observation that D2B times improved more rapidly among black patients than among white patients.

Comment. Over 4 years, national performance on D2B times improved dramatically, and these improvements were accompanied by a marked narrowing of racial disparities in D2B times. Improvements may be due to a number of factors, including public reporting of D2B data,[4] the cumulative experience of hospitals performing primary percutaneous coronary intervention,[5] and the dissemination of effective strategies to reduce delays through the D2B Alliance and Mission Lifeline.[2,3]

Previously, we noted that a large proportion of race-related disparities in D2B times was attributable to differences in the care delivered at hospitals that treated a higher proportion of black patients.[1] The current data are consistent with that observation. If overall improvements in D2B times have reduced variation across hospitals, one would expect differences by race to narrow. As such, continued efforts are necessary to eliminate the remaining race-based differences in D2B times and continue to improve overall times. Alternatively, the analysis could be confounded by changes in case mix as well as changes in measure exclusion criteria over time. However, there is no evidence to suggest that these exclusion criteria would disproportionately affect patients based on race.

Our analysis suggests that racial disparities in D2B times have significantly narrowed over time and that improving national quality of care appears to have not only improved overall performance but also diminished disparities.

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Fatal Malnutrition 6 Years After Gastric Bypass Surgery

Gastric bypass procedures are the most effective weight loss surgical treatments.[1] The Roux-en-Y procedure, the most commonly performed bypass technique in the United States, restricts gastric volume and bypasses absorption from most of the proximal small intestine. Bypass of the duodenum impairs mixing of ingested nutrients with bile acids and pancreatic enzymes leading to maldigestion. The combination of malabsorption and maldigestion, while resulting in significant weight loss, predisposes to malnutrition.

Report of a Case. A 48-year-old woman was seen at the endocrinology clinic for generalized weakness 6 years after Roux-en-Y gastric bypass for morbid obesity (preoperative height, 1.63 m; weight 113.4 kg; and body mass index [BMI], 42.7 [calculated as weight in kilograms divided by height in meters squared]). After an initial postoperative weight loss, her weight plateaued, but 2 years prior to presentation, she developed chronic, oily diarrhea accompanied by new, gradual weight loss. Gastrointestinal evaluation including upper

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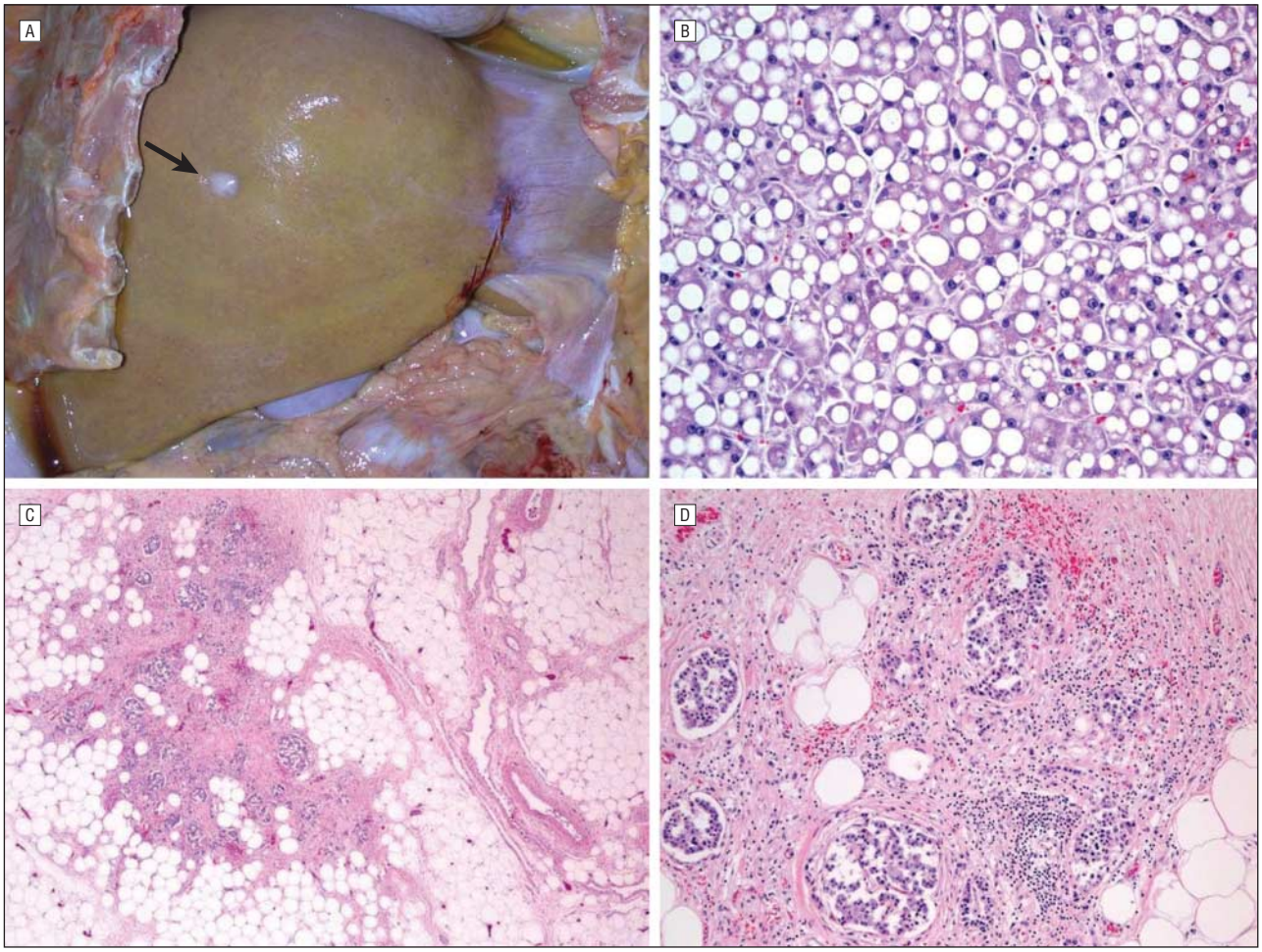

Figure. Hepatic and pancreatic gross and histopathologic features. Enlarged liver with yellow discoloration and incidental benign bile duct adenoma (arrow) (A); extensive hepatic steatosis (hematoxylin-eosin, original magnification ×200) (B); marked acinar atrophy with fatty replacement of pancreas and fibrosis (hematoxylin-eosin, original magnification ×25) (C); and pancreas with fibrosis, acinar atrophy and preservation of islets (hematoxylin-eosin, original magnification ×100) (D).

and lower endoscopies had been unremarkable, and her symptoms failed to improve after a trial of antibiotics for presumed bacterial overgrowth; pancreatic enzymes were not tolerated because of worsening gastrointestinal symptoms. She also reported 6 months of weakness climbing stairs and carrying objects, which limited her activity. On examination, she weighed 49.8 kg (BMI, 18.9) and bilateral upper and lower proximal muscle weakness was present. On evaluation, her laboratory values were 2.2 g/dL for albumin (to convert to grams per liter, multiply by 10); 3 mg/dL for serum urea nitrogen (to convert to millimoles per liter, multiply by 0.357); and 18 U/L for amylase, 12 U/L for lipase, 27 U/L for creatine kinase, 50 U/L for alanine transaminase, and 62 U/L for aspartate transaminase (to convert to microkatals per liter, multiply by 0.0167). Oral supplementation with high-protein liquids, vitamins A and D, and a multivitamin was initiated.

Findings from a repeated gastrointestinal evaluation 6 weeks later were notable for increased qualitative fecal fat on a random sample. Magnetic resonance imaging revealed hepatic steatosis and ascites, and findings from endoscopy with jejunal biopsy were normal. Laboratory evaluation indicated worsening malnutrition and decreased muscle mass despite supplementation (albumin level, 1.6 g/dL, and creatinine kinase level, 19 U/L).

When she returned to the clinic 1 week later, she had developed nausea and vomiting and was too weak to ambulate. She weighed 56.2 kg and had a blood pressure of 80/60 mm Hg, with a pulse of 110/min. Pitting edema was present up to her abdomen, and a petechial eruption was present on her flanks and extremities. She was admitted to the hospital for intravenous thiamine and parenteral nutrition. The following day, she developed shock and required vasopressor and mechanical ventilator support. There was no evidence of sepsis or adrenal insufficiency. Despite maximal intervention, she developed multiorgan failure. Supportive measures were withdrawn at the request of her family and she died.

Postmortem examination revealed extensive hepatic steatosis and fatty replacement of the exocrine pancreas with nonspecific cardiac myocyte hypertrophy and atrophy (**Figure**).

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Comment. Our patient presented with severe protein calorie malnutrition, which contributed to her death. Protein calorie malnutrition is uncommon after Roux-en-Y bypass, with an incidence of 4.7% in one small series.[2] Its etiology is multifactorial—patients often have postoperative intolerance to protein-rich foods and protein digestion is impaired by reduced mixing with pancreatic enzymes, which results both from mechanical factors and, as in our patient, exocrine pancreatic insufficiency. The pathogenesis of the protean clinical manifestations of protein calorie malnutrition remains unclear, but increased oxidative stress and slower protein catabolism leading to reduced amino acid availability have been proposed.[3] Hepatic steatosis and pancreatic atrophy with fatty replacement, likely due to disordered metabolism of free fatty acids, have both been described in malnourished children,[4,5] but to our knowledge, this is the first report of fatty pancreatic replacement in an adult patient after gastric bypass.

Potentially fatal protein calorie malnutrition can occur after gastric bypass. Health care providers should ensure that patients undergo thorough, scheduled surveillance for nutritional deficiencies, which should be aggressively treated early in their course to prevent life-threatening complications.

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Reducing Obesity-Related Health Care Costs in the Community

Despite public health measures to reduce the risk of cardiovascular disease (CVD), obesity has reached epidemic proportions with staggering medical costs. Although risk reduction therapies to improve survival and quality of life are well known,[1] implementing effective strategies for sustained lifestyle modification and reducing health care cost remains a challenge.

To improve the long-term financial well-being of our society, minimize the costs due to poor health, and reduce CVD in the general population, a lifestyle modification program at the community level is crucial. The company Ourlife (Savannah, Georgia) conducted a county-sponsored comprehensive lifestyle program to reduce the burden of chronic disease and associated health care spending.

Methods. Subjects were employees of Chatham County Municipal Government in Savannah. These employees were overweight or obese, with a body mass index (BMI) of 25 or greater (calculated as weight in kilograms divided by height in meters squared) and currently receiving treatment for hypertension, type 2 diabetes mellitus, and/or hyperlipidemia. All participants received intensive behavior, nutrition, and physical activity counseling from multidisciplinary staff. Dietary recommendations were based on the 2006 Scientific Statement from the American Heart Association Nutrition Committee.[2,3] Regular physical activity was encouraged, and approaches to managing obesity and minimizing its complications were provided. Clinical objective data including BMI, waist circumference, blood pressure, and fasting blood glucose, hemoglobin A_{1c}, and fasting lipid levels were collected on enrollment and at the completion of the program. Open-label use of generic medications was encouraged. Medication dose titration and adjustments were performed on the discretion of the physician.

Results. Participants achieved a mean weight loss of 8 kg at 13 weeks. Body mass index and waist circumference improved for all participants at the end of the program. Annual health care savings, based on generic substitutions of the established drug program, were estimated to be $3090 per participant. Mean blood pressure and low- and high-density lipoprotein cholesterol levels remained stable despite generic substitution of medications.

Comment. The primary goal of this study was to reduce the economic burden of overweight and obesity in the Savannah community by promoting healthy behavioral interventions. Clinically meaningful weight loss was achieved during a 3-month period, with concomitant reduction in BMI. Encouragement of a healthy lifestyle with an exercise program as a covered benefit, such as Medicare's SilverSneakers, or an employer-sponsored worksite wellness program, is one of many known effective

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