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Regional Patient Safety Initiatives: The Missing Element of Organizational Change

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Data Sharing Systems

Data-sharing systems—where healthcare providers jointly implement a common reporting system to promote voluntary reporting, information sharing, and learning—are emerging as an important regional, state-level, and national strategy for improving patient safety[1]. Currently, over 24 states have mandated some form of incident reporting. Also, there has been a steady increase in the number of regional coalitions of providers, payers, and employers working to improve patient safety. More recently, the President signed into law the Healthcare Information Exchange Act, which envisages such data sharing at a national level. The objective of this presentation is to review the evidence regarding the effectiveness of these data-sharing systems and to report on the results of an analysis of data from one program.

Pittsburgh Regional Healthcare Initiative

The Pittsburgh Regional Healthcare Initiative (PRHI) was formed in 1997 as a consortium of providers, purchasers, insurers and other stakeholders in healthcare delivery in southwestern Pennsylvania [2]. Its stated vision was to achieve perfect patient care by working collaboratively, sharing information about care processes and their links to patient outcomes, and using patient-centered methods and interventions to identify rapidly solve problems to root cause at the point of care. Partners include clinicians, 42 hospitals, four major insurers, several large and small-business healthcare purchasers, corporate and civic leaders, and elected officials.

PRHI has relied on several strategies to promote improvements. One particularly important strategy was the creation of a regional infrastructure for common reporting and shared learning. The reporting system focused on medication errors. The reporting system was based on the premise that PRHI partners agreed upon common guidelines for the process of data collection and reporting. Since this was a voluntary reporting system, an operating committee comprising representatives from partner organizations worked to define reporting formats, data standards and interpretation of the data. The reporting platform was designed to provide comparable data and the committee was actively

involved in assisting healthcare providers to assess and interpret performance against the regional benchmark.

The platform chosen for common reporting was U.S. Pharmacopeia's anonymous, voluntary, and national database for reporting medication errors—MedMarx. This was selected because it had a credible taxonomy of errors and provided associated databases for describing errors, their contributing causes, and corrective actions.

Effectiveness of Data Sharing

Analysis of data from the PRHI hospitals indicated that the number of errors and corrective actions reported initially varied widely with organizational characteristics such as hospital size, JCAHO accreditation score and teaching status [3]. But the subsequent trends in reporting errors and reporting actions were different. Whereas the number of reported errors increased significantly, and at similar rates, across the participating hospitals, the number of corrective actions reported per error remained mostly unchanged over the 12 month period. Additional analyses utilized computer simulation models to examine the effects of implementing computerized physician order entry, decision support systems and utilizing clinical pharmacists on hospital rounds in response to medication errors [4, 5]. A significant reduction in errors occurred only when the simulated hospital put in to place a strategy of root cause analysis when an error was reported and initiated system-wide organizational changes to prevent this type of error from reoccurring.

Conclusions

The results of this study carry implications for the design and assessment of data-sharing systems. Organizational actions taken in response to errors indicate how aggressive the organization is in responding to errors. Efforts that only affect individual staff and involve voluntary reporting sand clinical initiatives are likely to have little effect in reducing errors long term. System-wide organizational changes are essential in order to significantly reduce medical errors and adverse events.

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Biography

James G. Anderson, Ph.D. is a fellow of the American College of Informatics. Currently he is a professor of medical sociology and health communication at Purdue University in West Lafayette, IN. He has published four books on applications of information technology to health care; the latest two are *Ethics and Information Technology* and *Evaluating the Organizational Impact of Healthcare Information Systems*. He has served as chair of the Ethical, Legal and Social Issues Working Group and chair of the Quality Improvement Working Group of the American Medical Informatics Association. He serves on the editorial board of the *Journal of the American Medical Informatics*. He holds degrees in engineering and the social sciences from Johns Hopkins University.