Published in final edited form as:

Curr Diab Rep. 2016 April ; 16(4): 27. doi:10.1007/s11892-016-0712-z.

The Affordable Care Act and Diabetes Diagnosis and Care: Exploring the Potential Impacts

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Abstract

This article reviews available data on the implications of the Affordable Care Act (ACA) for the diagnosis and care of type 2 diabetes. We provide a general overview of the major issues for diabetes diagnosis and care, and describe the policies in the ACA that affect diabetes diagnosis and care. We also estimate that approximately 2.3 million of the 4.6 million people in the USA with undiagnosed diabetes aged 18–64 in 2009–2010 may have gained access to free preventive care under the ACA, which could increase diabetes detection. In addition, we note two factors that may limit the success of the ACA for improving access to diabetes care. First, many states with the highest diabetes prevalence have not expanded Medicaid eligibility, and second, primary care providers may not adequately meet the increase in Medicaid patients because federal funding to increase provider reimbursement for Medicaid visits recently expired. We close by discussing current gaps in the literature and future directions for research on the ACA's impact on diabetes diagnosis, care, and health outcomes.

Keywords

Health care reform; Diabetes; Diagnosis; Care; Population health; Health policy

Introduction

Little is known about the impact of the Affordable Care Act (ACA) on the care of specific conditions such as diabetes. It is not yet possible to definitively assess the effects of the ACA on diabetes outcomes [1]. The purpose of this article is to reflect on the potential impact of the ACA on diabetes diagnosis and care based on detailed study of the ACA

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This article is part of the Topical Collection on *Economics and Policy in Diabetes*

Compliance with Ethics Guidelines

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

Conflict of Interest Rebecca Myerson and Neda Laiteerapong declare that they have no conflict of interest.

policies. Our discussion builds on the detailed summaries of the ACA already available for clinicians who treat diabetes [2–4].

Improvements to diabetes outcomes stem from changes in two broad categories. First, increasing early diagnosis of diabetes may lead to earlier treatment for patients with diabetes. Earlier treatment of diabetes has been linked to improved diabetes outcomes [5, 6]. Second, improving care for diabetes may change health outcomes. The impact of the ACA on diabetes care will be determined by the fraction of individuals with undiagnosed and diagnosed diabetes who are impacted by provisions of the ACA that affect diagnosis and care, respectively, and the size of impacts on these individuals. As noted in a previous editorial by Laiteerapong and Huang, the impact of the ACA could be large for certain groups while still having limited impact on the overall diabetes population [7].

This article focuses on the diagnosis and care of patients with existing type 2 diabetes and, as a result, does not provide an in-depth discussion of the impact of the ACA on type 1 diabetes outcomes or ACA policies with less impact on type 2 diabetes outcomes. Our aim is to review recent literature and provide estimates on the impact of ACA policies for diabetes diagnosis and care.

Current Issues with Diabetes Care

Undiagnosed Diabetes

Almost a third of patients with diabetes were undiagnosed in 2011–2012 [8]. Patients with undiagnosed diabetes are more likely to lack insurance or have gaps in insurance coverage [9]. These undiagnosed cases are important because lengthy gaps in diagnosis and treatment can lead to worse health outcomes including preventable complications [10, 11]. Evidence from the UK Prospective Diabetes Study (UKPDS) indicates that patients with higher fasting plasma glucose levels at diagnosis of type 2 diabetes had a higher risk for complications, which likely indicates that these patients had delays in diagnosis [6]. Model-based cost-effectiveness studies of screening have shown that screening asymptomatic adults can be cost-effective, though recommendations vary as to whether to only target adults with additional risk factors [12, 13].

Barriers to Diabetes Care

Almost half of adults with diagnosed diabetes do not meet recommended goals for diabetes care [14]. An important risk factor for poor diabetes self-management is high out-of-pocket costs; adults who face higher out-of-pocket costs for diabetes care are less likely to take medications to manage their disease [15]. Recent data also suggest that the cost of diabetes medications is increasing [16].

Access to health insurance helps to reduce out-of-pocket costs so that patients can afford to take medications to manage their diabetes. Adults without insurance are more likely to report that they could not see a physician when needed due to cost and less likely to receive needed diabetes care [17]. The highest-quality evidence linking insurance status and access to diabetes care is the Oregon Health Insurance Experiment. In this randomized controlled study, Oregon policy-makers had a limited ability to provide Medicaid insurance to new

recipients and chose to randomize offers of Medicaid insurance to eligible adults. Results from 2 years after randomization indicated that Medicaid insurance significantly increased rates of diagnosis of diabetes and use of diabetes medication [18•].

Out-of-pocket costs are especially high for older adults, because they suffer frequently from medical comorbidity [19]. A consequence of medical comorbidity is an increased number of medication prescriptions and increased out-of-pocket costs. The majority of older adults are covered under Medicare insurance, and many receive their prescription drug coverage through Medicare Part D. However, prior to the ACA, once Medicare beneficiaries reached a given amount of Medicare Part D spending, their prescription drug coverage was reduced and out-of-pocket payments were increased until total out-of-pocket spending reached certain pre-specified levels for catastrophic coverage. This coverage gap is commonly referred to as the “donut hole” in Medicare Part D benefits. Closing the coverage gap is important for the health of patients with diabetes because high out-of-pocket costs are associated with medication non-adherence, which is associated with poor blood-glucose and blood pressure control [15, 20–22].

ACA Policies Related to Diabetes Diagnosis and Care

Diagnosis of Diabetes

The rates of diabetes diagnosis may change as a result of the ACA. The ACA contains provisions that require health insurance plans to offer free screening for diabetes, high cholesterol, and hypertension to people at high risk for these conditions. In particular, Section 2713 of the ACA requires that health insurance issuers “not impose any cost sharing requirements for evidence-based items or services that have in effect a rating of A or B in the current recommendations of the US Preventive Services Task Force.” The requirement applies for all new plans beginning on or after September 23, 2010. Since that time, an estimated 76 million Americans became eligible for expanded coverage of preventive care services through their health plans, including screening, due to these provisions [23•]. (This estimate only includes adults aged 18–64, but Sections 4103 and 4104 of the Affordable Care Act also eliminate cost sharing for annual wellness visits for Medicare beneficiaries.) The lack of cost sharing for screening for diabetes for people at high risk according to US Preventive Services Task Force (USPSTF) guidelines will decrease financial barriers to diagnosis.

Several measures also make health insurance more accessible overall, which will likely increase the likelihood of diabetes diagnosis. These include the establishment of health insurance marketplaces to provide additional options for individuals without employer-sponsored insurance, the ability of children under 26 to stay on their parents’ plans, navigators to assist people with purchasing insurance, and expansion of Medicaid eligibility. Although the original intention was to expand eligibility for Medicaid to all adults with income less than 138 % of the poverty line, a Supreme Court decision in 2012 (*National Federation of Independent Business v. Sebelius*) made state-level Medicaid expansions optional and only 31 states (including D.C.) were expanding Medicaid as of September 1, 2015 [24]. Many other aspects of marketplace implementation relevant to accessibility and

affordability of insurance coverage also varied across states, and we refer the interested reader to additional reading [25–31].

Access to Diabetes Care

The ACA included several measures which might improve access to diabetes care for people with diabetes. First, starting January 1, 2014, all health plans in individual and small group markets created after March 23, 2010 are required to provide some coverage for diabetes care as an essential benefit, although the exact services covered vary. Previous lifetime and annual caps on coverage are also removed. This should improve access to diabetes care for people with health insurance. Second, plans are no longer permitted to take diabetes status (or other health conditions) into account in calculating premium prices or deciding whether or not to accept an applicant. Prior to this requirement, people could be charged higher prices than other patients or denied insurance if they were diagnosed with diabetes. This should improve access to health insurance, and thereby access to diabetes care, for people with diagnosed diabetes.

In addition, the ACA includes measures to address the burden of high out-of-pocket costs for older adults who receive their prescription drug coverage through Medicare Part D insurance. As part of the ACA, the Medicare Part D coverage gap decreases gradually until it closes in 2020. In 2011, consumers are responsible for 50 % of costs for brand name drugs after reaching the coverage gap (after total spending by the beneficiary and their plan reaches \$3310 on medications in 2016), as compared to 25% in 2020. Likewise, consumers are responsible for 93 % of the costs of generic drugs after reaching the coverage gap in 2011 compared with 25 % of the costs in 2020 [32].

The ACA also addresses physician shortages, which will alleviate some access to care issues [33–35]. Projections published prior to the implementation of the health insurance marketplaces estimated that full implementation of the ACA, including Medicaid expansion in all states, could require approximately a 2.5–3 % increase in the primary care workforce or around 4000–8000 primary care physicians [34, 36, 37]. This could exacerbate the existing shortage of primary care physicians in the USA. To alleviate this concern, the ACA includes a number of measures designed to support physician training, encourage placement of physicians to underserved areas, and encourage physicians to focus on primary care [33, 38]. The ACA permanently authorized the National Health Service Corps, a loan and scholarship program that places providers in Health Professional Shortage Areas. In addition, the ACA authorized grants to support primary care residency training and physician assistant training and to establish and expand residency training in teaching health centers, such as federally qualified health centers. The act also expanded funding for National Health Service Corps activities in community health centers by over a billion dollars over fiscal years 2011–2015. Finally, funding was available to increase Medicaid reimbursement rates for primary care services to Medicare reimbursement rates in 2013 and 2014 for selected providers with higher proportions of Medicaid patients. Many other examples exist, and we refer the reader to the Congressional Research Service reports for the complete list [33, 38].

Structure of Diabetes Care

The ACA also implemented a number of delivery-system reforms focused on improving the health of populations, rather than individual patients. These include Accountable Care Organizations (ACOs), the Comprehensive Primary Care Initiative, and a variety of other new care models being tested by the Center for Medicare and Medicaid Innovation [1]. ACOs share in any savings they achieve by reducing spending on care, but the amount of shared savings received is tied to the organization's performance on quality indicators. Several of these quality indicators are relevant to diabetes, including timely care and appointments, physician communication, and control of diabetes, hypertension, and high cholesterol [39]. Practices in the Comprehensive Primary Care Initiative are asked to select milestones, and many practices chose to focus on milestones related to diabetes [40]. Control of diabetes was the most commonly selected clinical quality measure for the data-based decision-making milestone, selected by 41 % of practices. In addition, 10 % of practices chose to focus on management of diabetes medications for their milestone related to improving patient shared decision-making capacity.

Potential Impact of ACA Policies on Diabetes Diagnosis and Care

Diagnosis of Diabetes

We estimate that 2.3 million of the approximately 4.6 million people aged 18–64 with undiagnosed diabetes in 2009–2010 may have gained access to zero-cost preventive care due to Section 2713 of the ACA, which prohibits cost sharing for USPSTF grade A or B recommended services. The data and assumptions used for this calculation are listed in a methods Appendix.

However, not all 2.3 million would have gained access to diabetes screening without cost-sharing, because they may not be considered to have high risk for diabetes based on the current USPSTF guidelines. Under the current guidelines, diabetes screening is recommended for adults aged 40–70 who are overweight or obese. Using data from a nationally representative biomarker survey, we estimate that about 64 % (95 % CI 50–77 %) of people aged 18–64 with undiagnosed diabetes in 2009–2010 were aged 40–70 and overweight or obese and therefore eligible to be screened for diabetes without cost-sharing according to USPSTF guidelines.

Impact on Access to Diabetes Care

Available data indicate that insurance expansions under the ACA are likely to affect diabetes care. About 23 % (95 % CI 16–32 %) of US adults with diabetes aged 18–64 lacked health insurance in 2009–2010, a total of 3.5 million people (95 % CI 2.1–4.9 million) [41]. It is likely that a significant fraction became insured in the subsequent years due to ACA provisions, but currently, the best estimates available are based on the general population. During October 2013 to February 2015, the first two open enrollment periods of the health insurance marketplaces established under the ACA, an additional 7–8 % of non-elderly adults (aged 18 to 64) gained health insurance coverage [42, 43•, 44•, 45•]. These gains in coverage are also associated with increases in use of health care according to recent data [43•, 45•, 46].

Evidence related to the impact of the ACA on costs of diabetes care for Medicare beneficiaries is also encouraging. For example, evidence from the original implementation of Medicare Part D suggests that cost-related non-adherence of medications may decrease as the coverage gap is closed [47, 48]. Studies of the coverage gap itself have found that beneficiaries in Medicare Part D who lacked additional coverage reduced their drug purchases by 14 % after reaching the coverage gap, and that patients with diabetes reduced adherence to anti-diabetic drugs by 10–17 % [49–51].

This effect may be particularly important for Medicare enrollees with type 2 diabetes that require insulin, considered the most advanced form of type 2 diabetes. In general, patients with diabetes who use Medicare Part D are more likely to reach the Medicare Part D coverage gap than other patients—over 40% of enrollees with diabetes reached the donut hole spending threshold in 2006 vs. less than 30 % of enrollees overall—but monthly costs are highest for patients using insulin [51]. In recent years, insulin glargine may be an important contributor to monthly costs among patients using insulin because the treatment has not been available as a generic drug. Insulin glargine is associated with similar if not improved glycemic control overall, and reduced incidence of nocturnal hypoglycemia [52–55]. Therefore, another likely benefit of closing the coverage gap would be improvement in symptoms for patients who had switched from insulin glargine to other insulin due to the high cost.

Although data are not yet available to examine the impact of the ACA on the primary care physician shortage on a national level, available data on wait times for primary care appointments are encouraging. One great concern of the implementation of the ACA was that newly insured patients would not be able to receive primary care due to a lack of providers. However, two recent studies found no significant change in wait times for primary care appointments offered to callers posing as patients after Medicaid expansions in Michigan and other states [56•, 57].

Finally, little data is yet available on the impacts of new initiatives such as Accountable Care Organizations and the Comprehensive Primary Care Initiative on the quality of care for diabetes. Data from the first years of ACO implementation have indicated that patient perception of quality on domains such as timely access to care and physician communication are improved or unchanged [58]. In addition, the first evidence on quality of diabetes care seems favorable: usage of glycated hemoglobin (HbA1c) testing, low-density lipoprotein (LDL) testing, and diabetic retinal examination among patients with diabetes increased 0.8 percentage points more for beneficiaries enrolled in pioneer ACOs, which are exposed to more financial risks and rewards than other ACOs, than for other beneficiaries over the first year [59]. (Adjusted trends were the same for both groups prior to the start of the program.) In contrast, an evaluation of the Comprehensive Primary Care Initiative shows no clear pattern as to whether the initiative increased the fraction of diabetic patients who received HbA1c, lipid, urine protein, and eye exams over the first year [40].

Missed Opportunities for Impact

In addition to these beneficial trends, we observe two missed opportunities for impact under the ACA. First, about half (52 %, 95 % CI 34–70 %) of uninsured US adults with diabetes in

2009–2010, or about 1.5 million people, reported household income below 138 % of the poverty line and, therefore, would be income-eligible for expanded Medicaid insurance if they lived in Medicaid expansion states [41, 60, 61]. However, as of September 2015, many states with higher prevalence of diabetes had not yet elected to expand Medicaid. This is shown in Fig. 1 [24, 62]. Based on available data, these decisions may have significant impact on barriers to care and diabetes diagnosis, underscoring the missed opportunity in states that did not expand Medicaid [43•, 45•, 63].

Second, the expiration of federal funding for temporary increases in reimbursement for Medicaid primary care appointments could affect appointment availability for Medicaid patients going forward. Polsky and colleagues found that states with larger increases in reimbursement rates due to the policy change showed larger increases in availability of primary care appointments offered to callers posing as Medicaid patients [56•]. After 2014, maintenance of this rate increase occurred at the discretion of the states. In late 2014, 15 states reported planning to continue the rate increase for the following year [64].

Conclusion and Areas for Future Research

This paper reviews many elements of the ACA that might influence trends in diagnosis and diabetes care. First, we note that zero cost-sharing provisions for preventive services may be important in diabetes diagnosis. We estimate that approximately 2.3 million out of the 4.6 million people aged 18–64 with undiagnosed diabetes in 2009–2010 may have gained access to diabetes screening at zero cost if risk-eligible due to these provisions. Second, based on preliminary data, health insurance expansions are likely to expand access to care for many of the 3.5 million people with diabetes aged 18–64 who were uninsured in 2009–2010. However, we note two missed opportunities for improving access to diabetes care for low-income people as part of the ACA: many states with high diabetes prevalence are not expanding Medicaid, and federal support to increase physician reimbursement for Medicaid primary care visits recently expired. Third, we project based on previous literature that closing the Medicare Part D coverage gap (“donut hole”) is likely to reduce cost-related noncompliance with medication regimens among Medicare beneficiaries with diabetes (an estimated 10 million in 2009–2010) [41]. Closing the coverage gap is likely to be particularly important for patients using expensive diabetes medications such as long-acting insulin glargine. Fourth, we note that the impact of health care expansions on physician shortages is uncertain given countervailing measures in the ACA and incomplete expansion of Medicaid. Finally, little information is yet available on the impact of care restructuring on quality of diabetes care including Accountable Care Organizations and the Comprehensive Primary Care Initiative.

Although the currently available data are encouraging, the impact of the ACA on diabetes diagnosis, treatment, and outcomes will become clearer as additional data become available. Future research is needed to determine which specific ACA provisions are effective in ensuring newly insured patients receive timely primary care. In some cases, such as closing the Medicare Part D coverage gap or pilot projects such as Accountable Care Organizations and the Comprehensive Primary Care Initiative, changes in outcomes can be easily attributed to particular changes that occurred due to the ACA. In other cases, teasing out the

impact of different elements of the ACA on diabetes detection and care is more difficult; in these cases, analyzing state or sub-state variation in ACA implementation can be a useful approach [29–31, 46, 65]. Also, while the ACA provision to provide zero cost-sharing for diabetes screening for individuals at high risk may seem reasonable, the cost-effectiveness of diabetes screening based on the 2015 USPSTF recommendations is still unknown. Future research should also focus on the care experiences of people with diabetes who are newly insured or whose cases are newly detected due to ACA provisions. Given low levels of health insurance literacy found in the previously uninsured population, the potentially important role of consumer assistance in ensuring that access to insurance translates to access to care should not be ignored [66–68]. Finally, an examination of the state-by-state implementation of the health care marketplace may be informative to future waves of policy implementation for maintaining the affordability of diabetes drugs [25–28].

Appendix: Estimating Number of People in America with Undetected Diabetes Eligible for Diabetes Screening Without Cost-Sharing

To illustrate the potential impact of the zero cost-sharing provision for USPSTF recommended preventive services on diabetes diagnosis, we estimate the number of patients with undiagnosed diabetes in 2009–2010 that may have become eligible for free preventive care, including diabetes screenings if risk-eligible, due to this provision. Because of a lack of state-level data on undiagnosed diabetes and insurance enrollment over time, we make two simplifying assumptions. First, we assume that the ratio of undiagnosed to diagnosed diabetes is constant across states. Second, we assume that individuals with undiagnosed diabetes are as likely as other individuals in each state to be insured after the roll-out of the health insurance marketplaces. These simplifying assumptions could be improved upon in future research.

We use data and estimates from three main sources. First, we use national self-reported and biomarker data from the 2009–2010 wave of the National Health and Nutrition Examination Survey (NHANES) [41]. We consider participants with HbA1c over 6.5% or fasting plasma glucose above 7 mmol/l as having diabetes. We consider individuals with HbA1c over 6.5 % or fasting plasma glucose above 7 mmol/l who report no prior diagnosis of diabetes outside of pregnancy as having undiagnosed diabetes. Second, we use estimates of state-level prevalence of diagnosed diabetes for individuals aged 18 and over, which is tracked as a key chronic disease indicator by the Center for Disease Control and Prevention [62]. Third, we use state-level estimates of the population aged 18–64 in health plans meeting the zero cost-sharing provisions from a Department of Health and Human Services (HHS) report [23•].

Our calculations proceed as follows. First, we calculate that 30 % (95%CI 23–36 %) of diabetes cases among adults aged 18–64 were undiagnosed in the NHANES data, implying about $0.30/0.70 = 0.43$ undiagnosed cases for each diagnosed case of diabetes in 2009–2010. We multiply the prevalence of diagnosed diabetes in the state-level chronic disease indicators by 0.43 to estimate the prevalence of undiagnosed diabetes in each state. We next multiply this prevalence number by the HHS estimate of the number of individuals with health plans with zero cost-sharing for preventive care in each state. These calculations

indicate that up to 2.3 million people aged 18–64 with undiagnosed diabetes in 2009–2010 could have had a health plan with zero cost-sharing for preventive care by 2014 (plausibly ranging from 1.6–3.1 million), including approximately 1.4 million in states that expanded Medicaid and 900,000 in other states.

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Fig. 1.

Age-adjusted percentage of US adults with detected diabetes in 2013 (**a**) and Medicaid expansions as of September 1, 2015 (**b**). Sources: Kaiser Family Foundation (<http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/>); CDC's Chronic Disease Indicators (<http://www.cdc.gov/cdi/>)