



# Obesity-Related Surgery in Pennsylvania

The number of gastric bypass surgeries in Pennsylvania has grown exponentially since 1999. In 2003, more than 6,700 surgeries incurred total hospital charges of \$242 million.

Nearly two-thirds of adults in the United States are overweight, and more than 30 percent are obese. In Pennsylvania, the percentage of obese adults increased from 19 percent to 24 percent between 1998 and 2002. Body mass index (BMI) – the medical standard used to measure obesity – is a mathematical formula in which a person's body weight in kilograms is divided by the square of his or her height in meters (i.e.,  $BMI = kg/m^2$ ). According to the National Institutes of Health, a person with a BMI of 30 or higher is considered obese. Obesity is associated with serious health conditions including diabetes, hypertension, osteoarthritis, heart disease, stroke, and breathing problems.

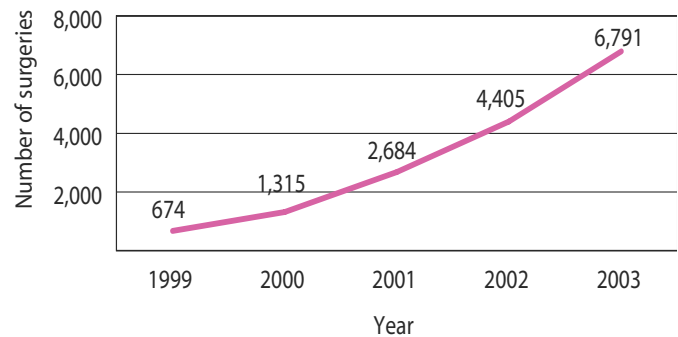
As the prevalence of obesity increases, so does the demand for treatments. One option for severe obesity is gastrointestinal surgery which alters the digestive process to promote weight loss. One popular procedure – gastric bypass surgery – restricts food intake by closing off most of the stomach and creating a direct connection from the stomach to the lower segment of the small intestine, literally bypassing portions of the digestive tract that absorb calories and nutrients.

Gastric bypass surgery is major surgery and has possible risks and complications including bleeding, blood clots, bowel obstructions, hernias, severe infections, breakdown of the staple line, nutritional deficiencies, and even death.

Serious questions are surfacing about the safety, complications, long-term success, and physician training associated with gastric bypass surgery. Another issue is insurance coverage; some insurers have changed their policies regarding coverage for this surgery. This research brief does not address these issues, but does provide general information on how gastric bypass surgery has increased in Pennsylvania.

The number of gastric bypass surgeries in Pennsylvania increased dramatically, up from 674 surgeries in 1999 to 6,791 in 2003 – a ten-fold increase.

**Figure 1: Total Number of Gastric Bypass Surgeries in PA – 1999-2003**



In 2003, gastric bypass surgery incurred over \$240 million in hospital charges and accounted for more than 23,000 hospital days.

From 1999 to 2003, more than \$585 million in hospital charges were associated with gastric bypass surgery. Of the gastric bypass surgeries performed between 1999 and 2003, 85.5 percent were billed to commercial insurers, 6.4 percent were billed to Medicaid, and 6.5 percent were billed to Medicare. Less than one percent of the surgeries were billed directly to patients.

**Table 1: Hospital Charges and Length of Stay for Gastric Bypass Surgery – 1999-2003**

| Year | Total Charges | Average Charges | Total Hospital Days | Average Length of Stay |
|------|---------------|-----------------|---------------------|------------------------|
| 1999 | \$24,142,421  | \$35,820        | 3,409               | 5.1                    |
| 2000 | \$50,003,017  | \$38,025        | 5,827               | 4.4                    |
| 2001 | \$102,857,115 | \$38,322        | 11,223              | 4.2                    |
| 2002 | \$166,244,053 | \$37,740        | 17,030              | 3.9                    |
| 2003 | \$242,052,324 | \$35,643        | 23,394              | 3.4                    |
| All  | \$585,298,930 | \$36,883        | 60,883              | 3.8                    |

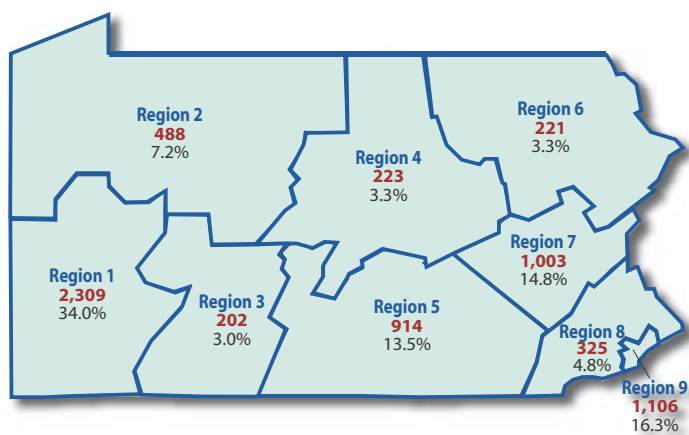
After increasing between 1999 and 2001, the average hospital charge for gastric bypass surgery decreased to \$35,643 in 2003. This decrease was accompanied by a steady decline in the average length of time patients stayed in the hospital, which dropped from an average of 5.1 days in 1999 to 3.4 days in 2003, a 32 percent decrease.

Complications of gastric bypass surgery can be very serious and may not appear for several weeks or months after surgery. For example, in the two years following surgery, the 2,684 gastric bypass surgeries performed in 2001 were followed by 1,050 readmissions involving digestive system or nutritional and metabolic disorders or additional procedures for obesity. These readmissions accounted for an additional 4,161 hospital days and \$22,619,648 in hospital charges.

**In 2003, 34 percent of gastric bypass procedures were performed in hospitals located in southwestern Pennsylvania.**

Gastric bypass surgeries are geographically concentrated in the southwestern part of Pennsylvania.

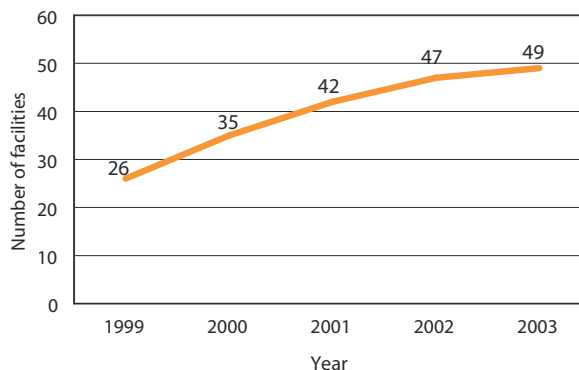
**Figure 2: Number and Percent of Gastric Bypass Surgeries by Region of Pennsylvania - 2003**



**There has been a substantial increase in the number of surgeons performing gastric bypass and the number of facilities at which the surgeries are performed.**

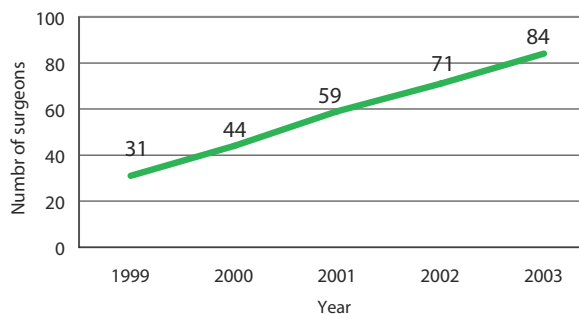
In 2003, 49 facilities in Pennsylvania performed gastric bypass surgeries, up from 26 in 1999.

**Figure 3: Number of Facilities Performing Gastric Bypass Surgery in Pennsylvania - 1999-2003**



Between 1999 and 2003, the number of surgeons performing gastric bypass surgery in Pennsylvania more than doubled – from 31 to 84 surgeons.

**Figure 4: Number of Surgeons Performing Gastric Bypass Surgery in Pennsylvania - 1999-2003**



As the number of gastric bypass surgeries continues to grow, so too will the demand for information. To help fill this need, the National Institutes of Health and various state health departments in the nation, amongst other groups, are convening panels of experts to discuss and study gastric bypass surgery. With the prevalence of obesity continuing to increase, it is likely that gastric bypass surgery will remain in the public eye in the coming years.



The Pennsylvania Health Care Cost Containment Council (PHC4) periodically releases *Research Briefs* on health care topics relevant to public policy interest.

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