



**IN PURSUIT OF SAFETY:
CHALLENGES, PROGRESS AND POLICY
IMPLICATIONS FOR THE UNITED STATES
PATIENT SAFETY MOVEMENT**

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Goals

The Institute's Goals are to:

- Identify significant long-term health policy issues;
- Organize internal and external resources to analyze such policies;
- Improve understanding and recommend actions; and
- Build coalitions to shape and influence policy.

Emphasis is placed on developing political alternatives and exploring their implications, building on the experience of the largest privately organized health care delivery system in the United States.

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In Pursuit of Safety: The Challenges, Progress and Policy Implications for the United States Patient Safety Movement

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I. Executive Summary

News in 1995 that Boston Globe journalist Betsy Lehman died as a result of an accidental chemotherapy overdose stirred national concern and debate about the safety of the U.S. health care system. Other high profile cases in the mid-1990's involving accidental overdoses, wrong limb amputation, and fatal drug-drug interaction served as stark lessons of health care system failures and fueled growing national concern about avoidable medical injuries. Although the safety risks in medical care have been known for some time, these highly publicized tragedies advanced the national dialogue about medical error reduction and helped to establish the foundation of a renewed patient safety movement in the United States.

In 1999, the Institute of Medicine (IOM) report *To Err Is Human* caught the attention of the public, policy makers and the media and formalized patient safety as a central pillar of health care quality. In a manner few reports have done, *To Err Is Human* has mobilized the public, purchasers and the health care industry around the patient safety issue. The report concludes that American health care is a decade or more behind other high-risk industries,¹ such as aviation and nuclear power, in its attention to ensuring basic safety and offers a sweeping vision of what can be achieved through quality and safety improvement efforts.

II. Challenges to Advancement in Patient Safety

The slow, protracted progress of the patient safety movement can be attributed in part to several ongoing challenges in the U.S. health care industry. These include cultural barriers, structural barriers, the digital divide among providers, workforce shortages, and the elusive business case for investments in patient safety.

Cultural Barriers

As a society, Americans often seek simple explanations to complex problems and tend to blame individuals when things go wrong. The atmosphere in which

medical care is delivered in the United States is overshadowed by the impending threat of malpractice litigation. The fear of making a mistake and being sued or losing one's license looms in the minds of providers. Consequently, when errors are made, the culture of blame encourages members of the health care team to keep quiet and admit nothing. In addition to societal culture, the culture of medical professionalism itself creates barriers to patient safety improvement. From the beginning of a physician's training onward, individual action rather than teamwork and a systems orientation is emphasized.

Structural Barriers

Several characteristics of the American health care system are not conducive to promoting patient safety. First, care is highly fragmented and increasingly specialized, involving many unrelated providers who struggle to communicate with each other and provide continuity of care. Numerous handoffs between unrelated medical professionals often lead to poor communication and create opportunities for error. Second, provider reimbursement policies can create perverse financial incentives for quality improvement, such as encouraging procedures that are not clinically appropriate or encouraging providers to reduce or limit care. Third, because the vast majority of physicians work in isolation or in small groups, they do not have a means to finance and deploy major quality improvement tools such as clinical information technology.² Finally, the growth of managed care, price competition, and reductions in Medicaid and Medicare payments have increased the economic pressure on health care providers. Providers experiencing multiple years of financial losses have responded by limiting investments in people, technology, and equipment—all factors that can either directly or indirectly endanger patient safety.

Digital Divide

A growing body of evidence demonstrates that clinical information technology (IT) such as computerized reminders, automated order entry systems, and decision support tools can enable significant improvement in patient safety. However, the U.S. health care industry lags behind other sectors in IT

investment and, with few exceptions, has not fully benefited from the information revolution. A variety of barriers stand between U.S. health care providers and clinical information systems. High costs, competing priorities for limited resources, and difficulty defining and capturing a return on clinical IT investments are some of the most significant obstacles.

Shortage of Health Care Professionals

The shortage of nurses, pharmacists and other health care professional is a looming national and global public health crisis that is expected to intensify as the baby boom population ages and the demand for health care increases. There is widespread belief and considerable evidence that higher levels of nursing staff positively impact the quality and safety of hospital care.³

The Elusive Business Case for Patient Safety

While many believe intuitively that cost-effective quality outcomes will result from their investments, medical care providers attempting to formulate the business case for investments in process improvements, enhanced staffing, and technology for patient safety improvement have very little empirical data to inform their decisions. Nevertheless, organizations have started to estimate the cost savings associated with medical error reduction via case-control comparisons, estimations of length-of-stay reductions, and using estimates published in medical literature.

III. The Role of Government and the Private Sector

Because the U.S. health care system is predominately private, it is not surprising that much of the activity to improve patient safety has roots in the private sector. Even so, there are many notable public/private collaborative initiatives and the federal government has ramped up its role in promoting patient safety.

Collaborative activity

Collaborations with a common interest in improving patient safety have grown steadily in numbers over the past several years. State, regional and national collaborative initiatives undertaken by hospital associations, professional organizations, employers, consumer organizations, accreditation organizations, clinical researchers, and government agencies have made significant strides in patient safety. Nonprofit organizations such as the National Patient Safety Foundation provide a vehicle for increasing awareness, identifying strategies to enhance patient safety, and supporting research. The Institute for Safe Medication Practices works closely with health care practitioners, institutions, and regulatory agencies to provide current information about adverse drug event trends and prevention strategies. The National Quality Forum, a non-profit public-private partnership, led a consensus process to identify 30 evidence-based safety practices that should be universally implemented in health care settings. Since 1990, the Institute for Health Care Improvement has collaborated with health care organizations nationally and internationally to increase awareness and promote health improvement, including the reduction of medication errors and the improvement of prescribing practices.

Accreditation

In 1996 the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), the not-for-profit safety and quality evaluator of nearly 5,000 hospitals, established a sentinel event reporting policy that calls for retrospective root cause analysis of serious adverse events. The JCAHO has bolstered hospital accountability with a new set of Patient Safety Standards that went into effect in July 2001. These standards call for the leadership of health care delivery systems to establish and maintain a patient safety program with high-level accountability and require a dynamic prevention program that emphasizes prospective analysis and redesign of vulnerable patient care systems.⁴ To comply with these new standards, many hospitals have adopted Failure Modes Effects Analysis (FMEA), a prospective risk assessment and process redesign tool that has been in use in the

aerospace, defense, and general manufacturing industries for many years. One of the most significant new JCAHO standards requires hospitals to proactively inform patients and their families about adverse outcomes.

Delivery System Initiatives

Activity has also been initiated at the delivery system and institutional level. The American Hospital Association encourages its members to conduct self-assessments of the safety of their medication practices using a tool developed by the Institute for Safe Medication Practices. The self-assessment initiative, which began in 2000, is designed to help hospitals identify opportunities for improvement and strengthen their systems to prevent medication errors.⁵ Most large health care systems have organized initiatives around patient safety. For example, Kaiser Permanente, the nation's largest not-for profit integrated health care delivery system, has a multi-pronged patient safety strategy that calls for each operating region to integrate a patient safety plan into its annual quality improvement plan.

Medical error reporting at the institutional level is of growing importance. A number of hospital organizations have established internal systems for adverse event and near miss reporting. The Veterans Health Administration has taken a step beyond this and has, with the National Aeronautics and Space Administration (NASA) developed a voluntary, confidential, and non-punitive Patient Safety Reporting System (PSRS). The voluntary PSRS enables de-identified reporting in a system that acts as a 'safety valve' to allow learning to take place from otherwise unknowable events, although only the vulnerabilities are revealed, not the specific corrective actions⁶

Legislative Activity

The U.S. national legislative agenda has included proposals that address patient safety on a variety of fronts, including establishing a national Center for Patient Safety and Medical Error Reduction, fostering research, authorizing mandatory and voluntary

reporting systems, and establishing grants for error-reducing information technology. Congress has held hearings and reported out on these proposals but as of mid-2003 has not taken final action on proposals except for the appropriation of funds to support research to expand our knowledge base. The ongoing debate in Congress is focused on the pros and cons of federally authorized mandatory vs. voluntary reporting systems and whether confidentiality protections should be extended to reported information.

At the state level, the legislative focus has been primarily on mandatory reporting of adverse events. According to a survey conducted by the National Academy for State Health Policy, twenty-one states have passed legislation to set up such reporting systems⁷ Once a report is made, health agencies or licensing bodies are empowered to inspect and sanction hospitals when a death or major injury occurs. Historically, state health departments have played an important role in hospital surveillance, ensuring that corrective action is taken in response to serious adverse events.

Federal Administration Response

The federal response to the patient safety challenge has been led by the Department of Health and Human Services. The Department's Agency for Healthcare Research and Quality (AHRQ) was appropriated over \$50 million in 2002 and 2003 for the study of ways to reduce medical errors and improve patient safety. In 1998 the Quality Interagency Coordination Task Force (QuIC) was established by President Clinton to ensure that all federal agencies that purchase, provide, study, or regulate health care services work in a coordinated manner toward the goal of improving the quality and safety of care. The QuIC, chaired by the late John Eisenberg, MD, who championed patient safety at the federal level, has served as the vehicle for federal patient safety response.⁸ The federal agency often associated with patient safety in the public's eye is the Food and Drug Administration (FDA). The FDA issues safety notices and recalls products as necessary in its oversight of drugs, medical devices, and biologic products. In 2003 the FDA issued two proposed rules to help prevent medication errors—one rule requiring

bar coding on pharmaceutical products and another expediting medication error reporting.

IV. Patient Safety Strategies

A variety of successful strategies for improving patient safety give rise to optimism about their broader application and systemic reform. The following section highlights strategies that have helped organizations to learn from past mistakes, reduce errors of omission and commission, reward the adoption of best practices, and support multidisciplinary research and dissemination of results.

Application of Quality Improvement Tools

Tools typically used by health care organizations for quality assurance or quality improvement are being used to examine the causes of errors or adverse events. The JCAHO has encouraged this with expectations that institutions with adverse events use root-cause analysis to identify causes of events and then put in place measures to prevent their reoccurrence. This type of analysis has led to a number of system fixes and process changes (e.g., marking for right side surgery, processes for the positive identification of patients, a variety of proposed medication safety initiatives such as labeling changes, and the removal of some dangerous drugs from hospital floors). The Agency for Healthcare Research and Quality has made a Patient Safety Indicators tool free and publicly available on the agency's Web site. The Patient Safety Indicators were designed to help hospitals indirectly measure potential adverse events using data from discharge records.⁹ A number of health organizations have strategically focused on the implementation of high impact quality interventions that have a relatively low cost such as executive "walkrounds" and safety briefings. Each of these seemingly small changes has helped reduce the risk of medical errors to patients.

Purchaser Initiatives

National, state and regional employer coalitions have been at the forefront of value-based purchasing in the

U.S. and have become a catalyst promoting quality and patient safety in our health care system. The Leapfrog Group, a consortium of more than 140 large public and private sector employers leveraging their purchasing power to advance quality and safety, set forth three hospital strategies it would like to see widely adopted (computer physician order entry, evidence-based hospital referral, and ICU physician staffing). Other notable purchaser coalitions include the Washington Business Group on Health, the Midwest Business Group on Health, the National Business Coalition on Health, and the Pacific Business Group on Health. Some employers and coalitions are beginning to offer financial incentives for the adoption of proven safety practices. For example, IBM, PepsiCo, Verizon Communications, and Xerox have joined New York's Empire Blue Cross and Blue Shield in an initiative that financially rewards hospitals meeting Leapfrog's patient safety standards.^{10, 11}

Implementation of Information Technology

There is ample evidence that clinical information tools can improve prescription drug administration and patient safety through improved drug dosing, reduction in adverse drug interactions, and more appropriate utilization.¹² A study at Brigham and Women's hospital evaluated a physician order entry system that resulted in a 55% reduction in medical errors and a 17% decrease in the preventable adverse drug event rate with potential cost savings of at least \$480,000 annually.¹³ Another study at the same institution documented that more than 80% of medication errors unrelated to missed dosage were eliminated by computerized physician order entry (CPOE).¹⁴ The Veterans Health Administration recently implemented bar code medication administration and CPOE systems that have substantially reduced the occurrence of medication errors in more than 160 medical centers nationwide.¹⁵

The use of handheld personal digital assistants (PDAs) has increased dramatically in recent years among physicians, nurses, emergency medical technicians, and medical students. Such devices are a potentially powerful tool in the patient safety arsenal, providing easy access to comprehensive disease descriptions, drug references, lab value ranges, intravenous drip

rates and body surface calculations, to name but a few. Many medical schools now require incoming medical students to own a PDA and are integrating PDA applications into coursework.

Best Practice Identification, Dissemination, and Implementation.

Sharing of best practices is key to making progress toward patient safety improvement. Over the course of the past five years, a significant level of state, federal and private resources have been expended to develop, demonstrate, evaluate and disseminate new approaches to reduce medical errors. The federal Agency for Healthcare Research and Quality has played a leadership role in advancing knowledge about medical errors and the promotion of successful patient safety strategies. The National Quality Forum recently developed a compendium of safety practices that include infrastructure and/or systems practices, new and emerging practices; underutilized basic care practices; and product design practices. The Institute for Safe Medication Practices distributes a biweekly safety alert about medication and device errors and adverse drug reactions to more than 5,000 hospitals, reaching over 300,000 readers.

Patient Safety Research

In September 2000, a national summit was held in Washington, D.C. to solicit input from the users of patient safety research about what they believed to be the most important research questions. Summit participants drafted a broad research agenda addressing short-term, medium-term and long-term projects.¹⁶ Building on this national research agenda, AHRQ, with appropriations of \$165 million over fiscal years 2001-2003, funded over 100 projects. AHRQ has also funded three centers of excellence across the country with a demonstrated capacity to conduct patient safety research.¹⁷ Other federal agencies, including the Center for Disease Control, have stepped up research on patient safety issues as well. In FY2003, AHRQ budgeted \$5 million to promote the translation of patient safety research into programs and products for health care systems.

Human Factors and Systems Thinking

Health care organizations are beginning to take an interdisciplinary approach to dealing with safety issues related to people and systems through the application of human factors principles and a systems-thinking framework. The study of human factors "is concerned primarily with the performance of one or more persons in a task-oriented environment interacting with equipment, other people, or both."¹⁸ Efforts to bring the human factors discipline to medical care delivery as a means to bolster safety have increased significantly over the past several years. Some health care organizations have examined the organizational factors that influence performance and safety in aviation and are beginning to apply these considerations to the delivery of medical care.

Systems thinking brings a holistic approach to the identification of patient safety solutions and policies. Effective systems-based solutions, such as those addressing the persistent potassium chloride medication errors that plagued U.S. health care until recently, seem simple and intuitive—yet the identification and implementation of seemingly straightforward systems solutions is often an arduous and time consuming task.¹⁹

Beyond the Inpatient Setting

The acute hospital setting has been the starting point or "ground zero" for medical error reduction and patient safety initiatives are still largely focused on inpatient care delivery. However, given the substantially larger and increasing proportion of health care that is delivered in outpatient settings, patient safety advocates are beginning to focus on initiatives in ambulatory and community care settings. Attention is now being focused on the patient pathway across the care continuum to prevent errors that may occur in the transition between care delivery settings.

Engaging Patients and Families in Patient Safety

Efforts to improve patient safety by making patients and their families more active participants in their medical experience are on the rise. These initiatives

seek to raise awareness of the importance of patient and family involvement and to provide useful tips on how to be more involved. Generally, these recommendations encourage patients and their families to ask more questions of physicians, pharmacists, and other health care workers. The U.S. Department of Health and Human Services has partnered with the American Hospital Association and the American Medical Association to launch 5 Steps to Safer Health Care, an educational initiative designed to engage patients as active and informed partners in patient safety.²⁰ The JCAHO also has a major initiative in this areas called SPEAK UP.²¹ It urges patients to get involved in their care, ask questions, pay attention to the care process, educate themselves, and know the medication they are taking, both what and why.²² However, engaging the patient as partner in enhancing safety is still a largely untapped opportunity.

V. Future Direction and Key Public Policy Issues

A variety of factors have made it difficult for the United States to achieve a quantum leap in safety improvement across the health care continuum. The lack of a well-orchestrated national strategy with high-level accountability and leadership is, in part, the price of heavy reliance on disparate private sector initiatives. Health care enterprises still too frequently approach patient safety from their respective silos. The following section outlines potential next steps and policy recommendations that can positively influence the future of the patient safety movement and the pace of change.

Cultural Transformation

A multi-pronged approach to cultural transformation is needed. The systems and processes of the health care industry must be focused on improving the reliability and safety of care. The workforce education process must teach students to identify errors and use them as opportunities to improve care. Providers must be encouraged to deal honestly with patients and their families about disappointing outcomes and

errors. A new professionalism that embraces teamwork, mutual respect and open communication must rise above the traditional hierarchical and authoritarianism approaches that pervade the medical profession today.

Critical Role of Leadership

Active health professional leadership is a key enabler for sustainable patient safety improvement. Current leaders must understand the dimensions of the patient safety problem and the opportunity for improvement. Future leaders need to be oriented and trained in the range of interventions available. A consortium of organizations including the American Society for Healthcare Risk Management (ASHRM), the American Hospital Association's (AHA) Health Forum, National Patient Safety Foundation, Health Research and Education Trust (HRET), and the American Organization of Nurse Executives (AONE) have partnered to sponsor the Patient Safety Leadership fellowship. The aim of the fellowship is to further the development of leadership in patient safety. Similarly, the Agency for Healthcare Research and Quality and the Veterans Administration have partnered to implement the Patient Safety Improvement Corps—a program aimed at developing the capacity of state health departments and health care institutions to improve patient safety.²³ Given the importance of this issue as a building block, investments in leadership and safety culture should precede investments in other areas. Professional societies, associations and governments can contribute to this development.

Sharing Incident Reports and Adverse Event Data

To a very limited degree, private and public sector reporting systems are now sharing incident reports and/or adverse event data. There is, however, virtually no sharing of information across state reporting systems. In recognition of the need to make the most use of existing patient safety information, mechanisms for sharing information among reporting systems in the United States are needed.

Acceleration of Best Practices Adoption

There is obviously much that we have already learned about how to effectively reduce medical errors and, as mentioned above, a wide array of proven patient safety interventions has been identified. Yet the translation of evidence-based information into widespread practice is a daunting task for the U.S. health care industry. The medical community is cautious about taking on new approaches and changing old habits. American health care institutions are facing enormous pressure to confront their inertia and "not invented here" mindset in the name of patient safety.

A number of organizations have, nevertheless, been successful at accelerating the use of best practices. The momentum for adoption of best practices comes from many sources, including industry meetings and conferences, professional journals, purchaser advocacy, and competitive market forces. Perhaps most important, the governing boards and leaders of health care institutions and delivery systems are slowly coming to terms with their critical role in establishing safety as an organization-wide priority and assuring that new patient safety practices are implemented.

Towards A National Health Information Infrastructure

The high capital and operating costs of information technologies that enhance patient safety remain a significant barrier for many health care organizations. *To Err Is Human* suggested that Congress establish a \$1 billion "Health Care Quality Innovation Fund" to support the adoption of quality-improving innovations in medical practice and technology. Legislation has also been proposed to assist organizations with the high cost of capitalizing clinical IT in exchange for agreeing to provide free or reduced charge medical services to persons unable to pay. Other policy recommendations include reimbursement changes in the Medicare program and by other payers to reflect the cost of implementing and operating clinical IT.

Much has recently been written and discussed about the need for a seamless national health care information infrastructure to support all facets of individual health, health care delivery, and public

health. The fragmented nature of the U.S. health care system underscores the importance of standards to allow clinical data exchange between various provider entities. Despite substantial work toward health information standards by a variety of private sector organizations, there is still no agreement on uniform standards. However, the federal government's Consolidated Health Informatics (CHI) e-government initiative, which has adopted standards for the electronic communication of health information among federal agencies, is leading the movement towards industry standards. In March of 2003, the CHI initiative adopted the first five out of an expected twenty-four standards for communicating health information. In addition, the federal government has negotiated an agreement with the American College of Pathologists to license the College's standardized medical vocabulary system (SNOMED) and make it available without charge throughout the United States. These actions should accelerate agreement on standards in the private sector.

Protected Error Reporting Systems

Protected reporting of errors and close calls can provide the basis of significant patient safety improvement. If errors or close calls are not brought to light, changes to prevent future such events will not take place. Protection of data against disclosure and discovery in litigation is a fundamental component of any successful adverse event reporting system. States generally have statutory protections for the processes and information involved with quality assurance and peer review within health care institutions. However, these protections are often lost when information is shared outside of the health care institution. Protections similar to those afforded by state peer review statutes need to be extended to entities that receive, pool, and analyze patient safety incident reports. Patient safety legislation encouraging voluntary reporting systems and learning from errors was introduced in both the 107th and 108th Congress. Enactment of such legislation will promote learning and support necessary cultural change.

Curriculum Development in Medical Education

Academic institutions should provide a good environment for future health care professionals to learn about patient safety. However, the structure of the curriculum in most medical schools, nursing schools, and allied health professional education programs does not provide opportunities for the discussion of pertinent safety issues and practice innovations. A recent study found that more than a third of internal medicine clerkship directors had little or no familiarity with *To Err Is Human* and that few medical students receive training about adverse drug events.²⁴ Patient safety advocates are calling for curriculum reforms focused on the introduction of patient safety principles such as human factors science, communication, and teamwork. However, there is scant evidence of widespread implementation of these reforms in medical schools today. Federal incentives could be used to accelerate activity in this area.

Medical Liability Reform

The traditional fault-based tort system discourages providers and institutions from openly discussing and learning from errors. Piecemeal state-based liability reform efforts are aimed primarily at stemming the tide of liability premium increases by attempting to reduce the frequency and/or payouts for malpractice claims. They have done little or nothing to transform the medical-legal culture of blame into a culture of safety. Solutions that seek to promote a transparent and open culture of safety must embrace dispute resolution mechanisms that transcend the traditional fault-based system. The path to meaningful reform of the medical-legal system in the United States must begin with a more open dialogue among major stakeholders.

Financial and Non-financial Incentives

National, state and regional employer coalitions as well as government purchasers such as CMS, OPM and the VHA have a tremendous opportunity to use their purchasing power to encourage the health care system to improve patient safety practices. These incentives can be financial or non-financial, such as providing

public recognition, increased market share, or payment for performance.²⁵ "Report cards" assessing quality and safety provide indirect incentives for improvement by publicly comparing the performance of providers, hospitals and health plans. Further, novel ideas such as providing monetary awards to individuals and health care teams for developing new approaches to safety and contractually requiring health care leaders to sponsor patient safety initiatives or risk part of their compensation may spur activity.

Bolstering the Role of Professional Societies and Boards

Professional groups, such as medical societies and professional associations, play an important role in defining norms and standards of practice, and setting expectations and values, beginning with training and education and continuing into practice.²⁶ A growing number of professional societies have been involved in promoting the adoption of best practices and providing education and training to their members. However, many patient safety experts believe these organizations need to make more visible and concerted efforts to encourage the development and adoption of effective patient safety practices by their members.

Communicating Errors to Patients

The adoption of formal error disclosure policies is a relatively new phenomenon among health care institutions. The new JCAHO disclosure standard requiring hospitals to inform patients when an "unanticipated outcome" results in harm or injury has fueled this trend. While the momentum toward the adoption of full disclosure policies is gathering, organizations are struggling with how to implement them and steps are being taken with considerable reluctance. Many questions remain unanswered about the financial and public relations impact of implementing such policies. As the empirical evidence about the impact of medical error disclosure is virtually non-existent, research in this area is crucial.

VI. Conclusion

Lack of effective mechanisms to detect and measure error make it difficult to quantify the progress made in improving patient safety in the United States. Nevertheless, the patient safety movement has gained considerable momentum in a short period of time, as evidenced by a flurry of activity across the country in both the public and private sectors. Increasingly, health care executives are holding themselves and their organizations accountable for the quality and safety of their institutions. Clinical information technologies are shifting the care delivery paradigm toward evidence-based medicine and away from the traditional paper-based system that relies heavily on the unaided mind. Best practices, proven effective in the prevention of medical errors, have been identified and are being disseminated. Funding organizations have prioritized patient safety research agendas that vary in focus and scope. Systems and human factors principles are being applied in medical care delivery to identify and eliminate system vulnerabilities.

However, public policy, which has dominated the patient safety agenda of a number of other nations, has played a more modest role in the United States. Thus far, the government role has primarily focused on mandatory reporting and supporting research. This review identifies other opportunities for public policy intervention. These include establishing appropriate protections for the voluntary reporting of errors and near misses to promote learning; using government purchasing power to promote improved patient safety; providing leadership in defining clinical data standards to accelerate the adoption of information technology and providing financial support to speed implementation; encouraging changes in the current tort system to promote patient safety; and providing incentives to the medical education system to emphasize error reduction, team work and system thinking. These government actions, along with private sector initiatives, hold significant potential for the next phase of the patient safety movement.

Note

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