

Health Policy Newsletter

Volume 16 Number 1

March, 2003

Article 1

From the Editor

Tracking Medical Errors: Enter the Private Sector

David B. Nash, MD, MBA*

* Thomas Jefferson University

Copyright ©2003 by the author. *Health Policy Newsletter* is a quarterly publication of Thomas Jefferson University, Jefferson Medical College and the Office of Health Policy and Clinical Outcomes, 1015 Walnut Street, Suite 115, Philadelphia, PA 19107.

Suggested Citation:

Nash DB. From the editor: Tracking medical errors: Enter the private sector. *Health Policy Newsletter* 2003; 16(1): Article 1. Retrieved [date] from <http://jdc.jefferson.edu/hpn/vol16/iss1/1>.

From the Editor

Tracking Medical Errors: Enter the Private Sector

Who cares about medical errors? In fact, who cares more, patients or clinicians? Surely we all would agree that the medical profession and the public care – that they understand the scope of this public health challenge and support broad actions to rectify it.

Previously, I have discussed the Institute of Medicine (IOM) report¹ claiming that more than one million preventable adverse events occur each year in the United States, of which 44,000 to 98,000 are fatal. Although the accuracy of these numbers has been assailed, I believe most of our readers agree that medical error is a serious and pervasive problem warranting a spectrum of public and private solutions.

In this editorial, I will first try to define who cares about medical error and to what degree. Then I will briefly discuss the role of reporting medical error through both voluntary and mandatory public external reporting systems. Finally, I will emphasize the role of the private sector in tracking medical errors for the purposes of quality improvement.

Late last fall, Blendon and colleagues from Harvard Medical School² reported that both the public and the profession are skeptical about the number of in-hospital deaths resulting from error, and that both groups believe a substantial proportion of these deaths are *not* preventable. Blendon also found that the public sees reporting as a very effective way of reducing errors and wants these reports to be publicly available. Physicians are more skeptical and would prefer that reports be kept confidential. Finally, the public believes that persons responsible for errors with serious consequences should be sued, fined, and subject to suspension of their professional licenses. A majority of physicians believe that individual health professionals are more likely to be responsible for preventable medical errors than are institutions.

Blendon concluded his report by saying, "The results of our surveys show that the public, and to a lesser extent physicians, hold individual health professionals personally responsible for errors." Blendon's work attracted national press attention, including a front-page article in *The Philadelphia Inquirer*,³ and followed, in January 2003, by *Consumer Reports*⁴ magazine's first ever cover story on this subject entitled, "How Safe is Your Hospital?"

I was shocked by Blendon's findings, and it reminded me that most clinicians regrettably lack a systems-based understanding of medical error. While the IOM reports got a good deal of press attention, the main message concerning system failure as the cause of medical error seemed to have been lost. Thirty years of research have convinced me of the inter-relatedness and complexity of care as the principal cause of error. Yet we still want a culpable party held responsible for error as we fail to heed the dictum that "every system is perfectly designed to achieve exactly the results it gets." To me, Blendon's work, *The Philadelphia Inquirer* and *Consumer Reports* all beg a larger question. What will it take to convince skeptical clinicians and our patients that system failure leads to medical error? Indeed,

Blendon says that perhaps the most critical issue will be to "provide skeptical physicians with scientific proof that the proposed strategies will, in fact, reduce preventable medical errors and the harm they cause."

Will mandatory external error reporting systems convince clinicians of the systemness of care and, in turn, reduce error? The IOM argues that mandatory reporting of serious injuries primarily improves safety by ensuring accountability.¹ Mandatory systems hold hospitals accountable by requiring that serious mishaps be reported and by providing disincentives such as citations, penalties, or sanctions for continuing to engage in unsafe practices. According to Dr. Lucien Leape, writing in the *New England Journal of Medicine*,⁵ only 20 states have mandatory reporting systems currently in place. The types of events that must be reported vary widely from specific events, such as brain or spinal cord damage in Florida, to general events, such as those that "seriously compromise quality assurance or patient safety," in Pennsylvania. The only reportable event common to all state programs is unanticipated death.

If mandatory state-based systems are not the answer, what about voluntary external reporting systems? Generally, these external reporting systems have both individual hospital and national implications. At the individual hospital level, the primary purpose of reporting is to learn from experience.⁵ Many other methods also are used to identify threats to safety, but a good internal reporting system ensures that all responsible parties are aware of major hazards. Reporting is also important for monitoring progress in the prevention of errors. Ideally, when an adverse event occurs in a hospital, it is reported to the administration, an investigation is carried out to uncover the causes, and changes are made to prevent the recurrence.⁵

At the national level, voluntary reporting may improve safety in several ways. "First, alerts about new hazards can be generated from even a few reports. Second, information about the experience of individual hospitals in using new methods to prevent errors can be disseminated. Third, central analysis of many reports can reveal trends and hazards that require attention. Fourth, central analysis can lead to recommended best practices for all to follow."⁵ Please refer to the accompanying table that expands upon Dr. Leape's work to include most of the major national voluntary reporting systems and their basic characteristics.

While mandatory and voluntary external reporting systems may improve accountability and, therefore, reduce medical error, the evidence remains anecdotal at best. My bias is that all healthcare is locally driven and that clinicians will understand and appreciate the systemness of error prevention with information gathered in a non-punitive format derived from their own institutions. Our national culture is repelled by centralization and American-style ingenuity calls for local solutions to vexing social problems. Let me couple this bias with my equally strongly held belief that the ultimate power rests in our market-driven economy. I am betting on the future success of tracking medical error with a private sector solution geared to help the individual hospital tackle the systems nature of medical error.

Please refer to the accompanying table that lists eight of the most widely used proprietary medical error tracking systems but, first, some inevitable disclaimers. This list is not meant to be exhaustive nor does it cover all of the detailed technical specifications supplied by each of the firms. This is an environmental snapshot, if you will, not a full accounting resulting from due diligence with every company in the market place.

With names like *RiskMaster* and *Webagent* evocative of a Nintendo game, these firms are filling an important niche, transcending the major national voluntary and mandatory systems. Taken together, these largely web-based proprietary systems offer hospitals an opportunity to self-evaluate and track all kinds of adverse events within their walls. These eight share some generic characteristics, including high levels of electronic security, the ability to integrate with many hospital legacy information systems, customizability, and the entrepreneurial spirit to deliver what the customer wants.

In our five-month investigation of the marketplace we found, not unexpectedly, great variation amongst the companies and their products. Several have their roots in the financial sector, namely banking and insurance industries, where protecting electronic transactions has been the norm for nearly a decade. They range from the giant Affiliated Computer Services (ACS) in Dallas, Texas to the small Cornerstone Consulting Company in Bartlett, Tennessee.

Others have their roots clearly in clinical practice, like the Safety Optimizer from Zynx at Cedars-Sinai Medical Center in Los Angeles, and Risk Prevention Management from DoctorQuality in Conshohocken, Pennsylvania. These firms, founded by physicians, frame medical error with a different taxonomy - one built on evidence-based medicine and the literature linking cost savings to reducing adverse drug events, for example. Of the national voluntary programs, the Patient Safety Net (PSN) of the University HealthSystem Consortium shares many of the positive characteristics of the leading physician-driven proprietary systems.

Some firms emphasize the scope of their customer base and the thousands of adverse events reported into their central database, such as DoctorQuality, while others either would not release comparable information or were reluctant to admit how few current customers they actually had.

It is clear that no system, public or private, has hegemony over the others. As yet, there is very little peer-reviewed literature comparing and contrasting these systems and describing their impact on error reduction and cost savings. As Leape pointed out, mandatory systems appear to lack a major constituency in most states and, therefore, fail to receive adequate financial support. Can these proprietary systems fill that lacuna?

Reducing medical error is everybody's business, including clinicians and the public. Accountability for what we do in medicine is a cornerstone for the future construction of any delivery system. We need the energy of both the public and private sectors to tackle this social challenge. How we tackle this matters less than the fact that we must tackle it now. As usual, I am interested in your views, and you can reach me at my email address, david.nash@mail.tju.edu.

References

1. Nash DB. The vision for a National Quality Report. Health Policy Newsletter 2001;14(3):1-2.
2. Blendon RJ, DesRoches CM, Brodie M, et al. Views of practicing physicians and the public on medical errors. N Engl J Med 2002;247:1933-1940.

3. Goldstein J. Survey: Medical mistakes common. The Philadelphia Inquirer. December 12, 2002:1.
4. Consumer Reports. How Safe is Your Hospital? Consumer Reports 2003;68(1):12-18.
5. Leape LL. Reporting of adverse events. N Engl J Med 2002;347:1633-1638.

Acknowledgement

Dr. Nash wishes to acknowledge the help of Mr. Adam Roumm in the Office of Health Policy and Mr. Scott Laidlaw from DoctorQuality, Inc. in the research for this editorial. He also would like to acknowledge his dual commitment as a member of the Board of Directors of DoctorQuality, Inc. in Conshohocken, Pennsylvania.

Proprietary Error Reporting Systems				
System	Organization	Function	Approx. # of Users or Reports	Characteristics
MDCASE	Shelton Group Services, Inc.	Emergency care management center for trauma centers, children's hospitals and nontrauma centers	Over 300 clients	Outcomes, response, and case management systems designed to help trauma centers identify and reduce risk
QI Tracker	Reimagine Health, Inc. and QPS, Inc.	Collect and analyze data on errors, incidents, adverse events, etc.	6 health plans	Provides national data to measure and occurances for health plans
Global Incident Manager	Genentech Consulting, Inc.	Central case procedure for reporting, investigation, analysis, and follow-up	20 contracted clients	Generalized procedure for reporting, investigation, analysis, and follow-up on adverse incidents
First Monitor: First 911 Plus	RL Solutions	Recording of adverse events	30-40 hospitals and community health centers	Tracking and management reporting tools. Interface to local and national databases with some benchmarking capabilities
First Response & Management System (FRMS)	First Response	Reporting of adverse events and incidents	20,000 reports used by over 100 hospitals and health plans	Health care facilities can report cases and other cases and compare to other facilities. Some database owned by the facilities
First Response Tracker SM Complete System	Genentech Consulting, Inc.	Web-based system for reporting, investigation, analysis, and follow-up	Over 300 clients including multi-hospital systems, ambulatory care systems, and medical malpractice attorneys	Health care facilities can report cases and other cases and compare to other facilities. Some database owned by the facilities
Safe Options	Genentech Consulting, Inc.	Web-based system for reporting, investigation, analysis, and follow-up	100 clients, 100,000 incident reporting reports	Genentech's 100,000 cases system is the most comprehensive and most used reporting system. Genentech's system is the most comprehensive and most used reporting system. Genentech's system is the most comprehensive and most used reporting system.
MS Safety	Reimagine Health	Reporting tool that encourages employees to report errors	24 clients	Provides a reporting system for reporting, investigation, analysis, and follow-up on adverse incidents

Voluntary National Reporting Systems				
System	Organization	Function	Approx. # of Users Or Reports	Characteristics/Incomplete/Notable
Medical Events Reporting System- Transfusion Medicine (MERS-TM) ¹	Columbia University, National Heart, Lung, and Blood Institute	Reporting of blood transfusion errors or near-misses	3,000 facilities reported, 18 organizations use web-based program; others use national paper-based or PC-based reporting system	Process involves discussion, selection, investigation, description and classification, completion, and interpretation; uses event discovery report and final Cause Analysis Report to collect, identify and analyze events; follow FDA rule requiring hospitals and blood centers maintain a method to report, investigate and track errors and outcomes
MIDAS+ ²	USP	Reporting of medical errors that reached the patient, errors that were intercepted, and potential errors	105,000 in 2001; 2,650 were harmful (850 involved initial or prolonged hospitalization, 70 mg and 10 mg sent in to one file, 14 deaths); more than 600 hospitals are subscribed	Collects information on medication errors including error types, causes, location within health care facility, level of staff involved, products, and contributing factors to the error
MedWatch ³	FDA	Reporting of potential and actual medical product errors, quality problems associated with drugs, biologics, devices, and dietary supplements	150,000 ADR cases in 1999	Medical product safety alerts, recalls, withdrawals, and important labeling changes that may affect the health of all Americans are quickly disseminated to the medical community and the general public
National Nosocomial Infection Survey ⁴	CDC	Reporting of hospital-acquired infections	40,000 reports/y	How to reduce infection-control problems in repeat hospital-acquired infections; establishes national standard benchmarks and reports site-specific infection rates to participating hospitals
Patient Safety Net (PSN) ⁵	WHO	Reporting of medication errors, ADR's, falls, transfusion events, procedural events, completed vs. equipment issues, behavioral events, data integrity, other	14 users subscribed; 6,000 cases submitted	International application in a secure server; checks and updates entry at point of care; anonymous; report address list; user use events; optimize frequency for adverse events; standard and criteria report generation features
Patient Safety Reporting System (PSRS) ⁶	NSA	Reporting of close calls, unreported serious occurrences that involved a patient's death, physical injury, or psychological injury, and lessons learned or safety ideas	172% medical errors; over 8 million patients	Mail in event form; complementary external system to current internal reporting system (Root Cause Analysis); if an event is serious PSRS will send out a system-wide Alert without any source identification
Swine Events Reporting Program ⁷	NIH	Reporting of deaths, paralysis, coma, etc. due to vaccination error, suicide of patient, equipment procedure on setting patient, important maternal death, perinatal death not related to congenital condition, assault, homicide, or other resulting in injury; solvent fall resulting in injury; transverse transfusion involving blood incompatibility	1,313 reports since 1995	Only major program to address full range of serious events; have to be or result in serious event; form when a potential event occurs a report on the analysis is performed, a plan of action is designed, and follow-up activities are done; voluntary; fed if 1,000 reports of event from one party; if multiple hospital to conduct an analysis of the root-cause or risk based on investigation

Reference List for charts

1. About MIDAS+. MIDAS+ Web site. Available at: http://www.midasplus.com/about_midas.html. Accessed December 16, 2002.
2. ViPS QIMonitor. ViPS Web site. Available at: http://www.vips.com/products_pdf/QIMonitor.pdf. Accessed January 3, 2003.
3. Qstatim Incident Manager Overview. Qstatim Web site. Available at: <http://www.qstatim.com/Overview.asp>. Accessed December 16, 2002.
4. Risk Monitor Pro. RadicaLogic Solutions Web site. Available at: <http://www.radicalogic.com/solutions/risk>. Accessed December 16, 2002.
5. Risk Prevention and Management System Media Center. DoctorQuality Web site. Available at: http://www.doctorquality.com/www/RPM_Media/default.htm. Accessed December 16, 2002.
6. RiskMaster. Computer Sciences Corporation Web site. Available at: <http://www.csc-fs.com/MARKETS/riskmaster/riskmaster.asp>. Accessed December 20, 2002.
7. Safety Optimizer. Zynx Health Incorporated Web site. Available at: <http://www.zynx.com/Products/products-so.htm>. Accessed December 20, 2002.

- 8.** Peminic Webagent. Peminic LLC Web site. Available at: http://www.peminic.com/products_webagent.html. Accessed December 20, 2002.
- 9.** About MERS-TM. MERS-TM Web site. Available at: <http://www.mers-tm.net/about.html>. Accessed December 16, 2002.
- 10.** Leape LL. Reporting of Adverse Events. *N Engl J Med* 2002;347:1633-1638.
- 11.** MedMARx. The United States Pharmacopeia Web site. Available at: <http://www.usp.org/cgi-bin/catalog/SoftCart.exe/catalog/frameset.htm?E+uspstore>. Accessed December 19, 2002.
- 12.** Medwatch. Food and Drug Administration Web site. Available at: <http://www.fda.gov/medwatch/>. Accessed December 16, 2002.
- 13.** UHC Patient Safety Net. University HealthSystem Consortium Web site. Available at: http://www.uhc.edu/results_list.asp?folder=WEB/MIT/PSN/. Accessed December 16, 2002.
- 14.** Patient Safety Reporting System. Patient Safety Reporting System Web site. Available at: <http://psrs.arc.nasa.gov/index.html>. Accessed December 16, 2002.
- 15.** Sentinel Event Statistics. The Joint Commission on Accreditation of Healthcare Organizations Web site. Available at: <http://www.jcaho.org/accredited+organizations/ambulatory+care/sentinel+event/s/sentinel+event+statistics.htm>. Accessed December 20, 2002.