc	casional	to Full Bo	wel Incon	tinence w	ithout a T	oileting P	lan (Long	Stay)					
Model p-v	alue / R-S	quared>		<.0001	0.3%	0.4%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000	-			0.8876	0.9059	0.8771	0.9045	0.8866	0.8815	0.8842	0.8971	0.8880	0.8588	0.8934
FEMALE	0.699	0.459	0.01%	0.0062	0.0077	0.0185	(0.0048)	(0.0021)	0.0097	0.0193	0.0128	0.0019	0.0015	0.0070	0.0157
AGE	83.0	11.6	0.24%	0.0000	(0.0018)	(0.0025)	(0.0019)	(0.0021)	(0.0019)	(0.0019)	(0.0017)	(0.0018)	(0.0017)	(0.0012)	(0.0015)
LOSQ	9.5	12.1	0.07%	0.0000	0.0010	0.0008	0.0009	0.0010	0.0011	0.0011	0.0010	0.0010	0.0010	0.0012	0.0008
COLLINEARITY	2 9.5 12.1 0 OLLINEARITY -0.					n>	120,433	E	(QIQM)>	0.751	Stdev	(QIQM)>	0.432		

MN_DRG1	Prevale	nce of An	tipsychot	ic Medica	tions with	out a Diag	nosis of P	sychosis (	Long Stay	()					
Model p-v	alue / R-S	quared>		<.0001	0.5%	0.5%	0.6%	0.5%	0.6%	0.5%	0.5%	0.6%	0.5%	0.6%	0.5%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000	-			0.3242	0.3351	0.3361	0.3269	0.3379	0.3305	0.3286	0.3334	0.3009	0.3120	0.3031
FEMALE	0.697	0.459	0.04%	0.0000	(0.0148)	(0.0201)	(0.0247)	(0.0215)	(0.0209)	(0.0100)	(0.0135)	(0.0135)	(0.0102)	(0.0080)	(0.0071)
AGE	83.4	11.3	0.42%	0.0000	(0.0020)	(0.0020)	(0.0020)	(0.0019)	(0.0021)	(0.0021)	(0.0020)	(0.0022)	(0.0019)	(0.0021)	(0.0021)
LOSQ	8.2	10.4	0.00%	0.9550	0.0000	(0.0002)	(0.0001)	(0.0001)	(0.0001)	0.0001	0.0001	0.0003	0.0001	(0.0000)	0.0001
COLLINEARITY			0.06%			n>	193,997	E(	QIQM)>	0.145	Stdev	(QIQM)>	0.352		

MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)														
Model p-v	alue / R-S	quared>		<.0001	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%	0.2%	0.3%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.0092	0.0017	0.0059	0.0069	0.0015	0.0160	0.0097	0.0054	0.0140	0.0175	0.0152
FEMALE	0.694	0.461	0.02%	0.0000	0.0020	0.0000	0.0024	0.0020	0.0013	0.0015	0.0023	0.0026	0.0029	0.0037	0.0012
AGE	82.9	11.6	0.00%	0.0274	0.0000	0.0001	0.0000	0.0001	0.0001	(0.0000)	0.0000	0.0000	0.0000	(0.0001)	0.0001
LOSQ	8.6	11.4	0.02%	0.0000	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
C_CPS	1.88	1.95	0.00%	0.2348	(0.0001)	(0.0001)	0.0004	0.0000	0.0003	(0.0004)	(0.0005)	(0.0001)	(0.0001)	(0.0002)	(0.0011)
C_BIMS	7.4	5.8	0.05%	0.0000	(0.0003)	(0.0001)	(0.0001)	(0.0003)	(0.0001)	(0.0003)	(0.0004)	(0.0001)	(0.0005)	(0.0003)	(0.0006)
C_BIMS_Miss	0.222	0.416	<u>0.00%</u>	<u>0.75</u> 38	(0.0002)	(0.0011)	(0 <u>.001</u> 5)	(0. <u>001</u> 0)	(0.0002)	0.0019	0.0011	0.0018	<u>(0.0</u> 016)	(0.0011)	0.0001
A_CVA	0.161	0.368	0.00%	0.4194	(0.0004)	0.0011	0.0015	(0.0014)	0.0000	0.0012	(0.0026)	(0 <u>.000</u> 9)	(0.0019)	(0.0009)	(0.0002)
A_PARAP	0.009	0.093	0.00%	0.7593	(0.0005)	(0.0012)	(0.0031)	0.0029	(0.0022)	(0.0021)	(0.0024)	0.0011	(0.0031)	0.0018	0.0035
C_COMA	0.002	0.041	0.00%	0.0151	0.0091	(0.0013)	0.0190	0.0001	0.0429	0.0253	(0.0003)	(0.0017)	(0.0012)	(0.0012)	0.0005
	0.094	0.292	0.00%	0.1647	(0.0009)	(0.0019)	(0.0009)	(0.0004)	0.0006	(0.0031)	0.0008	<u>(0.0016)</u>	(0.0014)	0.0009	(0.0015)
A_PARK	0.075	0.263	0.00%	0.1618	0.0008	0.0058	(0.0017)	0.0039	(0.0000)	<u>(</u> 0.0004)	0.0009	<u>(0</u> .0001)	(0.0013)	0.0034	(0.0022)
P_TRANSFER	2.419	<u>1.318</u>	0.00%	<u>0.77</u> 63	(0.0001)	(0.0005)	<u>(0.0004)</u>	(0. <u>000</u> 7)	(0.0002)	(0.0000)	(0.0004)	(0.0006)	0.0007	0.0008	0.0006
P_TRANSFER_Miss	0.015	0.123	0.03%	0.7816	0.0100	0.0084	0.0246	0.0171	0.0205	0.0028	(0.0070)	(0.0050)	0.0119	0.0198	0.0163
P_BED_MOB	2.341	1.293	0.00%	0.1748	(0.0004)	(0.0003)	(0.0002)	(0.0021)	(0 <u>.0018)</u>	0.0006	0.0007	0.0009	0.0005	(0.0003)	(0.0016)
P_BED_MOB_Miss	0.015	0.123	<u>0.00%</u>	<u>0.943</u> 3	(0. <u>0019</u> )	0.0035	<u>(0.0140)</u>	(0.0097)		0.0015	<u>(0.0007)</u>	0.0005			
P_EATING	1.171	<u>1.318</u>	0.01%	0.0010	(0.0005)	0.0008	(0.0005)	(0.0007)	(0.0006)	(0.0011)	(0.0005)	(0.0009)	(0.0011)	(0.0004)	(0.0004)
P_EATING_Miss	0.015	0.123	0.00%	0.8861	0.0041			0.0015	(0.0044)	0.0082	0.0293	(0.0037)			(0.0019)
P_TOILET	<u>2.581</u>	<u>1.216</u>	<u>0.00</u> %	0.3000	<u>(</u> 0. <u>000</u> 3)	<u>(0.0017</u> )	0.0005	0.0020	(0.0004)	(0.0004)	<u>(0.0</u> 024)	0.0001	(0.0004)	(0.0013)	0.0009
P_TOILET_Miss	0.015	0.123	0.00%	0.9469	(0.0018)			(0.0051)	(0.0040)	(0.0068)	(0.0128)	0.0226	<u>(0.0043)</u>		-
P_WALKROOM	2.593	1.585	0.01%	0.0095	(0.0005)	(0.0008)	0.0005	(0.0005)	0.0003	0.0002	(0.0011)	(0.0002)	<u>(0.0018)</u>	(0.0004)	(0.0013)
P_WALKROOM_Miss	0.016	0.124	<u>0.00%</u>	0. <u>927</u> 7	(0. <u>0015</u> )	0.0002	(0.0023)	(0.0002)	(0.0079)	(0.0077)		(0.0009)	0.0007	(0.0010)	<u>(0.0048)</u>
P_WALKCORR	2.686	1.566	0.01%	0.0521	(0.0004)	(0.0003)	(0.0008)	(0.0003)	(0.0005)	(0.0011)	0.0001	(0.0012)	0.0010	(0.0010)	0.0003
P_WALKCORR_Miss	0.016	0.124	0.01%	0.7688	(0.0043)	(0.0057)	<u>(0.0039)</u>	(0. <u>001</u> 8)	0.0112	0.0035	<u> </u>	(0.0090)	<u>(0.0</u> 058)	(0.0081)	(0.0056)
P_LOCOM_ON	2.072	1.509	<u>0.01%</u>	0.0413	(0.0004)	(0.0001)	(0.0010)	(0.0009)	(0.0009)	0.0004	(0.0005)	(0.0007)	0.0001	(0.0004)	<u>(0.000</u> 3)
P_LOCOM_ON_Miss	0.015	0.123	0.01%	0.8506	0.0061			(0.0038)	0.0003	0.0067	(0.0013)	0.0038	(0.0049)	(0.0036)	0.0084
P_LOCOMOFF	2.246	<u>1.547</u>	0.00%	<u>0.29</u> 27	0.0002	(0 <u>.000</u> 1)	0.0006	0.0010	0.0008	0.0002	(0.0002)	0.0002	(0.0006)	(0.0000)	( <u>0.00</u> 01)
P_LOCOMOFF_Miss	0.015	0.123	<u>0.00%</u>	0. <u>924</u> 5	(0. <u>002</u> 6)	<u>(0.0051</u> )	(0.0073)	<u> </u>	(0.0027)	<u>(0.0</u> 112)	<sup>-</sup>				
P_DRESSING	2.649	1.058	0.01%	0.0709	0.0006	0.0009	0.0009	0.0026	0.0021	(0.0013)	0.0021	0.0004	(0.0030)	0.0011	(0.0003)
P_DRESSING_Miss	0.015	0.124	0.00%	0.9836	0.0004		0.0122	0.0042	(0.0000)	0.0099	0.0062	(0.0006)			0.0009
P_HYGIENE	2.602	1.104	<u>0.00%</u>	0 <u>.450</u> 5	(0.0002)	0.0006	(0.0012)	(0.0026)	0.0006	<u>(0.0011)</u>	(0.0002)	(0.0007)	0.0017	0.0002	0.0007
P_HYGIENE_Miss	0.015	0.124	0.00%	0.9165	(0.0022)				0.0027	(0.0074)	(0.0011)	<u> </u>		<u> </u>	(0.0016)
P_BATHING	<u>3.155</u>	0.849	0.00%	<u>0.73</u> 69	(0.0001)	0.0001	(0.0004)	(0. <u>000</u> 1)	(0.0005)	0.0005	0.0005	0.0016	(0.0004)	(0.0008)	(0.0017)
P_BATHING_Miss	0.016	0.125	0.01%	0.2976	(0.0069)	(0.0077)	(0.0062)	(0.0072)	(0.0073)	(0.0055)	(0.0030)	(0.0018)	(0.0078)	(0.0117)	<u>(</u> 0.0103)
A <u>_HYPOT</u>	0.017	0.130	0.00%	0.2897	0.0012	0.0034	0.0073	0.0009	(0.0023)	0.0023	0.0049	0.0000	0.0024	(0.0008)	(0.0050)
A_SEIZ	0.084	0.277	0.00%	0.3821	0.0005	0.0026	(0.0024)	0.0018	(0.0004)	0.0002	(0.0019)	0.0017	0.0027	0.0003	0.0008
A_EYES	0.165	0.372	0.00%	0.0029	0.0012	(0.0014)	0.0008	- 50.0004	0.0031	0.0026	0.0007	0.0011	(0.0002)	0.0020	0.0033
COLLINEARITY			-0.05%			n>	236,574	E	(QIQM)>	0.006	Stdev	QIQM)>	0.074		

MN_INFX	Prevale	nce of Inf	ections (l	Long Stay	)										
Model p-v	, value / R-S	quared>		<.0001	1.3%	1.5%	1.4%	1.5%	1.5%	1.5%	1.1%	1.1%	1.4%	1.3%	1.5%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000				0.1269	0.1270	0.1342	0.1334	0.1306	0.1475	0.1044	0.1081	0.1304	0.1159	0.1355
FEMALE	0.692	0.462	0.19%	0.0000	(0.0191)	(0.0261)	(0.0166)	(0.0178)	(0.0237)	(0.0161)	(0.0185)	(0.0159)	(0.0197)	(0.0217)	(0.0161)
AGE	82.8	11.7	0.25%	0.0000	(0.0009)	(0.0008)	(0.0009)	(0.0009)	(0.0009)	(0.0011)	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0010)
LOSQ	8.7	11.6	0.45%	0.0000	(0.0012)	(0.0013)	<u>(0.0013)</u>	(0.0012)	(0.0011)	(0.0013)	(0.0011)	(0.0010)	(0.0011)	(0.0012)	(0.0012)
A_CVA	0.161	0.367	0.00%	0.0111	(0.0030)	(0.0060)	(0.0070)	0.0029	(0.0028)	0.0003	0.0001	(0.0038)	(0.0023)	(0.0084)	(0.0030)
A_PARAP	0.009	0.094	<u>0.15%</u>	0.0000	0.0822	0.0933	0.0894	0.1274	0.1090	0.0745	0.0493	0.0733	0.0672	0.0781	0.0640
C_LOCOM_ON	2.065	1.511	0.14%	0.0000	0.0050	0.0063	0.0042	0.0032	0.0055	0.0066	0.0062	0.0042	0.0053	0.0043	0.0047
C_LOCOM_ON_Miss	0.000	0.012	0.00%	0.8915	(0.0050)	0.0028	0.9774	(0.0337)	(0.0290)	0.0210	(0.0472)	(0.0748)	(0.0338)	(0.0355)	(0.0562)
A_QUADP	0.009	0.095	0.01%	0.0000	0.0233	0.0067	0.0233	0.0294	0.0284	0.0095	0.0146	0.0280	0.0163	0.0091	0.0659
COLLINEARITY			0.13%			n>	222,198	E	(QIQM)>	0.043	Stdev	(QIQM)>	0.202		

MN_MOD1	Prevale	nce of De	pression	Symptom	s (Long St	ay)									
Model p-v	, value / R-S	quared>		<.0001	0.5%	0.5%	0.6%	0.4%	0.5%	0.7%	0.6%	0.6%	0.5%	0.7%	0.6%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.0089	0.0038	0.0077	0.0219	0.0216	0.0037	0.0073	0.0179	(0.0046)	0.0055	(0.0013)
FEMALE	0.694	0.461	0.00%	0.1103	(0.0012)	(0.0013)	(0.0063)	(0.0006)	0.0022	(0.0008)	0.0000	0.0011	(0.0050)	(0.0035)	0.0010
AGE	83.0	11.5	0.01%	0.0000	(0.0001)	(0.0000)	(0.0000)	(0.0002)	(0.0003)	(0.0001)	(0.0002)	(0.0002)	(0.0000)	(0.0001)	(0.0001)
	8.5	11.4	0.05%	0.0000	(0.0003)	(0.0003)	(0.0003)	(0.0004)	(0.0003)	(0.0003)	(0.0002)	(0.0004)	(0.0002)	(0.0004)	(0.0003)
C_CPS	1.87	1.94	0.27%	0.0000	0.0043	0.0042	0.0049	0.0032	0.0036	0.0052	0.0047	0.0043	0.0038	0.0050	0.0039
C_BIMS	7.4	5.8	0.40%	0.0000	0.0018	0.0017	0.0017	0.0018	0.0021	0.0018	0.0017	0.0014	0.0020	0.0020	0.0017
C_BIMS_Miss	0.221	0.415	0.20%	0.0000	0.0174	0.0149	0.0162	0.0153	0.0138	0.0158	0.0171	0.0113	0.0221	0.0260	0.0216
A_CVA	0.161	0.368	0.01%	0.0000	(0.0043)	(0.0054)	(0.0068)	(0.0043)	(0.0076)	(0.0030)	(0.0049)	(0.0066)	(0.0006)	(0.0011)	(0.0012)
A_ALZH	0.182	0.385	0.01%	0.0000	(0.0046)	(0.0032)	(0.0028)	(0.0006)	(0.0035)	(0.0078)	(0.0038)	(0.0061)	(0.0054)	(0.0051)	(0.0071)
A_DEMT	0.518	0.500	0.01%	0.0001	0.0028	0.0041	0.0066	0.0040	0.0065	(0.0025)	0.0041	0.0037	0.0031	(0.0011)	0.0010
C_MSUN	0.229	0.420	0.01%	0.0000	0.0045	0.0048	0.0019	0.0026	0.0024	0.0078	0.0045	0.0031	0.0076	0.0054	0.0045
C_EATING	1.257	1.348	0.15%	0.0000	0.0046	0.0056	0.0051	0.0039	0.0051	0.0061	0.0038	0.0054	0.0042	0.0031	0.0048
C_EATING_Miss	0.000	0.006	0.00%	0.0585	0.1067	(0.0177)	(0.0168)	(0.0223)	(0.0017)	-	0.4875	-	-	(0.0182)	(0.0278)
COLLINEARITY			-0.63%			n>	236,171	E	(QIQM)>	0.026	Stdev	QIQM)>	0.160		

MN_PAI1	Decreas	e in Pain	when Ad	lmitted on	a Pain M	edication	Regimen	(Short Sta	iy)						
Model p-v	alue / R-S	quared>		0.9887	0.0%	0.4%	0.2%	0.1%	0.9%	0.2%	0.4%	0.3%	0.1%	0.5%	0.6%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.5974	0.6330	0.5811	0.5941	0.5755	0.5871	0.6529	0.5954	0.5895	0.6054	0.5644
A_ARTHR	0.399	0.490	0.00%	0.9021	(0.0015)	(0.0570)	0.0312	0.0051	(0.0265)	(0.0275)	(0.0409)	0.0376	(0.0009)	0.0141	0.0402
A_CANCER	0.085	0.279	0.00%	0.9345	0.0017	(0.0473)	0.0435	0.0472	(0.1791)	0.0691	(0.0821)	(0.0561)	(0.0522)	0.1353	0.1044
COLLINEARITY			0.00%			n>	7,047	E	(QIQM)>	0.597	Stdev	(QIQM)>	0.491		

MN_PAI2	Prevale	nce of Re	sidents V	ho Repor	rt Moderat	e to Sevei	re Pain (S	hort Stay)							
Model p-v	/alue / R-S	quared>		<.0001	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000	-			0.2363	0.2472	0.2406	0.2468	0.2467	0.2301	0.2362	0.2272	0.2427	0.2145	0.2299
A_ARTHR	0.092	0.289	0.02%	0.0000	(0.0220)	(0.0218)	(0.0337)	(0.0333)	(0.0354)	(0.0198)	(0.0113)	0.0001	(0.0203)	(0.0121)	(0.0287)
A_CANCER	0.026	0.159	0.01%	0.0078	(0.0204)	(0.0076)	0.0113	(0.0316)	(0.0230)	(0.0242)	(0.0283)	0.0020	(0.0305)	(0.0456)	(0.0298)
COLLINEARITY			0.00%			n>	121,228	E(	(QIQM)>	0.234	Stdev	(QIQM)>	0.423		

MN_PAI3	Prevale	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)													
Model p-v	<.0001	0.4%	0.3%	0.5%	0.5%	0.5%	0.3%	0.4%	0.5%	0.3%	0.3%	0.4%			
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
INTERCEPT	1.000				0.1282	0.1378	0.1285	0.1277	0.1300	0.1312	0.1288	0.1238	0.1251	0.1224	0.1240
A_ARTHR	0.270	0.444	0.35%	0.0000	0.0464	0.0432	0.0552	0.0555	0.0530	0.0419	0.0435	0.0569	0.0350	0.0390	0.0456
A_CANCER	0.038	0.190	0.02%	0.0000	0.0253	0.0466	0.0108	0.0261	0.0204	0.0326	0.0571	(0.0051)	0.0355	0.0218	0.0166
COLLINEARITY			0.01%			n>	190,424	E	(QIQM)>	0.142	Stdev	(QIQM)>	0.349		

MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)														
Model p-v	, /alue / R-S	quared>		<.0001	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	3.1%	2.1%	2.5%	2.0%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				(0.0068)	-	-	-	-	-	(0.0010)	(0.0069)	(0.0017)	(0.0100)	(0.0122)
FEMALE	76.658	12.213	0.00%	0.5075	0.0000	-	-		-		(0.0001)	(0.0000)	0.0000	0.0001	0.0001
AGE	0.3	0.2	0.03%	0.0013	0.0063	-	-	-	-	-	0.0150	0.0111	0.0014	0.0038	0.0029
C_COMA	0.001	0.025	0.02%	0.0016	0.0445	-		-	-	-	(0.0250)	0.1886	(0.0150)	(0.0044)	(0.0012)
P_TRANSFER	0.747	1.293	0.38%	0.0028	0.0041	-	-	-	-	-	0.0001	0.0052	0.0033	0.0028	0.0076
P_TRANSFER_Miss	0.730	0.444	0.75%	0.8437	0.0166	-	-	-	-	-	0.0096	0.0121	0.0113	0.0091	0.0083
C_TERM	0.056	0.229	2.06%	0.00000	0.0534	-		-	-	-	0.0617	0.0541	0.0442	0.0572	0.0490
P_BED_MOB	0.727	1.263	0.01%	0.6293	(0.0006)	-	-	-	-	-	0.0027	(0.0010)	(0.0011)	0.0004	(0.0035)
P_BED_MOB_Miss	0.730	0.444	0.18%	0.9228	(0.0082)	-	-	-	-	-	-	-	(0.0093)	-	-
A_ULC_RES	0.627	0.484	0.01%	0.0061	(0.0020)	-	-	-	-	-	(0.0030)	(0.0027)	(0.0029)	(0.0034)	0.0018
P_PRUX	0.032	0.175	0.02%	0.0014	0.0064	-	-	-	-	-	0.0152	0.0098	0.0060	0.0012	0.0023
A_MALN	0.014	0.118	0.02%	0.0001	0.0114	-	-	-	-	-	0.0020	0.0178	0.0235	0.0088	0.0083
COLLINEARITY			-1.16%			n>	58,220	E	(QIQM)>	0.007	Stdev	(QIQM)>	0.085		

MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)														
Model p-value / R-Squared>				<.0001	12.1%	16.2%	13.5%	12.6%	10.3%	10.4%	12.3%	12.3%	11.2%	11.8%	12.1%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.1003	0.0732	0.0953	0.0973	0.1106	0.1037	0.1126	0.1026	0.0987	0.1175	0.0899
FEMALE	83.388	11.405	0.20%	0.0000	(0.0009)	(0.0004)	(0.0008)	(0.0008)	(0.0010)	(0.0009)	(0.0010)	(0.0009)	(0.0009)	(0.0010)	(0.0008)
AGE	8.7	11.4	0.06%	0.0000	(0.0005)	(0.0003)	(0.0004)	(0.0004)	(0.0003)	(0.0006)	(0.0007)	(0.0005)	(0.0006)	(0.0005)	(0.0003)
C_COMA	0.002	0.049	0.00%	0.2165	(0.0125)	0.0265	0.0467	(0.0737)	0.0322	(0.0473)	(0.0379)	(0.0310)	(0.0326)	(0.0271)	(0.0289)
C_TERM	0.053	0.224	0.18%	0.0000	0.0408	0.0516	0.0598	0.0281	0.0298	0.0372	0.0442	0.0429	0.0376	0.0311	0.0488
A_ULC_RES	0.098	0.298	11.18%		0.2413	0.3460	0.2670	0.2340	0.2162	0.2204	0.2324	0.2299	0.2304	0.2356	0.2338
P_PRUX	0.710	0.454	0.01%	0.0005	(0.0039)	(0.0131)	(0.0058)	(0.0062)	0.0007	0.0004	(0.0028)	(0.0050)	0.0031	(0.0047)	(0.0061)
COLLINEARITY		-	0.44%			n>	170,025	E	(QIQM)>	0.049	Stdev	(QIQM)>	0.215		

MN_PRUC	Incidend	Incidence of Healed Pressure Ulcers (Long Stay)													
Model p-value / R-Squared>				<.0001	3.1%	2.1%	2.5%	3.2%	3.0%	2.1%	3.5%	5.4%	5.1%	5.1%	3.8%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.2798	0.2763	0.4880	0.3382	0.2511	0.4187	0.3139	0.2409	0.1160	0.1724	0.2362
FEMALE	0.627	0.484	0.05%	0.0025	(0.0226)	(0.0471)	(0.0075)	(0.0297)	(0.0489)	(0.0164)	0.0341	(0.0145)	(0.0661)	(0.0097)	(0.0226)
AGE	80.1	13.1	0.03%	0.0201	0.0006	0.0011	(0.0015)	0.0002	0.0013	(0.0009)	(0.0003)	0.0007	0.0028	0.0013	0.0008
	4.1	8.4	3.05%	0.0000	0.0099	0.0064	0.0084	0.0102	0.0098	0.0079	0.0097	0.0169	0.0115	0.0135	0.0119
C_COMA	0.003	0.054	0.00%	0.6893	0.0260	0.0094	0.0628	<u>(0.0716)</u>	0.2155	<u>(0.0183)</u>	0.2515	(0.1223)	(0.0230)	(0.2786)	0.0638
C_TERM	0.079	0.270	0.01%	0.2571	(0.0149)	(0.0497)	(0.0127)	0.0645	(0.0324)	0.0271	(0.0203)	0.0286	(0.0816)	(0.0397)	(0.0370)
COLLINEARITY	_		-0.04%			n>	17,897	E(	(QIQM)>	0.356	Stdev	QIQM)>	0.479		

MN_RES1	Prevalence of Physical Restraints (Long Stay)														
Model p-value / R-Squared>				<.0001	0.6%	0.4%	0.6%	0.5%	0.6%	0.5%	0.6%	0.5%	0.8%	0.7%	0.7%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.0348	0.0418	0.0409	0.0359	0.0384	0.0345	0.0344	0.0260	0.0333	0.0304	0.0325
FEMALE	0.694	0.461	0.00%	0.3649	0.0004	0.0007	0.0021	0.0012	0.0010	0.0001	(0.0005)	(0.0002)	(0.0007)	(0.0002)	(0.0002)
AGE	82.9	11.6	0.20%	0.0000	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0004)
LOSQ	8.6	11.4	0.08%	0.0000	0.0002	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003
RES1_ADJ	0.062	0.240	0.30%	0.0000	0.0213	0.0176	0.0239	0.0186	0.0204	0.0187	0.0228	0.0221	0.0290	0.0221	0.0184
COLLINEARITY			-0.02%			n>	236,243	E(	(QIQM)>	0.009	Stdev(	QIQM)>	0.093		

MN_WGT1	Prevale	Prevalence of Unexplained Weight Loss (Long Stay)													
Model p-value / R-Squared>				<.0001	0.8%	0.8%	0.8%	0.7%	0.8%	1.1%	0.8%	0.7%	0.9%	1.0%	0.9%
Covariate	E(Cov)	Std(Cov)	Part. R <sup>2</sup>	p-value	All Qtrs	2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
	1.000				0.0637	0.0489	0.0715	0.0515	0.0598	0.0552	0.0457	0.0755	0.0933	0.0606	0.0778
FEMALE	0.692	0.462	0.00%	0.6665	0.0005	0.0062	0.0030	0.0014	(0.0041)	0.0022	0.0013	0.0017	(0.0038)	(0.0020)	(0. <u>001</u> 5)
AGE	82.8	11.7	0.02%	0.0000	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0004	0.0000	(0.0000)	0.0006	0.0003
	8.7	11.6	0.31%	0.0000	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0013)	(0.0011)	(0.0009)	(0.0012)	(0.0012)	(0.0012)	(0.0011)
C_CPS	1.82	1.93	0.01%	0.0005	(0.0014)	(0.0005)	(0.0024)	0.0004	0.0002	0.0000	(0.0017)	(0.0020)	(0.0009)	(0.0028)	(0.0057)
C_BIMS	7.6	5.7	0.38%	0.0000	(0.0025)	(0.0019)	(0.0027)	(0.0019)	(0.0016)	(0.0024)	(0.0023)	(0.0022)	(0.0027)	(0.0038)	(0.0040)
C_BIMS_Miss	0.208	0.406	0.07%	0.0000	0.0152	0.0191	0.0145	0.0124	0.0198	0.0181	0.0175	0.0156	0.0146	0.0091	0.0126
C_COMA	0.002	0.040	0.01%	0.0005	(0.0434)	(0.0174)	(0.0611)	0.0173	(0.0677)	(0.0636)	(0.0552)	(0.0526)	(0.0688)	(0.0513)	(0.0230)
A_CANCER	0.031	0.174	0.04%	0.0000	0.0253	0.0266	0.0363	0.0116	0.0119	0.0587	0.0393	0.0253	0.0240	0.0237	(0.0022)
COLLINEARITY			-0.01%			n>	222,243	E	(QIQM)>	0.058	Stdev	(QIQM)>	0.234		

## Table A8 - CMS and MN Risk-Adjustment Impact on Percentile Ranking

Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay) CMS.0677 (2012-Q4) Regression-Based Risk Adjustment (R = 97.9% n = 386) 100% 90% **Risk-Adjusted Measure Percentile** 80% 70% 60% 50% 40% 30% 20% 10% 0% 100% 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% **Observed Measure Percentile** Low/High-Risk Adjustment (R = 34.1% n = 383) 100% Ş 90% \$ Ŷ ٠ ٥ 80% High Risk Measure Percentile 70% ٥ \$ ٥ \* \* \* 60% 60 50% ò Ċ \$ 40% \$ 8 30% \* Ŷ 20% ¥ ¢ 10% ۵ ۵ **\$**\$ 00 ٥ ٥ ٥ ۵ ٥ ∞ 0% 0% 10% 90% 100% 20% 30% 40% 50% 70% 80% 60% Low Risk Measure Percentile Facility Ranking % on Different Sides of Percentile Facility 25% Comparison 1**0**% 75% 90% Count Obs vs. Adj 3.6% 7.3% 4.4% 2.1% 386 Low vs. High 13.6% 31.6% 28.7% 17.5% 383 Obs vs. Low 9.9% 20.6% 15.9% 10.2% 384 Obs vs. High 8.6% 15.1% 14.3% 9.9% 385 Adj vs Low 9.9% 20.1% 16.1% 8.6% 384 Adjvs High 10.9% 14.5% 12.5% 10.4% 385 Obs Flag, High and Low No Flag 0.5% 1.0% 383 Obs No Flag, High or Low Flag 14.9% 10.7% 383 Adj Flag, High and Low No Flag 0.0% 0.8% Adj No Flag, High or Low Flag 10.4%

Qtr 2012-Q4, FY 2012-Q4 and Change from FY 2011-Q4 to FY 2012-Q4

14.1%

























































































































































## Table A9a - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile RankingQtr 2012-Q4

		Percentile Ranking Impact of Risk Adjustment – 2012-Q4									
			Obs	\ Adj*		Low \ High**					
Measure ID	Measure Description	n	r	75%- tile	90%- tile	n	r	75%- tile	90%- tile		
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	386	97.9%	4.4%	2.1%	383	34.1%	28.7%	17.5%		
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	388	89.1%	0.8%	1.0%	377	5.2%	31.0%	19.1%		
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	386	97.4%	5.7%	3.1%	381	10.8%	34.4%	17.3%		
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	386	88.7%	9.3%	5.2%	382	27.1%	33.8%	16.2%		
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	386	97.6%	6.7%	2.8%	382	40.6%	27.0%	13.6%		
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	386	89.3%	2.3%	2.6%	385	20.5%	28.1%	13.8%		
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	386	96.3%	6.5%	3.6%	381	8.4%	34.9%	18.1%		
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	386	98.2%	4.7%	1.0%	384	31.5%	31.0%	16.1%		
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	386	91.0%	9.6%	4.7%	385	33.2%	29.1%	16.6%		
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	386	93.0%	6.2%	4.7%	385	15.7%	34.5%	14.8%		
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	386	86.5%	12.4%	6.5%	385	33.9%	30.9%	15.3%		
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	386	80.3%	13.7%	8.5%	384	24.5%	32.3%	15.1%		
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	380	96.0%	9.2%	5.8%	363	35.4%	34.7%	15.7%		
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	383	98.0%	7.0%	10.4%	373	82.1%	19.6%	0.0%		
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	386	98.9%	0.8%	1.8%	379	37.6%	24.3%	14.5%		

		Percentile Ranking Impact of Risk Adjustment – 2012-Q4									
			Obs	\ Adj*		Low \ High**					
Measure ID	Measure Description	n	r	75%- tile	90%- tile	n	r	75%- tile	90%- tile		
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	386	79.7%	0.5%	0.5%	385	11.2%	24.4%	17.7%		
MN_INFX	Prevalence of Infections (Long Stay)	386	96.3%	2.8%	1.8%	383	20.6%	29.5%	15.4%		
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	386	95.8%	1.6%	0.5%	385	32.9%	24.4%	13.8%		
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	263	99.8%	0.0%	0.8%	108	7.7%	49.1%	38.0%		
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	382	99.9%	0.0%	0.0%	310	23.4%	31.0%	26.8%		
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	386	99.6%	1.3%	1.6%	377	34.0%	27.1%	16.2%		
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	383	59.9%	11.5%	1.0%	301	5.5%	16.6%	16.3%		
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	386	88.7%	11.9%	3.1%	362	5.7%	39.2%	24.0%		
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	350	99.0%	2.6%	0.9%	180	10.5%	38.3%	37.2%		
MN_RES1	Prevalence of Physical Restraints (Long Stay)	386	79.2%	1.8%	1.3%	381	18.5%	23.9%	13.9%		
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	386	98.7%	4.1%	1.8%	385	17.3%	33.5%	14.5%		

\*Ranking facilities based on unadjusted QIQM's vs risk-adjusted QIQM's, has a modest impact. (14/26 QIQM's have less than 2.5% of facilities changing 90%-tile flagging status. 20% is max possible. Only 5/26 have 5%+ change status. The average is 3%.)

\*\* Ranking the low-risk and high-risk QIQM values for each facility separately, there is little correlation between the two rankings. (Only 1/26 or 5/26 of QIQM's have a correlation between high and low-risk QIQM's greater than 50%. The average is 24% for quarterly QIQM's or 37% for annual.

## Table A9b - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile Ranking (cont.)Qtr 2012-Q4

		Percentile Ranking Impact of Risk Adjustment - 2012Q4*										
				Obs vs Higl	n/Low		Adj vs High/Low					
Measure ID	Measure Description	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative	
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	383	0.5%	14.9%	1.0%	10.7%	383	0.0%	14.1%	0.8%	10.4%	
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	377	0.0%	10.9%	0.3%	9.5%	377	0.0%	10.6%	0.0%	9.3%	
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	381	0.8%	18.6%	0.5%	9.4%	381	0.8%	17.8%	1.0%	10.0%	
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	382	1.8%	18.8%	2.1%	10.7%	382	1.0%	18.1%	0.5%	9.2%	
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	382	1.8%	15.7%	0.3%	7.6%	382	1.0%	14.9%	0.5%	8.1%	
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	385	0.3%	11.2%	0.8%	7.5%	385	0.0%	10.6%	0.5%	7.3%	
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	381	2.4%	19.4%	0.5%	9.4%	381	0.5%	17.3%	0.3%	9.4%	
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	384	0.5%	15.6%	0.8%	9.1%	384	0.0%	15.1%	0.8%	9.1%	
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	385	1.6%	15.8%	1.0%	9.4%	385	0.5%	14.5%	0.8%	9.1%	
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	385	1.0%	17.7%	1.3%	8.8%	385	0.3%	16.9%	1.6%	9.1%	
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	385	1.3%	17.4%	1.0%	8.3%	385	0.5%	16.6%	1.3%	9.1%	
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	384	3.1%	20.3%	1.8%	10.2%	384	2.1%	18.8%	1.8%	9.9%	
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	363	2.5%	23.1%	2.2%	7.2%	363	1.1%	21.8%	3.0%	7.7%	

		Percentile Ranking Impact of Risk Adjustment - 2012Q4*										
				Obs vs Higl	h/Low		Adj vs High/Low					
Measure ID	Measure Description	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative	
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	373	0.0%	19.6%	0.0%	0.0%	373	0.0%	26.3%	10.2%	0.0%	
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	379	0.0%	11.9%	1.3%	9.0%	379	0.3%	12.1%	0.8%	8.2%	
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	385	0.0%	3.9%	0.0%	8.8%	385	0.0%	3.9%	0.0%	8.8%	
MN_INFX	Prevalence of Infections (Long Stay)	383	1.0%	16.4%	0.8%	8.6%	383	0.3%	15.4%	1.0%	8.6%	
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	385	0.5%	11.9%	0.3%	7.5%	385	0.0%	11.4%	0.0%	7.3%	
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	108	0.0%	23.1%	0.0%	24.1%	108	0.0%	23.1%	0.0%	24.1%	
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	310	0.0%	16.5%	0.3%	19.7%	310	0.0%	16.5%	0.3%	19.7%	
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	377	0.0%	14.3%	0.5%	8.5%	377	0.0%	14.1%	0.5%	8.5%	
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	301	0.0%	0.0%	0.3%	6.0%	301	2.0%	0.0%	0.3%	6.0%	
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	362	2.2%	22.9%	1.4%	16.6%	362	0.6%	21.3%	0.6%	16.0%	
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	180	0.6%	31.1%	0.0%	35.0%	180	0.6%	28.9%	0.0%	33.9%	
MN_RES1	Prevalence of Physical Restraints (Long Stay)	381	0.0%	4.5%	1.0%	7.6%	381	0.0%	4.2%	0.8%	7.6%	
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	385	0.5%	17.7%	1.0%	8.8%	385	0.3%	17.4%	0.5%	8.1%	

\* The frequency of false positive and false negative flagging's when comparing separate low/high-risk rankings to facility-wide rankings (assuming the separate rankings are "correct") averages 10% to 12% depending on whether we use quarterly vs annual QIQM's and whether we compare to unadjusted vs. risk-adjusted facility-wide values. 30% is the maximum possible error rate.

## Table A9c - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile Ranking (cont.)Qtr 2012-Q4

		QI Stats – 2012-Q4												
Measure ID	Measure Description	Avg QIQM	Avg QIQM - Low Risk	Avg QIQM - High Risk	Ratio High / Low*	Resident Count	Avg High %	Std Dev High %**	NH Regress. R <sup>2</sup> ***	NH Low / High R <sup>2</sup>	Resident Low / High R <sup>2</sup>			
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	0.118	0.073	0.192	2.6	18,165	38.4%	13.2%	1.5%	1.5%	3.2%			
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	0.015	0.007	0.023	3.1	19,746	50.3%	15.9%	0.9%	0.5%	0.4%			
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	0.042	0.031	0.061	1.9	22,689	37.2%	14.9%	0.8%	-2.1%	0.5%			
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	0.101	0.053	0.187	3.5	21,566	36.0%	14.8%	5.3%	8.0%	4.6%			
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	0.304	0.241	0.374	1.6	21,566	47.6%	13.4%	10.1%	6.2%	2.1%			
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	0.016	0.007	0.030	4.1	22,915	39.8%	12.3%	3.5%	2.1%	0.8%			
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	0.041	0.023	0.081	3.5	20,727	30.2%	13.4%	-5.8%	-2.2%	1.8%			
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	0.053	0.032	0.075	2.4	21,861	49.0%	13.8%	2.1%	1.7%	0.9%			
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	0.277	0.131	0.443	3.4	20,850	46.6%	11.6%	19.0%	11.5%	12.1%			
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	0.239	0.138	0.366	2.7	20,850	44.1%	11.3%	12.4%	7.4%	7.0%			
MN_CNTC	Incidence of Improved or Maintained Bowel Continence	0.536	0.320	0.769	2.4	21,176	48.0%	11.6%	28.7%	18.8%	20.2%			

		QI Stats – 2012-Q4											
Measure ID	Measure Description	Avg QIQM	Avg QIQM - Low Risk	Avg QIQM - High Risk	Ratio High / Low*	Resident Count	Avg High %	Std Dev High %**	NH Regress. R <sup>2</sup> ***	NH Low / High R <sup>2</sup>	Resident Low / High R <sup>2</sup>		
	(Long Stay)												
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	0.256	0.126	0.570	4.5	21,534	29.4%	13.5%	43.8%	33.7%	21.5%		
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	0.829	0.715	0.898	1.3	9,978	62.2%	19.6%	8.9%	7.7%	5.6%		
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	0.760	0.745	0.781	1.0	11,918	41.6%	17.3%	-0.1%	0.0%	0.2%		
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	0.134	0.115	0.164	1.4	18,823	40.0%	18.0%	8.0%	4.2%	0.5%		
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	0.006	0.004	0.010	2.8	23,287	38.4%	12.0%	1.6%	1.8%	0.2%		
MN_INFX	Prevalence of Infections (Long Stay)	0.040	0.021	0.065	3.1	21,858	43.8%	13.5%	7.6%	6.8%	1.2%		
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	0.023	0.016	0.037	2.4	23,249	34.2%	13.1%	2.8%	2.1%	0.5%		
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	0.585	0.589	0.583	1.0	699	62.4%	37.4%	0.0%	0.0%	0.0%		
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	0.240	0.216	0.243	1.1	11,846	88.9%	11.7%	0.2%	0.0%	0.0%		
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	0.137	0.125	0.162	1.3	18,700	30.9%	14.6%	0.0%	0.3%	0.2%		
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	0.006	0.003	0.031	9.6	11,567	9.9%	11.8%	3.4%	3.6%	1.1%		
		QI Stats – 2012-Q4											
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Measure ID	Measure Description	Avg QIQM	Avg QIQM - Low Risk	Avg QIQM - High Risk	Ratio High / Low*	Resident Count	Avg High %	Std Dev High %**	NH Regress. R <sup>2</sup> ***	NH Low / High R <sup>2</sup>	Resident Low / High R <sup>2</sup>		
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	0.046	0.023	0.224	9.7	17,100	11.5%	9.5%	-5.3%	15.2%	9.3%		
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	0.334	0.262	0.570	2.2	1,604	23.5%	29.2%	6.1%	9.2%	7.7%		
MN_RES1	Prevalence of Physical Restraints (Long Stay)	0.009	0.006	0.018	3.0	23,271	25.0%	15.6%	-1.0%	1.0%	0.3%		
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	0.058	0.041	0.081	1.9	21,861	41.9%	11.7%	1.0%	0.2%	0.7%		

\* The range of low to high resident-level expected values can be as great as 10 to 1. The average high-to-low risk group ratio of expected values is 3.0. Only 6 of 26 QIQM's have a high-to-low ratio less than 1.5.

\*\* The percentage of high-risk residents varies modestly from facility to facility, less so over longer periods of time. (7/26 of qtly QIQM's have stdev < 12%; 11/26 of annual QIQM's).

\*\*\* The percentage of facility-level QIQM variation explained by the average resident expected values is less than 5% for 16/26 QIQM's (14/26 for annual QIQM's). The average R-sq is 6% for quarterly QIQM's and 10% for annual QIQM's. Only 2(4) QIQM's have R-sq > 20%.

\*\*\*\* Reducing the resident-level information to high vs. low risk grouping and then aggregating to the facility level yields almost the same variance reduction, i.e., the R-sq drops 1%(2%) on average.

#### Table A10a - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile Ranking

		Percentile Ranking Impact of Risk Adjustment - CY 2012							
			Obs	\ Adj*			Low \	High**	
Measure ID	Measure Description	n	r	75%- tile	90%- tile	n	r	75%- tile	90%- tile
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	388	98.0%	3.1%	2.6%	388	55.0%	24.2%	14.7%
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	395	94.8%	4.6%	1.0%	388	26.7%	30.7%	14.9%
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	388	97.9%	4.4%	2.1%	387	31.4%	32.6%	16.5%
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	388	81.2%	13.9%	9.3%	388	41.8%	27.3%	14.7%
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	388	95.3%	7.2%	3.1%	387	55.4%	24.3%	12.4%
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	388	94.7%	3.1%	2.1%	388	41.7%	22.9%	11.9%
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	388	94.2%	6.7%	2.6%	385	16.8%	33.8%	17.4%
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	388	97.2%	4.6%	1.5%	388	50.9%	23.2%	13.7%
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	388	88.3%	11.9%	4.6%	388	42.9%	30.2%	15.7%
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	388	91.2%	6.2%	4.6%	388	31.7%	27.1%	11.9%
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	388	84.2%	14.4%	5.2%	388	46.8%	25.5%	14.7%
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	388	76.3%	17.5%	9.8%	388	38.2%	32.5%	13.9%
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	387	95.7%	8.8%	6.7%	378	38.8%	31.5%	22.5%
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	388	99.0%	5.2%	8.5%	380	87.6%	15.8%	0.0%
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of	388	98.9%	4.6%	2.6%	382	43.1%	23.6%	13.1%

			Percenti	le Ranking	Impact o	f Risk A	djustment	- CY 2012	
			Obs	\ Adj*			Low \	High**	
Measure ID	Measure Description	n	r	75%- tile	90%- tile	n	r	75%- tile	90%- tile
	Psychosis (Long Stay)								
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	388	96.7%	2.1%	1.5%	388	16.8%	32.7%	16.0%
MN_INFX	Prevalence of Infections (Long Stay)	388	95.2%	8.2%	2.1%	386	29.7%	26.9%	14.0%
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	388	98.3%	2.1%	0.5%	387	47.7%	22.0%	11.4%
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	353	99.9%	3.4%	3.7%	266	9.3%	35.0%	32.0%
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	392	100.0%	0.5%	0.5%	372	34.4%	32.3%	18.8%
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	388	99.6%	1.5%	0.5%	387	58.9%	20.9%	13.7%
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	390	83.4%	2.6%	0.5%	365	9.5%	31.0%	17.5%
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	388	84.5%	11.6%	5.9%	383	13.8%	38.1%	18.3%
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	384	98.7%	2.3%	2.3%	317	11.1%	38.8%	23.7%
MN_RES1	Prevalence of Physical Restraints (Long Stay)	388	82.8%	1.5%	1.0%	386	43.7%	21.0%	13.7%
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	388	97.4%	5.7%	1.5%	388	28.3%	32.7%	14.7%

\* Ranking facilities based on unadjusted QIQM's vs risk-adjusted QIQM's, has a modest impact. (14/26 QIQM's have less than 2.5% of facilities changing 90%-tile flagging status. 20% is max possible. Only 5/26 have 5%+ change status. The average is 3%.)

\*\* Ranking the low-risk and high-risk QIQM values for each facility separately, there is little correlation between the two rankings. (Only 1/26 or 5/26 of QIQM's have a correlation between high and low-risk QIQM's greater than 50%. The average is 24% for quarterly QIQM's or 37% for annual.

## Table A10b - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile Ranking (cont.)

		Percentile Ranking Impact of Risk Adjustment – CY 2012 *									
				Obs vs Higl	n/Low				Adj vs Higł	n/Low	
Measure ID	Measure Description	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	388	0.5%	12.6%	1.3%	8.5%	388	0.0%	12.1%	0.8%	8.0%
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	388	0.5%	15.7%	0.5%	8.0%	388	0.0%	15.2%	0.3%	7.7%
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	387	1.0%	17.1%	0.0%	8.3%	387	0.8%	17.1%	0.0%	8.3%
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	388	2.1%	16.0%	3.6%	11.1%	388	0.3%	14.2%	0.8%	8.2%
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	387	1.0%	13.2%	1.0%	7.2%	387	0.5%	12.7%	0.5%	6.7%
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	388	0.3%	11.6%	0.3%	6.4%	388	0.0%	11.3%	0.0%	6.2%
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	385	1.6%	18.4%	1.8%	10.6%	385	0.3%	17.1%	0.8%	9.6%
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	388	0.5%	12.1%	0.0%	7.0%	388	0.0%	11.6%	0.3%	7.2%
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	388	0.8%	16.0%	1.3%	9.3%	388	1.8%	17.0%	0.8%	8.8%
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	388	1.0%	14.4%	1.5%	7.5%	388	0.8%	14.2%	0.5%	6.4%
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	388	3.1%	16.0%	1.3%	8.8%	388	1.3%	14.2%	0.5%	8.0%
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	388	3.6%	19.8 <mark>%</mark>	2.6%	9.5%	388	2.3%	18.6%	1.8%	8.8%
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a	378	2.1%	19.0 <mark>%</mark>	0.8%	16.1 <mark></mark> %	378	1.6%	18.3%	1.6%	16.7 <mark>%</mark>

		Percentile Ranking Impact of Risk Adjustment – CY 2012 *									
				Obs vs Higl	n/Low				Adj vs Higł	n/Low	
Measure ID	Measure Description	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative	n	75%-tile False Positive	75%-tile False Negative	90%-tile False Positive	90%-tile False Negative
	Toileting Plan (Long Stay)										
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	380	0.5%	10.0%	17.1%	0.0%	380	0.5%	10.0%	10.3%	0.0%
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	382	0.3%	12.6%	0.8%	8.1%	382	0.3%	12.3%	0.0%	6.8%
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	388	0.8%	17.0%	0.3%	8.2%	388	0.5%	16.8%	0.3%	8.2%
MN_INFX	Prevalence of Infections (Long Stay)	386	1.6%	15.3%	0.8%	8.0%	386	0.5%	14.2%	0.5%	7.8%
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	387	0.0%	11.1%	0.3%	6.2%	387	0.0%	11.1%	0.3%	6.2%
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	266	0.0%	20.3%	0.0%	24.8%	266	0.0%	19.5%	0.0%	23.3%
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	372	0.0%	16.9%	0.5%	11.0%	372	0.0%	16.9%	0.5%	11.0%
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	387	0.5%	11.1%	0.3%	7.2%	387	0.3%	10.9%	0.3%	7.2%
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	365	0.0%	10.4%	0.5%	9.0%	365	0.0%	10.4%	0.3%	8.8%
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	383	2.3%	21.1%	2.9%	12.5%	383	0.3%	19.1%	1.8%	11.5%
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	317	0.3%	28.1%	0.0%	20.2%	317	0.3%	27.4%	0.0%	19.9%
MN_RES1	Prevalence of Physical Restraints (Long Stay)	386	0.0%	10.1%	0.5%	7.3%	386	0.0%	10.1%	0.3%	7.0%
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	388	1.5%	18.0%	0.5%	8.0%	388	0.3%	16.8%	0.0%	7.5%

\* The frequency of false positive and false negative flagging's when comparing separate low/high-risk rankings to facility-wide rankings (assuming the separate rankings are "correct") averages 10% to 12% depending on whether we use quarterly vs annual QIQM's and whether we compare to unadjusted vs. risk-adjusted facility-wide values. 30% is the maximum possible error rate.

## Table A10c - CMS and MN QIQM Risk-Adjustment Impact on NH Percentile Ranking (cont.)

		QI Stats - CY 2012												
Measure ID	Measure Description	Avg QIQM	Avg QIQM - Low Risk	Avg QIQM - High Risk	Ratio High / Low*	Resident Count	Avg High %	Std Dev High %**	NH Regress R <sup>2</sup> ***	NH Low / High R <sup>2</sup>	Resident Low / High R <sup>2</sup>			
CMS.0677	Percent of Residents Who Self- Report Moderate to Severe Pain (Long Stay)	0.124	0.076	0.200	2.6	74,137	38.4%	10.9%	4.5%	4.5%	3.4%			
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	0.018	0.010	0.027	2.7	78,858	50.5%	13.8%	-0.1%	0.5%	0.4%			
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	0.043	0.031	0.064	2.1	92,233	37.2%	14.0%	0.6%	-3.3%	0.6%			
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	0.105	0.054	0.194	3.6	87,502	36.5%	13.8%	3.0%	4.1%	4.8%			
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	0.305	0.240	0.379	1.6	87,502	47.0%	12.0%	16.0%	9.8%	2.3%			
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	0.017	0.007	0.031	4.2	92,902	40.3%	11.5%	6.6%	4.3%	0.8%			
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	0.040	0.024	0.080	3.4	84,312	29.8%	12.8%	-2.5%	-0.3%	1.7%			
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	0.057	0.034	0.082	2.4	88,712	48.8%	13.2%	5.3%	4.8%	1.0%			
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	0.275	0.130	0.444	3.4	84,683	46.1%	11.0%	24.2%	17.8%	12.3%			
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	0.246	0.145	0.376	2.6	84,683	43.7%	10.8%	17.7%	10.2%	7.1%			
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	0.537	0.319	0.769	2.4	85,903	48.4%	10.8%	31.6%	24.5%	20.4%			

		QI Stats - CY 2012												
Measure ID	Measure Description	Avg QIQM	Avg QIQM - Low Risk	Avg QIQM - High Risk	Ratio High / Low*	Resident Count	Avg High %	Std Dev High %**	NH Regress R <sup>2</sup> ***	NH Low / High R <sup>2</sup>	Resident Low / High R <sup>2</sup>			
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	0.261	0.130	0.565	4.3	87,371	30.0%	13.1%	46.7%	37.4%	20.6%			
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	0.830	0.717	0.898	1.3	40,058	62.8%	17.0%	9.3%	6.7%	5.4%			
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	0.757	0.742	0.779	1.0	48,220	41.6%	16.3%	0.0%	0.1%	0.2%			
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	0.145	0.125	0.175	1.4	77,313	39.8%	17.3%	9.1%	4.9%	0.5%			
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	0.005	0.003	0.009	2.8	94,434	38.9%	11.0%	4.4%	3.6%	0.1%			
MN_INFX	Prevalence of Infections (Long Stay)	0.040	0.021	0.065	3.1	88,694	43.9%	12.6%	6.1%	5.6%	1.2%			
MN_MOD 1	Prevalence of Depression Symptoms (Long Stay)	0.025	0.017	0.038	2.2	94,291	34.5%	12.6%	2.2%	1.4%	0.4%			
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	0.600	0.600	0.601	1.0	2,729	61.4%	27.6%	0.0%	0.1%	0.0%			
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	0.232	0.218	0.234	1.1	47,083	88.9%	9.8%	-0.1%	0.0%	0.0%			
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	0.141	0.127	0.173	1.4	75,985	30.5%	12.7%	0.7%	0.7%	0.4%			
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	0.007	0.004	0.040	10.9	34,071	10.2%	6.7%	4.0%	4.1%	1.7%			
MN_PRUB	Percent of High-Risk Residents with Pressure Ulcers (Long Stay)	0.047	0.023	0.223	9.9	68,905	12.0%	9.0%	66.7%	43.9%	9.5%			
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	0.351	0.293	0.550	1.9	6,926	22.6%	19.7%	7.9%	10.0%	5.1%			
MN_RES1	Prevalence of Physical	0.009	0.006	0.017	2.9	94,310	25.1%	15.1%	-0.9%	1.0%	0.3%			

Moasuro			QI Stats - CY 2012										
Measure ID	Measure Description	Avg QIQM	Avg QIQM - Low Risk	Avg QIQM - High Risk	Ratio High / Low*	Resident Count	Avg High %	Std Dev High %**	NH Regress R <sup>2</sup> ***	NH Low / High R <sup>2</sup>	Resident Low / High R <sup>2</sup>		
	Restraints (Long Stay)												
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	0.056	0.041	0.078	1.9	88,712	42.3%	10.5%	1.9%	0.7%	0.7%		

\*The range of low to high resident-level expected values can be as great as 10 to 1. The average high-to-low risk group ratio of expected values is 3.0. Only 6 of 26 QIQM's have a high-to-low ratio less than 1.5.

\*\* The percentage of high-risk residents varies modestly from facility to facility, less so over longer periods of time. (7/26 of qtly QIQM's have stdev < 12%; 11/26 of annual QIQM's).

\*\*\* The percentage of facility-level QIQM variation explained by the average resident expected values is less than 5% for 16/26 QIQM's (14/26 for annual QIQM's). The average R-sq is 6% for quarterly QIQM's and 10% for annual QIQM's. Only 2(4) QIQM's have R-sq > 20%.

\*\*\*\* Reducing the resident-level information to high vs. low risk grouping and then aggregating to the facility level yields almost the same variance reduction, i.e., the R-sq drops 1%(2%) on average.

# Table A11 - QIQM Variation Explained by Peer Group

					Peer Gr	oup R <sup>2</sup> *		
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
CMS.0674	Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)	Unadjusted	7.5%			1.2%		2.6%
CMS.0675	The Percentage of Residents on a Scheduled Pain Medication Regimen on Admission Who Self- Report a Decrease in Pain Intensity or Frequency (Short Stay)	Unadjusted	2.6%	0.5%				1.4%
CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	Unadjusted						0.6%
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	Unadjusted	3.1%		2.1%	1.6%		
		Risk-Adj	2.9%	2.8%	1.7%	1.8%		
		Low Risk	2.3%		1.9%	0.5%		1.1%
		High Risk	3.1%	3.2%		3.5%		
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	Unadjusted	1.3%	1.9%		1.2%	0.3%	1.2%
		Risk-Adj	1.1%	2.6%		1.9%	0.1%	1.2%
		Low Risk	1.2%	2.0%	1.2%	1.8%	1.1%	1.5%
		High Risk		1.6%		1.0%		0.9%
CMS.0679	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	6.0%	0.2%		0.6%		1.7%
CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	Unadjusted		3.7%	0.7%			
CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	Unadjusted		10.3%	1.7%	3.6%	1.6%	2.2%

					Peer Gr	oup R <sup>2</sup> *		
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	3.6%	5.7%	1.1%	4.0%	1.1%	1.6%
CMS.0680C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	1.3%	0.4%	0.1%	0.1%	0.1%	4.0%
CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	Unadjusted		1.7%	0.4%	1.8%	0.5%	0.8%
CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	1.8%	3.5%		4.7%	1.6%	
CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	1.7%	2.3%		3.0%		1.8%
CMS.0681C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	2.8%		0.1%			
CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	Unadjusted	1.0%	5.2%	0.9%		0.6%	
CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	Unadjusted	2.0%	7.4%		4.7%		
CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	Unadjusted	4.7%	5.3%		5.4%		
CMS.0682C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Short Stay)	Unadjusted	1.3%	0.3%	0.7%	0.3%	0.2%	2.2%
CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	Unadjusted	0.9%	1.6%	0.2%	0.0%		1.3%
CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	Unadjusted	1.8%	1.9%		1.7%	1.3%	0.5%
CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	Unadjusted		2.1%		3.2%		

			Peer Group R <sup>2</sup> * Chain- Hospital- Affiliated					
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
CMS.0683C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Long Stay)	Unadjusted	0.9%	0.8%	0.6%		0.2%	0.6%
CMS.0684	Percent of Residents With a Urinary Tract Infection (Long Stay)	Unadjusted	1.8%	1.2%			3.2%	3.1%
CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	Unadjusted	9.9%	4.3%		1.7%		2.6%
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	Unadjusted					0.2%	0.8%
		Risk-Adj						0.4%
		Low Risk				0.7%		0.7%
		High Risk	1.5%		2.0%	2.3%	2.1%	2.1%
CMS.0687	Percent of Residents Who Were Physically Restrained (Long Stay)	Unadjusted	3.0%	1.3%	0.4%			
CMS.0688	Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	Unadjusted	6.3%			0.4%	3.3%	0.5%
CMS.0689	Percent of Residents Who Lose Too Much Weight (Long Stay)	Unadjusted	2.9%	2.4%			4.4%	0.2%
CMS.0690	Percent of Residents Who Have Depressive Symptoms (Long Stay)	Unadjusted	5.0%	1.8%		1.9%		2.8%
CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	Unadjusted		9.2%	0.9%	1.7%	0.8%	0.6%
CMS.AP02	Percent of Residents Who Newly Received an Antipsychotic Medication (Short Stay)	Unadjusted	2.8%	2.8%	0.7%	0.3%	0.4%	2.1%
CMS.SV01	Prevalence of Falls (Long Stay)	Unadjusted						1.3%
CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	Unadjusted	1.7%	7.0%	1.0%	1.9%	0.4%	2.4%
CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	Unadjusted	2.0%	5.0%		2.4%		1.2%

			Peer Group R <sup>2</sup> *					
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	Unadjusted	2.7%	7.4%		2.2%	0.9%	1.0%
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	Unadjusted	6.7%			0.7%	4.5%	0.8%
		Risk-Adj				3.3%	3.9%	2.4%
		Low Risk					2.6%	1.1%
		High Risk	2.9%				2.6%	1.3%
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	Unadjusted		4.2%	2.0%	3.5%		2.8%
		Risk-Adj			2.1%	2.6%		2.5%
		Low Risk			1.6%	3.4%		3.8%
		High Risk		3.6%	1.8%	2.1%		2.0%
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	Unadjusted	3.2%	5.9%		3.2%	0.5%	1.9%
		Risk-Adj	4.0%	5.0%		3.1%	0.5%	2.3%
		Low Risk	2.6%	3.5%		2.1%		2.2%
		High Risk	3.4%	5.1%		3.3%	0.9%	1.5%
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	Unadjusted						0.8%
		Risk-Adj		3.1%				0.6%
		Low Risk		2.2%				0.2%
		High Risk				0.4%	2.4%	0.5%
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	Unadjusted	1.5%	1.4%			5.2%	2.1%
		Risk-Adj	1.9%	1.2%			4.7%	3.1%
		Low Risk	1.2%	0.5%			8.8%	2.8%
		High Risk					1.3%	1.0%
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	Unadjusted	14.1%	4.6%	1.4%	8.8%		3.8%

			Peer Group R <sup>2</sup> *					
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
		Risk-Adj	11.2%	4.2%	0.7%	9.6%		3.2%
		Low Risk	12.2%	4.8%		8.5%	1.2%	3.2%
		High Risk	8.6%	2.7%		5.4%		
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	Unadjusted	8.4%	3.8%	1.2%	3.7%		
		Risk-Adj	6.0%	4.5%	0.8%	3.9%		
		Low Risk	4.6%	5.6%		4.2%		2.5%
		High Risk	5.0%	2.4%				
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	Unadjusted	22.1%	6.2%	1.7%	6.2%	2.7%	2.8%
		Risk-Adj	18.3%	3.7%		5.4%		1.8%
		Low Risk	13.4%			1.8%		0.9%
		High Risk	21.8%	5.6%	1.0%	5.9%	1.5%	2.0%
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	Unadjusted	11.5%	8.3%		1.6%		2.1%
		Risk-Adj	6.4%			0.3%		0.6%
		Low Risk	6.6%	1.1%	0.4%	0.5%	0.5%	0.9%
		High Risk	9.5%	3.6%				0.9%
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	Unadjusted	3.3%			0.3%	0.7%	0.8%
		Risk-Adj				0.7%		1.1%
		Low Risk			1.4%		0.8%	0.9%
		High Risk		2.0%	0.5%	0.6%		0.2%
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	Unadjusted	4.6%					1.5%
		Risk-Adj	4.6%					1.4%
		Low Risk	5.1%					1.3%

			Peer Group R <sup>2</sup> *					
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
		High Risk						1.4%
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	Unadjusted	0.9%	7.8%	0.6%	1.7%	0.6%	1.3%
		Risk-Adj	1.1%	6.5%	0.4%	2.2%	0.5%	1.3%
		Low Risk	3.5%	1.9%	0.6%	2.4%	0.1%	0.1%
		High Risk		7.1%		0.7%	1.2%	1.2%
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	Unadjusted	2.5%			1.9%		1.9%
		Risk-Adj	1.8%			1.4%	1.1%	1.6%
		Low Risk	1.0%	1.0%		1.1%		1.1%
		High Risk	3.3%					1.4%
MN_INFX	Prevalence of Infections (Long Stay)	Unadjusted	3.9%	1.4%		1.9%		0.6%
		Risk-Adj	3.2%			1.3%		0.7%
		Low Risk	3.8%	0.3%		0.4%	0.4%	0.4%
		High Risk				1.4%		0.8%
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	Unadjusted	3.7%	2.4%		2.0%		3.3%
		Risk-Adj	4.0%	2.5%		2.1%		3.2%
		Low Risk	4.3%	2.1%	1.1%	1.7%	1.3%	2.1%
		High Risk	3.4%	2.2%		1.8%		3.1%
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	Unadjusted						
		Risk-Adj						
		Low Risk						
		High Risk						
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	Unadjusted		2.8%	1.8%	0.9%	2.1%	0.9%
		Risk-Adj		2.9%	1.8%	0.9%	2.0%	0.9%

					Peer Gr	oup R <sup>2</sup> *		
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
		Low Risk		2.6%	1.5%	0.8%		
		High Risk		3.4%		1.1%	1.8%	1.0%
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	Unadjusted	2.8%	1.7%	2.8%		0.5%	
		Risk-Adj	2.6%		2.6%		0.5%	
		Low Risk	2.0%		3.3%		0.8%	
		High Risk	2.8%					
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	Unadjusted	1.5%		0.9%	0.6%	0.2%	1.1%
		Risk-Adj	1.4%	0.1%	1.0%	0.4%	0.1%	1.4%
		Low Risk	0.5%	0.2%				1.5%
		High Risk	3.3%		0.7%	1.1%	0.3%	0.7%
MN_PRUB	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	5.0%	0.2%		0.5%	1.0%	1.3%
		Risk-Adj	2.8%	0.6%		0.5%	0.3%	1.2%
		Low Risk	2.4%	1.1%		0.1%	4.1%	0.2%
		High Risk		2.4%		3.9%		0.8%
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	Unadjusted						2.2%
		Risk-Adj						2.3%
		Low Risk						3.1%
		High Risk						
MN_RES1	Prevalence of Physical Restraints (Long Stay)	Unadjusted	3.0%	1.5%	0.6%			
		Risk-Adj	3.0%	1.4%	0.5%		0.5%	0.4%
		Low Risk	2.2%	0.9%	0.7%			0.6%
		High Risk	2.8%	1.0%	0.3%	0.3%		0.5%

			Peer Group R <sup>2</sup> *					
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	Unadjusted		1.0%			3.4%	0.4%
		Risk-Adj		0.5%			3.0%	0.5%
		Low Risk	1.2%	0.2%			2.2%	0.1%
		High Risk	3.0%	0.7%			1.2%	0.5%
QP010	Prevalence of Indwelling Catheter (Most Recent)	Unadjusted		2.7%	2.5%	1.9%	1.0%	2.1%
QP012	Prevalence of Urinary Tract Infections (Most Recent)	Unadjusted		3.9%				
QP013	Prevalence of Weight Loss (Most Recent)	Unadjusted	2.5%	3.3%	1.3%			0.7%
QP015	Prevalence of Dehydration (Most Recent)	Unadjusted	1.8%	1.4%	3.2%	1.7%		0.9%
QP017	Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	Unadjusted	5.9%			0.3%	5.4%	0.1%
QP018	Incidence of Decline in Range of Motion (Previous/Most Recent (excl. Admissions))	Unadjusted	0.5%	5.0%	5.2%	5.0%	4.3%	6.1%
QP022	Prevalence of a Daily Physical Restraint (Most Recent)	Unadjusted	2.8%	1.9%	0.8%			0.6%
QP024_H	Prevalence of Stage I-IV Pressure Ulcers - High- Risk (Most Recent)	Unadjusted	6.2%	0.2%		0.4%		1.0%
QP024_L	Prevalence of Stage I-IV Pressure Ulcers - Low- Risk (Most Recent)	Unadjusted						
QP027	Dressing Decline Since Admission (Admission/90- Day)	Unadjusted	1.8%			1.1%		1.2%
QP028b	Dressing Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	2.7%	0.2%		0.9%	1.0%	0.8%
QP031	Eating Decline Since Admission (Admission/90- Day)	Unadjusted		3.1%				0.3%
QP034	Toileting Decline Since Admission (Admission/90- Day)	Unadjusted					0.8%	0.1%

					Peer Gr	oup R <sup>2</sup> *		
Measure ID	Measure Description	Туре	Region	Ownership	Hospital- Based	Chain- Affiliated (Data is suspect)	Certification	Bed Count
QP038	Locomotion Decline Since Admission (Admission/90-Day)	Unadjusted		1.3%				0.8%
QP039b	Locomotion Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	5.0%			0.1%	2.9%	
QP043a	Increase in Physical Abuse (Admission/90-Day)	Unadjusted	0.4%	5.2%	1.2%	1.9%		3.0%
QP047	Continence Decline Since Admission (Admission/90-Day)	Unadjusted		2.6%				0.7%
QP061	Wound Infection (Most Recent)	Unadjusted	1.8%	2.3%		1.5%	1.9%	1.1%
QP106b	Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	Unadjusted	1.6%	3.3%	0.3%	0.7%	2.4%	0.3%
QP119	Lack of Transferring Rehabilitation Progress (5- Day/30-Day)	Unadjusted	4.8%					1.7%
QP213	Lack of Corrective Action for Visual Problems (Most Recent)	Unadjusted	1.3%				1.9%	
QP214	Lack of Corrective Action for Auditory Problems (Most Recent)	Unadjusted	9.4%			4.3%	2.4%	4.2%

				Peer	r Group R <sup>2</sup> *		
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
CMS.0674	Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)	Unadjusted		0.8%	4.1%		0.8%
CMS.0675	The Percentage of Residents on a Scheduled Pain Medication Regimen on Admission Who Self- Report a Decrease in Pain Intensity or Frequency (Short Stay)	Unadjusted					0.6%

			Peer Group $\mathbb{R}^{2} \times$ 5-Star Rating - Overall         5-Star Rating - Deficiencies         5-Star Rating - CMS Quality Measures         5-Star Rating - Staffing         5-Star Rating - Staffing         5-Star Rating - Staffing           1				
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	Unadjusted			7.3%	2.3%	
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	Unadjusted			15.7%	4.5%	
		Risk-Adj			15.4%	5.0%	
		Low Risk			9.3%		
		High Risk			13.3%	5.3%	
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	Unadjusted			8.4%	0.9%	
		Risk-Adj			9.7%	1.2%	
		Low Risk		2.1%	5.3%	0.8%	
		High Risk	2.0%		7.1%		
CMS.0679	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	1.8%	1.5%	2.3%	5.4%	5.9%
CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	0.7%		0.6%	0.8%	0.6%
CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	Unadjusted		1.8%		1.9%	0.6%
CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	Unadjusted		1.3%			
CMS.0680C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	1.5%	2.1%	1.5%	0.5%	0.5%
CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	Unadjusted			0.3%	0.8%	3.7%
CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	3.0%	2.6%		2.6%	3.4%

			Peer Group R <sup>2</sup> *           5-Star Rating - Overall         5-Star Rating - Deficiencies         5-Star Rating - CMS Quality Measures         5-Star Rating - Staffing           ed         3.4%         4.1%         1.7%         2.1%           ed         1.2%         2.3%         2.3%           ed         1.8%         1.3%         2.9%           ed         1.1%         1.3%         2.9%           ed         1.4%         0.5%         6.0%         2.5%           ed         1.6%         1.4%         4.1%         3.1%           ed         1.6%         0.1%         4.9%         4.9%           ed         0.2%         0.1%         4.9%         4.9%				
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	3.4%	4.1%	1.7%	2.1%	
CMS.0681C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Long Stay)	Unadjusted					
CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	Unadjusted	1.2%			2.3%	0.5%
CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	Unadjusted	1.8%	1.3%		3.9%	0.4%
CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	Unadjusted	1.1%	1.0%	1.3%	2.9%	1.6%
CMS.0682C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Short Stay)	Unadjusted	4.8%	5.4%	9.2%	5.5%	5.5%
CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	Unadjusted	1.4%	0.5%	6.0%	2.5%	1.9%
CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	Unadjusted	2.1%	1.4%	4.1%	3.1%	2.1%
CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	Unadjusted	1.6%		1.1%	2.0%	1.1%
CMS.0683C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Long Stay)	Unadjusted	0.2%	0.1%		4.9%	4.5%
CMS.0684	Percent of Residents With a Urinary Tract Infection (Long Stay)	Unadjusted	0.0%	0.3%	6.6%		
CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	Unadjusted	1.8%		2.9%		2.7%
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	Unadjusted	3.6%	2.6%	8.3%		

				Peer	Group R <sup>2</sup> *		
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
		Risk-Adj	3.0%	2.4%	8.0%		
		Low Risk	2.9%	3.5%	5.7%		
		High Risk	2.0%	1.7%	6.3%	2.7%	2.7%
CMS.0687	Percent of Residents Who Were Physically Restrained (Long Stay)	Unadjusted	1.7%		3.6%	0.2%	0.3%
CMS.0688	Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	Unadjusted		2.1%	4.3%		
CMS.0689	Percent of Residents Who Lose Too Much Weight (Long Stay)	Unadjusted	0.3%	0.4%	0.0%		
CMS.0690	Percent of Residents Who Have Depressive Symptoms (Long Stay)	Unadjusted	0.2%			1.2%	0.5%
CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	Unadjusted	1.5%	1.1%		0.8%	0.8%
CMS.AP02	Percent of Residents Who Newly Received an Antipsychotic Medication (Short Stay)	Unadjusted	0.6%		0.4%	0.1%	0.2%
CMS.SV01	Prevalence of Falls (Long Stay)	Unadjusted				1.2%	
CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	Unadjusted	2.1%	0.9%		1.0%	1.0%
CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	Unadjusted	0.8%	1.1%		5.8%	5.6%
CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	Unadjusted				2.6%	
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	Unadjusted		2.4%	5.4%		
		Risk-Adj	0.6%		3.1%		
		Low Risk	0.5%	1.4%	1.8%	1.9%	1.3%
		High Risk			1.6%	2.7%	1.4%

				Peer	r Group R <sup>2</sup> *		
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	Unadjusted	3.8%	2.8%	3.1%	4.9%	4.1%
		Risk-Adj	2.8%	2.5%		3.6%	3.0%
		Low Risk				3.0%	
		High Risk	3.1%	2.3%	1.9%	3.2%	2.3%
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	Unadjusted	0.8%	0.5%		2.5%	0.3%
		Risk-Adj	1.3%	0.8%	0.2%	2.8%	0.5%
		Low Risk	0.3%	0.2%	0.2%	0.9%	0.1%
		High Risk	0.7%	0.4%		2.9%	0.3%
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	Unadjusted			7.9%		
		Risk-Adj			9.1%		
		Low Risk			3.3%		
		High Risk	1.7%	1.7%	5.7%	0.0%	
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	Unadjusted	0.0%	0.3%	4.9%	0.3%	
		Risk-Adj	0.1%	0.3%	5.3%	0.3%	
		Low Risk	1.2%	1.6%	4.0%	2.0%	1.6%
		High Risk	0.2%		6.5%		
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	Unadjusted		0.9%	1.8%	4.2%	2.4%
		Risk-Adj		0.2%	1.0%	2.3%	1.0%
		Low Risk			1.4%	1.7%	
		High Risk				1.7%	2.3%
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	Unadjusted	2.9%			3.5%	2.0%

			Peer Group $R^{2*}$ 5-Star Rating - Overall5-Star Rating - Deficiencies5-Star Rating - CMS Quality Measures5-Star Rating - Staffing5-Star Rating - Staffing5-Star Rating - Rating - Staffing2.6% $1.0\%$ $2.5\%$ $1.0\%$ 2.6% $1.0\%$ $2.9\%$ $1.2\%$ 2.6% $1.0\%$ $2.9\%$ $1.2\%$ 2.6% $1.0\%$ $2.9\%$ $1.2\%$ 1.0% $2.9\%$ $2.5\%$ $3.3\%$ 1.7% $3.4\%$ $3.5\%$ $0.2\%$ $4.3\%$ $4.9\%$ $7.7\%$ $5.2\%$ 2.7% $3.6\%$ $3.3\%$ $1.4\%$ $0.2\%$ $7.1\%$ $4.7\%$ $1.4\%$				
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
		Risk-Adj	2.6%			2.5%	1.6%
		Low Risk		1.0%		2.9%	1.4%
		High Risk	2.6%				1.3%
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	Unadjusted		2.5%	4.9%	2.5%	2.3%
		Risk-Adj		1.7%	2.9%		
		Low Risk					3.0%
		High Risk	1.7%	3.4%	3.5%		0.8%
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	Unadjusted	4.3%	4.9%	7.7%	5.2%	5.2%
		Risk-Adj	2.7%	3.6%	3.3%		
		Low Risk	0.2%				
		High Risk	4.7%	7.1%	4.7%		
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	Unadjusted	0.8%	0.7%	0.8%	0.9%	1.0%
		Risk-Adj	0.9%	0.6%	0.7%	0.9%	
		Low Risk					
		High Risk	0.3%	0.3%	0.4%		
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	Unadjusted			2.2%		
		Risk-Adj			2.3%		
		Low Risk			2.3%		
		High Risk			1.5%		
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	Unadjusted	2.0%	1.2%		1.3%	1.3%
		Risk-Adj	1.5%	0.9%		1.1%	1.0%

				Peer	Group R <sup>2</sup> *		
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
		Low Risk	2.3%	1.0%			
		High Risk	1.5%	1.1%		0.9%	1.1%
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	Unadjusted				0.8%	0.7%
		Risk-Adj				0.7%	0.9%
		Low Risk	1.0%	1.2%			
		High Risk				0.8%	0.8%
MN_INFX	Prevalence of Infections (Long Stay)	Unadjusted	0.3%	0.4%	0.5%		1.1%
		Risk-Adj	0.4%	0.5%			0.7%
		Low Risk	0.2%	1.0%			1.4%
		High Risk					0.5%
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	Unadjusted	0.9%		1.5%	1.9%	1.0%
		Risk-Adj	1.0%		1.4%	2.1%	1.2%
		Low Risk	0.8%		1.2%	1.3%	
		High Risk	1.8%	1.6%	1.6%	2.3%	1.7%
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	Unadjusted					
		Risk-Adj					
		Low Risk					
		High Risk					
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	Unadjusted			4.7%	2.0%	
		Risk-Adj			4.7%	2.1%	
		Low Risk		2.3%	5.1%	2.5%	
		High Risk			4.9%	2.1%	
MN_PAI3	Prevalence of Residents Who Report Moderate to	Unadjusted			16.1%	3.7%	

				Peer	Group R <sup>2</sup> *		
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
	Severe Pain (Long Stay)						
		Risk-Adj	2.3%		16.0%	3.2%	
		Low Risk	2.9%		14.0%		
		High Risk			11.7%	2.4%	
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	Unadjusted		0.9%		0.2%	
		Risk-Adj		0.9%		0.1%	
		Low Risk	0.1%	1.0%	1.1%	0.5%	0.2%
		High Risk					1.7%
MN_PRUB	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	1.0%	1.0%	1.3%	5.3%	5.6%
		Risk-Adj	0.8%		0.4%	4.9%	5.1%
		Low Risk	2.5%	1.4%			
		High Risk	0.6%				
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	Unadjusted					
		Risk-Adj					
		Low Risk					
		High Risk		10.9%			
MN_RES1	Prevalence of Physical Restraints (Long Stay)	Unadjusted	1.7%	1.4%	3.4%	0.3%	0.4%
		Risk-Adj	1.3%		3.5%	0.1%	
		Low Risk	1.8%	1.3%	5.1%		
		High Risk	0.0%	0.0%	0.2%	0.5%	0.7%
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	Unadjusted		0.5%	0.1%		
		Risk-Adj		0.2%	0.2%		

				Peer	Group R <sup>2</sup> *		
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
		Low Risk	0.9%	0.9%	0.2%		
		High Risk			0.0%		
QP010	Prevalence of Indwelling Catheter (Most Recent)	Unadjusted	3.8%	3.7%	6.6%		
QP012	Prevalence of Urinary Tract Infections (Most Recent)	Unadjusted			4.1%		
QP013	Prevalence of Weight Loss (Most Recent)	Unadjusted	0.1%			0.7%	
QP015	Prevalence of Dehydration (Most Recent)	Unadjusted	0.6%	0.2%		1.9%	
QP017	Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	Unadjusted		4.0%	4.1%	0.1%	
QP018	Incidence of Decline in Range of Motion (Previous/Most Recent (excl. Admissions))	Unadjusted	1.9%	2.3%	0.8%	1.9%	1.9%
QP022	Prevalence of a Daily Physical Restraint (Most Recent)	Unadjusted	2.4%	1.7%	3.7%	0.5%	0.5%
QP024_H	Prevalence of Stage I-IV Pressure Ulcers - High- Risk (Most Recent)	Unadjusted			5.3%	0.6%	0.7%
QP024_L	Prevalence of Stage I-IV Pressure Ulcers - Low- Risk (Most Recent)	Unadjusted			1.5%		0.7%
QP027	Dressing Decline Since Admission (Admission/90- Day)	Unadjusted			2.9%		
QP028b	Dressing Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	0.2%		0.7%	1.6%	1.0%
QP031	Eating Decline Since Admission (Admission/90- Day)	Unadjusted					
QP034	Toileting Decline Since Admission (Admission/90- Day)	Unadjusted		1.8%	3.1%		
QP038	Locomotion Decline Since Admission (Admission/90-Day)	Unadjusted					0.7%
QP039b	Locomotion Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	1.5%	2.7%	1.4%		0.9%

			Peer Group R <sup>2</sup> *				
Measure ID	Measure Description	Туре	5-Star Rating - Overall	5-Star Rating - Deficiencies	5-Star Rating - CMS Quality Measures	5-Star Rating - Staffing	5-Star Rating - RN Staffing
QP043a	Increase in Physical Abuse (Admission/90-Day)	Unadjusted	0.4%	0.3%	0.1%	1.1%	0.7%
QP047	Continence Decline Since Admission (Admission/90-Day)	Unadjusted	1.0%		1.7%		
QP061	Wound Infection (Most Recent)	Unadjusted	1.0%	2.0%	1.1%		
QP106b	Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	Unadjusted					
QP119	Lack of Transferring Rehabilitation Progress (5- Day/30-Day)	Unadjusted		1.6%	1.8%		
QP213	Lack of Corrective Action for Visual Problems (Most Recent)	Unadjusted					3.0%
QP214	Lack of Corrective Action for Auditory Problems (Most Recent)	Unadjusted	0.5%			1.6%	

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
CMS.0674	Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)	Unadjusted	5.5%	4.9%	2.7%	0.7%	1.8%
CMS.0675	The Percentage of Residents on a Scheduled Pain Medication Regimen on Admission Who Self- Report a Decrease in Pain Intensity or Frequency (Short Stay)	Unadjusted		2.0%		1.3%	1.4%
CMS.0676	Percent of Residents Who Self-Report Moderate to Severe Pain (Short Stay)	Unadjusted				2.0%	
CMS.0677	Percent of Residents Who Self-Report Moderate to Severe Pain (Long Stay)	Unadjusted					3.5%
		Risk-Adj		2.1%			3.5%
		Low Risk		1.4%		0.2%	3.8%
		High Risk					2.2%
CMS.0678	Percent of Residents With Pressure Ulcers That Are New or Worsened (Short Stay)	Unadjusted	2.9%	1.6%	2.5%	1.9%	1.5%
		Risk-Adj	3.3%	3.0%	2.3%	2.0%	1.6%
		Low Risk	0.7%	1.6%	0.7%	1.3%	1.5%
		High Risk	2.5%	1.6%	2.0%	1.4%	1.1%
CMS.0679	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	0.2%	1.7%		0.6%	4.2%
CMS.0680	Percent of Residents Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)	Unadjusted		0.6%			
CMS.0680A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Short Stay)	Unadjusted			1.6%	1.8%	
CMS.0680B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)	Unadjusted		2.1%	1.8%		1.7%

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
CMS.0680C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay)	Unadjusted	1.7%	6.1%	6.2%	11.7%	6.0%
CMS.0681	Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	0.8%	1.9%			1.2%
CMS.0681A	Percent of Residents Who Received the Seasonal Influenza Vaccine (Long Stay)	Unadjusted			1.2%		1.0%
CMS.0681B	Percent of Residents Who Were Offered and Declined the Seasonal Influenza Vaccine (Long Stay)	Unadjusted	0.7%	1.2%	1.5%	0.7%	1.0%
CMS.0681C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Long Stay)	Unadjusted			0.9%	1.3%	
CMS.0682	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Short Stay)	Unadjusted	2.7%	3.0%	1.3%	0.8%	2.5%
CMS.0682A	Percent of Residents Who Received the Pneumococcal Vaccine (Short Stay)	Unadjusted	0.9%	1.1%	0.8%	0.4%	2.0%
CMS.0682B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Short Stay)	Unadjusted		2.4%			
CMS.0682C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal Vaccine (Short Stay)	Unadjusted	1.4%	4.0%	3.5%	5.9%	3.7%
CMS.0683	Percent of Residents Assessed and Appropriately Given the Pneumococcal Vaccine (Long Stay)	Unadjusted	1.6%	4.9%	0.3%	3.7%	0.5%
CMS.0683A	Percent of Residents Who Received the Pneumococcal Vaccine (Long Stay)	Unadjusted	2.6%	4.7%	1.3%	1.1%	2.1%
CMS.0683B	Percent of Residents Who Were Offered and Declined the Pneumococcal Vaccine (Long Stay)	Unadjusted		2.1%	2.5%		2.3%
CMS.0683C	Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Pneumococcal	Unadjusted	2.1%	0.8%	1.4%	0.3%	2.7%

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
	Vaccine (Long Stay)						
CMS.0684	Percent of Residents With a Urinary Tract Infection (Long Stay)	Unadjusted	3.0%	0.6%	4.7%	6.3%	1.6%
CMS.0685	Percent of Low Risk Residents Who Lose Control of Their Bowel or Bladder (Long Stay)	Unadjusted	9.3%	13.3%	1.7%	4.1%	8.9%
CMS.0686	Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)	Unadjusted	2.9%	2.0%	0.4%	1.3%	2.1%
		Risk-Adj	2.2%		0.5%	1.0%	
		Low Risk	2.2%	1.1%	1.3%	0.7%	2.4%
		High Risk	1.4%	1.7%	0.4%	0.9%	2.0%
CMS.0687	Percent of Residents Who Were Physically Restrained (Long Stay)	Unadjusted	2.2%	2.8%	1.1%		
CMS.0688	Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	Unadjusted	2.1%	2.4%	3.3%	1.0%	6.1%
CMS.0689	Percent of Residents Who Lose Too Much Weight (Long Stay)	Unadjusted	6.6%	3.0%	6.6%	0.5%	10.2%
CMS.0690	Percent of Residents Who Have Depressive Symptoms (Long Stay)	Unadjusted	1.3%	5.2%	5.1%	5.3%	6.9%
CMS.AP01	Prevalence of Antipsychotic Medication Use (Long Stay)	Unadjusted	2.7%	4.8%	2.6%	1.9%	7.2%
CMS.AP02	Percent of Residents Who Newly Received an Antipsychotic Medication (Short Stay)	Unadjusted	1.5%	2.7%	1.0%	0.7%	1.3%
CMS.SV01	Prevalence of Falls (Long Stay)	Unadjusted			2.7%	2.9%	
CMS.SV02	Prevalence of Psychoactive Medication Use, in the Absence of Psychotic or Related Conditions (Long Stay)	Unadjusted	1.5%	3.9%	1.1%	3.3%	5.1%
CMS.SV03	Prevalence of Antianxiety/Hypnotic Use (Long Stay)	Unadjusted	1.4%	1.9%		0.3%	3.5%

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
CMS.SV04	Prevalence of Behavior Symptoms Affecting Others (Long Stay)	Unadjusted			2.6%		4.7%
MN_ADLA	Incidence of Worsening or Serious Functional Dependence (Long Stay)	Unadjusted	0.5%	4.3%	8.0%	4.4%	10.1%
		Risk-Adj	8.5%	8.9%	5.3%	2.7%	6.1%
		Low Risk	1.6%	9.3%	10.1%	8.5%	10.7%
		High Risk	8.7%	5.3%	4.0%	0.6%	
MN_ADLB	Incidence of Improved or Maintained Functional Independence (Long Stay)	Unadjusted	3.9%	2.4%		1.2%	2.6%
		Risk-Adj	4.5%			1.3%	
		Low Risk				3.0%	
		High Risk	5.2%	2.0%		0.7%	2.9%
MN_BEHA	Incidence of Worsening or Serious Resident Behavior Symptoms (Long Stay)	Unadjusted	0.8%	0.9%	2.4%	0.7%	5.0%
		Risk-Adj	1.0%	1.2%	2.5%	0.9%	4.8%
		Low Risk	1.3%	3.6%	3.7%	3.3%	6.2%
		High Risk	1.8%	0.3%	2.6%	0.2%	4.5%
MN_CAT2	Prevalence of Indwelling Catheter (Long Stay)	Unadjusted	2.5%	1.8%	0.4%	1.4%	
		Risk-Adj	1.5%	1.1%	0.3%	0.6%	
		Low Risk			0.1%	0.1%	
		High Risk	2.5%		1.0%	2.2%	2.6%
MN_CNT4	Prevalence of Urinary Tract Infection (Long Stay)	Unadjusted	4.6%	0.5%	5.7%	4.0%	2.6%
		Risk-Adj	4.0%	1.1%	3.9%	4.3%	1.2%
		Low Risk	8.0%	0.9%	10.8%	3.6%	3.5%
		High Risk	1.1%		0.9%	1.3%	

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
MN_CNTA	Incidence of Worsening or Serious Bowel Incontinence (Long Stay)	Unadjusted	12.1%	14.1%	0.2%	3.7%	4.0%
		Risk-Adj	2.9%	4.3%		4.1%	1.6%
		Low Risk	11.5%	14.6%	0.4%	2.5%	7.1%
		High Risk				2.5%	
MN_CNTB	Incidence of Worsening or Serious Bladder Incontinence (Long Stay)	Unadjusted		4.2%			2.8%
		Risk-Adj				2.7%	
		Low Risk	3.2%	3.3%		3.3%	3.8%
		High Risk					
MN_CNTC	Incidence of Improved or Maintained Bowel Continence (Long Stay)	Unadjusted	13.4%	15.8%	0.9%	2.5%	9.8%
		Risk-Adj	1.9%		0.8%	2.4%	5.5%
		Low Risk	1.6%	2.4%	1.3%	3.1%	
		High Risk	10.2%	10.8%	1.0%	1.5%	12.7%
MN_CNTD	Incidence of Improved or Maintained Bladder Continence (Long Stay)	Unadjusted	14.6%	21.6%	3.6%	4.4%	15.3%
		Risk-Adj	2.4%	5.9%	5.1%	4.7%	6.0%
		Low Risk	5.3%	9.5%	7.0%	6.0%	6.6%
		High Risk	4.3%	4.5%	2.7%	1.4%	8.5%
MN_CNTE	Prevalence of Occasional to Full Bladder Incontinence without a Toileting Plan (Long Stay)	Unadjusted	1.7%		1.1%	1.8%	
		Risk-Adj				2.0%	
		Low Risk	2.1%			0.8%	1.4%
		High Risk		0.7%	1.0%	0.3%	

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
MN_CNTF	Prevalence of Occasional to Full Bowel Incontinence without a Toileting Plan (Long Stay)	Unadjusted				2.3%	
		Risk-Adj				2.1%	
		Low Risk				1.9%	
		High Risk		3.7%	3.0%	4.3%	
MN_DRG1	Prevalence of Antipsychotic Medications without a Diagnosis of Psychosis (Long Stay)	Unadjusted	2.1%	4.7%	1.6%	3.4%	5.8%
		Risk-Adj	2.1%	4.3%	1.3%	3.1%	4.9%
		Low Risk		2.2%	1.7%	1.6%	3.2%
		High Risk	2.9%	3.7%	1.9%	1.4%	4.6%
MN_FAL1	Prevalence of Falls with Major Injury (Long Stay)	Unadjusted	5.8%	7.0%	2.3%	0.8%	
		Risk-Adj	4.0%	5.5%	2.2%	0.8%	1.5%
		Low Risk	2.0%	4.7%	1.0%	1.1%	1.6%
		High Risk	4.5%	3.6%	1.7%	0.8%	
MN_INFX	Prevalence of Infections (Long Stay)	Unadjusted	3.4%	4.2%	2.5%	1.5%	0.6%
		Risk-Adj	2.8%	2.5%	2.7%	1.0%	0.5%
		Low Risk	4.9%	3.2%	8.2%	1.5%	2.3%
		High Risk			1.3%	1.6%	
MN_MOD1	Prevalence of Depression Symptoms (Long Stay)	Unadjusted		2.1%	1.9%	3.0%	4.6%
		Risk-Adj		2.4%	2.0%	3.0%	4.9%
		Low Risk	1.6%	0.8%	0.6%	1.6%	2.7%
		High Risk	1.5%	10.0%	10.2%	10.3%	10.7%
MN_PAI1	Decrease in Pain when Admitted on a Pain Medication Regimen (Short Stay)	Unadjusted					5.5%

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
		Risk-Adj					5.5%
		Low Risk					
		High Risk					
MN_PAI2	Prevalence of Residents Who Report Moderate to Severe Pain (Short Stay)	Unadjusted	2.7%		2.4%	1.3%	6.0%
		Risk-Adj	2.7%		2.4%	1.3%	6.0%
		Low Risk		3.7%		3.7%	5.3%
		High Risk	2.9%		2.7%	1.6%	7.7%
MN_PAI3	Prevalence of Residents Who Report Moderate to Severe Pain (Long Stay)	Unadjusted					
		Risk-Adj					
		Low Risk			1.7%		
		High Risk				1.4%	
MN_PRUA	Prevalence of New or Worsening Pressure Ulcers (Short Stay)	Unadjusted	1.0%	0.3%	0.5%	0.2%	1.1%
		Risk-Adj	0.8%	0.3%	0.3%	0.4%	0.9%
		Low Risk	0.7%	0.6%	0.4%	0.3%	3.4%
		High Risk			0.5%		1.0%
MN_PRUB	Percent of High-Risk Residents With Pressure Ulcers (Long Stay)	Unadjusted	0.9%	2.3%	1.0%	0.7%	4.7%
		Risk-Adj	0.8%	3.4%	2.6%	2.4%	4.6%
		Low Risk	3.7%	1.8%	3.7%	2.2%	5.4%
		High Risk			0.6%	0.5%	
MN_PRUC	Incidence of Healed Pressure Ulcers (Long Stay)	Unadjusted		3.5%		2.5%	
		Risk-Adj		3.8%		3.7%	

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
		Low Risk		3.8%		1.1%	
		High Risk					
MN_RES1	Prevalence of Physical Restraints (Long Stay)	Unadjusted	2.1%	2.9%	1.3%		
		Risk-Adj	1.9%	2.3%	1.5%	0.6%	
		Low Risk	2.3%	1.7%	0.9%	0.5%	0.9%
		High Risk	1.2%	4.9%	1.8%	2.9%	1.9%
MN_WGT1	Prevalence of Unexplained Weight Loss (Long Stay)	Unadjusted	7.2%	1.5%	6.9%	0.1%	7.4%
		Risk-Adj	5.8%	1.1%	6.0%	0.2%	5.9%
		Low Risk	5.5%	2.4%	4.7%	1.1%	3.9%
		High Risk	1.7%		2.1%	2.1%	2.9%
QP010	Prevalence of Indwelling Catheter (Most Recent)	Unadjusted	7.4%	5.5%	1.6%	3.1%	4.5%
QP012	Prevalence of Urinary Tract Infections (Most Recent)	Unadjusted	3.6%	5.2%	5.8%	3.6%	10.1%
QP013	Prevalence of Weight Loss (Most Recent)	Unadjusted	1.4%		1.2%	3.0%	4.5%
QP015	Prevalence of Dehydration (Most Recent)	Unadjusted	1.6%	2.2%		1.3%	1.6%
QP017	Incidence of Decline in Late Loss ADLs (Previous/Most Recent (excl. Admissions))	Unadjusted	6.0%	7.8%	6.4%	0.7%	12.1%
QP018	Incidence of Decline in Range of Motion (Previous/Most Recent (excl. Admissions))	Unadjusted	1.8%			0.8%	
QP022	Prevalence of a Daily Physical Restraint (Most Recent)	Unadjusted	3.5%	4.7%	1.6%	0.4%	1.4%
QP024_H	Prevalence of Stage I-IV Pressure Ulcers - High- Risk (Most Recent)	Unadjusted	0.2%	1.2%	0.7%	2.7%	2.2%
QP024_L	Prevalence of Stage I-IV Pressure Ulcers - Low- Risk (Most Recent)	Unadjusted	0.3%	2.0%	1.1%		2.4%

				Pe	er Group R	2 *	
Measure ID	Measure Description	Туре	Medicaid Non-DD Case Mix Index	All- Resident Non-DD Case Mix Index	Medicaid Non-DD Average Census	All- Resident Non-DD Average Census	Non-DD Medicaid Ratio
QP027	Dressing Decline Since Admission (Admission/90- Day)	Unadjusted	4.8%	8.4%	0.9%	2.3%	3.9%
QP028b	Dressing Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	11.4%	6.8%	0.8%	0.8%	1.1%
QP031	Eating Decline Since Admission (Admission/90- Day)	Unadjusted	4.3%	2.8%	0.5%	0.2%	
QP034	Toileting Decline Since Admission (Admission/90- Day)	Unadjusted	7.1%	8.2%	1.0%	1.0%	
QP038	Locomotion Decline Since Admission (Admission/90-Day)	Unadjusted	2.5%		0.7%	0.2%	
QP039b	Locomotion Severe Decline (Previous/Most Recent (excl. Admissions))	Unadjusted	5.1%	4.6%	3.9%	2.4%	5.2%
QP043a	Increase in Physical Abuse (Admission/90-Day)	Unadjusted	1.9%	0.4%	2.2%	0.7%	3.6%
QP047	Continence Decline Since Admission (Admission/90-Day)	Unadjusted		1.4%		1.2%	
QP061	Wound Infection (Most Recent)	Unadjusted	4.0%	6.0%	1.8%	3.1%	1.7%
QP106b	Increase in Rejection of Care (Previous/Most Recent (excl. Admissions))	Unadjusted	2.4%		3.9%		5.6%
QP119	Lack of Transferring Rehabilitation Progress (5- Day/30-Day)	Unadjusted	8.9%	8.4%	0.5%		
QP213	Lack of Corrective Action for Visual Problems (Most Recent)	Unadjusted	3.3%	3.2%	4.0%	0.8%	3.8%
QP214	Lack of Corrective Action for Auditory Problems (Most Recent)	Unadjusted	6.3%	9.4%	4.1%	4.5%	8.1%

\* Peer grouping explains 2% of NH QIQM variation; largest effects using region, QIQM star rating, resident acuity (CMI); Medicaid percentage.

#### **Appendix B - Comments on Similar QIQM's**

The following are notes relating to QIQM's having similar definitions. The convention for the parenthetical values following each QIQM label (xx%, den=nn, r=zz%) is that xx% is the average QIQM value, nn is the average QIQM denominator and zz% is the correlation between the MN and CMS QIQM's. The notes to the right identify distinguishing aspects of the QIQM's definition. T2/T1 are MN's notation for MDS assessments used in the QIQM definition (most recent/previous). T/P/I are the CMS counterparts (target/previous/initial).

- 1. Incidence of worsening ADL functioning (long stay)
  - a. MN\_ADLA (9.8%, den=56, r=80%) Includes residents staying at highest ADL level; T2-T1 >= 30 days
  - b. CMS.0688 (14.9%, den=54) Excludes residents starting at highest ADL level; T-P >= 46 days
  - c. QP017 (11.3%, den=88) Short or long stay
- 2. Prevalence of catheter use (long stay)
  - a. MN\_CAT2 (3.8%, den=54, r=90%) Excludes hospice; risk-adjusted on CVA, para, quad, sex, age, LOS
  - b. CMS.0686 (4.0%, den=59) Risk-adjusted on bowel incontinence & pressure ulcers
  - c. QP010 (7.8%, den=128) Short or long stay
- 3. Prevalence of UTI (long stay)
  - a. MN\_CNT4 (5.5%, den=57, r=93%) Excludes hospice
  - b. CMS.0684 (5.5%, den=63)
  - c. QP012 (9.8%, den=128) Short or long stay
- 4. Prevalence of anti-psychotics without diagnosis (long stay)
  - a. MN\_DRG1 (13.9%, den=49, r=90%) Excludes hospice, PTSD, aff. psych.
  - b. CMS.SV02 (12.5%, den=51) Excludes bipolar
- 5. Prevalence of falls with major injury (long stay)
  - a. MN\_FAL1 (0.6%, den=60, r=48%) T2 only (~90 day exposure)
  - b. CMS.0674 (2.5%, den=64) Triggered by any lookback assessment (up to 275 day exposure)
  - c. Note similar NH percentile ranking of annual values
- 6. Prevalence of depression (long stay)
  - a. MN\_MOD1 (2.6%, den=60, r=80%) Depression score >= ~12
  - b. CMS.0690 (6.6%, den=61) Depression score >= 10
- 7. Incidence of reduction in pain (short stay)
  - a. MN\_PAI1 (56%, den=3, r=24%) Reporting pd = 3 mths; T2-T1 >= 30 days
  - b. CMS.0675 (69%, den=13) Reporting pd = 6 mths; T-I >= 1 day
#### 8. Prevalence of pain (short stay)

- a. MN\_PAI2 (23%, den=**31**, r=**71%**) Reporting pd = 3 mths
- b. CMS.0676 (21%, den=58) Reporting pd = 6 mths
- 9. Prevalence of pain (long stay)
  - a. MN\_PAI2 (14%, den=48, r=93%) Reporting pd = 3 mths; risk-adj on arthritis & cancer
  - b. CMS.0676 (12%, den=47) Reporting pd = 3 mths; risk-adj on cog. imp.
- 10. Prevalence of worsening pressure ulcers (short stay)
  - a. MN\_PRUA (0.8%, den=30, r=38%) Rpt pd = 3 mths; T2 must be discharge; risk-adj on coma, bed mobility, transferring, hospice, etc.
  - b. CMS.0678 (1.8%, den=51) Rpt pd = 6 mths; triggered by any lookback assessment since admission; risk-adj on bed mobility, bowel incont., diabetes, low BMI
- 11. Prevalence of high-risk pressure ulcers (long stay)
  - a. MN\_PRUB (4.4%, den=44, r=**94%**)
  - b. CMS.0679 (4.6%, den=46) Various risk adjusters
  - c. QP024\_H (9.8%, den=90) Short or long stay
- 12. Prevalence of restraints (long stay)
  - a. MN\_RES1 (1.0%, den=60, r=98%)
  - b. CMS.0687 (1.0%, den=64) Various risk adjusters
  - c. QP022 (0.7%, den=128) Short or long stay
- 13. Prevalence of weight loss (long stay)
  - a. MN\_WGT1 (6.0%, den=57, r=**84%**) Excludes hospice
  - b. CMS.0689 (7.5%, den=63) Various risk adjusters
  - c. QP013 (9.2%, den=127) Short or long stay

# **Appendix C - Stakeholder Panel**

### C. WHCA/WiCAL

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## D. LeadingAge Wisconsin

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#### F. WI Board on Aging and LTC (BOALTC)

Heather Bruemmer

#### G. Metastar

Mary Funseth Jody Rothe

#### H. DHS DQA

Pat Benesh Otis Woods Juan Flores

# I. DHS DLTC

Beth Wroblewski Dave Varana Deb Rathermel Kevin Coughlin Brian Shoup

# J. CHSRA

Jim Robinson David Zimmerman