

## Fact Sheet: Healthcare costs associated with obesity and its related diseases

Health care costs attributable to obesity and its associated diseases such as diabetes, CVD, and hypertension are substantial, accounting for more than 40% of annual national health expenditures.

- ❖ Estimated health care costs for obesity and associated chronic diseases, in billion dollars, are shown below. (Finkelstein et al. 2003 & National Health Expenditure data)

Disease	Obesity	Diabetes	CVD	Hypertension
Year	2001	2002	2007	2007
Direct cost <sup>1</sup>	61	92	NA	NA
Indirect cost <sup>1</sup>	56	40	NA	NA
Total cost	117	132	431.8	66.4
% of national health expenditures <sup>2</sup>	8 %	8 %	19 %	3 %

<sup>1</sup>Direct cost is due to medical spending and indirect cost is due to disability, work loss, and premature mortality.

<sup>2</sup>Calculated compared to national expenditure in the corresponding year: \$ 1469.6 in 2001, \$ 1602.8 in 2002, and \$ 2,262.3 in 2007 (billions).

- ❖ The health care cost increases with degree of obesity. Estimated cost increments with BMI and estimated annual health care expenses associated with overweight and obesity are provided in the table below.

Classification	Normal weight	Overweight	Obesity I	Obesity II	Morbid obesity
BMI	18.5 ~ 24.9	25 ~29.9	30 ~34.9	35 ~39.9	> 40
Health risks		Increased	High	Very high	Extremely high
Health care cost increase <sup>1</sup>		2 % ~ 23 %	21 % ~ 54%	43 % ~ 57%	78 % ~ 111%
Health care cost/year <sup>2</sup>	\$ 2,127	\$ 2,358	\$ 2,873	\$ 3,058	\$ 3,506

<sup>1</sup>Bachman, 2007 (Percentage range was obtained from several studies evaluating health care cost associated with obesity).

<sup>2</sup>Wee et al. 2005 (1998 Medical expenditure panel survey data were used).

- ❖ About 20 lbs weight gain was associated with increased medical care cost of \$561 (approximately \$25 ~ 30 for a pound weight gain, Elmer et al. 2004). For example, weight loss drug cost approximately \$100 a month and a bariatric surgery can easily cost \$35,000 ~ 40,000.
- ❖ Medical care cost increases by 11.6%/BMI increment for diabetes and by 5.2%/BMI increment for CVD (Wang et al. 2006)
- ❖ Direct cost of physical inactivity is estimated to be as high as \$24.3 billion (Colditz, 1999)
- ❖ A 7% reduction in body weight and an increase in physical activity to 150 min/wk reduced the risk of developing Type II Diabetes by 58%, and a reduction of 5-10% of weight has also been shown to reduce hypertension and cardiovascular disease risks (Clinical Guidelines, 1998).

## References

- ❖ Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults-The Evidence report. NIH, NHLBI. 1998.
- ❖ Colditz GA. Economic costs of obesity and inactivity. Med. Sci. Sports Exercise S663-S667, 1999.
- ❖ Elmer PJ, Brown JB, Nichols GA, Oster. Effects of weight gain on medical care costs. Int. J. Obes. 28: 1365-1373, 2004.
- ❖ Finkelstein A, Fiebelkorn IC, Wang G. National Medical spending attributable to overweight and obesity: How much, and who's paying? Health Affairs. W3:219-226. 2003.
- ❖ The Surgeon General's Call to Action to prevent and decrease overweight and obesity in 2001. <http://www.surgeongeneral.gov/topics/obesity/calltoaction/CalltoAction.pdf>
- ❖ Wang F, McDonald T, Bender J, Riffitt B, Miller A, Edington DW. Association of healthcare costs with per unit body mass index increase. J. Occp Environ Med. 48: 668-674, 2006.