THE NATIONAL QUALITY FORUM

National Voluntary Consensus Standards for Nursing Home Care

A CONSENSUS REPORT

Foreword

The quality of care provided in nursing homes has long been a national concern. The good news is that this care is improving, although much remains to be done. The work of the National Quality Forum (NQF) Nursing Home Performance Measures Project will help efforts in this important area move forward.

This report details 16 performance measures that will facilitate standardized comparison of the quality of nursing homes in communities across the country. These quality measures have been carefully reviewed and endorsed by a diverse group of stakeholders pursuant to NQF's formal Consensus Development Process, giving them the special status of voluntary consensus standards. The primary purpose of these NQF-endorsed voluntary consensus standards is to provide information to help consumers select nursing home care facilities, although they also may be used by nursing homes for internal quality improvement efforts and by discharge planners, physicians, Quality Improvement Organizations, purchasers, policymakers, researchers, and state survey and certification personnel for their various purposes.

We thank NQF Members and the Nursing Home Performance Measures Steering Committee and its Advisory Panel for their stewardship of this work and for their collective dedication to improving the quality of healthcare in American nursing homes by making performance measurement standardized and accessible.

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Executive Summary

The quality of care provided to residents of long-term and post-acute care nursing homes is a subject of ongoing concern among consumers. Although quality indicators have been used for internal and external quality review and improvement, standardized measures intended for public reporting and effective methods for measuring and reporting across institutions and over time have not been available. In fact, until November 2002, when the federal government launched its Nursing Home Quality Initiative, it was impossible for the public to obtain the objective information needed to compare the quality of care provided by one nursing home with that of another.

To ensure that consumers, providers, purchasers, and regulators have the information needed to evaluate the quality of care in nursing homes, the Centers for Medicare and Medicaid Services (CMS) asked the National Quality Forum (NQF) to identify a set of voluntary consensus standards for assessing the quality of care for both long-term care residents and short-stay (subacute and post-acute) residents. Based on its review of available measures, NQF endorses a set of eight individual voluntary consensus standards and two sets of paired consensus standards (one should not be included without the other) for long-term care; a set of three voluntary consensus standards for post-acute care; and a set of three voluntary consensus standards that apply to all nursing home residents.

The primary purpose of these voluntary consensus standards is to provide information to help consumers select nursing home care facilities. The consensus standards also may be used for placing

residents, advising residents and families, implementing internal quality improvement efforts, planning quality improvement projects, designing payment and incentive programs, overseeing quality, refining existing measures or identifying new ones, and focusing survey activities. Today, CMS is collecting and publicly reporting information on the quality of nearly 17,000 nursing homes as part of the Nursing Home Quality Initiative (www.medicare.gov/NHCompare), which is based on the NQF-endorsed measures.

National Voluntary Consensus Standards for Nursing Home Care

Chronic Care Measures

- Residents whose need for more help with daily activities has increased
- Residents who lost too much weight
- Residents who experience moderate to severe pain during the seven-day assessment period
- Residents who were physically restrained during the seven-day assessment period
- Residents who spent most of their time in bed or in a chair in their room during the seven-day assessment period
- Residents with a decline in their ability to move about in their room and the adjacent corridor
- Residents with a urinary tract infection
- Residents with worsening of a depressed or anxious mood

Chronic Care Measure Pairs

- High-risk residents with pressure ulcers AND average-risk residents with pressure ulcers
- Residents who frequently lose control of their bowels or bladder (low risk) AND residents who have a catheter in the bladder at any time during the 14-day assessment period

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- Recently hospitalized residents with symptoms of delirium
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Measures for All Nursing Home Residents

- Pneumococcal polysaccharide vaccination of residents age 65 or older
- Influenza vaccination of all nursing home residents
- Nurse staffing hours

National Voluntary Consensus Standards for Nursing Home Care

Introduction

The quality of care provided to residents of long-term and post-acute care nursing homes is a subject of ongoing concern among consumers and other healthcare stakeholders. Assessing quality of care requires effective methods for measuring and reporting across institutions and over time, a fact emphasized in the Institute of Medicine's 2001 report *Improving the Quality of Long-Term Care,* which concluded that "review of the current quality of long-term care has highlighted several areas of concern, including lack of standard measurement tools and data to use in more systematic assessments of the quality of care in various long-term care settings."[1]

To ensure that consumers, providers, purchasers, and regulators have the information needed to evaluate the quality of care in these facilities, in September 2001, the Centers for Medicare and Medicaid Services (CMS) asked the National Quality Forum (NQF) to identify a set of voluntary consensus standards for assessing the quality of care for both long-term care residents and short-stay (subacute and post-acute) residents in nursing homes and for the purpose of public reporting. This report presents three sets of NQF-endorsed voluntary consensus standards for nursing homes: one for chronic/long-term nursing home care, one for post-acute/short-stay nursing home care, and one for both types of care.

[1] Institute of Medicine. Committee on Improving Quality in Long-Term Care. 2001. *Improving the Quality of Long-Term Care.* Washington, DC: National Academies Press.

It is important to note that this report does not represent the entire scope of NQF work pertinent to quality of care in nursing homes. In 2003 NQF completed separate projects of direct or ancillary relevance to the quality of nursing home care. *Serious Reportable Events in Healthcare* identifies 27 serious adverse events that should be reported by all licensed healthcare facilities (e.g., stage 3 or 4 pressure ulcers acquired after admission to a healthcare facility or patient death or serious disability associated with patient elopement [disappearance] for more than four hours). *Improving Healthcare Quality for Minority Patients* reports on the recommendations of an NQF expert panel regarding 10 actions that, if adopted, could significantly improve the quality of care that is provided to minority populations—without regard to care setting. *Safe Practices for Better Healthcare* identifies of a set of healthcare safe practices that should be employed universally in applicable healthcare settings to reduce the risk of harm resulting from processes, systems, or environments of care.

Purpose

The primary purpose of the NQF-endorsed voluntary consensus standards for nursing home care is to provide information to help consumers select nursing home care facilities. The consensus standards also may be used by discharge planners for placing patients; physicians for advising patients and families; nursing home providers for facilitating internal quality improvement; Quality Improvement Organizations for planning quality improvement projects; purchasers for designing payment and incentive programs; policymakers for overseeing quality; researchers for refining existing measures or identifying new ones; and state survey and certification personnel for focusing survey activities.

Voluntary Consensus Standards for Nursing Home Care

Measuring the quality of nursing home care should ideally include the multiple dimensions of care involved in that setting—especially the complex interplay that occurs between the provision of healthcare and social services. In addition, nursing home quality consensus standards should encompass the following seven domains of quality of care:

- clinical care (including healthcare processes and outcomes);
- functional status (physical and cognitive);
- structural characteristics (including facility characteristics, environmental characteristics [such as proportion of single rooms], staffing, and financial information);
- quality of life;
- satisfaction (resident, family, and employee satisfaction);
- participation in care management; and
- external assessments of quality (including accreditation, survey results, deficiencies, and complaints).

Although consensus standards were sought in and across these seven domains, the development of measures across domains is uneven. Thus, the domains that do not have measures ready for incorporation should be a priority as the development of new measures moves forward.

Criteria

For nursing home care, a proposed consensus standard had to meet two threshold criteria:

- be in the public domain; and
- be based on evidence that it has been tested in the intended setting, using nursing home populations, and found to be valid and reliable.

Five additional criteria were used to select draft consensus standards. They should:

- reflect issues of high priority for nursing home residents and consumers;
- be of processes and outcomes that are under the influence of the facility;

- be easily understood by consumers;
- consider the burden of measurement, including data collection and number of measures; and
- not introduce incentives that do not benefit the resident (e.g., refusing to admit residents with certain diagnoses or embracing care practices such as inserting catheters to manage incontinence).

Consideration of proposed measures was not limited to those derived from CMS's Minimum Data Set (MDS) instrument, which nursing homes currently use. However, the lack of other standardized data collection tools that could be implemented on a national scale in the short term effectively limited the pool of candidate measures mainly to those that were MDS-based.

Clinical Care and Functional Consensus Standards

Based on its review of available measures, NQF endorses a set of eight individual voluntary consensus standards and two sets of paired consensus standards (one should not be included without the other) for long-term care; a set of three voluntary consensus standards for post-acute care; and a set of three voluntary consensus standards that apply to all nursing home residents and facilities.

The long-term care and post-acute care populations are identified by CMS by payment source and as coded on the MDS. Long-term care residents are patients who require daily assistance or skilled nursing care as covered by Medicaid. CMS defines the post-acute resident population as those patients admitted to a skilled nursing facility (nursing home) after an acute hospitalization eligible for coverage under Medicare Part A. The sets of consensus standards, however, are not meant to be limited in their application to CMS as a purchaser. Reporting of performance measurements for nursing homes for these two populations—with their differing care needs and outcome expectations—is important to consumers regardless of payment source.

The sets of voluntary consensus standards include measures that already have been tested or validated. Measure evaluation included an assessment of the risk adjustment used by the measure developer that was based on consultation with experts and that used the best available scientific evidence on risk adjustment. The definitions of the numerator and denominator, exclusions, stratification, and covariates all were considered part of the risk adjustment.

Tables 1, 2, and 3 present the endorsed consensus standards for long-term care residents, post-acute care residents, and all nursing home residents. Appendix A details the full specifications and adjustments for each consensus standard. Each specification in its entirety (for all tables) constitutes the NQF-endorsed consensus standard—that is, for the purpose of implementing an endorsed measure as a voluntary consensus standard, the specifications in appendix A should not be considered optional. Appendix D presents the evidence base and the rationale for the proposed consensus standards.

Table 1 presents brief descriptions of the endorsed clinical care and functional status consensus standards for assessing nursing home quality for long-term care residents.

Table 1 – National Voluntary Consensus Standards for Chronic Care

The chronic care consensus standards assess the quality of care provided to residents receiving long-term care in nursing homes. Resident assessments using the MDS tool are required on admission (within 14 days), every 3 months thereafter, or when a significant change in status occurs.

Residents whose need for more help with daily activities has increased. The percentage of residents whose ability to perform independently four activities of daily living (ADLs) (bed mobility, transfer, eating, and toileting) declined at least one level in two or more ADL dimensions or by two or more levels in one dimension between the previous and the most recent assessments. Residents who were already totally dependent or who were comatose on the previous assessment are excluded.

Residents who lost too much weight. The proportion of residents who have lost more than 5 percent of their body weight in the past 30 days or more than 10 percent of their body weight in the past 6 months on the most recent assessment. Hospice residents are excluded.

Residents who experience moderate to severe pain during the seven-day assessment period. The percentage of residents who experienced moderate pain daily or horrible/excruciating pain at any frequency on the seven-day target assessment. Admission assessment is excluded.

Pressure ulcers—paired measures:

High-risk residents with pressure ulcers. The percentage of residents at high risk for developing pressure ulcers (comatose, impaired mobility, or malnourished) who had pressure ulcers on the most recent assessment. Admission assessment is excluded.

Average-risk residents with pressure ulcers. The percentage of residents at average risk for developing pressure ulcers who had pressure ulcers on the most recent assessment, excluding admission.

Residents who were physically restrained daily during the seven-day assessment period. The proportion of residents who were physically restrained on the most recent assessment. This measure should not be risk adjusted.

Incontinence—paired measures:[2]

Residents who frequently lose control of their bowels or bladder (low risk). The percentage of residents who were frequently bladder or bowel incontinent even though they are at low risk for developing incontinence. This measure does not include residents who are comatose or who have an indwelling catheter or ostomy. Admission assessment is excluded.

Residents who have a catheter in the bladder at any time during the 14-day assessment period. The percentage of residents who have an indwelling catheter all of the time on the most recent assessment.

Residents who spent most of their time in bed or in a chair in their room during the seven-day assessment period. The proportion of residents who do not leave their bed or a chair in their room for more than two hours each day.

Residents with a decline in their ability to move about in their room and the adjacent corridor. The percentage of residents whose self-performance in locomotion or mobility declined from the prior assessment.

Residents with a urinary tract infection. The percentage of residents with a urinary tract infection.

Residents with worsening of a depressed or anxious mood. The percentage of residents whose scores on the Mood Scale worsen relative to those on the prior assessment.

[2] These measures are linked together as a pair to avoid introducing an incentive to use catheters inappropriately to improve performance in the area of incontinence, the control of which is of significant interest to consumers.

Table 2 presents the consensus standards for post-acute care residents; the shorter list for these residents reflects the limited pool of measures available for this population. The use of the MDS to assess post-acute residents is somewhat limited by the fact that many have very short stays—as many as 40 percent of post-acute residents are discharged before the 14-day assessment and are not captured by existing measures. Nevertheless, in recognition of the importance of including consensus standards for the large number of post-acute residents who are cared for in nursing homes, NQF endorses three consensus standards.

Table 3 presents three NQF-endorsed consensus standards that apply to all nursing home populations, regardless of facility or type of resident: pneumococcal vaccination,[3] influenza vaccination,[3] and nurse staffing hours. Significant evidence

Table 2 – National Voluntary Consensus Standards for Post-Acute Care

The post-acute care consensus standards assess the quality of care provided to residents who are in nursing homes for the purpose of receiving recuperative or rehabilitative services after acute-care hospital stays. The MDS is completed on admission (within 5 days), on day 14, and at the end of the first, second, and third months.

Recently hospitalized residents with symptoms of delirium. The percentage of residents with at least one symptom of delirium that represents a departure from usual functioning on the 14-day assessment.

Recently hospitalized residents who experienced moderate to severe pain at any time during the seven-day assessment period. The percentage of residents with moderate pain daily or horrible/excruciating pain at any frequency on the 14-day assessment.

Recently hospitalized residents with pressure ulcers. The percentage of residents who develop pressure ulcers or who were admitted with pressure ulcers and do not improve between the 5-day and the 14-day assessments.

Table 3 – National Voluntary Consensus Standards for All Nursing Home Residents and Facilities

Pneumococcal polysaccharide vaccination of residents age 65 or older.[3] The percentage of newly admitted residents age 65 years or older who are screened for eligibility for pneumococcal vaccine status within 30 days of admission and who either are not eligible or who are eligible and receive the vaccination. Residents who refuse vaccination, who have medical contraindications to vaccination, or who are up-to-date on vaccination are considered ineligible.

Influenza vaccination of all nursing home residents.[3] The percentage of nursing home residents who have resided in a facility for any length of stay from October 1 through March 31 of the year prior to the measurement (the most recent complete influenza season)—including newly admitted residents—who receive vaccination against influenza or who are not eligible for vaccination.

Nurse staffing hours. The average number of hours worked by the nursing staff per resident per day.

[3] Under the revised contract (see appendix D), CMS instituted criteria not present in the initial contract but specifying that consensus standards transmitted to CMS must "be based on data that are currently reported such that it is feasible for nursing homes to collect the data consistently and with no added burden." Nevertheless, NQF could, at its discretion, expand the scope of endorsed voluntary consensus standards for nursing home care quality provided it did so with funds other than those attached to the new contract and provided NQF identifies consensus standards that were not encompassed by the new CMS criteria. The vaccination consensus standards are endorsed by NQF, but they do not meet CMS's current criteria.

supports the effectiveness of vaccination in preventing morbidity and mortality.[4,5] Pneumococcal vaccination of the geriatric population has been shown to reduce the risk of pneumonia,[6] and influenza vaccination is proven to reduce the risk of hospitalization for heart disease, cerebrovascular disease, and pneumonia or influenza, and it reduces the risk of death from all causes during the influenza season.[7] Both vaccines are underused in vulnerable populations.[8]

Measures of nurse staffing hours are of paramount importance to consumers. CMS currently reports information on nurse staffing on its *Nursing Home Compare* web site. One recent study by the California HealthCare Foundation demonstrated a relationship between improved quality of care in facilities with high levels of staffing,[9] while another study indicated that there is a threshold for nurse and nurse assistant hours per resident day below which quality is affected. Because this latter study did not adjust for case mix, however, additional research in this area is needed.[10] The development of improved data systems should be a high priority, but until such systems are available the current approach for providing consumers with this information should continue (and should include an explanation noting that the data have not been audited and may be inaccurate). Consumers also should receive information about recent research regarding staffing levels and nursing home quality. As of January 2003, federal law requires that all nursing homes post information about nurse staffing for each shift.

[4] Buikema AR, Singleton JA, Sneller V, Strikas RA. Influenza and pneumococcal vaccination in nursing homes, U.W., 1995-1999 [abstract] in Abstract from the 35th National Immunization Conference, Atlanta, Georgia, June 2001.

[5] McKibben L, Shefer A, Krider J, et al. The Immunization Standing Orders Program (SOP) Project: baseline evaluation of nursing home immunization practices and barriers in seven intervention and five control states [Abstract] Oral presentation at the 35th National Immunization Conference, Atlanta, Georgia, June 2001.

[6] Wagner C, Popp W, Posch M, Vlasich C, Rosenberger-Spitzy A. Impact of pneumococcal vaccination on morbidity and mortality of geriatric patients: a case-controlled study. *Gerontology*. 2003;49(4):246-250.

[7] Nichol KL, Nordin J, Mullooly J, Lask R, Fillbrandt K, Iwane M. Influenza vaccination and reduction in hospitalizations for cardiac disease and stroke among the elderly. *N Engl J Med*. 2003;348(14):1322-1332.

[8] Bratzler DW, Houck PM, Jiang H, Nsa W, Shook C, Moore L, Red L. Failure to vaccinate Medicare inpatients: a missed opportunity. *Arch Intern Med.* 2002;162(20):2349-2356.

[9] California HealthCare Foundation. *Research Topics: Nurse Staffing*. Available at www.calnhs.org/research/view.cfm?itemID=19966.

[10] Centers for Medicare and Medicaid Services. 2002. *Report to Congress: Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report*. Available at www.cms.hhs.gov/medicaid/reports/rp1201home.asp.

Structural Information

In considering structural measures, NQF identified information that it considered essential to report to consumers but that could not be characterized as performance measures. Facility ownership is important to the public, and both local and corporate ownership information should be published for each facility and updated when change occurs.

Quality of Life Measures

Assessment of the quality of life of nursing home residents is critically important to both consumers and providers. The lack of measures of quality of life is acknowledged as a large gap in the nursing home measure sets. Measures of quality of life are in various stages of development, with questions regarding who should administer the measurement tools and analyze the data—and who will bear the cost of measurement—remaining to be answered. The data collection and analytic systems that are required to implement quality of life measures need to be developed rapidly so that these high-priority measures can be considered for inclusion in these sets of consensus standards as soon as possible.

Satisfaction Measures

Measures of resident and family satisfaction and, to a lesser degree, those of employee satisfaction, also are a high priority for inclusion in the nursing home measure set. Many proprietary and some public domain instruments are used in many facilities for these measures. Nevertheless, capabilities for data collection and analysis are not uniformly available for near-term implementation of a standardized, public domain instrument to measure satisfaction. The systems needed to implement satisfaction measures should be rapidly developed so that they can be considered for inclusion in the sets as soon as possible. Using a single instrument to ascertain quality of life and resident and family satisfaction will help address issues regarding the burden involved in collecting these data.

Other Priority Areas for Measurement and Reporting

The development of measures (for those domains that lack them) and/or the improvement of existing measures and appropriate data systems would greatly enhance the type of information that could be provided to consumers. Areas in which measures and/or systems could be developed or improved include:

- mental health;
- maintenance and improvement of functioning;
- patient safety (e.g., medication errors and falls and injury);
- NQF's six healthcare system aims, particularly timeliness, equitability, and efficiency;[11]
- processes of care (such as measures endorsed by NQF for hospital performance [e.g., process measures in congestive heart failure or pneumonia]);
- quality of care for patients with dementia;
- rehospitalization and discharge destination;
- bed rails and side rails as physical restraints;
- ascertainment bias in pain assessment;
- definitions of infection(s) for surveillance in nursing homes;
- oral health;
- medication and pharmacy practices in nursing homes; and
- health disparities, to address staff training for cultural competence and populations with limited English skills.

There is also a need to report information in positive terms, for example, "the percent of residents who are free of pain" or "the percent of residents maintaining their weight," as most current measures are phrased in negative terms.

Additional Recommendations

In addition to the voluntary consensus standards for long-term care, post-acute care, and all residents and/or facilities, NQF recommends specific actions in five areas: staffing information, measures for post-acute care, quality of life and satisfaction measures, public reporting, and updating of the sets of consensus standards.

Staffing Information

As noted earlier, information regarding nursing home staffing is critically important to the public. Immediate steps should be taken to improve the quality of the data regarding staffing in nursing homes. The following actions should be taken without delay to improve nursing home staffing measurement and reporting:

- CMS should upgrade the OSCAR data system immediately to improve data accuracy, using techniques such as removing obviously erroneous data ("0" or "999") and other published exclusion criteria.

[11] In *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001), the Institute of Medicine identified six aims of the healthcare quality system: it should be safe, effective, efficient, timely, patient centered, and equitable. In October 2000, the NQF Board of Directors adopted a purpose statement that largely mirrored the IOM aims, but added that the system also should be beneficial, which encompasses but also goes beyond the aim of effectiveness. The NQF aims also were endorsed by members in *A National Framework for Healthcare Quality Measurement and Reporting,* 2001. Washington, DC.

- CMS should, by September 2004, establish a system for improved staffing data that is timely, generated quarterly, not related to survey timing, acuity adjusted, and audited.
- As soon as possible, CMS should encourage development of additional validated measures pertaining to the nursing home workforce, such as those related to staff turnover and retention; use of contract versus payroll data; staff training; use of advanced practice nurses; tenure of the director of nursing and facility administrator; and use of non-nurse staffing (e.g., recreational, occupational, and physical therapists).

Development of Measures for Post-Acute Care

Because the resident population in nursing homes is changing, additional valid and reliable measures to evaluate care for the entire short-stay population should be developed without delay. Measure development in areas such as functional status, rehospitalization, and discharge location should be a high priority.

Development of Measures to Assess Quality of Life and Satisfaction

Immediate attention must be directed to feasibility issues, taking into account such issues as appropriate data collection systems, time required to administer a quality of life/satisfaction survey, case-mix adjustment, and financial burdens/responsibilities. It also is important to provide alternatives to having facility staff administer surveys. Taking these actions will help ensure that quality-of-life and satisfaction measures can be considered for inclusion in the measure set within two years.

Public Reporting

How information derived from using measures is presented to the public is key to its usefulness to consumers. A focused public education effort is essential to assist consumers in using this information effectively. Clear explanations should be developed to help consumers interpret publicly reported quality information appropriately and understand its limitations. Acknowledgment of the difficulties involved in obtaining sample sizes large enough to permit the comparison of nursing home quality should be included, when appropriate.

CMS should work with NQF and its Members to identify a standardized national reporting format for the public presentation of nursing home quality information, and the usefulness of this format should be formally assessed with its intended audiences. Issues such as how frequently information is updated, longitudinal reporting, and clustering, or "roll-up," of information for consumers should be addressed.

Updating and Improving the Sets of Consensus Standards

These initial nursing home sets of consensus standards serve as starting points for ongoing research in measure validation and risk-adjustment methods and for gaining experience with public reporting

of quality information, which are needed to make the sets stronger and more robust over time. National and state reporting initiatives should be formally evaluated for (but not be limited to) the following: use by and usefulness to consumers; possible unintended consequences, such as altering admitting or discharge practices; assessment of pain and symptoms of depression; and possible undesired incentives. The measure sets should be re-evaluated for the purposes of updating and improving them within two years after NQF's initial endorsement.

Acknowledgments

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Appendix A
Specifications of the National Voluntary Consensus Standards for Nursing Home Care

The following table summarizes the detailed specifications for each of the National Quality Forum (NQF)-endorsed nursing home performance measures. All information presented has been derived directly from measure sources/developers without modification or alteration (except when the measure developer agreed to such modification during the NQF Consensus Development Process) and is current as of April 1, 2004.

All NQF-endorsed voluntary consensus standards are open source, meaning they are fully accessible and disclosed. References to related risk-adjustment methodologies and definitions are provided to assure openness and transparency.

Issues regarding any NQF-endorsed consensus standard (e.g., modifications to specifications, emerging evidence) may be submitted to NQF for review and consideration via the "Implementation Feedback Form" found at www.qualityforum.org/implementation_feedback.htm. NQF will transmit this information to the measure developers and/or compile it for consideration in updating the measure set.

Appendix A – Specifications for the National Voluntary Consensus Standards for Nursing Home Care

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR CHRONIC CARE

Measure	Specifications[1] (see endnotes)	Risk Adjustment
RESIDENTS WHOSE NEED FOR MORE HELP WITH DAILY ACTIVITIES HAS INCREASED Source: *Mega QI – August 2002[2] – "Late-loss ADL worsening"*	*Numerator:* Residents with worsening (increasing MDS item score) in late-loss ADL self-performance at target relative to prior assessment. *Denominator:* All residents with a valid target and a valid prior assessment. Residents meet the definition of late-loss ADL worsening when at least two of the following are true: 1. Bed mobility - [Level at target assessment (G1a(A)[t]] – [Level at previous assessment (G1a(A)[t-1]]>0, or 2. Transfer - [Level at target assessment (G1b(A)[t]] – [Level at previous assessment (G1b(A)[t-1]]>0, or 3. Eating - [Level at target assessment (G1h(A)[t]] – [Level at previous assessment (G1h(A)[t-1]]>0, or 4. Toileting - [Level at target assessment (G1i(A)[t]] – [Level at previous assessment (G1i(A)[t-1]]>0, or at least one of the following is true: 1. Bed mobility - [Level at target assessment (G1a(A)[t]] – [Level at previous assessment (G1a(A)[t-1]]>1, or 2. Transfer - [Level at target assessment (G1b(A)[t]] – [Level at previous assessment (G1b(A)[t-1]]>1, or 3. Eating - [Level at target assessment (G1h(A)[t]] – [Level at previous assessment (G1h(A)[t-1]]>1, or 4. Toileting - [Level at target assessment (G1i(A)[t]] – [Level at previous assessment (G1i(A)[t-1]]>1.	*Exclusions:* Residents meeting any of the following conditions: 1. None of the four late-loss ADLs (G1a(A), G1b(A), G1h(A), and G1i(A)) can show decline because each of the four has a value of 4 (total dependence) or a value of 8 (activity did not occur) on the prior assessment [t-1]. 2. The QM did not trigger (resident not included in the numerator) and there are missing data on any one of the four late-loss ADLs (G1a(A), G1b(A), G1h(A), or G1i(A)) on the target assessment [t] or prior assessment [t-1]. 3. The resident is comatose (B1=1) or comatose status is unknown (B1=missing) on the target assessment. 4. The resident has end-stage disease (J5c=checked) or end-stage disease status is unknown (J5c=missing) on the target assessment. 5. The resident is receiving hospice care (P1ao=checked) or hospice status is unknown (P1ao=missing) on the target assessment or the most recent full assessment. 6. The resident is in a facility with a Chronic Care admission assessment with AA8a=01 in the facility over the previous 12 months.
RESIDENTS WHO LOST TOO MUCH WEIGHT Source: *Modified from CHSRA[3] – "Prevalence of weight loss"*	*Numerator:* Proportion of residents with weight loss of 5 percent or more in the last 30 days or 10 percent or more in the last six months on the most recent assessment (K3a=1). *Denominator:* All residents on the most recent assessment.	*Exclusion:* The resident is receiving hospice care (P1ao=checked).

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR CHRONIC CARE (continued)

Measure	Specifications[1] (see endnotes)	Risk Adjustment
RESIDENTS WHO EXPERIENCE MODERATE TO SEVERE PAIN DURING THE 7-DAY ASSESSMENT PERIOD Source: *Mega QI – August 2002 – "Pain, inadequate management"*	*Numerator:* Residents with moderate pain at least daily (J2a=2 and J2b=2) or horrible/excruciating pain at any frequency (J2b=3) on the target assessment. *Denominator:* All residents with a valid target assessment.	*Exclusions:* Residents satisfying any of the following conditions: 1. The target assessment is an admission (AA8a=01) assessment. 2. Either J2a or J2b is missing on the target assessment. 3. The values of J2a and J2b are inconsistent on the target assessment. 4. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a=01 in the facility over the previous 12 months). *Covariate:* Indicator of independence or modified independence in daily decisionmaking on the prior assessment: Covariate=1 if B4=0 or 1. Covariate=0 if B4=2 or 3.
PRESSURE ULCERS – ***PAIRED MEASURES:*** **High-risk residents with pressure ulcers** ***and*** **Average-risk residents with pressure ulcers** Source: *Mega QI – August 2002 – "Pressure ulcer (stage 1-4) prevalence"*	**HIGH-RISK RESIDENTS WITH PRESSURE ULCERS:** *Numerator:* Residents with pressure ulcers (stage 1-4) on the target assessment (M2a>0 or I3a-3=707.0). *Denominator:* All residents with a valid target assessment and any one of the following inclusion criteria: 1. Impaired in mobility or transfer on the target assessment as indicated by G1a(A)=3, 4, or 8 or G1b(A)=3, 4, or 8. 2. Comatose on the target assessment as indicated by B1=1. 3. Suffer malnutrition on the target assessment as indicated by I3a through I3e=260, 261, 262, 263.0, 263.1, 263.2, 263.8, or 263.9. **AVERAGE-RISK RESIDENTS WITH PRESSURE ULCERS:** *Numerator:* Residents with pressure ulcers (stage 1-4) on the target assessment (M2a >0 or I3a-e=707.0). *Denominator:* All residents with a valid target assessment and not qualifying as high risk.	*Exclusions for both measures:* Residents satisfying any of the following conditions are excluded from all risk groups (high and low, high, and low): 1. The target assessment is an admission (AA8a=01) assessment. 2. The QM did not trigger (resident is not included in the QM numerator) and the value of M2a is missing on the target assessment. 3. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a=01 in the facility over the previous 12 months). 4. The resident does not qualify as high risk and the value of G1a(A) or G1b(A) is missing on the target assessment. 5. The resident does not qualify as high risk and the value of B1 is missing on the target assessment.

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR CHRONIC CARE (continued)

Measure	Specifications[1] (see endnotes)	Risk Adjustment
RESIDENTS WHO WERE PHYSICALLY RESTRAINED DAILY DURING THE 7-DAY ASSESSMENT PERIOD Source: *CHSRA – "Prevalence of daily physical restraints"*	*Numerator:* Residents who were physically restrained daily on the most recent assessment. *Denominator:* All residents on the most recent assessment. MDS 2.0 Definition: Daily physical restraints (P4c or d or e=2).	No adjustment.
RESIDENTS WHO FREQUENTLY LOSE CONTROL OF THEIR BOWELS OR BLADDER (LOW RISK) ***PAIRED WITH CATHETER MEASURE BELOW*** Source: *Mega QI – August 2002 – "Bladder or bowel incontinence prevalence, low risk"*	*Numerator:* Residents who were frequently incontinent or fully incontinent on the target assessment (H1a=3 or 4 or H1b=3 or 4). *Denominator:* All residents with a valid target assessment and not qualifying as high risk.	*Exclusions:* 1. Residents who qualify as high risk are excluded from the denominator: a. Severe cognitive impairment on the target assessment as indicated by B4=3 and B2a=1; or b. Totally dependent in mobility ADLs on the target assessment: G1a(A)=4 or 8 and G1b(A)=4 or 8 and G1e(A)=4 or 8. 2. Residents satisfying any of the following conditions are excluded from all risk groups (high and low, high, and low): a. The target assessment is an admission (AA8a=01) assessment. b. The QM did not trigger (resident is not included in the QM numerator) and the value of H1a or H1b is missing on the target assessment. c. Residents who are comatose (B1=1) or comatose status is unknown (B1=missing) on the target assessment. d. The resident has an indwelling catheter (H3d=checked) or indwelling catheter status is unknown (H3d=missing) on the target assessment. e. The resident has an ostomy (H3i=checked) or ostomy status is unknown (H3i=missing) on the target assessment. f. The resident is in a facility with Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a=01 in the facility over the previous 12 months). 3. Residents satisfying any of the following conditions are excluded from the low-risk group: a. The resident does not qualify as high risk and the value of B2a or B4 is missing on the target assessment. b. The resident does not qualify as high risk and any of the mobility ADLs (G1a(A), G1b(A), and G1e(A)) is missing on the target assessment.

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR CHRONIC CARE (continued)

Measure	Specifications[1] (see endnotes)	Risk Adjustment
RESIDENTS WHO HAVE A CATHETER IN THE BLADDER AT ANY TIME DURING THE 14-DAY ASSESSMENT PERIOD ***PAIRED WITH INCONTINENCE MEASURE ABOVE*** Source: *Mega QI – August 2002 – "Prevalence of indwelling catheters"*	*Numerator:* Indwelling catheter on the target assessment (H3d=checked). *Denominator:* All residents with a valid target assessment.	*Exclusions:* Residents satisfying any of the following conditions: 1. The target assessment is an admission (AA8a=01). 2. H3d is missing on the target assessment. 3. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a=01 in the facility over the previous 12 months). *Covariates:* 1. Indicator of bowel incontinence on the prior assessment: Covariate=1 if H1a=4. Covariate=0 if H1a=0, 1, 2, or 3. 2. Indicator of pressure ulcers on the prior assessment: Covariate=1 if M2a=3 or 4. Covariate=0 if M2a=0.
RESIDENTS WHO SPENT MOST OF THEIR TIME IN BED OR IN A CHAIR IN THEIR ROOM DURING THE 7-DAY ASSESSMENT PERIOD Source: *Modified from CHSRA – "Prevalence of bedfast residents"*	*Numerator:* Residents who are bedfast on the most recent assessment. *Denominator:* All residents on the most recent assessment. MDS 2.0 Definition: Bedfast (G6a=checked) on the most recent assessment.	*Exclusion:* The resident is comatose (B1=1).

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR CHRONIC CARE (continued)

Measure	Specifications[1] (see endnotes)	Risk Adjustment
RESIDENTS WITH A DECLINE IN THEIR ABILITY TO MOVE ABOUT IN THEIR ROOM AND THE ADJACENT CORRIDOR Source: *Mega QI – August 2002 – "Locomotion worsening"*	*Numerator:* Total number of residents whose value for locomotion self-performance is greater at target relative to prior assessment (G1e(A)[t]>G1e(A)[t-1]). *Denominator:* All residents with a valid target assessment and a valid prior assessment.	*Exclusions:* Residents satisfying any of the following conditions: 1. The G1e(A) value is missing on the target assessment [t]. 2. The G1e(A) value is missing on the prior assessment [t-1] and the G1e(A) value shows some dependence on the target assessment (G1e(A)[t]>0). 3. The G1e(A) value on the prior assessment is 4 (total dependence) or 8 (activity did not occur). 4. The resident is comatose (B1=1) or comatose status is unknown (B1=missing) on the target assessment. 5. The resident has end-stage disease (J5c=checked) or status is unknown (J5c=missing) on the target assessment. 6. The resident is receiving hospice care (P1ao=checked) or hospice status is unknown (P1ao=missing) on the target assessment or the most recent full assessment. 7. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a=01 in the facility over the previous 12 months). *Covariates:* 1. Indicator of recent falls on the prior assessment: Covariate=1 if J4a is checked or J4b is checked. Covariate=0 if J4a is not checked and J4b is not checked. 2. Indicator of extensive support or more dependence in eating on the prior assessment: Covariate=1 if G1h(A)=3, 4, or 8. Covariate=0 if G1h(A)=0, 1, or 2. 3. Indicator of extensive support or more dependence in toileting on the prior assessment: Covariate=1 if G1i(A)=3, 4, or 8. Covariate=0 if G1i(A)=0, 1, or 2.

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR CHRONIC CARE (continued)

Measure	Specifications[1] (see endnotes)	Risk Adjustment
RESIDENTS WITH A URINARY TRACT INFECTION Source: *Mega QI – August 2002 – "Prevalence of urinary tract infections"*	*Numerator:* Residents with urinary tract infection on target assessment (I2j=checked). *Denominator:* All residents with a valid target assessment.	*Exclusions:* Residents satisfying any of the following conditions: 1. The target assessment is an admission (AA8a=01) assessment. 2. I2j is missing on the target assessment.
RESIDENTS WITH WORSENING OF A DEPRESSED OR ANXIOUS MOOD Source: *Mega QI – December 2002[4] – "Percent of residents who have become more depressed or anxious"*	*Numerator:* The total number of residents whose Mood Scale score is greater on target assessment relative to prior assessment (Mood Scale [t]>Mood Scale [t-1]). *Denominator:* All residents with a valid target assessment and a valid prior assessment.	*Exclusions:* Residents satisfying any of the following conditions: 1. The Mood Scale score is missing on the target assessment [t]. 2. The Mood Scale score is missing on the prior assessment [t-1] and the Mood Scale score indicates symptoms present on the target assessment (Mood Scale[t]>0). 3. The Mood Scale score is at a maximum (value 8) on the prior assessment. 4. The resident is comatose (B1=1) or comatose status is unknown (B1=missing) on the target assessment. 5. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a=01 in the facility over the previous 12 months).

[1] Measure specifications, where applicable, include the definition from the MDS, which is completed on admission for every resident in a Medicare/Medicaid certified nursing home and on a fixed schedule thereafter. For Medicare Prospective Payment System stays (generally post-acute or short stay), the MDS is completed on admission (within 5 days), on day 14, and at the end of the first, second, and third months. The Omnibus Budget Reconciliation Act of 1987 requires MDS assessments for all residents in nursing facilities regardless of payer on admission (within 14 days) and every 3 months or when a significant change in status occurs. The MDS tool can be found at www.cms.hhs.gov/medicaid/mds20/rai1202ch1.pdf (last accessed August 2003). The MDS operational instructions are periodically updated and also key to implementing the voluntary consensus standards. The *MDS 2.0 Manual,* December 2002, is available at www.cms.hhs.gov/medicaid/mds20/man-form.asp (last accessed July 22, 2003).

[2] Abt Associates. *Validation of Long-Term and Post-Acute Care Quality Indicators,* report to CMS, August 2002, and final report, June 10, 2003. Available at www.cms.hhs.gov/quality/nhqi/FinalReport.pdf (last accessed August 2003). The Mega QI principal investigator advises that the FAP is no longer recommended by the research team.

[3] Center for Health System Research and Analysis. University of Wisconsin. Available at www.chsra.wisc.edu (last accessed August 2003).

[4] Abt Associates. 2002. *MegaQI Covariate Analysis and Recommendations: Identification and Evaluation of Existing Quality Indicators That Are Appropriate for Use in Long-Term Care Settings.* Available www.cms.hhs.gov/quality/nhqi/CovariatesQM.pdf.

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR POST-ACUTE CARE

Measure	Specifications	Risk Adjustment
RECENTLY HOSPITALIZED RESIDENTS WITH SYMPTOMS OF DELIRIUM Source: *Mega QI – August 2002 – "Failure to improve and manage delirium symptoms/ post-acute care"*	*Numerator:* Patients at SNF PPS 14-day assessment with at least one symptom of delirium that represents a departure from usual functioning (at least one B5a through B5f=2). *Denominator:* All patients with a valid SNF PPS 14-day assessment (AA8b=7).	*Exclusions:* Patients satisfying any of the following conditions: 1. Comatose (B1=1) or comatose status unknown (B1=missing) on the SNF PPS 14-day assessment. 2. Patients with end-stage disease (J5c checked (value 1)) or unknown (J5c=missing) on the SNF PPS 14-day assessment. 3. The resident is receiving hospice care (P1ao=checked (value 1)) or hospice status is unknown (P1ao=missing) on the SNF PPS 14-day assessment. 4. The QM did not trigger (patient not included in the numerator) and there is a missing value on any of the items B5a through B5f on the SNF PPS 14-day assessment. 5. The patient is in a facility with a Post-Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b=1 in the facility over the previous 12 months). *Covariates:* Indicator of prior residential history preceding the current SNF stay for the patient: Covariate=1 if there is NO prior residential history indicated by the following condition being satisfied: a. There is a recent admission assessment (AA8a=01) and AB5a through AB5e are not checked (=0) and AB5f is checked (=1). Covariate=0 if there is prior residential history indicated by either of the following conditions being satisfied: a. There is a recent admission assessment (AA8a=01) and any of the items AB5a through AB5e are checked (value=1) or AB5f is not checked (value=0). b. There is no recent admission assessment (AA8a=01).

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR POST-ACUTE CARE (continued)

Measure	Specifications	Risk Adjustment
RECENTLY HOSPITALIZED RESIDENTS WHO EXPERIENCED MODERATE TO SEVERE PAIN AT ANY TIME DURING THE 7-DAY ASSESSMENT PERIOD Source: *Mega QI – August 2002 – "Inadequate pain management/ post-acute care"*	*Numerator:* Patients at SNF PPS 14-day assessment with moderate pain at least daily (J2a=2 and J2b=2) or horrible/excruciating pain at any frequency (J2b=3). *Denominator:* All patients with a valid SNF PPS 14-day assessment (AA8b=7).	*Exclusions:* Patients satisfying any of the following conditions: 1. Either J2a or J2b is missing on the 14-day assessment. 2. The values of J2a and J2b are inconsistent on the 14-day assessment. 3. The patient is in a facility with a Post-Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b=1 in the facility over the previous 12 months).

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR POST-ACUTE CARE (continued)

Measure	Specifications	Risk Adjustment
RECENTLY HOSPITALIZED RESIDENTS WITH PRESSURE ULCERS Source: *Mega QI – August 2002 – "Failure to prevent pressure ulcers or improve existing pressure ulcers/post-acute care"*	*Numerator:* SNF PPS patients who satisfy either of the following conditions: 1. On the SNF PPS 5-day assessment, the patient had no pressure ulcers (M2a[t-1]=0) and on the SNF PPS 14-day assessment the patient has at least a stage 1 pressure ulcer (M2a[t]=1, 2, 3, or 4). 2. On the SNF PPS 5-day assessment, the patient had a pressure ulcer (M2a[t-1]=1, 2, 3, or 4) and on the SNF PPS 14-day assessment pressure ulcers worsened or failed to improve (M2a[t]>=M2a[t-1]). *Denominator:* All patients with a valid SNF PPS 14-day assessment (AA8b=7) and a valid preceding SNF PPS 5-day assessment (AA8b=1).	*Exclusions:* Patients satisfying any of the following conditions: 1. M2a is missing on the 14-day assessment [t]. 2. M2a is missing on the 5-day assessment [t-1] and M2a shows presence of pressure ulcers on the 14-day assessment (M2a=1, 2, 3, or 4). 3. The patient is in a facility with a Post-Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b=1 in the facility over the previous 12 months). *Covariates:* 1. Indicator of history of unresolved pressure ulcer on the SNF PPS 5-day assessment: Covariate=1 if M3=1. Covariate=0 if M3=0. 2. Indicator of requiring limited or more assistance in bed mobility on the SNF PPS 5-day assessment: Covariate=1 if G1a(A)=2, 3, 4, or 8. Covariate=0 if G1a(A)=0 or 1. 3. Indicator of bowel incontinence at least once per week on the SNF PPS 5-day assessment: Covariate=1 if H1a=2, 3, or 4. Covariate=0 if H1a=0 or 1. 4. Indicator of diabetes or peripheral vascular disease on the SNF PPS 5-day assessment: Covariate=1 if I1a is checked (value 1) or I1j is checked (value 1). Covariate=0 if I1a is not checked (value 0) and I1j is not checked (value 0). 5. Indicator of Low Body Mass Index (BMI) on the SNF PPS 5-day assessment: Covariate=1 if BMI>=12 and <=19. Covariate=0 if BMI>19 and <= 40. Where: BMI=weight(kg)/height2 (m2)=((K2b*0.45)/(((K2a)*.0254)^2)). (Note: An implausible BMI value <12 or >40 will be treated as a missing value on this covariate.)

MEASURES FOR ALL NURSING HOME RESIDENTS AND FACILITIES

Measure	Specifications	Risk Adjustment
PNEUMOCOCCAL POLYSACCHARIDE VACCINATION OF RESIDENTS AGE 65 OR OLDER Source: *Centers for Disease Control and Prevention*	*Numerator:* Nursing home residents who are screened for eligibility for pneumococcal vaccine status within 30 days of admission and are either not eligible or are eligible and receive the vaccination. *Denominator:* All newly admitted residents age 65 or older. Not eligible – Vaccination status is up-to-date, or vaccine is medically contraindicated, or resident refuses vaccination.	No adjustment.
INFLUENZA VACCINATION OF ALL NURSING HOME RESIDENTS Source: *Centers for Disease Control and Prevention*	*Numerator:* Nursing home residents who are screened for eligibility for influenza vaccine status and are either not eligible or are eligible and receive the vaccine. *Denominator:* Nursing home residents who have resided in the facility for any length of stay from October 1 through March 31 of the year prior to the measurement (the most recent complete influenza season), including newly admitted residents. Not eligible – Vaccination status is up-to-date, or vaccine is medically contraindicated, or resident refuses vaccination.	No adjustment.
NURSE STAFFING HOURS – 4 PARTS Source: *Centers for Medicare and Medicaid Services*	1. RN hours per resident per day. 2. LPN/LVN hours per resident per day. 3. CNA hours per resident per day. 4. Total number of nursing staff hours per resident per day. *Numerator:* Average daily work in hours by the entire group of nurses or nursing assistants. *Denominator:* Total number of residents.	No adjustment.

Appendix B
Members and Board of Directors

Members*

CONSUMER COUNCIL

AARP
AFL-CIO
AFT Healthcare
American Hospice Foundation
California Health Decisions
Consumer Coalition for Quality Health Care
Foundation for Accountability
Last Acts
March of Dimes
National Citizens' Coalition for Nursing Home Reform
National Consensus Project for Quality Palliative Care
National Partnership for Women and Families
Service Employees International Union

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Alliance for Quality Nursing Home Care, Inc.
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American Academy of Orthopaedic Surgeons
American Academy of Physician Assistants
American Association of Homes and Services for the Aging
American Association of Nurse Anesthetists
American College of Cardiology
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American College of Radiology
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American Heart Association
American Hospital Association
American Medical Association
American Medical Group Association
American Nurses Association
American Optometric Association
American Osteopathic Association
American Society for Therapeutic Radiology and Oncology
American Society of Clinical Oncology
American Society of Health-System Pharmacists
America's Health Insurance Plans
Ascension Health
Beacon Health Strategies
Beverly Enterprises
BJC HealthCare
Blue Cross and Blue Shield Association
Blue Cross Blue Shield of Michigan
Bon Secours Health System, Inc.
Catholic Health Association of the United States
Catholic Health Initiatives
Catholic Healthcare Partners
Child Health Corporation of America
CHRISTUS Health
CIGNA Healthcare
College of American Pathologists

*When voting under the NQF Consensus Development Process occurred for this report.

Community Hospital of the Monterey Peninsula
Council of Medical Specialty Societies
Empire BlueCross/BlueShield
Federation of American Hospitals
First Health
Greater New York Hospital Association
Halifax Regional Medical Center
HCA
Healthcare Leadership Council
HealthHelp Inc.
HealthPartners
Henry Ford Health System
Hoag Hospital
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Hudson Health Plan
Illinois Hospital Association
INTEGRIS Health
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Maine Health Alliance
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Memorial Sloan-Kettering Cancer Center
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National Hospice and Palliative Care Organization
Nemours Foundation
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North Shore-Long Island Jewish Health System
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Premier, Inc.
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Robert Wood Johnson University Hospital–New Brunswick
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South Nassau Communities Hospital
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ACS/MIDAS+
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Uniform Data System for Medical Rehabilitation
United Hospital Fund
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US Pharmacopeia
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** During project period
[1] Since July 2003
[2] Since April 2003
[3] April 2003-September 2003
[4] Through December 2002
[5] Since January 2003
[6] Through June 2002
[7] Since July 2002
[8] Through April 13, 2003
[9] Through January 27, 2003

Appendix C
Steering Committee, Advisory Panel, and Project Staff

Steering Committee

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Deputy Director
National Institute on Aging
Bethesda, MD

Richard Allen[3]
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[1] Through March 2002
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Appendix D
Commentary

This project, like all NQF activities, involved the active participation of representatives from across the spectrum of healthcare stakeholders. This appendix summarizes the deliberations related to the recommended measures and additional recommendations. Because of the discontinuous phasing of this project, it is divided into two parts.

From October 2001 to April 2002, the Steering Committee deliberated and forwarded recommendations to NQF. Following the review period, NQF Members voted on three sets of proposed voluntary consensus standards for nursing home care (long-term care residents, post-acute care residents, and all residents) and recommendations in June-July 2002. At the request of the Centers for Medicare and Medicaid Services (CMS), however, the NQF Board of Directors deferred final endorsement of the proposed measures in order to permit consideration of emerging information from CMS and other organizations. Part I of this commentary describes the Steering Committee's most recent deliberations—March-June 2003—that led to its recommendations. Part II presents the deliberations and recommendations of the Steering Committee during 2001 and 2002 to provide context for and completeness of the discussions that occurred over the entire project period.

Part I—2003 Deliberations

The Nursing Home Performance Measures Steering Committee met on April 14-15, 2003, to make recommendations after considering new research on the validation of proposed nursing home care voluntary consensus standards and the results of CMS pilot tests on public reporting of nursing home quality. In brief, the additional data reviewed by the Steering Committee encompassed the following:

- CMS. *Report on Evaluation Activities for the Nursing Home Quality Initiative Pilot.* October 17, 2002.[1]
- Abt Associates. *Validation of Long-Term and Post-Acute Care Quality Indicators.* August 2002.[2] Under a contract from CMS, Abt undertook a national validation study involving six states and 209 freestanding and hospital-based facilities that was performed from November 2001 to June 2002. The project's expert clinical panels developed empirically based and expert-based hypotheses regarding the care processes that might relate to their performance on the quality measures; these processes were described as preventive or reactive. Research nurses carried out field-testing, which included the Minimum Data Set (MDS) supplemental assessment, medical record review, an administrative questionnaire, and environmental walk through/resident observation.

  The validation study results for Abt's 45 measures, which the researchers have named "Mega QIs," provided a prevalence estimate of the measures in this national sample, reliability Kappa measurement of the concordance of the facility MDS assessments and the research nurse MDS assessments, and measurement of the relationship between the observed data and the results of the facility quality measure for the preventive and reactive elements. Each Mega QI was then assessed to be of top (I), mid (II), or no (III) validity. Additionally, the researchers concluded that because the risk adjustment previously recommended (the Facility Adjustment Profile [FAP]) did not provide better outcomes or validation and ascertainment bias did not appear to be an issue, the FAP is no longer recommended for inclusion as part of the Mega QI measure specifications.
- Abt Associates. *Mega QI Covariate Analysis and Recommendations: Identification and Evaluation of Existing Quality Indicators That Are Appropriate for Use in Long-Term Care Settings.* December 20, 2002.[3] Abt issued the results of further analyses designed to identify additional or improved resident-level covariates to improve the case-mix adjustment for the Mega QIs.
- California HealthCare Foundation (CHCF). *A Field Test Evaluation of Clinical and Staffing Quality Indicators for Use in a Consumer Reporting System.* October 2002. As part of the design for its web site, CHCF funded research to evaluate the accuracy and validity of seven MDS measures (from a set identified by the Center for Health Systems Research and

[1] See www.cms.hhs.gov/quality/nhqi/Report20021017.pdf.

[2] Abt Associates. 2002. *Validation of Long-Term and Post-Acute Care Quality Indicators.* Available at cms.hhs.gov/quality/nhqi/execsummary_finaldraft.pdf.

[3] Abt Associates. 2002. *Mega QI Covariate Analysis and Recommendations: Identification and Evaluation of Existing Quality Indicators That Are Appropriate for Use in Long-Term Care Settings.* Available at www.cms.hhs.gov/quality/nhqi/CovariatesQM.pdf.

Analysis [CHSRA]) and one staffing measure that could inform consumers about the quality of nursing home care in California.[4] For each measure, a set of care processes was identified for evaluation during the site visit using medical record data, direct observation, observation by research monitoring tools, and resident interviews using standardized protocols. For each measure evaluated, a site visit was performed at 14 to 16 facilities. These visits included 329 to 451 residents overall.[5,6,7,8,9]

- Two public reporting web sites for nursing home quality of care: *Nursing Home Compare* (CMS), www.medicare.gov/NHCompare/home.asp, and *California Nursing Home Search* (CHCF), www.calnhs.org.
- Following the Steering Committee meeting, additional analyses from Abt regarding the validity of the recommended measures without exclusions for end-stage/hospice residents.[10]

Domains of the Proposed Sets

Previously, the Steering Committee identified and recommended six domains that the consensus standard sets for quality of nursing home care should encompass, as described later in this commentary.

After review and further discussion at the April 2003 meeting, the Steering Committee concluded that the clinical domain should be separated into the categories of clinical care and functional status to reflect more accurately the needs of nursing home residents. The seven domains recommended are as follows:

- clinical care (including healthcare processes and outcomes);
- functional status (physical and cognitive);
- structural (staffing, ownership, occupancy rates, and financial);
- quality of life;
- satisfaction (resident, family, and employee);
- participation in care management; and
- external assessment of quality (e.g., Joint Commission on Accreditation of Healthcare Organizations, CMS, state licensing, complaints from outside sources).

Characteristics and Criteria for Recommendation of Measures

In earlier work on this project, the Steering Committee determined that the following characteristics should span the entire set of measures:

[4] See www.calnhs.org/research/view.cfm?itemID=19967.

[5] Schnelle J, et al. The Minimum Data Set weight loss quality indicator: does it reflect differences in care processes related to weight loss? *J Am Geriatr Soc.* In press.

[6] Schnelle J, et al. The Minimum Data Set prevalence of restraint quality indicator: does it reflect differences in care? *Gerontologist.* In press.

[7] Schnelle J, et al. The Minimum Data Set urinary incontinence quality indicators: do they reflect differences in care processes related to incontinence? *Med Care.* In press.

[8] Schnelle J, et al. 2004. A Minimum Data Set prevalence of pain quality indicator: is it accurate and does it reflect differences in care processes? *J Gerontol A Biol Scie Med Sci.* 59(3):M281-M285.

[9] Schnelle J, et al. The Minimum Data Set bedfast quality indicator: is it accurate and does it reflect differences in care processes related to mobility decline? *Nurs Res.* Submitted 2nd review.

[10] Personal communication from L. Hines, CMS, Memorandum Re: Revised Co-variates, May 27, 2003.

- Measures should cross domains.
- Measures should relate to each other to form a picture of the whole.
- Measures should be of a number that is manageable for users.

The Steering Committee also established the following criteria for its recommendations:

- A measure must meet the following two threshold criteria to be included in the Steering Committee's candidate list:
  - The measure must be in the public domain.
  - Each measure must be based on evidence showing that it has been tested in the intended setting using nursing home populations and has been found to be valid and reliable.
- The following five criteria were used to recommend measures from the candidate list:
  - Measures should reflect issues of high priority for nursing home residents and consumers.
  - Measures should be of processes and outcomes that are under the influence of the facility.
  - Measures should be easily understood by consumers.
  - The burden of measurement, including data collection and number of measures, should be considered.
  - Measures should not introduce incentives that do not benefit the resident (e.g., refusing to admit residents with certain diagnoses or embracing care practices such as inserting catheters to manage incontinence).

  CMS also advised that it seeks to align its public reporting initiatives—including its *Nursing Home Compare* web site—with measures endorsed by NQF. Accordingly, the Steering Committee reviewed criteria provided by CMS for measures for immediate use in its current public reporting efforts, as well as the Department of Health and Human Services' publication *Guidelines for Ensuring the Quality of Information Disseminated by HHS Agencies,* which pertains to CMS's public reporting initiatives.

Recommendation of Individual Measures

The Steering Committee reviewed 45 Mega QI measures that were evaluated in August 2002 by Abt Associates and 7 CHSRA measures evaluated by researchers for CHCF. The Committee focused its discussions on measures it previously considered and additional measures nominated by Committee members for further discussion.

In reviewing the measures, several Steering Committee members expressed concern regarding the exclusion of end-stage and hospice residents for several measures in Abt's August 2002 Mega QI specifications. Because these residents may be designated end-stage or become hospice residents many months before near-death decline and may live much longer than expected, such assessments are difficult to make and are frequently inaccurate. Data that demonstrate the difficulties involved in making such judgments were provided from the fourth quarters of 1998 and 2001 for residents coded as end stage on their MDS admission assessments:

	1998	2001
Percent still alive after 90 days	18	21
Percent still alive after 180 days	10	11
Percent still alive after 270 days	7	8
Percent still alive after 1 year	5	2[11]

[11] Zimmerman D. Personal communication to NQF Nursing Home Performance Measures Steering Committee. April 14-15, 2003.

While acknowledging that rapid decline and loss of function is expected in the last few weeks of life, Committee members believed that all residents should receive the appropriate care processes for treating pain, minimizing incontinence, avoiding urinary catheters, treating urinary tract infections, and preventing pressure ulcers. Thus, hospice and end-stage disease residents should not be excluded from the denominator population for those measures.

In response to the Committee's concern, CMS requested that Abt provide additional validation analyses for the recommended measures without the exclusions for hospice and end-stage disease residents. A May 2003 Abt report established that the measures maintain their Level I validity when the exclusions for hospice and end stage are removed.

After reviewing the Abt report, the Committee voted to recommend removing the exclusions for hospice and end-stage residents for the measures of incontinence, indwelling catheters, urinary tract infections, and pressure ulcers. The Committee acknowledged that near-death decline is not under control of the facility and opined that these numbers are small at any given time and would not significantly affect the results for these measures.

Measures Recommended for Long-Term Care Residents

Eight measures and two sets of paired measures were recommended for inclusion in the set for long-term care nursing home residents, as follows:

- **Residents whose need for more help with daily activities has increased**

  This measure is currently reported on CMS's *Nursing Home Compare* web site.

  Of the three candidate measures regarding activities of daily living (ADLs) (the other two are "ADL improvement" and "ADL worsening"), this measure includes the largest denominator of residents and has the highest validity. Hospice and end-stage disease residents are excluded. The Committee again recommended this measure for the set.

- **Residents who lost too much weight**

  This measure is currently reported with ratings on the *California Nursing Home Search* web site.

  The CHCF research found this measure to be valid and related to encouragement and assistance in eating in the facility.[12] The CHCF researchers noted that even though residents with planned weight loss are not excluded from the measure, such residents are uncommon in the chronic care population and do not impact the measure results appreciably. The Committee also noted the acceptable, but lower, reliability of the data; for unknown reasons, weighing residents accurately is problematic in nursing homes. The Committee recommended that nursing homes be given direction and assistance to improve their ability to weigh residents accurately.

- **Residents who experience moderate to severe pain during the seven-day assessment period**

  This measure is currently reported on CMS's *Nursing Home Compare* web site.

  The Abt study found this pain measure to be valid and reliable, and ascertainment bias was not identified. The measure is adjusted for cognitive

[12] See www.calnhs.org/research/view.cfm?itemID=19967#6.

impairment as a measurement error factor. Researchers were not able to identify other valid adjusters such as cancer or orthopedic conditions. Hospice and end-stage residents are not excluded. The Committee again recommended this measure.

- **Pressure ulcers—paired measures (two measures stratified into high-risk and low-risk groups)**

  The combined measure (high and low risk) is currently reported on CMS's *Nursing Home Compare* web site.

  The Committee noted that care processes that have been shown to prevent most pressure ulcers are found in both high- and low-risk groups. The Abt study demonstrated top-level validity for the combined measure as well as the stratified high-risk and low-risk measures. The Committee recommended a pair of measures, stratified into high-risk and low-risk groups and including hospice and end-stage residents.

- **Residents who were physically restrained daily during the seven-day assessment period**

  This measure is currently reported on CMS's *Nursing Home Compare* web site and on the *California Nursing Home Search* web site.

  The CHCF researchers found that residents in nursing homes with high rates of restraint use were in bed during the day on more observations than residents in low-restraint use homes, were more frequently observed with bed rails in use, and received less feeding assistance during meals. The Committee continued to strongly support this measure and noted that currently bed rails and side rails are not included in the definition of restraints. The Committee recommended further research on bed rails and side rails as physical restraints.

- **Incontinence—paired measures**

  To avoid the introduction of undesirable incentives, the Committee recommended that the following two measures should be included in the set only as paired measures:

  Residents who frequently lose control of their bowels or bladder (low risk)

  Incontinence is one of the main reasons that families place residents in nursing homes. The Abt study found high validity for this incontinence measure as a combined measure and as two separate measures stratified into high risk and low risk. The high-risk group includes residents who have severe cognitive impairment and/or who are totally dependent in the mobility ADLs. The Committee recommended the measure that is applied to the low-risk population in order to encourage care processes that are known to prevent incontinence.

  Residents who have a catheter in the bladder at any time during the 14-day assessment period

  The prevalence of incontinence measure excludes residents with indwelling catheters, and because the Committee did not want to include an incentive for catheter use, it recommended that this measure be paired with the incontinence measure. Hospice and end-stage residents are not excluded.

- **Residents who spent most of their time in bed or in a chair in their room during the seven-day assessment period**

  This measure is currently reported with ratings on the *California Nursing Home Search* web site.

  CHCF researchers evaluated this CHSRA measure[13] and found that it is a valid measure of quality that can

[13] See www.calnhs.org/research/view.cfm?itemID=19967#7.

discriminate between facilities. Facilities with a high percentage of bedfast residents, compared to homes with a low percentage of bedfast residents, had a lower proportion of residents who were out of bed for meals and who remained in bed throughout the day for longer periods of time or who remained in bed after an afternoon nap. Abt also evaluated the Mega QI version of this measure in its May 2003 follow-up analyses and found it to have Level I validity.

Committee members discussed the lack of exclusions or other adjustments, but the majority believed that the only adjustments needed might be comatose/vegetative state, or orthopedic residents in traction, which are not common. Following additional information provided by the CHSRA measure developers that demonstrated the prevalence of bedfast residents as 5.24 percent without the comatose exclusion and 5.05 percent with it,[14] the Committee recommended that comatose residents be excluded from the denominator population for this measure.

- **Residents with a decline in their ability to move about in their room and the adjacent corridor**

  The Committee recommended this measure of functional status as important for quality of life. Abt researchers found that having more people up and walking translated into better outcomes in other areas as well. Hospice and end-stage residents are excluded.

- **Residents with a urinary tract infection**

  The Committee recommended the measure for prevalence of urinary tract infections, which is the most common infection in nursing homes. Hospice and end-stage disease residents are not excluded.

- **Residents with worsening of a depressed or anxious mood**

  The Committee expressed a strong desire to include a mental health measure in the set. It discussed at length other possible measures, as noted below, and concluded that this measure was the best currently available, although it had midlevel validity (Level II) in the Abt study. The Committee noted that additional research to develop and improve measures in the mental health arena is a priority.

Long-Term Care Measures Not Recommended

During its consideration of the measures it recommended, the Committee discussed at length four measures it ultimately did not recommend:

- *Cognition worsening.* Of concern to Committee members were this measure's midlevel validity, the possibility of perverse incentives being used to prevent admission of dementia residents, and the difficulties in distinguishing between differences in care and the results of the natural progression of disease. The Committee ultimately decided against recommending this measure, even though it addresses an important issue for nursing home residents.
- *Prevalence of infections.* The Committee considered the measure, but did not recommend it because it is not specific—that is, it encompasses a wide range of infections, from a cold to life-threatening sepsis.

[14] Zimmerman D. Personal communication based on MDS data for fourth quarter 2002 to NQF Nursing Home Performance Measures Steering Committee. June 8, 2003.

- *Prevalence of depression.* The Committee considered this measure, but the prevalence measure was not validated by CHCF.
- *Anti-psychotic medication use.* The Committee considered but did not recommend this measure because these drugs may be appropriate for certain residents. The Committee noted that including this measure in the set was not the best way to address concerns regarding inappropriate drug use or "chemical restraints." Additionally, the American Geriatrics Society and the American Association for Geriatric Psychiatry recently were unable to make recommendations about appropriate use.[15]

Measures Recommended for Post-Acute Residents

The Steering Committee discussed the changing resident population in nursing homes and the expectation that short-stay, post-hospitalization residents as a group will continue to grow. Although the MDS is used to perform 5-day and 14-day assessments, few valid performance measures have been developed for these residents. In addition, the existing MDS measures do not capture the 40 percent of residents who stay fewer than 14 days.

The August 2002 Abt report regarding post-acute measures provided results on a sample of 54 transitional care units (TCUs); Abt also analyzed a larger sample of 166 facilities, including the 54 TCUs. On the recommendation of the Mega QI principal investigator (PI), the Committee used the validation results from the larger Abt sample to make its decisions.

- **Short-stay residents with delirium**

  This measure is currently reported on CMS's *Nursing Home Compare* web site.

  The Committee again recommended this measure, which identifies residents with at least one symptom of delirium that represents a departure from usual functioning on the 14-day assessment. In the larger sample, this measure had top-level validity and good reliability. Comatose residents, hospice residents, and end-stage disease residents are excluded.

- **Short-stay residents with moderate or severe pain**

  This measure is currently reported on CMS's *Nursing Home Compare* web site.

  The Committee again recommended this measure, which measures residents with moderate pain at least daily or horrible/excruciating pain at any frequency on the 14-day assessment. In the larger sample, the validity is top level, and the reliability is good. Hospice residents and end-stage residents are not excluded.

- **Short-stay residents with pressure ulcers**

  The Committee recommended this measure, which had not been recommended previously. The measure evaluates the development of new pressure ulcers or the lack of improvement of existing pressure ulcers between the 5-day and 14-day assessments. The validity in the larger sample is high, and the reliability is good. Hospice residents and end-stage residents are included.

[15] Draft *Consensus Statement on Improving the Quality of Mental Health Care in America's Nursing Homes: Management of Depression and Behavioral Symptoms Associated with Dementia* (November 25, 2002), developed by an interdisciplinary panel of experts convened by the American Geriatrics Society and the American Association for Geriatric Psychiatry.

Post-Acute Measures Not Recommended

The post-acute measure "improvement in walking," previously recommended, was not validated by the Abt study. Thus, the Committee did not recommend its use at this time. The Committee recommended continued work on this measure in the important area of functional status for short-stay residents. As noted in its earlier deliberations, the Committee stated that developing a rehospitalization measure also is important for post-acute care.

Development of Post-Acute Care Measures

Recommendation

Because the resident population in nursing homes is changing, additional valid and reliable measures to evaluate care for the entire short-stay population should be developed without delay. Measures in areas such as functional status, improvement in rehospitalization, and discharge location are needed.

Staffing

The Steering Committee noted that the availability of reliable information regarding nursing home staffing is critically important for the public. Members agreed that recent studies have demonstrated a clear relationship between levels of nurse staffing and quality of care.[16,17,18] Both CMS's *Nursing Home Compare* web site and *California Nursing Home Search* web site publicly report information on nurse staffing. As of January 1, 2003, federal law requires that nursing homes post nurse staffing for each shift.

The Steering Committee expressed significant frustration that the existing data sources for staffing information, which have been long known to be deficient, remain so poor, and that significant efforts to improve the quality of the data are lacking. The Committee recommended the immediate improvement of existing systems using known techniques and the rapid development of improved data collection for staffing that is timely, case-mix adjusted, and audited. The Committee noted that because nursing homes already collect these data, additional burden need not be imposed. Because of the poor quality of the data, the Steering Committee again did not recommend that staffing be considered a performance measure at this time, although it felt that public reporting of staffing information should continue.

The Steering Committee also discussed other staffing measures for evaluating workforce issues in nursing homes, including staff turnover and retention, use of contract staff, tenure of the director of nursing and the facility administrator, specialized training of staff such as advanced practice nurses, and use of non-nurse staff such as activity or recreational therapists. Further

[16] Centers for Medicare and Medicaid Services. 2002. *Report to Congress: Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report.* Available at www.cms.hhs.gov/medicaid/reports/rp1201home.asp.

[17] See www.calnhs.org/research/view.cfm?itemID=19966.

[18] Schnelle JF, et al. Nursing home staffing information: does it reflect differences in quality of care? *Health Serv Res.* Favorably reviewed.

development of such measures and data collection should be urgently pursued.

Recommendations

- Public reports of staffing information should include a clear advisory that staffing and quality of care are related and that every facility is required to post its staffing information every shift.

  Public reports of nursing home quality should continue to provide information about nurse staffing:

  - Total direct care staff hours per resident per day.
  - RN hours per resident per day.
  - LPN/LVN hours per resident per day.
  - CNA hours per resident per day.

  The OSCAR data system should be upgraded immediately to improve data accuracy, using techniques such as removing obviously erroneous data ("0" or "999") and other published exclusion criteria.
- CMS should, by September 2004, establish a system for improved staffing data that is timely, generated quarterly, not related to survey timing, acuity adjusted, and audited.
- Development of additional validated measures pertaining to the nursing home workforce, such as staff turnover and retention; use of contract versus payroll data; staff training; use of advanced practice nurses; tenure of the director of nursing and facility administrator; and use of non-nurse staffing, should be urgently pursued.

Quality of Life Measures

The Steering Committee enthusiastically supported the recently developed measures of quality of life[19] and recommended continued testing so that they may be considered in the future.

Recommendation

The Committee recommended that immediate attention be given to feasibility issues, such as those involving data collection systems, time required to administer the survey, and facility staff administration of the survey, so that measures in these important areas can be implemented within two years.

Reconsideration of Measures After NQF Member Voting

On September 30, 2003, the NQF Board of Directors endorsed 14 voluntary consensus standards for public reporting of nursing home performance that had been approved by all four NQF Member Councils. The Board directed that two proposed consensus standards be reconsidered through the NQF Consensus Development Process (CDP), with assistance from the Steering Committee: "residents who lost too much weight" and "staffing."

Weight Loss

In the first round of voting, the long-stay, chronic care measure "residents who lost too much weight" was not approved by

[19] Kane RA, Kling KC, Bershadsky B. Quality of life measures for nursing home residents. *J Gerontol A Biol Scie Med Sci.* 2003;58(3):240-248.

the Provider and Health Plan Council. The other three Councils approved the measure, although the Research and Quality Improvement Council approved it narrowly. During review and voting, several NQF Members identified the lack of exclusions (in particular hospice patients and patients on weight-loss programs) as their reason for not supporting the draft consensus standard.

NQF staff worked with the measure developer, researchers, and the project Steering Committee to consider possible revisions to the measure, which resulted in a hospice exclusion, only. This revised measure is deemed to be valid based on the research of Dr. Sandra Simmons, the PI who conducted research on the validity of the weight loss measure for CHCF.

Dr. Simmons' research found the unadjusted measure to be valid and related to encouragement and assistance in eating in the facility.[20] However, her study also explicitly excluded hospice patients. In Dr. Simmons' opinion, based on her study design and findings, the validity of the original unadjusted weight loss measure is unchanged by adding the exclusion for hospice patients, as this exclusion was, by intention, part of her original research design validating the measure. The developer of the weight loss measure, Dr. David Zimmerman, supports the hospice exclusion, and the Steering Committee recommended the exclusion for hospice patients.

With respect to an exclusion for patients on weight loss programs, the original measure is based on the CMS MDS tool, which contains the data element "patients on weight change programs"—that is, it does not distinguish between those on programs for weight gain versus weight loss. An analysis by Dr. Zimmerman of nursing homes patients in weight change programs found that approximately 70 percent of long-stay, chronic care residents on weight change plans are in fact on weight *gain* programs. The Steering Committee considered the addition of "patients on weight change programs" as an exclusion to the measure, but believed that if the vast majority of patients included in the MDS planned weight change program are really on weight gain programs, then it would be inappropriate to exclude them.

Staffing

During the Steering Committee's more than two years of deliberations, the topic of nurse staffing and whether to recommend a staffing measure for the set was discussed on many occasions. The Steering Committee supported the need for a staffing measure, but initially did not recommend the staffing measure currently used on CMS's *Nursing Home Compare* web site because of concerns about the quality of the data. The Committee recommended the immediate improvement of existing systems using known techniques and the rapid development of improved data collection for staffing that is timely, case-mix adjusted, and audited. Detailed recommendations to improve staffing information are included in the report.

[20] See www.calnhs.org/research/view.cfm?itemID=19967.

During the review and voting, several NQF Members, especially (but not limited to) members of the Consumer Council, strongly recommended that nurse staffing be included in the set, noting that a report to Congress commissioned by CMS[21] describes a clear relationship between specific staffing thresholds below which quality suffers. Based on the review period, a nurse staffing measure was placed on the ballot for voting by the NQF membership.

All four Member Councils approved the staffing measure in the first round of voting. In response to concerns raised by CMS, however, the NQF Board did not immediately endorse the measure and asked the Steering Committee to re-review the staffing measure and any additional approaches that might be appropriate.

The Steering Committee met by conference call on December 10, 2003, to discuss the nurse staffing measure and focused its deliberations on a proposed nurse staffing consensus standard, as follows:

- The nurse staffing measure that was approved by all four NQF Member Councils did not specify a data source, as did the other NQF-endorsed measures (e.g., those for hospitals). That is, the nurse staffing measure proposed did not designate OSCAR[22] as the data source for calculating the measure, and it is OSCAR about which the Committee and others have consistently expressed concerns.
- Nurse staffing is reported on the *California Nursing Home Search* web site (since October 2002). The measure specifications are the same as used by CMS on *Nursing Home Compare,* but the data source is different. In California, the data are generated from annual cost reports, not from OSCAR. The Steering Committee considered the *California Nursing Home Search* web site to be an example of the successful implementation of a candidate nurse staffing voluntary consensus standard.

Committee members again emphasized that the importance of or need to include staffing was not in question, but that data standardization was a concern. The discussion by members of the Steering Committee encompassed a range of views:

- The 2004 Institute of Medicine report *Keeping Patients Safe: Transforming the Work Environment of Nurses* recommends including a measure for nurse staffing in federal and state report cards on nursing home quality.
- A staffing measure has high face validity and is important to consumers; staffing is "among the highest" priorities for measurement and reporting.
- The specifications for the *California Nursing Home Search* web site are the same as those for CMS's web site. The data sources differ.
- The current OSCAR data do not meet the criteria established by the Steering Committee in terms of reliability as a data source.
- Not all states use cost reports, and using a standardized federal data source is preferable to using various data sources at the state level.

[21] Centers for Medicare and Medicaid Services. 2002. *Report to Congress: Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes: Phase II Final Report.* Available at www.cms.hhs.gov/medicaid/reports/rp1201home.asp.

[22] The Online Survey, Certification, and Reporting (OSCAR) database is a data network maintained by CMS.

- Even though there are problems with the quality of the OSCAR data on staffing, there are proven methods employed by researchers that can improve the overall results by adjusting the data to remove clearly erroneous entries and outliers. These methods can be easily employed.
- Whether designated a voluntary consensus standard or not, the staffing information on CMS's *Nursing Home Compare* web site must continue to be available. Whether characterized as information or as a consensus standard, the OSCAR data can and should be improved without delay.
- The nurse staffing data reported by the *California Nursing Home Search* web site and CMS should go beyond what is currently released to include threshold values in the measure and/or should report whether a facility has met the staffing threshold of 4.1 hours per resident day identified in the CMS staffing report by providing a "yes" or "no."

The members of the Steering Committee could not reach consensus on a specific recommendation and were evenly split between two recommendations:

1. NQF should endorse the draft voluntary consensus standard for nurse staffing that was voted on and approved by all four Member Councils for inclusion in the nursing home set. The same four-part specifications are used on both the *Nursing Home Compare* and the *California Nursing Home Search* web sites. The data source is not specified. The consensus standard should be accompanied by language indicating that the best available data source should be used. Specifically, it should be indicated that:
   a. the quality of the OSCAR data should be maximized through known techniques immediately, and
   b. if and/or when an improved federal data source for staffing becomes available, it should be implemented.
2. The Committee should advise the NQF Board of Directors that although nurse staffing is an important area for measurement, concerns about the quality of the source of the federal data are sufficiently important that including staffing in the sets is not recommended at this time. However, the Steering Committee members recommended that NQF insist that the staffing information now on CMS's *Nursing Home Compare* web site must continue to be available and that the OSCAR data quality should be improved as soon as possible.

Part II—2001-2002 Deliberations

In October 2001, the Steering Committee was asked to recommend a set of performance measures for chronic and post-acute care nursing facilities that would be useful for public reporting for purchasers and consumers. In addition to conducting a review of available measures, NQF convened an Advisory Panel on Risk Adjustment to provide the Committee with an independent review of the different approaches to risk adjustment of the nursing home performance measures under consideration. The Steering Committee's deliberations also were informed by comments from NQF Members and non-members during its meetings.

Preparatory to its discussions, the Steering Committee reviewed two reports by the CMS contractor Abt Associates:

Preliminary Report: Pilot Field Data Collection Efforts to Validate Nursing Home Quality Indicators (Performance Measures). September 26, 2001. This report described newly developed quality measures called "Mega QIs" based on the MDS information (www.cms.hhs.gov/quality/nhqi/PreReport3_20.pdf.)

Identification and Evaluation of Existing Quality Indicators That Are Appropriate for Use in Long-Term Care Settings. October 1, 2001. This report analyzed existing MDS-based performance measures (www.cms.hhs.gov/quality/nhqi/task2_final.pdf.)

At the beginning of its work, CMS asked the Steering Committee to recommend measures from among the 39 in development by Abt Associates outlined in its September 26, 2001, report for a pilot initiative on public reporting of nursing home quality information to begin in April 2002. The recommendations can be found at www.qualityforum.org/archive.htm.

Considerations in Recommending Measures

Prior to its systematic consideration of individual measures, the Steering Committee identified six domains for which quality measures would be sought and evaluated:

- Structural—including nurse staffing, financial, and ownership.
- Clinical—including physical function and cognitive function.
- Satisfaction—resident, family, and employee satisfaction.
- Quality of life.
- External assessments—accreditation, certification, deficiencies, and complaints.
- Participation in care processes—including planning, delivery, and evaluation.

Following identification of the domains, the Steering Committee identified the criteria it would adopt to select measures for the sets. Measures should:

- Be of high priority for nursing home residents and consumers.
- Be under control of the facility.
- Be easily understood by consumers.
- Have validity, including face validity, reliability, auditing, and risk adjustment.
- Have an acceptable level of burden, regarding both the total number of measures and the burden of data collection.
- Not include perverse incentives (such as certain admitting and care practices).
- Be in the public domain.

The Committee concurred that two of these criteria were threshold criteria that any measure must meet in order for it to be evaluated against the remaining criteria:

- The measure must be in the public domain.
- Evidence must exist of a fairly formal, independent assessment of validity.

To identify those areas of high priority to residents and consumers, the Committee used the following sources of information, as well as its own experience and expertise in the long-term care arena:

- Report of focus group findings from research done by CMS contractor Academy for Educational Development to assess the Abt-recommended measures and to "explore participants' understanding and potential use of the measures when choosing or monitoring care in a nursing home." Reported in *MDS Formative Research.* October 30, 2001.
- The assessment of the Mega QI project team's steering committee of the value of the Mega QIs for selection of facilities by consumers and purchasers, detailed in the report *Identification and Evaluation of Existing Quality Indicators That Are Appropriate for Use in Long-Term Care Settings.* October 1, 2001.
- Review of the peer-reviewed literature and other sources by NQF staff for information on the views of nursing home residents and consumers regarding nursing home quality.
- Review of news and a media search by NQF staff for reports released over the past several years pertaining to nursing homes.
- Kaiser Family Foundation Survey on Nursing Homes. October 2001.[23]

In addition to identifying the domains of quality that the sets should encompass and the criteria it would use to select measures for the sets, the Committee concluded that three overarching principles should guide its deliberations:

- Measures should be of a number that is manageable for users.
- Each set should be comprised of measures representing a cross-section of domains.
- The measures should each relate to the others within a set to form a picture of the entire spectrum of nursing home quality

Finally, the Committee noted the need to be practical in selecting measures. Accordingly, it concluded that it would evaluate measures on the basis of readiness for implementation. Specifically, the Committee assessed whether the outlook for implementation was immediate (in use/ready for "prime time"), short term (currently under development and/or being validated and ready for use in 6 to 12 months), or long term (requiring a significant amount of research and validation and will not be ready for several years).

Recommendation of Measures

Based on the Steering Committee's deliberations, NQF staff broadly solicited measures that met the threshold criteria. The Committee explicitly agreed that it would not limit its consideration to measures derived from the MDS instrument. The Committee discussed the MDS tool and various problems its use in quality measurement presents, such as timing of assessments, definitions of some items such as pain, and utility with the subacute population.

[23] See www.kff.org/kaiserpolls/103101pkg.cfm.

NQF staff identified 78 candidate measures for further consideration, and for each measure compiled information on its developer, data source, risk-adjustment method, evidence of validation, and readiness for implementation. The majority of the clinical measures came from the following two sources:

- 24 CHSRA measures.[24] CHSRA at the University of Wisconsin-Madison developed and tested a set of indicators of quality of care in nursing homes called Quality Indicators (QIs) and a quality monitoring system for using the indicators for internal and external quality review and improvement. QI development was guided by several criteria, including clinical validity, feasibility or usefulness of the information, and empirical analyses. The 24 QIs are now being used by all state survey agencies and by a number of nursing homes for quality assurance and improvement. Maryland[25] and Texas[26] use the CHSRA measures in their public reports of nursing home quality. CHCF is completing additional research on some CHSRA measures (depression, incontinence, use of physical restraints, weight loss, prevalence of bedfast residents, and presence of pressure sores) for use in its California Nursing Home Consumer Information System beginning in September 2002.[27] The studies compare the MDS information with the ACOVE (Assessing Care of Vulnerable Elders) quality measures being developed by researchers from Rand and UCLA, using chart review and direct observation.[28]
- 39 Mega QI measures. These measures are being developed by Abt Associates for CMS and are described in *Preliminary Report: Pilot Field Data Collection Efforts to Validate Nursing Home Quality Indicators (Performance Measures).* September 26, 2001. Most are long-term care measures from CHSRA and LTQC (a proprietary measurement system), with the addition of a new risk-adjustment methodology referred to as the FAP. A national, six-state validation of the Mega QIs should be completed in the summer of 2002. The Mega QIs are the only source of measures for the post-acute population.

Measures were further grouped into domains, and within domains by general topic or clinical area that a measure addressed. Because most of the measures fell into the clinical domain, the bulk of the Committee's deliberations focused on them.

The Committee identified the following high-priority clinical target areas: pressure sores, ADLs, restraints, pain, infections, weight loss, anti-psychotic drug use, immunization, prevalence of bedfast residents, depression, and incontinence. Additionally, the Committee agreed to eliminate from further consideration measures from the following clinical clusters: medication errors, injury or falls (although use of restraints was included), and locomotion (although bedfast prevalence was included), because available measures did not meet the Committee's

[24] See www.chsra.wisc.edu/CHSRA/Quality_Indicators/toc.htm.

[25] See www.mhcc.state.md.us/ (Nursing Home Guide).

[26] See facilityquality.dhs.state.tx.us/ltcqrs_public/nq1/jsp2/qrsHowQRSRatesMA_nh1en.jsp?MODE=P&LANGCD=en.

[27] See www.calnhs.org/research/view.cfm?itemID=19967.

[28] See www.acponline.org/sci-policy/acove/.

criteria. Measures from within clusters of similar clinical areas then were considered together. Finally, if measures were similar except for risk-adjustment methodology, the Committee made a selection based on the measure's specifications and adjustments.

Risk Adjustment

The newly developed Mega QI measures contain a facility-level risk-adjustment method, the FAP. The Committee expressed discomfort with the technical complexity of this method, and some members had difficulty understanding the technical information in the reports. Questions regarding possible over- or underadjustment using the FAP method were difficult for the Committee to evaluate. A Special Advisory Panel of three outside, independent consultants was convened to assist the Committee in resolving these and others concerns regarding risk-adjustment methodology, and the Advisory Panel's recommendations were used to inform the Steering Committee's deliberations with respect to selecting measures for the sets.

The Special Advisory Panel members were asked to:

- Review the risk-adjustment methodology for the Mega QI project and other risk-adjustment methodologies that are available and tested for the purpose of answering the following questions:
  - How well does each risk-adjustment method help in identifying high-quality and poor-quality facilities?
  - What are the advantages and disadvantages of each method when applied to a measure being used for public reporting to consumers?
- Compare the Mega QI methodology to other available risk-adjustment methods or measures that could be used.

Based on the Advisory Panel's recommendations, the Steering Committee reached the following conclusions regarding risk adjustment:

- Each measure should be evaluated independently with regard to the need for adjustment and, if required, the appropriate method for such adjustment.
- The FAP is a new, innovative, non-traditional method that requires further research to evaluate its validity and reliability. Two of the three consultants specifically recommended against using the FAP for public reporting of quality measures at this time.
- The risk-adjustment method should be easy to understand and to explain to the public.
- The adjustment should take into account only those characteristics that are not in part the result of facility care.
- The considerations for risk adjustment for the long-stay, chronic care population and the short-stay or post-acute care population differ significantly. In particular, the timing of the 5-day and 14-day assessments of the MDS does not included 40 percent of short-stay residents and may lead to selection bias.
- Head-to-head comparison of various risk-adjustment methods has not been performed and is urgently needed.

As a result of the discussion with the Special Advisory Panel, the Steering Committee decided to select measures based on other criteria and then consider the risk-adjustment method if more than one measure exists for a condition.

At the Committee meeting in February 2002, CMS advised the Committee that it planned to use the Mega QIs with the FAP for the pilot project beginning in April 2002. Committee members expressed serious concern with this decision on technical grounds and because additional research and validation was recommended by the Special Advisory Panel before using the FAP for measures that would be publicly reported. Of note, after the final Committee meeting, CMS decided against using the FAP during the pilot project.

The Committee also discussed the measures that are currently on the CMS *Nursing Home Compare* web site, noting that they are not risk adjusted, and generally expressed the view that any appropriate risk adjustment would be an improvement. Other Committee members expressed concern about the potential for confusing providers and the public with regard to the public reporting aspect. That is, in a brief period of time, multiple changes will be made regarding what and how information about nursing home quality is reported. Specifically, information on the existing *Nursing Home Compare* web site reports (few measures, no risk adjustment) will switch to information from the pilot in six states (new measures, new risk adjustment) to information from the final sets (some new/different measures, different risk adjustment).

Recommended Long-Term Care Measures

The Steering Committee recommended seven long-term care measures and two measures that should be conducted only in tandem. This section summarizes the deliberations about each of these measures.

- **Incidence of decline in late-loss ADLs (CHSRA)**

  The Committee had unanimously selected this measure for the pilot project and maintained its support for the measure as a reflection of maintaining the last indications of function as a high-priority goal and of quality care. Alternative measures, such as "ADL worsening following improvement," "ADL improvement among residents who exhibited a capacity for improvement," "locomotion worsening," and "maintenance or improvement in walking performance in persons with walking capacity," were considered but not selected. Only one measure among the several ADL measures was deemed to be necessary for the set. In deciding between the CHSRA measure and the Mega QI measure, the PI for the Mega QI project advised the Committee that the FAP essentially does not influence the analysis for the ADL measures with respect to refining risk adjustment. Accordingly, the Committee did not recommend using the FAP for this measure.

- **Weight loss prevalence (CHSRA)**

  This measure was selected by the Committee for the pilot and continued to have broad support for inclusion in the final set. The CHSRA measure and the Mega QI measure differ, in that the Mega QI measure contains the FAP and covariates for "leaves 25 percent of food

uneaten," "bed mobility problem," and "physically abusive behavior." The Committee did not agree that these are the appropriate covariates to use and instead selected the unadjusted CHSRA measure with the caveat that should resident-level covariates that are not related to service, such as nearness of death and serious diagnoses, be identified in research that is under way, they should be considered. The Mega QI PI reported that the Mega QI team looked at cancer diagnosis as a possible covariate, but found that it did not influence the measure because only 7 percent of nursing home residents have cancer and fewer than 1 percent of residents are considered to be near death on a single MDS assessment—that is, the *n* is small. The Committee agreed that if, ultimately, the measure that is reported and displayed publicly is unadjusted, then a clear explanation that the entire population is included must accompany the measure. Finally, the Committee was advised that the CHSRA measure is being studied in the CHCF project.

- **Inadequate management of pain (Mega QI)**

  The Committee believed that recommending a pain measure for inclusion in the set was of high priority because of clear interest in pain management on the part of residents, highlighted by recent media reports of poor pain management in nursing homes; the Mega QI measures are the only source for such measures. The alternative Mega QI measure to the one recommended, "worsening pain," was considered but not selected by the Committee. With respect to risk adjustment for this measure, the Mega QI PI clarified for the Committee that the numerator includes daily moderate pain or any incident of horrible, excruciating pain. The Committee believed that the covariates were acceptable (although further work on improved covariates should be pursued), but judged that the FAP should not be used until further information from the national validation study establishes that it is appropriate and valid for this measure. (This pain measure, without the FAP, is part of CMS's six-state pilot initiative.)

- **Prevalence of pressure ulcers (CHSRA)**

  Of seven candidate measures involving the critically important topic of skin integrity, the Committee selected the same measure it recommended for the pilot, "prevalence of stage 1-4 pressure ulcers." The Committee discussed how stratification may be an oversimplification and noted that regression variables would be an acceptable method of adjustment. Consumer representatives were hesitant to agree with any suggested covariates, except possibly end-stage condition, because they thought that nursing homes can and should do more to prevent and treat pressure ulcers in all residents. Finally, the Committee was aware that the measure is part of the CHCF research.

- **Prevalence of physical restraints (CHSRA)**

  This measure, which was recommended for the pilot, involves a high-profile issue that receives significant media attention and is being addressed by several initiatives to reduce or eliminate physical restraint use. The alternative Mega QI measure differed only in its use of the FAP, and the Mega QI PI advised the Committee that the Mega QI team has reconsidered the FAP for this measure and no longer recommends it. The Steering Committee agreed with the PI that a restraint-free nursing home

environment should be the goal and that adjustment is not indicated.

- **Depression without antidepressant therapy (CHSRA)**

  The Committee discussed the absence of consideration of non-pharmacologic methods of treatment for depression (not coded for in the MDS), but accepted the limitation because including a mental health measure was considered important for the set. This measure appealed to the Committee for its process and outcome components. The Committee considered the possibility of providing incentives for using antidepressants inappropriately as well as difficulties with the scale, which may measure more cognitive issues than depressive ones. On balance, however, the majority of the Committee argued strongly that the importance of including a measure related to mental health outweighed other issues. [N.B. Several comments received from NQF Members during the review phase of the CDP recommended the deletion of this measure because i) it is not based on a physician's diagnosis of depression; ii) the MDS is not a diagnostic tool to identify depression (especially geriatric depression); and iii) non-pharmacologic treatments are not included. Additionally, some members of the Consumer Council recommended that the measure "prevalence of anti-psychotic use in the absence of psychotic or related conditions (CHSRA)" be added to the measure set (and that the depression measure be retained). In light of these comments, the Committee reconsidered including the depression measure, but did not believe strongly that it should be retained. The Committee continued to believe strongly that a measure related to mental health should be part of the long-term care set. Thus, it concurred with the Consumer Council recommendation to include the anti-psychotic medication measure.]

- ***Incontinence (paired measures)***

  Prevalence of bladder or bowel incontinence (CHSRA)

  The Committee thought that an incontinence measure was an important component to recommend for the long-term set because the issue resonates with consumers and is viewed as important in terms of quality of life. The Committee also noted that information on incontinence has been included in CMS's *Nursing Home Compare* web site and to exclude it would be a departure from the current practice of providing information that the public is accustomed to accessing and would likely want to continue to have.

  Prevalence of indwelling catheters (CHSRA)

  The Committee voiced strong concerns about introducing an incentive to use catheters to reduce the prevalence of incontinence and agreed that the addition of the "prevalence of indwelling catheters" measure acts to balance that incentive—that is, the two measures work together as a pair, and one should not be included if the other is not.

- **Prevalence of bedfast residents (CHSRA)**

  The Committee recommended this measure because it is information currently provided on *Nursing Home Compare,* is information that is easily understood by the public, and is under the control of the facility. Additionally, CHCF advised the Committee that based on polls and discussions with consumers and other stakeholders in California, this topic is important to

residents and their families. The CHSRA bedfast measure is included in the CHCF study.

Long-Term Care Measures Not Recommended

The Committee considered several measures that were not recommended:

- The measure "prevalence of anti-psychotic drug use" was recommended for the pilot, but the Committee was narrowly divided on recommending it for the set. The Committee remained concerned about the inappropriate use of anti-psychotic and hypnotic medications. A concern was that changes in anti-psychotic and hypnotic medications and changes in usage indications would mean that the measure might lag behind research and clinical use. The Committee also was aware that CMS had removed the anti-psychotic measure from the pilot initiative for similar reasons. The Committee noted that this measure area should be a high priority when the sets are updated. [N.B. See the discussion for the measure "depression without antidepressant therapy" regarding the Committee's revised views on this measure.]
- The Committee also discussed whether the measure "falls incidence" should be recommended for inclusion. It was noted, however, that this measure raises the possibility of leading to conflicting incentives if nursing homes increase their use of restraints to prevent falls; as noted earlier, the Committee endorsed the increasingly held goal of a restraint-free environment. Moreover, a major ongoing initiative supported by CMS is intended to reduce the use of bed rails, which restrict resident independence, but also may increase the number of falls, even though their severity is likely to decline. Based on these factors, the Committee decided against recommending this measure.
- "Incidence of infection" was recommended by the Committee for the pilot, but ultimately was not recommended for inclusion in the set. The measure contains a mixture of infections, including respiratory infection, recurrent lung aspiration, urinary tract infection, and fever. Specific objections to the measure per se were not raised. Rather, the Committee balanced a recommendation to include this measure against other competing priorities and the goal of recommending a parsimonious number of measures for the final set.

Recommended Post-Acute Care Measures

The Committee noted that recommending measures for post-acute residents was important, as a large volume of residents is encompassed by this population category, and assessment of quality of care has been underdeveloped. It acknowledged, however, that the MDS might not be the best tool for this population.

Because the Mega QI project material was the only source available for post-acute residents, the Committee discussed with the Mega QI PI ways in which the MDS could be improved to account for different measurement times appropriate for this population—for example, the inclusion of more frequent assessments and a discharge assessment. The PI advised the Committee that the three post-acute measures chosen for the pilot (except rehospitalization) were testing well with the MDS for

the research conducted to date (February 2002). Accordingly, the Committee agreed at its February 2002 meeting to recommend including the post-acute measures in a set for this population (with the FAP), even though the candidate post-acute measures are new, and preliminary validation evidence used the FAP methodology. That is, the Steering Committee recommended the following three post-acute measures with the FAP rather than recommend no measures for the short-stay population:

- inadequate pain management (Mega QI);
- improvement in walking (Mega QI); and
- failure to improve and manage delirium (Mega QI).

The Committee discussed the rehospitalization measure that had been selected for the pilot, but did not pursue it because of technical difficulties. The Mega QI PI then advised the Committee that the difficulties could probably be resolved in the short term. The Committee recommended including the measure, with the condition that the technical issues are resolved prior to final endorsement. [N.B. Technical issues were not resolved by the time NQF Member endorsement was to begin. Thus, the measure was deleted in the report forwarded for voting. Additionally, in late March 2002 CMS announced that it would not use the FAP method for the post-acute measures for its April 2002 pilot on consumer reporting of nursing home quality information. Given this, the Steering Committee reconsidered its recommendations for the post-acute measures and favored retaining the measures it had recommended for the set, but recommended against application of the FAP risk adjustment.]

Structural Information

In considering structural information, the Committee identified information that it considered essential to report to consumers but that could not be characterized as a performance measure per se. The Committee concluded that information in two areas, however, should be reported to the public: facility ownership[29] and staffing.

Measures in Other Domains

As noted earlier, the Steering Committee identified six domains that a set for nursing home performance measures should ideally address. Most domains, however, contained no measures or did not contain measures that were ready for immediate implementation. The Committee's strong desire to include measures of satisfaction and quality of life was limited by both a lack of available measures and a lack of availability of data collection systems in the near term. The Committee recommended fast-track research, development, and validation of public domain measures and data systems in these areas to make implementation feasible as soon as possible.

[29] Harrington C, et al. Does investor ownership of nursing homes compromise the quality of care? *Am J Public Health.* 2001;91(9):1452-1455.

Finally, the Committee designated some important measures that were not selected for the sets as "next-generation" measures. These measures were not selected because they generated questions about data sources or specifications; ultimately the Committee limited its selection of measures to those that are MDS based. For example, problems with CMS's OSCAR database ultimately led to the Committee's recommendation to exclude specific measures for pneumococcal pneumonia and influenza immunizations and nurse staffing. Instead, the Committee recommended that more reliable and valid data systems, particularly for staffing information, be developed as soon as possible.

In response to comments received during the review process, several Committee members continued to express strong disagreement with the significant number of comments recommending inclusion of vaccination because of concerns about the application of a hospital-based measure to this different care setting and because data collection through OSCAR is problematic; CMS also specifically objected to the measure's specified target population.

With respect to nurse staffing, however, most Committee members did not oppose recommending the inclusion of the same nurse staffing measure currently provided on CMS's *Nursing Home Compare* web site, provided that the limitations of the data are noted and that it is clear that the Committee also views the development of improved measures and more reliable data systems as among the highest priorities.

Public Reporting

Although the Steering Committee did not engage in a systematic and analytic review of how information from the sets should be summarized and presented to the public, it did generally discuss its views on reporting formats, concluding that:

- Measures should be worded in positive or neutral terms whenever possible.
- Easily understood words should be used, such as "confusion" instead of "delirium."
- Alternative ways of presenting information about differences among facilities should be explored, instead of merely providing a list of percentages.
- Presentation of the data should reflect meaningful differences—for example, the use of quartiles with confidence intervals. Some Members were especially concerned about the "tyranny of small differences" and about how to help the public interpret the results appropriately.
- Trends over time should be considered for some measures (e.g., restraints, weight loss), because conditions in nursing homes can change rapidly.
- A priority should be placed on timeliness, and data that are, for example, nine months old should not be viewed as particularly useful for consumers.
- CMS should coordinate with the states regarding both presentation format and utilization of the measures in standard state surveys.
- A strong public education component must accompany public reporting to guide consumers in using the information effectively.

Appendix E
Consensus Development Process: Summary

The National Quality Forum (NQF), a voluntary consensus standards setting organization, brings together diverse healthcare stakeholders to develop consensus on voluntary consensus standards to improve healthcare quality. The primary participants in the NQF Consensus Development Process are NQF member organizations, which include:

- consumer and patient groups;
- healthcare purchasers;
- healthcare providers and health plans; and
- research and quality improvement organizations.

Any organization interested in healthcare quality measurement and improvement may apply to be a member of NQF. Membership information is available on the NQF web site, www.qualityforum.org.

Members of the public with particular expertise in a given topic also may be invited to participate in the early identification of draft consensus standards, either as technical advisors or as Steering Committee members. In addition, the NQF process explicitly recognizes a role for the general public to comment on proposed consensus standards and to appeal healthcare quality consensus standards endorsed by NQF. Information on NQF projects, including information on NQF meetings open to the public, is posted at www.qualityforum.org.

Each project NQF undertakes is guided by a Steering Committee (or Review Committee) composed of individuals from each of the four critical stakeholder perspectives. With the assistance of NQF staff and technical advisory panels and with the ongoing input of NQF Members, a Steering Committee conducts an overall assessment of the state of the field in the particular topic area and recommends a set of

draft measures, indicators, or practices for review, along with the rationale for proposing them. The proposed consensus standards are distributed for review and comment by NQF Members and non-members.

Following the comment period, a revised product is distributed to NQF Members for voting. The vote need not be unanimous, either within or across all Member Councils, for consensus to be achieved. If a majority of Members within each Council do not vote approval, staff attempts to reconcile differences among Members to maximize agreement, and a second round of voting is conducted. Proposed consensus standards that have undergone this process and have been approved by all four Member Councils on the first ballot or at least two Member Councils after the second round of voting are forwarded to the Board of Directors for consideration. All products must be endorsed by a vote of the NQF Board of Directors.

Affected parties may appeal voluntary consensus standards endorsed by the NQF Board of Directors. Once a set of voluntary consensus standards have been approved, the federal government may utilize it for standardization purposes in accordance with the provisions of the National Technology Transfer Advancement Act of 1995 (P.L. 104-113) and the Office of Management and Budget Circular A-119. Consensus standards are updated as warranted.

For this report, NQF Consensus Development Process, version 1.5, was in effect. The complete process can be found at www.qualityforum.org.

National Quality Forum Publication Information

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