Implementing a Measurement Plan Is Critical to Success

As I work with hospitals around the world, I always challenge them to commit to developing and **maintaining** a measurement plan. The simple reason is that we can't manage what we don't measure. A published set of metrics also sends a clear signal that leadership is serious about its efforts to improve outcomes. "What we measure matters."

There are numerous models for measurement, and we've developed and adapted several instruments that we've found very useful to carry out the plan. But how do you create such a plan? Eduardo Salas suggests a simple strategy: Start at the end and work backward.

Describe qualitatively what the ideal state would look like. Now put that in terms of quantitative outcomes. What behaviors must be reliably performed to achieve that outcome? What processes are in place to ensure the behaviors occur? Those who know of Donald Kirkpatrick's work recognize that I'm simply backing through his levels of measurement, and the last two levels are knowledge and reaction. This is a good place to start to build a measurement plan for a process change.

As you're considering what to measure, it's advisable to carefully consider feasibility. The best measurement plan ever devised is useless if it is not executed. So try to build the measures into daily work, and to spread the work between several people to maximize your chances for sustainment.

Measurement is accountability, and it is essential for process-improvement success.

— Steven Montague lifewings@verizon.net, Vice President, LifeWings

For more information about Eduardo Salas, see www.ist.ucf.edu/people/salase/salas.htm. For a brief explanation of Donald Kirkpatrick's four levels of measurement for training, see www.nwlink.com/~donclark/hrd/isd/kirkpatrick.html.

For Safe Care, Experience is Not Always the Best Teacher

Challenge: Culture

Health care providers traditionally have been trained to use personal experience to hone their craft. While this is important for the "art of medicine," it can be counterproductive to the application of the "science of medicine." Under several very common circumstances, personal experience provides misleading information and may cause a practitioner to believe that he/she is practicing safely when in fact the patient is being exposed to excessive risk. Rare events and loosely coupled consequences are two examples of how personal experience may mislead.

If an event occurs only rarely (e.g., wrong-sided surgery), the absence of such an event is a limited indication of the safety of a particular way of doing things. As a rule of thumb, the upper 95 percent confidence limit for the rate of wrong-sided surgeries would be approximately 3 divided by the number of procedures performed, when the number of procedures is 30 or above. Therefore, if the surgeon has performed 3,000 operations without a wrong-sided event, that experience only assures an expected rate of 1 in 1,000 or less. Considering that the goal for wrong-sided surgery is that it be vanishingly rare, individual statistics will not do.

Loosely coupled consequences also provide challenges. Consequences are loosely coupled when a lapse does not always cause a problem or there is a significant delay before the problem occurs. Central line-associated blood stream infections are a good example of a loosely coupled consequence. Practitioners could violate the recommended central line insertion technique repeatedly without seeing a patient with an infection. They could also have trouble linking the technique violation with an infection occurring days later.

In these situations, providers need to learn to take a step back from personal experience and rely on systematic investigation or pooled experience to guide actions. The evidence base for methods of improving patient safety is steadily growing. Witness the refinements in ventilator-acquired-pneumonia prevention as an example.

CHPSO provides the pooled experience that can help better understand rare events. To enhance this, we are establishing a network of allied Patient Safety Organizations to share event information without identifying the patient, hospital or providers involved. This network already serves more than 700 hospitals, and we anticipate that it will grow significantly.

— Rory Jaffe, MD MBA rjaffe@calhospital.org

Information Exchange — Looking to the Future

In an accompanying article, Ali Rashidee discusses the upcoming release by the Agency for Healthcare Research and Quality (AHRQ) of electronic standards for the patient safety organization Common Format, and how it will enhance everyone's ability to exchange information to enhance patient safety.

AHRQ joins the general movement toward interoperable methods of exchanging information. AHRQ's vision (and CHPSO's) is that all databases, reporting initiatives and information exchanges will use the same vocabulary and information standards — eliminating rework by providers when faced with multiple data needs, and allowing comparing data from different sources.

This also fits into the larger context of health information exchange (HIE) in the U.S. The Nationwide Health Information Network (NHIN), sponsored by the federal government, provides a common platform for HIE across diverse entities, within communities and across the country. In its February 2010 release of the final production specifications, NHIN assumes that documents are formatted as XML data following the HL7 CDA standard. Many of the current pilot projects in HIE (e.g., the VA-Kaiser exchange) use that standard as well.

While CHPSO was able to begin receiving information from participating hospitals in January, we have chosen to wait until the AHRQ electronic standards are released. This delay will enhance future interoperability and reduce work by hospitals when engaged in information exchange.

— Rory Jaffe, MD MBA rjaffe@calhospital.org

AHRQ Releasing HL7 Clinical Document Architecture For Data Transfer Among Systems

In late December 2009, the Agency for Healthcare Research and Quality (AHRQ) released more details about Common Formats, which patient safety organizations (PSOs) and providers use to report safety concerns with both structured and narrative information. The Common Format facilitates PSOs' collection of patient safety work product (PSWP) from providers and submission of de-identified data to the Network of Patient Safety Databases (NPSD) in a standardized manner.

The collection and analysis of PSWP, submitted by providers to PSOs, are critical steps in the PSO process. Common Format (or other patient safety) data must move seamlessly from one system to another to ensure PSO-related activities for providers, PSOs and NPSD. Data interoperability will also result in higher-quality technology solutions in the marketplace.

Clinical Document Architecture (CDA) is an ANSI-certified standard from Health Level Seven (HL7). CDA specifies the syntax and supplies a framework for specifying the semantics of a clinical document. A CDA can contain any type of clinical content, and is readable by a health professional.

Many vendors have developed CDA-compliant applications for document generation, management and viewing. Since CDA is implemented in XML (Extensible Markup Language — see www.w3.org/XML/), any XML-capable application can work with CDA. So, for example, any web browser, such as MS Internet Explorer or Firefox, can parse a CDA document and, using an XSL stylesheet, convert it to HTML for display. Similarly, any XML-capable repository can manage CDA.

For document generation, implementers have a variety of choices. Several dictation/transcription vendors offer CDA as an output format. Many electronic health record vendors can produce CDA, typically as a conversion from a native format. In addition, eForm applications have been developed for CDA using readily available desktop technology. Some implementations use dynamic forms drawing information from distributed sources to pre-populate CDA with existing data. Any transport mechanism can be used to port the data of interest. Please see the official and canonical version of the CDA Release 2.0, available from the HL7 web site.

AHRQ is in the process of defining the CDA for the Common Format. From my communications with AHRQ, we are expecting the revised Common Format and CDA specifications to be released by March 31. We are also waiting for the of the CDA implementation guide from AHRQ. Adopting the HL7 CDA for Common Format would be a giant leap for stakeholders in terms of achieving interoperability for providers, PSOs and NPSD. It would save stakeholders the time and resources needed to import/export Common Format data in multitude ways.

— Ali Rashidee, MD MS, arashidee@quantros.com Quantros, Inc., and Co-Chair, Patient Safety Work Group HL7

Calendar

Following is a list of upcoming events that are still open for enrollment. For more information or to enroll, use the contacts listed below.

March

4: *BEACON*: Physician Leadership Meeting. San Francisco.

5: *BEACON*: CNE Meeting. San Francisco.

11: *BEACON*: Compass Series course day 3 (of 4). Santa Clara.

12: *CAPSAC*: California Patient Safety Action Coalition Meeting. Sacramento.

16: *SCPSC* (Southern California Patient Safety Collaborative): Track II: Pressure Ulcers. City of Industry.

26: (Date change — was March 10) *BEACON*: PSQI, Practical Skills for Quality Improvement. San Mateo.

April

1: *SCPSC*: Track III: Perinatal Care. City of Industry.

7: *HASD&IC* (Hospital Association of San Diego & Imperial Counties): San Diego Patient Safety Council. San Diego.

8: (Date change — was April 15) *BEACON*: Compass Series course day 4 (of 4). Santa Clara.

27: *BEACON*: Annual Meeting. Santa Clara.

30: *CAPSAC*: Statewide Convening. Sacramento.

May

11: *SCPSC*: Track I: Surgical Care Improvement Project, Sepsis, Hospital-Acquired Infections in the ICU Setting. City of Industry.

13: *BEACON*: Leadership Council. Location to be determined.

June

2: *HASD&IC*: San Diego Patient Safety Council. San Diego.

11: *CAPSAC*: California Patient Safety Action Coalition Meeting. Pasadena.

15: *SCPSC*: Track II: Pressure Ulcers. City of Industry.

July

27: *BEACON*: Quarterly Meeting. Location to be determined.

August

10: *SCPSC*: Track I: Surgical Care Improvement Project, Sepsis, Hospital-Acquired Infections in the ICU Setting. City of Industry.

12: *HASD&IC*: San Diego Patient Safety Council. San Diego.

September

1: *SCPSC*: Track II: Pressure Ulcers. City of Industry.

10: *CAPSAC*: California Patient Safety Action Coalition Meeting. Napa.

10: *BEACON*: Key Contacts Meeting. Location to be determined.

23: *BEACON*: Physician Leadership Meeting. Location to be determined.

24: *BEACON*: CNE Meeting. Location to be determined.

October

6: *HASD&IC*: San Diego Patient Safety Council. San Diego.

November

16: *SCPSC*: Track I: Surgical Care Improvement Project, Sepsis, Hospital-Acquired Infections in the ICU Setting. City of Industry.

December

1: *HASD&IC*: San Diego Patient Safety Council. San Diego.

2: *SCPSC*: Track II: Pressure Ulcers. City of Industry.

3: *CAPSAC*: California Patient Safety Action Coalition Meeting. Torrance.

For further information on these events:

BEACON: Pamela Speich pspeich@hospitalcouncil.net or www.beaconcollaborative.org

CAPSAC: Theresa Manley manleyt1@pamf.org or www.capsac.org

CHPSO: Rory Jaffe rjaffe@calhospital.org

HASD&IC: Nancy Pratt nancy.pratt@sharp.com

SCPSC: Catherine Carson ccarson@hasc.org

Additional Resources

For further reading on statistics of rare events: Hanley, J. A., & Lippman-Hand, A. (1983). If nothing goes wrong, is everything all right? Interpreting zero numerators. *JAMA : the journal of the American Medical Association*, 249(13), 1743-5.