

Association of Additional Health Risks on Medical Charges and Prevalence of Diabetes Within Body Mass Index Categories.

Shirley Musich, Chifung Lu, Timothy McDonald, Laura Champagne,
Dee W. Edington.

American Journal of Health Promotion. 18(3): 264-268, 2004.

PURPOSE: The prevalence of obesity and diabetes continues to increase among employee populations. Although medical costs and the prevalence of diabetes have been studied across increasing body mass index (BMI) categories, little attention has been given to the association of additional health risks within those categories. The purpose of this study was to examine the association of health risk levels on medical charges and prevalence of diabetes across BMI categories within an employee population. **METHODS:** A cross-sectional study design utilized health risk appraisal data (30% response rate) to measure BMI levels, self-reported diabetes status, and selected additional health risks among 38,841 active employees under age 65 of the General Motors Corporation. Associated average annual medical charges from 1996 to 2000 were calculated for defined health risk levels across five BMI categories (< 18.5; 18.5-24.9, 25-29.9, 30-34.9, and > 35). **RESULTS:** Higher medical charges were significantly associated with additional health risks (zero risks to four or more risks) across each of the BMI categories: \$2689 to \$7576 (< 18.5); \$2655 to \$6555 (18.5-24.9); \$3239 to \$7118 (25-29.9); \$3579 to \$7758 (30-34.9); and \$4151 to \$8075 (> or = 35). Likewise, higher prevalence of diabetes was significantly associated with additional health risks (zero risks to four or more risks) across the BMI categories: 2.6% to 7.0% (< 18.5); 1.3% to 2.7% (18.5-24.9); 2.4% to 5.3% (25-29.9); 5.5% to 8.3% (30-34.9); and 7.7% to 15.8% (> or = 35). **DISCUSSION:** Medical costs and the prevalence of diabetes were lower when the numbers of additional health risks were lower, regardless of the BMI category. Programs to promote weight management have largely been unsuccessful in maintaining long-term weight control. The current results suggest that a strategy focused on reducing health risks within any weight category could provide an alternative strategy to achieve medical cost savings and a lower prevalence of diabetes. The implied benefits of risk reduction within BMI categories would need to be confirmed with a longitudinal study.