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# Weighty Matters:

## How Obesity Drives Poor Health AND Health Spending

IN THE U.S.

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## Introduction

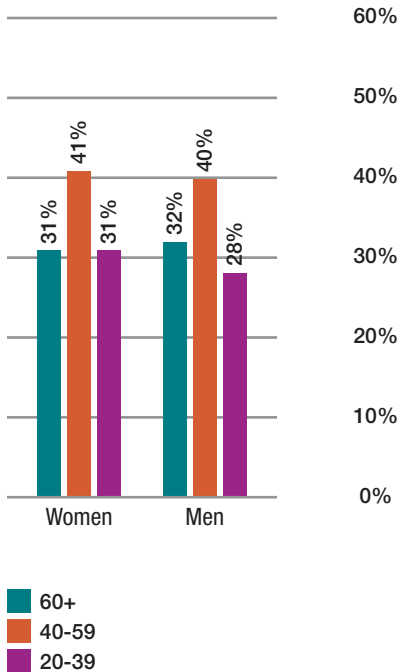
**Over the past quarter century, adult obesity has doubled in the United States and childhood obesity has tripled.** The Centers for Disease Control and Prevention (CDC) reported in 2007 that more than a third of U.S. adults — *over 72 million people* — were obese. Obesity rates differ only slightly by gender, but vary significantly by both age and race/ethnicity.<sup>1</sup> As obesity rates have climbed, so too have rates of associated health conditions.

In the period 1997 to 2006, the number of working-age adults who report being diagnosed with at least 1 of 7 major chronic conditions (heart disease, hypertension, stroke, diabetes, emphysema, asthma and cancer) grew by 25% to a total of nearly 58 million.<sup>2</sup> The CDC reports that more than 133 million Americans — 45% of the total population — have at least one chronic disease. Chronic diseases kill more than 1.7 million Americans yearly, and account for a third of years of potential life lost before age 65.<sup>3</sup>

This policy brief summarizes previous research and presents new evidence of the role obesity plays in rising rates of chronic disease and health spending. The National Business Group on Health, the leading association of large U.S. employers dealing with the challenging costs of health care, is committed to helping its members address the negative impact and devastating toll that obesity has on employees. The Business Group's Institute on the Costs and Health Effects of Obesity, formed in 2003, is leading the fight in obesity awareness and worksite obesity prevention programs. The authors are grateful for the opportunity to collaborate with the Business Group in presenting this report to the U.S. Congress.

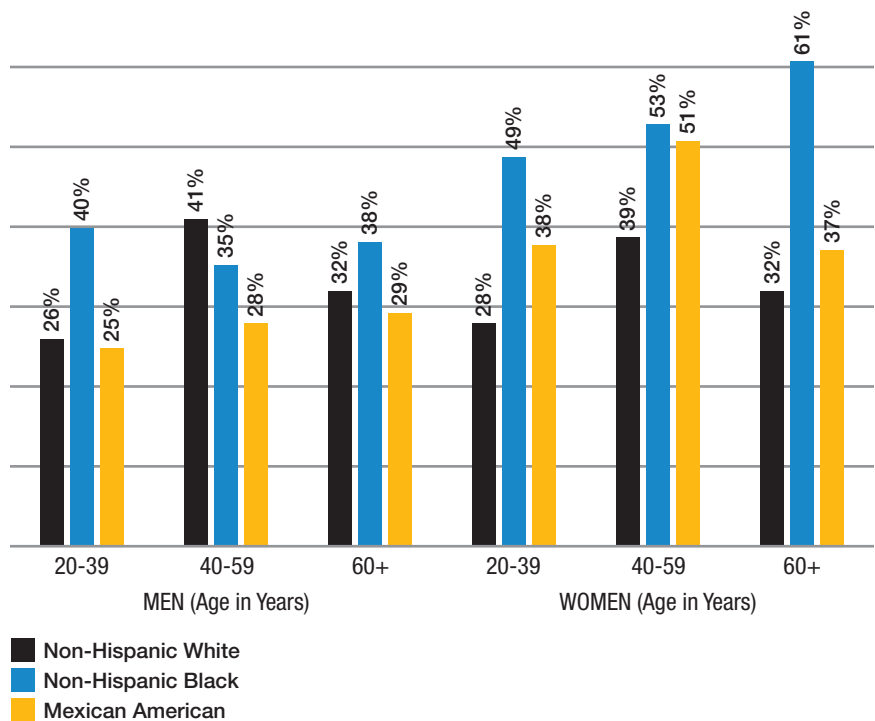
**Previous research has linked rising obesity rates to rising rates of costly health ailments, particularly chronic conditions such as diabetes, heart disease, hypertension (high blood pressure) and hyperlipidemia.**

### Adult Obesity Differs Across Age Groups



Source: CDC/NCHS, 2007.

### Adult Obesity Differs By Race/Ethnicity



Source: CDC/NCHS, 2007.

Previous research has shown that increases in obesity parallel a substantial share of growth in health spending.<sup>27</sup>

Better disease screening, detection and reporting have contributed to higher rates of diagnosed and treated disease. New technologies coming to market continue to improve health outcomes, but often at higher costs — and, frequently, with indeterminate value for that additional spending. Clinical guidelines for treatment have also changed, leading to more people in treatment, for longer time periods and at increased intensity.<sup>28</sup> For many of the most costly obesity-associated chronic conditions — such as heart disease, cancer and diabetes — both disease prevalence and rates of medication treatment are

much higher in the United States than in other industrialized countries.

Between 1987, when U.S. adult obesity averaged 14%, and 2001, when it was up to 31%, increases in spending on obese people relative to people of normal weight accounted for 27% of the rise in inflation-adjusted per capita spending. Spending for diabetes accounted for 38% of that increase, hyperlipidemia for 22%, and heart disease for 41%. Increases in obesity prevalence alone accounted for 12% of the growth in health spending over the period.<sup>29</sup>

Overall, much of the increase in U.S. health spending over the past two decades — by some measures, 20% or more — is attributable to the rise in obesity. If the prevalence of obesity were the same today as in 1987, health care spending in the U.S. would be 10% lower per person, or about \$200 billion less each year.<sup>30</sup>

## Identifying the individual drivers of rising health care spending is essential to developing effective solutions.

**The authors' most recent analysis, summarized below, provides updated—and concerning—evidence of the role obesity plays in rising rates of chronic disease and health spending.**

The authors conducted an analysis of the role rising obesity rates played in increasing chronic disease prevalence and health spending among working-age adults between 1997 and 2005.<sup>31</sup> The findings amplify concerns raised by previous research and underscore the need for effective interventions to prevent obesity, better manage associated chronic diseases and contain health spending.

The analysis uses data from the 1997 and the 2005 Household Component to the Medical Expenditure Panel Survey (MEPS-HC), collected by the Agency for Health Care Research and Quality (AHRQ). These annual surveys provide nationally representative estimates of health care spending, insurance status, utilization of medical services, sources of payment and disease prevalence, along with a broad set of socioeconomic characteristics, for the non-institutionalized civilian population in the U.S.<sup>32</sup> Given the scope of the study, samples were restricted to non-pregnant adults aged 18 to 64 with valid body mass index (BMI) data, resulting in 16,476 observations in 1997, and 17,682 in 2005. Individuals were assigned into one of the four BMI<sup>33</sup> categories using self-reported information on weight and height. BMI is calculated as weight in kilograms divided by the square of height in meters. CDC defines four BMI categories: obesity is a BMI of >30; overweight is BMI 25.0 to 29.9; normal weight is BMI between 18.5 and 24.9; and underweight is BMI <18.5. Persons with missing BMI data or implausible BMI values (e.g., under 10) were excluded from the analysis.

### Obesity is a risk factor for various diseases and conditions,<sup>4</sup> including:

- Metabolic syndrome<sup>5</sup>
- Diabetes, hyperlipidemia and hypertension<sup>6</sup>
- Cardiovascular disease and stroke<sup>7</sup>
- Pulmonary dysfunction and respiratory problems<sup>8</sup> including asthma<sup>9</sup> and sleep apnea<sup>10</sup>
- Fatty liver disease<sup>11</sup>
- Back problems<sup>12</sup>
- Female genital problems (e.g., polycystic ovary syndrome)<sup>13</sup>
- Difficulties in pregnancy, labor and delivery<sup>14</sup>
- Gastrointestinal conditions<sup>15</sup>
- Osteoarthritis<sup>16</sup>
- Cancers (endometrial, breast, colon, kidney and esophagus)<sup>17</sup>
- Kidney disease and chronic renal failure<sup>18</sup>
- Complications during and after surgery (including increasingly common bariatric surgery)<sup>19</sup>
- Depression<sup>20</sup>
- Skin ailments<sup>21</sup>
- Gallbladder disease and gallstones<sup>22</sup>
- Impaired immune response<sup>23</sup>
- Increased injury risk<sup>24</sup>
- Substantial increase in morbidity<sup>25</sup> and mortality in trauma patients<sup>26</sup>

Condition prevalence data in MEPS-HC come from two sources: event files classified by type of care received (e.g., inpatient visit, outpatient visit, etc.) and the records of medical events that prompted individuals to seek care. This analysis also uses the condition file, in which data are derived from individuals' self-reports of medical conditions. Data on medical conditions and health care spending are collected on the event level (e.g., physician office visit) via self-report. Entries are professionally coded from respondents' verbatim text using the International Classification of Diseases, Ninth Revision (ICD-9), and further collapsed into 259 clinically relevant medical conditions using the Clinical Classification System (CCS) developed by the U.S. Department of Health and Human Services (HHS).<sup>34</sup> For each medical event, respondents list up to four conditions that prompted the visit and the total expenditure incurred. Self-reported health spending is verified for a fraction of the MEPS sample using information from a follow-back survey of medical providers.

To partial out condition-specific spending from the total per visit amount, the authors split visit costs equally and allocated them across all conditions reported. Annual condition-related spending was obtained by adding up fractioned payments across all events<sup>35</sup> for each individual. Spending estimates for 1997 were inflated to 2005 level using the GDP deflator (multiplying by 1.18) to account for economy-wide price fluctuations over the period.

The fifteen most costly health conditions were identified by aggregating 2005 spending data across all individuals. The prevalence of specific diseases and conditions and spending estimates were tabulated for the study population and by BMI status.

The obesity-associated share in growth in chronic disease prevalence was estimated using the excess fractions approach. The excess fraction is the estimated share of cases associated with a risk

factor of interest, which in this analysis is obesity.<sup>36</sup> The estimated fraction is proportional to the prevalence of the risk factor and the relative risk of disease conferred by it.

For each year, the excess fraction of diseases and conditions associated with obesity was calculated; over time, the share of obesity-associated growth in chronic disease was calculated by dividing the change in total disease prevalence by the change in the obesity-associated excess fraction from 1997 to 2005.

By using a sophisticated statistical technique (the two-stage general linear model), the analysis was able to include important socio-demographic characteristics such as gender, age, race/ethnicity and education.<sup>37</sup> The authors estimated per capita total health care spending by BMI in 1997 and 2005. For each person in the sample, the predicted per

### What MEPS Doesn't Tell Us

Household Component to the Medical Expenditure Panel Survey (MEPS-HC) provides broad information on health spending patterns. But its narrow definition of expenditures as "payments made for health care services" presents a major limitation in policy studies aiming at assessment of total outlays for health care.

MEPS-HC omits administrative costs, does not account for services for which no explicit payment or charge was recorded, and fails to adjust for payments to providers not linked to a service event. It is prone to attrition of high-cost cases, underreporting and some misclassification of expenditures across the board.

In this analysis, incidence and prevalence data were only for those cases that generated positive condition-related spending in the survey year. This excludes individuals who listed a particular condition but who had no health care spending related to it that year.

capita health spending was calculated by multiplying predicted values from the first and second stage.

To summarize the impact of weight on per capita spending, four predicted spending levels corresponding to predicted health spending by the four BMI categories were computed. Computing predicted values in this way nets out the impact of observable individual characteristics (such as age, insurance status and income) on per capita spending predictions.

Next, the degree to which rising obesity rates contributed to health care spending over the period 1997 to 2005 was estimated by breaking down the actual per capita spending increase into a portion associated with obesity and a portion associated with all other causes. This was done by computing a “counterfactual” per capita spending level equal to what per capita spending would have been in 2005 if obesity rates remained at 1997 levels during the time that relative per capita spending levels by weight category reached their 2005 distribution.

This statistical approach is designed to focus solely on changes in obesity, not on changes in technology and more intensive treatment of obese patients. Using the counterfactual spending level, the next computation addressed how much per capita spending levels would have increased if none of these factors had changed. This was then compared to the actual spending increase, thus deriving an obesity-associated share of spending growth.

## Key Study Findings

### FINDING I: The prevalence of 11 chronic conditions associated with overweight and obesity grew 180%.

**Table 1**, on page 10, shows the breakdown of overweight- and obesity-associated changes in prevalence for 11 chronic conditions among working-age adults over the study period, 1997 to 2005. Columns showing changes in obesity are shaded green. *In 1997, the total number of cases associated with overweight and obesity was 25,443,117; this grew to 71,214,778 in 2005, an increase of 179.9%.* Obesity alone contributed nearly 29 million additional chronic condition cases in 2005 over the 1997 level.

*For every condition, the obesity-associated share of prevalence (the far right column) was in double digits, with the exception of cancer (8.75% share) and kidney disease (7.48%).* From 1997 to 2005, the overall average contribution of obesity across all 11 chronic conditions was 36.01%. The overall share attributable to overweight averaged roughly half that (16.97%).

The burden of obesity is most marked in heart disease and diabetes, accounting for more than 70% of the growth in prevalence for these two conditions. Obesity accounted for 60% of the growth in hypertension and nearly 50% of the rise in arthritis.

The most alarming increase in obesity-associated share was for *pulmonary conditions, which exploded by more than 458%*, rising from 0.92% of cases in 1997 to 5.13% in 2005. *(See the 1997 and 2005 columns labelled “% Cases Associated with Obesity.”)* Obesity-associated upper gastrointestinal ailments increased 157% (from 8.59% to 22.09%). The trio of conditions associated with metabolic syndrome

posted significant increases in their obesity-associated share: hyperlipidemia jumped 93%, hypertension 35%, and diabetes 25%.

*Of particular note for employers is the steep increase in overweight-associated back problems, which increased 578% from 1997 (1.18%) to 2005 (8%).* The increase in obesity-associated back problems was smaller, 56%, but of concern. Low back pain is second only to upper respiratory illness as a reason for adults' symptom-related physician visits, is the most common cause of work-related disability in people under 45 years of age, and is the most expensive cause of work-related disability, in terms of workers' compensation and medical expenses.<sup>38</sup>

**FINDING II:** Average per capita health spending increased by 40% from 1997 to 2005, but the average for the 15 costliest conditions — all associated in some way with obesity — jumped 55%.

**Table 2**, on page 11, shows changes from 1997 to 2005 in average condition-specific spending for the 15 most costly health conditions, with breakouts by BMI. Not all these ailments are chronic. For example, obesity also factored significantly in rising spending associated with infectious disease, skin disorders, female genital/reproductive problems and trauma. Columns showing condition-specific obesity-associated spending (far right) are again shaded green; those showing overweight-associated spending are light green. Consistent with obesity-associated increases in disease and condition prevalence, spending was higher for obese adults. Columns showing the percentage change in spending (overall, for each condition, and by BMI) from 1997 to 2005 are colored light orange. The

average change in spending across all BMI categories is shown in the farthest right column.

Notable increases are those for the component conditions of metabolic syndrome. Across all BMI categories, hyperlipidemia spending rose 48%; hypertension spending increased an average of 23%; diabetes spending fell 1%. These averages conceal significant variations by BMI, however. Among overweight adults, spending for hypertension increased 66% and for hyperlipidemia, 56%. Spending for diabetes increased just 12% in this group — but among obese adults, diabetes spending rose 50%. These variations may reflect lower treatment thresholds, expanding prescription drug therapy among formerly untreated groups.

Similarly, there were significant differences by BMI in spending for heart disease. Among normal-weight adults, heart disease spending jumped 146%, but just 15% among overweight adults. Spending actually fell 25% among obese adults, possibly reflecting the positive treatment effects of prescription medications for hypertension, hyperlipidemia and diabetes, slowing progression of heart disease.

**FINDING III:** Overall, obesity accounts for 27% of the increase in inflation-adjusted health expenditures among working-age adults.

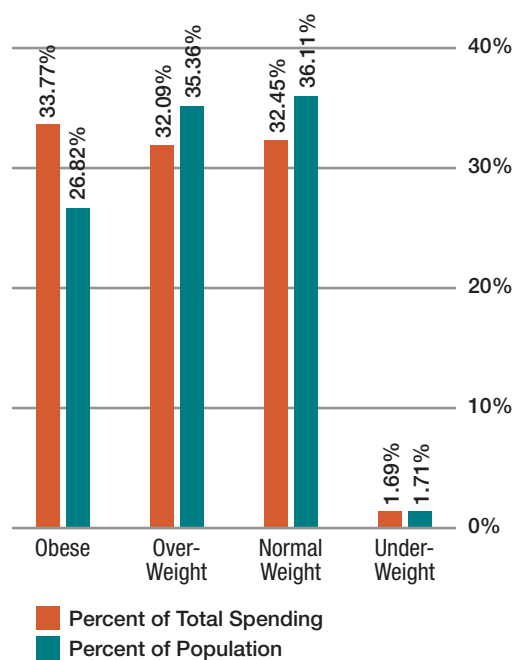
Compared to the counterfactual level of spending that holds obesity steady at the 1997 level, actual 2005 spending was nearly a third higher (27%). This finding is reflected in inflation-adjusted medical spending among working-age adults, which increased by nearly 70% from 1997 to 2005, rising from \$316 million to \$526 million (see Table 2 on page 11).

In 2005, condition-specific health spending among

**If obesity had stayed at 1997 levels, health expenditures would have been about \$223 billion less.**

adults was roughly equivalent across BMI categories, excluding underweight adults, who accounted for under 2% of expenditures (\$8.887 million), a share equivalent to their proportion in the population. The other BMI categories accounted for about a third of total spending, although obese adults spent more in proportion to their share of the population than did overweight or normal-weight adults. Normal-weight adults accounted for \$170.6 million in spending, overweight adults for \$168.6 million, and obese adults for \$177.5 million.

### Condition-Specific Health Spending Varies by BMI



Source: Thorpe, Ogden, Galactionova. "Rising Rates of Chronic Disease and Health Spending: The Role of Obesity" (Working Paper), 2008.

## What Should Employers Do?

*The good news is that prevention works.* The World Health Organization calculates that at least 80% of all heart disease, stroke and type 2 diabetes, and up to 40% of cancer could be prevented if people ate healthier, exercised and stopped using tobacco.<sup>39</sup> Health spending would almost certainly fall as a result — a welcome outcome for large employers and employees struggling with the economic burdens of obesity and associated chronic conditions.

Employers have increasingly recognized the benefits of worksite health programs (WHP) for primary prevention and care management, and, increasingly, these programs figure in the design of health insurance benefits. Several scientific reviews report that WHP programs reduce medical costs and absenteeism and produce a positive return on investment.<sup>40</sup>

A systematic review of more than 50 studies meeting rigorous review guidelines by the U.S. Task Force on Community Preventive Services found strong evidence of WHP program effectiveness in making reductions in the following areas:

- Tobacco use;
- Dietary fat consumption;
- High blood pressure;
- Total serum cholesterol levels;
- Days absent from work due to illness or disability; and
- Improvements in other general measures of worker productivity.<sup>41</sup>

The health and economic benefits of effective WHP programs do not end at retirement. Two recent studies have demonstrated that seniors aged 65-70 who are normal weight, with no chronic diseases, spend about 15% to 40% less over their lifetime than do obese adults with chronic diseases.<sup>42</sup> A large study of both men and women found that those with favorable cardiovascular risk profiles before age 65 had substantially lower average Medicare spending—overall, two thirds lower for men and half as low for women.<sup>43</sup> Another large study found that spending even in the last year of life—when charges are generally highest—was lower for those who entered Medicare at low risk for heart disease.<sup>44</sup> Improving the health of adults near 65 could prove an important long-term option for reducing the growth in retiree health spending covered by both private and public insurance.

## What Can Congress Do?

The authors believe that Congress should support the expansion of evidence-based worksite health promotion programs. The *Healthy People 2010* national objectives for the United States include the workplace health-related goal that at least 75% of employers, regardless of size, will voluntarily offer a comprehensive employee health promotion program. Workplace health interventions have a proven track record, and should be incentivized.

Congress also should implement a universal wellness, prevention and treatment benefit encompassing chronic disease risk reduction, screening and treatment for uninsured adults. This benefit would not substitute for universal coverage, but would provide immediate population health and treatment options for the uninsured. The benefit could incorporate some of the key design elements

of successful workplace health promotion programs and existing CDC programs for low-income, uninsured adults. It could significantly improve the health of working-age adults—reducing business costs of job turnover and lost productivity. It would also improve their health profile as they enter Medicare, offering significant long-term cost savings. The comprehensive program should include population health management, screening and treatment designed to prevent, detect and diagnose disease early and, where appropriate, care in suitable health care settings.

To fully realize the benefit's gains, those without insurance who are diagnosed with any of the six most common serious chronic medical conditions (cancers, diabetes, heart disease, hypertension, stroke and pulmonary conditions) should receive clinically-appropriate medical treatment. The wellness benefit should cover all clinically-indicated preventive maintenance care (e.g., annual eye and foot exams, hypertension screening and treatment, HbA1c testing, nutritional counseling), with no cost sharing.

**Table 1: Overweight- and Obesity-Associated Changes in Chronic Condition Prevalence, Working-Age Adults, 1997-2005**

Condition	Change in Prevalence: 1997-2005	1997 Population = 144,528,527				2005 Population = 174,692,424				Share in Condition Prevalence: 1997-2005	
		% Cases Associated with Overweight	% Cases Associated with Obesity	Total Cases Associated with Overweight	Total Cases Associated with Obesity	% Cases Associated with Overweight	% Cases Associated with Obesity	Total Cases Associated with Overweight	Total Cases Associated with Obesity	Over-weight	Obesity
Mental Disorders	6.20%	-3.25%	7.18%	-469,615	1,037,827	1.98%	11.60%	559,947	3,284,383	7.43%	16.22%
Heart Disease	-0.20%	12.24%	16.16%	1,046,035	1,381,552	11.52%	24.13%	1,149,384	2,408,515	7.21%	71.64%
Cancer	0.39%	5.34%	3.25%	244,447	148,938	5.60%	4.70%	347,981	291,771	6.34%	8.75%
Back Problems	2.35%	1.18%	6.88%	135,467	792,448	8.00%	10.73%	1,442,233	1,934,408	20.09%	17.55%
Pulmonary Conditions	0.91%	-2.10%	0.92%	-451,488	197,442	-1.65%	5.13%	-455,659	1,417,865	-0.07%	20.07%
Hypertension	5.71%	29.76%	33.58%	4,884,667	5,511,825	30.45%	45.40%	9,076,218	13,534,679	31.29%	59.90%
Arthritis	1.42%	12.00%	17.04%	1,142,721	1,621,931	13.21%	27.17%	1,847,313	3,800,718	15.76%	48.74%
Diabetes	2.25%	29.26%	46.05%	1,753,948	2,760,580	33.71%	57.60%	3,768,000	6,436,915	38.87%	70.95%
Upper GI	4.94%	0.81%	8.59%	50,541	532,918	17.11%	22.09%	2,760,600	3,564,088	27.30%	30.54%
Kidney	0.41%	17.04%	18.53%	269,509	293,022	9.03%	14.14%	236,940	371,026	-3.12%	7.48%
Hyperlipidemia	7.14%	26.91%	19.11%	1,495,926	1,062,476	33.06%	36.96%	6,344,575	7,092,878	35.57%	44.24%
Average share of cases		<b>11.74%</b>	<b>16.12%</b>					Overall share of all conditions		<b>16.97%</b>	<b>36.01%</b>
<b>Total cases associated with overweight or obesity</b>				<b>10,102,158</b>	<b>15,340,959</b>			<b>27,077,532</b>	<b>44,137,246</b>		
<b>Total cases associated with overweight and obesity</b>					<b>25,443,117</b>				<b>71,214,778</b>		

Source: Tabulations from the 1997 and 2005 Household Component to the Medical Expenditure Panel Survey. Sample sizes were: 19,961 (1997) and 20,489 (2005). Data restricted to adults age 18 to 64, excluding pregnant women and those who gave birth in the survey year.

Note: Cases associated with overweight and obesity were computed using the excess fractions approach. Prevalence of chronic conditions is set to zero (0) if no events are reported in a given year.

**Table 2: Average Disease-Specific Health Care Spending for Working-Age Adults, by BMI, 1997 and 2005**

Condition	1997 Health Care Spending--All Conditions: \$315,930,000				Condition-Specific Spending by BMI												Average Change Across all BMI Categories	
	Mean 1997 Spending (conditional on having)	Mean 2005 Spending (conditional on having)	% change	Mean 1997 Condition-Specific Spending	Mean 2005 Condition-Specific Spending	% change	1997 Under-weight	2005 Under-weight	% change	1997 Normal weight	2005 Normal weight	% change	1997 Over-weight	2005 Over-weight	% change	1997 Obese		2005 Obese
Sample	\$2,186*	\$3,008*	38%	-	-	-	\$2,019^	\$2,809^	39%	\$1,867^	\$2,666^	43%	\$2,310^	\$2,800^	21%	\$2,782^	\$3,751^	35%
Cancer	\$11,492	\$11,113	-3%	\$5,725	\$4,720	-18%	\$3,044	\$9,871	224%	\$6,264	\$5,555	-11%	\$6,573	\$3,548	-46%	\$3,478	\$4,718	36%
Kidney	\$10,698	\$15,885	48%	\$3,897	\$5,911	52%	\$7,310	\$1,976	-73%	\$4,781	\$6,819	43%	\$4,200	\$5,620	34%	\$2,244	\$5,595	149%
Heart Disease	\$7,921	\$10,936	38%	\$2,446	\$2,955	21%	\$663	\$1,293	95%	\$1,421	\$3,494	146%	\$3,218	\$3,690	15%	\$2,874	\$2,152	-25%
Diabetes	\$6,635	\$9,161	38%	\$1,169	\$1,467	25%	\$2,952	\$468	-84%	\$1,739	\$2,052	18%	\$1,057	\$1,180	12%	\$996	\$1,490	50%
Mental Disorders	\$6,176	\$7,349	19%	\$1,373	\$1,341	-2%	\$918	\$1,399	52%	\$1,480	\$1,218	-18%	\$1,258	\$1,472	17%	\$1,396	\$1,331	-5%
Hyperlipidemia	\$5,948	\$7,566	27%	\$493	\$711	44%	\$427	\$707	66%	\$495	\$680	37%	\$455	\$712	56%	\$553	\$723	31%
Upper GI	\$5,845	\$8,633	48%	\$588	\$1,013	72%	\$313	\$1,422	354%	\$572	\$934	63%	\$597	\$1,092	83%	\$620	\$968	56%
Arthritis	\$5,614	\$7,433	32%	\$740	\$1,188	61%	\$289	\$860	198%	\$714	\$1,312	84%	\$782	\$1,531	96%	\$741	\$882	19%
Hypertension	\$5,253	\$6,922	32%	\$465	\$675	45%	\$893	\$448	-50%	\$494	\$686	39%	\$432	\$718	66%	\$471	\$645	37%
Back Problems	\$4,551	\$6,230	37%	\$920	\$1,400	52%	\$1,047	\$1,222	17%	\$713	\$1,253	76%	\$1,317	\$1,388	5%	\$746	\$1,546	107%
Infectious Disease	\$4,233	\$6,450	52%	\$382	\$1,027	169%	\$276	\$315	14%	\$399	\$1,072	169%	\$405	\$998	146%	\$323	\$1,019	215%
Pulmonary Conditions	\$4,047	\$6,457	60%	\$430	\$735	71%	\$624	\$2,968	376%	\$445	\$826	86%	\$381	\$643	69%	\$444	\$627	41%
Trauma	\$3,812	\$5,220	37%	\$1,119	\$1,719	54%	\$636	\$1,169	84%	\$925	\$1,661	80%	\$1,353	\$1,510	12%	\$1,199	\$2,056	71%
Skin Disorders	\$3,782	\$7,014	85%	\$390	\$902	131%	\$443	\$272	-39%	\$332	\$779	135%	\$361	\$586	62%	\$542	\$1,450	168%
Female Genital Disorders	\$3,388	\$4,284	26%	\$497	\$727	46%	\$553	\$258	-53%	\$474	\$636	34%	\$547	\$1,003	83%	\$492	\$681	38%

\*Mean spending for all persons in the sample for all health conditions in the specified year

^Mean spending for all persons in this BMI category for all health conditions in the specified year

Source: Tabulations from the 1987 National Expenditure Panel Survey and 1997, 2000, and 2005 Household Component to the Medical Expenditure Panel Survey. Sample sizes were: 20,664 (1987); 19,961 (1997); 14,118 (2000); and 20,489 (2005). Data restricted to adults age 18 to 64, excluding pregnant women and those who gave birth in the survey year.

Note: Cases associated with overweight and obesity were computed using the excess fractions approach (see text for details). Prevalence of chronic conditions is set to zero (0) if no events are reported in a given year.

## About the Researchers

**Ken Thorpe, PhD**, is Executive Director of Emory University's Institute for Advanced Policy Solutions, and Robert W. Woodruff Professor and Chair of the Department of Health Policy and Management at the Rollins School of Public Health. He co-directs the Emory Center on Health Outcomes and Quality. He is also the Executive Director of the Partnership to Fight Chronic Disease, a national coalition of patients, providers, community organizations, business and labor groups and health policy experts.

Professor Thorpe was Deputy Assistant Secretary for Health Policy in the U.S. Department of Health and Human Services from 1993 to 1995. He has authored or co-authored over 85 articles, book chapters and books, and is a frequent national presenter on issues of health care financing, insurance and health care reform at health care conferences, on television and in the media. He has advised governors and legislatures in many of the 50 state governments, as well as several presidential candidates. Professor Thorpe received his PhD from the Rand Graduate School, an MA from Duke University, and his BA from the University of Michigan.

**Lydia Ogden, MA, MPP**, is currently on sabbatical from the Centers for Disease Control and Prevention (CDC), where she has worked for nearly two decades in population-based prevention programs and public health policy. She is a doctoral candidate in health policy at Emory University's Rollins School of Public Health, and is Chief of Staff of Emory University's Institute for Advanced Policy Solutions, overseeing substantive policy projects. Prior to coming to Emory, she served as CDC's Deputy Chief of Staff for Policy, in addition to her role as Associate Director for Policy and Planning for CDC's Global AIDS Program.

Ms. Ogden holds a bachelor's degree in English and Education from Middle Tennessee State University, a Master's degree in Literature from Vanderbilt University, and a Master's degree in Public Policy from the Kennedy School of Government, Harvard University.

**Katya Galactionova, MA**, is a research associate in the Department of Health Policy and Management at the Rollins School of Public Health. Ms. Galactionova provides extensive analytical support to projects administered by Dr. Thorpe and other senior researchers. She focuses on developing methodology, carrying out data work, and implementing study designs using statistical packages. Ms. Galactionova holds a Master's degree in Applied Economics from the University of North Carolina at Greensboro.

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