



Evidence-based Hospital Referral (EBHR)

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 harmonize its process measures and coordinate with state and national outcomes assessment systems. For example, California, Massachusetts, New Jersey, New York and Pennsylvania regularly publish adjusted mortality rates for coronary artery bypass graft surgery. Unfortunately, robust programs are available in only five states, and similar information is not available for most other high-risk procedures and conditions. Some states, however, are now beginning to publish reports on surgical and other types of hospital related infections.

In addition to outcomes measurement systems, The Leapfrog Group recognizes the importance of adoption of specific clinical processes for high-risk procedures. The Leapfrog Group has revised its indicators for clinical processes to harmonize where possible with national performance measurement groups. These process measures are associated with improved outcomes for certain high-risk procedures: coronary artery bypass graft surgery, percutaneous coronary intervention and abdominal aortic aneurysm repair. Another important factor related to better 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 high volume experienced neonatal intensive care units.^{3,13}

Potential Benefits of EBHR

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

The Leapfrog EBHR Safety Standard

Under the advisement of national experts in quality improvement, The Leapfrog Group adopted EBHR 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.¹²

Hospitals fulfilling the EBHR Safety Standard will meet the hospital volume criteria, and those performing bariatric surgeries will also meet surgeon volume criteria for bariatric surgeries as shown in the table below. Hospitals that do not meet these criteria but adhere to the Leapfrog endorsed process measures for coronary artery bypass graft surgery, percutaneous coronary intervention, abdominal aortic aneurysm repair, and care for high-risk neonates, will receive partial credit toward fulfilling the EBHR Safety Standard.

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Recommended Annual Hospital Volumes/ (Recommended Annual Surgeon Volume)	
1. Coronary artery bypass graft	≥ 450
2. Percutaneous coronary intervention	≥ 400
3. Abdominal aortic aneurysm repair	≥ 50
4. Aortic valve replacement	≥ 120
5. Pancreatic resection	≥ 11
6. Esophagectomy	≥ 13
7. Bariatric surgery	>125 / 50
High-risk delivery: <ul style="list-style-type: none">▪ Expected birth weight < 1500 grams,▪ Gestational age < 32 weeks, or▪ Pre-natal diagnosis of major congenital anomaly	Neonatal ICU with Annual Count of Very-Low Birthweight Babies ≥50

In its latest version, Leapfrog places a large 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 EBHR 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 website provides specific details about these performance measures.

The Leapfrog Group, working in partnership with Thomson Healthcare, invites hospitals to record their volume and process or performance measures for these procedures and conditions on the Leapfrog Web site. Leapfrog purchasers will work to recognize and reward hospitals providing care for their enrollees for meeting EBHR standards. Hospitals achieving intermediate levels of risk reduction for certain EBHR standards will earn partial recognition. An EBHR 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 EBHR Implementation

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

Not only might some patients resist EBHR, but some healthcare 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 EBHR would brand them as "second class." Some physicians may view EBHR as an affront to their professional judgment and competence in

conducting surgery and/or referring patients.

Why Purchasers Need to Get Involved

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

Using their leverage as purchasers, Leapfrog members can recognize and reward hospitals that meet EBHR standards for selected procedures and conditions. Purchasers, including health plans also can promote EBHR 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 EBHR standards could have substantial benefits. Analysis by John Birkmeyer MD, George D. Zuidema Professor of Surgery and Director of M-SCORE, University of Michigan Health Systems, suggests that 11,208 lives could be saved each year if EBHR were successfully implemented for the procedures and conditions selected by Leapfrog.¹²

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