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The Medicaid Costs of Obesity to Vermont

Obesity Trends in the United States

The prevalence of overweight and obese adults in the United States (US) has steadily increased over the past 50 years. Following the Centers for Disease Control and Prevention (CDCP) definition, an overweight adult is a person with a body mass index (BMI) between 25 and 29.9. Adults with a BMI over 30 are considered obese.¹ From 1960-2 to 2005-6 the prevalence of obesity has increased from 13.4 percent to 35.1 percent amongst adults aged 20 to 74.² This increase had occurred amongst all ages, genders, racial/ethnic groups, education levels, and smoking levels. Today, over two thirds of the U.S. adult population are overweight or obese, and over a third of adults are obese.³

Costs of Obesity

A study from the Research Triangle Institute and the CDCP that was published in 2009 lists the health cost of obesity in the US at \$147 billion dollars a year.⁴ The annual national medical costs due to obesity have increased from 6.5% of the total health care dollars spent in 1998 to 9.1% in 2006.⁵ The study included payments from Medicaid, Medicare, and private insurers to determine this number. In 2006, obese people in the US incurred health care costs of an average of \$1,429 more per person per year for medical care than normal weight Americans.⁶

In the US, for each obese patient Medicare pays \$95 more for inpatient services, \$693 more for outpatient services, and \$608 more for prescription drugs than it pays on average for a normal

¹ Centers for Disease Control and Prevention, "Obesity and Overweight: Defining Overweight and Obesity," 8 December 2009, <http://www.cdc.gov/obesity/defining.html>, accessed 10 May 2010.

² Weight-control Information Network, National Institutes of Health, "Statistics Related to Overweight and Obesity," February 2010, <http://www.win.niddk.nih.gov/statistics/index.htm>, accessed 10 May 2010.

³ Weight-control Information Network, "Statistics Related to Overweight and Obesity."

⁴ Centers for Disease Control and Prevention Division of Media Relations, "Study Estimates Medical Cost of Obesity May Be as High as \$147 Billion Annually," 27 July 2009, <http://www.cdc.gov/media/pressrel/2009/r090727.htm>, accessed 10 May 2010.

⁵ Centers for Disease Control and Prevention Division of Media Relations, "Study Estimates Medical Cost of Obesity May Be As High as \$147 Billion Annually."

⁶ Centers for Disease Control and Prevention Division of Media Relations, "Study Estimates Medical Cost of Obesity May Be As High as \$147 Billion Annually."

weight person. Medicaid pays, on average, \$213 per year more for inpatient services, \$175 more for outpatient services, and \$230 more for prescription drugs on obese patients compared to normal weight patients. Private insurers annually pay \$443 more per obese patient for inpatient services, \$398 more for “non-inpatient” services,⁷ and \$284 more for prescription drugs, as compared to normal weight patients. In all, for each “obese beneficiary” Medicare pays \$1,723 more, Medicaid pays \$1,021 more, and private insurers pay \$1,140 more than they do for normal weight beneficiaries.⁸

Obesity in Vermont

The Vermonters Status Report⁹ showed that in June 2008, more than one-half (59% or 280,000) of VT adults are overweight or obese. Breaking this down further, 23% of VT adults are obese and 35% of VT residents are overweight. Over the past 15 years, adult obesity in VT has increased 60%. The number of obese adult Vermonters has doubled between 1990 and 2007.¹⁰ In 2005, 24% of students in eight through twelfth grades were found to be above a healthy weight.¹¹ In 2007, approximately 11.8% of children in VT were obese.¹² While this represents a lower rate than the national average of 31.6%, it points to a future of serious health problems if serious action is not taken to improve the health of Vermont’s children.¹³ For a discussion of the research on the causes of obesity see report at www.uvm.edu/~vlrs.

Medicaid in Vermont

Medicaid is a federal-state partnership program that helps low income Americans who meet certain requirements such as low wealth and resource levels pay their medical bills. Medicaid sends payments directly to health care providers on behalf of the individual receiving care. Eligibility for Medicaid, as well as the extent of coverage, is determined by the individual

⁷ Researchers’ term, meant to include all services other than in-patient.

⁸ Eric A. Finkelstein, Justin G. Trogon, Joel W. Cohen, and William Dietz, “Annual Medical Spending Attributable To Obesity: Payer- And Service-Specific Estimates,” *Health Affairs*, 2009; 28(5): w822–w831, <http://content.healthaffairs.org/cgi/reprint/28/5/w822>, accessed 30 June 2010. The overall numbers reported in this sentence are not the sum of the numbers in the above sentences because the researchers derived all of the numbers using multiple regression analysis—the numbers represent averages produced after controlling for other factors associated with increased health care costs, not simple sums.

⁹ Vermont Department of Health, “Fit and Healthy Vermonters,” <http://healthvermont.gov/FitandHealthy.aspx-obesity>, accessed 3 May 2010.

¹⁰ Vermont Department of Health, “Fit and Healthy Vermonters,” <http://healthvermont.gov/FitandHealthy.aspx-obesity>, accessed 3 May 2010.

¹¹ Vermont Department of Health, “The Costs of Obesity,” <http://healthvermont.gov/family/fit/documents/obesitycost.pdf>, accessed 3 May 2010.

¹² Rudd Center for Food Policy & Obesity, Yale University, “Obesity Related Facts for Vermont,” February 2010, <http://www.atg.state.vt.us/assets/files/2010%20AG%20Vermont%20Report%20Yale%20Rudd%20Center.pdf>, accessed 9 June 2010.

¹³ Kaiser State Health Facts, “Vermont Facts at a Glance,” <http://www.statehealthfacts.org/profileglance.jsp?rgn=47>, accessed 11 May 2010.

states.¹⁴ In Vermont, Medicaid is available to eligible seniors 65 or older, blind or disabled people, children, pregnant women, and parents. Medicaid in Vermont covers the bulk of medical care such as doctor visits, hospital care, prescriptions, vision and dental care, long-term care, and physical therapy.¹⁵ In 2006 and 2007, 611,700 people were living in Vermont, and 159,042 were enrolled in Medicaid. This represents 26% of the population (six percent less than the national average).¹⁶

The Department of Vermont Health Access administers Vermont's publicly funded health insurance programs, including Medicaid. Medicaid costs have increased steadily in recent years, though the federal government has born most of the burden of these increases. In FY 2010, Vermont's Medicaid program cost the state about \$399 million.¹⁷ Most of Vermont's Medicaid funds come from the Global Commitment Fund.¹⁸ Some funding is from the state General Fund, though some also comes from taxes on providers such as hospitals, nursing homes, and mental health facilities.¹⁹

Vermont's Medicaid program is part of Green Mountain Care.

Green Mountain Care is a family of health insurance plans offered by the State of Vermont and its partners. Green Mountain Care includes plans such as Catamount Health, Vermont Health Access Plan (VHAP), Dr. Dynasaur, Medicaid, and a number of pharmacy assistance and premium assistance programs.²⁰

Our estimates of the cost of obesity do not include costs to Green Mountain Care in addition to state Medicaid costs.

The Medicaid Costs of Obesity in Vermont

A 2004 study estimated that the total cost of obesity-related expenses for adults in Vermont

¹⁴ Centers for Medicare & Medicaid Services: U.S. Department of Health and Human Services, "Overview Medicaid Program - General Information," <http://www.cms.gov/MedicaidGenInfo/>, accessed 11 May 2010.

¹⁵ GovBenefits, "Vermont Medicaid Benefit Details," http://www.govbenefits.gov/govbenefits_en.portal?nfpb=true&quickSearchPageFlow_1_actionOverride=/BenefitsQuickSearchPageFlow/report&windowLabel=quickSearchPageFlow_1&quickSearchPageFlow_1bid=1642&pageLabel=gbcc_page_quicksearch, accessed 10 May 2010.

¹⁶ Kaiser Family Foundation, "Vermont State Health Facts," <http://www.statehealthfacts.org/>, accessed 9 June 2010.

¹⁷ Kaiser Family Foundation, "Vermont: Federal and State Share of Medicaid Spending, FY2008," <http://www.statehealthfacts.org/profileind.jsp?ind=636&cat=4&rgn=47&cmpgrn=1>, accessed 5 August 2010.

¹⁸ "This is a specific internal service fund used to pay Medicaid expenditures of the public Managed Care Organization (MCO) under the Global Commitment Waiver in Medicaid. The revenue for the fund is provided by the Global Commitment appropriation in the Agency of Human Services." Vermont Joint Fiscal Office, "2010 Fiscal Facts," <http://www.leg.state.vt.us/jfo/Fiscal%20Facts%20&%20Fiscal%20Focus/2010%20Fiscal%20Facts.pdf>, accessed 5 August 2010.

¹⁹ Steve Kappel, "Medicaid in Vermont," *Vermont Legislature*, 13 Jan. 2005, [http://www.leg.state.vt.us/jfo/Healthcare/Medicaid in Vermont 01-13-2005.ppt](http://www.leg.state.vt.us/jfo/Healthcare/Medicaid%20in%20Vermont%2001-13-2005.ppt), accessed 10 May 2010.

²⁰ Green Mountain Care, <http://www.greenmountaincare.org/>, accessed 5 August 2010.

was \$141 million every year.²¹ Medicaid pays for \$40 million of this (that includes both Vermont's contribution and that of the Federal Government); Medicare pays for \$29 million.

In order to derive **more up to date** estimates of the **cost to Vermont** in Medicaid dollars attributable to obesity we utilized data from a number of sources cited in the report above. Total Medicaid Spending in VT in 2008 was \$973,326,366 (that's the federal government contribution plus Vermont's contribution).²² We obtained an estimate of the extra cost per obese Medicaid recipient (\$1,201) from Finkelstein et al.'s study (which used Medical Expenditure Panel Survey Data).²³ We multiplied the extra cost per obese recipient by an estimate of the number of obese Medicaid recipients in Vermont and then divided it by Vermont's share of Medicaid costs in the state.

We calculated the number of obese Medicaid recipients by multiplying the total number of adult Medicaid recipients in Vermont²⁴ times the adult obesity rate for low income adults in Vermont.²⁵ We calculated the number of obese Medicaid recipients who are children by multiplying the number of Vermont Medicaid recipients who are children times the childhood obesity rate in Vermont. We then added the estimates of the number of obese adult Medicaid recipients and child Medicaid recipients to get a total number of obese Medicaid recipients. The equations are as follows:

$$\text{Extra Costs to VT in Medicaid } \$ = ((\text{extra\$per_obese_recipient}) \times (\text{number_obese_Medicaid_recipients}))/.5$$

$$\text{Number of Obese Mdcd Recpnts} = ((\text{adults_on_Mdcd}) \times (\text{obsty_rate_low_inc_adults})) + ((\text{chldrn_on_Mdcd}) \times (\text{chldhd_obsty_rate}))$$

The result of the calculation is shown in Table 1 below. As can be seen from the table, our estimate of the cost of obesity to Medicaid is lower than that calculated by Finkelstein et al. in their 2004 article which is due to the fact that we utilized the different rates of obesity for children and adults in our calculation as opposed to using the overall rate of obesity. We also separate out Vermont's cost based on Vermont's share of Medicaid costs. **We estimate that the extra Medicaid costs associated with obese patients cost the state of Vermont about \$12.1 million** as opposed to the \$16.4 million (Vermont's share of the \$40 million costs estimate by Finkelstein et al., or 41% of the total).

²¹ E. A. Finkelstein, I. C. Fiebelkorn, and G. Wang, "State-level estimates of annual medical expenditures attributable to obesity," *Obesity Research*, 2004 Jan;12(1):18-24.

²² The Henry J. Kaiser Family Foundation, "Vermont Medicaid Expenditures," <http://www.statehealthfacts.org/profileind.jsp?cat=4&sub=47&rgn=47>, accessed 26 June 2010.

²³ The Medical Expenditure Panel Survey (MEPS) is a "nationally representative survey of the civilian noninstitutionalized population that quantifies a person's total annual medical spending." See Eric A. Finkelstein, Justin G. Trogon, Joel W. Cohen, and William Dietz, "Annual Medical Spending Attributable To Obesity: Payer- And Service-Specific Estimates," *Health Affairs*, 2009; 28(5): w822-w831, <http://content.healthaffairs.org/cgi/reprint/28/5/w822>, accessed 30 June 2010.

²⁴ <http://www.statehealthfacts.org/profileind.jsp?ind=200&cat=4&rgn=47> accessed 26 June 2010.

²⁵ Vermont Department of Health, "The Costs of Obesity," <http://healthvermont.gov/family/fit/documents/obesitycost.pdf>, accessed 26 June 2010.

We also present the estimated savings from a reduction in obesity in Table 1. If the obesity rate in Vermont were to drop 2 percentage points among adults and children, we estimate that Vermont could save about \$1.3 million in the state's share of Medicaid costs; a drop of 5 percentage points could lead to a savings of about \$2 million.

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Disclaimer: This report has been compiled by undergraduate students at the University of Vermont under the supervision of Professor Anthony Gierzynski. The material contained in the report does not reflect the official policy of the University of Vermont.

		estimated effects of reduction in obesity		
		2 percent reduction	5 percent reduction	
Medicaid Enrollment 2007				
	adults	91,700	91,700	91,700
	children	65,900	65,900	65,900
Percent Obese				
	low income adults	23%	21%	18%
	children	11.8%	9.8%	6.8%
Extra cost per obese patient		\$1,021	\$1,021	\$1,021
Total extra Medicaid costs for adults		\$21,533,911	\$19,661,397	\$16,852,626
Total extra Medicaid costs for children		\$7,939,500	\$6,593,822	\$4,575,305
Total extra Medicaid costs overall		\$29,473,411	\$26,255,219	\$21,427,931
Vermont's share of Medicaid Costs		41%	41%	41%
Vermont's share of extra Medicaid costs due to obesity in dollars		\$12,084,099	\$10,764,640	\$8,785,452
Medicaid Savings for Vermont			\$1,319,459	\$1,979,188