"What Goes Wrong" (Safety-I) and "What Goes Right" (Safety-II)

Ellen S. Deutsch, MD, MS, FACS, FAAP, CPPS
Editor, Pennsylvania Patient Safety Advisory
Medical Director, Pennsylvania Patient Safety Authority

In our efforts to optimize the safety of healthcare, is preventing "things that go wrong" a sufficient strategy?

Many, if not all, healthcare safety programs focus on understanding what went wrong when an adverse event affects a patient. In seeking to prevent the possible recurrence of adverse events, there has been a cultural movement away from a "name, shame, and blame" process[1] and toward a search for multiple underlying contributory causes.[2] Investigative processes such as root-cause analysis (RCA) are intended to retrospectively identify—and potentially provide an opportunity to mitigate—conditions or circumstances that may have contributed to an adverse event. Exploration of a comprehensive list of contributing causes is an important part of the RCA process, and a variety of methods, such as Ishikawa's Fishbone or the 5 Whys, have been advocated.[3] The RCA process appeals to our understandable desire to "tame risk and uncertainty."[4] RCA meetings typically involve multiple diverse stakeholders; participation creates "an opportunity for improved communication in the workplace through organized sense making."[4]

Hollnagel and others label this approach as "Safety-I"—a reactive approach to understanding what factors may have contributed to an undesired outcome.[5] Typically, infrequent events that involve the greatest harm receive the most attention. There is a complementary approach, "Safety-II," which additionally seeks to understand "what goes right," including what goes right during ordinary healthcare delivery.[5] Proactive attention is paid to understanding how healthcare that works is actually accomplished.

Safety-II focuses on trying to anticipate developments and events. The Safety-II perspective explores what goes right to make sure that as much as possible will go right in the complex, sometimes unpredictable environment of healthcare delivery.[5] For example, in addition to analyzing what goes wrong in patient care units with high rates of certain events (e.g., falls, infections), Safety-II also looks at the many more events that turn out right to understand what makes for successful work. Additionally, it may also be worthwhile to evaluate patient care units that have low rates of undesired events. What do they do that might be different? Have they eliminated hazardous processes or materials, or implemented design controls (such as engineering controls based on human factors principles) or administrative controls that have resulted in improvements?[6]

Simulation is one resource that can be used to improve our understanding of both what goes wrong and what goes right. A simulation scenario can re-create common or uncommon healthcare situations; participants from multiple disciplines respond and collaborate to manage a simulated patient together. A simulation can also show how people adjust their performance to the conditions, resources, and demands of healthcare delivery. In addition to providing practice to improve the teamwork and probably the sense making of the healthcare providers, during the subsequent debriefing or guided reflection, participants can articulate and reinforce helpful activities as well as identify opportunities for improvement. These improvements may involve actions, equipment, processes, or other aspects of the patient care process. Although many simulations are based on real events, the simulation itself does not include direct risk or adverse outcomes for real patients.[7] Skilled facilitation helps participants reflect on the patient care process in a constructive and supportive manner.

Hollnagel and others suggest that humans, rather than being liabilities or hazards, are necessary resources that provide system flexibility and resilience.[5] Many organizations understand the value of rewarding "good catches" by healthcare providers, support services personnel, or other organizational staff. The Pennsylvania Patient Safety Authority recognizes individuals and groups within Pennsylvania healthcare facilities

©2015 Pennsylvania Patient Safety Authority

who have demonstrated a personal commitment to patient safety, including acknowledgment during the annual I Am Patient Safety campaign (see http://patientsafetyauthority.org/NewsAndInformation/PressReleases/2015/Pages/pr_March_5_2015.aspx).

Beyond celebrations, there may also be lessons to be learned from studying frequent events in which there was a "good catch," just as lessons may be learned by studying events in which undesired outcomes occur. Safety-I and Safety-II are complementary; both perspectives can add to our understanding of how to improve the safety of healthcare delivery.

NOTES

1. Tevlin R, Doherty E, Traynor O. Improving disclosure and management of medical error - an opportunity to transform the surgeons of tomorrow. *Surgeon* 2013 Dec;11(6):338-43.
2. Dew JR. In search of the root cause. *Qual Prog* 1991 Mar;24(3):97-102.
3. Karl R, Karl MC. Adverse events: root causes and latent factors. *Surg Clin North Am* 2012 Feb;92(1):89-100.
4. Cassin BR, Barach PR. Making sense of root cause analysis investigations of surgery-related adverse events. *Surg Clin North Am* 2012 Feb;92(1):101-15.
5. Hollnagel E, Wears R, Braithwaite J. From Safety-I to Safety-II: a white paper [online]. 2015 [cited 2015 Apr 25]. http://resilienthealthcare.net/onewebmedia/WhitePaperFinal.pdf
6. Card AJ, Ward J, Clarkson PJ. Successful risk assessment may not always lead to successful risk control: A systematic literature review of risk control after root cause analysis. *J Healthc Risk Manag* 2012;31(3):6-12.
7. Deutsch ES. Simulation in otolaryngology: smart dummies and more. *Otolaryngol Head Neck Surg* 2011 Dec;145(6):899-903.

©2015 Pennsylvania Patient Safety Authority

PENNSYLVANIA PATIENT SAFETY ADVISORY

This article is reprinted from the Pennsylvania Patient Safety Advisory, Vol. 12, No. 2–June 2015. The Advisory is a publication of the Pennsylvania Patient Safety Authority, produced by ECRI Institute and ISMP under contract to the Authority. *Copyright 2015 by the Pennsylvania Patient Safety Authority. This publication may be reprinted and distributed without restriction, provided it is printed or distributed in its entirety and without alteration. Individual articles may be reprinted in their entirety and without alteration provided the source is clearly attributed.*

This publication is disseminated via e-mail. To subscribe, go to http://visitor.constantcontact.com/d.jsp?m=1103390819542&p=oi.

To see other articles or issues of the Advisory, visit our website at http://www.patientsafetyauthority.org. Click on "Patient Safety Advisories" in the left-hand menu bar.

THE PENNSYLVANIA PATIENT SAFETY AUTHORITY AND ITS CONTRACTORS

PATIENT SAFETY AUTHORITY
An Independent Agency of the Commonwealth of Pennsylvania

The Pennsylvania Patient Safety Authority is an independent state agency created by Act 13 of 2002, the Medical Care Availability and Reduction of Error (MCARE) Act. Consistent with Act 13, ECRI Institute, as contractor for the Authority, is issuing this publication to advise medical facilities of immediate changes that can be instituted to reduce Serious Events and Incidents. For more information about the Pennsylvania Patient Safety Authority, see the Authority's website at http://www.patientsafetyauthority.org.

ECRI Institute
The Discipline of Science. The Integrity of Independence.

ECRI Institute, a nonprofit organization, dedicates itself to bringing the discipline of applied scientific research in healthcare to uncover the best approaches to improving patient care. As pioneers in this science for more than 40 years, ECRI Institute marries experience and independence with the objectivity of evidence-based research. More than 5,000 healthcare organizations worldwide rely on ECRI Institute's expertise in patient safety improvement, risk and quality management, and healthcare processes, devices, procedures and drug technology.

ISMP
INSTITUTE FOR SAFE MEDICATION PRACTICES

The Institute for Safe Medication Practices (ISMP) is an independent, nonprofit organization dedicated solely to medication error prevention and safe medication use. ISMP provides recommendations for the safe use of medications to the healthcare community including healthcare professionals, government agencies, accrediting organizations, and consumers. ISMP's efforts are built on a nonpunitive approach and systems-based solutions.

Scan this code with your mobile device's QR reader to subscribe to receive the Advisory *for free.*