



**NH Health Care Quality
Assurance Commission**

**Annual Report of the
New Hampshire Health Care Quality Assurance Commission**

June 1, 2009

HB 514, Chapter 157:2, Laws of 2005

Chapter 157:2, of the Laws of 2005, established the New Hampshire Health Care Quality Assurance Commission. Its intent is *to enable health care providers to share information about adverse outcomes and prevention strategies in learning environments which foster candor and self-critical analysis while maintaining the confidentiality of the information submitted to the Commission, the proceedings of the Commission, and the results of the Commission's deliberations.*

Members of the Commission include one representative from each acute care hospital and free standing ambulatory surgical center (ASC) and the designee of the Commissioner of the Department of Health and Human Services. Stephanie Wolf-Rosenblum, MD, MMM Chief Medical Officer, Southern New Hampshire Medical Center, serves as Chairperson; Ross Ramey, MD, Monadnock Community Hospital, Vice-Chair; Jean Corvinus, Director, Performance Improvement, Secretary; Sue Majewski, Chief Operating Officer, Bedford Ambulatory Surgery Center, Executive Committee member representing ASCs; and Rachel Rowe, Associate Executive Director of the Foundation for Healthy Communities serves as administrator of the Commission. The officers serve two year terms.

During its fourth year, the Commission met five times on the following dates: August 1, 2008, October 31, 2008, January 23, 2009, March 13, 2009, and May 8, 2009.

Executive Summary

The Commission continued its important work with hospitals and ambulatory surgery centers (ASCs) to voluntarily promote initiatives and share best practices which have been proven to enhance patient safety and decrease harm. In addition to ongoing statewide improvement initiatives, Commission members shared best practices, exchanged important information regarding their facilities' own stories of medical errors and prevention strategies, and continued to establish key networks and partnerships for ongoing individual and organizational improvement activities. Initiatives focused on error reduction by educating key stakeholders on the principles of High Reliability Organizations as developed in the aviation and other non-healthcare industries, and working together to disseminate and apply these techniques throughout the state.

The Commission members voluntarily expanded their collection and reporting of statewide central line bloodstream infection (CLBI) rates to include those infections which occur outside of the Intensive Care Unit. We also continued our strong commitment to increasing hand hygiene compliance across all disciplines and in all hospitals and ASCs by developing educational tools and establishing an ongoing statewide monitoring and reporting system.

The Ambulatory Surgery Centers reported surgical site infection rates for all surgeries in 2008. This is a major voluntary initiative and the first of its kind for the ambulatory surgery centers in the state.

The major accomplishment of the Commission this year was the establishment of a statewide campaign to promote 100% compliance with the use of a Surgical Safety Checklist, one of the primary mechanisms used around the globe to ensure patient safety during operative procedures. We were successful in achieving 100% commitment by the hospitals and the ASCs to pilot a checklist by May 1, 2009. Again, New Hampshire is leading the country in voluntarily participating in major patient safety initiatives where the evidence indicates that compliance would enhance the reliability of performance and the safety of patients.

Details regarding the establishment and activities of the Commission can be found on www.healthynh.com.

DETAILED ACTIVITIES OF THE COMMISSION

Infection Management and Prevention

The management and prevention of infections continued to be a high priority for the Commission this year. Hospitals and ambulatory surgery centers voluntarily collected data on specific infections to learn more about their progress with improvement strategies and to continue to refine their surveillance of these infections. Best practices were shared and members continued to work collaboratively and aggressively on the implementation of evidence based infection prevention strategies.

One of the most meaningful exercises the Commission members participated in this past year was analyzing the best practice steps in the care of a patient undergoing elective surgery. Members were divided into three groups representing the care of patients during the pre-op, surgical, and post-op phases. Each group discussed the important policies and practices that needed to be in place to prevent a surgical site infection SSI if someone such as Tom Brady was hospitalized for knee surgery at their institution.

A. VAP and CLBI Data Collection and Reporting

The Commission members agreed to collect and report Ventilator Associated Pneumonia (VAP) and Central Line Bloodstream Infection (CLBI) rates as one way to monitor progress over time and improve our data collection methodology. While our knowledge about these infections is increasing (how to detect them, how to prevent them, etc.), questions remain at the national level regarding the definitions and data collection methods which underlie the reliability of these infection rates. The Commission continued to engage in meaningful dialogue with the NH Infection Control Practitioners to interpret the results and determine if and how they could be used to identify high performers and stimulate improvement efforts.

The hospital members of the Commission collected and reported VAP and CLBI rates in the ICU for 2008. In addition, we piloted the collection of hospital-wide CLBI rates.

Results:

This is the Commission's fourth year of data collection. The most recent data is presented (2008) alongside data from the last 3 years for trending purposes. As in the past, members continued to work hard to improve the uniformity of data collection. Although this enhanced consistency of reporting does not ensure comparability, it

increases the meaningfulness of the data within the given constraints of small numbers and case identification which is sometimes subjective.

All 26 acute care hospitals in New Hampshire reported information regarding the number of Ventilator-Associated Pneumonias (VAPs) and Central Line Bloodstream Infections (CLBIs) that occurred in their institutions. The definitions and methodology are drawn from the Centers for Disease Control and the evidence gathered by the Institute for Healthcare Improvement for their *5 Million Lives Campaign*. 2007 represents our first full year of data collection and reporting.

Ventilator Associated Pneumonia (VAP) statewide rate:

- 2008 (12 month period): 83 pneumonias for a statewide rate of 2.85 VAPs per 1000 ventilator days
- 2007 (12 month period): 96 pneumonias for a statewide rate of 4.75 VAPs per 1000 ventilator days
- 2006 (6 month period): 48 pneumonias for a statewide rate of 4.8 VAPs per 1000 ventilator days
- 2005 (3 month pilot period): 41 pneumonias for a statewide rate of 8.64 VAPs per 1000 ventilator days

Key considerations when interpreting these data:

- These statewide rates include data from 26 hospitals.
- These data were submitted by the hospitals to the Foundation for Healthy Communities and have not been validated by an external organization. As such, the results cannot be considered valid or comparable with other studies until there is consensus on definitions and the collection methodology at the state and national level.
- There continues to be a need to more clearly define what is classified as a pneumonia and who assigns that classification since controversy exists over the optimal method of VAP diagnosis (clinical and culture data).
- There continues to be no national consensus on how pneumonias are classified and what data collection methodology should be used to reduce unintended variation.
- Due to the low numbers and the evolving process of obtaining the data, it is difficult to draw conclusions about the trend.

Central Line Bloodstream Infection (CLBI) statewide rate:

- 2008 (12 month period): 55 CLBIs for a statewide rate of 1.93 CLBIs per 1000 central line days
- 2007 (12 month period): 69 CLBIs for a statewide rate of 2.36 CLBIs per 1000 central line days
- 2006 (6 month period): 28 CLBIs for a statewide rate of 2.3 CLBIs per 1000 central line days

- 2005 (3 month pilot period): 22 CLBIs for a statewide rate of 3.49 CLBIs per 1000 central line days

Key considerations when interpreting these data:

- These statewide rates include data from 26 hospitals;
- These data were submitted by the hospitals to the Foundation for Healthy Communities and have not been validated by an external organization. As such, the results cannot be compared with other studies until there is consensus on the data collection methodology at the state and national level.
- Hospitals continue to refine their processes for diagnosing CLBI and counting ‘central line days’ (i.e. concurrent vs. retrospective and electronic vs. manual);
- There continues to be some variation in definitional issues and collection methodologies continue to exist among hospitals across the state and country.
- Due to the low numbers and the evolving process of obtaining the data, it is difficult to draw conclusions about the trend.

The Commission members reviewed the results and engaged in a lengthy discussion about the continued challenges and opportunities associated with identifying and collecting this information. The most important challenges are those resulting from the small numbers associated with these infections and the methodological issues regarding data collection that remain despite the CDC definitions. It is clear to Commission members that the variation in reported rates between institutions is due primarily to differences in how “at risk” days (i.e. ventilator days and central line days) are counted and how pneumonias and infections are classified. However, they also recognize that there are best practices both within the state and on a national level from which to learn and opportunities to improve in all of their institutions.

The increasing attention being placed on decreasing these infections and greater transparency of these infection rates has been an important ‘call to action’ and is anticipated to continue to contribute to lowering infection rates.

Next Steps

As of January 1, 2009, hospitals are reporting their CLBI rates to the National Health Safety Network as required by Section 151:33 of the New Hampshire Statute. That information will be shared with the Commission in order to continue the important collaborative improvement work that has been fostered over the past four years.

Since meaningful gaps in the science related to reliable identification of Ventilator Associated Pneumonia remain at the national level, the Commission recommended that hospitals suspend the collection of VAPs after the June-December 2008 data collection period. There will be no collection of VAPs in 2009.

B. Additional Hospital Data Reporting

The hospital Commission members continued to collect and report measures related to the care a patient receives during surgery. These measures developed by CMS are based

in science and validated by an external agency. They represent the percentage of time hospitals have provided the necessary processes of care which have been proven to reduce the incidence of infection from surgery and decrease the risk of venous thrombosis which can lead to prolonged hospitalization, added complications and even cardiovascular complications such as pulmonary embolism and stroke.

Results:

Antibiotic received within 1 hour of surgery:

4562 patients received an antibiotic within 1 hour of surgery of the 4789 patients who underwent the specified surgery or, **95%** of patients received an antibiotic within 1 hour of surgery for the specified procedures. This compares to a rate of 76% in Year 1, 85% in Year 2, and 93% in Year 3.

- This statewide rate includes data from all 26 hospitals;
- The national average for this measure is 93% compared to the NH average of 95%.

Antibiotic discontinued within 24 hours after surgery:

4303 patients had their antibiotics discontinued within 24 hours of surgery of the 4593 patients who underwent the specified surgery or, **94%** of patients had their antibiotic discontinued within 24 hours after surgery. This compares to a rate of 74% for Year 1, 83% for Year 2, and 91% for Year 3.

- This statewide rate includes data from all 26 hospitals;
- The national average for this measure is 89% compared to the NH average of 94%.

The meaningful increase in rates of compliance for these two evidence-based processes of care measures shows that hospitals are working hard to standardize the processes which have been proven to decrease infection rates. These measures are clearly defined, the collection of these data has been systematized within hospitals, and the results are validated by an external agency.

Prophylactic Antibiotic Selection:

4766 patients had the appropriate prophylactic antibiotic ordered for their designated surgery of the 4880 patients who underwent one of the specified surgeries or, **98%** of patients undergoing specific surgeries received the appropriate antibiotic before the procedure to prevent infection.

- This statewide rate includes data from all 26 hospitals;
- The national average for this measure is 96% compared to the NH average of 98%.

Recommended venous thrombosis prophylaxis (clot prevention) ordered:

4701 patients had the recommended prophylaxis ordered to prevent venous thrombosis following specific surgeries of the 4986 patients who were eligible to receive the prophylaxis or; **94%** of patients undergoing specific surgeries had an order for the recommended venous thrombosis prophylaxis.

- This statewide rate includes data from 26 hospitals;
- The national average for this measure is 92% compared to the NH average of 94%.

Recommended venous thrombosis prophylaxis received:

4616 patients received the recommended venous thrombosis prophylaxis following specific surgeries of the 4986 patients who were undergoing specific surgeries or, **93%** of patients received the recommended venous thrombosis prophylaxis for indicated surgeries.

- This statewide rate includes data from 26 hospitals;
- The national average for this measure is 89% compared to the NH average of 93%.

New Hampshire rates are higher for each of these 5 measures of quality and patient safety than the national average and continue to improve over time.

C. Ambulatory Surgery Reporting

For the first time, 17 ambulatory surgery centers voluntarily collected and reported surgical site infections (as defined by the Centers for Disease Control) on all surgeries performed at their centers during July-December 2008. Of over 15,000, there were only 38 infections for a SSI rate of 0.25%. This is a statistically insignificant rate. The ASCs are committed to continuing to monitor their surgical site infections and share their best practices with the Commission.

D. Hand Hygiene Reporting

Beginning in April 2008, hospitals and ambulatory surgical centers have voluntarily monitored hand hygiene compliance within their institutions using trained observers. It is well known that one of the primary ways to decrease infections is by using evidence based practices for cleaning hands before and after contact with patients and with their environment. During the 8 month period from April-December 2008, there were over 20,000 opportunities observed where a caregiver or employee who had contact with a patient should have cleaned their hands. Our statewide rate of compliance for that time period was about 83%. This compares to about 69% compliance in the statewide pilot conducted in November and December 2007. Although the improvement has been fairly dramatic, Commission members agreed that we need to continue our aggressive efforts to improve this rate. It is important to understand that these data are not validated by an external organization but rather, voluntarily reported by the individual institutions.

New Hampshire continues to be the only state in the country to have every hospital and participating ambulatory surgery center committed publicly and at the leadership level to establishing a goal of 100% compliance with hand hygiene. NH hospitals and ASCs will continue to monitor hand hygiene compliance on an ongoing basis and share successful strategies at Commission meetings.

New Initiative for the Commission

The Commission members unanimously agreed to engage in a statewide educational effort to learn what they could do to become more highly reliable organizations in order to increase patient safety across all hospitals and ASCs. Initiatives focused on error reduction by educating key stakeholders on the principles of High Reliability Organizations as developed in the aviation and other non-healthcare industries, and working together to disseminate and apply these techniques throughout the state. Spence Byrum from Convergent HRS, LLC provided a very engaging presentation on the topic to begin our group discussion leading to the development of a major new statewide patient safety initiative.

Scott Goodwin spearheaded a year long effort focused on promoting error reduction by applying high reliability concepts to the Universal Protocol. He based his proposal on a recent NEJM study where the WHO Surgical Safety Checklist was validated in eight pilot sites in diverse global settings with marked improvements in surgical outcomes. Use of the checklist involved both changes in processes and changes in the behavior of individual surgical teams at these hospitals. To implement the checklist, all sites had to introduce a formal pause in care prior to induction of anesthesia, prior to incision, and just before closure of the incision. It was also noted that the Institute for Health Care Improvement (IHI) has also recommended adoption of this Checklist as a national best practice priority for 2009.

In March, the Commission members agreed that an initiative to promote adoption of a surgical safety checklist in all New Hampshire hospitals and ASCs was an excellent fit both for the Commission's legislative charge to reduce medical errors and for a focal point to introduce the principles of high reliability process throughout all institutions. As such, a consensus was achieved that a letter be sent to all CEOs asking for an organizational commitment to create and display Universal Protocol procedure safety checklists in all procedure areas by May 1, 2009. We are the first state in the country to have signed commitments from every hospital and ASC in the state.

Summary

Year 4 has been another highly successful year for the New Hampshire Health Care Quality Assurance Commission. The members continued to share best practices and improvement strategies as well as agree to adopt several evidence-based practices that have been proven to improve care and decrease adverse events. The discussion related to how hospitals and ASCs should treat patients admitted for knee surgery to avoid the same type of infection suffered by Tom Brady, was robust and meaningful because of the

confidentiality protections afforded the Commission allowing for frank and open dialogue. All public documents as well as educational materials related to the Commission and its improvement activities can be found at www.healthynh.com.

The members of the Commission will continue to collect central line blood stream infection rates and submit them to the National Health Safety Network as required by NH Statute. The Commission will review those data and continue to identify and share improvement strategies used by high performing hospitals. Although CLBI rates in NH hospitals are stable and lower than the nationally available benchmarks, our goal is to continually work to decrease this rate by identifying and sharing best practices.

Great strides were made across hospitals and ASCs this past year in the frequency with which care providers comply with recommended hand hygiene practices. The members agreed to maintain an aggressive campaign to maintain our gains and improve our rates.

The rates for all 5 measures related to how often hospitals carry out the evidence based recommended processes to prevent surgical infections remain well above the national average on a scale where 100% is best practice.

The major accomplishment of the Commission in year 4 was the new focus on becoming more highly reliable organizations and the statewide initiative to promote adoption of a surgical safety checklist in all New Hampshire hospitals and ASCs. New Hampshire is the only state in the country to have every hospital and participating ambulatory surgery center committed publicly and at the leadership level to adopting a surgical safety checklist in all procedure areas.

The Commission will begin Year 5 in July 2008 focused on providing tools and support for every hospital and ASC to continue improving practices to reduce infections and to fully implement a surgical safety checklist in every procedure area.

Stephanie Wolf-Rosenblum, MD, MMM, will step down as Chair of the Commission after two years of outstanding leadership. The Commission members acknowledged her tremendous passion for quality and patient safety and the immense dedication with which she carried out her role.

The Commission voted to adopt this fourth year report of the New Hampshire Health Care Quality Assurance Commission.

For questions, please call: Stephanie Wolf-Rosenblum, Commission Chair: 577-3044 or Rachel Rowe, Administrator 225-0900.