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Patient Safety at Kaiser Permanente

Introduction

Have you caught the patient safety wave yet? Have you wondered how and why it's different than what we currently do at Kaiser Permanente (KP) and how it will affect your practice? And given the huge problems outlined in government reports and recent news, how will our leadership approach this challenge? Senior leaders at KP have received the "call to action"; this article describes some of the efforts that have been launched and how they will enhance the medical care we deliver.

To begin, our members receive excellent clinical care. The achievements of our clinicians and staff have been recognized by a bevy of blue ribbon awards, favorable mention in national news media, exemplary practice awards from national organizations, and designation of "excellent" by accreditation committees. This recognition shows the way we organize for quality and the standard-setting Health Plan Employer Data and Information Set (HEDIS) and Care Management Institute (CMI) outcomes study results that our members experience. And yet, recent Institute of Medicine (IOM) reports[1,2] decry the quality of American medicine by pointing to dyscoordination in delivery systems and frequent errors that the public can't understand. Does KP have such a problem?

The answer is yes. Although we are better integrated because of our group model, our system is nonetheless a highly interactive, complex world, where teams of people must work together and rely on each other. What patient safety brings to us is a deeper understanding of the factors that can result in errors that no one in the system wanted. We have structures in place for examining errors in our system: significant event reporting, risk management, and peer review, for example. However, the focus on patient safety has given us an opportunity to rethink our concept of what is an acceptable level of error—a level formerly validated by use of concepts (eg, "iatrogenic" and "nosocomial") that represent errors as an inevitable and acceptable level of complication.

Dramatic improvements made in public safety and in the aviation and aerospace industries have resulted from many practices that can be exported and adapted to the health care environment. Doctors, like pilots, operate in a complex environment. In medicine as in aviation, outcomes are influenced by organizational, cultural, environmental, group, and individual dynamics. Despite legal and cultural barriers, KP believes in the possibility of using the aviation industry's methods to collect essential data and to train health care practitioners to focus on enhancing system safety and teamwork. These proactive approaches will go a long way to ensure the safety and protection of our patients. Although not entirely new to us, patient safety—embodying a clear understanding of the critical role of teams and the related human dynamics—provides a new paradigm for KP clinical practice.

KP's Strategy and Approach

We believe that KP must be a leader in patient safety to fulfill our mission. The obvious benefits include improving the health of our members and the communities we serve, recruiting and retaining quality physicians and staff, meeting purchaser and regulatory expectations and requirements, and creating a

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Pacific Business Group on Health Blue Ribbon (Excellent) Winners

The Pacific Business Group on Health (PBGH), an independent, nonprofit organization that monitors the quality of care provided in California, awards Blue Ribbons annually to one HMO and to a small number of medical groups and hospitals that have shown leadership in delivering high-quality, affordable health care to patients.

2001 – HMO: Kaiser Foundation Health Plan
Medical Group: The Permanente Medical Group, Southern California Permanente Medical Group
2000 – Medical Group: Southern California Permanente Medical Group
1999 – Medical Group: The Permanente Medical Group, Southern California Permanente Medical Group
1998 – HMO: Kaiser Foundation Health Plan

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competitive advantage that we can sustain over the long term. As shown in this article, we have in fact already begun the work.

The unique structure of our organization allows us to respond to developments in health care with a thoughtful, integrated approach. Since release of the 1999 IOM[1] report, we have implemented many important programs to improve and maintain patient safety:

- Leadership commitment
- Responsible reporting
- Education and training
- Communicating errors to patients and their families
- Adverse Drug Event Error Prevention Program
- Purchaser Initiatives

Leadership Commitment

We live in a culture that manages error by looking for people to blame; that silences admission of errors; and that focuses on the "sharp end" (ie, the clinician) instead of working to improve the systems we've created. We must foster responsible reporting and focus on the "blunt end" (ie, the system) to build more error-proof systems (Figure 1). Our organization faces the challenge of permanently changing our culture to embrace the new paradigm.

In March 2000, KP leadership and labor leaders across the KP Program met to discuss issues, challenges, opportunities, and strategies for KP to become a leader in patient safety. The meeting had two main objectives: 1) to create a common set of agreements regarding drivers of, challenges within, and scope of patient safety programs throughout KP (Figures 2 and 3); and 2) to develop a framework for national and regional KP patient safety initiatives.

In August 2000, KP Quality Directors agreed to integrate patient safety into our eight internal review standards. Specific language related to patient safety and error reduction was added to each standard. This work was aligned with National Committee for Quality Assurance patient safety standards as well as with patient safety standards adopted by the Joint Commission on Accreditation of Healthcare Organizations.

In December 2000, KP drafted a patient safety plan whose purpose is to identify and communicate common priorities important for three purposes: 1) to facilitate organizational alignment, 2) to leverage available resources, and 3) to enhance our systems. This plan outlines a five-year patient safety path that is based on a thorough needs assessment. The patient safety strategic plan clearly defines, organizes, and articulates collective strategy, direction, and initiatives. Six core themes describe KP's patient safety strategy and direction (see Sidebar).

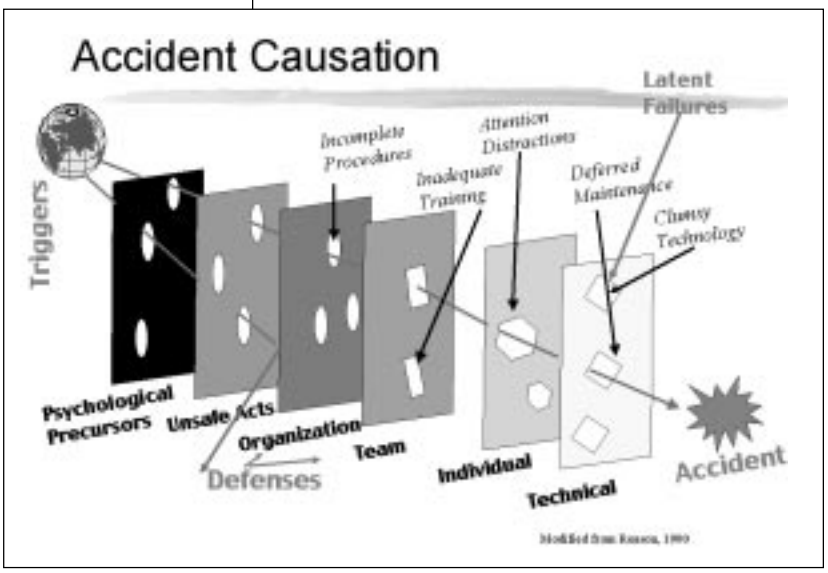

Figure 1. Adapted and reproduced by permission of the publisher and author from: Reason J. Managing the risks of organizational accidents. Aldershot (Hampshire, England): Ashgate; 1997. [9:120]

The 6 "Safes" of KP's Patient Safety Plan

Safe Culture: create and nurture a strong unified patient safety culture at KP

Safe Care: design and maintain a care delivery system that improves safety performance

Safe Staff: ensure that staff members have the knowledge and skills to safely perform required duties

Safe Support Systems: identify, implement, and maintain support systems to provide the right information to the right people

Safe Place: design and operate the environment of care; purchase and use medical equipment and products that enhance safe, effective, efficient health care

Safe Patient: engage patients and their families in improving the care delivery system

Improved Reporting Needed to Promote Learning, Not Blame

In response to the need for error-reporting systems—a need emphasized in the IOM report—the Kaiser Institute of Health Policy began to focus resources on the issue of reporting as a way to improve patient safety. In partnership with the NASA Aviation Safety Reporting System, the National Quality Forum, and The Peter F Drucker Archive and Institute, the Kaiser Institute of Health Policy sponsored two roundtable discussions in 2000. From these collaborative forums, a list of critical actions was proposed: 1) Seek legal protections from Congress for voluntary safety improvement reporting systems; 2) Expand testing of the Veterans Administration prototype system for voluntary patient safety reporting; 3) Seek federal authorization and funding to test a prototype for a national voluntary reporting system; and 4) Initiate evaluation of established reporting systems.

The National Labor-Management Partnership recommended development of a responsible reporting system and related processes. (See related article on page 75.) The principle underlying this recommendation is that responsible reporting requires an organizationwide understanding that most errors are attributable to systems, not to individuals. As a result, the organization's primary response to errors should be to learn from them, not to assign blame or impose discipline. We will work with our labor partners to support the structure and staffing required to operationalize these recommendations for responsible reporting. Integrating the recommendations into our everyday operations will help us gain an even deeper understanding of our work processes and how well these processes protect patients from harm. In addition, we are applying methods (learned from the aviation industry) to develop attitudinal surveys for evaluating the "blamefree environment." Physicians, nurses, and other unit staff members will be asked such questions as,

- How do you rate teamwork and cooperation in your unit?
- Are mistakes freely discussed?
- Can unit assistants express disagreement with attending physicians?

The answers to these questions will be used to educate our organization and to provide opportunities for development to our clinicians and staff.

Education and Training

An education and training program for KP's executive leadership was developed to assist them in cre-

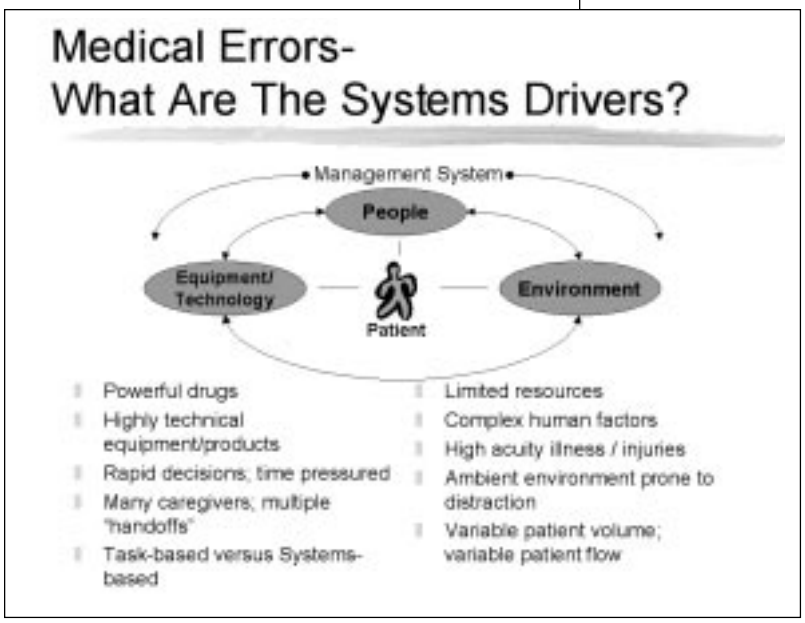

Figure 2. Reproduced by permission of the author, Doug Bonacum, MBA, CSP, Director, Kaiser Permanente National Environmental, Health Safety & Patient Safety, Oakland, California.

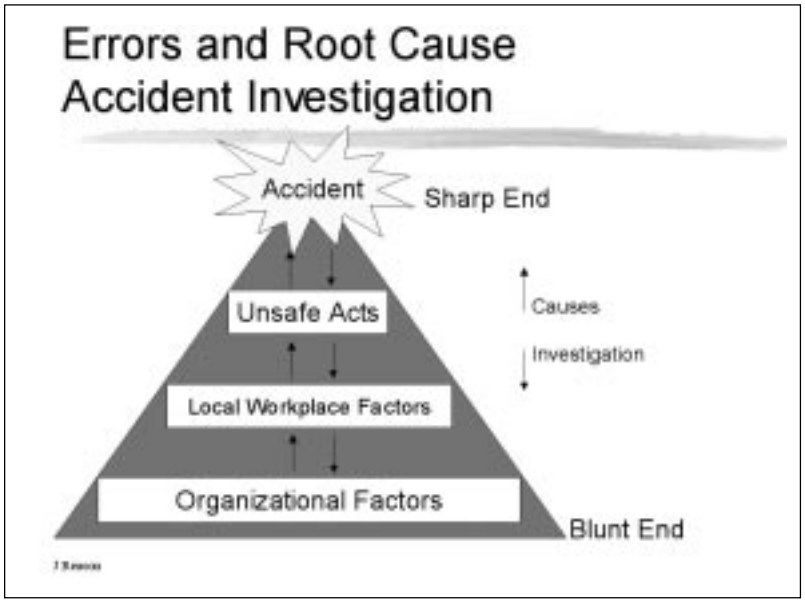

Figure 3. Adapted and reproduced by permission of the publisher and author from: Reason J. Human error. Cambridge (England); Cambridge University Press; 1997. [8:208]

Human Factors in Medicine

Making mistakes is part of being human. How many days have you gone through without making at least one mistake in your private or professional life? Have you ever driven into a service station and released the hood instead of releasing the gas cap? How about a Saturday morning when you were on the way to the grocery store but took the turnoff that led to your workplace? Although most mistakes are easily corrected and generally cause no harm, mistakes in the health care industry are not always that way.

Recognizing that humans make mistakes, high-risk industries other than the health care industry have gone to great lengths to develop systems that take human factors into consideration. For example, the aviation industry recognized that 70% of aircraft accidents involved human error.[4] Subsequently, by implementing training programs related to human factors, the aviation industry's safety record has improved dramatically during the past 20 years.

Human factors training—called "crew resource management" in the aviation industry—addresses human performance limiters (such as fatigue and stress) and discusses the nature of human error. This training provides various countermeasures against error—leadership, briefings, monitoring and crosschecking, decision making, and review of plans. Various training methodologies (such as role play, simulation, and case study) are used to allow crews to practice error management in nonjeopardy situations and to receive timely, specific feedback on their collective performance.

ating awareness and understanding of patient safety and to build commitment to making patient safety an operational priority. To assist our workforce, KP is working with the University of Texas to provide training in human factors and team management. The overall strategy is to establish a core group of KP physicians and staff equipped with the materials, techniques, and skills to implement and sustain a program for training staff in human factors. This training is based on work done by Robert Helmreich, PhD, of the University of Texas Human Factors Research Project, who has more than 20 years of experience in the airline industry.[3] Michael Leonard, MD, from the Colorado Permanente Medical Group is formally partnering with the Helmreich group to help develop, implement, and monitor outcomes of this training approach and has already launched patient safety/human factors training in the KP Colorado Region (see article by Dr Leonard and Ms Tarrant in this issue).

The specialty of anesthesiology has long been involved in issues of patient safety. (See related article on page 9.) Studies on anesthetic mishaps began 20 years ago and soon showed that human errors were the major cause of anesthesia-related injuries and near misses.[5] At the time, no programs existed to train anesthesiologists in the nature of human error or in how commission of error could be better managed. Several investigators responded to this by creating error management training programs modeled after those used in commercial aviation. Dr David Gaba and colleagues at the Palo Alto Veterans Hospital were among the pioneers in this area.[6] Six KP anesthesiologists have taken the Anesthesia Crisis Resource Management course at the VA Palo Alto Health Care System/Stanford University Simulation Center for Crisis Management Training in Health Care and are now qualified to train other physicians and team members. Core concepts of the training include an understanding of human error patterns, factors that increase errors, practical strategies to manage errors, and formal training in teamwork and communication. Participants undergo a series of critical scenarios in a simulated operating suite environment to analyze performance and options related to generic principles of crisis management behavior.

Communicating Errors to Patients and Families

The Garfield Memorial Fund is working with Terry Stein, MD, and Richard Frankel, PhD, to support studies and to review information that will guide us toward meeting patients' needs for communication about errors. In addition, leadership is engaging with Operations in KP Programwide conversations to develop and gain support for a statement of principle on our responsibility as medical professionals to inform patients and their families when harm occurs from medical errors.

Adverse Drug Event Prevention Program

Through the Garfield Memorial Fund, KP leadership sponsored an evaluation project to review our medication systems and to recommend changes in operations. This work led to a series of initiatives aimed at preventing inpatient and ambulatory adverse drug events. Four of these initiatives are

1. "Smart Orders": examines medication errors resulting from physician order transcription and identifies five key opportunities to improve patient safety and to reduce medical errors.

2. High-alert medications: identifies medications or classes of medications that carry a high risk of causing injury or fatality if misused.
3. Look-alike/Sound-alike (LASA) drugs: reduces risk associated with these numerous drugs. A workgroup is identifying six to ten medications that have similarly spelled names or similar packaging. The workgroup will implement interventions to minimize errors related to those similarities.
4. Standardization of intravenous medications: we have standardized concentration of intravenous medications used in adult nursing units in 80% of KP hospitals. We expect the standardization process to be completed in 2001.

Role of Purchasers in Promoting Patient Safety

A group of Fortune 500 companies and other large purchasers of health care services founded the "Leapfrog Group,"[7] a consortium committed to setting a common set of purchasing principles to advance patient safety. To become part of the Leapfrog Group, health care purchasers must commit to the group's purchasing strategies and must form partnerships to implement the group's specific patient safety initiatives. Three initial "leaps" to improve patient safety have been selected:

- computerized physician order entry,
- evidence-based hospital referral, and
- ICU physician staffing.

KP is moving quickly to address these areas in conversation with large employers and business coalitions and to determine the effectiveness of focusing in these areas to improve the health of our members. We have also worked closely with the Leapfrog Group to convince them of the importance of using a system of outpatient electronic medical records as the next great "leap" in patient safety.

Conclusion

Clearly, patient safety represents a challenge for KP and for the entire health care industry. Whenever a goal requires systemic change—whether in workflow design, automation, procedures, training, accountability, organizational culture, or patient communication–the path forward can appear daunting. The recent IOM report *Crossing the Quality Chasm*[2] calls for the health care industry to achieve goals in safety, patient-centered focus, effectiveness, efficiency, timeliness, and equitableness that will require cooperation, integration, and stakeholder focus (and alignment) currently existing in few places other than in our unique KP care delivery system. We have the framework and alignment needed to meet safety challenges, and our clinical information systems will give us unparalleled opportunity to improve care. More than any other health care organization, our partnerships with clinical, management, and labor groups demonstrate the reliably high quality of care that we provide and that is the cornerstone of our strategy. Please celebrate with us the exciting work detailed in the accompanying articles in this *Permanente Journal.* ❖

We have the framework and alignment needed to meet safety challenges …

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