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State Mandates For Obesity **Treatment And Its Costs**

By Kate Fitch, Bruce Pyenson, Steven Abbs, and Margaret Liang

nsured health benefits sold by insurance companies or HMOs are subject to state regulation. Several states have mandated coverage of treatments for morbid obesity (defined as an individual who is 100 or more pounds overweight or has a

VIEWPOINT

body mass index of 40 or more), and the increasing prominence of the

issue suggests more states will follow. States also often follow Medicare rules, and Medicare does cover bariatric surgery.

Self-insured programs, which are regulated by ERISA, are generally not subject to such mandates, although plan sponsors often consider state mandates when developing their benefit design along with other considerations such as the improvement in the quality of life for employees and spouses, potential reduction in absenteeism, and potential reduction in future medical costs.

As with other mandates, state mandates for obesity will vary in their application and scope. A state may require health plans to cover morbid-obesity treatment, or the state may simply require health plans to offer coverage of the treatment — the

buyer can choose whether to purchase it. The mandate may apply to individual or group insurance, or to HMOs. Typically, the mandate language uses terms that are defined elsewhere in the regulations, and a review of that context is critical for correct interpretation.

The medical costs of obesity

Health plans or employers trying to determine the medical costs of obesity through claims data will likely grossly underestimate aggregate costs. Currently, few obese patients will have any claims coded with an obesity diagnosis, although the increased focus on obesity may lead to improved coding by practitioners. We believe that the patients associated with obesity codes tend to be those with morbid obesity, or those undergoing treatment explicitly for obesity.

We examined a large 2001 claims database from group employer-employee coverage. Claims databases have diagnosis codes but do not contain details such as height, weight, or body-mass index (BMI). For purposes of claim analysis, we de-

fined obesity as the appearance of at least two physician claims or one hospital claim following International with the

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OBESE: Employers and businesses bear a sizable portion of the associated costs

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Classification of Diseases (ICD) 9 codes: 278.00 Obesity, unspecified 278.01 Morbid obesity

The prevalence of obesity in the claims data demonstrates gross undercoding. Only 0.3 percent of the insured population had these codes, in sharp contrast to population estimates of about 30 percent for obesity or 5 percent for morbid obesity. These differences are too large to be explained by demographic variation or the likelihood that some obese people would not have claims in a year.

Because of undercoding, the results of this database search cannot be used to characterize total costs. However, some of the results for this limited, probably relatively sick cohort are interesting.

■ Per-person claim costs for those identified as obese are about triple those for the average member.

■ A hospital admission rate of about 350 per 1,000. This contrasts to an admission rate of about 50 per 1,000 for an average commercial member. The admission rate for obese or morbidly obese individuals is comparable to that of a Medicare population.

■ Cesarean section/total delivery rate of almost 50 percent of deliveries, more than double that of a typical commercial population.

■ About 25 percent of the admissions (corresponding to about 8 percent of individuals identified) were for Diagnosis Related Group (DRG) 288 — Operating Room Procedures for Obesity. This confirms our view that practitioners code obesity much more often when the medical treatment is immediately connected with obesity.

Although those coded for obesity accounted for 0.3 percent of the population, they accounted for a high portion of plausibly obesity-related admissions.

Research has shown that as body mass increases, so too do health-care utilization and costs. One study suggests obesity increases health costs for inpatient and ambulatory care 36 percent and medication costs 77 percent compared with being in a normal weight range.

Employers and businesses bear a sizable portion of costs associated with treating obesity-related conditions, primarily in terms of lost productivity and paid sick leave and the increased cost of health, life, and disability insurance. Studies of overweight and obese employees have shown that obese employees take more sick leave than non-obese employees, are twice as likely to have high-level absenteeism (seven or more absences due to illness during the past six months) and one-anda-half times more likely to have moderate absenteeism (three to six absences due to illness during the past six months).

Sample pricing

This section describes how to estimate the cost of a bariatric-surgery benefit exclusive of costs of weight-loss programs that may be a prerequisite for surgery. This technology is relatively new and the number of people who could potentially benefit from the surgery is not well-defined. Consequently, cost estimates have greater uncertainty than longer established procedures or benefits, such as spinal fusion, dental, or maternity care.

A well-defined benefit description is the customary starting point for pricing. However, for emerging medical technology such as bariatric surgery, the pricing process itself can uncover issues that could lead to an improved benefit description. We recommend that the pricing actuwork closely with medical, arv compliance, and network-management experts and to expect an iterative process. Cost offsets and future health-plan cost reductions as a result of bariatric surgery seem likely, as a goal of the surgery is improved health. We have not considered any such offsets in this paper.

Step 1: Translate the benefit description into particular services and identify the unit cost of those services.

■ Hospital-inpatient costs are commonly paid on a case-rate, per-diem, or discounted-charges basis. Unit costs may be defined by diagnosis-related group (DRG) or by some other mechanism. Because many hospitals do not perform bariatric surgery, it would be an oversimplification to apply the plan's average reimbursement. Often, hospitals performing advanced surgery are the more expensive, tertiary hospitals.

While bariatric surgery naturally falls into DRG 288 (Operating Room Procedures for Obesity), we believe that hospitals often code DRGs 154-155 (stomach, esophageal, and duodenal procedures), which bring higher reimbursement from Medicare. The hospital cost for bariatric surgery can vary greatly, depending on the health plan's hospital contracts and the geographic region. As a rough reference, for typical PPO plans, we find that DRG 288 cases cost about \$25,000 and DRGs 154-155 cost about twice that amount.

■ Professional costs for the surgery involve the surgeon, of course, but will also include anesthesiologist services and may include an assistant surgeon. There are several different types of bariatric surgery, and choosing the appropriate current procedural terminology (CPT) codes is important. The fee schedule chosen should be appropriate for the professionals or network likely to perform the surgery.

As a rough reference for cost, for 2004, the national average Medicare (RBRVS) reimbursement for most bariatric surgery is above \$1,500, and surgeons at prominent institutions often receive more than Medicare fees for commercial patients. The actual amount will vary by locale and health-plan reimbursement policy. Assistant surgeons often charge approximately one-half the fee of the primary surgeon.

Uncomplicated bariatric surgery is generally performed in about two hours. Anesthesiologists charge by 15-minute units. As a rough guide, in many areas, commercial plans pay anesthesiologists in excess of \$60 per 15-minute unit. In addition, there may be inpatient consultations by specialists during the pre- and post-op-

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PRICE: A typical case of bariatric surgery can easily cost a health plan \$60,000

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erative recovery period.

■ Pre-surgical screening and treatments. A variety of services and pharmaceuticals may be associated with preparation for surgery. Some of these, such as pre-surgical testing, may be included in the hospital fee. Other services, such as office visits, consultations, behavioral services, and diagnostic radiology may add costs.

• Post-surgical services. After surgery, patients will need follow-up care, counseling, nutritional products, prescriptions, and monitoring.

Complications. Bariatric surgery has risk, and some patients will suffer compli-

cations. Extra services may include longer lengths of stay, extra physician visits, or rehabilitation. Our database investigation suggests that some patients will suffer complications that could cause much higher costs. For example, we observed that some bariatric-surgery patients received ventilator care or extensive surgery not obviously related to the bariatric procedures. In addition, some patients received revisions or reversals of bariatric surgery.

Step 2: Estimate the utilization for each service.

When a plan first offers this as a covered benefit, it may see a surge in utilization, as the "pent-up" demand is released. A useful starting point is to estimate

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the maximum number of people who would potentially qualify for bariatric surgery based on the plan criteria. The plan is not likely to have data on individuals' BMI measures, so population data from sources such as NHANES may be used for this purpose.

■ The maximum number of patients eligible for surgery will be too high, because some people will have contraindications to surgery and many others will not choose surgery. Experience from insurers or consultants who have data from other programs can help create an "uptake" percentage. Adverse selection may cause the uptake percentage to exceed expectations.

■ In our 2001 database, we identified a frequency of about 0.3 bariatric surgeries per 1,000 insureds. This means that fewer than one of 100 of the morbidly obese obtained bariatric surgery. While the popularity of the surgery is likely to increase, and more facilities have developed appropriate expertise, the number of patients in any year will likely remain far below the number of morbidly obese.

Creating a "tree" of services for each type of patient or type of surgery is a useful way to build a cost model. Some services, such as counseling and nutritional supplements, may extend beyond the usual 12-month health benefits contract.

■ The number of pre- and post-surgical services may be estimated with insight from clinical judgment or clinical protocols. Certain pre-surgical services, such as office visits, might not be truly additional services — the patient might have obtained those services even without preparing for surgery. Other pre-operative

services, such as endoscopy or psychiatric testing, may generate additional costs. Post-surgical services are likely to be additional.

Step 3: Consider the impact of benefit limits and cost-sharing.

■ Bariatric surgery is expensive, and the patients are expensive to treat. Some patients will likely exceed typical out-ofpocket limits even before surgery, and these patients may reach policy limits.

• Some services, such as counseling, may be covered under capitated carve-out contracts. As such, they may cause no extra costs to the health plan in the shortterm.

Step 4: Total claim costs.

The product of utilization and unit cost, net of cost-sharing, plus administrative costs produces the cost to the health plan. If the program includes a step-therapy approach (e.g., pharmacotherapy, behavior therapy), those costs will need to be included as well.

Using this approach, a typical case of bariatric surgery can easily cost a health plan \$60,000, using the above assumptions. Assuming a 5-percent population of morbidly obese patients, and bariatric surgery for 1 percent, or one of 100 of these morbidly obese individuals, the corresponding PMPM (per member per month) cost would be approximately \$2.50. Higher or lower costs are certainly possible and costs can vary year to year. Any particular plan will have costs that likely vary from this sample calculation because of demographic characteristics, plan design, cost levels, the popularity of surgery, and other factors.



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