



# The affordable care act and insurance coverage for persons with diabetes in the United States

Derek S. Brown, Arash Delavar

Brown School, Washington University in St. Louis, St. Louis, MO, USA

Correspondence to: Derek S. Brown, PhD. Associate Professor, Brown School, Washington University in St. Louis, Campus Box 1196, One Brookings Drive, St. Louis, MO 63130, USA. Email: dereksbrown@wustl.edu.

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## Introduction

Diabetes remains one of the leading causes of death in the US (1), and has been on the rise worldwide for decades (2). Diabetes causes a multitude of medical ailments, including hypertension, heart disease, stroke, kidney disease, neuropathy, and blindness (3). High prevalence, large economic costs, and serious comorbidities make diabetes among the leading causes of burden of disease in the U.S. and many other countries (4). Diabetes also disproportionately affects persons of several minority groups and those of lower socioeconomic status, both of whom face worse access to care and are more likely to lack health insurance, exacerbating the high burden of disease in the United States and widening disparities in health outcomes (5).

Diabetes management inherently requires a high utilization of healthcare services. Persons with diabetes incur average healthcare expenditures of \$7,900 per year, 2.3 times the average expenditure of persons without diabetes (6). The societal costs of diabetes in 2012 were estimated at \$245 billion in direct medical and productivity costs (6). In 2007, total societal costs were estimated at \$174 billion, representing a 40% increase in just 5 years (7). If trends continue, diabetes prevalence has been projected to rise from 14% in 2010 to up to one in three Americans by the year 2050, which would dramatically increase societal costs (8). With better case management and prevention, much of this cost is potentially avoidable and would also improve health outcomes for persons with diabetes. However, these potential gains have remained out of reach

for the United States, as the forces of a high incidence of diabetes were combined with a persistent gap in access to care and high uninsured rates.

In 2010, the Affordable Care Act (ACA) presented a promising opportunity to stem or reduce the tide and toll of diabetes in the US. The ACA implemented many provisions designed to increase the number of insured Americans, including expanding Medicaid and providing a subsidized health insurance marketplace. This law has not only increased the number of insured Americans overall, but has also decreased the insurance disparity for populations affected with chronic diseases that disproportionately affect the poor (9), including heart disease (10), hypertension (11), cancer (12), and HIV (13). Until recently, no estimates of insurance coverage impacts of the ACA for diabetes were available, although using early data, we had projected the potential impacts of the ACA on diabetes care indicators and diabetes-related health outcomes (14).

Casagrande *et al.* (15) have now examined how the ACA affected health insurance coverage and costs for adults aged 18 and older with diabetes using newly released data from the National Health Interview Survey (NHIS). This study is the first to examine rates of health insurance for diabetic patients before and after the implementation of the ACA. By comparing the 2009 and 2016 NHIS, the authors are able to bookend the full implementation of the ACA in 2014 and compare several measures. Health insurance coverage remained largely unchanged for adults aged 65 and older with diabetes, as the vast majority of this age group were covered by Medicare, and eligibility was not altered by the

ACA. For diabetic adults aged 18–64, their major findings include significantly greater insurance coverage overall (90.1% in 2016 *vs.* 84.7% in 2009), as well as increases for men, non-Hispanic blacks and whites, Hispanics, for all education groups except those with a high school diploma, and those with household incomes <\$35,000. Increased insurance coverage in this age group was driven Medicaid and other public programs. Private insurance rates decreased slightly (not statistically significant) in this age group, which may explain a decrease in the proportion of family income spent on medical costs (15).

Some of their results indicate a potential narrowing of disparities in access and rates of uninsurance for disadvantaged populations, including non-Hispanic blacks, Hispanics, lower income, and lower education. This indicates that, among other benefits, during the first few years since passage and full implementation of the ACA, improvements in health coverage are indeed making a difference in narrowing some health disparities in the United States. At the same time, policymakers should be aware that recent efforts in today's policy environment that significantly weaken the ACA, such as the removal of the individual mandate (16), reductions to the insurance subsidies on the marketplace (17), and more restrictive Medicaid eligibility requirements (17), may not only negate insurance coverage gains experienced in recent years, but also worse outcomes and quality of care for millions of Americans living with diabetes.

Two significant strengths of Casagrande *et al.*'s (15) research include findings that are nationally representative, based on the high quality NHIS, and the addition of contemporary findings based on actual, post-ACA data through 2016. Brown and McBride's (14) study ended in 2012 and could only suggest, but not document changes from the ACA. Nonetheless, the present study is not causal: a reader cannot disentangle the effects of ACA health insurance on diabetes from self-selection into health insurance plans, and the effects of health care access. The authors discuss, but do not present, a multivariate model, so a degree of confounding may also affect their descriptive findings. Other limitations of the data source include no information on the type of diabetes, self-reported measures, small sample size for some subgroups, limited information on costs and health services, and no data on severity. Some of these limitations may be addressed in future, more exhaustive studies through claims or longitudinal data sources. Finally, the authors were unable to control for Medicaid expansion, leaving an important dimension

unexplored. This is possible with the same data source through a Census research data center restricted release version of the NHIS.

As years pass from the ACA's full implementation in 2014 and new threats to access to quality health care emerge, it will remain important to monitor how specific disease groups and populations are affected. Casagrande *et al.* (15) provide a much-needed snapshot on how rates of health insurance have changed for diabetics, a particularly vulnerable and costly population. Future research should attempt to address the limitations above, study diabetes by severity (particularly coverage for prediabetes, who are at a very high risk for developing diabetes if not under medical management), and assess changes at the state level to understand how Medicaid expansion and other state-level policy variations affect the health care for persons with diabetes.

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