

# LDI | Issue Brief

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## ***The Shape of Things to Come: Obesity, Aging, and Disability***

Editor's Note: Rising obesity represents one of the most disturbing health trends in the U.S. and elsewhere. Obese people are at greater risk for diabetes, cardiovascular disease, disability, and mortality. However, recent studies also suggest that the obese population has grown "healthier" since the 1960s, probably due to improved medical care for cardiovascular disease. It is unclear whether these improvements have resulted in more or less disability in obese people as they age. This Issue Brief summarizes two studies that examine the prevalence of obesity over time in the elderly and disabled, and the changing relationship of obesity and disability.

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## ***Treatment for obesity-related health conditions has improved, although the health burden of obesity remains substantial***

Obesity continues to be associated with a variety of poor health outcomes, including excess mortality. Recent improvements in health care, particularly care for cardiovascular disease, may offset some of the ill health effects of obesity.

- Use of antihypertensives and lipid-lowering drugs has increased across all age groups, but especially within the obese population. These drugs have reduced the risk of cardiovascular disease.
  - However, improvements in cardiovascular risk factors and mortality are not necessarily matched by improvements in other health outcomes. For example, the increased risk for diabetes associated with obesity has not changed and obesity remains associated with an excess burden of disabling conditions such as arthritis and stroke.
  - If improvements in medical care prevent disease in the obese population, then obesity could become less disabling over time. But as the obese population lives longer, they could experience more disability. Understanding the effects of obesity on trends in disability is important in light of the impact of disability on both quality of life and health care spending late in life.
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## **Study examines relationship between obesity and disability over time**

In one study, Alley and Chang sought to determine if the association between obesity and disability had changed over time among individuals aged 60 and older. Disability in this age group is of particular importance given the aging U.S. population and an increasing prevalence of obesity among older individuals.

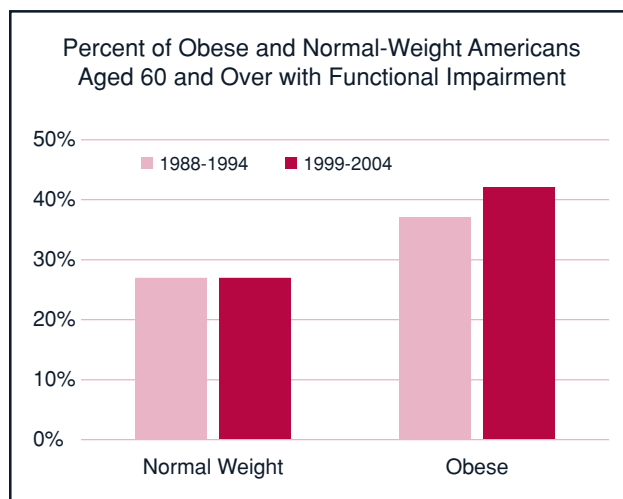
- The investigators used survey and clinical data from the National Health and Nutrition Examination Surveys (NHANES) for two time periods: 1988-1994 (Time 1) and 1999-2004 (Time 2). The study included 9,928 participants from both surveys who were 60 and over and had a measured body mass index (BMI) as an indicator of obesity.
- The study analyzed the influence of weight status on two kinds of disabilities: functional tasks (walking  $\frac{1}{4}$  mile, walking up 10 steps, stooping/crouching, lifting 10 pounds, walking between rooms, and standing from an armless chair) and activities of daily living (ADL) limitations (getting in and out of bed, eating and dressing). Two other ADL impairments—bathing and toileting—were not included in the survey.
- Weight categories were based on measured height and weight: underweight (BMI <18.5), normal weight (BMI 18.5-24.9), overweight (BMI 25.0-29.9) and obese (BMI  $\geq 30.0$ ). The investigators also looked at other risk factors such as sex, race/ethnicity, education, income, presence of chronic conditions, smoking, and health insurance status.

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## **Older obese people now report greater, not reduced, disability**

Despite recent improvements in cardiovascular health among obese older adults, obesity-associated disability increased during the 1990s. Obese participants surveyed in Time 2 (1999-2004) were more likely to report functional impairments than participants surveyed in Time 1 (1988-1994).

- As other studies indicate, obesity rates among the elderly have increased, from 23.5% in Time 1 to 31.7% in Time 2. Among obese people, the prevalence of at least one functional impairment also increased from 36.8% to 42.2% between the two surveys (see chart below). The prevalence of at least one ADL impairment among the obese did not change between surveys.



- The disparity in disability between obese and normal-weight people seems to be increasing. Controlling for sociodemographic factors, obese individuals were 1.5 times as likely to report a functional impairment as normal-weight people in Time 1, which increased to nearly twice as likely in Time 2.
  - Although the odds of ADL limitations among the obese did not change between Time 1 and Time 2, normal-weight people experienced a 34% reduction between the two surveys. Therefore, obese people were twice as likely as non-obese people to report an ADL limitation in Time 2. Reductions in ADL impairment observed for non-obese older individuals did not occur in those who were obese.
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## ***Study examines obesity in Medicare population***

In another study, Doshi, Polsky, and Chang sought to estimate trends in obesity among Medicare beneficiaries. Medicare covers people 65 and over, as well as non-elderly disabled people entitled to Medicare through Social Security Disability Insurance. The investigators examined national obesity trends from 1997-2002 among aged and disabled Medicare recipients, and estimated the potential impact of Medicare coverage for bariatric surgery.

- The investigators used data from the annual Medicare Current Beneficiary Survey, a nationally representative survey of Medicare beneficiaries. To compute BMI, they used self-reported height and weight collected by interviewers during in-home surveys. Obesity was further classified as Class I (BMI 30-34.9), Class II (BMI 35-39.9), and Class III (BMI  $\geq 40$ ).
- The study also examined the prevalence of self-reported diseases related to obesity such as diabetes, heart disease, hypertension, lung disease, and osteoarthritis.
- In 2006, the Medicare program expanded coverage for certain bariatric surgeries to beneficiaries with a BMI of 35 or greater, at least one condition related to obesity, and no success with medical treatment for obesity. The investigators used prevalence data on Class II and III obesity to estimate the potential impact of this new coverage on Medicare spending.

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## ***Rising obesity rates among Medicare beneficiaries could greatly increase future obesity-related Medicare spending***

Over the six years, the prevalence of normal weight declined, overweight remained constant, and obesity increased significantly in both aged and disabled beneficiaries. The largest relative increases were seen in Class II and III obesity.

- Between 1997 and 2002, the prevalence of obesity in aged Medicare beneficiaries increased from 16.4% to 21.4%. These estimates are lower than the Alley & Chang study, primarily because this study used self-reported height and weight rather than actual measurements. In self reports, individuals tend to report that they are taller than they really are, and lighter than they really are, and both effects produce systematically lower BMI calculations. However, both studies show similar increases over time.
- The prevalence of obesity among non-elderly disabled beneficiaries is particularly striking. Obesity in this younger group increased from 32.5% in 1997 to 39.3% in 2002. The prevalence of Class III obesity was five times higher in disabled beneficiaries than in aged beneficiaries.
- The 2002 data reveal that, in both the aged and disabled groups, obese beneficiaries were significantly more likely than normal-weight beneficiaries to have at least one of the five chronic diseases. As in the Alley & Chang study, obese elderly beneficiaries were much more likely to report at least one ADL limitation than their normal-weight counterparts.
- Using 2002 data, the investigators estimate that about 3 million Medicare beneficiaries would be eligible for Medicare coverage for bariatric surgery. Because this surgery, on average, costs \$10,000-\$15,000 per patient, total costs for the Medicare program would be \$30-\$45 billion if all eligible beneficiaries received surgery.

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## POLICY IMPLICATIONS

These studies document increasing rates of obesity and disability among older adults. It appears that improvements in cardiovascular health have not been accompanied by reductions in disability for the obese population. The obese do not seem to be benefiting from health improvements that have reduced disability in the non-obese population.

- The disability associated with obesity may be related to lifetime cumulative exposure. Declines in obesity-related mortality, along with a younger age at onset of obesity, could lead to an increased burden of disability within the obese older population. More research is needed on age and cohort differences in obesity and its associated health effects.
- The Doshi study is the first to document levels of obesity among disabled, non-elderly Medicare beneficiaries—the fastest growing segment of the Medicare population. Obesity rates in disabled beneficiaries were not only double the rates in elderly beneficiaries, but also were much higher than those reported in the general U.S. adult population under 65 in 2002.
- While the potential impact of bariatric surgery on Medicare spending is large, these costs might be offset by reductions in spending on obesity-related diseases. Studies of the health benefits, risks, costs, and cost-effectiveness of anti-obesity treatments in this population are needed.

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*This Issue Brief is based on the following articles: D.E. Alley, V.W. Chang. The changing relationship of obesity and disability, 1988-2004. Journal of the American Medical Association, Nov. 7, 2007, vol. 298, pp. 2020-2027; J.A. Doshi, D. Polsky, V.W. Chang. Prevalence and trends in obesity among aged and disabled U.S. Medicare beneficiaries, 1997-2002. Health Affairs, July/August 2007, vol. 26, pp. 1111-1117.*

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