

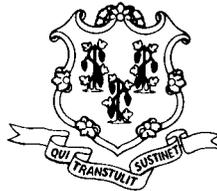


Keeping Connecticut Healthy

REPORT TO THE GENERAL ASSEMBLY

**PUBLIC ACT 02-125
AN ACT CREATING A PROGRAM FOR
QUALITY IN HEALTH CARE**

JUNE 2003



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**State of Connecticut
Department of Public Health**

Report to the General Assembly

**Public Act 02-125
An Act Creating a Program for Quality in Health Care**

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ANNUAL REPORT

JUNE 30, 2003

I. INTRODUCTION

Public Act 02-125

Public Act 02-125 (Appendix A) requires the Department of Public Health (DPH) to establish a quality of care program for health care facilities as defined in section 19a-630 of the general statutes. DPH must develop a health care quality performance measurement and reporting system initially applicable to the state's hospitals. Other health care facilities may be included in the quality program in later years as it develops. An advisory committee, chaired by the DPH commissioner, advises the program.

The act directs the Commissioner to report on the quality of care program on or before June 30, 2003. In compliance with this reporting requirement, the current report contains the activities of the quality of care program as of June 30.

On or before March first and annually thereafter the Commissioner shall report on adverse event reporting to the General Assembly. The first such report was submitted to the General Assembly in March 2003.

The act also requires all hospitals to implement performance improvement plans. These plans must be submitted annually to DPH as a condition of licensure, beginning June 30, 2003.

By April 2004, the act requires that a report be produced that compares the state's hospitals based on quality performance measures developed under the quality of care program. The act indicates that DPH may seek out funding in order to implement the provisions leading to the development of the report.

II. BACKGROUND

Program Activities

The act establishes a quality of care program within the DPH. The Office of Health Care Quality and Best Practices was created within DPH to assume this responsibility. The Bureau of Health Care Systems is also very active in supporting the program.

The Quality in Health Care Advisory Committee first convened in August 2002, at which time subcommittees and working groups were created as follows:

Sub-Committee	Sub-Committee
(1) Health Promotion and Prevention (2) Continuum of Care (3) Regulations	(4) Promotion of Quality and Safe Practices Working Group I Hospital Performance Comparisons Working Group II Patient Satisfaction Survey Working Group III Best Practices Working Group IV Adverse Event Reporting

DPH staff were assigned to co-chair the numerous subcommittees and working groups. Much of the work of the Office of Health Care Quality and Best Practices has been performed in conjunction with the activities of the working groups, which is described in more detail in Section III.

DPH/CMS Quality Initiative

At the national level, the Centers for Medicare & Medicaid (CMS), in conjunction with other national health care agencies and organizations, announced in December 2002 a voluntary hospital quality reporting program that is open to all hospitals in the country.

The Commissioner of DPH recognized a unique opportunity for CMS and DPH to collaborate on a joint quality initiative that would utilize resources efficiently and minimize duplication of effort for all parties involved.

As a result, the DPH and the CMS have formally partnered in an effort to provide useful and valid information about hospital quality to the public. This joint effort will support Connecticut hospitals' efforts to comply with the public reporting of comparative patient satisfaction and clinical performance measures mandated by Public Act 02-125 of the Connecticut General Assembly. The project will also support the national Hospital Quality Information Initiative under development by CMS. The project is unique in that it will establish a working collaboration between federal, state, and private sector agencies and organizations. Although the national initiative is voluntary, recently all 30 adult general acute care hospitals in Connecticut pledged their participation, making Connecticut the first state to report 100% participation.

Qualidigm, which is the CMS Quality Improvement Organization for Connecticut, will be an integral partner of the DPH in this public reporting initiative. The Connecticut Hospital Association is also actively facilitating the project in the recruitment of hospital participation and the collection of data for public reporting.

The joint quality initiative consists of two main components:

- 1) The first component will provide information by hospital on 10 clinical performance measures related to the delivery of services that evidence has shown to be effective in the management of acute myocardial infarction (AMI), heart failure, and pneumonia. For

example, for a patient with AMI, was aspirin or a beta blocker given to the patient when admitted to the hospital; or for a patient with pneumonia, was the patient's oxygen level assessed upon admittance to the hospital.

- 2) The second project component involves participation in the development of a standardized hospital patient experience survey. A test survey consisting of 68 questions will initially be conducted. Questions pertain to a patient's hospital experience regarding (1) respect for patients' values, preferences, and needs; (2) coordination and integration of care; (3) information, communication and education; (4) physical comfort; (5) emotional support; (6) involvement of family and friends; (7) continuity and transition of care; and (8) access to care. The results of the test survey in Connecticut will be used along with results from three other states to develop a core set of questions that are most useful for public reporting in the future.

This joint initiative coincides with the recommendations of several Quality in Health Care Advisory Committee working groups as described in Section III, and has enhanced the department's capacity to meet the reporting requirements of Public Act 02-125.

Hospital Inspections, Fall 2002

During the Fall of 2002, the Commissioner of the Department of Public Health initiated a program to assess the quality of care and services being provided by Connecticut's acute care and children's hospitals. This initiative complemented Public Act 02-125.

Thirty-one (31) Connecticut hospitals were subject to unannounced inspections. These inspections were of a broader nature than the usual regulatory inspections of healthcare institutions. In addition to nurses from the regulatory unit, Department staff from the epidemiology, emergency services, food protection and quality improvement and best practices units participated in the inspections.

The inspection process provided the Department with basic information from which an action plan can be formulated, prioritized and measured in order to improve the quality of care within the hospital industry. This analysis promoted accountability within the health care system and identified deviations from standards of practice, which ultimately impact patient care.

The Department's quality of care inspection initiative further supported the need for a quality of care program, which establishes baseline data measurements pertinent to care outcomes and identifies deviations from expected outcomes, as well as focuses training modules for hospital staff. Future hospital initiatives will be further developed through the implementation of PA 02-125.

III. Quality in Health Care Advisory Committee and Subcommittee Activities

Advisory Committee

The Quality in Health Care Advisory Committee (QHCAC) held four meetings this past year in August 2002, October 2002, February 2003, and April 2003. A membership list can be found in

Appendix B. Much of the work was divided among several subcommittees and working groups. Recommendations from several of the subcommittees are currently under review by the Advisory Committee. A synopsis of current year activities and plans for next year is provided below for each of the subcommittees.

Subcommittee on Health Promotion and Prevention

The Health Promotion and Prevention Subcommittee is addressing two major areas. The first area relates to Continuing Education Requirements for all levels of licensed practitioners. Currently there are seven professions that require CEU's as part of their licensing requirement. However in Connecticut, higher-level professions such as physicians, nurses, and dentists do not. The Subcommittee is conducting a national review of other states' requirements for licensed professionals and researching studies regarding the correlation between professional requirements for continuing education and its impact on practice standards, incompetence and negligence issues.

The second focus of the group is on the use of restraints for pediatric dental patients. The Subcommittee will gather research literature and polls of dental schools to determine what techniques are being taught. The Subcommittee will then survey currently licensed Connecticut dentists and determine what techniques are being used and generate a recommendation for re-education using currently acceptable pediatric dental restraint standards. Another component of this will be a review of the process for informed consent for the parents of children who require restraint.

Subcommittee on Continuum of Care

The Continuum of Care Subcommittee has focused on the standardization of the information communicated during transfer of patients between health care entities. The members discussed the INFObridge Project led by Qualidigm that began in 1997 and reported on in June 2001. The project focused on the lack of standardization of communication when patients are transferred between hospitals, nursing homes and home care agencies. The project undertook a needs assessment that identified the core information all of the organizations required. The Subcommittee felt the hard copy W-10 "Interagency Patient Referral Report" should be updated based on the core elements and that the development of this updated W-10 would be its first priority. The Subcommittee also recognized that the form should be created to provide an easy transition to an electronic form that would be the ultimate goal, but recognized some nursing homes do not have the technological capability at this time. The Subcommittee is currently engaged in creating this document.

Subcommittee on Regulations

The Regulations Subcommittee has received and reviewed a variety of comments regarding changes to the current hospital licensing regulations (Public Health Code Section 19-13-D1 et seq.). Revisions to the regulations may include:

- Changes to the frequency of medical staff meetings and attendance requirements;
- Decrease in the requirements for medical record retention;
- Technical language changes;
- Combining various hospital types into one set of regulations.

These changes are anticipated to be drafted by October, 2003 for review and comment by the Subcommittee and then will be forwarded to the full Quality of Care Advisory Committee for review.

Subcommittee on Promotion of Quality and Safe Practices

Working Group I: Hospital Performance Comparisons

Working Group I consists of representatives of the hospital industry, health care plans, businesses, consumer groups, and the Connecticut Department of Public Health. Working Group I met five times from October 2002 through April 2003 to develop recommendations related to the measurement of hospital clinical performance. Working Group I was given responsibility to identify, review, and develop recommendations on hospital clinical performance measures, data collection, and report format as described in P.A. 02-125. Working Group I reported its findings and recommendations to the full advisory committee on April 30, 2003. See Appendix C.

Working Group I reviewed an extensive list of hospital performance measures that have been developed by numerous national organizations and research groups. Of particular interest were the 10 clinical measures being jointly endorsed by prominent national organizations in the National Hospital Quality Information Initiative announced in December 2002. These measures are related to the delivery of services that evidence has shown to be effective in the management of acute myocardial infarction, heart failure, and pneumonia. Working Group I recommended that DPH use these 10 measures. By using standardized measures endorsed by national organizations and accrediting bodies, the burden on hospitals is lessened and our capacity to use national benchmarks is enhanced. The group recommended using existing JCAHO data abstraction guidelines and tools to standardize the data collection effort. They also recommended that the final report include both summary measures (i.e. one composite measure for each clinical condition) as well as individual measures.

The recommendations put forth by Working Group I coincide with the actions going forward by the DPH/CMS Quality Initiative described in Section II, above. Working Group I may reconvene during the next year to review and provide additional recommendations regarding the public reporting process. In the meantime, DPH will work closely with CMS to align data collection and reporting efforts on the 10 clinical performance measures to be reported to the public in April 2004 in Connecticut.

Subcommittee on Promotion of Quality and Safe Practices

Working Group II: Patient Satisfaction Survey

Working Group II consists of representatives of the hospital industry, businesses, consumer groups, and the DPH. Working Group II met seven times from October 2002 through April 2003 to develop recommendations related to the measurement of hospital patient satisfaction for the

Quality in Health Care Advisory Committee. Working Group II was given responsibility to identify, review, and develop recommendations on patient satisfaction measures, instruments, data collection, and report format as described in PA 02-125. Working Group II reported its findings and recommendations to the full advisory committee on April 30, 2003. See Appendix D.

Since the last QHCAC meeting on April 30, the DPH and CMS have entered into a collaborative agreement for a joint quality initiative, as described in Section II, above. One project component involves participation in the pilot hospital patient experience survey, referred to as HCAHPS. The results of the patient survey will be reported back to the individual hospitals to help facilitate their transition to the revised HCAHPS survey instrument, which will be finalized in Fall 2003.

During the next year, Working Group II or subsets of this working group will develop recommendations for three other important areas related to comparative reporting on hospital patient satisfaction / experience: 1) data collection strategies; 2) data analytic strategies; and 3) public reporting formats. One subgroup will address data strategies and a second subgroup will address public reporting format issues. Working Group II will be expanded to include representatives of ethnically diverse consumer groups. Such participation will increase this working group's ability to recommend data strategies and report formats for the public.

Subcommittee on Promotion of Quality and Safe Practices

Working Group III: Best Practices

Best practices, quality improvement, and medical error reduction are not new concepts in health care, but a spotlight was focused on them by the Institute of Medicine's report *To Err Is Human*. The IOM report concluded that medical errors are systems problems that will not be eliminated by identifying bad clinicians. Public Act 02-125 directs the Connecticut Department of Public Health (DPH) to develop a quality of care program that includes medical error reduction methods and systems for sharing and implementing universally accepted best practices. Working Group III was given responsibility to review and develop recommendations on:

- 1) Sharing and implementing best practices
- 2) Medical error reduction
- 3) Data collection/informatics
- 4) Recommendations on the use of an ISO 9000 auditing system
- 5) Quality improvement grants

Grant opportunities within federal agencies will become clearer in the next few months. The other items were reported to the full advisory committee on April 30, 2003. See Appendix E.

Working Group III met four times from November 2002 through April 2003. The group determined it most practical to confine initial recommendations to acute care hospitals and to make recommendations concerning other settings in later years. The tasks of the working group were conceptualized into three areas: 1) collaboration; 2) focus and coordination; and 3) a menu of recommendations. Since quality improvement interventions require change, there are always barriers to be addressed in their implementation. Thus, the report also discussed barriers.

The major recommendations reported by Working Group III include the following:

- 1) Expand collaboration among state agencies, Qualidigm, the CT Hospital Association, and other health care organizations and stakeholders, for sharing knowledge and experience on methods to improve health care in acute care hospitals.
- 2) Support use of the 10 measure set of performance measures for myocardial infarction, heart failure, and pneumonia endorsed by JCAHO, CMS, and the American Hospital Association.
- 3) Strongly encourage bar coding of medications.
- 4) Not require use of the ISO 9000 quality auditing system.
- 5) Develop a standardized electronic inter-agency patient referral report (W-10) form for patient transfers.
- 6) Support computerization through smaller project successes and sharing of experience.

Future organizational steps include:

- 1) Create a consortium of stakeholder organizations to discuss how each could assist in a larger collaboration to improve the quality of health care in Connecticut hospitals.
- 2) Initiate a conference on bar coding.
- 3) Designate a group reporting to the Advisory Committee to develop an electronic W-10 form and a plan for its implementation. It should be noted that the Subcommittee on Continuum of Care has already begun work on the W-10 form revisions.

Working Group III may meet during the next year to update best practices, as well as to contribute to the stakeholder consortium and conference on bar coding suggested above.

Subcommittee on Promotion of Quality and Safe Practices

Working Group IV: Adverse Event Reporting

Working Group IV has focused on the implementation of adverse event reporting by hospitals and outpatient surgical centers. This section of the law was effective October 1, 2002 and planning and educational activities in collaboration with the involved healthcare providers occurred prior to implementation. The working group has been evaluating feedback from providers about the reporting process and time-frames, as well as working to clarify and provide guidance on the definitions of the types of reportable events as written in the law. The goal of these efforts is to continually improve the quality and consistency of information reported to the Department of Public Health. Future plans include developing the capacity for hospitals to provide electronic submission of adverse event reports directly to DPH. Data will continue to be collected and analyzed to facilitate quality improvement efforts by providers and to inform DPH in its efforts to provide regulatory oversight and sharing of best practices. A summary of the Adverse Event Reporting Working Group's recommendations can be found in Appendix F.

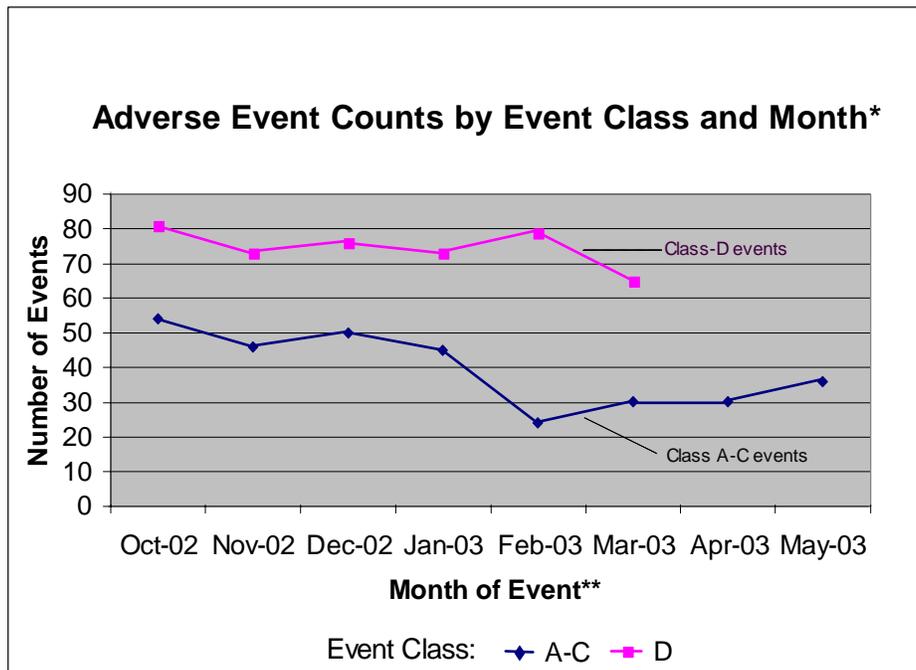
IV. RECENT AND FUTURE PLANNED DPH PROGRAM ACTIVITIES

In addition to ongoing efforts to collect and monitor hospital reports of adverse events, DPH has continued to develop plans for collecting clinical performance measures and patient experience survey data from Connecticut hospitals. The Department's efforts in each of these areas are described briefly below.

Update on Adverse Events Reporting

As of October 1, 2002, hospitals and outpatient surgical facilities are required to report adverse events classified as A through C to the Department of Public Health. These facilities must also report, on a quarterly basis, Class D adverse events along with a corrective action plan.

On March 1, 2003 DPH presented to members of the state legislature's Public Health Committee the first annual legislative report for adverse event reporting, in accordance with Public Act 02-125.



* This is month in which the event occurred. All figures are based on information recorded in the CT DPH electronic database as of 6/25/2003.

** Adverse event reporting began October 1, 2002. No class-D events have been reported since March 2003 since these events are only reported quarterly.

Between March 1 and June 25, 2003 additional adverse event reports were received. The number of events reported as of June 25, 2003 is displayed above by event month. This information is being used within DPH to monitor and improve quality in reporting. As of June 25, 2003, 831 reports had been received and saved in a cumulative electronic database. More than half of these were Class D events. All general hospitals had contributed reports. In 807

reports with information about patient gender, there were about equal numbers of males (45%) and females (55%). Of 338 adverse events in classes A through C, the largest number were class B (77.8%), followed by class A (16.6%), and class C (5.6%). These distributions are close to those noted in the March 1 report. Approximately the same number of class A through C events were reported to have occurred in each of the months October 2002 through January 2003. All class D events occurred in October 2002 through March 2003, as reports for the second quarter of 2003 had not been received yet.

It is important to emphasize that there is difference between an “adverse medical event” and a “medical error.” In the Department’s experience, overlooking this difference can lead to unnecessary confusion and misinterpretation. There is a common tendency to assume that all adverse events are due to medical errors, but that is often not true. The definition of an adverse medical event used by the Institute of Medicine (IOM), in its report *To Err is Human*, is

- an injury caused by or associated with medical management that results in death or measurable disability (Kohn et al 2000).

Connecticut Public Act 02-125 uses the same definition.

In *To Err is Human*, a medical error is defined as

- the failure of a planned action to be completed as intended or use of a wrong plan to achieve an aim.

Consequently, not all adverse events are caused by errors. For example, if a patient has a reaction to a medication being taken for the first time, and there was no reason to suspect that they were allergic, that would be an adverse event but not an error. Conversely, some medical errors that are discovered “in time” may not result in death or measurable disability, and therefore they would not be considered adverse events. Estimates of the proportion of adverse events attributable to medical errors range from about 50% to 60% according to the IOM report, *To Err is Human*. While some adverse events may appear to be readily identifiable as errors, e.g., “surgery performed on the wrong body part,” many are not. The complexity inherent in identifying which events are “errors” is underscored by studies that have examined the consistency of such evaluations. In two different studies, pairs of raters evaluated the same patients with the objective of determining whether treatment errors were made. When the paired evaluations were examined, the raters were found to agree on fewer than half the cases, after adjusting for the agreement expected by chance alone (Hayward and Hofer, 2001; Brennan et al, 1991). The populations and methods employed in each study differed, nevertheless they both support the conclusion that caution is warranted in trying to establish causal relationships between errors and adverse patient outcomes.

A key ingredient of the Connecticut DPH review process is the evaluation of each report by Department staff with medical expertise (registered nurses and a physician) who may recommend that a case investigation be initiated. The investigations are carried out by skilled nurse inspectors from the Bureau of Health Care Systems who have the ability to assess the medical details of the case and to determine whether a treatment error occurred that is likely to

have resulted in the reported event. In addition, this detailed review may reveal underlying factors or systems failures such as problems with equipment or technology, poor training, or poor staff communication. Such underlying systemic factors and not single events or “bad” people are thought to pose the greatest risk to patient safety (*To Err is Human*, Kohn et al 2000).

Interpreting the crude adverse event count statistics is difficult, in part due to the differences in the interpretation of medical errors and adverse events, as described above. Information regarding investigation outcomes is not available until some time later, after weeks or months after the initial adverse event report. Nevertheless, even if DPH knew the investigation outcomes, the Department would still need additional information. To make systematic comparisons that are fair (e.g. by demographic characteristics or by facility), it would be necessary to adjust for differing patient population sizes and the medical risk profiles of the groups being compared. Fortunately DPH is planning on collecting information in two additional areas, clinical performance measures and patient satisfaction, that are better suited to making such comparisons. This information will be collected using standardized methods that are designed to provide valid and reliable information that will allow us to calculate relevant comparative statistics. Work in these two areas is described further below.

Adverse event reporting activities for the next year include the following:

1. Review the Adverse Event reporting form with a view to making it easier to complete.
2. Facilitate electronic submission of the Adverse Event reporting form.
3. Further training of hospital and surgical center personnel to identify reportable adverse events and to distinguish classes of reportable events.

Implementation of New Hospital Reporting

Clinical Performance Measures

DPH will work closely with CMS to align data collection and reporting efforts on the 10 clinical performance measures to be reported to the public in April 2004 in Connecticut. Qualidigm and the Connecticut Hospital Association are important partners in this effort. Implementation strategies will most likely conform to the recommendations put forth by the Hospital Performance Comparisons Working Group I. Hospitals are to begin submitting data effective with July 1, 2003 discharges.

Patient Experience Survey Data

The Connecticut Department of Public Health has been contracted by the United States Department of Health and Human Services (HHS) as part of a research study to promote the quality of care in hospitals. A patient experience of care mail survey developed by the Agency for Healthcare Research and Quality (AHRQ), in conjunction with CMS, will be used to obtain standardized patient satisfaction information for each hospital. AHRQ’s survey, known as the HCAHPS, is currently under development and being pilot-tested by CMS in three states. Connecticut hospitals will also test the draft mail survey this summer. The survey will be conducted by the National Opinion Research Corporation (NORC) at the University of Chicago.

AHRQ is expected to finalize its survey this fall, after the results of the pilot tests are analyzed. Once the HCAHPS survey instrument is finalized, the DPH will require all Connecticut hospitals to use the survey instrument for purposes of comparative public reporting of patient satisfaction in Connecticut as required by Public Act No. 02-125.

The patient satisfaction working group has recommended that a nationally recognized survey vendor be contracted to conduct the comparative report of patient satisfaction. Almost all of Connecticut's acute care hospitals (26 of 31) currently use one vendor to administer their patient surveys. Use of this same vendor for the first cycle (2003-2004) of comparative hospital patient reporting would be the most expeditious way in which to fulfill the legislative deadline and would also be least disruptive to the quality improvement programs of Connecticut hospitals.

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V. APPENDICES

- A. Public Act 02-125
- B. Advisory Committee Membership List
- C. Hospital Performance Comparisons Working Group Report
- D. Patient Satisfaction Survey Working Group Report
- E. Best Practices Working Group Report
- F. Adverse Event Reporting Working Group Summary Report

APPENDIX A

PUBLIC ACT 02-125

Substitute House Bill No. 5715

Public Act No. 02-125

AN ACT CREATING A PROGRAM FOR QUALITY IN HEALTH CARE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective October 1, 2002*) (a) There is established a quality of care program within the Department of Public Health. The department shall develop for the purposes of said program (1) a standardized data set to measure the clinical performance of health care facilities, as defined in section 19a-630 of the general statutes, and require such data to be collected and reported periodically to the department, including, but not limited to, data for the measurement of comparable patient satisfaction, and (2) methods to provide public accountability for health care delivery systems by such facilities. The department shall develop such set and methods for hospitals during the fiscal year ending June 30, 2003, and the committee established pursuant to subsection (c) of this section shall consider and may recommend to the joint standing committee of the General Assembly having cognizance of matters relating to public health the inclusion of other health care facilities in each subsequent year.

(b) In carrying out its responsibilities under subsection (a) of this section, the department shall develop the following for the quality of care program:

- (1) Comparable performance measures to be reported;
- (2) Selection of patient satisfaction survey measures and instruments;
- (3) Methods and format of standardized data collection;
- (4) Format for a public quality performance measurement report;
- (5) Human resources and quality measurements;
- (6) Medical error reduction methods;
- (7) Systems for sharing and implementing universally accepted best practices;
- (8) Systems for reporting outcome data;
- (9) Systems for continuum of care;

(10) Recommendations concerning the use of an ISO 9000 quality auditing program;

(11) Recommendations concerning the types of statutory protection needed prior to collecting any data or information under this act; and

(12) Any other issues that the department deems appropriate.

(c) There is established a Quality of Care Advisory Committee which shall advise the Department of Public Health on the issues set forth in subdivisions (1) to (12), inclusive, of subsection (b) of this section. The advisory committee shall meet at least quarterly.

(d) The advisory committee shall consist of (1) four members who represent and shall be appointed by the Connecticut Hospital Association, including three members who represent three separate hospitals that are not affiliated of which one such hospital is an academic medical center; (2) one member who represents and shall be appointed by the Connecticut Nursing Association; (3) two members who represent and shall be appointed by the Connecticut Medical Society, including one member who is an active medical care provider; (4) two members who represent and shall be appointed by the Connecticut Business and Industry Association, including one member who represents a large business and one member who represents a small business; (5) one member who represents and shall be appointed by the Home Health Care Association; (6) one member who represents and shall be appointed by the Connecticut Association of Health Care Facilities; (7) one member who represents and shall be appointed by the Connecticut Association of Not-For-Profit Providers for the Aging; (8) two members who represent and shall be appointed by the AFL-CIO; (9) one member who represents consumers of health care services and who shall be appointed by the Commissioner of Public Health; (10) one member who represents a school of public health and who shall be appointed by the Commissioner of Public Health; (11) one member who represents and shall be appointed by the Office of Health Care Access; (12) the Commissioner of Public Health or said commissioner's designee; (13) the Commissioner of Social Services or said commissioner's designee; (14) the Secretary of the Office of Policy and Management or said secretary's designee; (15) two members who represent licensed health plans and shall be appointed by the Connecticut Association of Health Care Plans; (16) one member who represents and shall be appointed by the federally designated state peer review organization; and (17) one member who represents and shall be appointed by the Connecticut Pharmaceutical Association. The chairperson of the advisory committee shall be the Commissioner of Public Health or said commissioner's designee. The chairperson of the committee, with a vote of the majority of the members present, may appoint ex-officio nonvoting members in specialties not represented among voting members. Vacancies shall be filled by the person who makes the appointment under this subsection.

(e) The chairperson of the advisory committee may designate one or more working groups to address specific issues and shall appoint the members of each working group. Each working group shall report its findings and recommendations to the full advisory committee.

(f) The Commissioner of Public Health shall report on the quality of care program on or before June 30, 2003, and annually thereafter, in accordance with section 11a-4 of the general statutes, to the joint standing committee of the General Assembly having cognizance of matters relating to public health and to the Governor. Each report on said program shall include activities of the program during the prior year and a plan of activities for the following year.

(g) On or before April 1, 2004, the Commissioner of Public Health shall prepare a report, available to the public, that compares all licensed hospitals in the state based on the quality performance measures developed under the quality of care program.

(h) The Department of Public Health may seek out funding for the purpose of implementing the provisions of this section. Said provisions shall be implemented upon receipt of said funding.

Sec. 2. (NEW) (*Effective October 1, 2002*) All hospitals, licensed pursuant to provisions of the general statutes, shall be required to implement performance improvement plans. Such plans shall be submitted on or before June 30, 2003, and annually thereafter by each hospital to the Department of Public Health as a condition of licensure.

Sec. 3. (NEW) (*Effective July 1, 2002*) (a) For purposes of this section, an "adverse event" means an injury that was caused by or is associated with medical management and that results in death or measurable disability. Such events shall also include those sentinel events for which remediation plans are required by the Joint Commission on the Accreditation of Healthcare Organizations.

(b) Adverse events shall be classified into the following categories:

(1) "Class A adverse event" means an event that has resulted in or is associated with a patient's death or the immediate danger of death;

(2) "Class B adverse event" means an event that has resulted in or is associated with a patient's serious injury or disability or the immediate danger of serious injury or disability;

(3) "Class C adverse event" means an event that has resulted in or is associated with the physical or sexual abuse of a patient; and

(4) "Class D adverse event" means an adverse event that is not reported under subdivisions (1) to (3), inclusive, of this subdivision.

(c) On and after October 1, 2002, a hospital or outpatient surgical facility shall report to the Department of Public Health on Class A, B and C adverse events as follows: (1) A verbal report shall be made not later than twenty-four hours after the adverse event occurred; (2) a written report not later than seventy-two hours after the adverse event occurred; and (3) a corrective action plan shall be filed not later than seven days after the adverse event occurred.

(d) A hospital or outpatient surgical facility shall report to the Department of Public Health on Class D adverse events on a quarterly basis. Such reports shall include corrective action plans. For purposes of this subsection and subsection (c) of this section, "corrective action plan" means a plan that implements strategies that reduce the risk of similar events occurring in the future. Said plan shall measure the effectiveness of such strategies by addressing the implementation, oversight and time lines of such strategies. Failure to implement a corrective action plan may result in disciplinary action by the Commissioner of Public Health, pursuant to section 19a-494 of the general statutes.

(e) The Commissioner of Public Health shall adopt regulations, in accordance with chapter 54 of the general statutes, to carry out the provisions of this section. Such regulations shall include, but shall not be limited to, a prescribed form for the reporting of adverse events pursuant to subsections (c) and (d) of this section. The commissioner may require the use of said form prior to the adoption of said regulations.

(f) On or before March first annually, the commissioner shall report, in accordance with the provisions of section 11-4a of the general statutes, on adverse event reporting, to the joint standing committee of the General Assembly having cognizance of matters relating to public health.

(g) Information collected pursuant to this section shall not be required to be disclosed pursuant to subsection (a) of section 1-210 of the general statutes, for a period of six months from the date of submission of the written report required pursuant to subsection (c) of this section and shall not be subject to subpoena or discovery or introduced into evidence in any judicial or administrative proceeding except as otherwise specifically provided by law.

Approved June 7, 2002

APPENDIX B

ADVISORY COMMITTEE MEMBERSHIP LIST

QUALITY IN HEALTH CARE
ADVISORY COMMITTEE



Keeping Connecticut Healthy

MEMBER DIRECTORY

CONNECTICUT DEPARTMENT OF PUBLIC HEALTH
Office of Government Relations
410 Capitol Avenue, MS #13GRE
Hartford, CT 06106
(860) 509-7269

REVISED June 26, 2003

COMMITTEE ASSIGNMENTS

Promotion of Quality and Safe Practices

Working Group I.

HOSPITAL PERFORMANCE COMPARISON REPORT

- ❑ Performance Measures Selection
(adverse event reporting, mortality data, hospital administrative data, and encounter data)
- ❑ Data Collection (including infrastructure and costs)
- ❑ Report Format

Working Group II.

PATIENT SATISFACTION SURVEY

- ❑ Data Collection (including survey design and implementation and infrastructure and costs)
- ❑ Report Format

Co-Chairs:

Carolyn Brady, Connecticut Hospital Association
Norma D. Gyle, Department of Public Health

Working Group I.

Co-Chairs:

Paul Bluestein, Connecticutcare
Joan Foland, Department of Public Health

Members:

Carolyn Brady, Connecticut Hospital Association
Patrick A. Charmel, Griffin Hospital
Joanne Chapin, CFEPE
John Courtney, Qualidigm
Ann Elwell, Qualidigm
Ann Errichetti, Day Kimball Hospital
Andrea Gelzer, Cigna Health Care
Mary Heffernan, Office of Health Care Access
Peter Herbert, Yale New Haven Hospital
Susan Menichetti, Middlesex Hospital
Julie Petrellis, Connecticut Hospital Association
Robert Ritz, Saint Mary's Hospital
Jan Spegele, Counsel, CBIA

Working Group II.

Co-Chairs:

Margaret Hynes, Department of Public Health
Steven Schneider, Waterbury Hospital

Members:

Judith Barr, Qualidigm
Christine Berman, Pitney Bowes
Carolyn Brady, Connecticut Hospital Association
Joanne Chapin, CFEPE
William G. Faraclas, Southern CT State University
Brenda J. Kelley, AARP Connecticut
Leona Mariani, Manchester Memorial Hospital
Doug Moore, Department of Consumer Protection
David Parrella, Department of Social Services
Julie Petrellis, Connecticut Hospital Association
Jan Spegele, Counsel, CBIA

COMMITTEE ASSIGNMENTS

Promotion of Quality and Safe Practices

Working Group III.

BEST PRACTICES

- ❑ Data Collection; informatics
- ❑ Sharing and implementing best practices
- ❑ Medical error reduction
- ❑ Quality improvement grants
- ❑ Recommendations on the use of an ISO 9000 auditing system

Working Group IV.

ADVERSE EVENT REPORTING

- ❑ Medical/Surgical Errors Reporting
- ❑ Methods and format of standardized data collection
- ❑ Report Format and Public Dissemination of Outcome Data

Working Group III.

Co-Chairs:

Michael M. Deren, CT State Medical Society
Thomas Meehan, Qualidigm
Jon C. Olson, Department of Public Health

Members:

Noel Bishop, Connecticut State Dental Association
Carolyn Brady, Connecticut Hospital Association
Gregory Gousse, Hartford Hospital
Susan Menichetti, Middlesex Hospital
Julie Petrellis, Connecticut Hospital Association
Marcia K. Petrillo, Qualidigm
Deborah Quetti, Connecticut Hospital Association
Leo Roberge, Department of Consumer Protection
Jesse Samuels, Health Net
Eleanor C. Seiler, Anthem Blue Cross Blue Shield

Working Group IV.

Co-Chairs:

Carolyn Brady, Connecticut Hospital Association
Wendy Furniss, Department of Public Health

Members:

Karen Buckley Bates, Department of Public Health
Judith Dowd, Office of Policy & Management
Kenneth Ferrucci, Connecticut State Medical Society
Gregory Gousse, Hartford Hospital
Edward A. Kamens, M.D., F.A.C.S.
Brenda J. Kelley, AARP Connecticut
Joseph Oros, Department of Public Health
Leona Mariani, Manchester Memorial Hospital
Matthew Miller, Danbury Hospital
Jon C. Olson, Department of Public Health
Julie Petrellis, Connecticut Hospital Association
Steven Schneider, Waterbury Hospital
Jeanne Scinto, Qualidigm
Bruce Wallen, Department of Public Health

COMMITTEE ASSIGNMENTS

<p>Health Promotion and Disease Prevention</p> <ul style="list-style-type: none">□ CEUs□ Provision of Educational Programs<ul style="list-style-type: none">○ Restraints○ BT□ Workforce Issues	<p>Co-Chairs: Liz Beaudin, Connecticut Hospital Association Kathleen Boulware, Department of Public Health</p> <p>Members: Ann L. Anthony, Ct. Association for Home Care Jennifer Filippone, Department of Public Health Allen Hindin, Connecticut State Dental Association David LaPierre, AFL-CIO</p>
<p>Physician Profiles</p> <ul style="list-style-type: none">○ Is current reporting sufficient?○ What fields are lacking?○ Reporting compliance	<p>Co-Chairs: Jennifer Filippone, Department of Public Health Alfred Herzog, Connecticut State Medical Society</p> <p>Members: Liz Beaudin, Connecticut Hospital Association Kenneth Ferruci, Connecticut State Medical Society Thomas Meehan, Qualidigm Joseph Oros, Department of Public Health Jan Spegele, Counsel, CBIA</p>
<p>Continuum of Care</p> <ul style="list-style-type: none">○ Identify issues○ Other models	<p>Co-Chairs: Anne Marie Montemerlo, Dept. of Public Health Julie Petrellis, Connecticut Hospital Association</p> <p>Members: Ann L. Anthony, Ct. Association for Home Care Christine Ceccarelli, Hartford Hospital Patricia Duclos-Miller, Ct. Nurses' Association Toni Fatone, Ct. Assoc. of Health Care Facilities Sharon Guerette, Department of Social Services Mag Morelli, Not-for-profit Providers for the Aging Ann Spenard, Qualidigm Marie Vitarelli, Department of Social Services</p>
<p>Regulations</p> <ul style="list-style-type: none">□ Credentialing –to include BT issues□ Restraints□ Current patient care practice□ Adverse Event□ Confidentiality□ Enforcement/Compliance	<p>Co-Chairs Carolyn Brady, Connecticut Hospital Association Joan Leavitt, Department of Public Health</p> <p>Members: Karen Buckley Bates, Department of Public Health Kenneth Ferrucci, Connecticut State Medical Society Susan Halpin, Robinson & Cole Joseph Oros, Department of Public Health Jim Rush, Connecticut Hospital Association</p>
<p>Settlement Agreements/Tort Reform</p>	<p>Co-Chairs: Pat Monahan, Connecticut Hospital Association Stanley Peck, Department of Public Health</p> <p>Members: Linda Mead, Department of Social Services Mike H. Summerer, St. Vincent's Medical Center</p>

APPENDIX C

HOSPITAL PERFORMANCE COMPARISONS WORKING GROUP REPORT

**Recommendations for
Connecticut Hospital Performance Comparisons**

A Report to the Quality in Health Care Advisory Committee

April 30, 2003

**Promotion of Quality and Safe Practices Subcommittee
Working Group I
Hospital Performance Comparison Report**

Hospital Performance Comparison Working Group

Member	Organization
Paul Bluestein (co-chair)	Connecticare
Joan Foland (co-chair)	Connecticut Department of Public Health
Carolyn Brady	Connecticut Hospital Association
Joanne Chapin	AFL-CIO
Patrick A. Charmel	Griffin Hospital
John Courtney	Qualidigm
Ann Errichetti	Day Kimball Hospital
Andrea Gelzer	Cigna Health Care
Mary Heffernan	Connecticut Office of Health Care Access
Peter Herbert	Yale New Haven Health System
Susan Menichetti	Integrated Resources of the Middlesex Area, Inc.
Julie Petrellis	Connecticut Hospital Association
Jan Spegele	Connecticut Business and Industry Association

Hospital Performance Comparison Working Group Recommendations

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Summary

Working Group I (Hospital Performance Comparisons) met five times from October 2002 through April 2003 to develop recommendations related to the measurement of hospital clinical performance for the Quality of Care Advisory Committee. The group reviewed an extensive list of hospital performance measures that have been developed by numerous national organizations and research groups. Of particular interest were the results of the *Hospital Performance of Rhode Island* report, published in November 2002, and the National Quality Reporting Initiative announced in December 2002 by the American Hospital Association, the Federation of American Hospitals, and the Association of American Medical Colleges, and endorsed by the Centers for Medicare and Medicaid and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). After numerous debates and discussions, the working group reached consensus and offer the following recommendations:

- As initial hospital performance measures, the Department of Public Health (DPH) should use the ten process-of-care measures that are part of the National Quality Reporting Initiative. These measures are related to the delivery of services that evidence has shown to be effective in the management of acute myocardial infarction, heart failure, and pneumonia. By using standardized measures endorsed by national organizations and accrediting bodies, the burden on hospitals is lessened and benchmarking is enhanced.
- DPH should use existing JCAHO data abstraction guidelines and tools to standardize the data collection effort.
- DPH should establish a Data Quality Review Board to evaluate the data collection effort, to identify problems and inconsistencies, and to share results in order to improve the data collection process.
- Due to the small number of monthly discharges, hospitals should report data on all of their patients with AMI, heart failure, and pneumonia. For the few hospitals whose monthly number of cases exceeds 75, they can choose to sample cases as they would for JCAHO. Data should be collected for a period of one year beginning on July 1, 2003.
- DPH should incorporate both summary measures and individual measures in the final report. Technical details can be relegated to a separate report.
- DPH should use equal weighting of individual measures to create summary measures.

History of Working Group I

Scope of Work

At its first meeting on October 25, 2002, the group reviewed Public Act No. 02-125, *An Act Creating a Program for Quality in Health Care*, to determine the specific scope of work for Working Group I. The following scope of work was agreed upon:

- *To identify, review, and develop recommendations on hospital performance measures, data collection methods, and report formats.*

Goals and strategies to achieve those goals were also identified. This provided the framework that the group would follow as the process unfolded.

Definition of Quality of Health Care

For discussion purposes, the group adopted the Institute of Medicine definition of quality of care. “Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (Institute of Medicine, 1990), or in layman’s terms it’s “doing the right thing for the right person at the right time.”

Criteria for Measure Selection

The first step was to identify quality-of-health care measures and criteria to select appropriate measures. Selection criteria were chosen upon which to evaluate competing measures, as follows:

- Use measures that are evidence based.
- Use measures that are feasible, whereby data are available that can be used to measure performance.
- Use measures that are useful to both clinicians and consumers.
- Use measures that are actionable by providers.

-
- Use uniform measures that can be compared with hospitals in other states or nationally.
 - Maintain sensitivity to hospitals' data collection burdens.
 - Use measures that have already been tested and are well established.
 - Use measures that are simple, e.g. "how many?" The concept of risk-adjusted mortality rate is not well understood by consumers.

Selection of Measures

Rather than develop new untested measures, the working group focused on hospital performance measures that have already been recommended and/or piloted by other states and organizations and for which there is already broad consensus. Organizations and/or projects reviewed include the Maryland Hospital Association's Quality Indicator Project, New York Center for Medical Consumers, the Leapfrog Group for Patient Safety, AHRQ's Quality Indicators, JCAHO's ORYX initiative, HealthGrades report cards, National Quality Forum indicators, Michigan's hospital report, and the *Hospital Performance in Rhode Island* report. As our meetings progressed, the National Quality Reporting Initiative was announced in December 2002, and was also considered.

Hospital performance measurement systems used by private companies, such as Solucient or HealthGrades, raised concerns because their results are based upon proprietary scoring systems and cannot be validated. Therefore, there was general agreement that they should be perceived as less credible than nationally-endorsed measures whose results can be validated and for which the methodology is in the public domain.

Structural, process, and outcome measures, as originally defined by Donabedian (1966), provide a framework for classifying quality indicators. They each provide a different piece of the quality picture and were each considered by the working group. Structural measures such as staffing issues were considered in light of the recent University of Pennsylvania study that found that too few hospital nurses costs lives (Aiken et al, 2002). Members of the working group, however, felt that nurse-to-patient ratios may be

misleading as quality indicators because the mix of RNs and LPNs differ by hospital, and nurse-to-patient ratios differ among hospital departments.

Because of their simplicity, the volume of certain procedures was considered as a measure. Studies show that for a wide variety of surgical procedures, patients treated at higher volume hospitals or by higher volume physicians experience, on average, lower mortality rates than those treated by low-volume hospitals and physicians (Halm et al., 2000). However, high volumes do not ensure high quality. Volume per se is not a true measure of quality of care; rather it is a surrogate often associated with more direct indicators of quality of care, such as the selection of patients and the processes of care. (Epstein, 2002).

Recommendation: Do not include structural measures in the initial report, but reconsider them for future reports.

It was recognized that consumers often favor outcome measures. For instance, they basically want to know whether they will live or die when they are admitted to a hospital. Discussion led to the conclusion that this question cannot easily be answered because many factors, such as genetics, personal behaviors, and severity of illness, contribute to mortality -- the provider bears only partial responsibility. Furthermore, there is no comprehensive risk-adjustment methodology that accounts for the many associated factors. Even if such methodology was available, the concept of risk-adjusted mortality rate is not readily understood by consumers. In the *Hospital Performance in Rhode Island* report, mortality rates were not included because it was determined that they are weakly linked to processes of care, they are highly variable, and they are poor predictors of future performance.

Recommendation: Due to their high variability, their inherent technical measurement challenges, and their interpretive difficulty, risk-adjusted mortality rates should not be included in the initial report, but should be reconsidered for future reports.

Consideration was also given to measures related to obstetrics because obstetrics affects a large percentage of hospital admissions and because JCAHO has established several core measures related to obstetrics. The measures include VBAC, inpatient neonatal mortality, and third/fourth degree laceration. The group rejected these measures because the meaning of high VBAC rates is debatable; neonatal mortality rates have the same inherent problems as comprehensive mortality rates discussed above; and lacerations relate to quality of physician care, not quality of hospital care.

Ultimately the group focused its attention on measures of processes of clinical care because processes are actionable, they reflect the actual practice of health care as it takes place, and they are under the control of the provider. In addition, extensive research has been done to develop measures that evidence shows to be effective in treating specific conditions. As a foundation for the group’s recommendations, the group agreed to use the heart failure, AMI, and pneumonia process-of-care measures reported in *Hospital Performance in Rhode Island*. With the announcement of the National Quality Reporting Initiative in December 2002, the working group refined its focus to include only the ten process-of-care measures being endorsed by the American Hospital Association, the Federation of American Hospitals, the Association of American Medical Colleges, the Centers for Medicare and Medicaid, and the Joint Commission on Accreditation of Healthcare Organizations. The ten measures consist of the following:

Measures for AMI	Measures for Heart Failure	Measures for Pneumonia
1) Aspirin upon admission	1) LVEF evaluation	1) Timely antibiotic administration
2) Aspirin at discharge	2) ACE inhibitor at discharge	2) Receipt of pneumococcal vaccination
3) Beta blocker upon admission		3) Oxygenation assessment
4) Beta blocker at discharge		
5) ACE inhibitor at discharge		

Recommendation: As initial hospital performance measures, DPH should use the ten process-of-care measures that are part of the National Quality Reporting Initiative. These

measures are related to the delivery of services that evidence has show to be effective in the management of acute myocardial infarction, heart failure, and pneumonia. By using standardized measures endorsed by national organizations and accrediting bodies, the burden on hospitals is lessened and benchmarking is dramatically enhanced.

Standardized Data Collection

As part of its mandate, the DPH is supposed to develop “methods and format of standardized data collection.” Because the recommended measures are collected by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and standardized data abstraction tools have been already been developed, DPH should coordinate its data collection efforts with the hospitals’ JCAHO vendors and use existing guidelines, data elements, data definitions, and data abstraction tools.

Recommendation: Use existing JCAHO data abstraction guidelines and tools to standardize the data collection effort.

Quality Assurance

Although all of Connecticut’s acute care hospitals are JCAHO accredited, they do not all share the same data vendor. Therefore, inconsistencies may arise in the data collection process, which could affect the validity and reliability of the data. It was suggested that a Data Quality Review Board be created to review the data collection process for inconsistencies among data vendors and to share their results at ongoing “user” meetings. The Board should also be present at the initial training sessions to observe the instruction.

- **Recommendation:** Establish a Data Quality Review Board to evaluate the data collection effort, to identify problems and inconsistencies, and to share results in order to improve the data collection process.

Sampling

Sampling was discussed as a way of reducing the burden of data collection. However, a look at the average number of monthly discharges per Connecticut hospital with a principal diagnosis of AMI, heart failure, or pneumonia, indicates that there are only 24, 27, and 35, respectively (based upon an unpublished analysis of 1999 hospital discharge data). The number of monthly discharges by hospital ranges from 2 to 83. These numbers will be further reduced when determining the eligibility of patients to receive interventions. Because the numbers of eligible cases are so small, the working group decided that sampling should not be performed; rather hospitals should report all of their cases. For the few hospitals whose monthly number of cases exceeds 75, they can choose to sample as they would for JCAHO. Data should be collected for a period of one year beginning on July 1, 2003, to coincide with JCAHO's reporting requirements. It is recognized that this would defer publication of results beyond the April 2004 deadline.

Recommendation: Due to the small number of monthly discharges, hospitals should report data on all of their patients with AMI, heart failure, and pneumonia. For the few hospitals whose monthly number of cases exceeds 75, they can choose to sample cases as they would for JCAHO. Data should be collected for a period of one year beginning on July 1, 2003.

Individual vs. Summary Measures

Measures can be reported individually or they can be combined in some way to create summary measures. The use of summary measures reduces the number of measures that the reader needs to process and they are generally easier to comprehend. They also increase the likelihood of providing a reliable measure because they are based upon a larger population.

On the other hand, summary scores may obscure differences in results at the level of individual measures. In addition, the meaning of the summary score may be

misunderstood or misinterpreted if the individual scores are not combined in a meaningful way.

Individual measures provide more detailed information. Knowledge of the individual measures (i.e. appropriate interventions) would enable patients to educate themselves regarding their course of treatment in this era of growing consumer-directed health care.

Because both individual and summary measures have their strong points, the working group agreed that both should be incorporated in the same report. They should be used to educate the public to be proactive in their course of treatment during their hospital stay as well as be used to promote best practices on the part of clinicians. However, the details regarding the individual measures, such as the standard deviation and confidence intervals, could be relegated to a separate technical report.

Recommendation: Provide both summary measures and individual measures in the final report. Technical details can be relegated to a separate report.

Weighting

In order to produce summary measures, individual measures can be weighted equally or unequally. Weighting is not an evidence-based science, but a subjective decision. Unequal weighting indicates that some individual measures are more important to emphasize than others, but explaining such an imposition may be difficult. Equal weighting is usually the default choice.

The working group feels that the ten clinical measures that they are recommending are equally important due to the way that they were selected from a larger set of measures by a number of national organizations. Therefore, the group recommends that equal weighting be used when calculating summary measures.

Recommendation: Use equal weighting of individual measures to create summary measures.

Limitations

Measures are incomplete in that they provide information on only a few of the many key aspects of health care. However, it needs to be recognized that it is not feasible or desirable to collect data on everything. Nevertheless, future reports should consider expanding to other areas.

Concluding Remarks

Considerable progress has been made in achieving the goals set forth by the working group. Outstanding issues include the use of comparison benchmarks and report formatting. Although no future meetings are scheduled at this time, the working group recognizes the need to reconvene sometime in the future to review the progress of the Department's quality initiatives and to review additional measures to consider in future reports.

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APPENDIX D

PATIENT SATISFACTION SURVEY WORKING GROUP REPORT

Report to the Quality in Health Care Advisory Committee
April 30, 2003

Recommendations for Hospital Patient Satisfaction Survey Measures

Promotion of Quality and Safe Practices Subcommittee
Working Group II
Patient Satisfaction

Promotion of Quality and Safe Practices Subcommittee Working Group II Members

Margaret Hynes (co-chair), Connecticut Department of Public Health

Steven Schneider (co-chair), Waterbury Hospital

Judith Barr, Qualidigm

Christine Berman, Pitney Bowes

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I. Committee Charge (Patient Satisfaction)

To identify, review, and develop recommendations on patient satisfaction measures, instruments, data collection, and report format (Connecticut General Assembly 2002).

In keeping with legislative intent, Working Group II has developed recommendations with the understanding that the Department of Public Health (DPH) will make available a public report of comparable hospital patient satisfaction by April 1, 2004 (see Appendix I). While the working group supports the use of a nationally standardized survey instrument for public reporting in Connecticut such as the Centers for Medicare and Medicaid Services (CMS) HCAHPS, we recognize that this instrument may or may not be available for public use in time for the DPH to meet the 2004 deadline for reporting in our state. With this caveat in mind, we submit the following recommendations for the 2003-2004 year:

II. Summary of Recommendations

- The first public report on comparative hospital patient satisfaction should be limited to the 30 acute care hospitals in Connecticut providing care to adult patients 18 years and older.
- Two nationally recognized survey vendors are considered top candidates as contractors for the public reporting of patient experience / satisfaction in Connecticut. Both have developed scientifically sound survey instruments and have demonstrated expertise and competence in public reporting of hospital patient experience / satisfaction. Almost all of Connecticut's acute care hospitals (26 of 31) currently use one of these vendors to administer their patient satisfaction surveys. Use of this same vendor for the first cycle (2003-2004) of comparative hospital patient experience / satisfaction reporting would be the most expeditious way in which to fulfill the legislative deadline and would also be least disruptive to the quality improvement programs of Connecticut hospitals.
- If Connecticut undertakes a CMS special project to field test the HCAHPS pilot questionnaire, the following steps should be considered:
 - All Connecticut hospitals should use an approved vendor to conduct the CMS survey to ensure comparability of results.
 - Connecticut sampling should mirror CMS HCAHPS sampling.
 - The CMS HCAHPS survey should not interfere with hospitals' ongoing survey process.
- In the coming year (2003-2004), Working Group II or subsets of this working group should develop recommendations for three other important areas related to comparative reporting on hospital patient satisfaction / experience: 1) data collection strategies; 2) data analytic strategies; and 3) public reporting formats. Possible subdivisions of this working group would include one group to address data strategies and a second group to address public reporting format issues.
- Working Group II should be expanded to include representatives of ethnically diverse consumer groups. The public report of hospital patient satisfaction should address the needs of Connecticut's ethnically diverse population and should be culturally appropriate. Participation by representatives of ethnically diverse communities will increase this working group's ability to recommend data strategies and report formats for the public.

III. Overview

The Quality in Health Care program was established within the Department of Public Health by the Connecticut state legislature in 2002 to promote the improvement in health care through the public reporting of health care information in the state. The Quality in Care Advisory Committee, which is charged with advising the Department of Public Health, established the patient satisfaction working group (Working Group II) of the Subcommittee for Promotion of Quality and Safe Practices.

Working Group II met seven times from October 2002 through April 2003 to develop recommendations related to the measurement of hospital patient satisfaction for the Quality in Care Advisory Committee. Initially, we reviewed various published documents related to measuring hospital patient satisfaction and looked closely at Rhode Island's recent experience in public reporting, which we considered a model for Connecticut. We also developed a set of agreed-upon principles (see page 7), which would guide our decision-making in formulating recommendations for comparative reporting.

Following this initial investigation, we identified three survey instruments measuring hospital patient satisfaction / experience for extensive review. Two instruments, the Picker Institute / National Research Corporation's (NRC) and Press Ganey's, are the most commonly used for quality improvement by hospitals in the United States; these vendors service almost 50% of hospitals in the country. They are the two vendors contracted for all nine public reports of hospital patient satisfaction in North America. We also reviewed a third instrument, the draft Hospital CAHPS (HCAHPS), developed by the Agency for Healthcare Research and Quality (AHRQ) for the Centers for Medicare and Medicaid Services (CMS). The draft HCAHPS was made available to the public in January 2003 and will soon be tested for national reporting.

The working group examined the psychometric properties (reliability and validity) of the Picker / NRC and Press Ganey instruments and hosted presentations by both vendors. We developed evaluation criteria (see Appendix II), and both vendors addressed these areas satisfactorily. Working group members agree that both Press Ganey and NRC have demonstrated competence and experience in public reporting of patient satisfaction / experience. In this report, we also discuss several other considerations in choosing an appropriate survey instrument and vendor, such as ease of implementation and cost.

Commissioner Garcia has discussed the possibility of a CMS special project with Connecticut that would involve fielding the newly developed Hospital CAHPS pilot test questionnaire. With this possibility in mind, we reviewed the instrument and have identified several points for consideration should a Connecticut-CMS special project be undertaken.

The working group identified several other important areas for recommendations regarding a public report on hospital patient satisfaction / experience. We believe that decisions related to these areas will follow the selection of an appropriate set of measures and a vendor. While the working group was not able to investigate these issues in depth, we identified them as important areas for further study in the coming year. They include:

- 1) *data collection strategies*, such as inclusion criteria for the survey sample, representative sampling of hospital patients in selected service types (i.e., medical, surgical, obstetrical); survey mode (mail vs. phone and one- or two-waves of surveying); and language(s) of the survey instrument.

- 2) *data analytic strategies*, such as identifying the subgroups for comparison (by teaching vs. community hospitals, by size, or by all hospitals; by service types, i.e., medical, surgical, obstetrical, or by all patients; by race/ethnicity, or by all patients); and
- 3) *public reporting formats*, including types of display and other decisions related to public reporting of the survey results.

Recommendations outlined in this report follow the four goals and related strategies that the working group identified when it first convened in October 2002:

Goal 1: Develop recommendations on hospital patient satisfaction measures that can be used as one indicator of hospitals' quality of care.

Strategy: Identify important domains of patient satisfaction.

Strategy: Identify measures and instruments that have been validated and used in other settings.

Goal 2: Develop recommendations on a data collection strategy to measure patient satisfaction.

Strategy: Identify data collection strategies used by other states and other settings.

Goal 3: Develop recommendations on a data analytic strategy for the patient satisfaction survey.

Strategy: Identify main subgroups for analysis. Identify key comparison groups.

Goal 4: Develop recommendations for presenting the measures in a readable format.

Strategy: Identify types of report formats.

IV. Guiding Principles of Working Group II¹

Members of this working group agreed that it was important for us to establish working principles or ground rules that we could agree upon in developing recommendations for comparative public reporting of hospital patient satisfaction in Connecticut. We agree that:

- Connecticut hospitals and consumer groups represented should support the process of measuring and reporting patient satisfaction.
- Data collection and reporting should emphasize information useful and accessible to the public.
- The patient survey instrument should reflect patient satisfaction / experience as an indicator of quality of care.
- Hospital data should be presented in a comparative format.
- The instrument selected and data presentation should conform to nationally recognized standards of survey research practice.
- Each hospital should have the opportunity to review its own data and data format before release to the public.
- Existing hospitals' systems and initiatives for patient satisfaction should be considered when possible.
- An educational effort aimed at providers, the media, and the public should be planned and carried out before the release of any data or reports.

1. These principles were developed through consensus of Working Group II members and were modeled on the Hospital Association of Rhode Island (HARI) guiding principles (HARI 2002).

V. Measurement of Patient Satisfaction

Goal 1: *Develop recommendations on hospital patient satisfaction measures that can be used as one indicator of hospitals' quality of care.*

A. Important Domains of Patient Satisfaction / Experience

The Institute of Medicine (IOM) identifies several specific aims for improvement in the health care system in *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001). One of those aims is *patient-centered care*, or “providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.” IOM further identifies eight *dimensions* of patient-centered care: respect for patients' values, preferences, and expressed needs; coordination and integration of care; information, communication, and education; physical comfort; emotional support; involvement of family and friends; continuity and transition; and access to care (Institute of Medicine 2001).

There are two general approaches used in measuring hospital patient satisfaction / experience. Patient survey instruments, such as those developed by Picker Institute and administered by NRC¹, focus on the patient's “experience of care,” asking questions about what did or did not happen during hospitalization regarding aspects of care. Picker surveys were developed through extensive qualitative research and theoretical development regarding the patient experience. Other hospital patient survey approaches, including Press Ganey's, take a “satisfaction with care” approach and ask individuals to rate their satisfaction with various aspects of care while hospitalized. Press Ganey's survey development process has included patient focus groups, feedback from physicians and administrators, and review of other health care facility surveys. These two approaches may reflect the differing objectives of such information: quality improvement by hospitals and public reporting for consumers' use. Research has not established which approach is most easily understood by the public (Barr and Banks 2002).

The Center for Medicare and Medicaid Services (CMS) draft survey questionnaire (the HCAHPS), released in January 2003, is designed to provide comparative information for consumers selecting a hospital. The primary purpose of HCAHPS is public reporting, and it is intended to complement current hospital vendor surveys. The HCAHPS places emphasis on the patient experience rather than on patient satisfaction. HCAHPS designers note that patient satisfaction surveys tend to show high satisfaction rates, which may not be useful for comparisons among hospitals. In contrast, patient experience surveys tend to identify patient concerns, which can be informative for consumers selecting hospitals (Agency for Healthcare Research and Quality 2003). The HCAHPS survey identifies domains of patient care that closely resemble the IOM dimensions of patient-centered care and the NRC domains of patient care.

Press Ganey identifies 10, NRC identifies 9, and HCAHPS identifies 8 domains of patient experience in the hospital. Individual survey questions are grouped within each of these domains (Table 1).

¹ Picker surveys are administered only by NRC following its acquisition of the Picker Institute's survey research firm in May 2001.

Table 1. Domains of Patient Satisfaction / Experience		
Press Ganey	Picker / NRC	HCAHPS
Admission	Respect for patient preferences	Respect for patients' values, preferences and expressed needs
Room	Coordination of care	Coordination & integration of care
Meals	Information and education	Communication and education
Nurses	Physical comfort	Physical comfort
Tests and treatments	Emotional support	Emotional support (relieving fear and anxiety)
Visitors and family	Involvement of family and friends	Involvement of family and friends
Physician	Continuity and transition	Continuity and transition
Discharge	Access to care	Access to care
Personal issues	Overall impression of visit	
Overall assessment of hospital		

B. Psychometric Properties of the Survey Measures

Both the Picker / NRC and Press Ganey surveys demonstrate high internal consistency (reliability) of their respective scales (or domains) across a variety of population groups. The Picker / NRC survey instrument has been more extensively tested among a variety of ethnic subpopulations. Both surveys also demonstrate good predictive validity; that is, the correlations of individual scale items with the overall impression of the hospital visit (Picker / NRC) or likelihood to recommend the hospital (Press Ganey) are high.

The reliability and validity of the draft HCAHPS measures will be tested in the CMS three-state (Arizona, Maryland, and New York) pilot. To our knowledge, the psychometric properties of the HCAHPS have not yet been established, and so the use of this instrument for comparative public reporting must be carefully considered. If some of the HCAHPS measures have been used in other surveys and have demonstrated reliability and validity, then they may be appropriate for public reporting. Untested measures in the draft HCAHPS survey would not be appropriate for public reporting in Connecticut, although their use could be assessed in a pilot study.

If the Connecticut DPH undertakes a CMS special project to field test the HCAHPS pilot questionnaire, working group members would then recommend the following: 1) all Connecticut hospitals should use an approved vendor to conduct the CMS survey to ensure comparability of results; 2) sampling of Connecticut hospitals should mirror the CMS HCAHPS pilot study sampling for purposes of comparability; and 3) the pilot survey should not interfere with hospitals' ongoing patient survey process for quality improvement.

C. Response Categories and Scoring

Press Ganey, Picker / NRC, and HCAHPS response categories, to a large extent, differ. Press Ganey's scoring system, which is based on a five-point range of 'very poor' to 'very good' for its various scales, is similar to a Consumer Reports format.

Picker / NRC surveys typically report either "problem scores" or conversely "performance scores" asking what did or did not happen in the hospital with respect to various aspects of care. The type of response categories for the scales varies, with some questions having a five-point range from 'poor' to 'excellent' and others having a three-point range (e.g., 'yes, definitely'; 'yes, somewhat'; 'no'). Scoring of the three-point responses tends to emphasize "problems," that is, anytime a respondent does not answer with a complete affirmative (e.g., 'yes, definitely'), the response is scored as a negative assessment. Picker / NRC response categories, for many questions, are dichotomous. This approach may not allow for sufficient variation in responses among hospitals for public reporting purposes. Four- or five-point range response categories are more likely to capture the variation in responses among hospitals. In other words, a broader range of response categories would be more sensitive to variation in patients' experience or satisfaction with various aspects of care.

The HCAHPS survey response categories for scale items appear to be generally consistent with a four-point range of 'never' to 'always.'

VI. Data Collection

Goal 2: Develop recommendations on a data collection strategy to measure patient satisfaction.

The first public report on comparative hospital patient satisfaction should be limited to the 30 acute care hospitals in Connecticut providing care to adult patients 18 years and older. The experience of adult patient populations in acute care hospitals is the most appropriate for comparison in an initial public report. In subsequent comparative public reports, DPH may wish to consider the inclusion of Connecticut specialty care hospitals and pediatric patient populations.

Recommendations regarding a comprehensive data collection strategy have not yet been established by the working group; however, we have identified several important considerations in choosing an appropriate data collection strategy:

A. Mode of Interview and Response Rates

Hospital patient satisfaction surveys are most commonly conducted using a mail methodology. Both NRC and Press Ganey use mail surveys. NRC uses a three-step process, with an initial survey followed typically by a reminder postcard, and then a second survey sent to non-respondents (HIPAA regulations, effective in April 2004, prohibit the use of postcards in patient surveys). Average response rates (2001 to present) are 52% in the Northeast and 52%

overall nationwide (National Research Corporation 2003). Press Ganey uses a one-step survey (one mailing with no follow-up reminders or surveys). Press Ganey reported a 43% response rate in the 2001 Rhode Island hospital patient survey and response rates ranging from 17% to 32% in 13 Connecticut inpatient hospitals recently surveyed (Press Ganey 2003).

Before making recommendations, the working group needs to further study the effects of multiple-step surveys on response rates and non-respondent analyses to assess response bias on survey results.

B. Cost of the survey

Projected costs of the survey are likely to differ between vendors. Typically, NRC uses a three-wave mailing, whereas Press Ganey uses a single-wave mailing approach. Single-wave surveys tend to be less costly than multiple-wave surveys. The working group needs to assess the benefits of an increased response rate from a multiple wave approach compared with a single-wave, lower cost approach.

C. Ease of implementation

Another consideration in choosing an appropriate survey instrument and vendor for Connecticut includes the ease with which Connecticut hospitals can transition to one single vendor. From a practical standpoint, Connecticut may transition into a public reporting format most quickly and efficiently with Press Ganey because it is currently the vendor for 26 of the 31 Connecticut acute care hospitals.

D. Other Data Collection Issues

The working group has not yet established complete recommendations regarding the inclusion criteria for the study, the stratification of patients within hospitals for sampling (e.g., by service type), the survey mode, and language(s) of interview. Public reports of hospital patient satisfaction typically stratify patients by service type (e.g., medical, surgical, obstetrics, psychiatric); use a mail survey mode; and provide survey instruments in English and Spanish. These data collection decisions should be based on their appropriateness for Connecticut hospitals and residents and, therefore, require further study.

Another important consideration concerns the release of individual hospitals' patient survey data, and involves such issues as where the data are deposited and where the data reside (e.g., with the survey vendor, with the individual hospitals, or with the Connecticut Department of Public Health). Public reports of hospital patient satisfaction provide patient data that are aggregated within various domains of patient care, but they typically do not provide hospital level data for individual survey questions. In Rhode Island, for example, the survey vendor makes available to each hospital its own patients' aggregated responses to individual survey questions; however, this information is not made available to the public. If data reside with the Connecticut Department of Public Health, then responses to individual questions by hospitals may be considered public information, obtainable through FOI (Freedom of Information).

VII. Data Analysis

Goal 3: *Develop recommendations on a data analytic strategy for the patient satisfaction survey.*

The working group has not yet established recommendations regarding the subgroups for comparison in the public report, such as presenting comparative data for types of hospitals separately (e.g., by size, or by teaching vs. community), by patient service type, or by race/ethnicity. These decisions depend on the feasibility and appropriateness of such subgroup analyses and public presentation for Connecticut and, thus, require further study.

VIII. Public Reporting Format

Goal 4: *Develop recommendations for presenting the measures in a readable format.*

Working Group II has not yet established recommendations regarding an ideal reporting format. Important issues include easy interpretation of the data presented and readability of the document. Decisions regarding the reporting format include: 1) identifying the appropriate reading level, and 2) assuring that the report is culturally appropriate for diverse ethnic subpopulations.

Working Group II has assembled examples of types of public reports. Currently there are nine public reports available. Good models for public reports include Massachusetts', California's, and Rhode Island's, which provide distinct examples of how survey information is presented. Massachusetts, which used the Picker Institute as vendor, presented graphs displaying mean hospital performance scores and confidence intervals with the state and U.S. averages also displayed. California, which also employed Picker Institute, followed a similar format for its technical report. California's public "executive summary" report used a reporting format of one to three stars to signify a hospital's position in relation to the state averages and a table to compare California statewide results with comparable national results. Rhode Island, which used Press Ganey as vendor, followed a public reporting format of one to three diamonds to signify a hospital's position in relation to the national average. Results of the CMS HCAHPS pilot as well as other research conducted by AHRQ may provide Connecticut with additional information regarding good models for public reporting of comparative hospital data.

IX. Concluding Remarks

Working Group II identified three separate sets of survey measures that should be considered for use in the measurement of statewide comparable hospital patient satisfaction / experience. Two instruments, Press Ganey's and Picker / NRC's, were designed primarily for internal quality improvement by hospitals, but are currently being used in public reports of hospital patient satisfaction / experience. Both instruments have demonstrated good scientific properties across a variety of populations. The third instrument, the HCAHPS, is currently being pilot tested by CMS and was designed specifically for public reporting of hospital patient experience. The working group supports the use of a nationally standardized survey instrument for public reporting in Connecticut; however, we recognize that the CMS HCAHPS instrument may not be available for public use in time for the DPH to meet the 2004 deadline for reporting in our state.

Twenty-six of the 31 acute care hospitals in Connecticut currently have contracts with Press Ganey to administer their patient satisfaction surveys. Use of this vendor for the first cycle (2003-2004) of comparative hospital patient satisfaction / experience reporting may be the most expedient way to meet Connecticut's legislative deadline and would also be least disruptive to the ongoing quality improvement programs of Connecticut hospitals.

In addition to selecting appropriate patient survey measures for Connecticut hospitals, Working Group II has identified several other important areas for consideration in a public report of hospital patient satisfaction / experience. They include: data collection strategies, data analytic strategies, and public reporting formats. We believe that decisions in these three areas will follow the selection of an appropriate set of survey measures and survey vendor. We propose that our working group or subsets of our working group continue to study and make recommendations regarding these issues in the 2003-2004 year. We also propose that our working group be expanded to include representatives of ethnically diverse consumer groups in Connecticut. Participation by ethnically diverse consumer groups will enhance our ability to recommend appropriate data strategies and report formats for the public.

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Appendix I – Public Act No. 02-125

Substitute House Bill No. 5715

Public Act No. 02-125

AN ACT CREATING A PROGRAM FOR QUALITY IN HEALTH CARE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective October 1, 2002*) (a) There is established a quality of care program within the Department of Public Health. The department shall develop for the purposes of said program (1) a standardized data set to measure the clinical performance of health care facilities, as defined in section 19a-630 of the general statutes, and require such data to be collected and reported periodically to the department, including, but not limited to, data for the measurement of comparable patient satisfaction, and (2) methods to provide public accountability for health care delivery systems by such facilities. The department shall develop such set and methods for hospitals during the fiscal year ending June 30, 2003, and the committee established pursuant to subsection (c) of this section shall consider and may recommend to the joint standing committee of the General Assembly having cognizance of matters relating to public health the inclusion of other health care facilities in each subsequent year.

(b) In carrying out its responsibilities under subsection (a) of this section, the department shall develop the following for the quality of care program:

- (1) Comparable performance measures to be reported;
- (2) Selection of patient satisfaction survey measures and instruments;
- (3) Methods and format of standardized data collection;
- (4) Format for a public quality performance measurement report;
- (5) Human resources and quality measurements;
- (6) Medical error reduction methods;
- (7) Systems for sharing and implementing universally accepted best practices;
- (8) Systems for reporting outcome data;
- (9) Systems for continuum of care;
- (10) Recommendations concerning the use of an ISO 9000 quality auditing program;
- (11) Recommendations concerning the types of statutory protection needed prior to collecting any data or information under this act; and
- (12) Any other issues that the department deems appropriate.

(c) There is established a Quality of Care Advisory Committee which shall advise the Department of Public Health on the issues set forth in subdivisions (1) to (12), inclusive, of subsection (b) of this section. The advisory committee shall meet at least quarterly.

(d) The advisory committee shall consist of (1) four members who represent and shall be appointed by the Connecticut Hospital Association, including three members who represent three separate hospitals that are not affiliated of which one such hospital is an academic medical center; (2) one member who represents and shall be appointed by the Connecticut Nursing Association; (3) two members who represent and shall be appointed by the Connecticut Medical Society, including one member who is an active medical care provider; (4) two members who represent and shall be appointed by the Connecticut Business and Industry Association, including one member who represents a large business and one member who represents a small business; (5) one member who represents and shall be appointed by the

Home Health Care Association; (6) one member who represents and shall be appointed by the Connecticut Association of Health Care Facilities; (7) one member who represents and shall be appointed by the Connecticut Association of Not-For-Profit Providers for the Aging; (8) two members who represent and shall be appointed by the AFL-CIO; (9) one member who represents consumers of health care services and who shall be appointed by the Commissioner of Public Health; (10) one member who represents a school of public health and who shall be appointed by the Commissioner of Public Health; (11) one member who represents and shall be appointed by the Office of Health Care Access; (12) the Commissioner of Public Health or said commissioner's designee; (13) the Commissioner of Social Services or said commissioner's designee; (14) the Secretary of the Office of Policy and Management or said secretary's designee; (15) two members who represent licensed health plans and shall be appointed by the Connecticut Association of Health Care Plans; (16) one member who represents and shall be appointed by the federally designated state peer review organization; and (17) one member who represents and shall be appointed by the Connecticut Pharmaceutical Association. The chairperson of the advisory committee shall be the Commissioner of Public Health or said commissioner's designee. The chairperson of the committee, with a vote of the majority of the members present, may appoint ex-officio nonvoting members in specialties not represented among voting members. Vacancies shall be filled by the person who makes the appointment under this subsection.

(e) The chairperson of the advisory committee may designate one or more working groups to address specific issues and shall appoint the members of each working group. Each working group shall report its findings and recommendations to the full advisory committee.

(f) The Commissioner of Public Health shall report on the quality of care program on or before June 30, 2003, and annually thereafter, in accordance with section 11a-4 of the general statutes, to the joint standing committee of the General Assembly having cognizance of matters relating to public health and to the Governor. Each report on said program shall include activities of the program during the prior year and a plan of activities for the following year.

(g) On or before April 1, 2004, the Commissioner of Public Health shall prepare a report, available to the public, that compares all licensed hospitals in the state based on the quality performance measures developed under the quality of care program.

(h) The Department of Public Health may seek out funding for the purpose of implementing the provisions of this section. Said provisions shall be implemented upon receipt of said funding.

Sec. 2. (NEW) (*Effective October 1, 2002*) All hospitals, licensed pursuant to provisions of the general statutes, shall be required to implement performance improvement plans. Such plans shall be submitted on or before June 30, 2003, and annually thereafter by each hospital to the Department of Public Health as a condition of licensure.

Sec. 3. (NEW) (*Effective July 1, 2002*) (a) For purposes of this section, an "adverse event" means an injury that was caused by or is associated with medical management and that results in death or measurable disability. Such events shall also include those sentinel events for which remediation plans are required by the Joint Commission on the Accreditation of Healthcare Organizations.

(b) Adverse events shall be classified into the following categories:

(1) "Class A adverse event" means an event that has resulted in or is associated with a patient's death or the immediate danger of death;

(2) "Class B adverse event" means an event that has resulted in or is associated with a patient's serious injury or disability or the immediate danger of serious injury or disability;

(3) "Class C adverse event" means an event that has resulted in or is associated with the physical or sexual abuse of a patient; and

(4) "Class D adverse event" means an adverse event that is not reported under subdivisions (1) to (3), inclusive, of this subdivision.

(c) On and after October 1, 2002, a hospital or outpatient surgical facility shall report to the Department of Public Health on Class A, B and C adverse events as follows: (1) A verbal report shall be made not later than twenty-four hours after the adverse event occurred; (2) a written report not later than seventy-two hours after the adverse event occurred; and (3) a corrective action plan shall be filed not later than seven days after the adverse event occurred.

(d) A hospital or outpatient surgical facility shall report to the Department of Public Health on Class D adverse events on a quarterly basis. Such reports shall include corrective action plans. For purposes of this subsection and subsection (c) of this section, "corrective action plan" means a plan that implements strategies that reduce the risk of similar events occurring in the future. Said plan shall measure the effectiveness of such strategies by addressing the implementation, oversight and time lines of such strategies. Failure to implement a corrective action plan may result in disciplinary action by the Commissioner of Public Health, pursuant to section 19a-494 of the general statutes.

(e) The Commissioner of Public Health shall adopt regulations, in accordance with chapter 54 of the general statutes, to carry out the provisions of this section. Such regulations shall include, but shall not be limited to, a prescribed form for the reporting of adverse events pursuant to subsections (c) and (d) of this section. The commissioner may require the use of said form prior to the adoption of said regulations.

(f) On or before March first annually, the commissioner shall report, in accordance with the provisions of section 11-4a of the general statutes, on adverse event reporting, to the joint standing committee of the General Assembly having cognizance of matters relating to public health.

(g) Information collected pursuant to this section shall not be required to be disclosed pursuant to subsection (a) of section 1-210 of the general statutes, for a period of six months from the date of submission of the written report required pursuant to subsection (c) of this section and shall not be subject to subpoena or discovery or introduced into evidence in any judicial or administrative proceeding except as otherwise specifically provided by law.

Approved June 7, 2002

Appendix II – Evaluation Criteria for Survey Vendors

I. Scientific Basis

1. A scientifically sound questionnaire. Written documentation (research evidence) of necessary statistics (psychometrics) for the survey questionnaire.
2. A scientifically sound sampling methodology. Demonstrated research rationale of survey sampling methodology (technique, unit of analysis, sampling bias, etc).
3. Detailed process of how surveys are to be administered (mail, telephone, in person).
4. Description of policies, procedures and/or recommendations that ensure the completeness and accuracy of data used for the project.
5. Demonstrated ability to attain acceptable response rates.

II. Benchmark Capability

6. A sound proposed cross facility profile needed for statewide peer group comparisons (Benchmark), including limitations.
7. A sound cross facility profile needed for national peer group comparisons (Benchmark).

III. Meet Local Needs

8. Proposal for a scope of work that addresses all acute care and specialty hospitals.
9. Ability to meet the needs of non-English (primarily Spanish) speaking populations.
10. A specific data collection and reporting schedule that meets project goals.
11. Ability to provide the education and training needed for the hospitals to achieve the program goals.
12. A standard effective communication process with the hospitals regarding technical specifications, quality control, analysis, and reporting.

IV. QI Capability

13. Reports designed to be easily understood and appropriate to specific audiences.
14. Reports/data results can be used to prioritize, plan and improve patient satisfaction.

V. Expertise

15. Qualified and experienced staff to meet the data management, analysis and reporting requirements.
16. Demonstrated and focused expertise (educational background and references) in public reporting.

APPENDIX E

BEST PRACTICES WORKING GROUP REPORT

**Report to the Quality in Health Care Advisory Committee
April 30, 2003**

**Recommendations for
Best Practices of Medical Care in Connecticut Hospitals**

**Promotion of Quality and Safe Practices Subcommittee
Working Group III
Best Practices**

**Quality in Health Care Advisory Committee
Promotion of Quality and Safe Practices Subcommittee
Working Group III
Best Practices**

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- Eleanor Seiler, MD, Senior Medical Director, Anthem Blue Cross Blue Shield**

- *Co-chair, Best Practices Working Group**

Recommendations for Best Practices of Medical Care in Connecticut Hospitals

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Summary of Recommendations

Quality Improvement

Organizational Steps:

Create a consortium of stakeholder organizations to discuss how each could assist in a larger collaboration to improve the quality of health care in Connecticut hospitals.

Recommendation: expand collaboration

Expand collaborative activities among state of Connecticut agencies, Qualidigm, the Connecticut Hospital Association (CHA), and other health care organizations and stakeholders, for sharing knowledge and experience on methods to improve health care provided in acute care hospitals.

Rationale:

Several organizations are currently working to improve health care in Connecticut hospitals. These organizations have significant experience and expertise and well-established relationships with the hospitals. Strong collaborations already exist between Qualidigm and CHA, but there is potential to expand and improve the collaboration to others.

Resources:

Many Connecticut hospitals are financially troubled and are hard pressed to comply with quality improvement requirements with limited staff. Thus, external assistance is welcome, as long as it doesn't come with additional demands. Current Qualidigm - CHA activities have been structured to assist the hospitals meet the JCAHO and CMS requirements.

Recommendation: support use of 10 measure set of performance measures

Support hospitals in measuring, reporting, and improving care for the 10 measure set of performance measures identified and endorsed by JCAHO, CMS, and the American Hospital Association (AHA). This set of measures deals with acute myocardial infarction, heart failure, and community-acquired pneumonia. In addition, CMS has performance measures for prevention of surgical site infections, which it asks hospitals to work on. These measures are likely to be endorsed by JCAHO next year.

Rationale:

Hospitals are focused on meeting their JCAHO and CMS requirements. In addition, the AHA has recently called for hospitals to voluntarily report on 10 measures from the core set of measures that both JCAHO and CMS are using. Since the Advisory Committee workgroup on hospital performance comparison reporting recommends that initial public reporting in Connecticut begin with the 10 measures, we propose to support that by assisting the hospitals with improvement interventions specifically related to the 10 measures.

Resources:

Qualidigm and the CHA have agreed to coordinate and focus their Quality Improvement (QI) activities to assist the hospitals in improving their performance on the 10 measures. The Connecticut State Medical Society (CSMS) is also supportive of this collaboration. Examples of the assistance that are being providing are: 1) on-site consultation and coaching in implementation of interventions to assure that recommended processes of care are implemented, 2) statewide hospital workshops to facilitate hospital-to-hospital sharing of lessons learned in implementing improvement interventions, 3) sharing of actual QI tools, e.g. standing order sets and critical pathways, via newsletters, the internet, and face-to-face interactions, and 4) an Annual CT Conference on Healthcare Quality Improvement. All of these examples are focused on improving care for the 10 measures.

Patient Safety

Organizational Steps:

Initiate a conference on bar coding; invite various vendors to cover the cost.

Recommendation: strongly encourage bar coding of medications

- Encourage all pharmaceutical companies with outlets in the state to bar code their medications.
- Advise the state legislature regarding bar coding cost reimbursement that will support this patient safety initiative.
- Encourage the implementation of bar coding at bedside in hospitals.

Rationale:

Bar coding can reduce medication error rates dramatically. The Food and Drug Administration will likely make bar coding mandatory on all prescription, over-the-counter drugs at hospitals, and vaccines by 2006.

Resources:

The American Hospital Association is distributing *Pathways for Medication Safety*, developed by the AHA, the Health Research and Education Trust, and the Institute for Safe Medication Practices, to all hospitals. It includes tools for leading a strategic planning effort, looking collectively at risk, and assessing readiness to implement bedside bar coding.

Recommendation: not require use of the ISO 9000 quality auditing system

The Quality in Health Care Advisory Committee should assist hospitals in meeting their quality assurance, quality improvement, and patient safety requirements, but not require use of ISO 9000 to do so. ISO 9000 should be an optional tool for hospitals to use.

Rationale:

ISO 9000 is a family of standards concerned with management of processes or activities. The ISO 9000 auditing system is one means, but not the only means, of hospitals meeting the new JCAHO and CMS requirements for quality assurance, quality improvement, and patient safety. All Connecticut acute-care hospitals are certified by JCAHO, while nationally only 9 hospitals use ISO 9000.

Resources:

Many quality assurance or quality improvement programs are available, or may be devised in-house.

Information Technology

Organizational Steps:

Form a group reporting to the Advisory Committee to develop an electronic W-10 form and a plan for its implementation.

Recommendation: develop a standardized electronic inter-agency patient referral report (W-10) form for patient transfers

Standardize the W-10 form using the core elements identified by the Qualidigm INFObridge Project and recommend that electronic data, verified by the physician, are the ideal way to minimize errors during patient transfers.

Rationale:

Current Department of Public Health (DPH) regulations stipulate that the physician needs to transcribe medications directly onto the W-10, not just sign the form. This policy adds to the risk of error in transcription. Variability in the W-10 form, depending on the facility to which the patient will be transferred, also increases opportunities for error. However, hospitals with Computerized Physician Order Entry have forms with medications and doses already transcribed.

Resources:

The Continuum of Care Subcommittee considers developing an electronic W-10 important but does not have the resources to do so. A considerable barrier to the development of an electronic W-10 is the lack of information technology resources in nursing homes and home health care agencies.

Recommendation: computerization

- The State and hospitals should keep abreast of demonstration projects that test the efficacy of Information Technology (IT) standards and of federal legislation establishing standards.
- Hospitals should build computer user loyalty with successes in smaller projects such as results reporting, ambulatory prescribing, and reference information delivery.

- Hospitals should share their experience in IT with each other.

Rationale:

Computerization can reduce medical error rates. Computers are the ideal form in which to store large amounts of information, and are widely used in industries outside healthcare.

Resources:

The Electronic Patient Record and Computerized Physician Order Entry will become widespread in the near future. The biggest perceived barriers are time costs, lack of technical support, and large capital investments.

Introduction

Best practices, quality improvement, and medical error reduction are not new, but a spotlight was focused on them by the Institute of Medicine's report *To Err Is Human*. The IOM report concluded that medical errors are systems problems that will not be eliminated by identifying bad clinicians (Kohn et al 2000). Public Act 02-125 "*An Act Creating a Program for Quality in Health Care*" directs the Connecticut Department of Public Health (DPH) to develop a quality of care program that includes medical error reduction methods and systems for sharing and implementing universally accepted best practices. The Best Practices working group, which is part of the Promotion of Quality and Safe Practices subcommittee of the Quality in Health Care Advisory Committee, was assigned to provide recommendations for:

- Sharing and implementing best practices
- Medical error reduction
- Data collection/informatics
- Recommendations on the use of an ISO 9000 auditing system
- Quality improvement grants

Members of the working group, as indeed all members of the Advisory Committee, are encouraged to bring potential opportunities concerning quality improvement grants to the attention of the Advisory Committee. Opportunities within federal agencies will become clearer in the next few months. The other items are discussed in turn below.

Overview of the Best Practices Working Group

The group held its first meeting in November, 2002. It was considered most practical to confine initial recommendations to acute care hospitals and to make recommendations concerning other settings in later years. The tasks of the working group were conceptualized as fitting into three areas: 1) collaboration; 2) focus and coordination; and 3) a menu of recommendations. At the October Quality in Health Care Advisory Committee meeting, Representative Nardello had expressed interest in knowing barriers to the implementation of whatever best practices were identified. Since quality improvement (QI) interventions require change, there are always barriers to be addressed in their implementation. Thus, this report will also discuss barriers.

After discussion, it became clear that different members of the workgroup attached different meanings to the term "best practices". From the quality improvement perspective, best practices refer to interventions that will ensure performance of evidence-based processes of care. For example, a best practice relating to rapid antibiotic delivery in pneumonia patients would be to store commonly used antibiotics in the Emergency Department. This simple maneuver allows a hospital to avoid delays introduced in transporting the drugs from the pharmacy to the Emergency Department. However, from the perspective of what practices will most improve patient safety, there is dispute whether a list of "best practices" should include only evidence-based practices,

or also accepted safety practices which have not been subjected to randomized controlled trials (Leape et al 2002; Shojania et al 2002). Furthermore, the reporting and measurement of error, if tied to learning and improvement, may also be considered a best practice. For example, the Massachusetts Board of Registration in Pharmacy best practices recommendations include: 1) Develop policies and procedures providing that incident reports will be completed and submitted to a national database, such as the USP Medication Errors Reporting Program (MERP); and 2) Institute a system to quarterly review incident reports generated at the pharmacy. Perform root cause analysis and include information from such review in quality improvement programs (Board of Registration in Pharmacy 2001). Such reporting systems, which are voluntary, confidential, and non-punitive, may be internal to an institution or national (see the online tutorial at [http:// www.mers-tm.net](http://www.mers-tm.net) for transfusion medicine).

During the period of November 2002 to April 2003, a stream of pioneering actions and documents relating to best practices and patient safety issued from national organizations, and are taken into consideration in our report.

Best Practices and Medical Error Reduction

CMS and JCAHO-related initiatives

For several years the Centers for Medicare & Medicaid Services (CMS) has required hospitals to report performance of quality of care processes relating to acute myocardial infarction (AMI), heart failure, stroke, community-acquired pneumonia, and adult immunizations (Jencks et al 2003). As of March 25, 2003, the CMS Final Rule Medicare & Medicaid Programs; Hospital Conditions of Participation: Quality Assessment and Performance Improvement requires hospitals to develop and maintain a quality assessment and performance improvement (QAPI) program, so as to systematically examine quality and implement specific improvement projects on an ongoing basis. Hospitals must measure, analyze, track, and show improvement in specific performance measures, also known as quality indicators. The QAPI typically includes:

- Identifying and verifying quality problems and their underlying causes;
- Designing and implementing corrective actions to address root causes of poor quality; and
- Following up to determine the degree of success of an intervention and to detect new problems and opportunities for improvement (CMS Hospital Conditions of Participation Final Rule, Federal Register, January 24, 2003)

All of Connecticut's acute-care hospitals are accredited by JCAHO, which requires ongoing performance improvement activities by hospitals. Under its Medicare contract, the state Quality Improvement Organization (QIO), Qualidigm, is undertaking clinical quality improvement activities in nursing homes, home health agencies, hospitals, and physician offices. Care provided to rural and underserved beneficiaries, and those in managed care organizations are also targeted for QI initiatives. Quality of care measures

specific to each of these settings will be collected on an ongoing basis with quality improvement success judged on the relative improvement for each measure.

The Connecticut Hospital Association and Qualidigm have an ongoing collaboration to assist hospitals in improving their performance in the following focus areas for both JCAHO and CMS; acute myocardial infarction, heart failure, and pneumonia. Surgical Infection Prevention, a focus for CMS, as well as an upcoming focus for JCAHO, will also be part of this collaborative effort. Hospitals that volunteer to work with Qualidigm receive assistance in collection and analysis of performance measurement data and assistance in developing and implementing QI interventions. Qualidigm can support hospitals in developing the capacity to collect their own clinical performance data using the CMS Abstraction and Reporting Tool (CART), which can also be used to collect data required for JCAHO accreditation standards.

CMS is supporting the Hospital Quality Information Initiative (HQII) launched by the American Hospital Association, the Federation of American Hospitals, and the Association of American Medical Colleges. The HQII will focus on a set of ten performance measures, a subset of the Medicare and JCAHO performance measures. The ten measures are, for AMI: early administration of aspirin and beta blockers, and aspirin; beta blocker, and ACE inhibitor at discharge for heart failure; left ventricular function evaluation; and ACE inhibitor use at discharge; for pneumonia: time to initial antibiotic administration, PPV immunization, and oxygenation assessment.

Recognizing the many barriers and obstacles faced by acute care hospitals, Qualidigm will work with CHA, CSMS, and other stakeholders to align improvement activities that will heighten performance, satisfy multiple regulatory requirements (JCAHO, CMS, AHA), and at the same time improve the quality of care provided to hospitalized patients in Connecticut.

In 1988 the Connecticut Healthcare Research and Education Foundation established “Toward Excellence in Care” (TEIC) for hospitals to voluntarily cooperate to evaluate and improve the quality of patient care. Through TEIC, Connecticut hospitals share best practices with each other, and participated in the JCAHO Core Measure Pilot Project, which focused on AMI, heart failure, and community-acquired pneumonia. This program was implemented nationally beginning in 2002.

The first six JCAHO Patient Safety Goals became effective on January 1, 2003, and require a hospital to demonstrate how it is meeting the goals of accurate patient identification, effective communication among caregivers, safety with high-alert medications, elimination of wrong-site –patient –procedure surgery, infusion pump safety, and effective clinical alarm systems. JCAHO’s *Shared Visions—New Pathways* will be implemented in January 2004. It will shift the accreditation-related focus from survey preparation and scores to continuous operational improvement in support of safe, high-quality care (Joint Commission Perspectives, October 2002).

Medication safety

Pathways for Medication Safety, developed by the American Hospital Association, the Health Research and Education Trust, and the Institute for Safe Medication Practices, was released in December 2002. It includes tools for leading a strategic planning effort, looking collectively at risk, and assessing readiness to implement bedside bar coding. The Food and Drug Administration (FDA) will make bar coding mandatory on all prescription, over-the-counter drugs at hospitals, and vaccines three years after it publishes final rules later in 2003. While bar coding may add 7-10 cents to the cost per package, when used with a computerized medical record, bar coding is estimated to intercept 50% more medication errors at the dispensing and administration stage.

Medication bar coding is already in use in some Connecticut hospitals. *Pathways for Medication Safety* is being distributed to all hospitals through AHA. The Voluntary Hospitals of America and the American Hospital Association are holding conferences about bar coding in May and June 2003.

The Connecticut Alliance for Safe Prescription Practices (CASPP) is a coalition of pharmacy educators, practitioners, regulators, and professional pharmacy associations. The primary objective of CASPP is to develop and promote the implementation of safe prescription practices as a means of reducing prescription errors. The Department of Consumer Protection, along with the Commission of Pharmacy, is involved in developing Quality Assurance regulations in Connecticut to reduce prescription errors.

Preventing hospital-acquired infections

Between five and ten percent of patients admitted to acute care hospitals acquire one or more infections, and the risk has increased in recent decades, while many hospitals reduced infection-control programs due to financial constraints (Burke 2003). Antibiotic resistant organisms are an increasing problem. Hand washing is universally considered the single most important measure for infection control. A multidisciplinary task force released new hand hygiene guidelines calling for the use of alcohol-based, waterless antiseptics (Boyce et al 2002). The use of waterless antiseptic hand rubs, combined with education, has improved adherence to hand-hygiene guidelines and was shown to prevent transmission of methicillin-resistant *S. aureus* to patients.

The Centers for Disease Control and Prevention (CDC) administers the National Nosocomial Infection Surveillance (NNIS) System, a voluntary, confidential reporting system for intensive care unit nosocomial infections. The CDC publishes methods for hospitals to calculate their infection rates, for comparison with the hospitals that report to NNIS (NNIS System Report 2002). Nosocomial infection rates in hospitals that implemented the full program were 32% lower than in hospitals without the program (Leape 2002). Infection Control Coordinators at CT hospitals follow Association of Professionals in Infection Control and Epidemiology (APIC 1998), recommended practice for surveillance and tailor their systems to maximize limited resources by focusing on population characteristics, outcome priorities, and organizational objectives rather than performing total surveillance.

The Council for Affordable Quality Health Care launched its pilot project in Connecticut, *Save Antibiotic Strength*. This collaboration involves Aetna, Anthem BCBS, CIGNA Health Care, Health Net, Oxford Health Plans, local chapters of national professional associations, the Connecticut DPH, and local medical centers and medical schools to promote appropriate antibiotic use among physicians and patients (www.caqh.org).

Preventing errors during patient transfers

The W-10 form is used in transferring patients between health care settings. Qualidigm's INFObridge project has identified core elements of the W-10, and the Continuum of Care Subcommittee is charged to develop a new W-10 form. Their co-chair, who is also a member of the Best Practices working group, indicated that a recommendation from the Best Practices group would be welcomed.

Communication errors are a common cause of JCAHO sentinel events. Current DPH regulations stipulate that the physician needs to transcribe medications directly onto the W-10, not just sign the form. This policy adds to the risk of error in transcription. Variability in the W-10 form, depending on the facility to which the patient will be transferred, also increases opportunities for error.

Hospitals with Computerized Physician Order Entry have forms with medications and doses already transcribed. However, a considerable barrier to the development of an electronic W-10 is the lack of information technology resources in nursing homes and home healthcare agencies.

Quality of care guidelines and programs

The National Committee for Quality Assurance (NCQA) produces standards for managed care and preferred provider organizations, as well as an annual State of Health Care Quality Report. In April 2003, NCQA launched *Bridges to Excellence*, an effort to tie physician compensation and incentive payments to quality in diabetes and cardiovascular care.

Anthem Blue Cross and Blue Shield's *Clinical Quality Program* includes incentives for improvements in quality and safety and will initially involve 11 tertiary centers or large provider groups, 7 in Connecticut. Hospital initiatives include reducing adverse drug events, reducing hospital-acquired infections, and developing metrics for intensivist programs. Physician-based initiatives include improving care for members with diabetes and with asthma. It is anticipated that the overall effects and changes of practice patterns would impact health outcomes for all patients, not just Anthem members, seen with these clinical settings.

The DPH Cardiovascular Health program is working with the American Heart Association to launch the "Get With The Guidelines Program" in Connecticut. This program is designed to improve hospital compliance rates with guidelines and to help close treatment gaps in heart disease.

Pending national work

On March 12, 2003 the United States House of Representatives passed a bill for anonymous, voluntary reporting of medical errors. H.R. 663 would create patient safety organizations that would analyze data, determine causation, and develop recommendations to reduce medical errors. Some senators were expected to propose amendments ensuring that patients can obtain medical error information from other sources and provide incentives for enacting changes proposed by patient safety organizations. At the time the Best Practices Working Group completed its report to the Advisory Committee, the outcome of this legislation was not known.

As of March 2003 the Agency for Healthcare Research and Quality (AHRQ) was working to implement a Patient Safety Improvement Corps to assist states, and proposing an information technology initiative for hospitals in fiscal year 2004. Details about these programs are expected in coming months.

Connecticut collaborations: cardiovascular, fall prevention, end-of-life care

The Connecticut Cardiovascular Consortium involves 31 hospitals and the Connecticut Office of Health Care Access to advance clinical outcomes in patients with heart disease. The initial goal is an observational study comparing treatments for residents with ST segment elevation acute myocardial infarction (Boden et al 2001).

A number of other patient safety and best practices programs are underway in the state. For example, the Connecticut Coalition to Improve End-of-Life Care is involved in a project with Qualidigm to establish quality improvement teams at 9 hospitals (Coll et al 2002), and the Connecticut Collaboration for Fall Prevention involves 14 hospitals, University of Connecticut and Yale Schools of Medicine, CHA, Qualidigm, and the Connecticut Association of Home Care. Initiatives in hospitals are the focus of the Best Practices Work Group in this first report.

Barriers to best practices implementation and medical error reduction

Acute care hospitals are faced with many barriers to improving performance. In this era of increased acuity of hospitalized patients and decreasing reimbursement, hospitals are facing critical resource issues in terms of finances and personnel. For example, the nursing shortage is having a dramatic effect on staffing in hospitals and in turn the amount of monetary resources required to provide it. This is assuming, of course, that qualified nurses can be found and hired. In addition, data collection activities, necessary to highlight opportunities for improvement and measure or monitor performance improvement, require additional allocation of staff or fall to already over-burdened staff to accomplish. Quality improvement initiatives require infrastructure and support (both financial and personnel) to bring about process improvements and outcomes.

There are legal, financial, and medical culture barriers to health care quality improvement initiatives:

1. Aspects of the legal system are impediments to safety efforts when such efforts may subject hospitals and healthcare providers to lawsuits. Legislation is needed

- to protect safety information and error analysis from the legal discovery process (Liang 2001; Brennan 2000).
2. The current payment system pays providers to fix the results of errors but not for the cost of introducing patient safety measures.
 3. The CMS and JCAHO safety initiatives may be resisted. As D. Blumenthal warns,

“The changes in organizational culture, strategy, and tactics required to improve organizational processes continuously are so profound and daunting that no sane executive would pursue CQI [continuous quality improvement] if there was any conceivable alternative.... Physicians especially bridle at working in teams, which are central to diagnosing and ameliorating flaws in organizational processes.... A central failure of CQI has been its failure to demonstrate its relevance to the work that physicians consider their domain: the care of individual patients.” (Blumenthal 2002).

If this is so it follows that physicians must be brought into the process of implementing error reporting systems and quality improvement projects in acute care hospitals, at least in part through education surrounding QI methods.

New technologies present opportunities for unanticipated side effects. This is true of bar coding as of other technologies. An unanticipated barrier may be as simple as not wishing to disturb a sleeping patient by scanning a wristband. However, one can learn from the experience of institutions that have implemented bar coding, such as the Veteran’s Health Administration, and proactively reduce side effects through design revisions, modification of organizational policies, and “best practices” training (Patterson et al 2002).

Recommendations

The Best Practices Work Group recognizes that hospitals perform myriad functions, each with specific processes that have to be in place 24 hours a day, 7 days per week. Each of these processes can and should be analyzed to assure that the best, most effective practice is in place. However, given the limited resources that hospitals have to examine their processes, we will effect the most improvement in the health status of Connecticut residents if we endorse an organized, focused approach to improving practices within hospitals. To that end, we recommend that, in addition to complying with JCAHO and CMS requirements for quality assessment and performance improvement, hospitals examine their processes regarding a short list of common conditions, using tools that are available to them through recognized national organizations, to assure those with responsibility for oversight that they are performing optimally with regard to these indicators. Specific recommendations:

- Support hospitals in measuring, reporting, and improving care for the 10-measure set of performance measures identified and endorsed by JCAHO, CMS, and the American Hospital Association. This set of measures deals with acute myocardial infarction, heart failure, and community-acquired pneumonia. In addition, CMS

- has performance measures for prevention of surgical site infections, which it asks hospitals to work on. These measures are likely to be endorsed by JCAHO next year.
- Expand collaborative activities among state of Connecticut agencies, Qualidigm, the Connecticut Hospital Association, and other health care organizations and stakeholders, for sharing knowledge and experience on methods to improve health care provided in acute care hospitals. Create a consortium of stakeholders.
 - Encourage all pharmaceutical companies with an office or manufacturing plant in the state to bar code their medications; companies include Pfizer (they are already doing it), Bristol Meyers Squibb, Boehringer Engleheim, Bayer, etc. Encourage the industry to use bar codes that reflect the drug name, strength, expiration date and lot number on the individual packages and to make all their doses available in unit dose form. (Many are getting out of the practice altogether because of the cost, and now, with more costs to add a barcode, fewer will produce unit doses; this puts the burden and expense on the hospitals to do this.)
 - Advise the state legislature regarding the up front costs to get into bar coding, for reimbursement that will support this patient safety initiative.
 - Initiate a conference on bar coding; invite various vendors to cover the cost; vendors could include Eclipsys, Cerner, IDX, McKesson Automation, Cardinal Health, Bridge Medical, Abbott Labs, etc. The conference could be a combination of lectures, workshops and displays.
 - Strongly encourage the implementation of bar coding at bedside in hospitals. For example, a hospital could use the Pathways for Medication Safety to assess its readiness to implement a bar-coding system.
 - Standardize the W-10 form and recommend that electronic patient data, verified by the physician, are the ideal way to minimize errors during patient transfers. A group should be formed to revise the W-10.

Sources of Best Practices

- Making Health Care Safer (UCSF/Stanford Evidence-based Practice Center [EPC] sponsored by AHRQ, June 2002). Evidence-based practices.
 - 11 top rated by evidence: anticoagulants to prevent VTE et al
 - Listed by impact, study strength, effect size, vigilance, cost, complexity
- Leapfrog Group
 - Computerized Physician Order Entry
 - Referral to hospitals meeting surgical volume thresholds
 - Board-certified physicians in ICUs
- National Quality Forum National Consensus Standards for Safe Practices (anticipated May 15-16 2003). A selection from the EPC, plus the Leapfrog Group, and “obviously beneficial” practices identified by experts.
- Best Practices for Health-System Pharmacy (ASHP 2001-2002)
- Institute for Safe Medication Practices
 - Pathways for Medication Safety (www.medpathways.info)

- Institute for Healthcare Improvement (IHI) Change Concepts for reducing adverse drug events
 - E.g. weight-based heparin protocol; measure % of patients PTT>100
- Health Care Quality Summit October 2002 (see Qualidigm website)
- Crossing the Quality Chasm (Institute of Medicine, March 2001). Challenges, Strategies, Aims, Outcomes.
- Core Physician Performance Measure Sets (AMA, 2002)
 - Adult diabetes, chronic stable CAD, prenatal testing
 - In development: asthma, major depression, pneumonia, preventive care
- Joint Commission Resources “Good practices”
 - E.g. survey compliance with EMS practices (ACLS protocol, time to intubation, cardiac board placed prior to compressions)
- Continuing Sources of Best Practices
 - National Quality Measures Clearinghouse (www.qualitymeasures.ahrq.gov) solicits quality measures lists from organizations AHRQ, CMS, JCAHO, VHA, etc.
 - Journals
 - Joint Commission Perspectives [JCAHO]
 - Quality Matters [NCQA]
 - Profiles in Patient Safety [Academic Emergency Medicine]
 - WebM&M [AHRQ]
 - Quality Grand Rounds [Annals of Internal Medicine]
 - Every Defect is a Treasure [International Journal for Quality in Health Care]
 - Patient Safety Section [New England Journal of Medicine]
 - Websites (AHRQ, NQF)
 - Self-assessment and measurement of progress
 - Physician and nurse satisfaction surveys

Informatics

Data Collection/Informatics are vital to the sharing and implementing of best practices, and medical error reduction. Yet in a recent survey, few hospitals, and only about 5% of primary care physicians use electronic medical records.

The hospital of Saint Raphael was highlighted in a report on Computerized Physician Order Entry (CPOE) for the American Hospital Association. Implementation of both CPOE and an electronic medication administration record began in 2001; by early 2003, 90% of patient care units were operating CPOE. Preliminary observations show that turnaround time from medication ordering to delivery to the care unit has decreased from over two hours to 18 minutes (First Consulting Group 2003).

Benefits and Barriers

Two aspects of informatics related to safety and best practices are the Computerized Patient Record (also called the Electronic Medical Record) and Computerized Physician

Order Entry. In a recent survey of physicians, the biggest perceived incentives to computerize were improved efficiency and better quality care, while the biggest perceived barriers were time costs, lack of technical support, and large capital investments (Leung et al 2003). CPOE was shown at Brigham's & Women's Hospital in Boston to reduce nonintercepted serious medication errors by 55%, but among these, sedative-associated errors increased 99% while others went down (Bates et al 1998). CPOE is most useful when it supports decision-making and contains screens or flags against inappropriate entries or decisions. A system without such features, or poorly designed features, could accomplish net harm. For example, at Brigham & Women's Hospital, introduction of CPOE with Clinical Decision Support Systems demonstrated an initial rise in intercepted potential adverse drug events due to the structure of the ordering screen for potassium chloride. This structural error was identified and easily rectified (Kaushal and Bates 2001). The threshold level for warnings must balance sensitivity and specificity, so that physicians receive warnings in situations with a potential for significant harm without being overwhelmed by false alarms.

There have been several "failure stories" involving CPOE, such as the decision of Cedars-Sinai Medical Center in Los Angeles to suspend its CPOE due to numerous complaints. Dr. Jonathan Teich, who led the team that designed the Brigham & Women's CPOE system, says that most systems have stutters near the beginning, but then settle out and run smoothly. Projects need good chain of communication, previous satisfaction with other parts of the information system, strong support from top management to buy patience and time, and a rapid response that alleviates problems (Teich 2003).

Legislation mandating installation of CPOE systems could cause vendors to produce the features clinicians want and need; conversely, unfunded mandates are not a good idea, while any mandates could introduce untested systems on untrained hospital staffs, and be subverted by providers (Overhage et al 2002).

California has mandated implementation of CPOE in hospitals by 2005. The Leapfrog Group, a consortium of more than 100 companies, public and private health care sector purchasers, promotes CPOE. However, initial and ongoing costs are considerable (Birkmeyer et al 2002), and hospitals do not have the financial reserves to make investments in the technology. Although improved cost control benefits insurers, and safety benefits patients, neither of them pays for information technology. The Institute of Medicine recommendation that federal funding for CPOE be provided has not been acted upon.

Three barriers to bringing information technology (IT) to hospitals are: 1) there is no standard platform technology or terminology for the computerized patient record; 2) there is insufficient investment and financial incentive by the government and private sector; and 3) there is insufficient leadership. Yet with standards, hospitals will be encouraged to invest in IT, knowing they will have a stable platform (Pardes 2002).

On March 12, 2003, the House of Representatives passed H.R. 663, “The Patient Safety and Quality Improvement Act”. The bill requires the Department of Health and Human Services, within 18 months, to develop voluntary national interoperability standards for healthcare information technology systems, including CPOE. The Senate had not taken up this bill at the time the Best Practices report was written.

The Agency for Healthcare Quality and Research plans a Patient Safety Hospital Information Technology Initiative for FY 2004, whose details have not been made public yet. The Centers for Medicare and Medicaid Services is currently considering whether to make tools available for monitoring whether health systems routinely use computers to detect adverse events (Bates et al 2003).

Recommendations

- The state and hospitals should keep abreast of demonstration projects that test the efficacy of IT standards and of federal legislation establishing standards.
- Hospitals should build user loyalty with successes in smaller projects such as results reporting, ambulatory prescribing, and reference information delivery, and should anticipate that the CPR and CPOE will become widespread in the near future.
- Connecticut hospitals already using CPOE should share their experience in IT with other institutions in the state.

Sources of Information about Informatics

American Medical Informatics Association. <http://www.amia.org>

The Leapfrog Group. Evaluation tool for CPOE. <http://www.leapfroggroup.org>

Oregon Health and Science University. Considerations for CPOE. http://www.ohsu.edu/bicc-informatics/cpoe/cpoe_debate.htm; or <http://www.CPOE.org>

ISO 9000 Auditing System

ISO 9000 is a family of standards concerned with management, developed by the International Organization for Standardization. The standards give guidance and requirements on what constitutes an effective quality management system. ISO 9000 also includes models against which this system can be audited to give assurance that the system is operating effectively. Other quality assurance or quality improvement systems include SixSigma, Mil-Q-9858, and the Baldrige Health Care Criteria.

The concept that quality assurance and quality improvement are essential to patient safety has been accepted by many hospitals and by the Joint Commission for Accreditation of Healthcare Organizations and the Centers for Medicare & Medicaid Services.

In addition to required performance improvement activities, beginning January 2003, JCAHO accredited organizations are surveyed for implementation of National Patient Safety Goals. These goals are 1) accurate patient identification; 2) communication between caregivers; 3) safety for high-alert medications; 4) eliminate wrong-site, wrong-patient, wrong-procedure surgery; 5) safety using infusion pumps; 6) clinical alarm systems. JCAHO provides practical strategies for meeting these goals.

JCAHO's new accreditation process for 2004, *Shared Visions—New Pathways*, shifts the focus from survey preparation and scores to continuous operational improvement. An accredited organization will complete self-assessment at the 18-month point in its three-year accreditation cycle, including corrective actions to be taken, which is submitted to JCAHO for review. Organizations can read the standards' elements of performance and examples of implementation. At the three-year point, surveyors will verify the self-assessment and go on-site to verify that the organization has implemented corrective actions as laid out in its self-assessment. Beginning in 2003, surveyors receive education and testing in systems theory, organization behavior, and evaluation techniques under a program administered by a graduate school of management.

The CMS final rule, with an effective date March 25, 2003, requires hospitals to develop and maintain a quality assessment and performance improvement (QAPI) program, so as to systematically examine quality and implement specific improvement projects on an ongoing basis. This typically involves 1) identifying and verifying quality-related problems and their underlying cause; 2) designing and implementing corrective action activities to address deficiencies; 3) following up to determine the degree of success of an intervention and to detect new problems and opportunities for improvement. State survey agencies assess compliance with the hospital Conditions of Participation. CMS does not prescribe the exact process hospitals must follow to meet the regulatory requirements. The scope must include an ongoing program that shows improvement in indicators for which there is evidence that it will improve health outcomes and the prevention and reduction of medical errors. The hospital must measure, analyze, and track quality indicators.

The ISO 9000 auditing system is one means, but not the only means of hospitals meeting the new JCAHO and CMS requirements for quality assurance, quality improvement, and patient safety. All Connecticut acute-care hospitals are accredited by JCAHO, while nationally only 9 hospitals use ISO 9000.

Recommendations

- The Quality in Health Care Advisory Committee should assist hospitals in meeting their quality assurance, quality improvement, and patient safety requirements, but not require use of ISO 9000 to do so. ISO 9000 should be an optional tool for hospitals to use.

Concluding Remarks

This is the first report of the Best Practices Working Group, in the first year of the Connecticut Department of Public Health's *Program for Quality in Care*. Some perspective on our work may be gained through comparison with the Leapfrog initiative. A recent examination of the Leapfrog Group recommendations regarding patient safety cautioned that they may have unintended legal consequences (Mello et al 2003). That examination pointed out the good business case for implementing round-the-clock intensivists in intensive care units, but that presently there are not enough intensivists available for all U.S. hospitals to do this. Mindful of the possible unintended consequences of its work, the Best Practices Working Group here endorses a limited number of best practices that are widely achievable in the near future, while pointing out the benefits and barriers associated with a number of additional best practices, and supplying sources of best practices information for those who wish to take greater initiative. In the area of best practices we further recommend and anticipate:

- Voluntary participation
- Best practices will be updated from time to time.
- Continued collaborative efforts with state of Connecticut agencies, Qualidigm, CHA, other health organizations, and other stakeholders, for sharing knowledge, experience, and implementation.

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APPENDIX F

ADVERSE EVENT REPORTING WORKING GROUP SUMMARY REPORT

Recommendations of the Adverse Event Reporting Working Group of the DPH Quality in Health Care Advisory Committee

The adverse event reporting working group of the Department of Public Health Quality in Health Care Advisory Committee met twice following implementation of the adverse event reporting system, on December 9, 2002 and January 29, 2003. Working group members also received input from a large number of providers at two educational sessions on the adverse event reporting system. The working group developed the following recommendations for refining the system to maximize its ability to improve patient safety.

The Department of Public Health issued its Annual Legislative Report to the General Assembly on Adverse Event Reporting in March 2003 describing the implementation process and the number of events reported during the first four months. Recommendations made by the working group were included as an appendix to the March 2003 Report, but the recommendations were in the form of working group notes. This document explains each recommendation in more detail. The working group did not prioritize the recommendations but they are numbered here for ease of reference.

Recommendation 1: Extend the timelines for reporting.

The current timelines for reporting, specifically a verbal report within 24 hours, a written report within 72 hours and a corrective action plan within 7 days, are too short. The timelines do not give providers enough time to completely evaluate the facts of the event before making a report. “Emergent” reports are defined by DPH to include an “unexpected situation or sudden occurrence of a serious and urgent nature which requires immediate remedial action on the part of the hospital to protect the health and safety of its patient population, or an event which is unusually serious in nature and has resulted in a patient’s death or injury.” Emergent reports are required immediately.

The working group recommends that emergent reports continue to be required immediately, but that the requirement for verbal reporting for non-“emergent” adverse events be eliminated. If the requirement is not eliminated, the working group recommends that the time period for the non-emergent verbal report should be extended from 24 hours to a minimum of 48-72 hours. Similarly, the timelines for written reports should be extended from 3 days to a minimum of 5-7 days and the timelines for corrective action plans should be extended beyond 7 days in order to allow providers more time to analyze the event and prepare a complete plan. These recommendations would require a statutory change.

Recommendation 2: Redefine “disability” and clarify other definitions.

The working group members discussed the need for additional clarification regarding the meaning of some terms used in defining and classifying reportable adverse events such as “disability”, “foreseeable”, “immediate danger”, “serious disability” and “measurable disability”. Clarifying the definitions related to disability may help reporters differentiate between Class B and Class D events.

Recommendation 3: Develop a non-comprehensive list of examples of reportable and non-reportable events.

The working group discussed the need for standardized reporting of adverse events and the concern that the guidelines on what is reportable can be reasonably interpreted in different ways by reporting providers. Through systematic review of adverse events, DPH and providers can identify trends and areas on which to focus patient safety interventions, but only if the reporting is consistent and provides accurate data to identify patient safety issues.

The working group recommends that DPH develop a non-comprehensive listing of examples of events that are and are not reportable to provide some additional guidance for providers and reduce variability in interpretations. This recommendation does not require a change in the statute. The working group did, however, discuss current adverse event reporting systems in other states and national models and recommends continued review of other systems to determine if there are additional ways to promote consistency, some of which may require statutory changes.

Recommendation 4: Protect confidentiality of reports indefinitely.

Public Act 02-125 protects the adverse event reports from public disclosure for six months, after which they may be released under the Freedom of Information Act. The working group discussed the concern that public release of provider-identifiable information will not promote patient safety.

The working group recommends that provider-specific reports remain confidential. This recommendation is consistent with the conclusion of national experts on adverse event reporting who believe that anonymous reporting, or protecting the confidentiality of provider-identifiable reports, is an important element of successful reporting systems. This recommendation also is consistent with current federal legislative proposals on patient safety, specifically HR 663 and HR 877, that would protect the confidentiality of information shared with patient safety organizations. This recommendation would require a change in the statute.

Recommendation 5: All aggregate data reports should be shared with reporting providers in a timely fashion, to support internal quality improvement efforts.

The working group recommends that aggregate reports be generated in a timely fashion and distributed to reporting providers. By sharing timely data, providers will learn from each other and will have more information to help prevent similar adverse events from occurring in their own institutions. It is only through sharing data that providers may be able to use the adverse event reports to identify previously unrecognized system issues that need correction. Each individual provider reviews their own events in detail and develops corrective action plans but the adverse event reporting system should be used as a way for providers to learn from each other's experiences as well as their own.

The working group also recommends that when sufficient data has been collected, it should be sorted by individual data elements and/or categories, so statewide quality improvement efforts can be focused and resource-efficient. Data on the statewide frequency of events by categories may reveal trends that would be difficult to identify based solely on a review of each provider's own adverse events. Once the trends are identified, providers can collectively focus on determining potential causes and formulating preventive strategies.

Recommendation 6: Providers should have a mechanism for sharing "near-miss" and other patient safety information that is separate from the adverse event reporting system and is non-punitive, anonymous and not part of regulatory oversight.

The working group recommends that in order to facilitate sharing of information among providers for patient safety and quality improvement purposes, the information shared should receive protection from disclosure equivalent to the protection given to peer review information, even if the information does not fit precisely within the current requirements for peer review protection. This type of protection is reflected in recent federal legislation (HR 663 and HR 877), which proposed creating systems for information sharing with public or private "patient safety organizations" that work with providers to improve patient safety and quality. A voluntary, anonymous reporting system already has been shown to be effective in other industries in providing the most complete and accurate information on potential safety issues.

Recommendation 7: Any "report card" developed should focus on implementation of best practices, rather than occurrence of adverse events.

The working group discussed the types of reports that were likely to be generated on reported adverse events. The working group felt strongly that the best use of the information gathered through adverse event reporting is for patient safety and quality improvement. Simply counting adverse events does not improve patient safety and quality. Therefore, the working group recommends that the reports on adverse events contain information that actually can be used to improve safety, rather than numerical comparisons of events reported by each provider. The aggregation and sharing of the data will provide lessons learned that can be used to assist reporting providers in developing best practices.

Recommendation 8: After reappraisal of the current reporting system, move to an aggregate or line-list reporting of "D" level events.

Class D events are the most frequently reported, but least injurious adverse events. The working group concluded that the current process of using the same 7-page form for reporting each Class D event in a quarterly timeframe was unnecessarily burdensome. An aggregate or line-list report of Class D events would decrease the clerical work of reporting these events, while preserving DPH's ability to evaluate the events and identify trends.

Summary

The adverse event reporting working group of the DPH Quality in Health Care Advisory Committee feels that the recommended changes to the adverse event reporting process identified above will help the system to effect true improvements in patient safety and quality in Connecticut.

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