Improving the Safety of Health Care: The Leapfrog Initiative

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Early in 1998, a number of large U.S. health care purchasers formed a group to initiate breakthroughs in the safety and the overall value of health care to U.S. consumers. Called the "Leapfrog Group," it includes the 34 members of the Buyers Healthcare Action Group, General Electric, General Motors, GTE (now Verizon), and the 45 members of the Pacific Business Group on Health. The Health Care Financing Administration and U.S. Office of Personnel Management also participate as liaison purchasers. The impetus for the group's formation was the realization that the model of purchasing health care in the 1990s had created gridlock, and that "leapfrogging" to a new generation of innovation was necessary. The innovation would focus on consumers or patients, by educating them to be informed and active buyers of health care, and on providers of health care, by creating a "business" case for them so that their efforts to improve quality would be rewarded in the marketplace. In January 2000, The Business Roundtable, the United States's association of Fortune 500 chief executive officers, endorsed the effort and began to provide core funding for full-time staff and expenses.

The Case for Leapfrog

Two reports by the Institute of Medicine (IOM)[2, 3] documented that the U.S. health care system performs far below obtainable levels of patient safety and overall customer values. Harvard University and RAND researchers found that 3% of U.S. inpatients experience avoidable harm[4] and that opportunities for significant improvement in patient functional status are missed in 11% of chronically ill outpatients.[5] The 1999 IOM report[3] estimated that 44,000 to 98,000 Americans die each year as a result of medical errors. Regardless of whether this range overestimates or underestimates the problem, its order of magnitude indicates an urgent need for performance breakthrough. Breakthroughs, however, are not easy to achieve. Both IOM reports point to failure on the part of the health industry to adopt modern methods of quality management and failure on the part of health care purchasers and consumers to recognize and reward such methods and the higher performance levels they enable.

Historically, purchasers of health care have not required the same level of quality from their health care suppliers as they do from other suppliers. This purchasing failure has multiple root causes: ambiguity about the legitimacy of active purchaser involvement in medical care, which is often viewed as having professionally driven mechanisms to ensure quality; ignorance among consumers and purchasers about the magnitude of quality management weaknesses, which were only recently made visible to the public by the IOM; and lack of clarity on what specific improvements offer the best ratio of consumer benefit to cost. The consequences of these factors include failure on the part of purchasers and consumers to make a strong business case to the U.S. health care and health insurance industries for modern quality management and perpetuation of the avoidable suffering brought to light by the IOM.

See related Back of the Envelope on pages 284-289.

This paper is available at ecp.acponline.org.

Leapfrog Strategy

The Leapfrog Group's strategy is to develop, disseminate, and execute a common set of purchasing principles designed to promote safety and overall health care value. The group aims to assemble a critical mass of large health care purchasers to subscribe voluntarily to the principles while accommodating differences in geographic, demographic, organizational, and market factors. The Business Roundtable's sponsorship provides public stature and entrée into a significant number of Fortune 500 companies to help build this critical mass.

The group's long-term goal is to reward hospitals and physicians on the basis of excellence in quality and quality improvement. However, grossly inadequate clinical information systems and public reporting on comparable clinical performance make this unfeasible at present. The group's interim strategy is to focus instead on discrete structural features that are likely to yield large near-term gains in patient safety.

The Leapfrog Group is anchored in supporting better-informed consumer health care choices. It relies heavily on strengthening the public's ability to discern safer and higher-value health care.

Leapfrog Purchasing Principles

In joining the Leapfrog Group, purchasers commit to the following principles.

Use of Comparative Rating

Purchasers will aggregate available valid performance measurements of their most frequently used providers of health care into comparative value ratings for their employees, irrespective of the associated insurance mechanisms. In addition to assessing provider fulfillment of the Leapfrog safety standards articulated below, purchasers will use performance measures and reporting systems from nationally recognized performance assessment sources, such as the National Committee for Quality Assurance, Joint Commission on Accreditation of Health Care Organizations, and national medical specialty societies, as they are released.

Rationale: More widespread and standardized ratings of comparative provider value will strengthen the link between performance and customer perception of value.

Inform and Educate Employees

Purchasers will educate employees about the importance of comparing the performance of health care providers and assist them in understanding how to use such measures to make informed health care choices.

Rationale: Employees and consumers exercise a more important role than purchasers in provider selection; accordingly, they are central in reinforcing improvement. Their behavior can send powerful signals to providers about the value that patients place on better care.

Use of Substantial Incentives

Purchasers will use two or more of the following methods to reward highly rated major providers and will annually increase their intensity until they motivate widespread and substantial annual performance improvement among their major providers.

More Patients

Consumers' selection of higher-value providers will be supported through one of the following methods: promotion (such as favorable provider designation in health plan rosters or selection or deselection of network providers), consumer economic incentives (such as varying consumer out-of-pocket cost on the basis of the selected provider's performance rating), and consumer decision support (such as software to assist in selecting providers on the basis of comparative ratings).

Increased Price

The prices paid to providers will be adjusted on the basis of comparative value (such as value-based bonuses or rebates and incorporating risk-adjustment into the negotiation of cost targets or prices when feasible).

Public Recognition

Providers demonstrating superior performance will be publicly recognized (in such efforts as the Pacific Business Group on Health's California Blue Ribbon Provider designation).

Rationale: To motivate delivery systems to reach for major breakthroughs in customer value, purchasers must create significantly more robust market rewards.

Hold Health Plans Accountable for Leapfrog Implementation

In advancing these principles, purchasers who use health plans as their intermediaries may delegate responsibility to plans for applying the principles to their network providers. If so, purchasers would hold their health plans accountable by using nationally standardized Leapfrog questions in purchaser requests for proposals from health plans, heavily weighted scoring criteria, robust health plan performance incentives (such as General Motors' quantified evaluation of the relative value of its health plans to determine the company's out-of-pocket contribution toward HMO premiums for salaried employees), and other methods of encouraging health plans to apply the Leapfrog principles. Purchasers would intensify these

inducements annually until their largest enrollment health plans fully meet their delegated responsibilities.

Rationale: Many purchasers use health plans as intermediaries to health care providers. The application of Leapfrog principles by health plans to their relationships with providers on behalf of their whole consumer base can leverage Leapfrog purchaser efforts.

Encourage Support of Consultants and Brokers

In selecting benefits consultants and brokers, purchasers will strongly encourage them to incorporate Leapfrog principles in their advice to other purchaser clients and in their standard tools for assessing health plans and delivery systems.

Rationale: The purchasing principles that these advisors follow and advocate to purchasers profoundly shape the market experience of insurers and delivery systems. As major customers of these advisors, purchasers can motivate them to advocate these principles.

Focus on Discrete Forward Leaps in Patient Safety

In implementing comparative rating and substantial incentives, purchasers will initially highlight a common set of discrete, tangible delivery system improvements that are likely to yield large safety gains ("safety leaps"). These will be earmarked for special visibility in purchasers' interaction with providers, insurers or administrators, and consumers.

Rationale: Of all types of health care value improvement, advances in patient safety are likely to garner the widest support from the public, the media, regulators, accreditors, other purchasers, and the health industry.

Proposed Safety Initiatives

On the basis of input from nationally recognized experts and researchers in quality and quality improvement, the Leapfrog Group identified three initial safety leaps and transformed them into the following initial set of purchasing standards. (For more detail, see www.leapfrog-group.org.) Since patient safety has been studied most extensively in hospitals, these three initial safety leaps are hospital-focused.

1. Computer Physician Order Entry

Physicians enter hospital orders through computer systems with effective error-prevention software As documented in research by Dr. David Bates at Brigham and Women's Hospital, computer physician order entry is highly effective in reducing adverse drug events.[6] In well-managed installations, the costs of computer physician order entry may be offset substantially by savings from avoided complications and more cost-effective treatment plans.

2. Evidence-Based Hospital Referral

Elective treatment is guided by providers to hospitals and clinical teams with superior quality if valid comparative quality measurement systems exist; if not, such guidance is based on scientific evidence of volume–outcome relationships. For a few treatments, valid public reporting of risk-adjusted provider performance comparisons already exists. For many other complex treatments, the scientific literature documents significantly superior patient outcomes in hospitals with higher volumes. **Table 1** shows the Leapfrog Group's Evidence-Based Hospital Referral standard, which was based on an analysis of published research by the Institute of Health Policy Studies, University of California, San Francisco.

3. Physician Staffing in the Intensive Care Unit

Hospital care in the intensive care unit is managed by physicians who are certified (or eligible for certification) in critical care medicine; are present during daytime hours and at other times, can promptly return pages to that unit; and rely on a certified "effector" to implement telephone orders. Current scientific evidence on strengthened physician staffing models for the intensive care unit indicates that the risk for death could be reduced by more than 10% (see Back of the Envelope in this issue).

To maximize initial safety gains and minimize unintended negative consequences on rural health care

TABLE 1
Evidence-Based Hospital Referral

TREATMENT	FAVORABLE HOSPITAL VOLUME CHARACTERISTIC*
Coronary artery bypass surgery	Volume ≥ 500/yr
Coronary angioplasty	Volume ≥ 400/yr
Abdominal aortic aneurysm repair	Volume ≥ 30/yr
Carotid endarterectomy	Volume ≥ 100/yr
Esophageal cancer surgery	Volume ≥ 7/yr
Delivery with expected birth weight < 1500 g or gestational age < 32 weeks	Regional neonatal intensive care unit† with average daily census ≥ 15
Delivery with prenatal diagnosis of selected major congenital anomalies	Regional neonatal intensive care unit† with average daily census ≥ 15

**Consumer information will also explain the benefits obtainable above lower volume thresholds.*
†Applies in states in which the hospital licensing agency makes such a designation.

systems, efforts to promote these three safety leaps will focus on urban areas by using Metropolitan Statistical Area boundaries.

The initial selection of these three safety standards does not imply lack of support for other important methods of improving or assuring patient safety. The Leapfrog Group intends to expand this list as it identifies other opportunities to improve safety that meet four selection criteria:

1. Reasonable scientific evidence indicates that the improvement would significantly reduce avoidable danger.
2. Implementation by the health industry is feasible in the near term.
3. Consumers can readily appreciate the value of such improvement.
4. Health plans, purchasers, and consumers can easily ascertain the presence or absence of improvement when selecting among health care providers.

There are certainly simpler and less costly methods to improve patient safety than the three leaps described above. For example, rather than implement computer physician order entry, a hospital could conduct a handwriting improvement campaign with physicians so that medication orders are more legible. However, to make full use of Leapfrog's unique leverage, the group agreed to work toward what today's evidence demonstrates as gold standards for safety improvement. Computer physician order entry may require significantly more resources than a handwriting campaign, but it is likely to produce far superior outcomes. It also serves as a vehicle for advancing physician use of computer support in decision making and treatment, as recommended in both IOM reports.[2, 3]

Purchaser Role in Supporting Safety Standards

To meet Leapfrog Group requirements, purchasers must 1) identify for their enrollees which geographically proximate providers have publicly met each of these safety standards; 2) provide enrollees with this information proactively in a compelling and understandable manner; 3) include a clear statement of each safety standard's limitations; 4) ensure that all enrollees in urban areas have access to providers who warrant that they meet the safety standards; 5) use the substantial incentives detailed above to pursue the goal that by December 31, 2004, more than half of urban hospitalizations of their enrollees occur in hospitals that offer such a warranty; 6) annually intensify their efforts until they achieve significant annual improvement in hospital fulfillment and in provider performance on an expanding list of measures; and 7) work regionally with other purchasers in their largest enrollee locations to encourage support of providers, plans, and consultants or brokers.

Partners in Change

Making breakthroughs in safety and overall value will require collaboration among purchasers, health plans, hospitals, physician groups, individual physicians, and patients. Hospitals must be willing to share information about what safety features they have in place. Health plans must assess their hospital networks better and share their findings with their members. Health plans should also consider promoting the Leapfrog standards in their hospital and physician contracting strategies. Purchasers need help from plans in delivering incentives to providers in their networks to meet the Leapfrog standards. Physicians must examine the evidence supporting the Leapfrog standards and adjust their hospital referrals accordingly, as well as incorporate Leapfrog's safety standards in guidance to patients on where to seek hospitalization. National performance assessment organizations must accelerate efforts to expand publicly reported provider performance assessment.

Ultimately, the key catalyst in producing these leaps is the consumer-patient. The Leapfrog Group believes that once the U.S. public is aware of safety issues and the variation in safety within the health care industry, a critical mass will demand information and improvement. Purchasers are uniquely positioned to promote this awareness, and partnership with employees and their families is a crucial piece of our strategy.

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