The Leapfrog Group's Report on High-Risk Surgeries Performed at American Hospitals

High Risk Surgeries

Patients undergoing high-risk surgeries have a higher likelihood of errors, complications and even death at a hospital that performs a lower volume of these procedures. Decades of research demonstrate that patients who have certain high-risk surgeries performed at a hospital and by a surgeon with significant, ongoing experience with that procedure have better outcomes than patients who have their surgery done at a lower-volume hospital or by a surgeon with less experience. Facilities and surgeons should each perform a certain volume of procedures annually to reduce patient risk of mortality, complications, and excessively long stays in the hospital. An analysis by U.S. News showed that as many as 11,000 deaths nationally might have been prevented over a three year period if patients who went to the lowest-volume hospitals had instead gone to the highest-volume hospitals for their procedure. In low volume hospitals, surgeons, nurses, and other staff are not able to hone or maintain the skills that are necessary to ensure good outcomes for their patients. In some cases, the consequences can be deadly.

Minimum Hospital and Surgeon Volumes

Inspired by an initiative at Dartmouth-Hitchcock Medical Center, Michigan Medicine, and Johns Hopkins Medicine to build national consensus on minimum volume standards, as well as a review of peer-reviewed research and deliberations of Leapfrog's National Inpatient Surgery Expert Panel, Leapfrog identified eight high-risk procedures for which there is a strong volume-outcome relationship and established minimum hospital and surgeon volume standards for each. Those standards were applied to hospitals responding to The Leapfrog Group's annual Leapfrog Hospital Survey, which collects and publicly reports quality and safety data available from no other source. Leapfrog is an independent, employer-driven nonprofit driving a market for improvements in safety and quality.

Leapfrog began publicly reporting on the minimum hospital and surgeon volume standards with the 2018 Leapfrog Hospital Survey. Hospitals participating in the voluntary Survey are asked whether the hospital itself performs a sufficient volume of a defined list of high-risk procedures, and whether surgeons individually must demonstrate adequate volume to be privileged to perform each procedure.

Leapfrog's Standard

To fully meet Leapfrog's standard, hospitals must meet the minimum hospital volume standard for the procedure and ensure that the hospital's process for privileging requires surgeons to meet or exceed the minimum surgeon volume standard. Striving to meet Leapfrog's standard challenges hospitals to hold themselves accountable for minimum surgical volume standards known to improve the odds of a safer surgery for their patients.

Table 1: Hospital and Surgeon Volume Standards for High-Risk Procedures

Source: 2018 Leapfrog Hospital Survey

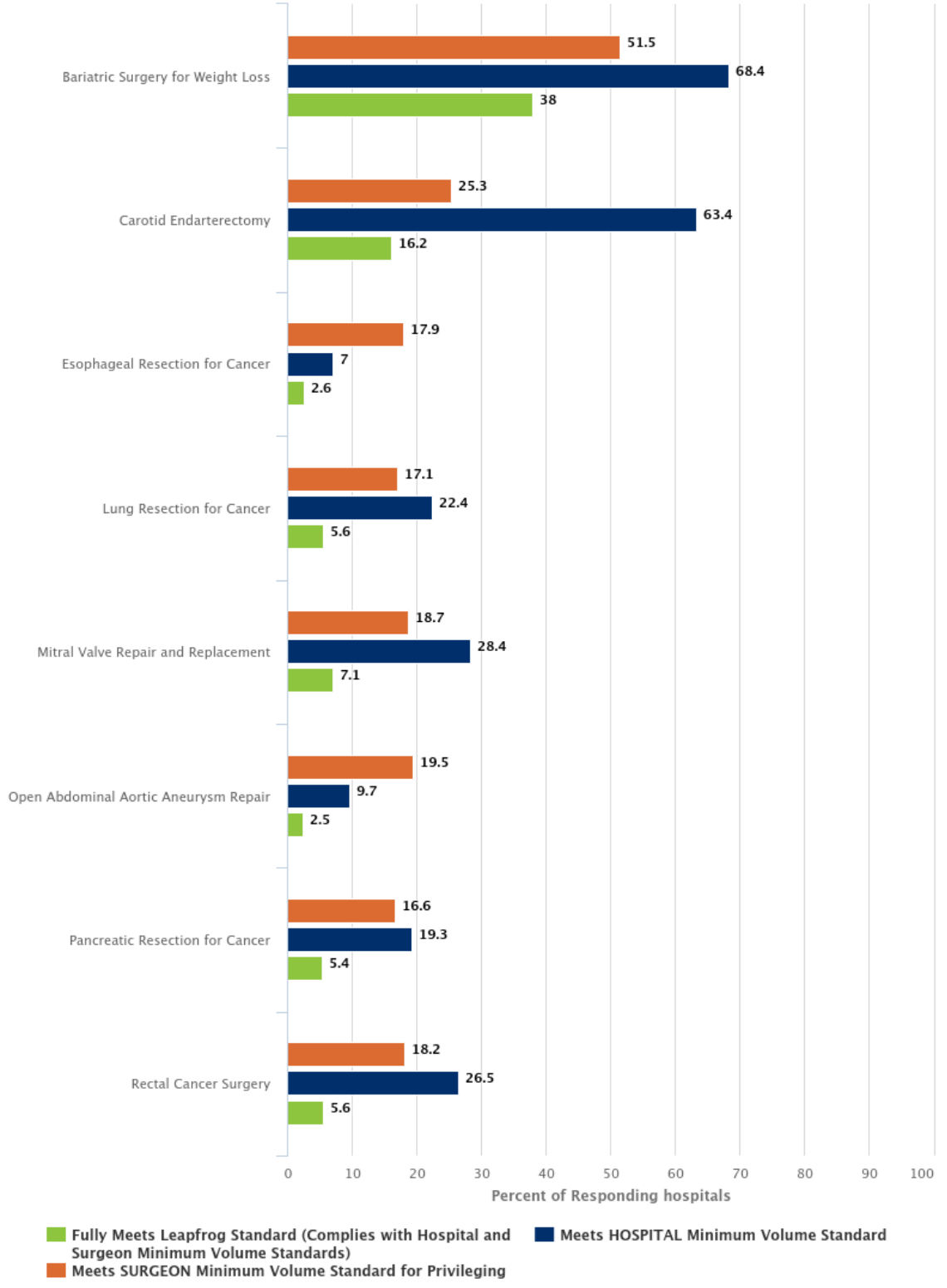
Procedure	Minimum Hospital Volume Standard	Minimum Surgeon Volume Standard
Bariatric Surgery for Weight Loss	50	20
Carotid Endarterectomy	20	10
Esophageal Resection for Cancer	20	7
Lung Resection for Cancer	40	15
Mitral Valve Repair and Replacement	40	20
Open Abdominal Aortic Aneurysm Repair	15	10
Pancreatic Resection for Cancer	20	10
Rectal Cancer Surgery	16	6

Hospital Performance Results

Overall, 2018 Leapfrog Hospital Survey results show that the vast majority of hospitals do not meet Leapfrog's minimum hospital or surgeon volume standards (Figure 1). More hospitals are fully meeting Leapfrog's volume standard for bariatric surgery for weight loss than any other procedure, but still only 38% of reporting hospitals have reported that they meet or exceed the minimum volume of 50 procedures annually and require surgeons to perform 20 or more surgeries annually in order to be privileged at that facility. Procedures for which the fewest number of hospitals fully met Leapfrog's standard include open abdominal aortic aneurysm repair (2.5% of hospitals fully meeting) and esophageal resection for cancer (2.6% of hospitals fully meeting). Given the variation in patient outcomes between higher-volume and lower-volume hospitals, the importance of patients using Leapfrog results to select a hospital for these high-risk procedures cannot be overstated.

Figure 1: Performance on Leapfrog's High-Risk Surgery Standard

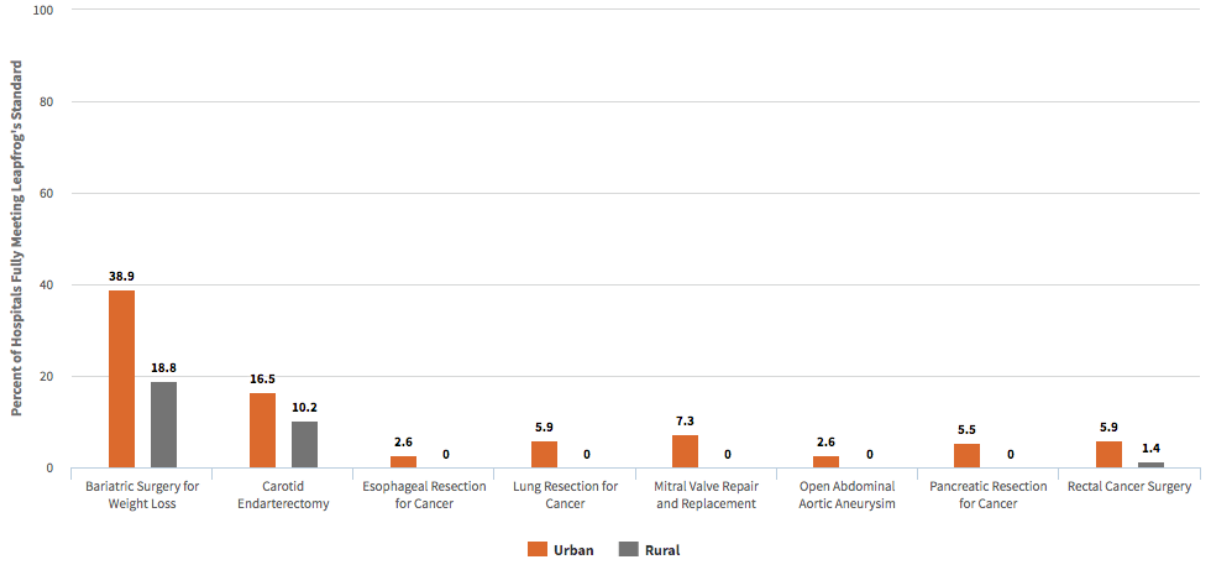
Source: 2018 Leapfrog Hospital Survey



Analysis of hospitals fully meeting standards shows significant variation between urban and rural hospitals (Figure 2). For all eight procedures, urban hospitals that perform each procedure are outperforming rural hospitals that do them; in several cases, no rural hospitals are fully meeting Leapfrog's standard. Rural hospitals can make patients aware of higher-volume facilities that may be available and work with patients to make the best decisions for their care.

Figure 2: Percent of Rural and Urban Hospitals Meeting Leapfrog's Volume Standard

Source: 2018 Leapfrog Hospital Survey



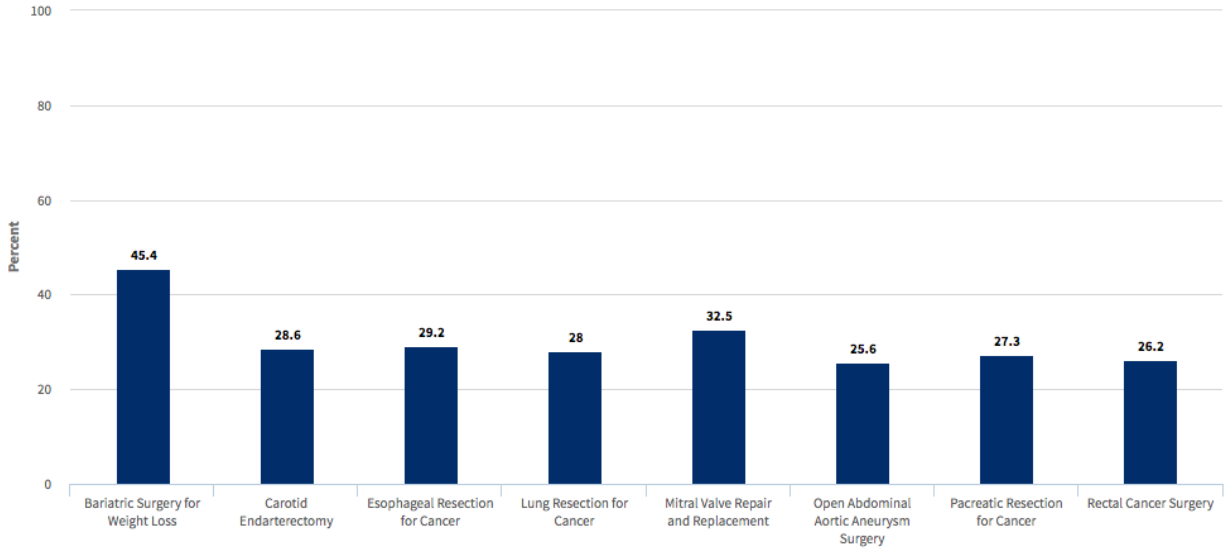
Surgical Appropriateness

Achieving minimum volume standards is critical for safety, but it is equally important that hospitals avoid unnecessary and unneeded surgeries. As a result, hospitals reporting to the Leapfrog Hospital Survey are also asked to report on practices that help to ensure surgical appropriateness.

For all high risk procedures, hospitals are asked to report on their implementation of a hospital-wide policy which includes processes aimed at monitoring surgical necessity and preventing overuse of surgical procedures. Hospitals are asked about their progress in developing surgical appropriateness criteria based on published guidelines and input from local surgeons, adherence to those criteria, and communication to surgeons, hospital leaders, and board members.

Figure 3: Percent of Hospitals with Defined Appropriateness Protocols in Place for High-Risk Surgeries

Source: 2018 Leapfrog Hospital Survey



Fewer than half (45%) of hospitals indicated that they have a surgical appropriateness policy for bariatric surgery for weight loss (Figure 3). For all other procedures, less than one-third of reporting hospitals indicated that they have a surgical appropriateness policy in place. Estimates of inappropriate care suggest that as many as one-third of procedures are performed without medical necessity, causing unnecessary suffering and wasted resources. Hospitals can and should establish and enforce policies for peer-review and evidence-based standards, to assure that patients are only operated on when need is evident.

How To Use This Information

Abundant evidence suggests that for certain procedures, patients can achieve a better outcome by choosing a hospital and a surgeon with adequate ongoing experience performing that surgery. They can also reduce the likelihood of harm by choosing a hospital that avoids unnecessary surgery. Thanks to hospitals that voluntarily submit data to the Leapfrog Hospital Survey, that information is now available for the first time. Unfortunately, too few hospitals meet the minimum standards for patient safety.

Employers can help. They can make employees aware of the Leapfrog Hospital Survey results and help them to identify a facility that meets Leapfrog's minimum volume standards for safety. Furthermore, employers and health plans can use the data to structure contracts, tiered networks, and value-based payment arrangements that reward hospitals, ACOs, and other providers for meeting these standards. Value strategies can also incentivize improvement, for instance by tying incentives or penalties to public reporting to the Leapfrog Hospital Survey, implementation of an appropriateness standard, progress toward achievement of volume standards, and meeting the standard for procedures performed.