

Is Covering Bariatric Surgery Worth it for Insurance Companies?



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Our recent study, published in *The American Journal of Managed Care*,¹ shows that even if one ignores the productivity and quality of life improvements that result from bariatric surgery, savings for payers occur as early as 2 to 4 years following surgery. The reason for the rapid return on investment (ROI) is the lower cost of care for patients following bariatric surgery relative to that for morbidly obese patients not undergoing surgery, even when accounting for the complications of surgery.

The study was based on an analysis of over 3,651 bariatric surgery patients and used real-world clinical practice data from Ingenix, Inc.'s private insurer claims using a methodology developed to mimic a controlled environment. Each bariatric patient was matched with a morbidly obese patient (body mass index [BMI] > 40 kg/m²) using comorbidity profiles, baseline medical costs, state of residence, age, and gender. The patients were followed for a significant period of time (1999 through 2005). In an updated analysis, we extended the study to include 2006 data, with similar results.

Despite the short cost recoupment period, standard insurance coverage often still does not include bariatric surgery. There are multiple reasons for this, including the relative newness of the surgery, studies that incorrectly compare patient health care costs before and after surgery, and differences in the scientific standards applied for coverage of obesity relative to other conditions. We elaborate on these 3 issues, below.

First, bariatric surgery is a relatively new procedure that has evolved from an open technique to a predominantly laparoscopic one in recent years (the procedure code for laparoscopic surgery has only existed since 2004). Further, the creation of bariatric surgery centers of excellence (BSCOEs) across the United States in

the last 5 years or so has resulted in dramatically improved outcomes for patients, and translates economically into lower costs from complications.

Both of these recent changes have had a significant impact on surgical and postoperative costs. Thus, older studies, or studies based on older data, are largely irrelevant to the current and future expected costs of the procedure and assessment of ROI. As a result, few relevant studies are available and most of them only follow patients for a few years, leaving payers with few data on the impact of surgery at 10, or only 7 years post surgery. This, together with the publication of a number of



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About the Article

The human burden of morbid obesity is grave, and has been well described in the literature; its economic burden is not as well understood. The impact on society of morbid obesity encompasses billings and reimbursement for medical and psychological services and the cost of workdays and productivity lost. Although over the long term, medical treatment usually fails obese patients as well as the businesses and payers associated with the costs of this disease and its comorbidities, recent studies in the U.S. and other countries have demonstrated that treatment with bariatric/metabolic surgery offers marked economic savings. Nonetheless, morbidly obese patients are typically required to demonstrate the inadequacy of traditional weight-loss methods and the medical necessity of bariatric surgery as preconditions for *consideration* of insurance authorization. Studies that demonstrate not only recoupment of costs following bariatric surgery, but a raised awareness that insurance decisions may be biased toward coverage of treatments for the nonobese, are required to move toward standard reimbursement for bariatric surgery.

articles (often based on small samples) that show favorable cost effectiveness ratios but a net cost to bariatric surgery (in other words, the payer does not get all of its money back in savings within a reasonable timeframe) have led payers to view bariatric surgery reimbursement as an unprofitable investment.

Second, most studies that assess ROI for bariatric surgery compare health care costs before and after the surgery to assess the cost savings. This method, although valid for certain conditions, incorrectly assumes that, absent the surgery, the morbidly obese patient's health would remain stable and that costs would be stable as well. A more appropriate method is to compare surgery patients to a set of "matched controls." In our study, we matched each surgery patient with a morbidly obese patient who did not undergo surgery using age group, sex, baseline healthcare costs, state of residence, and a set of 10 obesity-related comorbidities. A record of monthly costs shows that in some months (generally immediately before, during, and after surgery), bariatric patients incurred higher costs than nonbariatric controls; however, a couple of months after surgery, bariatric patients cost less than nonbariatric controls. As a result, the initial investment (total costs of surgery) is recouped through small but consistent monthly savings. All costs were considered for bariatric patients and their controls, including those associated with adverse events, complications, comorbidities, and weight gain or loss.

The study showed that the average direct medical cost was \$17,300 for laparoscopic surgery (2004-2005) and \$26,000 for open surgery (1999-2005). We found that third-party payers could expect to fully recover their initial \$17,300 laparoscopic investment after approximately 2 years, and their \$26,000 open surgery investment, in 4 years (surgeries performed between 2003 and 2006) to 6.5 years (surgeries performed between 1999 and 2002).

This leads to our third point: The standards applied to bariatric surgery by payers are entirely different from their standards for other diseases. When asked to conduct cost-effectiveness analyses on pharmaceutical products, medical devices, or diagnostics tests, the standard usually applied by payers is that the drug, device, or test must be cost effective. In other words, its cost must be weighed against its benefits to the patient measured in quality of life, length of life,

or a combination of both. A general rule of thumb in the health sciences is that if an intervention costs less than \$50,000 to \$100,000 per healthy life year gained, then the intervention should be covered. This means that the payer recognizes that medical progress and improvement in patient outcomes comes at a cost and that these costs should be balanced against the patient benefits. The standard applied to bariatric surgery seems different. Namely, unless the bariatric surgery saves the plan money, payers will often refuse to cover it. This standard sets the bar much higher and, in our opinion, unfairly so, for morbidly obese patients. Despite numerous clinical reports to the contrary, payers continue to characterize morbid obesity as a "self-inflicted" condition rather than a medical condition entitled to qualify for insurance coverage by standards similar to those applied to other medical treatments.

We find that the increased costs of providing care for morbidly obese patients over time, and the reduced health care costs associated with bariatric surgery patients a few months after surgery, mean that bariatric surgery pays for itself irrespective of its clear clinical benefits to the patient. In an ideal world with no resource constraints, the decision to cover bariatric surgery would be based solely on health benefits. For most life saving interventions, that is, in fact, the standard applied. No insurer expects a full ROI for heart disease, diabetes, or cancer treatment; whereas, bariatric surgery is expected to pay for itself. Recognizing this bias, our study focused exclusively on the ROI realized by the insurer and ignored patient benefits.

Our findings are relevant for payers and the health care system in general because they suggest that not covering bariatric surgery is a sure way to increase health care costs. The study's goal was not to advocate ROI as the guiding principle for coverage, but rather to shed light on the economic benefits of covering bariatric surgery-benefits that complement the clinical gains of bariatric surgery demonstrated by numerous other studies.

Crémieux PY, Buchwald H, Shikora SA, et al. A study on the economic impact of bariatric surgery. *Am J Manag Care*. 2008;14(9):589-96.

About the Authors

Pierre Y. Crémieux, PhD, Managing Principal, Analysis Group Economic, Financial, and Strategy Consultants, Inc., has a broad range of expertise in health economics and health policy as well as statistics and quantitative methods. Arindam Ghosh, PhD, Vice President at Analysis Group, is an economist with expertise in applied health economics, microeconomics and econometrics. Both have published widely on the value of pharmaceuticals, hospital performance, quality and cost of care, and medical and workplace costs of various illnesses. In this month's Viewpoint column, Dr. Crémieux and Dr. Ghosh review their 2008 report on the time-to-cost-effectiveness of bariatric surgery in relation to the ongoing and provocative issue of obtaining standard