

Health Care Costs Associated with Elevated Body Mass Index

Background: A large number of studies have reported the cost of overweight and obesity. However, cost estimates vary widely, in part because of differing study design. We sought to: 1) summarize costs of overweight (BMI 25-<30) and obesity (BMI \geq 30) per person and for the U.S. and 2) evaluate how estimates varied by study design.

Methods: We conducted a literature search for studies of the cost of overweight/obesity in the United States. Reports using duplicate data sets or those reporting costs for multiple adverse risk factors for health were eliminated. Adjustments between studies included differences in the: prevalence of overweight/obesity; unit of analysis (per person costs versus national costs); method of costing (charges, costs, expenditures); and year of the study. We report the cost per overweight and per obese person incremental to the cost per normal weight person (BMI 18.5-<25) as well as a national estimate of the total cost of overweight plus obesity. Limited reporting of sample sizes and variability in costs precluded use of formal meta-analysis.

Results: A total of 29 original reports published between 1987 and 2005 were identified, of which 6 did not report costs of overweight and obesity separately. Among the remaining 23 studies, we estimated annual incremental costs for overweight and obesity of \$272 and \$1037, respectively, which were approximately 26% and 57% greater than the cost for normal-weight. We estimated a total national cost for overweight plus obesity of \$90.7b. Studies that used more representative samples, standard definitions of overweight and obesity, and expenditure data tended to report higher estimates than those that used other designs, definitions, and cost data.

Conclusions:

We found that 1) overweight and obesity account for 4.7% of health care spending; and 2) study design has an effect on cost estimates. High quality studies (e.g., those that use nationally representative samples) yield higher per-person estimates of the cost of obesity.