FACT SHEET

TYPE 2 DIABETES AND OBESITY: TWIN EPIDEMICS

PREVALENCE

- 90% of people with Type 2 diabetes worldwide are obese or overweight\(^1\) (World Health Organization)

- Centers for Disease Control and Prevention (CDC) estimates diabetes more than tripled between 1980 and 2010 in U.S.\(^2\)
  - During 1980-2008, obesity rates doubled for adults and tripled for children\(^3\)

- 1.9 million new cases diagnosed in 2010\(^4\)
  - By 2034, the number of cases is expected to increase to 44 million\(^5\)

- 51% of Americans with diabetes have a BMI\(\geq 30\) and about 80% of those with BMI\(\geq 35\) have one or more metabolic diseases\(^6\) (CDC)

- African-Americans are disproportionately affected by diabetes\(^7\)
  - 3.7 million or 14.7% of all African-Americans 20 years or older have diabetes

RISKS OF TYPE 2 DIABETES

- About 79 million people in the U.S. age 20 years and older have pre-diabetes and are at high risk of developing Type 2 diabetes, heart disease and stroke\(^4\)
  - About 6 million people in the U.S. have Type 2 diabetes and do not know it\(^8\)

- Seventh leading cause of death in U.S. and associated with increased risk of the following conditions:\(^4\)
  - heart disease and stroke
  - high blood pressure
  - nervous system disease
  - kidney disease
  - blindness
  - amputations
  - dental disease
  - pregnancy complications

OVERVIEW

- About 10.7% (23.5 million) of people age 20 years or older in the U.S. have Type 2 diabetes\(^18\)
- Obesity is a major independent risk factor and is associated with increasing prevalence of diabetes\(^19\)
- Diabetes is the seventh leading cause of death in U.S.
- Risk for death among people with diabetes is about twice that of people without diabetes
- Total estimated cost of diabetes is nearly $174 billion a year, including direct and indirect costs\(^4\)

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THE NEW ENGLAND JOURNAL OF MEDICINE STUDIES ON BARIATRIC SURGERY AND DIABETES

- First head-to-head studies comparing bariatric surgery to medical therapy
- Bariatric surgery superior to medical treatment producing remission, even before weight loss
- Cleveland Clinic study showed within one year, diabetes remission rates with bariatric surgery were about 40% (42% gastric bypass, 37% gastric sleeve) compared to about 12% for patients treated with the best pharmacotherapy available; patients had BMI between 27 and 43\(^9\)
- Catholic University/New York-Presbyterian/Weill Cornell Medical Center showed remission rates were about 85% for bariatric surgery (75% gastric bypass, 95% biliopancreatic diversion) and zero for medical therapy in patients with BMI greater than 35, after two years\(^10\)
  - In surgical groups, both weight loss and preoperative BMI were not predictors of diabetes control, which suggest that such surgical procedures may exert effects on diabetes that are independent of weight loss

IMPACT OF BARIATRIC SURGERY ON TYPE 2 DIABETES

- Meta-analysis of 22,000 morbidly obese patients in 136 studies, found patients who had bariatric surgery had a mean excess weight loss of 61.2% and 86% of patients saw improvement or resolution of Type 2 diabetes\(^{11}\) (JAMA, 2004)
- Study found 73% of patients resolved Type 2 diabetes two years after gastric banding surgery\(^{12}\) (JAMA, 2008)
  - Patients saw five times higher resolution rate than patients receiving conventional therapy which included access to general physician, nurse and diabetes educator, medical therapies including pharmaceutical agents, individual lifestyle modification programs and physical activity
  - Authors note weight regain after surgery may put patients at risk for diabetes relapse
- People with morbid obesity who had gastric bypass surgery significantly reduced long-term mortality from diabetes by 92% and from “any cause” by 40%\(^{13}\) (NEJM, 2007)
- Researchers note gastric bypass may result in resolution or improvement of diabetes independent of weight loss by decreasing levels of ghrelin - appetite stimulating hormone secreted by the stomach\(^{14}\)

COSTS ASSOCIATED WITH TYPE 2 DIABETES

- About 1 in 10 health care dollars is attributed to diabetes. People with diabetes have medical expenditures that are approximately 2.3 times higher than those without the disease\(^{15}\)
- Bariatric surgery associated with reductions in overall health care costs in patients with Type 2 diabetes\(^{16}\)
  - Annual health care costs decreased 34.2% after two years and by 70.5% after three years
  - Associated with elimination of diabetes medication in nearly 85% of patients two years after surgery
- By 2034, annual diabetes-related spending is expected to increase to about $336 billion\(^5\)
- Annual cost of diabetes drugs nearly doubled from 2001 and 2007, reaching $12.5 billion\(^{17}\) (Archives of Internal Medicine, 2008)

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REFERENCES


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