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Access to care for bariatric surgery

How big of a problem is obesity?

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In efforts to identify appropriate investments in obesity prevention and remediation strategies, one first needs to understand the magnitude of the burden that obesity imposes on individuals, employers, and governments. This burden includes both health and financial consequences over the short- and long term. What follows is not a comprehensive review but an introduction to findings from several highly cited studies that clearly lay out the burden of obesity and the potential benefits from successful remediation efforts.

The obesity epidemic in the United States is now well documented. Based on self-reported data from the Behavioral Risk Factor Surveillance Survey, not a single state has a body mass index (BMI) prevalence below 20% among adults, and more than a dozen states have self-reported obesity prevalence rates that exceed 30%. Measured BMI data from the 1960–1962 National Health Examination Survey and 2009–2010 National Health and Nutrition Examination Survey (NHANES) reveal the rapid expansion of obesity rates and extreme obesity (BMI >40) over the past 50 years. In 1962, 31.5% of the population was overweight, 13.4% were obese, and $<1\%$ were in the extreme obesity range. In 2009–2010, rates of overweight were roughly the same but at the expense of those in the normal weight range, rates of obesity increased to 36.1%, and rates of extreme obesity increased more than 6-fold to 6.6%. Among women, the rate of extreme obesity was 8.5%. Forecasts of obesity prevalence rates suggest that by 2030, the obesity rate will creep up to 42%, but the rate of extreme obesity will nearly double to 11.1%.

If obesity were merely a cosmetic issue, then the rapid rise in rates of obesity would not be so concerning. However, the adverse health effects of obesity, and especially severe obesity, are now well documented. Obesity adversely affects nearly every system of the human body, but has the most deleterious effects on rates of diabetes, cardiovascular diseases, and several cancers. In each case, higher BMI increases the risks and complicates treatment. As a result of the adverse health consequences, obese individuals are at risk of a reduced life expectancy, especially among those in the highest BMI ranges. Those with BMIs in the 35–40 range may experience up to 5 years of reduced life expectancy on average, compared to those in the high normal (BMI 21–25) range, and those with extreme obesity experience up to 9 fewer years of life on average.

The best way to avoid the adverse health consequences of excess weight is to maintain a healthy weight throughout adulthood. Unfortunately, few adults will be able to accomplish this feat. Evidence suggests that young adults tend to gain about 1.25 lbs/year well into middle age. And although there is considerable variation around this estimate, many will gain far more than this average, but very few will not gain any weight. Whereas this may not be a problem for those in the normal weight range, evidence suggests that the 1.25 average increase per year holds for all but the highest BMI range. By way of example, consider young adult (late 20s) females who started with a BMI between 30 and 35 in 1990. Based on self-reported BMI data from the National Longitudinal Survey of Youth, 8.5% of this sample had a BMI of roughly 45 by 2008, and 46% had a BMI well above 35. Only 19% were able to maintain

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or lose weight over the 18-year period. Yet, those in this group had a much better disease profile. For example, whereas women who gained the most weight reported rates of hypertension and diabetes of 20.3% and 23.1%, respectively, these rates were reduced to 14.5% and 8.9% for those who were most successful at controlling their weight.

Evidence further reveals that weight gain has not only health but also economic consequences. Wang et al. reported that each 1-point increase in BMI yields a 4% increase in medical costs and a 7% increase in pharmaceutical costs [1,2]. In total, direct medical costs are 42% higher among obese adults compared to their normal weight counterparts. This fact, combined with today's obesity prevalence rate, suggests that obesity is now responsible for >9% of all medical expenditures, or as much as $147 billion/year. Moreover, the value of indirect costs due to obesity, including absenteeism and presenteeism (reduced productively while on the job) has been shown to exceed the direct costs. For those with severe obesity, the combined value of these costs exceeds $6,000/year per capita.

Ironically, it has been suggested that although the annual costs of obesity are high, the lifetime costs may actually be negative (i.e., obese people actually save the healthcare system money). This would result if obese individuals have substantially shorter life expectancies such that there is a 'savings' that offsets the higher medical costs that accrue at younger ages. This is not the case. The mortality effects of obesity are not high enough for the lower BMI groups, and the excess costs while alive for those in the higher BMI groups more than offsets the 'savings' resulting from shorter life expectancies. As a result, the lifetime medical costs of obesity range between $4,660 for Grade I obese (BMI between 30 and 35) black women and $29,460 for white women with a BMI above 35.

It is estimated that if obesity prevalence rates could be reduced by even 1 percentage point from forecast trend, by 2030, 2.9 million fewer adults would be obese and annual medical expenditures would be reduced by $9.5 billion/year. Clearly, there are both health and financial benefits from addressing the growing obesity epidemic.

Disclosures

Dr. Finkelstein has ongoing consulting relationships with Jenny Craig, Vivus Inc., Takeda, Johnson and Johnson, Sanofi-Aventis, and the Singapore government. He formerly consulted with the U.S. government and with most major pharmaceutical and medical device companies through his employment with RTI International, where he worked from 1999–2009. All research cited is in the public domain and taken from published sources.

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