Rural Healthcare Quality Network

RHQN Newsletter, August 2009

VALIDATING THE ACCURACY OF INFECTION SURVEILLANCE

The August RHQN Member Conference Call focused on infection rate reporting, as addressed in newly enacted state legislation, and on validating the accuracy of infection rate reports. The State Department of Health is responsible for gathering infection rate reports and the law requires that these rates be made public.

In her presentation, Sandy Kangas, RHQN Infection Prevention Consultant, discussed the new laws, the reporting mandate, and the mechanism for reporting. She provided a power point, validation materials, and reference materials (see the RHQN website at: http://www.rhqn.org/resources/presentations.htm). Below is an excerpt from her presentation on validation of infection rate reporting.

Hospitals have had infection surveillance programs in place for decades. These programs monitor the rate at which patients develop infections while in the hospital. Those rates have been used to determine how well control measures are working, where better measures are needed, and where additional studies are needed.

A growing number of states, including Washington, have started creating laws that require hospital infection surveillance programs to make their rates public. There are two purposes for this. First, it allows hospitals to compare their patient safety performance to others of similar size and service spectrum. Second, it can let patients know which, if any, hospital is significantly better or worse than comparable hospitals. However, to serve these purposes, the accuracy of infection reporting needs to be good enough in every hospital.

The Washington State law gave the Department of Health a responsibility for oversight of reporting and to "evaluate, on a regular basis, the quality and accuracy of health care associated infection reporting." The International Epidemiological Association's dictionary defines accuracy as the ability to correctly classify the presence or absence of a condition, noting that this is usually expressed by sensitivity and specificity.

Since hospitals rely on their infection rates to set policy, modify or enforce practices, and share good news about patient safety, infection surveillance program managers need to monitor the accuracy of those rates on a regular basis (internal validation). The Department of Health will also spot-check that accuracy (external validation).

Validation is a method to see if rates of infection are being reported with enough accuracy by each hospital. For example, when the hospital's surveillance program looks at all culture results, reviews patient charts, visits patients, talks with doctors and even makes follow-up calls to patients after discharge, then it is likely that the hospital has very accurate infection reporting. However, if circumstances beyond the control of a hospital prevent them from reviewing all culture results and patient charts and taking time to talk to the patients and doctors, then some infections may be missed and their data may not be accurate. To fairly compare two hospitals, facts on how data is collected need to be included. Gathering these facts is called 'validation.'

'Sensitivity' measures the percentage of infections that are detected by the surveillance program. 'Specificity' measures the percentage of uninfected patients that are correctly identified as not having an infection. Sensitivity and specificity don't have to be 100% to be good enough, but they need to be constant so that apparent trends reflect changes in patient outcomes instead of changes in the accuracy of surveillance.

Sensitivity relates to how many true infections are detected (true positive) and not detected (false negative). An acceptable level of sensitivity for bloodstream infection is 85%. That means that 85 of every 100 true infections would be detected. Specificity relates to how many times uninfected patients are identified as

uninfected (true negative) rather than being identified wrongly as infected (false positive). An acceptable level of specificity for bloodstream infection is 98%. That means that only 2 of every 100 uninfected patients would be incorrectly labeled as infected.

A good monitoring or validation system does not have to be perfect. Sometimes an infection will be missed. There are opportunities to misinterpret the guidelines or miss an infection (e.g. a central line infection that started in a transferring facility or guidelines are structured such that they fail to recognize when an infection should not be counted).

Hospitals will be provided with education by the DOH so that they can add validation measures to their current surveillance system. A DOH Healthcare Associated Infection (HAI) Data Validation Toolkit will be available soon. The Department of Health expects to receive sensitivity and specificity rates from hospitals regularly and will conduct hospital spot checks to verify that reported information is accurate.

FROM THE DESK OF THE QI MANAGER

I'm delighted to be working with all of you and will soon complete visiting each of your hospitals. As I travel around the state, I am struck by several things:

- what a beautiful state we live in;
- your commitment to providing excellent care for your communities,
- how many hats each of you wear, and
- the common challenge of prioritizing.

Additionally, many of you recognize the need for culture change within your organizations to spread ownership and engagement for safety initiatives and evidenced based care. My goal is to support you by sharing best practices, lessons learned, and effective tools to simplify your day and help you meet your goals. We'll start with 3 of our CAHs sharing their best practices on this month's RHQN call. In the spirit of IHI, we'll "share openly" and "steal shamelessly."

I look forward to your emails and partnering with you. ~ Bev (bevm@wsha.org)

UPCOMING MEMBER CONFERENCE CALLS

Here is the Members Conference Call topic list for the remainder of 2009. If you have topic suggestions, please call or e-mail Randy Benson, RHQN Executive Director at (206) 577-1821 or randyb@wsha.org.

- September 8, 10:30 a.m. **"Quality Improvement: Best Practices for STEMI/Acute Coronary Syndrome Systems of Care,"** featuring Lincoln Hospital (Davenport) on "Lessons Learned," Jefferson Healthcare (Pt. Townsend) on their AMI/STEMI Lean RPI Workout, and Kittitas Valley Community Hospital (Ellensburg). Facilitator: Bev McCullough, RHQN Quality Improvement Manager
- October 6, 10:30 a.m. **"The Disaster Preparedness Primer: When is a Drill Not a Drill?"** presented by Randy Benson, RHQN Executive Director
- November 17, 10:30 a.m. **"Adverse Events and RCAs: How to Conduct a Proper RCA in Three Meetings,"** presented by Randy Benson, RHQN Executive Director
- December 8, 10:30 a.m. **"The Clinical Quality Improvement Primer: Witnessing to Best Practice,"** presented by Bev McCullough, RHQN Quality Improvement Manager

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If you have ideas, comments, questions, need additional resources or a consultation, contact Randy Benson, RHQN Executive Director, at (206) 577-1821 randyb@wsha.org, or Bev McCullough, RHQN Quality Improvement Manager, at (206) 216-2862 bevm@wsha.org.