NATIONAL QUALITY FORUM

Tracking NQF-Endorsed Consensus Standards for Nursing-Sensitive Care: A 15-Month Study

Foreword

"Can you imagine a hospital without nurses?" That is the response many leaders, representatives of hospital and nursing performance measurement initiatives, and other stakeholders who were interviewed or surveyed in 2006 and 2007 provided when asked about the importance of measuring nursing performance. Because of the sheer number of nurses and their contribution to the inpatient experience, measuring hospital quality without measuring nursing's contribution seems foreign to most stakeholders. However, measuring nursing's contribution is not a simple process; it is an undertaking complicated by resource, measurement, and financial limitations.

This report details findings from a 15-month study undertaken by the National Quality Forum (NQF), with funding from the Robert Wood Johnson Foundation, to better understand the adoption of NQF-endorsed™ national voluntary consensus standards for nursing-sensitive care and to identify the successes, challenges, and technical barriers experienced by users in uniformly implementing them. This study is the first comprehensive effort to gauge the degree to which the consensus standards have been implemented and to formulate specific recommendations that accelerate their adoption.

This report can be used by hospital executives and boards of directors, nursing leaders and managers, health system representatives, public and private purchasers, state and federal policymakers, researchers, and educators to determine environmental changes and policy directions that will enable the widespread adoption of nursing performance measures. This study and its recommendations provide a road map for future consensus setting, research, and policy development in this area.

We thank NQF Members and the Planning Advisory Committee for their stewardship of this work and for their leadership in nursing quality and performance measurement. This work would not have been possible without their collective dedication to understanding and quantifying the contribution of nursing in inpatient settings.

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Tracking NQF-Endorsed Consensus Standards for Nursing-Sensitive Care: A 15-Month Study

Executive Summary

In 2004, the National Quality Forum (NQF) published a landmark report documenting a set of nursing-sensitive performance measures endorsed through consensus. These 15 national voluntary consensus standards for nursing-sensitive care are intended for use by the public and other healthcare stakeholders to evaluate the ways and the extent to which nurses in acute care hospitals contribute to patient safety, healthcare quality, and a professional work environment.

Some of these consensus standards are already in widespread use. For example, several are collected under the Hospital Quality Alliance and publicly reported on Hospital Compare by the Centers for Medicare & Medicaid Services. But because of some of the challenges they pose (e.g., they are derived from different data sources and do not address a single, common population), until this study, the extent to which other nursing-sensitive consensus standards or all 15 of them as a set had been adopted was not clear. This 15-month study, funded by the Robert Wood Johnson Foundation, sought to:

- generate a comprehensive understanding of the use of these consensus standards by hospitals and other healthcare stakeholders;
- identify the successes and challenges experienced by users of the consensus standards, including factors that influence their voluntary collection and reporting; and
- identify technical and other issues that are barriers to uniform implementation.

To inform this study, a variety of critical leaders, representatives of hospital and nursing performance measurement initiatives, and other stakeholders were interviewed between November 2006 and January 2007. Leaders of national nursing, healthcare, hospital, and quality organizations, principal investigators and/or representatives from each of the existing implementation initiatives and state initiatives, and representatives from different types of hospitals were included in the sample. To augment the interviews, a 31-item web-enabled survey was used to solicit additional information from the nursing and quality communities.

Qualitative techniques derived from a modified content analysis, and simple descriptive analyses were used to evaluate the data. This report presents a detailed description of the study methodology, results from these analyses, and 10 recommendations to accelerate the adoption of the NQF-endorsed™ nursing-sensitive consensus standards.

Nursing care is integral to inpatient care and is uniquely delivered in hospital settings. The sheer number of nurses and their primacy in caregiving are compelling reasons for measuring their contribution to patients' experiences and the outcomes that are attained. This report and its specific recommendations for future measure development, research, policy setting, and practice outline specific steps that will ensure this achievement.

Recommendations for Accelerating the Adoption of the NQF-Endorsed National Voluntary Consensus Standards for Nursing-Sensitive Care

Recommendation 1	Improve the NQF-endorsed nursing-sensitive consensus standards to reflect current measurement and reporting priorities and the best available evidence.
Recommendation 2	Develop a composite "nursing quality index."
Recommendation 3	Incorporate the NQF-endorsed nursing-sensitive consensus standards into other NQF-endorsed measure sets, as appropriate.
Recommendation 4	Align the NQF-endorsed consensus standards for nursing-sensitive care with nursing quality performance measurement and reporting requirements.
Recommendation 5	Incorporate the NQF-endorsed consensus standards for nursing-sensitive care in national and state hospital performance measurement and reporting activities.
Recommendation 6	Develop electronic decision support that integrates nursing performance measures.
Recommendation 7	Develop educational tools to help hospital staff rapidly adopt these consensus standards, to minimize the burden associated with their implementation, and to improve their use in strategic decisionmaking.
Recommendation 8	Develop a "brand management" strategy for the NQF-endorsed consensus standards for nursing-sensitive care.
Recommendation 9	Hold nurses accountable for providing high-quality care through the use of public reporting and incentive systems.
Recommendation 10	Build a business case for nursing quality measurement and the nursing-sensitive consensus standards.

Tracking NQF-Endorsed Consensus Standards for Nursing-Sensitive Care: A 15-Month Study

Introduction

In February 2003, under a grant provided by the Robert Wood Johnson Foundation (RWJF) along with additional funding from the Department of Veterans Affairs, the National Quality Forum (NQF) embarked on the "Nursing Care Performance Measures" project to quantify the influence of nursing personnel on the quality of health-care and patient safety. Under this project, NQF ultimately endorsed a set of 15 national voluntary consensus standards[1,2] for nursing-sensitive care[3] and identified a research agenda that supports the updating and expanding of consensus standards in this area. These consensus standards are intended for use by the public and other

[1] Voluntary consensus standards are defined as "common and repeated use of rules, conditions, guidelines or characteristics for products or related processes and production methods, and related management systems practices; the definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, designs, or operations; measurement of quality and quantity in describing materials, processes, products, systems, services, or practices; test methods and sampling procedures; or descriptions of fit and measurements of size or strength." U.S. Office of Management and Budget, Revised Circular A-119, *Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities;* February 10, 1998.

[2] Voluntary consensus standards are "standards developed or adopted by voluntary consensus standards bodies, both domestic and international." U.S. Office of Management and Budget, Revised Circular A-119, *Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities;* February 10, 1998.

[3] Nursing-sensitive performance measures are processes and outcomes—and structural proxies for these processes and outcomes (e.g., skill mix, nurse staffing hours)—that are affected, provided, and/or influenced by nursing personnel—but for which nursing is not exclusively responsible. Nursing-sensitive measures must be quantifiably influenced by nursing personnel, but the relationship is not necessarily causal.

healthcare stakeholders to evaluate the ways and the extent to which nurses in acute care hospitals contribute to patient safety, healthcare quality, and a professional work environment. The final report was published in 2004.[4]

While some of these consensus standards already are in widespread use by many hospitals (e.g., three measures are collected under the Hospital Quality Alliance [HQA] and publicly reported on Hospital Compare[5] by the Centers for Medicare & Medicaid Services [CMS]), they provide unique measurement opportunities and challenges for hospitals, systems, health plans, state governments, and other potential implementers. The consensus standards do not address a single, common population and are not derived from a single measure developer. Measurement targets include patients, nursing staff, and system factors. Data are derived from multiple sources, including clinical process documentation, surveys, patient administrative databases, and human resource records. Healthcare organizations wishing to adopt these standards must carefully examine the criteria for each measure population and determine reliable, consistent data collection options. Moreover, while a number of regional, state, and national hospital and nursing performance measurement and reporting initiatives are under way (e.g., National Database of Nursing Quality Indicators[6] [NDNQI], Veterans Affairs Nursing Sensitive Outcomes Database [VANOD], Military Nursing Outcomes Database[7] [MilNOD], California Nursing Outcomes Coalition Database Project[8] [CalNOC], HQA, Massachusetts' Patients First initiative), significant resources will be required to effect the widespread adoption of the full set of nursing-sensitive consensus standards.

[4] National Quality Forum (NQF), *National Voluntary Consensus Standards for Nursing-Sensitive Care: An Initial Performance Measure Set – A Consensus Report,* Washington, DC: NQF; 2004. Available at www.qualityforum.org/publications/reports/nsc.asp. Last accessed April 2007.

[5] Available at www.hospitalcompare.hhs.gov. Last accessed March 2007.

[6] Available at www.nursingworld.org/quality/database.htm. Last accessed December 2006.

[7] Available at www.dns.amedd.army.mil/pjv/Patrician_MilNOD%202004.ppt#378,13,MilNOD Team. Last accessed December 2006.

[8] Available at www.calnoc.org/globalPages/mainpage.aspx. Last accessed December 2006.

In response to these challenges, in December 2005, NQF was awarded a 15-month grant[9] from RWJF to track the implementation of the consensus standards and to facilitate a community of support among early adopters. The primary objectives of this project, referred to as the "Nurse Tracking" project, were to accomplish the following:

- establish a tracking system for capturing and reporting the adoption and use of NQF-endorsed™ national voluntary consensus standards for nursing-sensitive care;
- identify the successes and challenges experienced by users of the consensus standards, including factors that influence their voluntary collection and reporting; and
- identify technical and other issues that are barriers to uniform implementation and communicate these to measure developers and other key stakeholders.

Findings from this project are intended to bridge the implementation gap until more formal, self-sustaining efforts can replace this somewhat limited effort. Specifically, under this project NQF examined the implementation of its consensus standards, gained an understanding of the current landscape of and trends in adoption, and formulated recommendations to accelerate their uniform implementation.

Methods

A Planning Advisory Committee (appendix B) was convened to provide counsel to project staff. The Committee was composed of individuals representing early adopters, measure developers, national hospital corporations, and researchers, and it included liaison members whose research and/or affiliations would help inform the project plan and its findings (i.e., principal investigators [PIs] of the RWJF-funded Interdisciplinary Nursing Quality Research Initiative and Transforming Care at the Bedside initiative).

In response to the objectives, the Committee collectively recommended a mixed methodology for data collection that incorporated both telephone interviews and a web-based survey. This approach effectively shifted the project deliverables from a database and tracking system to semi-structured interview sets and a close-ended web-based survey that provided complementary information about penetration, diffusion, and implementation experience.

Semi-Structured Telephone Interviews

Sampling

To better understand the implementation issues for different types of organizations, hospitals were classified by 14 institutional and implementation characteristics[10] that were likely to influence the adoption of NQF's nursing-sensitive consensus standards:

[9] The initial 12-month grant period was extended by RWJF to accommodate an expanded project plan.

[10] Relevant definitions are provided in appendix F.

Institutional Characteristics

1. Type of institution—individual hospital, hospital system.
2. Demographic profile—urban, suburban, rural.
3. Size of institution—small institution, large institution.
4. Service type—critical access hospital, community, tertiary, specialty.
5. Ownership—not for profit, for profit.
6. Teaching status—non-teaching, teaching.

Implementation Characteristics

7. Stage of adoption—no adoption, start/stop (i.e., rejection of adoption after initial implementation), early user, intermediate user, experienced user.
8. Receipt of feedback—yes, no.
9. Motivation—mandatory, voluntary.
10. Purpose—quality improvement, public accountability.
11. Individual—senior leader, supervisor/manager, staff/data collector.
12. Degree of implementation—none, one measure, some measures, all measures (full set).
13. Approach to data gathering—pencil and paper, existing information technology system, electronic health record, mixed methodology.
14. Participation in other nursing performance initiatives—yes, no.

The Committee agreed that a quantitative, randomized approach would not be useful. Instead, candidates who represented each category among the 14 characteristics[11] were identified through existing implementation initiatives (e.g., HQA, NDNQI, Magnet™-designated hospitals). Ultimately, a sample was selected for the semi-structured telephone interviews to ensure that each category of the 14 characteristics included interviewees. Furthermore, sample selection was based on the principles that, in order to be considered complete, the sample must:[12]

- at a minimum, include two users of each category among the different institutional characteristics;
- at a minimum, include two users of each category among the different implementation characteristics;
- over sample institutions that use the results for public accountability (i.e., HQA participants, representatives from the State of Maine and the Commonwealth of Massachusetts);
- over sample institutions that collect data for mandatory reasons (i.e., hospital adopters from the State of Maine);
- over sample institutions participating in VANOD to capture the effects of implementation by institutions with an electronic health record;
- over sample institutions that have implemented all 15 consensus standards; and

[11] That is, candidates who represented at least 1 of each of the various categories from among all of the 14 characteristics.

[12] It should be noted that although these principles drove sample selection and participant recruitment, they were not fully attained in the course of the study. For example, while it was desirable to identify at least two candidate interviewees who were affiliated with hospitals in each of three different geographic categories (i.e., urban, suburban, rural), in the end, only one rural respondent completed an interview.

- over sample institutions that have decided not to implement these standards or that have started to implement them and stopped midcourse.

The Committee viewed as a significant advantage the strategy of purposely sampling interviewees who would be the most thoughtful and responsive to NQF's request for information, rather than those who might be representative of the whole population.

The study sample was augmented in two ways in order to solicit unique perspectives and insight into policy implications: 1) PIs and/or representatives from each of the existing implementation initiatives (e.g., HQA, NDNQI, Magnet™-designated hospitals) and state initiatives (e.g., Massachusetts, Maine, California Hospital Assessment and Reporting Taskforce [CHART]) were included and 2) leaders representing national nursing, healthcare, hospital, and quality organizations (e.g., CMS, the Joint Commission) were added. Ultimately, the sample included a mix of hospital representatives, national leaders, and PIs/initiative representatives. Appendix C illustrates in a table format the application of this methodology to derive an interview sample.

Recruitment

Once the characteristics, categories, and sampling approach were finalized, project staff worked with representatives from the existing implementation initiatives to identify one or more hospital representatives who possessed each category among the 14 characteristics. Representatives from the following implementation initiatives/organizations served as links between project staff and candidate interviewees:

- CalNOC;
- HQA;
- Joint Commission's Nursing Advisory Council;
- Magnet Recognition Program®;
- Maine Quality Forum;
- Massachusetts Hospital Association;
- MilNOD;

- NDNQI;
- RWJF Executive Nurse Fellows Program; and
- VANOD.

While liaisons were used to identify most of the candidates, NQF staff directly identified leaders from the Joint Commission, CMS, CHART, and VHA, Inc., to participate in the telephone interviews.

Once candidate interviewees were identified, they were invited, by e-mail and telephone, to participate in a telephone interview. This communication typically included an explanation of the project, the project's implications, and how its findings and recommendations would be used. In most cases, project staff shared background material that included a one-page project summary, a project timeline, details about the interview approach, and a list of potential interview items. In cases in which several candidates were identified for interviews from the same implementation initiatives/organizations, frequently the first candidate contacted agreed to participate in an interview. In a few instances, project staff recruited a second or third candidate, and, in others, in order to gain richer data, staff members conducted more than one interview with candidates who were identified by a single implementation initiative.

It also should be noted that although project staff worked with representatives from implementation initiatives to identify one or more candidates who fit every category among the 14 characteristics, when a candidate was found to meet a different category (e.g., was believed to have implemented all NQF-endorsed consensus standards for nursing-sensitive care but was found to have implemented only a subset) or a different combination of categories, interviews were not abandoned. However, despite this limitation, project staff, in concert with the Planning Advisory Committee, believed that the final set of individuals recruited for interviews would be adequate to answer the research questions.

Item Construction

Because the sample was composed of interviewees who possessed different characteristics/attributes, project staff constructed four different interview "sets" (see appendix D):

- national nursing, healthcare, hospital, or quality leader ("leader");
- PI/initiative representative ("PI");
- hospital adopter; and
- hospital non-adopter.[13]

The number of interview items varied by set from approximately 28 to 50.

Following several rounds of review and improvement by the Planning Advisory Committee and project staff, interview sets were finalized, and NQF staff developed scripts to be used by the two staff interviewers. The scripts were intended to standardize the information that was conveyed and the way the questions were asked, although they were not read verbatim. Efforts were made to keep the interview scripts brief so that interviews would take one hour or less to complete, although the hospital adopter interview set was lengthy (50 items).

Data Collection

Although 46 interviews were planned originally, that number contracted and expanded several times based on eliminating and adding candidates who were identified during the process by staff and Committee members. In the final sample, 42 candidates (i.e., "planned interviews") were identified. Interviews were ultimately completed with 30 respondents, leaving 12 with whom interviews could not be scheduled. Table 1 provides a breakdown of planned interviews by category.

Two senior NQF staff members, both nurses, conducted all of the interviews between November 2006 and January 2007. After conducting several interviews, they conferred to discuss problems and challenges. Although this did not serve as a formal quality assurance check, it did result in improvements to the scripts (e.g., items were reordered, scripts were

Table 1 – Planned Interviews by Respondent Category (N=42)

RESPONDENT CATEGORY	COMPLETED INTERVIEWS	UNABLE TO SCHEDULE
National nursing, healthcare, hospital, or quality leader	10	2
PI/initiative representative	10	2
Hospital adopter	10	8

[13] Although a hospital non-adopter interview set was constructed, once several interviews with representatives from this group were conducted, it became evident that because most U.S. hospitals are accredited by the Joint Commission and because three of the NQF-endorsed consensus standards for nursing-sensitive care (i.e., smoking cessation counseling for acute myocardial infarction, heart failure, and community-acquired pneumonia) are National Hospital Quality Measures required for accreditation, all hospitals that were interviewed were ultimately "adopters." For that reason, hospital non-adopter interview items were not relevant, and, ultimately, were not used for data collection or analysis.

revised, and efficiencies were identified). Also, because it was difficult to complete the hospital adopter interview within an hour, NQF staff decided to ask these interviewees to complete and return some demographic items in advance of the telephone interview so that the telephone conversation could focus on content-related items. In most cases, interviewees complied with this request.

A toll-free dial-in line was used for each of the interviews to eliminate any cost to the interviewee and to allow NQF staff to audiotape, although not transcribe, each interview (which occurred only with the express permission of the interviewee). Although one hour was scheduled for each interview, at the interviewees' convenience, in some cases, the interviews were longer. NQF staff took handwritten notes during the interviews. Audiotapes were used to validate the handwritten staff notes. In some cases, discussions between the two staff members were used to verify content and to clarify findings.

Each interviewer tailored the interview methodology to account for interviewee preferences and personal interview styles. For example, national leaders and PI interviewees generally were given—although not with complete consistency—the option of responding to all the questions in writing and using an abbreviated telephone call to clarify and expand on their answers. Generally, interviewees opted to forgo the written option in favor of the full telephone interview. Similarly, each interviewer was able to spontaneously follow up on productive lines of discussion, even if the interview set was not completed in its original form for every interview.

Data Analysis

Once all the interviews were conducted, NQF project staff used qualitative techniques derived from a modified content analysis to assess the data. This process included the following:

- conducting a simple reading of all the interview responses to get acquainted with them;
- completing a second reading of the interview responses with a focus on translating the handwritten notes into an electronic, searchable format and organized topics;
- generating a preliminary category list based on the topics by recording significant and recurring words, statements, and phrases and assigning each topic to one of the preliminary categories;
- refining the category list based on the topical assignments and iterative revisions;
- synthesizing themes from related categories that were conceptually connected, that formed obvious patterns, and that clustered by commonality; and
- refining the themes based on the classification scheme and iterative revisions.

The application of this approach resulted in the translation of interviewers' comments into discrete units of analysis referred to as "topics." Topics represent the smallest unit of analysis and are distinct remarks made by interviewees. Remarks that were repeated by interviewees, whether within

a single interview or across multiple interviews, were treated as separate topics for purposes of analysis (i.e., each remark was counted as a topic every time it appeared in the electronic format).

After topics were finalized, they were sorted, clustered, and organized into categories, a process that was repeated for theme synthesis. Because categorical and thematic clustering was iterative, revisions and reassignments were made several times. In some cases, categories and themes were broadened and/or narrowed to construct connections, refine patterns, and discern commonalities. In others, reassignments were made several times—first combining topics/categories that appeared connected and/or associated but ultimately making different assignments to other categories/themes.

Because the interview sets were identical for the national leaders and the PI/initiative representatives, data derived from these interviews were analyzed together in order to generate the categories and themes. Although a hospital non-adopter interview set was constructed, once several interviews with representatives from this group were conducted, it became evident that because most U.S. hospitals are accredited by the Joint Commission, and because three of the NQF-endorsed consensus standards for nursing-sensitive care (smoking cessation counseling for acute myocardial infarction, heart failure, and community-acquired pneumonia) are National Hospital Quality Measures required for accreditation, *all* hospitals that were interviewed were ultimately "adopters." For that reason, hospital non-adopter interview items were not relevant and, ultimately, they were not used for data collection or analysis. In the end, project staff analyzed interview data in two groups:

- national leaders and PIs/initiative representatives; and
- hospital adopters.

Although the data were analyzed by these two major groups, discrete quantitative analyses were also conducted for national leaders and PI/initiative representatives separately to reveal unique and distinguishing patterns. This resulted in selected descriptive statistics (i.e., frequencies and

percentages) being calculated for three distinct groups (i.e., national leaders, PIs, and hospital adopters).

At several points during the analysis, lead project staff consulted with selected experts in the field to verify the categorization and thematic assignments. Although complete agreement was not sought, project staff did use this process to verify and validate the analysis.

Once topics, categories, and themes were finalized, simple, descriptive statistics were calculated, including the following:

- frequencies of topics by category and theme for each of the three groups;
- percentages of topics by category and theme for each group; and
- percentages of topics by category and theme combined for national leaders and PI/initiative representatives.

Because topics that were repeated more than once were counted separately, frequency and percentage calculations were, in effect, weighted, based on the salience of topics within and across interviews.

Web-Based Survey

Item Construction

A short, web-based survey (N=31) was constructed with two primary aims:

- to solicit responses to basic items regarding awareness, penetration, and ease of implementation of the NQF-endorsed consensus standards for nursing-sensitive care; and
- to discern basic information that could be used for assigning potential interviewees to the categories within the 14 characteristics.

The Committee and NQF staff devoted several cycles of review and improvement to the survey until it was finalized (appendix E).

Survey Distribution

The primary distribution plan for the survey was intended to be passive and include traditional NQF vehicles (e.g., the NQF web site, NQF Member e-mails). To that end, during the

summer of 2006, a dedicated nursing quality web page was added to the NQF site to house the survey. Once final, the survey was web-enabled and posted to the nursing site at www.qualityforum.org/nursing. The survey was accessible and fully operable from August 2006 to November 2006.[14,15]

In addition, NQF project staff sent written letters to every customer who had purchased the NQF *National Voluntary Consensus Standards for Nursing-Sensitive Care* report from the original consensus project and embedded a signature block in every e-mail from the project officer to invite participation in the survey. Furthermore, NQF project staff sought support for the survey's distribution through members of the Planning Advisory Committee. Each Planning Advisory Committee member was asked to promote the survey through its organization's web site, newsletters/publications, and other communication vehicles, such as presentations and conferences. In several cases, this resulted in expanded promotion of the survey.

Finally, the Committee was asked to identify collaborating organizations that might act as "levers" to the survey's intended audience (e.g., nursing and quality/performance measurement managers, leaders in hospitals) to potentially promote the survey and create traffic to the NQF web site through three primary vehicles:

- direct links from the lever organization's web site to NQF's site/survey;
- distribution of e-mail blasts to key constituencies informing them of the survey and soliciting their participation; and
- promotion of the survey in publications and newsletters.

In the end, a handful of lever organizations were identified by the Committee, and many of these organizations agreed to promote the survey:

- The Advisory Board Company
- Agency for Healthcare Research and Quality
- American Academy of Nurses
- American Health Quality Association and each of the state-based Quality Improvement Organizations (QIOs)
- American Hospital Association
- American Nurses Association (ANA)
- American Organization of Nurse Executives
- Council for the Advancement of Nursing Science
- Institute for Healthcare Improvement (IHI)
- The Joint Commission
- National Association for Healthcare Quality
- NDNQI

[14] NQF began reorganizing its web site in October 2006, and for a short period during this process the site was not accessible (approximately five business days).

[15] After data collection concluded, project staff learned of a programming corruption on the web site that occurred in December 2006. As a result, although the survey remained posted on the site into early 2007, data that were submitted were not retrievable after November 28, 2006.

NQF staff also contacted a number of editorial directors of publications that reach the survey's intended target audience (i.e., *American Journal of Nursing [AJN], Joint Commission Benchmark, Journal of Nursing Administration [JONA],* and *Nursing Spectrum*) to run short stories, notifications, or letters to the editor to encourage survey responses. In every case, a notification of the survey's availability was published.

Data Collection

Despite the many strategic efforts that were made to promote the web-enabled survey, the overall response rate was low. Sixty responses were submitted, the majority of which were submitted during November 2006—the month that notifications were published in *AJN, JONA,* and *Nursing Spectrum.*[16]

Data Analysis

Simple descriptive analyses were conducted on the survey data that were submitted electronically.

Results

Based on the analyses that were conducted from the data, sample characteristics were described for those who completed the telephone interviews and the web-based survey, and themes were generated from the telephone interviews.

Sample Characteristics

A set of 14 identical demographic items were completed during interviews with the 10 hospital adopters and among survey respondents. While uniform demographic data were not collected from national leaders and PIs/initiative representatives who were interviewed—because they were selected and/or recommended for their unique perspective, affiliation, and/or body of work—their characteristics were well established and known by project staff. Following are more detailed descriptions of each sample.

Interview Respondents

Twenty interviews were conducted among national leaders and PIs/initiative representatives, 10 in each group. Among respondents in this category (table 2) were senior leaders from:

- state and federal health agencies (e.g., CMS);
- nursing performance measurement databases (e.g., NDNQI, CalNOC, MilNOD, and VANOD);
- statewide nursing performance measurement and reporting efforts (e.g., Massachusetts' Patients First, Maine Quality Forum, CHART project); and
- major hospital systems and health plans.

Ten interviews were completed among hospital adopters. The sample was selected to ensure that comments were provided by interviewees with various individual and organizational characteristics (see table 3 on page 14).

[16] It should be noted that because of the programming corruption that affected the web site, data collection did not benefit from several additional promotion opportunities (e.g., notification about the survey through the Joint Commission Benchmark).

Table 2 – National Leader and PI/Initiative Representative Characteristics (N=20)

CHARACTERISTIC	FREQUENCY AMONG COMPLETED INTERVIEWS
National nursing leader	20% (*n*=4)
National healthcare leader	15% (*n*=3)
National hospital leader	15% (*n*=3)
Researcher/investigator	20% (*n*=4)
Initiative representative	30% (*n*=6)

Because it was hypothesized that the adoption of NQF's nursing-sensitive standards was more likely among hospitals that 1) also had adopted other NQF-endorsed consensus standards (e.g., *Serious Reportable Events* and/or *Safe Practices for Better Healthcare*[17]) and 2) were participating in another nursing quality initiative (e.g., NDNQI, CalNOC), several interview items were intended to determine the veracity of this association, as follows:

- 50 percent of respondents (*n*=5) indicated that they had implemented another NQF-endorsed consensus standard, although several respondents named measures that are not actually endorsed by NQF (e.g., "core measures," "HQA," and "IHI");
- 90 percent of respondents (*n*=9) indicated that they participate in a local, regional, or national nursing performance measurement initiative or database. NDNQI was named most frequently (*n*=8), followed by IHI (*n*=4) and state initiatives (*n*=3);
- 100 percent of respondents have implemented 7 of the 15 measures. Measures that were least likely to be implemented by respondents include:
  - urinary catheter-associated urinary tract infections (*n*=5),
  - Practice Environment Scale (PES) of the Nursing Work Index (NWI) (*n*=5),
  - restraint prevalence (*n*=3), and
  - failure to rescue (FTR) (*n*=3); and
- 50 percent of respondents (*n*=5) indicated that the *Implementation Guide for the National Quality Forum (NQF) Endorsed Nursing-Sensitive Care Performance Measures*[18] was the source from which the specifications were obtained.

Finally, as a key to understanding hospital adopters' motivations for implementing the NQF-endorsed nursing-sensitive consensus standards, interviewees were asked to rate the importance of various motivations that might have resulted in implementation. Table 4 displays ratings across various motivations. It is noteworthy

[17] NQF, *Safe Practices for Better Healthcare: A Consensus Report,* Washington, DC: NQF; 2003; NQF, *Safe Practices for Better Healthcare – 2006 Update: A Consensus Report,* Washington, DC: NQF; 2007; NQF, *Serious Reportable Events in Healthcare: A Consensus Report,* Washington, DC: NQF; 2002; NQF, *Serious Reportable Events in Healthcare – 2006 Update: A Consensus Report,* Washington, DC: NQF; 2007.

[18] The Joint Commission, *Implementation Guide for the National Quality Forum (NQF) Endorsed Nursing-Sensitive Care Performance Measures;* 2006. Available at www.jointcommission.org/PerformanceMeasurement/MeasureReserveLibrary/Quality+Forum+(NQF)+Endorsed+Nursing-Sensitive+Care+Performance+Measures.htm. Last accessed March 2007.

Table 3 – Hospital Adopter Characteristics (N=10)

ITEM	CHARACTERISTIC	FREQUENCY AMONG COMPLETED INTERVIEWS
Title of respondent	Senior leader	60% (*n*=6)
	Supervisor/manager	10% (*n*=1)
	Staff/data collector	10% (*n*=1)
	Other	10% (*n*=1)
	Did not respond/answer	10% (*n*=1)
Hospital affiliation	System affiliation	60% (*n*=6)
	Independent	30% (*n*=3)
	Did not respond/answer	10% (*n*=1)
Geographic location	Urban	40% (*n*=4)
	Suburban	40% (*n*=4)
	Rural	10% (*n*=1)
	Did not respond/answer	10% (*n*=1)
Number of operating beds	25 beds or less	10% (*n*=1)
	26 - 75 beds	0% (*n*=0)
	76 - 125 beds	10% (*n*=1)
	126 - 199 beds	20% (*n*=2)
	200 - 299 beds	10% (*n*=1)
	300 - 500 beds	20% (*n*=2)
	501 - 1000 beds	20% (*n*=2)
	Greater than 1001 beds	0% (*n*=0)
	Did not respond/answer	10% (*n*=1)
Service type	Critical access hospital	10% (*n*=1)
	Community hospital	30% (*n*=3)
	Tertiary hospital	50% (*n*=5)
	Specialty hospital	0% (*n*=0)
	Other	0% (*n*=0)
	Did not respond/answer	10% (*n*=1)
Ownership	Not-for-profit	70% (*n*=7)
	For-profit	20% (*n*=2)
	Did not respond/answer	10% (*n*=1)
Teaching status	Teaching	50% (*n*=5)
	Non-teaching	40% (*n*=4)
	Did not respond/answer	10% (*n*=1)

Table 4 – Source of Motivation to Collect the NQF-Endorsed Consensus Standards (N=10)

MOTIVATION	RATING		
	Not Motivating	Somewhat Motivating	Very Motivating
State/federal regulation/mandate	0% (*n*=0)	0% (*n*=0)	100% (*n*=10)
Participation in professional and/or statewide voluntary initiatives	0% (*n*=0)	30% (*n*=3)	70% (*n*=7)
Consumer and/or patient pressure to share quality information	10% (*n*=1)	30% (*n*=3)	60% (*n*=6)
Competitive advantage among hospitals in market	40% (*n*=4)	20% (*n*=2)	40% (*n*=4)
Internal quality improvement	0% (*n*=0)	30% (*n*=3)	70% (*n*=7)
Hospital-level pay for performance	30% (*n*=3)	10% (*n*=1)	60% (*n*=6)
Rewarding nursing departments for high performance	30% (*n*=3)	50% (*n*=5)	20% (*n*=2)

that all respondents rated state/federal regulation/mandate as a "very motivating" impetus (median rating=3.0 on a three-point scale). Internal quality improvement and participation in professional and/or statewide initiatives were cited next most frequently, with both rated 2.7.

Web-Based Survey Respondents

Although 60 surveys were submitted to NQF electronically, a number of entries were excluded based on obvious errors in submission and/or the submission of incomplete data. For example, one respondent submitted identical data three separate times, and four respondents submitted only their names and limited additional information. These exclusions resulted in a total of 54 usable survey responses.

Despite several rounds of review, revision, and improvement to the survey, a number of responses were inconsistent and/or contradictory. For example, 2 of 5 respondents who categorized their employers as "critical access hospitals" indicated they were 200-299 beds and 300-500 beds respectively, which is by definition[19] invalid.[20] In another example, one of nine respondents who indicated that his or her organization had not adopted any of the measures ("none") also selected the response "one" when asked how many of the NQF consensus standards the organization had implemented.[21] Although these inconsistencies were identified (because the majority of respondents were consistent in their answers to these survey items and others), data from these respondents were not excluded from the analysis.

[19] As defined by the Social Security Act 1820(c)(2), critical access hospitals are located in a rural area not easily served by other hospitals and do not have more than 25 acute care inpatient beds for providing inpatient care for a period that does not exceed 96 hours per patient.

[20] The other three respondents who indicated that their employers were critical access hospitals indicated that they had 0 to 25 beds.

[21] The other eight respondents were consistent across those items.

Although the sample size is modest and conclusions from it are not generalizable, several sample characteristics are notable:

- The majority of respondents were senior leaders (51.9 percent), affiliated with hospitals that are system based (68.5 percent), and employed by organizations that are not for profit (92.6 percent).
- Most respondents were familiar with the NQF consensus standards (81.5 percent were "aware" of them), which is not surprising because the survey resided on the NQF web site and was promoted as a survey about implementation of the NQF nursing measures.
- Among those collecting at least 1 measure, a small majority indicated they were collecting "some" (53.7 percent), with a very small portion of respondents collecting only 1 (3.7 percent) as compared to 13 percent indicating they were collecting all 15 consensus standards.
- Among those reporting the number of consensus standards being collected (81.5 percent), the median number of measures was seven (min=0; max=15; SD=6.8).
- Most respondents (50 percent) indicated that their primary motivation for collecting the consensus standards was voluntary, with only 24.1 percent indicating that mandatory reasons prevailed. Consistently, a substantial majority of respondents (70.4 percent) indicated that the primary purpose for implementing the NQF-endorsed measures was quality improvement, with only 7.4 percent indicating that public reporting was their primary purpose.

Finally, and compatible with the initial hypothesis, the majority of respondents were likely to be participating in other state and/or national nursing performance measurement initiatives (63 percent), with the ANA's NDNQI named most frequently (60 percent) among those naming one or more initiative. The majority of respondents were receiving regular feedback on their performance (68.5 percent)—for example, performance graphs, dashboards, or report cards. Respondent characteristics are further described in table 5.

Table 5 – Survey Responder Characteristics (N=54)

ITEM	CHARACTERISTIC	FREQUENCY AMONG SUBMITTED SURVEY RESPONDENTS (N=54)
Title of respondent	Senior leader	51.9% (*n*=28)
	Supervisor/manager	29.6% (*n*=16)
	Staff/data collector	9.3% (*n*=5)
	Other	9.3% (*n*=5)
	Did not respond/answer	0% (*n*=0)
Hospital affiliation	System affiliation	68.5% (*n*=37)
	Independent	25.9% (*n*=14)
	Did not respond/answer	5.6% (*n*=3)
Geographic location	Urban	38.9% (*n*=21)
	Suburban	33.3% (*n*=18)
	Rural	24.1% (*n*=13)
	Did not respond/answer	3.7% (*n*=2)
Degree of implementation (Note: median number of measures implemented=7.0)	No measure	11.1% (*n*-=6)
	One measure	3.7% (*n*=2)
	Some measures	53.7% (*n*=29)
	All 15 (full set)	13.0% (*n*=7)
	Do not know	14.8% (*n*=8)
	Did not respond/answer	3.7% (*n*=2)
Receipt of regular feedback	Yes	68.5% (*n*=37)
	No	13.0% (*n*=7)
	Do not know	7.4% (*n*=4)
	Did not respond/answer	11.1% (*n*=6)
Approach to data gathering	Pencil and paper	13.0% (*n*=7)
	Existing information technology	5.6% (*n*=3)
	Electronic health record	5.6% (*n*=3)
	Mixed methodology	53.7% (*n*=29)
	Do not know	11.1% (*n*=6)
	Did not respond/did not answer	11.1% (*n*=6)
Motivation for implementation	Mandatory	24.1% (*n*=13)
	Voluntary	50.0% (*n*=27)
	Do not know	14.8% (*n*=8)
	Did not respond/did not answer	11.1% (*n*=6)
Primary purpose	Quality improvement	70.4% (*n*=38)
	Public reporting	7.4% (*n*=4)
	Pay for performance	0% (*n*=0)
	Do not know	9.3% (*n*=5)
	Did not respond/answer	13.0% (*n*=7)

Themes Among Interview Respondents

Themes among respondents represent significant, recurrent, and broad conceptual subject areas that are composed of interconnected thoughts, ideas, and responses that form patterns and common clusters when combined with others. Themes were generated for 1) national leaders and PIs/initiative representatives and 2) hospital adopters. Although the data were analyzed for national leaders/PIs together, neither group dominated, and the data drove the synthesis of categories and themes. Additionally, while the themes and categories were identical for the national leaders and PIs, the frequency of occurrence was not the same between these two groups (table 6). Finally, content analysis among hospital adopters was conducted separately, and the themes derived were different, although some of the categories were identical to those among the national leaders and PIs (e.g., both "cost and burden" and "capturing the imagination of leadership" appear as categories in both analyses, although they appear with different frequencies and cluster into different themes). However, the data led to the differences and/or commonalities, not the project staff's approach to analysis or some other artifact.

The analytic approach resulted in a total of 475 topics among the national leaders, 543 among PIs, and 434 among the hospital adopters. These topics, the smallest unit of analysis, were sorted, clustered, and assigned to 15 categories and 5 themes for national leaders and PIs and 17 categories and 4 themes for hospital adopters.

National Leaders and PIs/Initiative Representatives

Among the national nursing, healthcare, hospital, or quality leader respondents and PIs/initiative representative respondents, based on the content analysis, topics were clustered into 15 categories and 5 themes, as shown in table 6. These topic and theme clusters describe the attitudes toward, experiences with, and challenges of implementing the NQF-endorsed consensus standards for nursing-sensitive care. Each theme is described in greater detail in the commentary, discussion, and recommendations that follow.

The art, science, and business of nursing. When asked about the importance of nursing performance measurement, one responder replied, "Can you imagine a hospital without nurses?" Because of the sheer number of nurses[22] and their contribution to the inpatient experience, measuring hospital quality without measuring the contribution of nursing seemed foreign to most responders. However, they also indicated that measuring the contribution of nursing must be calibrated within the context of measuring other aspects of care that are provided by other healthcare professionals and other high-priority conditions.

[22] Spratley E, Johnson A, Sochalskin J, et al., *Findings from the National Sample Survey of Registered Nurses: March 2000.* Washington, DC: Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, Division of Nursing; February 22, 2002, 6. Available at bhpr.hrsa.gov/healthworkforce/reports/rnsurvey/rnss1.htm. Last accessed March 2007.

Table 6 – Themes and Categories: National Leaders and PIs/Initiative Representatives (N=20)

THEMES (FREQUENCY AND PERCENTAGE OF TOPICS BY THEME)			CATEGORIES (FREQUENCY AND PERCENTAGE OF TOPICS BY CATEGORY) (N [Lead]= 475) (N [PI]=543)		
Themes (Percentage of Topics Combined for Both Groups)	**Frequency of Topics (*n*)**	**% of Topics (Topics/Total Topics [*n*/N])**	**Categories (Percentage of Topics Combined from Both Groups)**	**Frequency of Topics (*n*)**	**% of Topics (Topics/Total Topics [*n*/N])**
1. The art, science, and business of nursing (19.6%)	78 Lead 122 PI	16.4% 22.5%	1. Can you imagine a hospital without nurses? (6.6%)	34 Lead 33 PI	7.2% 6.1%
			2. The workforce debate (2.8%)	9 Lead 20 PI	1.9% 3.7%
			3. What is the business case? (10.2%)	35 Lead 69 PI	7.4% 12.7%
2. It takes vision and commitment (20.5%)	102 Lead 107 PI	21.5% 19.7%	4. Capturing the imagination of leadership (2.2%)	15 Lead 7 PI	3.2% 1.3%
			5. Being the best (2.9%)	11 Lead 19 PI	2.3% 3.5%
			6. Providing patient-centered care (4.1%)	23 Lead 19 PI	4.8% 3.5%
			7. Finding the tipping point (11.3%)	53 Lead 62 PI	11.2% 11.4%
3. The devil's in the detail (16.7%)	90 Lead 80 PI	18.9% 14.7%	8. Cost and burden (10.4%)	45 Lead 61 PI	9.5% 11.2%
			9. Pushing the button once (6.3%)	45 Lead 19 PI	9.5% 3.5%
4. Carrot and stick (15.2%)	85 Lead 70 PI	17.8% 12.9%	10. Financial risks, motivations, and incentives (4.5%)	30 Lead 16 PI	6.3% 2.9%
			11. Mandates drive everything (6.9%)	41 Lead 29 PI	8.6% 5.3%
			12. Trends in transparency (3.8%)	14 Lead 25 PI	2.9% 4.6%
5. From good to great (27.9%)	120 Lead 164 PI	25.3% 30.2%	13. "Starter set" perspective (16.1%)	70 Lead 94 PI	14.7% 17.3%
			14. "Branding" the NQF15 (5.8%)	28 Lead 31 PI	5.9% 5.7%
			15. Is standard *standard*? (6.0%)	22 Lead 39 PI	4.6% 7.2%

KEY:

Lead = National nursing, healthcare, hospital, or quality leader

PI = Principal investigator/initiative representative

For these reasons, responders acknowledged that the benefits, risks, and opportunities of measuring nursing performance must be critically evaluated and balanced with other pressures, both internal and external. This theme combines the respondents' recognition of the critical and essential nature of nursing ("Can you imagine a hospital without nurses?"), the importance of quantifying the impact of nurse staffing and other workforce characteristics on patient outcomes ("the workforce debate"), and the factors that directly support and divert hospitals from achieving this measurement aim ("What is the business case?").

An element of this theme focused on the workforce debate (2.8 percent). The number and composition of the nursing workforce and its adequacy in meeting current and future needs has been a topic of great concern.[23] In some states, it has led to mandatory nurse staffing ratios. In others, it has led to voluntary reporting of nursing performance. Although the debate is ongoing, interview respondents viewed the NQF-endorsed consensus standards as one mechanism that could be used to better understand staffing and its relationship to patient safety and healthcare outcomes. As stated by one interviewee, "Data derived from this measurement set are important to drive a response to the nursing shortage and the necessary education in response to these associations." In this way, some interviewees viewed the measures as important internal tools—vehicles to anticipate staffing needs and patterns based on patient outcomes.

Other respondents conveyed their hope that public reports of nursing performance might provide confidence among patients and the public in the adequacy of care. Viewing such public reports as an alternative to legislated staffing mandates, one interviewee noted, "The push by nursing unions and legislatures on staffing ratios will cause others to confront this same issue [public reporting of nursing performance]." Given the magnitude of the number of nurses and their role in clinical care in hospitals, without measuring the composition of the nursing workforce and its contribution to patient safety and healthcare outcomes, according to one respondent, it is simply "a black hole." Whatever the motivation, respondents collectively viewed nursing performance and public reports of performance results as part of the "art, science, and business of nursing."

For many interviewees (10.2 percent), the adoption of the NQF-endorsed consensus standards comes down to the business case. As one interviewee stated, "Despite continuously accumulating evidence from research on the direct link of nursing care to outcomes, America's senior [hospital] leaders and boards are slow to make critical decisions based on [this] evidence." Hospital leaders and nursing executives need to see the value equation—that is, clear unambiguous evidence of the primacy of nursing's contribution to improving care

[23] Institute of Medicine (IOM), *Keeping Patients Safe: Transforming the Work Environment of Nurses,* Washington, DC: National Academies Press; 2004.

as evidenced by a set of measures. Since there are limited resources and multiple measurement and reporting needs, it comes down to a simple value proposition—"What do you get from an investment in nursing quality and performance measurement?" Because of the essential role of nursing in providing patient care and fostering patient safety, a business case for nursing is an essential component of any hospital's understanding of quality and its commitment to performance measurement.

It takes vision and commitment. This theme incorporates four interrelated categories: "capturing the imagination of leadership," "being the best," "providing patient-centered care," and "finding the tipping point."

Interviewees collectively reported the need for vision and dedication from healthcare leaders, both internally and externally, to create a tipping point for implementation of the NQF consensus standards. They also cited cultural forces (e.g., a culture of quality)—and the benefits of achieving best-in-class performance—as strong levers in implementing nursing quality measurement and reporting. However, respondents also were realistic in their assessment of adoption, fully recognizing the role that national-, state-, and local-level initiatives play in both creating alignment to the NQF-endorsed consensus standards and accelerating their implementation.

In some cases (4.1 percent), informants viewed an "extraordinary focus on patient safety" as a prime motivator for implementing a nursing performance measurement and reporting system. One respondent described this as having the "right people in the right place doing the right thing for the right outcome." Simply "saving lives" is how another respondent described it. Whatever the terminology, respondents collectively cited a fundamental focus on the patient (i.e., "providing patient-centered care") as an overarching tenet among hospitals that dedicate themselves to nursing quality. Respondents viewed measuring this focus—and the gains produced as a byproduct of achieving high performance levels (e.g., market share, competitive advantage, awards/recognition, and "best-in-class" performance)—as a strong

stimulus for adoption. This stimulus, categorized as "being the best," was viewed as especially critical in an environment in which mandates generally drive performance measurement and reporting.

In addition to emphasizing the creation of a culture of safety and the importance of an environment dedicated to exceptional caregiving, interviewees clearly reported the need for a champion to advocate for nursing quality and to drive measurement and reporting efforts within and throughout a hospital. According to these findings, an organization that is likely to implement nursing-sensitive consensus standards is one that has an unwavering commitment to its patients, strong and dedicated leaders, and a competitive spirit. Some questioned why the NQF-endorsed consensus standards have not yet "captured the imagination of the chief executive officers and hospital executives," and specifically why some chief nursing officers are not yet convinced that the consensus standards represent a means for demonstrating nursing's effectiveness. Others indicated that in successful organizations, the contribution of nursing and the measurement of nursing-related structures, functions, and outcomes had been "hardwired" into the organization. Based on 2.9 percent of the interview responses, a leader who inspires, campaigns, and advocates for measuring nursing and its contribution to patient safety, healthcare outcomes, and a professional work environment prevents nursing measurement from becoming eclipsed by other, mandated requirements.

Finally, interviewees indicated that a commitment to nursing and nursing-centric performance measurement goes beyond institutional-level vision and leadership. Leverage from outside the institution must be "harvested" to enable more rapid adoption of the NQF-endorsed consensus standards. To that end, efforts must be undertaken to:

- incorporate consensual nursing measures in hospital performance measurement initiatives (e.g., HQA);
- drive government and/or accreditation requirements that accelerate the adoption of nursing-sensitive performance measures;

- incentivize high-quality nursing care through monetary and non-monetary rewards;
- fully align nursing performance measurement and reporting initiatives' requirements (e.g., NDNQI, CalNOC, VANOD, MilNOD) with NQF's endorsed consensus standards; and
- integrate the measures' data elements into standard, electronic platforms that produce performance results as a byproduct of care.

Overall, 11.3 percent of interviewee responses addressed the necessity of engaging outside influencers in creating a tipping point.

The devil's in the detail. Beyond the acknowledged leadership commitment, many barriers to implementation—categorized as "devilish details" and comprising 16.7 percent of all responses—were identified by interviewees. Comments from interviewees related to ideas about cost, burden, and competing demands for data ("pushing the button once").

Most respondents (10.4 percent) expressed the features of the "cost and burden" category as the enormous difficulty and expenditure—in time, dollars, training, and data acquisition—involved in measuring and reporting nursing measures. The lack of a standard electronic health system that automates the process and the challenges of gathering and analyzing unit-level data were cited frequently as significant barriers. One respondent indicated that nursing performance measurement could not be viewed as a "collateral" duty and should not impose any manual burden. To address these issues, interviewees asserted the need for the following:

- uniform specifications at the micro level (e.g., definitions, nomenclatures, taxonomies, terminologies, data elements, allowable values);
- software that embeds the data elements;
- fully integrated electronic health record and decision support systems that produce the nursing measures as a byproduct of care and nursing measures that are specified for such use;
- confluence among information technology vendors to standardize electronic platforms, and data repositories that accept the NQF-endorsed consensus standards and produce actionable benchmarks.

Without technology support, viewed as an antidote to the significant "cost and burden" of measurement, widespread adoption is unlikely to be achieved.

Additionally, interviewees viewed training of and technical assistance for nursing staff, as well as for those staff members collecting and analyzing the data and producing reports, as essential components of burden reduction. Many informants indicated that educational tools and vehicles to improve programming expertise, quality improvement techniques, and analysis and evaluation competencies are grossly inadequate. Interviewees were not likely to view implementation as swift or pervasive without both technological and educational remedies.

Finally, interviewees shared their concerns that even with additional internal resources, external demands are overwhelming, misaligned, and in their current

state unlikely to enable efficiencies for hospitals. Specifically, because current nursing and hospital performance measurement and reporting initiatives require different measures and/or different versions of similar measures, respondents have a multiplicity of requests for information and cannot "push the button once" to meet those demands. The data suggest that a tremendous need exists to connect and align NQF consensus standards with measures that are necessary for other, essential activities (e.g., payer, regulator, consumer, accreditor requirements). One interviewee urged "all the masters [to] just agree"; another argued for "one-stop shopping" (i.e., one measure that serves multiple purposes). If one set of measures with identical specifications could be achieved across all initiatives, hospitals that collect nursing-sensitive performance measures could push the button once to submit all of its measures for every purpose. This would increase adoption dramatically.

Carrot and stick. The term *carrot and stick* is used to refer to the act of simultaneously rewarding good behavior while punishing bad behavior. Among respondents, there were frequent mentions of the role played by regulation, accreditation, pay for performance, and public reporting in motivating, pressuring, and deterring the adoption, reporting, and performance of nursing care quality standards. Together, 15.2 percent of all responses by interviewees related to this theme.

Mandates by CMS and the Joint Commission were viewed by respondents as "the hammer" — or "the stick" — for implementation. Most interviewees did not object to mandates as the stick ("mandates drive everything") and actually viewed federal and/or state requirements as a necessary component for accelerating the implementation of the nursing consensus standards. While CMS and the Joint Commission requirements were the most frequently named, several interviewees suggested that state requirements should be the regulatory source driving implementation of the consensus standards. One respondent indicated that a hospital would "have to be crazy to adopt nursing measures from the 'goodness of its heart'" and that unless or until there is a requirement for hospitals to collect and/or report these data, widespread adoption would be unlikely.

Although mandates were the dominant category in this theme (6.9 percent), other motivators also were cited as contributors. In some instances, public reporting was viewed as a lever in getting leaders to pay attention to the nursing measures. The category "trends in transparency" recognizes the growth in the availability and comprehensiveness of public reports concerning healthcare quality and nursing performance. In others instances (4.5 percent), interviewees referred to financial incentives, categorized as "financial risks, motivations and incentives," as stimulants. Interviewees cited pay for reporting and/or performance, decreased insurance premiums, and bonus systems as activators of performance measurement. As related to strong influencers in adoption, one respondent noted, "when payers pay attention…that will be the ultimate test!"

From good to great. "From good to great" refers to the collective efforts that must be undertaken by NQF and its stakeholders to improve the nursing-sensitive consensus standards and to enhance the communication about the science on which they rest and their use as a set. This theme was cited most frequently among national leaders and PIs in their interview responses (27.9 percent).

Specifically, informants cited the nature and immaturity of the evidence base that existed when the NQF set was originally endorsed, the pressing need to update the consensus standards as new measures emerge and the science evolves, the importance of testing the consensus standards as a bundle, and the critical gaps that remain completely unaddressed by the set. In general, these consensus standards were considered "primitive" and "incomplete" in capturing nursing's essential role. Simply put, they were seen to serve only as a "starter set."

Interviewees sent a strong, consistent message that ongoing efforts are required to:

- verify the associations between nursing variables (e.g., staffing levels, skill mix) and processes and outcomes of care;
- expand the set to include all populations (e.g., measures that address pediatric, geriatric, and chronically ill populations);
- address all NQF healthcare aims (i.e., care that is safe, beneficial, patient centered, efficient, timely, and equitable[24]);
- test the measures as a set; and
- develop a composite metric that reflects nursing quality.

In this way, respondents viewed NQF-endorsed consensus standards as a "first step" and its consensus development as iterative.

It should be noted that interviewees were not wed to the NQF set as it is endorsed today. Instead, they viewed the current standards as a starter set. In fact, this category was cited most frequently overall (16.1 percent).

[24] In *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001), IOM identifies six aims of the healthcare quality system: safe, efficient, timely, patient centered, and equitable. In October 2000, the NQF Board of Directors adopted a purpose statement that largely mirrors the IOM aims, but states that one aim should be beneficial, which encompasses but also goes beyond effectiveness.

Future enhancements should result in a set of consensus standards that reflects the science and that balances other considerations including but not limited to data availability and source (e.g., data that can be derived from existing sources), alignment with other nursing performance measurement and reporting initiatives (e.g., NDNQI, CalNOC), and incorporation into national and state hospital requirements. Respondents believed that NQF should review what has been endorsed to ensure that it reflects the state of the art—the best measures that science has to offer—and current priorities.

Second, respondents addressed concerns about the degree of specification and standardization that has been achieved. In other words, "is standard *standard*?" Despite NQF's process and the degree to which the endorsed consensus standards represent a single, specified set, interviewees did not believe that enough standardization at every level—data elements, collection methods, numerators, denominators, definitions, allowable values, analytic techniques, risk adjustments, reporting formats—has been achieved to enable "apples-to-apples" comparisons.

In addition to improvements to the measures themselves, 5.8 percent of responses addressed interviewees' concerns about advancing the consensus standards as a "brand." Specifically, while some respondents indicated that picking measures from among those that had been endorsed based on specific priorities and/or analyses ("cherry picking") was the current practice, others indicated that they believed the set should be implemented as a whole and should be "marketed" in that fashion. In its collective form, the respondents believed that the process NQF used to develop consensus, the rigor of the evidence on which the standards rest, and the rationale for implementing them as a "bundle" was defensible but had not been well documented and/or promoted. What remains to be achieved with the NQF consensus standards is brand recognition—a universal awareness of these measures.

Interviewees raised concerns that perception of the consensus standards spanned extremes from absolute confidence and acceptance in some cases to unfounded criticism and outright rejection in others. To mitigate the natural skepticism of the consensus standards, respondents believed that clear, complete, and unbiased communication about the measures,

the supporting evidence base, and their intended use should be provided. To adjudicate any concerns about the measures and/or questions about their legitimacy, "marketing," "messaging," and "branding"—terms used by respondents—were recommended as necessary next steps in raising awareness and creating a demand for the consensus standards.

To summarize, respondents advocated for a continuous, sustained effort to review and maintain those measures that already have been endorsed, discover new candidate consensus standards that are suitable for endorsement, seek the "best" measure set for quantifying the contribution of nursing to inpatient care, and develop communication strategies that provide users with information on which they can act.

Hospital Adopters

Responses to interviews conducted among hospital adopters were examined separately using content analysis. Topics from the data were clustered into 17 categories and 4 themes, as shown in table 7. These topic

Table 7 – Themes and Categories: Hospital Adopters (N=10)

THEMES (FREQUENCY AND PERCENTAGE OF TOPICS BY THEME)			CATEGORIES (FREQUENCY AND PERCENTAGE OF TOPICS BY CATEGORY) (N= 434)		
Themes	**Frequency of Topics (*n*)**	**% of Topics (Topics/Total Topics [*n*/N])**	**Categories**	**Frequency of Topics (*n*)**	**% of Topics (Topics/Total Topics [*n*/N])**
1. Having a road map	135	31.1%	1. Planning is essential	9	2.1%
			2. Sufficient staff	15	3.5%
			3. Measure-specific challenges	51	11.8%
			4. Understanding the data	40	9.2%
			5. Thinking outside the box	20	4.6%
2. Nursing performance measurement and reporting is a team sport	62	14.3%	6. Capturing the imagination of leadership[25]	21	4.8%
			7. Securing buy-in from staff	26	6.0%
			8. Converting the physicians	15	3.5%
3. The value equation	155	35.7%	9. What is the business case?[25]	33	7.6%
			10. Cost and burden[25]	75	17.3%
			11. Being the best[25]	14	3.2%
			12. Providing patient-centered care[25]	33	7.6%
4. Measuring to the beat of a different drummer	82	18.9%	13. Measurement overload	6	1.4%
			14. Pushing the button once[25]	23	5.3%
			15. Mandates drive everything[25]	11	2.5%
			16. Trends in transparency[25]	36	8.3%
			17. NQF as a lever	6	1.4%

[25] This category was identified for both groups (i.e., national leaders/PIs and hospital adopters).

and theme clusters describe attitudes toward, experiences with, and challenges involved in implementing the NQF-endorsed consensus standards for nursing-sensitive care. Each theme is described in greater detail in the commentary, discussion, and recommendations that follow.

Having a road map. Hospital adopters described the need for an implementation strategy, or road map, that was unique to this group of interviewees (the national leaders and PIs/initiative representatives did not typically express this attitude). In their description of this road map, hospital adopters referred to five essential components: planning (2.1 percent of responses), sufficient staff (3.5 percent), contingencies for measure-specific challenges (11.8 percent), mechanisms for understanding the data (9.2 percent), and innovations that improve and sustain quality (i.e., "thinking outside the box"; 4.6 percent).

Respondents described the implementation process as being evolutionary and incremental. While a few hospital adopters committed to all 15 consensus standards at the beginning of their plan, most used a step-wise process of implementing a few at a time. One interviewee indicated that without an "environmental scan," it would not have been possible to identify the organization's strengths, weaknesses, and threats or to plan for contingencies. Additionally, in most cases, hospital adopters indicated that they added staff to execute the work. One or more full-time equivalents were often necessary, according to respondents, to account for the data collection, abstraction, analyses, and reporting functions.

Additionally, all measures did not create the same burden for adopters ("measure-specific challenges"). The measures derived from prevalence studies (i.e., pressure ulcers and restraints), and those that cross departments (e.g., smoking cessation counseling), were identified as most challenging. One respondent noted that, "Since they often involve different departments, it is a daunting task to track all of them and keep all the work on track, [especially] without adequate resources." Responders also raised issues about the reliability of the data if multiple staff members were conducting the prevalence studies and relied on different measurement practices. A final challenge identified by adopters concerned unit-level data collection and analysis and the unique challenges that exist in achieving comparisons at this level (e.g., administrative records do not include a unit assignment data element, insufficient case volume may make statistical results meaningless, and uniform definitions of all unit types are necessary for full specification).

Once the data were collected, the interviewees cited problems with understanding them. Most mentioned the need for training related to statistics, research, analytic techniques, and quality improvement approaches. One adopter indicated that "Data are collected, but not acted on. It's not useful or usable." Collectively, hospital adopter interviewees recognized that their implementation road map must include effective training and education targeted toward various audiences.

This training and education must enhance the capacity of staff at all levels of the system to use the data in strategic ways (e.g., through collaborative decisionmaking and quality improvement).

The final category in this theme is "thinking outside the box," which conveys hospital adopters' tendency to use the results from their performance measurement in traditional ways (e.g., quality improvement). Only a few of the interviewees mentioned the benefits and opportunities of public reporting. However, even fewer of them had seriously considered using the results to reward and/or incentivize nurses and/or nursing units, although there was agreement that these possibilities deserved further consideration. In a single case, the interviewee indicated that the hospital had considered incentivizing staff who contributed to improved outcomes (i.e., creating a bonus system based on staff's contribution to specific metrics, including patient experience with care, cost per case, and medical record returns). The challenge of maintaining a road map and its guideposts was illustrated by the fact that once the leader to whom the idea was attributed left this organization, support for the idea evaporated.

Nursing performance measurement is a team sport. Hospital adopters who were interviewed conveyed the need to engage all levels of staff throughout the organization to successfully implement nursing performance measures. More than 14 percent of all comments related to this theme. Along with the need for strong leadership from chief nursing officers and hospital executives (i.e., "capturing the imagination of leadership"), elements of this theme also included the critical influence of the medical staff (i.e., "converting the physicians") and the need to secure line staff buy-in.

While the need to secure buy-in from line staff was rarely discussed among national leaders and/or PIs, obtaining buy-in at the staff level was viewed among hospital adopters as a significant and time-consuming challenge. One interviewee indicated that she did not think nursing staff perceived the value of measurement, that she was not sure nurses could name any of the nursing-sensitive measures, and that nurses are not being taught about nursing performance in nursing school.

This lack of knowledge about the NQF consensus standards was viewed as symbolic of the lack of interest and enthusiasm for these measures. Another responder, however, indicated that because people are competitive, if adoption were to be framed as a hospital-to-hospital contest, engagement would be more readily obtained. Several respondents noted the difficulty in sustaining interest in and knowledge of nursing performance measurement when staff turnover is high and internal stakeholders and/or champions leave their positions frequently. Such turnover of senior leadership may contribute to the loss of novel ideas in an organization.

Finally, this group of informants mentioned physician participation with much more consistency than did the national leader and/or PIs/initiative representatives. Although physician participation still was addressed relatively infrequently (3.5 percent), the message to engage the medical staff was clear. One respondent indicated that it was "easy" to sell physicians on measures that quantify "life and death" (mortality), but that it was harder to make a case for measures that are not obviously connected to medical practice (e.g., PES-NWI). It also was noted that doctors do not want to practice "cookbook medicine" and that performance results may drive the adoption of standards of care that were largely viewed as unwelcome. For this reason, interviewees perceived physician "conversion" as a critical step in the adoption process.

The value equation. This theme was cited most frequently (35.7 percent) by respondents during interviews. Conceptually, the theme closely aligns with and is related to the national leader/PI theme, "the art, science, and business case of nursing." However, modified by this group, the theme combines the cost and burden of measurement and reporting (17.3 percent), the need for an established business case (7.6 percent), a commitment to excellence in patient care (7.6 percent), and a competitive spirit to "be the best" (3.2 percent), as described by hospital adopters.

A notable characteristic of this theme was the strong and sustained interest in keeping the patient at the center of care ("providing patient-centered care"). As characterized by one

respondent, "The true value is to our patients who receive high-quality, evidence-based care and thus have enhanced outcomes." Interviewees shared their need to both prove the association between the measures and outcomes ("Where's the beef?") and to contribute to the financial well-being of the institution ("millions can be saved"). The clear, unambiguous evidence of the primacy of nursing's contribution to improving care as evidenced by a set of measures and expressed by a business case was as critical to hospital adopters as to the other interviewees.

Finally, reference to the category "cost and burden" contributed most frequently to this theme (nearly one-half of all comments in this theme [75 topics out of 155] related to cost and burden), and the category was cited more frequently than any other among hospital adopter interviewees (75 out of 434 topics). Hospital adopters described cost and burden almost identically to the other groups interviewed and mentioned the need for time, sufficient staff, and electronic support systems.

Measuring to the beat of a different drummer. This theme combines five categories that convey interviewees' recognition of the role external pressures play in accelerating nursing performance measurement (i.e., "mandates drive everything," "trends in transparency," and "NQF as a lever") and the competing demands and misalignments that exist (i.e., "measurement overload," "pushing the button once"). Not unlike the national leader/PI groups, hospital adopters viewed the "climate" as both a facilitator and an accelerator of nursing performance measurement. On one hand, trends in transparency, federal mandates, public reporting, accreditation requirements, and pay for performance were viewed as tools that "ripen" the environment for nursing performance measurement and reporting. Hospital adopters viewed mandates as less important and trends in transparency as more important in stimulating adoption than their national leader and PIs/initiative representatives counterparts (2.5 percent of hospital adopter responses related to mandates as compared to 6.9 percent among national leaders and PIs/initiative representatives; 8.3 percent of hospital adopter responses related to transparency as compared to 3.8 percent among national leaders and PIs/initiative representatives). However, hospital adopter interviewees generally were more overwhelmed with the demands for performance measurement from among all stakeholders (e.g., public and private payers, the public, accreditors) and the lack of agreement on uniform specifications among what are considered standard measures (e.g., similar metric but different specifications), as expressed by the presence of comments about "measurement overload."

Hospital adopters reported measurement overload (1.4 percent) and expressed the hope that organizations that request performance results might some day base those requests on the same set of measures and data, as expressed by the category "pushing the button once" (5.3 percent). Interviewees urged NQF and its stakeholders to "just decide" on a single set of

measures so that uniformity in requirements can be achieved. Based on interview responses, hospital adopters would prefer a single measure set that is used for multiple purposes. This would prevent a frequent phenomenon cited by interviewees—inadvertent implementation of one or more of the NQF consensus standards because of a measurement demand imposed by another entity. Respondents referred to this as receiving "credit" for collecting one or more of the NQF-endorsed consensus standards, even though they were actually collecting them for a different purpose (e.g., state requirements, rapid response team activities, Magnet Recognition®).

Generally, informants recommended aligning all of the data requirements in order to decrease burden and frustration and to improve compliance. One hospital adopter suggested a national clearinghouse into which hospitals would submit their data and from which each entity/organization would draw the data it required. A single, central database from which all performance results would be calculated would result in hospitals needing to "push the button once" to meet multiple data demands.

Finally, this theme incorporated a set of topics that related to hospitals' recognition of NQF and their appreciation of the consensus standards. On the whole, respondents were not certain that "typical" hospitals and/or their leadership know of or about NQF and its endorsed nursing-sensitive consensus standards.

Interviewees suggested that NQF should act "as a lever" to provide educational, communication, and marketing/branding activities that would foster wider recognition, understanding, and appeal.

Discussion and Recommendations

Interviewees in this study were asked about the importance of measuring nursing's contribution to inpatient quality, safety, and healthcare outcomes. In response, they collectively asked, "Can you imagine a hospital without nurses?" Nursing care is integral to inpatient care and is uniquely delivered in hospital settings. The sheer number of nurses[22] and their primacy in caregiving are compelling reasons for measuring their contribution to patients' experiences and the outcomes that are attained.

Despite this pressing need, collecting, analyzing, and reporting the NQF-endorsed nursing-sensitive consensus standards present significant challenges. Although achievements have been realized, a considerable number of obstacles have impeded the adoption of these standards. Through this study, a better understanding of the attitudes toward and experiences with the measures was derived. This understanding can help inform recommendations that will 1) accelerate the adoption of nursing-sensitive consensus standards, 2) influence the determination of future priorities and consensus setting, and 3) direct potential research (table 8).

Each recommendation is described in greater detail in the discussion that follows.

Table 8 – Recommendations for Accelerating the Adoption of the NQF-Endorsed National Voluntary Consensus Standards for Nursing-Sensitive Care

Recommendation 1	Improve the NQF-endorsed nursing-sensitive consensus standards to reflect current measurement and reporting priorities and the best available evidence.
Recommendation 2	Develop a composite "nursing quality index."
Recommendation 3	Incorporate the NQF-endorsed nursing-sensitive consensus standards into other NQF-endorsed measure sets, as appropriate.
Recommendation 4	Align the NQF-endorsed consensus standards for nursing-sensitive care with nursing quality performance measurement and reporting requirements.
Recommendation 5	Incorporate the NQF-endorsed consensus standards for nursing-sensitive care in national and state hospital performance measurement and reporting activities.
Recommendation 6	Develop electronic decision support that integrates nursing performance measures.
Recommendation 7	Develop educational tools to help hospital staff rapidly adopt these consensus standards, to minimize the burden associated with their implementation, and to improve their use in strategic decisionmaking.
Recommendation 8	Develop a "brand management" strategy for the NQF-endorsed consensus standards for nursing-sensitive care.
Recommendation 9	Hold nurses accountable for providing high-quality care through the use of public reporting and incentive systems.
Recommendation 10	Build a business case for nursing quality measurement and the nursing-sensitive consensus standards.

Recommendation 1: Improve the NQF-endorsed nursing-sensitive consensus standards to reflect current measurement and reporting priorities and the best available evidence. While a deliberate consensus process driven by the evidence steered the development and endorsement of these consensus standards, changes and improvements in the state of nursing science, in the state of the art of knowledge, and in data and information technology (e.g., administrative coding updates, application of electronic health records) may have been realized. Therefore, to make improvements, NQF should review the existing standards for appropriateness, comprehensiveness, and balance. This effort should be based on the recommendations previously formulated[26] and should include the following:

- the development of a set of parameters and/or characteristics that would guide the prioritization of candidate consensus standards for future endorsement and that would include but not be limited to measures that 1) are derived from data that are widely available in current hospital data systems, 2) are derived from similar, widely available, and/or compatible data sources, 3) align to those measures endorsed for other settings (e.g., home health, nursing homes, ambulatory care), and 4) align to those measures that are required and/or embedded in other nursing, healthcare, and/or quality performance measurement and reporting initiatives;

[26] In NQF's 2004 national voluntary consensus standards for nursing-sensitive care report, a comprehensive research agenda was endorsed that should be the basis for future enhancement. NQF, *National Voluntary Consensus Standards for Nursing-Sensitive Care: An Initial Performance Measure Set – A Consensus Report,* Washington, DC: NQF; 2004.

- the identification of new priorities for nursing performance measurement and reporting and important aspects of quality that currently are not represented (e.g., work flow and design);
- a review of the evidence base that has emerged in the years since original endorsement of the set;
- an evaluation of measures for potential inclusion that have been developed and that are in widespread use since NQF's original endorsement decisions, with special emphasis on those measures that address one or more of the research priorities previously identified;[27]
- a determination of measures that should be added to the set, measures for which endorsement should be maintained, and measures for which withdrawal of endorsement is appropriate; and
- the determination of an ongoing mechanism to continue evaluating candidates that are close to being "endorsement ready."

Furthermore, since the consensus standards were derived from different measure developers, are constructed from different data sources, and address different populations, an empirical test of the consensus standards as a set should be undertaken and supported by NQF.

Recommendation 2: Develop a composite "nursing quality index." The current consensus standards were endorsed by NQF as a "constellation of measures (i.e., measure set) that characterize the influence of nursing personnel on healthcare processes and patient outcomes." No single consensus standard is intended for performance evaluation in isolation from the others; in addition, the evaluation is not complete without the consideration of the consensus standards together as well as their relationship to one another. In these ways, the consensus standards are interdependent, mutually supporting, and inter-reliant.

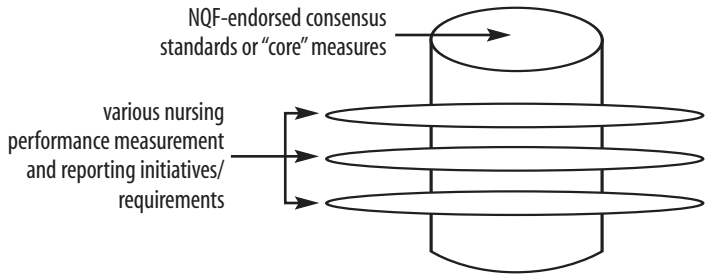
It is in this spirit that a conceptual approach and development of one or more composite(s), or index(es), for inpatient nursing quality should be pursued. While the development of an index will result in a single metric that can be used to measure and report on nursing's contribution to healthcare quality, theoretical approaches to index development and technical considerations (e.g., weighting various measures that comprise the index) will need to be discussed and resolved. Furthermore, recognizing that the development of a composite is dependent on a group of individual measures that are empirically sound and widely supported, a flexible approach to composite development will need to be employed to accommodate changing consensus standards. Although challenging, the use of such an index is likely to be especially useful for patients, their families, and communities as a mechanism to further enhance understanding of and attitudes toward nursing's contribution.

[27] NQF, *National Voluntary Consensus Standards for Nursing-Sensitive Care: An Initial Performance Measure Set – A Consensus Report,* Washington, DC: NQF; 2004.

Recommendation 3: Incorporate the NQF-endorsed nursing-sensitive consensus standards into other NQF-endorsed measure sets, as appropriate. The endorsement by NQF of a set of nursing-sensitive consensus standards signaled the importance of nursing's contribution to patient safety, healthcare outcomes, and a professional work environment. Yet these consensus standards address important structures (e.g., skill mix), processes (e.g., smoking cessation counseling), and outcomes (e.g., FTR) of care that are important to inpatient quality regardless of their association to nursing. They "bleed" into the purpose and appropriateness of other NQF-endorsed sets. To this end, as NQF develops consensus on standards that are not nursing specific (e.g., hospital care), that address other settings (e.g., nursing homes), or that apply to specific conditions (e.g., healthcare-associated infections), consideration should be given to integrating and aligning the nursing measures into these other sets.

Recommendation 4: Align the NQF-endorsed consensus standards for nursing-sensitive care with nursing quality performance measurement and reporting requirements. In addition to making specific improvements to the set of consensus standards, to reduce redundancy and duplication and to minimize burden, NQF should advocate for the complete alignment of measures among all nursing quality measurement and reporting initiatives with a "core" set such as the NQF-endorsed consensus standards. Although unique measures may be required and/or included in each nursing quality measurement and reporting initiative, total harmony should be achieved among the core set endorsed by NQF (figure 1).

Figure 1 – Alignment of NQF-Endorsed Consensus Standards with Nursing Quality Performance and Reporting Initiatives



The result of this effort should be a single set of measures that can be used by hospitals for meeting multiple purposes, including Magnet Recognition®, NDNQI, CalNOC, MilNOD, VANOD, Patients First, and Maine's Nursing-Sensitive Patient-Centered/Nursing-Sensitive System-Centered Health Care Quality Data Sets. In effect, a single set, utilized by various organizations for various needs, will ensure that identical definitions, data elements, allowable values, and analytic techniques are used for a core set of measures across all initiatives and will enable hospitals to "push the button once" to meet multiple demands.

Although a single set of measures will enable faster implementation, valid comparisons and benchmarks are critical to creating a tipping point for adoption. To that end, the alignment of measures among nursing and hospital performance measurement and reporting initiatives is only a partial step in harmonizing them. A second important component is the development and availability of a set of benchmarks to which performance can be compared. Based on this study's results, it appears that a common barrier among stakeholders in implementing the consensus standards is the lack of a data repository into which data, derived from *all* the NQF measures, can be submitted for processing, analysis, and comparative benchmarking. Because the NQF consensus standards are derived from different data sources and from different measure developers/datasets, there is no single database that includes all 15 of them. For some consensus standards (e.g., voluntary turnover, PES-NWI), no database exists to produce such benchmarks. For these reasons, representatives from each nursing quality and database initiative, from among the various healthcare stakeholders, and from NQF should work collaboratively to completely align measures and offer hospitals that adopt all 15 nursing-sensitive consensus standards sources for comparative purposes. In effect, this will enable hospitals that want to "be the best" to find valid, suitable comparisons.

Recommendation 5: Incorporate the NQF-endorsed consensus standards for nursing-sensitive care in national and state hospital performance measurement and reporting activities. To date, national voluntary hospital measurement and reporting initiatives (e.g., HQA) have been slow to plan for and incorporate nursing quality measures. Requirements mandated by CMS and/or the Joint Commission are relatively silent on nursing quality and/or lack specific standards (e.g., the Joint Commission's staffing effectiveness standard). NQF and its stakeholders should, therefore, work collaboratively to prioritize the addition of these consensus standards into both voluntary and mandatory programs. Certainly, this priority needs to be balanced with other pressing healthcare performance measurement and reporting needs (e.g., measures of cost, value, and efficiency; serious adverse event reporting; hospital-associated infections) and be grounded in reality (e.g., the limited availability of data to construct current measures). However, in the absence of short- and long-term efforts to integrate the nursing-sensitive consensus standards, substantial progress in this area, now and in the future, is unlikely to be realized.

In addition to national efforts, a number of state-based initiatives—both voluntary and mandatory—have developed primarily in response to workforce issues (e.g., mandated nurse staffing ratios). Growth of these initiatives in both maturity and number should be closely watched and monitored because they can inform other implementation strategies. Specifically, NQF should work collaboratively with its members and state representatives on developing public reporting models that can be adopted by interested states. To this end, NQF should assume the role of neutral convener in creating implementation plans and in facilitating a collective interest in their adoption on a state-by-state basis.

Recommendation 6: Develop electronic decision support that integrates nursing performance measures. Recognizing that the costs, burdens, staff, and resources associated with nursing quality performance measurement are significant, efforts to achieve a fully electronic dataset vis-à-vis an electronic health record should be vigorously supported by NQF and its stakeholders. To achieve the greatest gains, this standard electronic system must be built on measures that are uniformly specified for electronic formats and derived from common definitions, nomenclatures, taxonomies, terminologies, data elements, and allowable values. They also must produce performance results as a byproduct of care delivery (i.e., generated from natural nursing documentation processes). Furthermore, certification of electronic health record products that respond to these needs should be pursued by national certifying organizations (e.g., Certification Commission for Healthcare Information Technology). In the absence of such a fully electronic system, immediate improvements to information technology must be achieved to ease the processes of data gathering, analysis, and reporting. NQF should work in collaboration with its membership, and directly with information technology vendors, to stimulate economic

forces that will motivate these vendors to include, in standard formats, all of the data elements needed to automatically generate these consensus standards.

Recommendation 7: Develop educational tools to help hospital staff rapidly adopt these consensus standards, to minimize the burden associated with their implementation, and to improve their use in strategic decisionmaking. As supported by this study, the presence of a leader who understands the value of, advocates for, provides resources in support of, and stands behind the implementation of these measures is essential. Although many are aware of the NQF consensus standards, their adoption in practice settings has not been swift. Tools and educational vehicles that support the understanding of these consensus standards, their evidence base, and the use of the performance results for strategic decisionmaking are essential at several levels:

- Boards of trustees and senior leaders need to develop "quality literacy" regarding patient safety, clinical care, and healthcare outcomes that includes but is not limited to those elements described in NQF's *Hospital Governing Boards and Quality of Care: A Call to Responsibility.*[28] Additionally, however, this literacy needs to apply specifically to the essential role of nurses in inpatient care, with an emphasis on enhancing leaders' understanding of workload indicators and their associations with processes and outcomes of care and on creating demand among leaders for nursing-sensitive performance measurement and reporting activities.
- Medical staff must understand and support the adoption and use of these consensus standards in performance measurement, reporting, and quality improvement. To this end, messages need to be developed that are targeted to medical staff. These should result in physician buy-in to the consensus standards and increase their support for evidence-based medical care, which could result in changes in practice.
- Nursing supervisors and managers need tools to enhance their understanding of, commitment to, and use of nursing performance measures and the application of management practices and staffing methodologies that result in enhanced safety and patient outcomes.
- At all appropriate levels, education and training need to address the ability of providers to act on performance results, participate in collaborative decisionmaking, initiate changes in patient care that improve these results, and evaluate such changes over time.
- It is essential that the nursing staff whose performance is being measured through these consensus standards understand the standards, the evidence that supports them, their contribution to the institution's results, and the organization's policies/procedures that influence the adoption of the measures (e.g., training/education, human resource policies).
- Data collection and quality improvement staff who are entrusted with gathering and analyzing the data and producing performance reports for internal and/or external purposes need educational materials and services that provide 1) descriptions of the consensus standards,

[28] NQF, *Hospital Governing Boards and Quality of Care: A Call to Responsibility,* Washington, DC:NQF; 2004.

the evidence base that supports them, and their detailed specifications; 2) lessons in basic analytic and statistical techniques; 3) interpretive skills that enable the translation of performance results into problem identification; and 4) performance improvement techniques such as process mapping and root cause analysis.

- Consumers, community members, patients, and family members need easy-to-read, visually appealing, and understandable explanations of nursing-sensitive consensus standards and guidance in interpreting results that conform to the principles (e.g., literacy levels, translation of materials) previously endorsed by NQF.[29] In effect, these materials should create a tipping point among consumers for nursing-sensitive performance measurement and reporting—serving to improve public awareness and understanding of healthcare quality.
- Nursing educators should develop curricula and instruction to prepare nurses "…[to] deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics."[30] Therefore, curriculum design should integrate performance measurement, analysis, interpretation of performance results, and performance improvement techniques into basic education for nurses.

NQF should develop and partner with existing organizations (e.g., QIOs, the Joint Commission, IHI) to provide courses, training, and information to assist in fulfilling these expectations. Creative solutions (e.g., survival guides, toolkits, implementation manuals, checklists, prepackaged educational programming) must be pursued through partnership and collaboration in order to ensure that approaches are comprehensive, affordable, and accessible.

Recommendation 8: Develop a "brand management" strategy for the NQF-endorsed consensus standards for nursing-sensitive care. Despite the extensive consensus development process and its reliance on the existing evidence base, confusion, uncertainty, and

[29] NQF, *A Comprehensive Framework for Hospital Care Performance Evaluation: A Consensus Report,* Washington, DC: NQF; 2003.

[30] IOM, *Health Professions Education: A Bridge to Quality*, Washington, DC: National Academies Press; 2003.

reservation among those interviewed and surveyed in the consensus standards remain. Findings from this study demonstrate that various stakeholders hold very different views of the NQF consensus standards. Some believe that NQF's credibility increases the value of the consensus standards and do not question the measures or the evidence that supports them. Others doubt each measure and its underlying science. A campaign to inform these stakeholders and the public fully about the consensus process, the value of the measures themselves, and the supporting evidence for the measures should be undertaken.

It should be noted that the term *consensus standard* derives from the process of consensus setting under the National Technology Transfer and Advancement Act of 1995 (NTTAA). However, public perception of the nursing-sensitive consensus standards may suggest the need for new terminology as well as for a reframing and/or reconceptualizing of the standards as they relate to public attitudes, awareness, and receptivity. To achieve these objectives, NQF should conduct brand management activities that include:

- the exploration of alternative terminology and its uses under the NTTAA;
- further evaluation of public attitudes toward and opinions about the branding of the consensus standards and recommendations concerning the nature, messages, and audience for a targeted communications plan;
- the consideration of the consensus standards as a set and/or bundle; and
- the development of widely available communication methods targeted to various audiences for the consensus standards themselves, their evidence base, and the process of endorsement.

Recommendation 9: Hold nurses accountable for providing high-quality care through the use of public reporting and incentive systems. Nurses, like other health professionals and providers, should have access to performance results so that they can be held accountable for the quality of the care they deliver. To that end, measuring and publicly reporting nursing-sensitive measures are essential. There is a tendency to be uneasy about such disclosures—especially in the absence of complete confidence in the metrics and analytic techniques on which they are based. However, trends in public reporting and transparency suggest that these accountabilities likely will be extended to nurses. To that end, the climate for publicly reporting nursing-sensitive quality measures should be ripened at the same time that investments are made in improving the measures and the evidence base on which the measures rely. Making such measures publicly available will achieve two aims: 1) it will hold providers accountable for their performance and the resulting improvements and 2) it will stimulate an interest on the part of the public in nursing performance and create a demand for achieving improvements on the part of patients, patients' families, and communities. These combined pressures will stimulate the adoption of the nursing-sensitive consensus standards and will contribute to increasing the confidence of healthcare stakeholders in them.

Holding nurses accountable for quality is only one part of a two-pronged strategy. The other part rests in rewarding nurses for their achievements. Financial incentives and pay-for-performance models have been tested only recently. These tests generally have focused on institution-level rewards (e.g., hospital) and have utilized performance measures that have been thoroughly vetted and widely adopted on that basis. Collaboration with interested stakeholders should be undertaken to establish pilot projects that will reward providers that demonstrate high nursing performance based on the NQF-endorsed consensus standards. Because nurses who work in inpatient settings typically are not independent contractors who receive remuneration directly from public and private payers (e.g., CMS, insurers), the design of such pay-for-performance programs will be difficult. That said, hospitals that report a set of performance measures to CMS receive an incentive as provided in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. The extension of such hospital-level rewards for quality to nurses will require creativity, innovation, and leadership.

Furthermore, while Medicare reimburses hospitals for a significant portion of care that is provided, the cultivation of an appetite for rewarding high-quality nursing care might be better achieved through the actions of private purchasers and insurers and/or those organizations that represent them (e.g., the Leapfrog Group). The receptivity of these purchasers to the incentivizing of nursing care quality should be examined, and opportunities to conduct pilot programs and further investigate these programs should be pursued.

Finally, while pay-for-performance programs likely will stimulate the adoption of nursing quality measurement and quality improvement efforts, non-financial mechanisms also are available to reward nurses. To that end, among national quality awards programs—sponsored by both NQF (i.e., National Quality Health Care Award, John M. Eisenberg Patient Safety and Quality Awards) and by others (e.g., Baldrige, Codman Award, Magnet Recognition®)—consideration should be given to the extent to which special recognition can be bestowed on quality nursing care and/or

the extent to which award requirements can reflect the NQF nursing-sensitive consensus standards.

Recommendation 10: Build a business case for nursing quality measurement and the nursing-sensitive consensus standards. To bolster branding and communication efforts, an integrated effort to further establish a business case for nursing quality measurement must be undertaken. This business case will require dedicated investment within the research, business, and performance measurement/quality improvement communities to test, conceptually and empirically, the links between nursing care, as measured through the NQF consensus standards, and patient outcomes in safety and quality. This business case also must rely on consumer research to demonstrate the need for and value of these measures and their role in stimulating patient choice and selection.

While this business case should be built on empiric evidence, lessons from operational investigations should not be overlooked. Pragmatic science[31] (i.e., learning about an organization using all available evidence) is a legitimate basis on which to formulate arguments, and it may be revealing as the business case for nursing performance measurement and reporting is created.

It should be noted that any business case for nursing quality measurement and reporting will be based on the existing healthcare reimbursement system. However, current payment practices may not be responsive to improvements in nursing quality—as measured by existing nursing performance measurement activities or by the consensus-based NQF-endorsed standards—and may not support goals for nursing quality. From a policy perspective, current payment models may need to be revisited in the future in order to address this issue.

Ultimately, defensible arguments must be formulated, tested, and confirmed that demonstrate the need for measures, the value equation, the consensus standards' significance as compared to other measurement priorities, and the usefulness

[31] Berwick D, Nolan T, Physicians as leaders in improving health care: a new series in *Annals of Internal Medicine, Ann Intern Med,* 1998;128:289-292.

of the standards in stewardship of resources. In the end, a clear, unambiguous case that supports the primacy of nursing's contribution to improving care as measured by the NQF consensus standards and that also supports the value of nursing quality performance results in decisionmaking must be made to healthcare leaders, hospital administrators, nursing executives, and the public.

Conclusion

In 2004, NQF endorsed a set of consensus standards to quantify the contribution of nursing to inpatient safety, healthcare outcomes, and a professional work environment. At that time, neither NQF nor its stakeholders could predict the impact it would have or calculate the interest it would generate.

This follow-up study provides an understanding of the progress that has been made since the consensus standards were endorsed. This study also helps identify some of the important unanswered questions and outstanding challenges and, with its recommendations, provides a road map for future consensus setting, research, and policy development in the area of nursing quality.

Acknowledgment

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Appendix A
Members and Board of Directors

Members

CONSUMER COUNCIL

AARP
AFL-CIO
Alliance for Retired Americans
American Federation of Teachers Healthcare
American Hospice Foundation
Childbirth Connection
Consumer Coalition for Quality Health Care
Consumers Advancing Patient Safety
Consumers' Checkbook
Coordinating Center
Health Care for All
International Association of Machinists
March of Dimes
National Breast Cancer Coalition
National Citizens' Coalition for Nursing Home Reform
National Coalition for Cancer Survivorship
National Consumers League
National Partnership for Women & Families
Service Employees Industrial Union

HEALTH PLAN COUNCIL

Aetna
America's Health Insurance Plans
Blue Cross Blue Shield Association
CIGNA Healthcare
Community Health Plan of Washington
Highmark, Inc.
HIP Health Plans
Horizon Blue Cross Blue Shield of New Jersey
Hudson Health Plan
Kaiser Permanente
Schaller Anderson
UnitedHealth Group
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Appendix C
Interview Sampling Methodology

This appendix illustrates in a table format the application of the telephone interview sampling methodology to derive candidate interviewees.

Appendix C – Interview Sampling Methodology

Profile Categories of Implementers – Institutional Characteristics

Existing Implementation/Nursing Performance Initiatives (# of respondents to be interviewed)			Type of Institution (independent, system)	Demographic Profile (urban, suburban, rural)	Size of Institution (8 different categories)	Service Type (critical access hospital [CAH], community, tertiary, specialty)	Ownership (not-for-profit, for-profit)	Teaching Status (teaching, non-teaching)
		Magnet™ Hospitals (1 + PI)	system	suburban	medium	community	not-for-profit	non-teaching
		Hospital Quality Alliance (2)	system independent	urban rural	large small	tertiary CAH	for-profit not-for-profit	teaching non-teaching
	Data Collection	**NDNQI (1 +PI)**	system	suburban	medium	community	for-profit	non-teaching
		CalNOC (1 + PI)	independent	rural	small	CAH	not-for-profit	non-teaching
		VANOD (3 + PI)	system system system	urban suburban rural	large medium small	tertiary community CAH	not-for-profit not-for-profit not-for-profit	teaching non-teaching non-teaching
		MilNOD (1 + PI)	system	rural	small	CAH	not-for-profit	non-teaching
	State Efforts	**Maine Quality Forum (4)**	system independent system independent	rural rural urban suburban	small small large medium	CAH CAH specialty tertiary	for-profit not-for-profit not-for-profit for-profit	non-teaching non-teaching teaching teaching
		Massachusetts Patients First Initiative (4)	system independent system independent	urban suburban suburban rural	large medium large small	tertiary specialty community CAH	for-profit not-for-profit for-profit not-for profit	teaching teaching non-teaching non-teaching
	NQF/Other	**Identified Through Other NQF Avenues (8)**	independent independent independent independent system system system independent	urban rural rural suburban suburban urban urban rural	large small medium medium large large medium small	specialty CAH community community tertiary community tertiary CAH	for-profit not-for-profit not-for-profit for-profit for-profit not-for-profit for-profit not-for-profit	teaching non-teaching non-teaching teaching teaching non-teaching teaching non-teaching
		Other	Joint Commission Nursing Advisory Council Member, RWJF Executive Nurse Fellow, Joint Commission staff, CMS staff, VHA, Inc. staff, CHART staff, Maine Quality Forum staff, Massachusetts Patients First staff					

Appendix C – Interview Sampling Methodology

Profile Categories of Implementers – Implementation Characteristics

Existing Implementation/Nursing Performance Initiatives (# of respondents to be interviewed)			Stage of Adoption (none, start/stop, early, intermediate, experienced)	Receipt of Feedback (Y, N, DN)	Motivation (mandatory, voluntary)	Purpose (QI, public reporting, pay for performance)	Individual (leader, manager, staff)	Degree of Implemention (none, 1, some, all)	Approach to Data Gathering (paper/pencil, information technology, electronic health record, mixed)	Participation in Other Nursing Performance Initiatives (Y, N, DN)
		Magnet™ Hospitals (1 + PI)	intermediate	Y	voluntary	QI	manager Magnet™ PI	some	mixed	Y
		Hospital Quality Alliance (2)	early intermediate	Y Y	voluntary voluntary	pay for performance pay for performance	leader staff	some some	information technology information technology	N N
	Data Collection	NDNQI (1 +PI)	intermediate	Y	voluntary	QI	manager NDNQI PI	some	mixed	Y
		CalNOC (1 + PI)	intermediate	Y	voluntary	QI	staff CalNOC PI	some	mixed	Y
		VANOD (3 + PI)	early early intermediate	Y Y Y	TBD TBD TBD	QI QI QI	manager leader staff VANOD PI	some some some	electronic health record electronic health record electronic health record	Y Y Y
		MilNOD (1 + PI)	start/stop	Y	voluntary	QI	staff MilNOD PI	some	paper and pencil	Y
	State Efforts	Maine Quality Forum (4)	intermediate intermediate intermediate intermediate	Y Y Y Y	mandatory mandatory mandatory mandatory	public reporting public reporting public reporting public reporting	manager staff leader staff	some some some some	information technology information technology information technology information technology	Y Y Y Y
		Massachusetts Patients First Initiative (4)	early early early early	Y Y Y Y	voluntary voluntary voluntary voluntary	public reporting public reporting public reporting public reporting	manager manager staff leader	some some some some	TBD TBD TBD TBD	Y Y Y Y
	NQF/Other	Identified Through Other NQF Avenues (8)	none start/stop start/stop experienced none start/stop experienced none	N N N Y N N Y N	voluntary voluntary voluntary voluntary voluntary voluntary voluntary voluntary	TBD TBD TBD TBD TBD TBD TBD TBD	leader leader leader manager manager staff staff staff	none none none none all all all all	NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA
		Other	Joint Commission Nursing Advisory Council Member, RWJF Executive Nurse Fellow, Joint Commission staff, CMS staff, VHA, Inc. staff, CHART staff, Maine Quality Forum staff, Massachusetts Patients First staff							

Appendix D
Interview Sets

This appendix provides each of the four unique interview sets (i.e., national nursing, healthcare, hospital, and quality leaders; principal investigators/initiative representatives; hospital adopters; hospital non-adopters) that were used for conducting telephone interviews.

National Nursing, Healthcare, Hospital, and Quality Leaders
Interview Items

1. Name _____
2. Affiliation _____
3. Title _____
4. Role in performance measurement _____
5. Results and findings from these interviews and the supplemental survey data that is collected will provide important insight into impressions of NQF's nursing-sensitive consensus standards and for this reason, publications will likely be pursued as will reports to the funder. Do I have your informed consent to use your responses in these publications and reports?
   ☐ Yes ☐ No
6. Do you wish to provide your comments confidentially (i.e., they will not be able to be identified in the project report/deliverables)?
   ☐ Yes ☐ No
7. From your perspective, how important is measuring the contribution of nursing to inpatient quality, safety, and healthcare outcomes? Please explain.
8. To what extent do you feel current performance measures are available to adequately serve this purpose?
9. How useful do you think the NQF15 (15 consensus standards endorsed by NQF as 'nursing sensitive') are in measuring nursing's contribution to inpatient care?
10. To what degree do you believe institutions perceive a benefit/value from implementing the measures?
11. What key motivators exist that influence the use of the NQF consensus standards?
12. What single factor do you think would contribute to more widespread use?
13. What are the most critical barriers preventing their adoption?
14. What technical and/or operational issues might diminish their implementation/ effectiveness?
15. What major barriers discourage/prevent use of these consensus standards?
16. Are there specific, suggested technical improvements to any of the measures that you believe would enable swifter adoption?
17. What one piece of information do you think would convince hospital executives to invest in measuring nursing's contribution via the NQF15?
18. What major trends and/or environmental pressures do you believe might influence the adoption of them?
19. Recently, the term "tipping point" has been popularized[1] to refer to dramatic movement when something unique becomes something commonplace. Based on this definition, what is the "tipping point" to accelerating the implementation of these consensus standards **as a set**?
20. What would influence the adoption of these consensus standards into national performance measurement initiatives (e.g., HQA)?
21. What, if anything, do you hear from your key customers/stakeholders about the importance of these consensus standards?
22. To what extent does the implementation of these consensus standards "match" with the strategic objectives for your organization or future plans for performance measurement?
23. How are these measures being used by your organization?
24. Has your organization conducted any analysis on what it would take to implement the NQF measures?
25. If so, what have your findings been?
26. Have you established any policy and/or organizational direction that result from this analysis and/or that will affect implementation?
27. What would motivate you to advocate for their inclusion in national performance measurement and reporting activities including those that you direct/participate?
28. Is there anything I haven't asked you about that you'd like to share with me relative to your impressions, experiences, or insights into the NQF nursing-sensitive consensus standards?

[1] Gladwell M, *The Tipping Point: How Little Things Can Make a Big Difference,* New York: Little, Brown and Company; 2000.

Principal Investigators/Initiative Representatives
Interview Items

1. Name _____
2. Affiliation _____
3. Title _____
4. Role in performance measurement _____
5. Results and findings from these interviews and the supplemental survey data that is collected will provide important insight into impressions of NQF's nursing-sensitive consensus standards and for this reason, publications will likely be pursued as will reports to the funder. Do I have your informed consent to use your responses in these publications and reports?
   ☐ Yes ☐ No
6. Do you wish to provide your comments confidentially (i.e., they will not be able to be identified in the project report/deliverables).
   ☐ Yes ☐ No
7. From your perspective, how important is measuring the contribution of nursing to inpatient quality, safety, and healthcare outcomes?
8. To what extent do you feel current performance measures are available to adequately serve this purpose?
9. How useful to you think the NQF15 (15 consensus standards endorsed by NQF as 'nursing sensitive') are in measuring nursing's contribution to inpatient care?
10. What key motivators exist that influence the use of the NQF consensus standards?
11. What single factor do you think would contribute to more widespread use?
12. To what degree do you believe institutions perceive a benefit/value from implementing the measures?
13. What are the most critical barriers preventing their adoption?
14. What technical and/or operational issues might diminish their implementation/ effectiveness?
15. What major barriers discourage/prevent use of these consensus standards?
16. Are there specific, suggested technical improvements to any of the measures that you believe would enable swifter adoption?
17. What one piece of information do you think would convince hospital executives to invest in measuring nursing's contribution via the NQF15?
18. What major trends and/or environmental pressures do you believe might influence the adoption of them?
19. Recently, the term "tipping point" has been popularized[2] to refer to dramatic movement when something unique becomes something commonplace. Based on this definition, what is the "tipping point" to accelerating the implementation of these consensus standards as a set?
20. What would influence the adoption of these consensus standards into national performance measurement initiatives (e.g., HQA)?
21. What, if anything, do you hear from your key customers/stakeholders about the importance of these consensus standards?
22. To what extent does the implementation of these consensus standards "match" with the strategic objectives for your organization or future plans for performance measurement?
23. How are these measures being used by your organization?
24. Has your organization conducted any analysis on what it would take to implement the NQF measures?
25. If so, what have your findings been?
26. Have you established any policy and/or organizational direction that result from this analysis and/or that will affect implementation?
27. What would motivate you to advocate for their inclusion in national performance measurement and reporting activities including those that you direct/participate?
28. Is there anything I haven't asked you about that you'd like to share with me relative to your impressions, experiences, or insights into the NQF nursing-sensitive consensus standards?

[2] Gladwell M, *The Tipping Point: How Little Things Can Make a Big Difference,* New York: Little, Brown and Company; 2000.

Hospital Adopters
Interview Items

1. Name _____
2. Affiliation _____
3. Title _____
4. What title category best fits you/the work you do?
   ☐ Senior leader[3] ☐ Supervisor/manager[4] ☐ Staff/data collector[5] ☐ Other
5. Street Address, City, State, Zip Code _____
6. Telephone _____
7. Fax _____
8. Email _____

II. Hospital Information

Please provide the following information about your institution or check the box that best applies:

9. Name _____
10. Web site (if applicable) _____
11. Is your hospital/organization affiliated with a larger system?
    ☐ No ☐ Yes. Please name/identify the system: _____
12. Geographic location
    ☐ Urban[6] ☐ Suburban[7] ☐ Rural[8]
13. Number of operating beds
    ☐ 25 beds or less ☐ Between 26 and 75 beds ☐ Between 76 and 125 beds
    ☐ Between 126 and 199 beds ☐ Between 200 and 299 beds ☐ Between 300 and 500 beds
    ☐ Between 501 and 1000 beds ☐ Greater than 1001 beds
14. Service type
    ☐ Critical access hospital[9] ☐ Community hospital ☐ Tertiary hospital[10] ☐ Specialty hospital[11]
    ☐ Other. Please specify: _____

[3]An organization's senior management consisting of the head of the organization and direct reports.

[4]The person who supervises the staff who are directly responsible for the collection, analysis, and reporting of performance measures for the organization.

[5]The person directly responsible for the data collection, analysis, and reporting of performance measures.

[6]Consists of a large central place and adjacent densely settled census blocks that together have a total population of at least 2,500 for urban clusters, or at least 50,000 for urbanized areas.

[7]Residential area bordering an urban area.

[8]Territory, population, and housing units not classified as urban or suburban.

[9]Located in a rural area not easily served by other hospitals and with not more than 25 acute care inpatient beds for providing inpatient care for a period that does not exceed 96 hours per patient as defined by the Social Security Act 1820(c)(2).

[10]Major hospital that has a full complement of services and/or special consultative care.

[11]Hospital dedicated to a particular subspecialty.

(more)

15. Ownership
    - ☐ Not-for-profit (select the one that best applies)
      - ☐ Government (i.e., federal, state, or county)
      - ☐ Military
      - ☐ Other not-for-profit (i.e., religious)
    - ☐ For-profit/investor owned

16. Teaching status
    - ☐ Teaching[12] ☐ Non-teaching

III: Interview Items

17. Results and findings from these interviews and the supplemental survey data that is collected will provide important insight into impressions of NQF's nursing-sensitive consensus standards and for this reason, publications will likely be pursued as will reports to the funder. Do I have your informed consent to use your responses in these publications and reports?
    - ☐ Yes ☐ No

18. Do you wish to provide your comments confidentially (i.e., they will not be able to be identified in the project report/deliverables)?
    - ☐ Yes ☐ No

19. Have you or your hospital implemented any other NQF-endorsed™ measure/measure set? If so, which ones (e.g., Never Events, Safe Practices, hospital measures)?

20. Does your hospital participate in any local, regional, or national nursing performance measurement initiatives or databases (e.g., NDNQI, CalNOC)?
    - ☐ No ☐ Yes. If so, which one/s? _____

21. From what source did you obtain the measures for implementation?
    - ☐ NQF report (e.g., from web site, from printed publication)
    - ☐ Joint Commission implementation manual
    - ☐ State initiative (e.g., CalNOC, Patient's First [Mass], Maine Quality Forum)
    - ☐ Adapted version (please explain): _____
    - ☐ Other (please provide):_____

22. Which of the 15 NQF-endorsed consensus standards has your hospital/unit implemented? (check all that apply)
    - ☐ Smoking cessation counseling for acute myocardial infarction
    - ☐ Smoking cessation counseling for heart failure
    - ☐ Smoking cessation counseling for pneumonia
    - ☐ Pressure ulcer prevalence
    - ☐ Falls prevalence
    - ☐ Falls with injury
    - ☐ Restraint prevalence
    - ☐ Urinary catheter-associated urinary tract infection for intensive care unit (ICU) patients
    - ☐ Central line catheter-associated blood stream infection rate for ICU and high-risk nursery patients
    - ☐ Ventilator-associated pneumonia for ICU and high-risk nursery patients
    - ☐ Skill mix
    - ☐ Nursing care hours per patient day
    - ☐ Voluntary turnover
    - ☐ Death among surgical inpatients with treatable serious complications (failure to rescue)
    - ☐ Practice Environment Scale-Nursing Work Index

[12]Must satisfy at least one of the following criteria: Residency training approved by Accreditation Council for Graduate Medical Education (ACGME); Medical school affiliation reported to American Medical Association (AMA); Internship approved by American Osteopathic Association (AOA); or Residency approved by AOA.

(more)

23. **SKIP THIS ITEM IF INTERVIEWEE HAS IMPLEMENTED ALL 15 MEASURES:**
    Recognizing that you have implemented some of the NQF measures, why haven't you implemented the others?
24. What are your organization's strategic priorities for quality?
25. In what way does the implementation of any of the NQF measures "fit" or "match" these priorities? For example, if your hospital and/or unit has had a focus on reducing falls, that may have resulted in your implementation of the two falls measures.
26. Please rate the importance of the following in motivating you to collect these measures in the future
    (rate 1-3; 1=not motivating; 2=somewhat motivating; 3=very motivating):
    _____ State and/or federal regulation/mandate
    _____ Participation in professional and/or statewide voluntary initiatives
    _____ Consumer and/or patient pressure to share quality information
    _____ Competitive advantage among hospitals in your market
    _____ Internal quality improvement
    _____ Hospital-level pay for performance
    _____ Rewarding nursing departments for high performance
27. Have your motivations to collect these measures varied measure-by-measure? If so, please explain.
28. Have you implemented any of the NQF measures that are not required in some way?
29. Considering the measures that you have implemented, how easy were they to implement?
30. From your experience, which measures are most easily implemented and what characteristics enabled their more rapid adoption?
31. What have been the most significant barriers to adoption?
32. Have these varied by measure? Please explain:
33. Considering the measures that you have implemented, what has your experience been with burden related to cost, resources, information technology, personnel, and time?
34. Have some of the measures been more burdensome than others? Please explain:
35. For those measures that you have implemented, are you publicly reporting the measures or making them available to key customers/patients/community groups? If so, which ones?
36. What benefits/risks has publicly reporting the measures presented?
37. If not, what would motivate you to make this information publicly available?
38. What advice would you give other hospitals thinking about adopting these measures?
39. To what extent do you perceive a benefit/value from implementing the measures?
40. Do these benefits vary by measure? If so, please explain.
41. To what degree to you believe your boss/hospital leadership (e.g., CEO, board of trustees) perceives a benefit/value from implementing the measures?
42. What one piece of information do you think would convince hospital executives to invest in measuring nursing's contribution via the NQF15?
43. To what extent is education and training needed by—leaders, supervisors, and staff—to enhance widespread implementation and value of your performance results?
44. Do you have any problems analyzing the data that is derived from the NQF measures? If so, please explain.
45. How do you use the findings from your analysis?
46. The term "sustainability" can be used to refer to holding and/or prolonging your successful implementation of a particular measure. What factors support the sustainability of your efforts to collect, analyze, and report these measures?
47. Have you thought about or are you receptive to the idea of incentivizing nurses based on your performance results?
48. What do you believe are the deterrents to implementing them **as a set**?
49. What single factor would contribute to your hospital's adoption of **all** the measures?
50. Is there anything I haven't asked you about that you'd like to share with me relative to your impressions, experiences, or insights into the NQF nursing-sensitive consensus standards?

Hospital Non-Adopters
Interview Items

1. Name _____
2. Affiliation _____
3. Title _____
4. What title category best fits you/the work you do?
   ☐ Senior leader[13] ☐ Supervisor/manager[14] ☐ Staff/data collector[15] ☐ Other
5. Street Address, City, State, Zip Code _____
6. Telephone _____
7. Fax _____
8. Email _____

II. Hospital Information

Please provide the following information about your institution or check the box that best applies:

9. Name _____
10. Web site (if applicable) _____
11. Is your hospital/organization affiliated with a larger system?
    ☐ No ☐ Yes. Please name/identify the system: _____
12. Geographic location
    ☐ Urban[16] ☐ Suburban[17] ☐ Rural[18]
13. Number of operating beds
    ☐ 25 beds or less ☐ Between 26 and 75 beds ☐ Between 76 and 125 beds
    ☐ Between 126 and 199 beds ☐ Between 200 and 299 beds ☐ Between 300 and 500 beds
    ☐ Between 501 and 1000 beds ☐ Greater than 1001 beds
14. Service type
    ☐ Critical access hospital[19] ☐ Community hospital ☐ Tertiary hospital[20] ☐ Specialty hospital[21]
    ☐ Other. Please specify: _____

[13] An organization's senior management consisting of the head of the organization and direct reports.

[14] The person who supervises the staff who are directly responsible for the collection, analysis, and reporting of performance measures for the organization.

[15] The person directly responsible for the data collection, analysis, and reporting of performance measures.

[16] Consists of a large central place and adjacent densely settled census blocks that together have a total population of at least 2,500 for urban clusters, or at least 50,000 for urbanized areas.

[17] Residential area bordering an urban area.

[18] Territory, population, and housing units not classified as urban or suburban.

[19] Located in a rural area not easily served by other hospitals and with not more than 25 acute care inpatient beds for providing inpatient care for a period that does not exceed 96 hours per patient as defined by the Social Security Act 1820(c)(2).

[20] Major hospital that has a full complement of services and/or special consultative care.

[21] Hospital dedicated to a particular subspecialty.

(more)

15. Ownership
    - ☐ Not-for-profit (select the one that best applies)
      - ☐ Government (i.e., federal, state, or county)
      - ☐ Military
      - ☐ Other not-for-profit (e.g., religious)
    - ☐ For-profit/investor owned

16. Teaching status
    - ☐ Teaching[22] ☐ Non-teaching

III. Interview Items

17. Results and findings from these interviews and the supplemental survey data that is collected will provide important insight into impressions of NQF's nursing-sensitive consensus standards and for this reason, publications will likely be pursued as will reports to the funder. Do I have your informed consent to use your responses in these publications and reports?
    - ☐ Yes ☐ No

18. Do you wish to provide your comments confidentially (i.e., they will not be able to be identified in the project report/deliverables)?
    - ☐ Yes ☐ No

19. Have you or your hospital implemented any other NQF-endorsed measure/measure set? If so, which ones (e.g., Never Events, Safe Practices, hospital measures)?

20. Does your hospital participate in any local, regional, or national nursing performance measurement database (e.g., NDNQI, CalNOC)?

21. Are you aware that NQF has endorsed measures that quantify nurses' contribution to quality, safety, and healthcare outcomes? *If no, go to item 25.*

22. If you are aware of these measures, what key reasons have kept you from adopting them?

23. What key motivators would influence you to implement one or more of them?

24. Please rate the importance of the following in motivating you to collect these measures in the future (rate 1-3; 1=not motivating; 2=somewhat motivating; 3=very motivating):
    - _____ State and/or federal regulation/mandate
    - _____ Participation in professional and/or statewide voluntary initiatives
    - _____ Consumer and/or patient pressure to share quality information
    - _____ Competitive advantage among hospitals in your market
    - _____ Internal quality improvement
    - _____ Hospital-level pay for performance
    - _____ Rewarding nursing departments for high performance

25. What one piece of information do you think would convince hospital executives to invest in measuring nursing's contribution via the NQF15?

26. What are your organization's strategic priorities for quality?

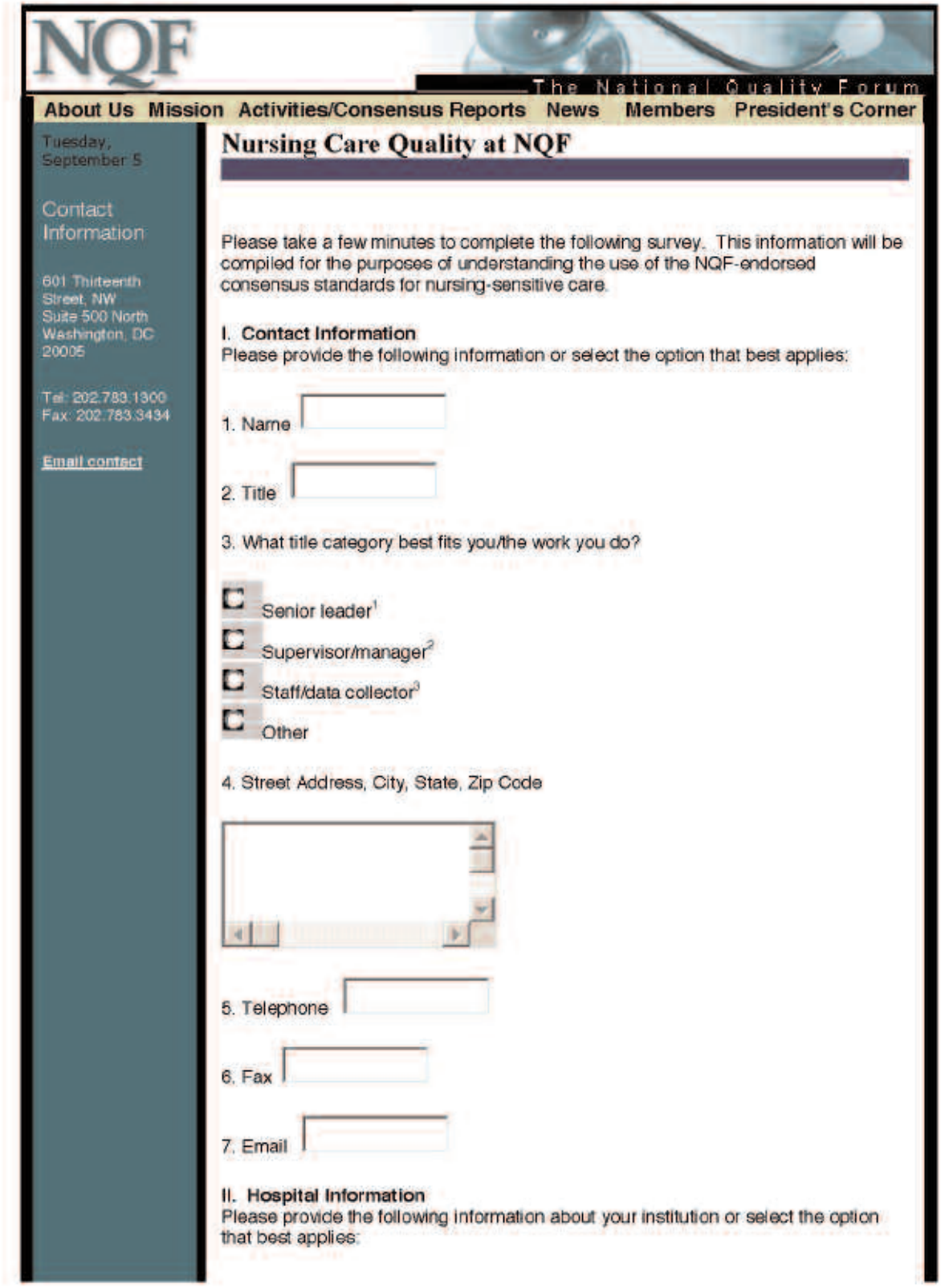
27. In what way do the NQF measures "fit" or "match" these priorities? For example, if your hospital and/or unit has had a focus on reducing falls, that may have resulted in your implementation of the two falls measures.

28. Is there anything I haven't asked you about that you'd like to share with me relative to your impressions, experiences, or insights into the NQF nursing-sensitive consensus standards?

[22]Must satisfy at least one of the following criteria: Residency training approved by Accreditation Council for Graduate Medical Education (ACGME); Medical school affiliation reported to American Medical Association (AMA); Internship approved by American Osteopathic Association (AOA); or Residency approved by AOA.

Appendix E
Web-Based Survey

This appendix presents the 31-item survey as it appeared on the National Quality Forum's web site.



NQF

The National Quality Forum

About Us Mission Activities/Consensus Reports News Members President's Corner

Tuesday, September 5

Contact Information

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Washington, DC
20005

Tel: 202.783.1300
Fax: 202.783.3434

Email contact

Nursing Care Quality at NQF

Please take a few minutes to complete the following survey. This information will be compiled for the purposes of understanding the use of the NQF-endorsed consensus standards for nursing-sensitive care.

I. Contact Information
Please provide the following information or select the option that best applies:

1. Name

2. Title

3. What title category best fits you/the work you do?

- Senior leader[1]
- Supervisor/manager[2]
- Staff/data collector[3]
- Other

4. Street Address, City, State, Zip Code

5. Telephone

6. Fax

7. Email

II. Hospital Information
Please provide the following information about your institution or select the option that best applies:

8. Name

9. Website(if applicable)

10. Is your hospital/organization affiliated with a larger system?

- ☐ No
- ☐ Yes. Please name/identify the system.

11. Geographic Location

- ☐ Urban[4]
- ☐ Suburban[5]
- ☐ Rural[6]

12. Size

- ☐ 25 beds or less
- ☐ Between 26 and 75 beds
- ☐ Between 76 and 125 beds
- ☐ Between 126 and 199 beds
- ☐ Between 200 and 299 beds
- ☐ Between 300 and 500 beds
- ☐ Between 501 and 1000 beds
- ☐ Greater than 1001 beds

13. Service Type

- ☐ Critical Access Hospital[7]
- ☐ Community hospital
- ☐ Tertiary hospital[8]
- ☐ Specialty hospital[9]
- ☐ Other. Please specify:

14. Ownership

- ☐ Not-for-profit (select the one that best applies)

- ☐ Government (e.g., federal, state, or county)
- ☐ Military
- ☐ Other not-for-profit (e.g., religious)

- ☐ For profit/investor owned

15. Teaching Status

- ☐ Teaching[10]
- ☐ Non-teaching

16. Please indicate whether you are willing to have your contact information and your hospital's contact information posted on the NQF web site so that other hospitals could contact you about your responses to this survey.

- ☐ Yes
- ☐ No

III. NQF-endorsed™ Nursing-sensitive Consensus Standards
Please check the box that best applies or, where instructed, provide additional information in the space provided.

17. Are you aware that NQF has endorsed 15 measures (NQF-endorsed consensus standards) that quantify the contribution of nurses in acute care hospitals to patient safety and healthcare outcomes?

- ☐ Yes
- ☐ No

18. Have you implemented any of the NQF-endorsed ***nursing-sensitive*** measures? How far along are you with adoption/implementation?

- ☐ No adoption
- ☐ Started to adopt, but are no longer implementing11 (Skip to question #22)
- ☐ Early user[12] (Skip to question #24)
- ☐ Intermediate user[13] (Skip to question #24)
- ☐ Experienced user[14] (Skip to question #24)
- ☐ Don't know (Skip to question #24)

19. If you have ***not*** implemented the NQF-endorsed measures, are you planning to implement any of them in the future?

- ☐ Yes
- ☐ No (Skip to question #22)
- ☐ Don't know (Skip to question #22)

20. Please indicate when (month and year) you plan to implement the NQF-endorsed measures.

21. Which of the 15 NQF-endorsed measures do you plan to implement? (Skip to question #27)

22. If you have ***not*** implemented any of the 15 NQF-endorsed measures OR started implementation of one or more but are no longer implementing, please provide the ***primary*** reason why you are not currently using them.

- ☐ Limitations of the measures (e.g., address only adult inpatients)
- ☐ Insufficient staff, nursing
- ☐ Insufficient staff, other
- ☐ Resistance from staff
- ☐ Insufficient/inconsistent institutional leadership for initiative
- ☐ Insufficient resources (e.g., hardware/software, etc.) to maintain data collection/reporting effort
- ☐ Insufficient expertise among the staff to conduct the necessary data analyses
- ☐ Barriers to training and/or inservice education to support effort
- ☐ Don't know
- ☐ Other (please explain)

23. What one piece of information would you need to convince you that implementing the NQF-endorsed measures would benefit you, your hospital, or the patients you serve? (Answer this item and skip to question #29)

IV. Adoption/Implementation
Please select the option that best applies or, where instructed, provide additional information in the space provided.

24. How many of the NQF-endorsed measures have you implemented?

- ☐ One measure
- ☐ Some measures. How many? ____
- ☐ All 15 measures (full set)
- ☐ Don't know

25. Do you receive regular feedback (e.g., performance graph, dashboard, report card) regarding your performance on one or more of the NQF-endorsed measures you have implemented?

- ☐ Yes
- ☐ No
- ☐ Don't know

26. What is your ***primary*** approach to gathering the data needed to generate/construct the NQF-endorsed measures?

- ☐ Pencil and paper
- ☐ Existing information technology (IT) system
- ☐ Electronic health record (EHR)
- ☐ Mixed methodology (e.g., some combination of pencil/paper, information technology, and electronic health record)
- ☐ Don't know

27. What is the ***primary*** motivation for your implementation/use of the NQF-endorsed measures?

- ☐ Mandatory/required[15]
- ☐ Voluntary[15]
- ☐ Don't know

28. What is the ***primary*** purpose for implementing the NQF-endorsed measures?

- ☐ Quality improvement
- ☐ Public reporting
- ☐ Pay for performance
- ☐ Don't know

29. Does your hospital participate in other national or state nursing performance

measurement initiatives?

☐ Yes
☐ No (Skip to question #31)
☐ Don't know (Skip to question #31)

30. If you answer "yes" to question #29 please list the nursing sensitive indicators your hospital has implemented. (e.g., NDNQI, AHRQ Patient Safety Indicators, CalNOC)?

31. Would you be willing to be interviewed for a study NQF is currently conducting to further understand the experience of implementing its endorsed measures?

☐ Yes
☐ No

Submit

Thank you for your time and contribution.

[1]An organization's senior management consisting of the head of the organization and direct reports.

[2]The person who supervises the staff who are directly responsible for the collection, analysis, and reporting of performance measures for the organization.

[3]The person directly responsible for the data collection, analysis, and reporting of performance measures.

[4]Consists of a large central place and adjacent densely settled census blocks that together have a total population of at least 2,500 for urban clusters, or at least 50,000 for urbanized areas

[5]Residential area bordering an urban area

[6]Territory, population and housing units not classified as urban or suburban

[7]Located in a rural area not easily served by other hospitals and with not more than 25 acute care inpatient beds for providing inpatient care for a period that does not exceed 96 hours per patient as defined by the Social Security Act 1820(c)(2)

[8]Major hospital that has a full complement of services and/or special consultative care

[9]Hospital dedicated to a particular subspecialty

[10] Must satisfy at least one of the following criteria: Residency training approved by Accreditation Council for Graduate Medical Education (ACGME); Medical school affiliation reported to American Medical Association (AMA); Internship approved by American Osteopathic Association (AOA); or Residency approved by AOA

[11] Began implementation, but stopped data collection, analysis, and/or reporting.

[12] Planning phases and/or beginning to assemble data elements for data collection and analysis.

[13] Currently collecting data elements but in early stages of analysis and/or reporting of some measures.

[14] Currently collecting data elements and generating reports on *all* measures. One or more cycles of improvement may have been applied.

[15] For most NQF-endorsed measures you have implemented, you had no decision making authority in determining whether you implemented them (e.g., mandated by federal/state/local policy, health plan or employer/purchaser, or higher-ranking entity).

[16] For the majority of NQF-endorsed measures, implementation by your institution is considered elective (e.g., volunteered for a study, pilot, initiative).

Source Definition

Urban -U.S. Census Bureau - Last accessed April 24, 2006.

Suburban - Last accessed May 30, 2006.

Rural - Definition by the U.S. Census Bureau - Last accessed April 24, 2006.

Critical Access Hospital - Definition under the Social Security Act 1820(c)(2). Last accessed May 4, 2006.

Primary, secondary, tertiary care hospital - Definition by the Philippines Department of Health: November 2004. - Last accessed July 18, 2006.

Teaching— Definition provided by the Association of American Medical Colleges (AAMC) and American Hospital Association (AHA).

Senior leader - Definition by the Baldrige National Quality Program, Health Care Criteria for Performance Excellence. - Last accessed April 24, 2006.

Appendix F
Acronyms and Glossary

ACRONYMS

ANA: American Nurses Association
CAH: critical access hospital
CalNOC: California Nursing Outcomes Coalition
CHART: California Hospital Assessment and Reporting Taskforce
CMS: Centers for Medicare & Medicaid Services
FTR: failure to rescue (death among surgical inpatients with treatable serious complications)
HA: hospital adopter
HQA: Hospital Quality Alliance
ICU: intensive care unit
IHI: Institute for Healthcare Improvement
INQRI: Interdisciplinary Nursing Quality Research Initiative
IOM: Institute of Medicine
IT: information technology
MilNOD: Military Nursing Outcomes Database
NDNQI: National Database of Nursing Quality Indicators
NHQM: National Hospital Quality Measures
NQF: National Quality Forum
PES-NWI: Practice Environment Scale of the Nursing Work Index
PI: principal investigator
QIO: quality improvement organization
RWJF: Robert Wood Johnson Foundation
TCAB: Transforming Care at the Bedside
VANOD: Veterans Affairs Nursing Sensitive Outcomes Database

GLOSSARY

Critical access hospital: A hospital located in a rural area that is not easily served by other hospitals and with not more than 25 acute care inpatient beds for providing inpatient care for a period that does not exceed 96 hours per patient, as defined by the Social Security Act 1820(c)(2).[1]

Early user: An early user is in the planning phases and/or is beginning to assemble data elements for data collection and analysis.

Experienced user: An experienced user is currently collecting data elements and generating reports on ***all*** measures. One or more cycles of improvement may have been applied.

Intermediate user: An intermediate user is currently collecting data elements, but is in the early stages of analysis and/or reporting of some measures.

Mandatory/required: If performance measurement/reporting is mandatory/required, the institution has no decisionmaking authority in determining the implementation of measures (e.g., mandated by federal/state/local policy, health plan or employer/purchaser, or a higher-ranking entity).

Rural: Territory, population, and housing units not classified as urban or suburban.[2]

Senior leader: An organization's senior management, consisting of the head of the organization and direct reports.[3]

Specialty hospital: A hospital dedicated to a particular subspecialty.

Staff/data collector: The person directly responsible for collecting data, analyzing data, and reporting performance measures.

Started to adopt, but no longer implementing: Began implementation, but stopped data collection, analysis, and/or reporting.

Suburb: A residential area bordering a city.[4]

Supervisor/manager: The person who supervises the staff who are directly responsible for the collection, analysis, and reporting of performance measures for the organization.

[1] Critical access hospital - Definition under the Social Security Act 1820(c)(2). Available at www.ssa.gov/OP_Home/ssact/title18/1820.htm. Last accessed May 2006.

[2] U.S. Census Bureau. Available at ask.census.gov/cgi-bin/askcensus.cfg/php/enduser/std_adp.php?p_faqid=623&p_created=1092150238&p_sid=sv1MjQ5i&p_lva=&p_sp=cF9zcmNoPTEmcF9zb3J0X2J5PSZwX2dyaWRzb3J0PSZwX3Jvd19jbnQ9NDMmcF9wcm9kcz0mcF9jYXRzPSZwX3B2PSZwX2N2PSZwX3BhZ2U9MSZwX3NlYXJjaF90ZXh0PWRlZmluaXRpb24gb2YgcnVyYWw*&p_li=&p_topview=1. Last accessed April 2006.

[3] Baldrige National Quality Program, Health Care Criteria for Performance Excellence. Available at www.quality.nist.gov/PDF_files/2006_HealthCare_Criteria.pdf. Last accessed April 2006.

[4] Encarta® World English Dictionary. Available at encarta.msn.com/dictionary_1861716639/suburb.html.

Teaching hospital: A teaching hospital must satisfy at least one of the following criteria: residency training approved by the Accreditation Council for Graduate Medical Education; medical school affiliation reported to American Medical Association; internship approved by American Osteopathic Association (AOA); or residency approved by AOA.[5]

Tertiary hospital: A major hospital that has a full complement of services and/or special consultative care.[6]

Urban: A large central place and adjacent densely settled census blocks that together have a total population of at least 2,500 for urban clusters, or at least 50,000 for urbanized areas.[7]

Voluntary: Implementation of performance measurement/reporting by the institution is considered elective (e.g., volunteered for a study, pilot, initiative).

[5] Definition provided by the Association of American Medical Colleges and the American Hospital Association.

[6] Definition by the Philippines Department of Health; November 2004. Available at www.doh.gov.ph/BHFS/classification.pdf. Last accessed July 18, 2006.

[7] U.S. Census Bureau. Available at ask.census.gov/cgi-bin/askcensus.cfg/php/enduser/std_adp.php?p_faqid=623&p_created=1092150238&p_sid=sv1MjQ5i&p_lva=&p_sp=cF9zcmNoPTEmcF9zb3J0X2J5PSZwX2dyaWRzb3J0PSZwX3Jvd19jbnQ9NDMmcF9wcm9kcz0mcF9jYXRzPSZwX3B2PSZwX2N2PSZwX3BhZ2U9MSZwX3NlYXJjaF90ZXh0PWRlZmluaXRpb24gb2YgcnVyYWw*&p_li=&p_topview=1. Last accessed April 2006.

The National Quality Forum (NQF) is a private, nonprofit, open membership, public benefit corporation whose mission is to improve the American healthcare system so that it can be counted on to provide safe, timely, compassionate, and accountable care using the best current knowledge. Established in 1999, NQF is a unique public-private partnership having broad participation from all parts of the healthcare industry. As a voluntary consensus standards setting organization, NQF seeks to develop a common vision for healthcare quality improvement, create a foundation for standardized healthcare performance data collection and reporting, and identify a national strategy for healthcare quality improvement. NQF provides an equitable mechanism for addressing the disparate priorities of healthcare's many stakeholders.

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