THE LEAPFROG GROUP for Patient Safety
Rewarding Higher Standards

Founded by The Business Roundtable with Support from The Robert Wood Johnson Foundation

FACTSHEET

Evidence-Based Hospital Referral

Why Hospital Choice Matters

Millions of Americans undergo elective surgery every year. For many procedures, patients should be able to expect very low risks no matter where they choose to have surgery.

For some high-risk procedures, however, the choice about where to have surgery can mean the difference between life and death. With heart surgery, for example, studies have found more than three-fold differences in surgical mortality rates across hospitals.[1,2] Similar variation in quality has been described for non-surgical conditions as well.[3]

Choosing the Right Hospital

Patients can expect the safest possible surgery at hospitals with low mortality rates or high rates of adherence to clinical practices (or processes) known to improve surgical **outcomes**. This information is becoming increasingly available to patients through public reporting mechanisms. The Leapfrog Group has worked to develop valid process measures and coordinate with state and national outcomes assessment systems. For example, California, New Jersey, New York and Pennsylvania regularly publish adjusted mortality rates for coronary artery bypass graft surgery. Unfortunately, this is available in only four states, and similar information is not available for most other high-risk procedures and conditions.

In addition to outcomes measurement systems, The Leapfrog Group recognizes the importance of adoption of specific clinical **processes** for high-risk procedures. In collaboration with experts in the field, The Leapfrog Group has developed indicators for clinical processes associated with improved outcomes for certain high-risk procedures: coronary artery bypass graft surgery, percutaneous coronary intervention, abdominal aortic aneurysm repair and high-risk deliveries. Data about hospital adherence to key processes can help patients make more informed hospital choices.

Another measure of surgical outcomes is **volume** — how many procedures of a given type a hospital performs each year.[4] More than 100 studies have demonstrated better results at high-volume hospitals with cardiovascular surgery, major cancer resections, and other high-risk procedures.[5,6] For example, compared to those at high-volume hospitals (50+ procedures per year), patients undergoing abdominal aneurysm repair at low-volume hospitals are more than 30% more likely to die following surgery.[7]

Lower surgical mortality at high-volume hospitals does not simply reflect more skillful surgeons and fewer technical errors with the procedure itself. More likely, it reflects more proficiency with all aspects of care underlying successful surgery, including patient selection, anesthesia and postoperative care.[8]

Choosing the right hospital is not just important in surgery. For example, babies with very low birth weight or major congenital anomalies are much more likely to survive if they are delivered and treated at hospitals with large, neonatal intensive care units.[3]

Potential Benefits of EHR

Evidence-based hospital (EHR) referral means making sure that patients with high-risk conditions are treated at hospitals with characteristics shown to be associated with better outcomes. EHR could be very effective at preventing unnecessary deaths.

The Leapfrog EHR Safety Standard

Under the advisement of national experts in quality improvement, The Leapfrog Group adopted EHR as one of its Safety Standards. Procedures, conditions, and safety criteria were initially selected after review of published research in the field and consultation with leading experts in surgery and neonatal intensive care. These have since been reviewed and revised, incorporating even more current data and input from the hospital and physician communities.[9]

Hospitals fulfilling the EHR Safety Standard will meet a combination of outcome, process and volume criteria. Hospitals will receive partial credit toward fulfilling the EHR Safety Standard for favorable characteristics or performance on a subset of these measures.

In its latest version, Leapfrog places primary emphasis on direct outcome measures (i.e, risk-adjusted mortality) for coronary artery bypass graft and percutaneous coronary interventions, using robust and approved measurement systems for the EHR Safety Standards. While the standards also include specific process measures for coronary artery bypass graft, percutaneous coronary interventions, abdominal aortic aneurysm repair and certain high-risk deliveries, there is somewhat less emphasis on these measures.

The Leapfrog Web site provides specific details about these performance measures.

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In addition, the EHR Safety Standard takes annual hospital volume into consideration.

Procedures, Conditions and Recommended Volumes	
1. Coronary artery bypass graft	≥ 450 / year
2. Percutaneous coronary intervention	≥ 400 / year
3. Abdominal aortic aneurysm repair	≥ 50 / year
4. Pancreatic resection	≥ 11 / year
5. Esophagectomy	≥ 13 / year
High-risk delivery: 6. Expected birth weight < 1500 grams, 7. Gestational age < 32 weeks, or 8. Pre-natal diagnosis of major congenital anomaly	Neonatal ICU[1] with Average Daily Census ≥15

The Leapfrog Group, working in partnership with The MEDSTAT Group, invites hospitals to report their volume and process or performance information for these procedures and conditions by responding to the Leapfrog Hospital Patient Safety Survey on the Leapfrog Web site. Leapfrog purchasers will work to recognize and reward hospitals providing care for their enrollees for meeting EHR standards. Hospitals achieving intermediate levels of risk reduction for certain EHR standards will earn partial recognition. An EHR standard does not apply to hospitals that do not perform the procedure or treat the condition. Patients under 18 are excluded, except in the NICU standards.

Challenges to EHR Implementation

Efforts to promote EHR could meet resistance on many fronts. In isolated rural areas, EHR could imply unreasonable travel burden for patients and their families. For this reason, the Leapfrog EHR standard currently only applies to hospitals in metropolitan areas.

Not only might some patients resist EHR, but some health care providers are also likely to resist. Many low-volume hospitals may oppose giving up surgical revenue by referring patients elsewhere. They may also worry that EHR would brand them as "second class." Some physicians may view EHR as an affront to their professional judgment and competence in referring patients.

Why Purchasers Need to Get Involved

Given these obstacles, greater use of EHR is unlikely to happen without the involvement of purchasers.

Using their leverage as purchasers, Leapfrog members can recognize and reward hospitals that meet EHR standards for selected procedures and conditions. Purchasers, including health plans also can promote EHR by educating consumers and calling attention to the importance of choosing the right hospital.

Although it will not be easy to implement, referring patients for high-risk conditions and procedures to hospitals meeting Leapfrog's EHR standards could have substantial benefits. Analysis by John Birkmeyer MD, Chief, Section of General Surgery, Dartmouth-Hitchcock Medical Center, suggests that 11,200 lives could be saved each year if EHR were successfully implemented for the procedures and conditions selected by Leapfrog.[10]

References

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