Changes in the Association Between Body Mass Index and Medicare Costs, 1997-2006

The rising prevalence of overweight and obesity at older ages is projected to result in escalating Medicare spending. 1,2 Although prior research on excess Medicare costs associated with overweight and obesity has assumed that these costs are similar over time, the health effects of excess weight may be changing, with significant implications for health care costs. For example, mortality associated with obesity has declined, 3 although the association between obesity and disability has increased. 4 It is unclear how changes in the health of the obese population have affected obesity-associated health care costs. Available evidence is conflicting 5-6 and is based on estimated expenditures from the Medical Expenditure Panel Surveys (MEPS), which substantially underestimates spending. 7

Methods. The Medicare Current Beneficiary Survey (MCBS) is an institutional review board–approved, ongoing, nationally representative survey of Medicare beneficiaries that links up to 3 years of survey data to Medicare Part A and B claims. Community-dwelling MCBS respondents between 1997 and 2006 were included if they were 65 years and older and were covered by both Part A and B. Underweight participants and participants with missing data were excluded, yielding an analytic sample comprising 29,413 individuals, contributing 66,176 person-years of observations. All analyses were weighted to provide estimates that are nationally representative of beneficiaries meeting inclusion criteria.

Medicare expenditures were calculated as total Medicare payments for services covered by Part A and B and converted to 2006 dollars. Body mass index (calculated as weight in kilograms divided by height in meters squared) was corrected for self-report following methods described by Cawley and Burkhuaser 8 and was categorized as normal weight (18.5-24.9), overweight (25.0-29.9), or obese (>30.0).

Demographic and socioeconomic covariates included age, sex, self-reported race/ethnicity, marital status, education, income in relation to the Federal poverty line, prior Social Security Disability Insurance status, census region, metropolitan status, and a mortality variable indicating whether participants died over the follow-up period. We predicted spending for each person-year using a generalized linear model with a gamma distribution and log link and used robust variance estimators to correct standard errors for repeated observations within individuals. Regression models predicted spending based on BMI categories, a continuous time term, and their interaction, controlling for demographic and economic covariates. Additional models controlled for 10 chronic conditions commonly linked to obesity (diabetes, hypertension, ischemic heart disease, hyperlipidemia, heart failure, chronic lung disease, osteoarthritis, hypothyroidism, gastroesophageal reflux disease, and sleep apnea) to explore whether changes in spending were accounted for by changes in comorbidity over time. All analyses were conducted using Stata statistical software (version 10; StataCorp).

Results. The prevalence of obesity increased from 21% in 1997 to 29% in 2006. Obese participants in the later period were more likely to be male, were less likely to be widowed, and had higher education and income levels than those in the earlier period. They were also more likely to have chronic conditions such as diabetes and hypertension relative to obese participants in 1997.

The Figure shows average Medicare spending by BMI status and time in constant 2006 dollars. In 1997, the mean...
Author Affiliations: Department of Epidemiology and Public Health, University of Maryland School of Medicine (Dr Alley and Ms Lloyd), Doctorgram Program in Gerontology, University of Maryland (Ms Lloyd and Mr Shaffer), and Department of Pharmaceutical Health Services Research, University of Maryland School of Pharmacy (Dr Stuart, Ms Lloyd, and Mr Shaffer), Baltimore.

Correspondence: Dr Alley, Department of Epidemiology and Public Health, University of Maryland, 660 W Redwood St, Ste 221B, Baltimore, MD 21201 (dalley@epi.umaryland.edu).

Author Contributions: Mr Shaffer had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Study concept and design: Alley and Stuart. Acquisition of data: Shaffer and Stuart. Analysis and interpretation of data: Alley, Lloyd, Shaffer, and Stuart. Drafting of the manuscript: Alley, Lloyd, and Stuart. Critical revision of the manuscript for important intellectual content: Shaffer and Stuart. Statistical analysis: Shaffer. Obtained funding: Stuart.

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Emergency Department Use by Primary Care Patients at a Safety-Net Hospital

In fee-for-service payment models, there are strong financial incentives for hospitals to tolerate high levels of emergency department (ED) use, including use by established primary care patients. Yet, as health care reform introduces global payment models, high levels of ED use will no longer be financially tenable. Understanding the magnitude of the problem of ED use by established primary care patients is crucial to redesigning primary care delivery and reimbursement in the United States. We had 2 objectives: (1) to characterize ED use at an urban safety-net hospital after the implementation of Massachusetts health reform, focusing on patients who had primary care providers (PCPs) and (2) to identify patterns of ED use that might inform the hospital-based primary care practices’ transformation to a medical home, and eventually, to an accountable care organization.

Methods. Boston Medical Center (BMC) is an urban safety-net hospital with 8 primary care practices staffed by 105 PCPs. The practices predominantly serve a minority and low-income population. We identified patients who had 1 or more primary care visits from July 1, 2009, to July 1, 2010, and examined their ED use over this period. We defined frequent ED users as patients with 4 or more ED visits in the past year and occasional ED users as those with 1 to 3 ED visits in the past year. We