# Budgetary Impact of Obesity in the United States

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Obesity in the United States has been deemed an epidemic by the Centers for Disease Control. Because of the high rates of obesity among Medicare and Medicaid beneficiaries and the high cost of providing medical care to obese individuals, obesity creates an enormous financial burden on the federal government. This document highlights the prevalence of obesity nationwide and in Medicare in particular, evaluates the federal budgetary impact of obesity, and presents evidence that reducing obesity lowers health care spending.

# OVERVIEW

- Over 40% of U.S. adults age 65-74 are obese, compared to 35% of U.S. adults overall (*Fakhouri et al. 2012 and Ogden et al. 2014*).
- The annual cost of medical care for an obese individual is estimated to be up to \$2,741 higher than for someone of normal weight (*Cawley and Meyerhoefer 2012*).
- The total (direct and indirect) cost of obesity may exceed \$275 billion annually (*Cawley and Meyerhoefer 2012 and Hammond and Levine 2010*).
- Within Medicare, obesity contributes \$50 billion to health care costs annually (*CBO 2014 and Finkelstein et al. 2009*).
- Weight loss among obese Medicare beneficiaries has been estimated to achieve gross savings of \$7,446-\$10,126 per person over ten years (*Thorpe et al. 2013*).
- Excluding the cost of intervention, weight loss has been shown to save on average over \$73 per month on prescription medications for four common obesity-related conditions (*Busko 2013 and Wiske and Pera 2013*).

### 7 OUT OF 20 U.S. ADULTS ARE OBESE



Source: Ogden et al. 2014.

# THE OBESITY RATE HAS MORE THAN DOUBLED SINCE 1980



**Source:** Trust for America's Health 2013 and Ogden et al. 2014.



# BUDGETARY IMPACT OF OBESITY

#### **Direct Cost of Obesity**

- The direct cost of obesity which refers to medical spending on obesity and associated comorbidities such as type 2 diabetes, coronary heart disease, and hypertension — is estimated to be up to \$209.7 billion per year (Cawley and Meyerhoefer 2012). (See Chart 1.)
- For every obese individual, annual spending on medical care is estimated to be up to \$2,741 higher than it is for someone of normal weight (*Cawley and Meyerhoefer 2012*).
  (See Chart 2.)

#### Indirect Cost of Obesity

• Obesity generates indirect (nonmedical) costs, including reduced productivity from absenteeism, disability, and premature mortality. Indirect costs from obesity are estimated to total as much as \$66 billion per year in addition to direct costs (Hammond and Levine 2010). (See Chart 1.)

#### **CHART 1.** OBESITY GENERATES OVER \$275 BILLION IN TOTAL COSTS ANNUALLY



Obesity-related costs

**Source:** Hammond and Levine 2010 and Cawley and Meyerhoefer 2012.

#### **CHART 2.** COMPARED TO SMOKING, OBESITY CREATES MORE THAN TWICE THE ANNUAL EXCESS HEALTH SPENDING PER PERSON



**Source:** CBO 2012 and Cawley and Meyerhoefer 2012.

# QUICK STATS ON OBESITY PREVALENCE

#### **Disparities in U.S. Obesity Prevalence**

- Obesity prevalence is approximately 35% among U.S. adults overall but is over 42% among Hispanics and nearly 48% among blacks (*Ogden et al. 2014*).
- Obesity prevalence is 42% among low-income women and women without a high school diploma (*Ogden et al. 2010*).
- Thirteen states have obesity rates above 30%, and no state has a rate below 20% (CDC 2014).

#### **Obesity Prevalence in Medicare**

• Among adults age 65-74, over 40% are obese. Older women used to outpace older men in obesity prevalence, but in the last fifteen years, obesity has increased among older men but remained steady among older women *(Fakhouri et al. 2012).* 

#### **Obesity Costs Borne by Medicare**

 Health care costs associated with obesity are responsible for 8.5% of total annual Medicare spending (*Finkelstein et al. 2009*). By this measure, approximately \$50 billion of the \$585 billion in Medicare spending in 2013 is attributable to obesity (*CBO 2014*).

(See Chart 3.)

#### CHART 3. OBESITY IS RESPONSIBLE FOR \$50 BILLION (8.5%) OF THE \$585 BILLION IN ANNUAL MEDICARE SPENDING



Source: Finkelstein et al. 2009 and CBO 2014.

#### CHART 4. 2 OUT OF 5 ADULTS AGE 65-74 ARE OBESE



Source: Fakhouri et al. 2012.

# REDUCING OBESITY, LOWERING HEALTH CARE SPENDING

This section presents both longitudinal and cross-sectional evidence that weight loss among obese people leads to health care savings. While both are informative, longitudinal studies have the advantage of tracking the impact of weight loss for the same individuals over time.

#### Weight Loss and Health Care Savings

- The medical savings achievable through weight loss have long been documented. A 1999 study in the *American Journal of Public Health* found that 10% weight loss among obese adults age 35-64 generated gross lifetime savings on medical care of \$2,200-\$5,300 per person (roughly \$3,100-\$7,400 per person in 2013 dollars) for five common obesity-related diseases (*Oster et al.*).
- Obesity is linked to many high-cost diseases, two of the costliest of which are cardiovascular disease (CVD) and type 2 diabetes. Direct and indirect costs of CVD and stroke total \$315.4 billion per year (AHA 2014), while diabetes and pre-diabetes generate total annual costs of \$218 billion (Dall et al. 2010). Nearly 55% of people with type 2 diabetes are obese (CDC 2004). Weight loss substantially reduces obese individuals' risk of developing these diseases. Weight loss also offers benefits for those already afflicted. For example, a longitudinal study of overweight and obese patients with type 2 diabetes found that weight loss of 5-10% reduced risk factors for CVD (Wing et al. 2011). (See Chart 5 on next page.)
- Weight loss also leads to pharmaceutical savings. A new longitudinal study examining a medical weight-loss program found that, excluding the cost of intervention, participants saved on average over \$73 per month on medications for diabetes, hyperlipidemia, hypertension, and gastroesophageal reflux disease (Busko 2013 and Wiske and Pera 2013). (See Chart 6 on next page.)

#### **CHART 5.** WEIGHT LOSS OF 5-10% INCREASES THE ODDS OF REDUCING RISK FACTORS FOR CARDIOVASCULAR DISEASE



Source: Wing et al. 2011.

#### **CHART 6.** WEIGHT LOSS REDUCES SPENDING ON PRESCRIPTION DRUGS FOR OBESITY-RELATED DISEASES



*Source:* Busko 2013 and Wiske and Pera 2013. *Note:* Excludes cost of intervention.

#### Medicare Savings from Weight Loss

- A new analysis in *Health Economics Review* estimated that Medicare would achieve gross savings of \$7,446-\$10,126 per person over ten years from obese beneficiaries' losing 10% of their body weight (*Thorpe et al. 2013*).
- A recent *Health Affairs* study examined the impact of 4.2% weight loss among overweight and obese adults age 60–64 who are either prediabetic or at risk of cardiovascular disease (*Thorpe and Yang 2011*). Depending on levels of participation in the weight-loss program under examination, gross savings of \$3.8 billion-\$4.7 billion would accrue to Medicare over ten years. (See Chart 7.)

**CHART 7.** WEIGHT LOSS AMONG OVERWEIGHT AND OBESE ADULTS AGE 60-64 YIELDS SUBSTANTIAL SAVINGS FOR MEDICARE



Source: Thorpe and Yang 2011.

## SOURCES

American Heart Association (AHA). 2014. "Heart Disease and Stroke Statistics—2014 Update," *Circulation* 129, no. 3 (January 21): 399–410.

Busko, Marlene. 2013. "Weight-Loss Bonus: Costs for Obesity-Related Meds Drop," *Medscape Medical News*. November 18.

Cawley, John, and Chad Meyerhoefer. 2012. "The Medical Care Costs of Obesity: An Instrumental Variables Approach," *Journal of Health Economics* 31, no. 1 (January): 219–230.

Centers for Disease Control (CDC). 2004. "Prevalence of Overweight and Obesity among Adults with Diagnosed Diabetes—United States, 1988–1994 and 1999–2002," *Morbidity and Mortality Weekly Report* 53, no. 45 (November 19): 1066–68.

CDC. 2014. "Adult Obesity Facts." Updated March 28.

Congressional Budget Office (CBO). 2012. "Raising the Excise Tax on Cigarettes: Effects on Health and the Federal Budget." June.

CBO. 2014. "The Budget and Economic Outlook: 2014 to 2024." February.

Dall, Timothy M., Yiduo Zhang, Yaozhu J. Chen, William W. Quick, Wenya G. Yang, and Jeanene Fogli. 2010. "The Economic Burden Of Diabetes," *Health Affairs* 29, no. 2 (February): 297–303.

Fakhouri, Tala H. I., Cynthia L. Ogden, Margaret D. Carroll, Brian K. Kit, and Katherine M. Flegal. 2012. "Prevalence of Obesity among Older Adults in the United States, 2007– 2010," *NCHS Data Brief*, no. 106 (September).

Finkelstein, Eric A., Justin G. Trogdon, Joel W. Cohen, and William Dietz. 2009. "Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates," *Health Affairs* 28, no. 5 (September/October): w822–w831. Hammond, Ross A., and Ruth Levine. 2010. "The Economic Impact of Obesity in the United States," *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy* 3: 285–295.

Ogden, Cynthia L., Molly M. Lamb, Margaret D. Carroll, and Katherine M. Flegal. 2010. "Obesity and Socioeconomic Status in Adults: United States, 2005–2008," *NCHS Data Brief*, no. 50 (December).

Ogden, Cynthia L., Margaret D. Carroll, Brian K. Kit, and Katherine M. Flegal. 2014. "Prevalence of Childhood and Adult Obesity in the United States, 2011–2012," *The Journal of the American Medical Association* 311, no. 8 (February 26): 806–814.

Oster, Gerry, David Thompson, John Edelsberg, Amy P. Bird, and Graham A. Colditz. 1999. "Lifetime Health and Economic Benefits of Weight Loss among Obese Persons," *American Journal of Public Health* 89, no. 10 (October): 1536–42.

Thorpe, Kenneth E. and Zhou Yang. 2011. "Enrolling People with Prediabetes Ages 60–64 in a Proven Weight Loss Program Could Save Medicare \$7 Billion or More," *Health Affairs* 30, no. 9: 1673–79.

Thorpe, Kenneth E., Zhou Yang, Kathleen M. Long, and W. Timothy Garvey. 2013. "The Impact of Weight Loss among Seniors on Medicare Spending," *Health Economics Review* 3, no. 7 (March 20).

Trust for America's Health. 2013. *F as in Fat: How Obesity Threatens America's Future.* August.

Wing, Rena R., et al. 2011. "Benefits of Modest Weight Loss in Improving Cardiovascular Risk Factors in Overweight and Obese Individuals with Type 2 Diabetes," *Diabetes Care* 34, no. 7 (July): 1481–86.

Wiske, Clay, and Vincent Pera. 2013. "Reducing Medications in the Obese Population with Medically Supervised Weight Loss." Presented at the American Society for Metabolic and Bariatric Surgery and the Obesity Society Joint Annual Scientific Meeting. Atlanta, GA. November 14.

