

In This Issue of *Diabetes Care*

Edited by Helaine E. Resnick, PhD, MPH

\$245 Billion Spent on Diabetes in 2012

Updated estimates from the American Diabetes Association (p. 1033) put the economic burden of diabetes at \$245 billion in 2012—a 41% increase over the last estimate, which was conducted using data for 2007. This exhaustive economic analysis synthesized information from numerous national data sources administered by multiple federal agencies including the U.S. Centers for Disease Control and Prevention, the Agency for Healthcare Research and Quality, and the Centers for Medicare and Medicaid Services. The new analyses are the latest in a series that continues to document the increasing economic burden of diabetes in the U.S. Cost estimates are provided for the diabetic population as a whole, as well as by race/ethnicity, age-group, and insurance status. The new report shows that of the 2012 diabetes-associated costs, 72% were accounted for by direct medical expenditures and the balance by indirect costs such as lost productivity, unemployment due to diabetes-related disability, and premature mortality. Among other key findings are data showing that inpatient hospital care accounts for 43% of direct medical costs and that the medical expenditures of people with diabetes are about 2.3 times higher than what they would be if diabetes were absent. Other findings highlight the importance of the aging of the U.S. population on the economic burden of diabetes: 60% of diabetes-related health care costs are utilized by people aged 65 and older. This suggests that as the baby boom generation continues to “age in,” the age-specific allocation of diabetes-related health care costs will continue to heavily favor older adults—a consideration that has obvious implications for the burden of diabetes-related morbidity and mortality in old age, as well as the Medicare program itself. — *Helaine E. Resnick, PhD, MPH*

American Diabetes Association. Economic costs of diabetes in the U.S. in 2012. *Diabetes Care* 2013;36:1033–1046

Slower Weight Gain May Reduce Diabetes Prevalence in the Amish Community

A new study examines whether childhood factors may contribute to the much lower prevalence of diabetes in Old Order Amish (OOA) adults in the U.S. (about half the rate) relative to the overall population of U.S. adults of European descent. Since the number of years lived with obesity predicts diabetes risk, the authors hypothesized that deferment of weight gain may protect against diabetes. Data from the study, published in this issue of *Diabetes Care* (p. 873), indicate that OOA children are less likely to be overweight and are more physically active than non-Amish children. The OOA community in Pennsylvania adheres to strict lifestyle rules, including no use of electricity or cars. Children often walk or scooter to school and do not watch television. To assess how this lifestyle may affect childhood obesity, the study examined anthropomorphic data from 270 OOA children aged 8–19 years during the period 2005–2007. It compared the children’s age- and sex-adjusted BMIs with estimates from the National Health and Nutrition Examination Survey (NHANES). It also examined the correlation between physical activity (PA) and BMI. Finally, the study compared OOA children’s PA levels with PA levels of 229 non-Amish children aged 7–19 years from Maryland’s Eastern Shore (ES), a nearby rural community. The study found an inverse correlation between PA and being overweight. OOA children spent 34 more minutes per day in light PA and 53 more minutes per day in moderately vigorous PA relative to ES children. OOA children were also 3.3 times less likely to be overweight than both ES and NHANES children. These data may lead to improved understanding of the relationship between weight gain over the life span and its relationship with risk of diabetes in adulthood. — *Helaine E. Resnick, PhD, MPH*

Hairston et al. Comparison of BMI and physical activity between Old Order Amish children and non-Amish children. *Diabetes Care* 2013;36:873–878

Adolescent Obesity Increases Odds of Diabetes in Young Adulthood

The effect of obesity on diabetes risk over the life course is poorly understood. In this issue of *Diabetes Care* (p. 865), a new study examines the influence of the timing and duration of obesity on diabetes in young adulthood among 10,481 individuals aged 12–21 years in the U.S. National Longitudinal Study of Adolescent Health. Diabetes was defined as glycosylated hemoglobin (A1C) $\geq 6.5\%$ or self-reported diagnosis by a health care provider. During 13 years of follow-up, 4.4% of the cohort developed diabetes, including 2.1% with undiagnosed diabetes (A1C $\geq 6.5\%$ with no self-reported diagnosis). As young adults, 3,899 of 10,481 participants had been obese at least once during adolescence, most of whom had persistent obesity. In women, obesity prior to age 16 years was associated with a 2.8 (95% CI 1.4–5.5) greater odds of diabetes in adulthood compared to obesity in later adolescence, even with adjustment for multiple factors including BMI, waist circumference, and age at menarche. Persistent obesity in adolescence, rather than the specific timing of obesity, was related to a 2.3 (95% CI 1.4–3.6) greater odds of diabetes in men and a 2.1 (95% CI 1.3–3.2) greater odds in women compared to adults whose obesity started in adulthood. Sex modified the relationship between timing of obesity and odds of diabetes, but it had no impact on the effect of obesity duration and odds of developing diabetes. Sensitivity analyses assessing the potential roles of selection bias and varied definitions of diabetes or obesity classifications on the observed relationships showed consistent results. These findings highlight the importance of preventing and reducing adolescent obesity as a diabetes prevention strategy and suggest that diabetes screening may be warranted for obese young adults. — *Elsa S. Strotmeyer, PhD, MPH*

The et al. Timing and duration of obesity in relation to diabetes: findings from an ethnically diverse, nationally representative sample. *Diabetes Care* 2013;36:865–872

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