Published in final edited form as:

Forum Health Econ Policy. 2016 December ; 19(2): 201–259. doi:10.1515/fhep-2015-0027.

The ACA: Impacts on Health, Access, and Employment

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Abstract

On March 23, 2010, President Barack Obama signed the Patient Protection and Affordable Care Act (ACA) into law. This comprehensive health care reform legislation sought to expand health care coverage to millions of Americans, control health care costs, and improve the overall quality of the health care system. The ACA required that all US citizens and legal residents have qualifying health insurance by 2014. In this paper we give readers a brief overview of the effects of the ACA based on recent research. We then turn our attention to the possibility of using the ACA expansion to answer important underlying questions, such as: To what extent does the holding of insurance lead to improvements in access to care? To what extent does the holding of coverage lead to improvements in health? In mental health? Are there likely general equilibrium effects on labor force participation, hours worked, employment setting, and indeed even the probability of marrying? By necessity, researchers' ability to answer these questions depends on the availability of data, so we discuss current and potential data sources relevant for answering these questions. We also look to what has been studied about the health reform in Massachusetts and early Medicaid expansions to speculate what we can expect to learn about the effects of the ACA on these outcomes in the future.

Keywords

access; Affordable Care Act; health; health insurance; labor force participation

1 Background

In many ways the key goal of the ACA was to expand coverage, thereby improving access to health care, and ultimately improving health and reducing disparities in health. Attempts to improve the marketplace for the purchase of coverage, subsidies to buy coverage, penalties for those not adequately covered, new regulations on the insurance product, and controls on costs are all components of the ACA.

One of the first components to be implemented and a key provision of the ACA was to expand dependent coverage up to age 26 for all individual and group plans. Effective

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September 23, 2010, young adults could be covered under a parent's health plan even if they are married, not living with or financially dependent upon their parents, enrolled in school, or eligible to enroll in their employer's plan. Furthermore, the ACA stipulated that individuals could no longer be denied coverage due to preexisting conditions and ended lifetime limits on coverage.

Original ACA legislation required that states expand Medicaid coverage to individuals under age 65 at or below 133 percent of the federal poverty level (FPL)¹ beginning January 1, 2014. However, the 2012 US Supreme Court ruling in *National Federation of Independent Business v. Sebelius* made this provision optional for states. As of January 1, 2016, 32 states and the District of Columbia had expanded Medicaid coverage to this low-income population (Kaiser Family Foundation 2016). Medicaid expansion, however, does not apply to all individuals. An estimated 3.5 million non-elderly adults will be excluded from ACA Medicaid expansions and an additional 2 million from health insurance exchanges because of immigration status, as legal permanent residents living in the US for fewer than 5 years and unauthorized immigrants are not eligible for full Medicaid coverage (Fried et al. 2014).

In order to gain coverage, state-based exchanges were created through which individuals could purchase coverage; similarly, small businesses were able to purchase coverage for employees through separate exchanges and received tax credits to do so.² If states chose not to set up their own exchanges, they could use the exchange through the federal government. Using an essential-benefits plan that was designed as part of the ACA, insurance plans sold to individuals through the federal and state exchanges are standardized into four tiers – bronze, silver, gold, and platinum – corresponding to the actuarial value of the plan and the amount of out-of-pocket costs an individual can incur. Individuals and families who are citizens, under age 65, green card holders, or long-term legal residents with incomes up to 400 percent of the FPL are eligible to receive premium subsidies that set a maximum payment as a percentage of family income. The actual subsidy depends on their income and the cost of the second least expensive silver plan in their health care market offered on the exchange in their state. Individuals with incomes between 100 and 250 percent FPL enrolling in a silver-level plan are also eligible for subsidized cost-sharing reductions. These subsidies increase the actuarial value of the plan from the standard 70 percent to 73, 87, or 94 percent, depending on one's income level. Each of these subsidized cost-sharing levels also corresponds to reduced deductible and copay amounts, as well as lower out-of-pocket limits (Claxton and Panchal 2015; Claxton et al. 2015). In addition to these subsidies, the ACA also eliminated pre-existing condition clauses in insurance; lifted the maximum ceilings of coverage on insurance and established a maximum pricing ratio on insurance offered in exchanges to three to one across the full range of ages up to 64 groups;³ and mandated coverage both through the imposition of a fine if an individual is not adequately covered and on larger firms if they do not offer coverage.⁴ Additional elements of the ACA

¹Since a Federal Register rule has established a 5 percent income disregard for determining Medicaid eligibility, coverage extends to 138 percent of the FPL (Centers for Medicare and Medicaid Services 2013).

²Tax credits for small firms are directed at firms whose average wage is less than \$25,000.

³Allowed bandwidth is 3:1 with an additional 50% higher premium charge permitted for smokers. Insurance firms are compensated for "extraordinary risks" among their enrollees; these risk adjustments have three components for years 2014–2016. The long-term risk adjustment is based on expected risks and average out within each state.

are directed at increasing access via increased funding of qualified community health centers, training subsidies to increase those serving in medically underserved areas, an increase in reimbursement of providers under Medicaid, and funding of innovation in care delivery. In order to encourage firms to offer health insurance, the ACA included tax credits to small firms with a low- to moderate-income workforce and penalties to large firms if they did not offer coverage.

Original coverage projections for the ACA estimated that approximately 32 million Americans would obtain insurance by 2017 as a result of the law (Congressional Budget Office 2010). In March 2014, this estimate was reduced to 26 million to reflect the Supreme Court's 2012 Medicaid expansion ruling (Congressional Budget Office 2014). As of 2014, millions of Americans have gained coverage as a result of the legislation, with the Office of the Assistant Secretary for Planning and Evaluation reporting that 11.7 million individuals selected a plan through the Marketplace by the end of the second open enrollment period in 2015 (DHHS 2015b). This finding has been confirmed by the results of independent surveys, namely the RAND Health Reform Opinion Study, the Gallup Healthways Well-Being Index, the Commonwealth Fund Health Insurance Tracking Survey, and the Urban Institute's Health Reform Monitoring Survey (HRMS) (Carman and Eibner 2014; Collins et al. 2014; DHHS 2015a; Long et al. 2015). Data from the Gallup-Healthways Well-Being Index indicate that as of March 4, 2015, 16.4 million Americans gained health insurance since the ACA's coverage provisions took effect (DHHS 2015a).⁵ Of those with coverage in 2014, 66.0 percent were insured under a private plan, and 36.5 percent had a public plan (Smith and Medalia 2015).

Medicaid expansion has also yielded increases in coverage through Medicaid and the Children's Health Insurance Program (CHIP). Between July and September 2013 and October 2015, 12.2 million Americans were newly enrolled in Medicaid or CHIP in the 30 states and District of Columbia that had expanded Medicaid under the ACA. However, only 2.3 million gained coverage under the program in non-expansion states (Centers for Medicare and Medicaid [CMS] 2015). Furthermore, roughly 30 million Americans remained uninsured at the start of 2015 (Garfield and Young 2015).⁶ A disproportionate number of these individuals were living in states that have not expanded Medicaid: whereas the uninsurance rate declined 52.5 percent between September 2013 and March 2015 in Medicaid expansion states, it declined by only 30.6 percent in Medicaid nonexpansion states.

Increasing coverage is only the starting point for a stream of potential impacts that could result from the ACA. The policy implications of the ACA are vast, affecting numerous social, economic, fiscal, and legal outcomes. As millions of Americans gain health

⁴Employers with 50 or more FTE's face a fine of \$2000 per FTE after excluding 30 or \$3000 for any employees receiving a subsidy through an exchange. The individual mandate imposes a fee of \$695 per adult (50 percent of that per child) or 2.5 percent of income, whichever is greater. The fee increases with inflation.

⁵As noted in the data section, estimates vary depending on the data source used. This may reflect the smaller sample sizes of the more rapidly available surveys and the exact question asked.

⁶State policies appear to influence the enrollment experiences of low-income adults. Exploiting differences in expansion styles in Arkansas, Kentucky, and Texas, Sommers et al. (2015a) find that receiving assistance from navigators is the strongest predictor of enrollment and that Latino applicants are less likely to enroll than other racial and ethnic subgroups.

insurance, the overall health of individuals may improve, particularly among those with pre-existing chronic conditions. This may affect labor force participation and productivity, benefitting the economy as a whole. Furthermore, extending coverage to thousands of young adults may provide an incentive to these individuals to enroll in an educational program or seek self-employment. Additionally, adults near retirement age, who can now purchase coverage on exchanges under the ACA, face different work incentives and may adjust their behavior accordingly.

Disentangling the web of potential social and economic outcomes of the ACA is a daunting task, one limited by the timing of the provisions, natural life course of health outcomes, and quality of available data. To preview one of our insights, we find that researchers who have studied the expansions to young adults (i.e. dependent care expansion) have the advantage of comparing the experience of this target group to individuals who are similar in age, education, and other characteristics and are thus very useful as controls for other changes in the economy and in health care. Similarly, researchers who studied the “model’s” earlier expansion in Massachusetts could make use of the experience in other states while attempting to control for differences in health care and the economy, while those studying the lottery in Oregon have the advantage of an experimental design. These devices are not as available for studying the effects of the broader ACA. Furthermore, many dependents ages 19–25 are of higher SES backgrounds than the individuals taking coverage under Medicaid expansions or receiving subsidies, making the insights from this young adult group less generalizable to the overall population likely influenced by the ACA. And, since all states are affected by the ACA, though there are clear differences in the expansion, especially in whether Medicaid is expanded, the overall countrywide changes limit some types of comparisons. We conclude by considering directions for future research and the challenges in assessing the full scope of impacts of this health care reform.

2 Findings

The majority of social and economic research on the ACA to date has focused on young adults, as the dependent coverage provision was one of the first parts of the legislation to take effect. Since this provision affected only a small subset of the US population, researchers have the opportunity to compare young adults ages 19–25 to teenagers and adults immediately above the dependent age threshold. Using these natural comparison groups has allowed researchers to study how young adults have been affected by the reform in terms of health and labor market outcomes. These outcomes have been most often examined with difference-in-differences methods, where researchers utilize readily available cross-sectional data sources, such as the American Community Survey (ACS) and Current Population Survey (CPS).

In this section we present the currently available research findings on how the ACA has affected the coverage rates, health care access, health, and labor market outcomes of young adults. Our findings result from a review of the literature that was conducted prior to October 1, 2015, and reflects the body of research available at that time. Although several studies have been published since then, our findings highlight the initial impacts of the legislation and prelude more recent research and that yet to come. In reviewing the literature,

we searched both EBSCOhost and Google Scholar databases for scholarly articles and independent research organization reports. In order to narrow the abundance of publications available on the ACA, we used the terms “insurance,” “coverage,” “access,” “health,” “employment,” “labor,” and “marriage” in our search. Furthermore, we conducted parallel searches for the Massachusetts reform, Oregon experiment, and early Medicaid expansions. We also include papers presented at the Association for Public Policy Analysis and Management meetings.

Our review of the literature targets research focusing on the US population at large, highlighting both survey findings and causal empirical evaluations. Although there is an emergent body of literature focusing on state-level outcomes, we restrict our attention to the national scene to give an overview of the broader impacts of the legislation. We do not include any discussion of responses of providers, including insurers, in an attempt to be both informative on consequences for the population but not tedious in a fully comprehensive review.

2.1 Young Adults⁷

2.1.1 Coverage—Coverage is the most direct outcome of the ACA expansion and perhaps the easiest to track. Most of the large national data sources used to study the ACA are well equipped to measure gains in insurance coverage over time. What is more difficult to study is the change in type of coverage and whether individuals who had preexisting conditions or high medical care costs have obtained more complete coverage.

There is clear evidence that the ACA has increased coverage rates among young adults. Prior to the ACA, 32 percent of young adults lacked health insurance (Sommers et al. 2013). National survey estimates indicate that between 1.4 million and 2.1 million young adults gained health insurance within the first year (by 2011) as a result of the ACA (Antwi et al. 2013; O’Hara and Brault 2013), corresponding to a coverage rate increase of 3–7 percentage points (Slusky 2012; Depew 2013; O’Hara and Brault 2013; Sommers et al. 2013; Chua and Sommers 2014; Kaplan 2014; Lloyd et al. 2014; Scott et al. 2015; Wallace and Sommers 2015). Since the first-year expansion, the share of uninsured young adults has fallen yet further, with preliminary 2014 National Health Interview Survey (NHIS) data showing a decrease in the percentage uninsured from 26.5 percent in 2013 to 20.0 percent in 2014 (Cohen and Martinez 2015).⁸ Young adults of both higher and moderate SES backgrounds have seen declines of approximately 9 percentage points, though these correspond to baseline uninsurance rates of 15.7 percent and 37.0 percent for the two groups, respectively (McMorrow et al. 2015).

Overall coverage trends indicate that among young adults, males and individuals from higher income families experienced the largest coverage gains (Antwi et al. 2013; O’Hara and Brault 2013; Sommers et al. 2013). Despite such gains, however, many young adults still lacked coverage immediately after the dependent coverage provision took effect: a study

⁷See Appendix Tables B1–B4 for a summary of the findings on ACA outcomes related to young adults.

⁸Studies have also tracked insurance rates among emergency department visits. For example, Mulcahy et al. (2013) found the proportion of emergency department visits by uninsured young adults fell 1.7 percentage points between January 2009 and December 2011.

using the Commonwealth Fund Health Insurance Tracking Survey found that 39 percent of adults ages 19–29 were uninsured at some point in 2011 (Collins et al. 2012). This figure was even more striking for young adults living near the poverty line, as 70 percent of young adults with incomes below 133 percent of the FPL were still uninsured.⁹ In subsequent years, once the major components of the ACA went into effect, these coverage figures have shown noticeable improvement, as NHIS data reveal that 4.5 million young adults gained coverage between the implementation of the dependent coverage provision and the second quarter of 2014, a 40 percent reduction in the uninsurance rate (Martinez and Cohen 2014).

2.1.2 Health Care Access—Have the millions of young adults who gained health insurance as a result of the dependent coverage provision increased their access to primary care, routine and preventive care utilization, and inpatient services? This is a far more complicated question to answer than merely assessing coverage gains, and unfortunately national data often have limited capability to measure access outcomes.¹⁰ However, there has been an emergence of research looking at such outcomes, though there are inconsistencies in the findings.

Preliminary findings from two national data sets, the Behavioral Risk Factor Surveillance System (BRFSS) and Medical Expenditure Panel Survey (MEPS), using difference-in-differences approaches suggest that young adults are seeking more care and health services. Young adults are approximately 3 percentage points more likely to have a personal doctor than individuals just above the dependent provision age threshold (Slusky 2012; Barbaresco et al. 2015), and the annual frequency of office visits is expected to increase between 33 million and 149 million as a result of the ACA (Abraham 2014).

Early findings on routine and preventive care utilization have been inconsistent; though researchers have relied on the same data set, BRFSS, to assess these outcomes. Kotagal et al. (2014) use 2009 and 2012 BRFSS data to report a larger decrease in the likelihood of having a usual source of care for young adults under age 26 than for those ages 26–34, suggesting that individuals may seek out multiple sources of care instead of routinely seeing the same physician, and find no significant change in the rate of young adults receiving a routine checkup. However, these findings were followed up by Wallace and Sommers (2015), who expanded the time range of BRFSS data to 2005–2012 and found a 2.4 percentage point increase in having a usual source of care. Furthermore, Lau et al. (2014) report that young

⁹In order for young adults to gain coverage under the dependent provision, a parent had to have employer sponsored insurance (ESI). The high proportion of low-income young adults without coverage after enactment is consistent with the idea that lower income working adults are less likely to have ESI than other working adults.

¹⁰Among national data sets, the ACS and CPS are prime sources for coverage information; however, they do not provide measures regarding access to care. Alternative national data sets such as the Behavioral Risk Factor Surveillance System (BRFSS), Medical Expenditure Panel Survey (MEPS), National Health Interview Survey (NHIS), and Survey of Income and Program Participation (SIPP) include basic health access measures, but there is considerable variation in the breadth and depth of the access questions asked. As a result, researchers have tapped into other data sources to study access-related outcomes, including the Healthcare Cost and Utilization Project's (HCUP) State Inpatient Databases (SIDs), State Emergency Department Databases (SEDDs), and Nationwide Inpatient Sample (NIS); National Survey of Drug Use and Health (NSDUH); Consumer Expenditure Survey (CE); Commonwealth Fund Health Insurance Tracking Survey; and Gallup Healthways Well-Being Index (WBI). However, these specialized data sets often do not fully capture the effects of ACA provisions. Many are quite limited in the number of observations for the 19- to 25-year-old population and related comparison groups, and the limited response rates raise questions as to the representativeness of the data. See the Discussion section and Appendix Table A2 for more information on the data sources used to study the ACA.

adults had significantly higher rates of receiving a routine exam after the ACA vs. before (47.8 percent vs. 44.1 percent, respectively).

Early findings on preventive care suggest that the ACA dependent coverage provision is associated with higher cholesterol screening rates and blood pressure measurements (Han et al. 2014; Lau et al. 2014). Lipton and Decker (2015) find significantly increased likelihoods of HPV vaccine initiation and completion rates among young adult women. While Han et al. (2014) and Kotagal et al. (2014) find no change in flu vaccination or pap smear rates, one study (Barbaresco et al. 2015) reports that young adults ages 23–25 are two percentage points less likely to receive a flu vaccine, suggestive of an *ex ante* moral hazard.¹¹ Although not directly affected by the ACA, dental health checkup-rate increases have been found to be associated with the dependent coverage provision, which is suggestive of spillover effects associated with the law (Han et al. 2014; Lau et al. 2014; Vujicic et al. 2014).

There is also some early evidence that the ACA has led to greater access to mental health care: mental health treatment rates have increased by 5.3 percentage points for young adults ages 19–25 with possible mental health disorders, as compared to similar 26- to 35-year-olds (Saloner and Le Cook 2014). Inpatient visits due to mental illness have also increased, with Antwi et al. (2015a) finding a 9.0 percent increase among young adults and Golberstein et al. (2015b) reporting 0.14 more inpatient admissions for psychiatric diagnoses among this population.

Regarding emergency department and inpatient visits, Antwi et al. (2015a) report that the overall frequency of inpatient visits among young adults has increased by 3.5 percent. Emergency department visits appear to have declined among young adults, with Hernandez-Boussard et al. (2014) reporting a decrease of 2.7 emergency department visits per 1000 young adults and Antwi et al. (2015b) reporting a reduction of 1.6 visits per 1000. This last finding may suggest that the increase in care is reducing the need for emergency care.

Given the changes in access patterns as a result of the ACA, it is worthwhile to note the related body of literature addressing how the law has affected health care spending. As a result of gaining dependent coverage, young adults are faced with lower total and out-of-pocket expenditures, with Chua and Sommers (2014) reporting a 3.7 percentage point decrease in out-of-pocket spending among this group. Furthermore, Busch et al. (2014) find that the share of young adults facing annual out-of-pocket expenditures in excess of \$1500 has dropped significantly from 4.2 to 2.9 percent. Chen et al. (2015) also report significantly lower total health spending for young adults, and Wallace and Sommers (2015) find a 1.9 percentage point decrease in the inability to see a physician due to cost.

2.1.3 Health—After considering how the ACA has affected young adults' coverage rates and access to care, the next logical question is to ask how the legislation has influenced health. Assessing health, however, is complicated, as individual health outcomes related to accessing care may depend on lengthy diagnosis and treatment processes. Furthermore,

¹¹ *Ex ante moral hazard* refers to an incentive to reduce seeking preventive care or taking precautionary health measures if one has coverage for care if ill.

much of the available data rely on self-reported health measures, which may lead to divergent findings. For example, by increasing access to care for chronically ill individuals, one might suspect their conditions or symptoms would improve over time. However, increasing access to preventive or primary care services increases the likelihood that an individual will be diagnosed with a new condition, thereby causing him or her to indicate a decline in overall health. Given the recentness of the law, it is still too early to understand the underlying mechanisms behind changes in health statuses. However, we can shed light on some of the preliminary research on self-reported health.

Using cross-sectional CPS data and ordered logistic regression to isolate dependent coverage effects, Carlson et al. (2014) found that young adults ages 19–25 are more likely than those ages 28–34 to report better health since 2010. However, Kotagal et al. (2014) did not find such a trend using the BRFSS and difference-in-differences techniques; they report no change in the health status of 19- to 25-year-olds between 2009 and 2012, compared to adults ages 26–34. Barbaresco et al. (2015), on the other hand, also use BRFSS data and a difference-in-differences model controlling for the economic effects of the Great Recession but restrict their target population to 23- to 25-year-olds, finding a 2.1–2.4 percentage point increased likelihood of self-reported excellent health. Similarly, Wallace and Sommers (2015) utilize a difference-in-differences design with BRFSS data and find a 0.8 percentage point decreased likelihood of young adults reporting fair or poor health.

Burns and Wolfe (2016) study health and mental health using MEPS data. Using difference-in-differences methods, they find evidence of improvements in self-reported health among males ages 23–25 and in multiple measures of mental health for females in the same age group. Both groups are compared to matched-sex groups of slightly older individuals. Chua and Sommers (2014) also find an increased likelihood of reporting excellent mental health among young adults in the MEPS data.

While most of the early health evidence related to the ACA focuses on self-reported health, one study (Scott et al. 2015) focuses on mortality among young adult trauma patients. Using a population of patients in the 2007–2012 National Trauma Data Bank, they find no significant mortality changes for this group.

2.1.4 Labor Market Outcomes—Many researchers have examined how the ACA has affected labor market outcomes of the dependent-coverage age group, though the results have been mixed.¹² Broadly speaking, these labor market trends encompass a wide array of specific outcomes – from employment status to employment type to educational enrollment to marriage and cohabitation status. The tie is an easy one to conceptualize: since most people of working age have employer-based insurance (ESI), their choices are likely influenced by a desire for coverage. If instead the coverage is available through one's parents, without additional premium costs, does not require student status, and does not

¹²Note that the findings presented here consider only the demand-side effects of the dependent coverage provision. There is an additional body of literature focusing on supply-side outcomes related to the employer mandate provision of the law, especially surrounding how employers have responded to the 30 hours per week definition of full-time employment for providing coverage. See Garrett and Kaestner (2015) as an example of how the ACA has affected hours worked and Dillender (2014) for how the law has affected wage rates.

apply to the dependent's own spouse or children, this new "fact" is likely to change choice at the margin. At first glance we might hypothesize that individuals ages 19–25 might be less likely to work full time in a firm offering coverage and might be more likely to try self-employment and/or work part-time. He or she might also be less likely to be a full-time student¹³ and less likely to marry in order to acquire health insurance.

Several researchers deny there is any significant evidence that the dependent coverage provision has affected labor market outcomes (Antwi et al. 2013; Bailey and Chorniy 2016; Heim et al. 2015). However, others find a reduction in employment (Gollu 2014) and labor force participation (Depew 2013). Early findings suggest that young adults have shifted their employment status as a result of the ACA. Antwi et al. (2013) report that young adults are 6 percent less likely to work full time, and Slusky (2012) finds that the dependent mandate caused a shift from full-time to part-time work among young adults. Furthermore, Bailey (2013) finds a 13 percent to 24 percent increase in self-employment among young adults and that those receiving coverage through a parent were more likely to start a small business.

Preliminary research on educational and marital findings is sparse. Depew (2013) finds that young adults are 1.8 percentage points more likely to be a full-time student as a result of the ACA, and Slusky (2012) reports that the dependent coverage provision caused a shift from enrolling in private four-year to public two-year colleges among this population. However, Heim et al. (2015) find no evidence of an education effect using IRS administrative tax records. One source of consistency in the literature is that females under age 26 are less likely to marry as a result of the legislation (Depew 2013; Abramowitz 2015).¹⁴

2.2 General Population

Given that the first open enrollment period of the ACA happened over 3 years after the dependent coverage mandate, it is not surprising that we have only recently seen studies on how the ACA has affected the broader adult population. It is important to stratify the findings between the young adult and general adult population groups, as the overall population of adults that has gained coverage does not mirror the socioeconomic profile of young adults. Of adults without insurance, nearly two-thirds belong to the "working poor," corresponding to a family of four earning less than \$44,000 per year (Schartzer et al. 2014). These individuals tend to not have coverage through ESI and often cannot afford to purchase insurance on the private market. Therefore, a primary target population for the broader ACA is lower income individuals, those who may receive subsidies or gain coverage under Medicaid expansion. As noted above, gaining insurance under the dependent coverage expansion presumes that a young adult's parent has access to a private employer-based health care plan. As such, these young adults are less likely to be among the low-income population, thereby facing different social and economic conditions than the ACA's primary targets. Antwi et al. (2013) corroborate this idea, finding that 33 percent of young adults whose parents do not have ESI have incomes below 133 of the FPL, as compared to 15

¹³A number of states had expanded dependent coverage prior to the ACA. We would expect smaller changes in labor market outcomes in those states. See for example Hahn and Yang (2015).

¹⁴The theory lying behind the expectation of lower marriage rates is that some of the incentives to marry were tied to acquiring health insurance. These have now been eased under the ACA.

percent of those with parental ESI. It is therefore not unreasonable to infer that the health care access, health, and labor market outcomes related to the ACA will differ between these two groups. In the sections that follow, we highlight the early findings surrounding how the law has affected coverage gains, access to care, health, and labor market outcomes of American adults.¹⁵

2.2.1 Coverage—A key policy aim of the ACA is to expand coverage to millions of uninsured adults below age 65, and millions of Americans have gained coverage as a result of the legislation. Prior to the ACA, 48 million Americans lacked health insurance coverage (U.S. Census Bureau 2012). Following the first open enrollment period, CPS ASEC data revealed a 2.9 percentage point decrease in the uninsurance rate of American adults, representing a decline from 41.8 million Americans (13.3 percent of the population) to 33.0 million (10.4 percent; Smith and Medalia 2015). The uninsurance rate from 2008 to 2013 remained relatively stable, so the decline after the first open enrollment period is interpreted as evidence of the influence the legislation has had on coverage rates. More adults gained coverage after the second open enrollment period, with results from the RAND Health Reform Opinion Study revealing a net increase of 16.9 million working-age adults gaining coverage between September 2013 and February 2015 (Carman et al. 2015).

The ACA has improved the coverage rate across different racial and ethnic subgroups, though differences among these populations have persisted (DHHS 2015a; Smith and Medalia 2015). CPS ASEC data reveal that between 2013 and 2014, Blacks, Asians, and Hispanics all saw noticeable coverage gains of 4.0 percentage points, higher than the 2.1 percentage point increase for non-Hispanic Whites (Smith and Medalia 2015). However, these minority populations lagged behind Whites prior to the ACA and subsequently did so in 2014, with non-Hispanic Whites having the lowest uninsurance rate (7.6 percent), followed by Asians (9.3 percent), Blacks (11.8 percent), and Hispanics (19.9 percent; Smith and Medalia 2015).

Some research has also highlighted the coverage gains among individuals with high medical needs. Developing a simulation model of adult cancer survivors, Davidoff et al. (2015) projects that 19 percent of adult cancer survivors would be Medicaid eligible under the ACA, including 30 percent of those previously uninsured and 39 percent of those reporting financial hardship. Considering adults with HIV, Kates et al. (2014) find using the Center for Disease Control's Medical Monitoring Project data that approximately 200,000 HIV-positive individuals could gain new coverage as a result of the law. Furthermore, Sommers et al. (2014a) find that in Connecticut and the District of Columbia, two of the earliest places to expand Medicaid under the ACA, the highest new enrollment rates were among adults reporting health limitations.

Despite these coverage gains, 2014 NHIS estimates indicate that 11.5 percent of Americans (36 million) were without insurance at the time of interview (Cohen and Martinez 2015).¹⁶ Collins et al. (2015) report that the majority of the remaining uninsured at the end of 2014

¹⁵See Appendix Tables C1–C4 for a summary of the findings on ACA outcomes related to the general population.

¹⁶CPS, ACS, and NHIS data are usually cited when reporting uninsurance estimates. However, it is worth noting that several nongovernmental surveys also track coverage figures, though these estimates often differ. For example, Collins et al. (2015) report

(61 percent) resided in states that did not expand Medicaid. Similarly, Sommers et al. (2014c) find that between the fourth quarter of 2013 and the second quarter of 2014, individuals below 138 percent of the FPL in expansion states experienced a significant 6.0 percentage point decline in their uninsurance rate; however, no significant decline was observed in Medicaid nonexpansion states. Many of these individuals fall into the “coverage gap”; that is they have incomes above the Medicaid-eligibility limits for their state but below the Marketplace premium-tax-credit lower limit. Garfield and Young (2015) find using CPS ASEC that nearly 4 million poor uninsured adults fall into the coverage gap.

2.2.2 Health Care Access—Given that millions of Americans have received coverage as a result of the ACA, one would expect that the law has affected health care access patterns. There has been an uptick of recent literature suggesting that this is the case. Using regression estimates based on Gallup Healthways WBI data from January 2012 to June 2014, Sommers et al. (2014c) find a 2.2 percentage point increase in the likelihood of having a personal doctor among working-age adults. Clemans-Cope et al. (2013) use 2003–2009 MEPS data to find that expanding Medicaid to low-income uninsured adults with at least one chronic health condition is projected to have a 28.6 percentage point increased likelihood of having a usual source of care; however, this estimate assumes that all states expand Medicaid and thus overestimates the true effects of the law.

Recent literature has been published looking at more specific access patterns and changes among individuals with certain medical conditions. For example, Aitken et al. (2015) report that Medicaid patients in expansion states filled 25.4 percent more prescriptions in 2014 than in 2013; this number was significantly lower, at 2.8 percent, in nonexpansion states. However, their estimates do not attempt to disentangle the effects of the ACA, Medicaid expansion, and broader economic conditions, so it is unclear how much of this effect can be attributed to the health reform itself. Among adults with hypertension, Li et al.’s (2015) simulation model predicts that the state expansions as of January 2014 would lead to a 5.1 percent increase in treatment rate among this group. Wagner et al. (2014) develop a microsimulation model to project that the ACA will result in over 450,000 individuals being tested for HIV and over 2500 new diagnoses of HIV by 2017.

As with the young-adult-population extended coverage under the dependent coverage provision, the ACA has been associated with lower cost-related access problems among the general adult population. Commonwealth Fund Biennial Health Insurance Survey estimates suggest a 7 percentage point reduction in the number of adults reporting they did not get needed care due to cost (Collins et al. 2015), and Gallup Healthways WBI figures find a 2.7 percentage point decrease in the inability of working-age adults to afford medical care (Sommers et al. 2014c).

estimates from the Commonwealth Fund Biennial Health Insurance Survey that the number of uninsured working-age adults fell from 37 million in 2010 to 29 million in the second half of 2014. See also the findings from Levy (2015), Long et al. (2015), and Sommers et al. (2014c) in Appendix C for additional independent survey coverage estimates.

The discrepancies of these estimates are likely due to the different sampling procedures and response rates of the data sources. This will be discussed more in the data section and Appendix A.

2.2.3 Health—Findings on how the ACA has affected health outcomes are relatively sparse, though we anticipate this body of literature to grow in the future. Early research has exploited state differences in Medicaid expansion status to see how the health of individuals in expansion states has changed as a result of gaining coverage. Using a private clinical laboratory database, Kaufman et al. (2015) find a 23 percent increase in the number of Medicaid patients with newly identified diabetes between the first 6 months of 2013 and the first 6 months of 2014. Furthermore, Li et al. (2015) developed a simulation model considering state Medicaid expansion status as of January 2014, and predicted that Medicaid coverage gains would lead to 111,000 fewer coronary heart disease events, 63,000 fewer stroke events, and 95,000 fewer cardiovascular disease-related deaths by 2050.

2.2.4 Labor Market Outcomes—Research on how the ACA has affected demand-side labor market outcomes among working-age adults has been slow to emerge.¹⁷ While such outcomes are more likely to be manifested in terms of educational decisions among the young adult population, the law is more likely to affect the older working-age population in terms of employment turnover rates. However, Gooptu et al. (2016) find no evidence using difference-in-differences techniques and CPS data that the ACA Medicaid expansions have affected job turnover rates. Similarly, Garrett and Kaestner (2015) also do not find in CPS data that the ACA affected labor force participation among the broader adult population; however, they do find that the law has resulted in a 1.8 percentage point increase in employment among non-elderly adults with a high school degree or less.

2.3 Other Research Directly Relevant to the ACA

The national health care reforms of the ACA were preceded by several reforms and Medicaid expansions at the state level. While a comprehensive review of this literature is beyond the scope of this article, we use this section to highlight some of the key findings of this research and discuss how they may inform future research on the ACA. While our focus is on the effects of the Oregon experiment and Massachusetts reform, we will introduce this section with a brief summary of the effects of the early Medicaid expansions that occurred in the 2000s. The studies of these reforms and expansions may be particularly useful in studying the effects of Medicaid expansion under the ACA, in which the state variation in deciding whether to extend coverage to low-income childless adults presents the opportunity to compare the differential effects of expansion decisions and see how Medicaid coverage affects the access, health, and labor market outcomes of this population.

2.3.1 Prior and Early Medicaid Expansions—As a precursor and potential model for Medicaid reform, several states implemented Section 1115 waivers in the early 2000s to extend coverage to certain groups of individuals previously without health insurance. Many of these waivers granted coverage to low-income childless adults who were previously not eligible for Medicaid. Seventeen states received Section 1115 waivers between January 2001 and 2005, resulting in a net coverage gain of over 400,000 individuals (Artiga and Mann 2005).¹⁸

¹⁷There is a related body of literature focusing on supply-side outcomes. See Dillender et al. (2015) for an example of how the ACA has affected staffing arrangements.

¹⁸See Artiga and Mann (2005) for more information on these early expansions.

Sommers et al.'s (2010) literature review highlights how findings on the effects of these early expansions might be predictive of outcomes under the ACA. For example, individuals extended coverage under the ACA are hypothesized to include many relatively healthy people, as well as significant numbers with comorbidities and high medical needs and utilization. Focusing on specific state-level outcomes, Kominski et al. (2014) study California's waiver approved in August 2005 for the creation of the Health Care Coverage Initiative (HCCI) program, which expanded Medicaid coverage to working-age adults below 200 percent of the FPL. They find that the program expanded coverage to over 200,000 individuals and was associated with a decrease in hospitalizations and emergency room visits, increased use of outpatient services, and significant improvements in diabetes and hypertension care. Sommers et al. (2012) focus on the early expansions in New York, Maine, and Arizona and find positive access and health outcomes in terms of decreased rate of delaying care due to cost, reduced adjusted all-cause mortality, and increased self-reported "excellent" or "very good" health. DeLeire et al.'s (2013) analysis of Wisconsin's early expansion to childless adults with incomes up to 200 percent of the FPL through the BadgerCare Plus Core Plan found a 29 percent increase in outpatient visits, 59 percent decrease in infant hospitalizations, and 48 percent decrease in preventable hospitalizations associated with the expansion. However, emergency department visits were found to have increased 46 percent after the plan was implemented.¹⁹ Regarding labor market outcomes, Depew (2015) finds that early state dependent-mandate policies are associated with a reduction in total work hours and full-time employment among young workers.

Some states expanded Medicaid coverage under the ACA prior to the law's full implementation. California, Connecticut, Minnesota, New Jersey, Washington, and the District of Columbia were among the first to expand coverage to low-income childless adults prior to 2014 (Golberstein et al. 2015b). Although not the focus of this review, researchers have looked into isolated state impacts of these expansions. For example, Golberstein et al. (2015a) and Sommers et al. (2015b) both examine the coverage impacts of California's Low-Income Health Program (LHIP) and find significant coverage gains. Sommers et al. (2015b) find a 1.8 percentage point increase in coverage among adults in California counties expanding Medicaid, and Golberstein et al. (2015a) report a 7 percentage point increase in coverage in these counties, as well as a 10 percentage point reduced likelihood of family out-of-pocket medical expenditures in the previous year. Together these studies suggest that expanding Medicaid to low-income childless adults is likely to have positive impacts at least on coverage. This notion has been corroborated by recent CMS data, indicating that 12.2 million Americans newly enrolled in Medicaid or CHIP between July and September 2013 and October 2015 in Medicaid expansion states, but only 2.3 million newly enrolled in nonexpansion states (CMS 2015).

2.3.2 Learning from the Massachusetts Reform and Oregon Experiment—In anticipating what we can expect to learn about the ACA, particularly its effects on the broader adult population, we can look to the literature surrounding the recent health insurance changes in Massachusetts and Oregon. Both states underwent changes to their

¹⁹Continued or increased use of the emergency department may not be unexpected: it may reflect location of medical care in lower income areas as well as comprehensive care if needed.

health insurance systems prior to the ACA, with Massachusetts implementing a comprehensive reform similar to the ACA and Oregon allowing adults to apply for Medicaid through a lottery. The Massachusetts expansion is more similar to that of the ACA, so we can gain insights from it. Indeed, it would be possible to use this reform as a basis of a simulation model,²⁰ but, the existing medical care system of Massachusetts, the coverage in effect prior to the expansion, and the labor market all make simulation from the experience of only this state somewhat difficult. The experience of the Oregon lottery can also provide insight into the expected effects of the Medicaid expansion, though in the 2014 implementation of the ACA, many components of the health care system changed, not just Medicaid.

On the whole, both states experienced increased coverage rates and consequently saw an increase in access to and utilization of care and improved health outcomes. These detailed findings and how they can help us learn more about the ACA are discussed below.

In April 2006 Massachusetts enacted its third health reform legislation since 1998 (the previous two were an adoption of an employer mandate in 1998 and Medicaid expansion in 1996–1997). Its reform closely resembles the ACA, though there are critical differences that may limit the applicability of empirical studies of the effect of the Massachusetts reform in predicting the effects of the ACA. Key provisions of the ACA that are similar to those of the Massachusetts reform include subsidized insurance for low-income uninsured adults, an individual mandate requiring adults over age 18 to have health insurance, employer responsibility to provide fair and reasonable insurance, Medicaid expansion, and insurance market changes through the connector, which are similar to ACA exchanges (McDonough et al. 2006).²¹

A recent study evaluated the individual mandate and finds that those who signed up via the small group or individual market in response to the mandate were lower users of health care (suggesting positive selection) and that the tax penalty was likely too low to maximize population well-being (Hackmann et al. 2015). Several studies have focused on how the Massachusetts reform has affected health care access rates. Individuals living in Massachusetts in 2009 were approximately 7 percent more likely to have a personal doctor than those living in neighboring states (Pande et al. 2011), and in 2012, nearly 90 percent of non-elderly adults reported having a place to go when ill or in need of health advice (Long and Fogol 2014). Hospital stay lengths and inpatient admission rates among mentally ill individuals decreased post-reform (Kolstad and Kowalski 2012; Wong et al. 2014). Individuals were also more likely to access preventive care, including pap screenings, colonoscopies, and cholesterol testing (Van der Wees et al. 2013). In addition to increasing access rates, overall improvements in physical and mental health were reported by

²⁰Such simulation models have been developed in the past, including the Congressional Budget Office's Health Insurance Simulation Model in 2007. This model was built to analyze health insurance coverage rates and health expenditures and to provide federal budgetary estimates. CBO's model was built around characteristics such as income, employment, family structure, health status, premium costs, and eligibility to participate in publicly funded programs. Model parameters included an employer's decision to offer insurance based on cost and whether individuals might choose to purchase ESI (if offered), buy insurance in the non-group market, apply for public coverage, or forgo health insurance.

²¹See Appendix A of Kolstad and Kowalski (2016) for a side-by-side comparison of the provisions of the Massachusetts health care reform and the Affordable Care Act.

Massachusetts's residents (Miller 2012; Van der Wees et al. 2013; Courtemanche and Zapata 2014).

Based on this research, in the coming years we can expect to learn more about changes in access and overall health that are attributable to the ACA. Early evidence suggests that the Massachusetts reform has also been associated with a significant 2.9 percent decrease in all-cause mortality (8.2 per 100,000; Sommers et al. 2014b).²² Additional outcomes we expect to learn more about include inpatient coverage rates prior to and following ACA implementation (Wong et al. 2014); emergency room use and coverage rates of individuals (Long et al. 2012; Miller 2012; Long and Dimmock 2015); admission rates for mental health diagnoses (Wong et al. 2014); hospital readmission rates (Lasser et al. 2014); access to care among children with special health care needs (Miller 2012); and procedure rates for those with medical needs (Albert et al. 2014; Ellimoottil et al. 2014). Furthermore, we anticipate self-reported health data to become more prevalent (see Zhu et al. 2010; Miller 2012; Van der Wees et al. 2013; Courtemanche and Zapata 2014; Sommers et al. 2014a,b,c), particularly with the emergence of several independent surveys, and to learn more about changes in wage rates among those gaining ESI and shifts between part-time and full-time employment (Kolstad and Kowalski 2016; Dillender et al. 2015; Heim and Lurie 2015).

It is worth noting that much of the Massachusetts literature emerged several years after the reform's implementation. Given the time needed for health care access and health outcomes to become evident, we would expect a similar trend in the research surrounding the ACA. However, many of the Massachusetts studies took advantage of comparison groups in neighboring New England states in assessing access, health, and labor market outcomes. Without a similar natural comparison group for the overall ACA target population, it will be difficult to mimic the methodological techniques employed in the Massachusetts literature in assessing the ACA.

Oregon offers insight on the possible gains in health and health care access for persons newly covered under the Medicaid expansion of the ACA. In 2008, over 35,000 uninsured low-income adults in Oregon were selected by lottery to be given the chance to apply for Medicaid (Finkelstein et al. 2012). This experiment functioned as a natural randomized control design, giving researchers the unique opportunity to study the effects of public health insurance coverage on health care use, financial barriers to care, and overall health. The design allows researchers to learn more about causal connections between Medicaid expansion and access to health care and to health improvements than similar studies without access to a carefully constructed control group.

Individuals receiving coverage as a result of the Oregon lottery had significantly higher rates of health care utilization, lower out-of-pocket medical expenditures, and less medical debt than those not selected by the lottery (Finkelstein et al. 2012). However, Taubman et al. (2014) find that new Medicaid coverage is associated with a 7.0 percentage point increased probability of visiting the emergency department, equating to 0.41 visits per person per year. This finding has proven contentious among researchers, as it is inconsistent with the mixed

²²For an additional summary of evidence surrounding the Massachusetts reform, see Long et al. (2012).

findings of the early Medicaid expansion literature (DeLeire et al. 2013; Kominski et al. 2014) and may not generalize to the ACA. Golberstein et al.'s (2015b) analysis of emergency department trends in California provide another contrast to the Taubman et al. (2014) findings, and the authors suggest that the unique Oregon findings may be due to the lower mean income and older newly insured population that gained coverage in Oregon.²³

Findings regarding health outcomes attributable to the Oregon lottery have been both positive and inconclusive. Lottery winners obtaining coverage had better self-reported physical and mental health one year following the lottery (Finkelstein et al. 2012). Baicker et al. (2013b) also found a significant increase in the likelihood of a diabetes diagnosis (3.83 percentage points) and decreased probability of positive depression screening (9.15 percentage points) among individuals gaining coverage through the lottery compared to those not selected. However, they indicated no impact on the prevalence or diagnosis of hypertension or on related prescription medication use. Obtaining coverage through the lottery has not been associated with changes in employment, individual earnings, or earnings above the FPL (Baicker et al. 2013a).

As with assessing the Massachusetts health care reform, it is worth noting that these Oregon findings emerged several years after the lottery took place, corroborating the idea that it takes time for the full impacts of such a policy change to become evident. Additionally, the data used in the Oregon studies were either collected in-person, via surveys, or gathered through administrative data (Finkelstein et al. 2012; Baicker et al. 2013a). The low take-up rate may also mean the analysis is underpowered. Extrapolating these methodologies to the ACA underscores the importance of developing specialized data sets to assess access and utilization, health, and labor force outcomes.

3 Discussion

Early research on the ACA emphasizes that millions of Americans have gained coverage as a result of the legislation. Among both dependents and the general adult population, these coverage gains have translated into a general increase in access rates, though these vary across service type and among individuals of varying demographic backgrounds and health needs. Additionally, patterns of health outcomes and labor market trends remain less clear, but this is not surprising given current data capabilities and the relatively short amount of time that has elapsed since the full law went into effect.

In this section we discuss the various research methodologies used to study the ACA and highlight the data availability for studying the legislation. Much of the variation in findings can be attributed to differences in study design, so it is important to note the various methodologies as we look to expand future research on the reform.

3.1 Research Methodologies

The primary approach used in studying the effects of the ACA, particularly the dependent coverage provision, has been difference-in-differences, which makes use of comparison

²³However, as noted above, the increase may reflect location of providers and comprehensiveness of services offered.

groups that have not experienced changes under the ACA. The approach rests on the assumption that trends in place prior to the ACA would continue in the absence of the implementation of the ACA. This approach has been used to capture the gains among young adults ages 19–25 (and older subgroups) who potentially gained dependent care coverage from their parents' employment-based coverage (ESI). In most cases the target group is compared to a slightly older age group. The years studied begin prior to the 2010 implementation and continue through the early years of the implementation.

The older subset of 19- to 25-year-olds is frequently studied to capture the effects to those most likely to gain from the added coverage. To explain, many individuals ages 19–21 or age 22 are still in school and hence in many states were already eligible to be covered by their parents' ESI. For either age band, the entire targeted group or the older subset, individuals ages 26 or 27–29, or 27–32, has been employed as the comparison group. The larger the age band, the larger the sample used for the comparison but also the more likely the groups will differ in significant ways, raising legitimate questions regarding how appropriate they are as a comparison group.

The years studied using this technique also differ. The difference-in-differences approach prefers a longer time trend prior to the policy change, but the longer time trend may also contain years in which trends differed due to other factors. More post years are also preferred under this approach, but in cases such as policy eligibility based on age, this can be incorrect, as members of the treated group will be added to the comparison group over time.

In using a difference-in-differences approach to study the young adult coverage provisions there is also the added complication of a changing economy; that is, the ACA was implemented at a time that overlapped with the economic recovery following the Great Recession in 2008. According to the National Bureau of Economic Research, the recession ended in June 2009, though employment among men (women) ages 20 and older decreased from 10.2 percent (7.9 percent) in January 2010 to 9.1 percent (7.9 percent) in 2011; 7.7 percent (7.7 percent) in 2012; 7.5 percent (7.3 percent) in 2013; and 6.3 percent (5.9 percent) in 2014, and stands in 2015 at 5.3 percent (5.1 percent) among men and women ages 20 and older (Bureau of Labor Statistics 2015). This creates a challenge in separating the effects of the improving economy from the impacts of the ACA; in somewhat more technical terms, it raises questions about the assumption that in the absence of the ACA, the existing trends would have continued.

Studies of the two precursors to the ACA, namely the Massachusetts reform and Oregon experiment, have had the advantage of making comparisons to 49 other states. The Massachusetts reform has been the most extensively studied and has the advantage of being very similar to the ACA. Questions regarding how useful the Massachusetts studies are for predicting the likely effects of the ACA include the higher than average insurance rates in the state prior to the 2006 reform;²⁴ the high ratio of physicians to population (421.5 physicians per 100,000 individuals, the highest state in the US, compared to a national

²⁴According to the CPS, Massachusetts had an uninsurance rate over the 2004–2006 period of 10.3 percent, compared to a US average of 15.3 percent. (DeNavas-Walt et al. 2007.)

average of 244.5) (Association of American Medical Colleges 2013); the Great Recession in 2008; and the more highly educated, higher income, and non-Hispanic characteristics of the population. All of these differences raise questions of whether the experiences of Massachusetts will be repeated in the rest of the country under the ACA.

The Oregon experiment has the advantage of focusing on one of the groups that is likely to experience the greatest change under the ACA, namely the low-income population, of which many are newly eligible for Medicaid coverage. The nature of the change – a randomized experiment – made the expansion easier to study and largely eliminated concerns of finding appropriate control groups. However, two characteristics reduce its usefulness somewhat: (1) the limited ability to study long-term effects prior to the introduction of the more major changes of the ACA, and (2) the relatively small sample size that makes it very difficult to study subgroups, including those with preexisting conditions or of different racial and ethnic backgrounds. Additionally, the lower than expected signup increased the concern that the Oregon Medicaid experiment was underpowered.

3.2 Data Availability and Limitations

Much of what is known about the ACA is limited by the availability of high-quality data sources that are equipped to evaluate the intricacies of its provisions. Three broad categories of data are available to study the ACA: national population surveys, independent surveys, and provider and administrative data. Existing national data sources provide information on health coverage, with fewer measures on health care access and health outcomes, though these surveys were not designed to assess national health care reform. Data from independent surveys and provider and administrative data are therefore important for filling this gap by providing information on specific reform-relevant measures and outcomes. It is worth noting the trade-offs in the quality and timeliness of the data provided by national enrollment and survey data and nongovernmental surveys. Government data have larger sample sizes, higher response rates, and more rigorous data collection and quality assurance procedures than independent surveys, though they often lag behind these surveys in their timing. Additional information on each data source is provided in Appendix A and Table A1.25

Given the temporal nature of the potential effects of the ACA, longitudinal data would be especially useful for evaluating the access, health and labor force effects of the legislation. Since the ACA is a sweeping reform affecting the entire adult population, following individuals over time is the best way to make causal inferences about the effects of the law as a whole. While a comparison group exists for studying the young adult coverage expansion, namely adults just above the age threshold, allowing for use of cross-sectional data, there is no such comparison group for studying the adult population as a whole. This differentiates ACA research from studies evaluating the Massachusetts reform, as researchers cannot take advantage of nearby areas not affected by the law, except when studying outcomes in Medicaid expansion and non-expansion states. The differential timing of Medicaid expansions across states will be helpful in studying the effect of the Medicaid

²⁵See also Finegold and Gunja (2014) for additional information on the advantages and disadvantages of federal vs. nongovernmental survey data.

expansion on coverage, access and to a lesser extent health, given the longer time period needed to realize health effects. However, in studying the overall effects of the ACA including the exchanges, subsidies, expansion of the National Health Service Corps, researchers will need to be creative in studying the impacts of the ACA, perhaps by leveraging the timing and cutoff points of the subsidy schedules, using treatment and comparison groups with significantly different insurance rates prior to the ACA, or utilizing instrumental variable or regression discontinuity techniques.

3.3 Expanding Current Research

Research on the social and economic outcomes associated with the ACA is still in its nascent stages. In this paper we have outlined the preliminary findings with regard to coverage, access to care, health, and labor market outcomes, though we acknowledge that there remain several avenues open to exploration.²⁶ In terms of studying coverage patterns, it is important to continue to build upon the current research targeting low-income individuals and minorities. In particular, there are policy implications for understanding the profile of individuals falling into the coverage gap and how enrollment trends vary with respect to state Medicaid expansion decisions. Furthermore, there remains a need to assess the coverage patterns of individuals with preexisting conditions, a group that may in the long run see an improvement in health care utilization rates and overall quality of health as a result of the legislation.

Regarding access to care, we still know relatively little about overall patterns of health care utilization. Although there appears to be an increase in office and inpatient visits (Abraham 2014; Antwi et al. 2015a); decrease in emergency department visits (Hernandez-Boussard et al. 2014); and increased likelihood of having a primary care provider (Slusky 2012; Kotagal et al. 2014; Barbaresco et al. 2015) as a result of the ACA, these findings do not consider subgroup differences in terms of income, race, or urban and rural populations, groups of individuals that may face additional barriers to receiving care. We also have learned little in terms of potential changes in the types of providers accessed or the time to treatment following the ACA.

Another of the key policy goals of the ACA is to improve health; therefore, it is important to assess whether gaining coverage and increasing access to care has a positive effect on the overall health of adults. As noted above, most of the literature to date on health has been limited to self-reported data. While these findings have suggested an improvement in overall health, they do not suffice for gauging changes in health among individuals with chronic conditions or changes in adverse health outcomes related to preventive care access. Understanding how the ACA may affect health outcomes is challenged by time and data constraints. Changes in public health take time to emerge, particularly among individuals with chronic conditions. Looking to the timing of the research surrounding the Massachusetts reform and Oregon experiment, we expect to see more health research on ACA effects emerge in the coming years.

²⁶There are several other aspects of the ACA also worthy of future study that are not mentioned here, including changes in laws affecting licensing, accountable care organizations, out-of-pocket expenditures, the elimination of cost-sharing, provider adequacy, and affordability.

Changes in labor markets are likely to be complicated to study. Will there be more self-employment as coverage becomes more accessible? More mobility across employers? So far findings of the influence of the ACA on the demand side of the labor market have been inconsistent. Still unstudied at least to our knowledge is influence of the ACA on elderly adults who may now approach retirement decisions differently because of the legislation. Furthermore, if the ACA successfully improves individuals' overall quality of health, one may find an increase in productivity, including more hours worked or a decrease in work missed due to illness, as a result of the reform. As with assessing health outcomes, labor market changes take time to become manifest and assessing these trends requires specialized data sources.

Each of these coverage, access, health, and labor market outcomes should be examined within the context of Medicaid expansion. Although there are some preliminary findings targeting expansion states, there is still a need for a comprehensive research base surrounding the Medicaid expansion aspect of the ACA. The differences between states that expanded Medicaid and those that did not offer researchers an opportunity to study the influence of the expansion on the targeted low-income population. Current estimates suggest that nearly 4 million uninsured adults have fallen into the coverage gap in states that did not expand Medicaid; that is, these 4 million have incomes between the individual state's Medicaid eligibility limits and the lower bound for receiving Marketplace premium tax credits (Garfield and Young 2015). If they lived in a Medicaid-expansion state, these individuals would have gained health insurance; consequently, uninsurance rates in non-expansion states lag behind those that accepted Medicaid expansion (Long et al. 2014). Therefore, studying the difference between individuals falling into the coverage gap and similar adults in Medicaid expansion states could potentially provide additional insight into the scope and extent of the social and economic impacts of the ACA.

Finally, as noted above, the vast majority of the research to date on how the ACA has affected coverage rates, access to care, health, and labor market outcomes has focused on the young adult population. Given the immediacy of the dependent coverage expansion and the relative ease with which researchers can study its effects, it is no surprise that this age group dominates the ACA literature. Moving forward, we expect to see an emergence of research addressing the overall US adult population.

A major concern we have is whether currently available data and data that we expect will continue to be collected will be able to answer the questions regarding the very broad influence of the ACA. We provide a list of data sources in Appendix A. Perhaps the most promising of these is the NHIS/MEPS matched data, which are updated annually, though data spanning late 2014 and early 2015 will not be available until 2016.

4 Conclusion

As sweeping national legislation, the Affordable Care Act has an extensive reach. Millions of Americans have gained health insurance coverage as a result of the law, and we have begun to witness subsequent changes in access to health care, health outcomes, and labor market trends. While research on these later trends is still emerging, the findings thus far are

promising. However, the full effects of the law will take time to evolve and be captured in the data. The current and future findings on the ACA can be used to understand the economic, social, and health effects of holding health insurance in general, which will have policy implications for designing future health policies and reforms.

Appendix A: Data Sources

A variety of data sources have been used to date in studying the effects of the ACA, each with its own strengths and limitations. This appendix highlights the most common national data sources used in the preliminary research in addition to several independent surveys that have been used or developed in response to the legislation.

National Data Sources²⁷

American Community Survey

The American Community Survey (ACS) is an annual survey administered by the U.S. Census Bureau providing data to inform how billions of dollars of federal and state funds should be distributed each year. Up to approximately 2 million households have been randomly selected each year since 2000 to complete the survey, and selected individuals are obliged to complete the questionnaire. The ACS is one of the most commonly used sources of information on health insurance coverage; however, it does not provide information on access to health care or individuals' health status and does not follow individuals longitudinally.

Behavioral Risk Factor Surveillance System

Originally implemented in 15 states in 1984, the Behavioral Risk Factor Surveillance System (BRFSS) became a nationwide cross-sectional telephone survey beginning in 1993. BRFSS is one of the leading sources of public health data for adults over age 18, gathering information on a variety of health-related risk behaviors and events, chronic conditions, and access to preventive and interventional health services. Although BRFSS provides a wealth of health and access measures, it does not gather information on private ESI coverage or labor force participation. Additionally, although there is a fixed set of national core questions, there is some level of variation in state data collection (Sonier 2012).

Current Population Survey

The Current Population Survey (CPS), also administered by the Census Bureau, is the nation's primary source of labor force statistics. In addition to providing economic data, the CPS collects a wealth of demographic information. Approximately 60,000 households are surveyed monthly, providing a cross-sectional profile of the US population. The CPS Annual Social and Economic Supplement (ASEC) has been widely used to study the ACA, as it provides information on private ESI coverage and a variety of labor force status, earnings, educational attainment, and family formation outcomes. The CPS ASEC, however, does not capture information on access to care or health status.

²⁷Sonier (2012) provides a detailed discussion of each of these national data sources and their capacity for studying the ACA.

In 2014, the Census Bureau redesigned the health insurance coverage questions of the CPS ASEC in order to address measurement issues and include the coverage categories available under the ACA. As a result, the most recent uninsurance estimates are lower than those of previous years and health coverage data for the 2014 CPS ASEC are not comparable with those of previous releases.

Medical Expenditure Panel Survey

The Medical Expenditure Panel Survey (MEPS), administered by the Department of Health and Human Services, is a large-scale survey of individuals and families, health care providers, and employers in the US and has provided information on health care usage, cost, and insurance coverage since 1996. MEPS has two major components: the Household Component (MEPS-HC) and Insurance Component (MEPS-IC). MEPS-HC data are gathered from a nationally representative subsample of households that completed the previous year's National Health Interview Survey (see below). MEPS-HC follows households for two full calendar years, allowing researchers to study changes and trends in coverage, access, and health status over time. Each MEPS-HC cohort consists of approximately 12,000 households, of which over 5000 are at or below 138 percent FPL. Although the survey was not designed for state or local estimates, state-level identifiers are available (Sonier 2012; Cohen and Cohen 2013).

National Health Interview Survey

The National Health Interview Survey (NHIS) is a cross-sectional household interview survey administered by the Census Bureau that is used to monitor national health trends. Originally developed in 1957, the current questionnaire was implemented in 1997 and annually surveys approximately 35,000 households with 87,500 persons. The NHIS collects extensive data on health insurance coverage, in addition to an abundance of information on access to care, health, labor force participation, and family formation. Since NHIS interviewees compose the MEPS-HC population, these two data sources can be linked to allow health insurance coverage rates and health status transitions to be observed in individuals over a 3-year period, though the resulting sample sizes may be relatively small (Cohen and Cohen 2013).

Survey of Income and Program Participation

The Census Bureau's Survey of Income and Program Participation (SIPP) consists of a series of household panels, each lasting approximately 4 years. SIPP collects data on a variety of economic factors, including information on health insurance coverage (including ESI), health care access, personal health, and workforce participation. The last published panel is from 2008, and the 2014 data are forthcoming.

Independent Surveys²⁸

Commonwealth Fund Tracking Surveys

The Commonwealth Fund has developed several surveys to collect data on health insurance coverage, including the Health Insurance Tracking Survey (conducted June to July 2011), Health Insurance Tracking Survey of Young Adults (conducted November 2011), and

Affordable Care Act Tracking Survey (conducted July to September 2013, and April to June 2014). Each of these surveys provides point-in-time estimates of insurance coverage rates and is designed to be nationally representative.

Gallup Healthways Well-Being Index

The Gallup Healthways Well-Being Index seeks to measure the various physical health and economic indicators, as well as other aspects of people's lives, which encompass individual or communal well-being. Conducted via telephone since 2008, this survey provides information on insurance coverage, health care access, and health, allowing researchers to study more nuanced impacts of the ACA.

Health Reform Monitoring Survey

Developed and implemented by the Urban Institute, the Health Reform Monitoring Survey (HRMS) is a nationally representative quarterly survey of the non-elderly US population collecting data relevant to the ACA. Since 2013, the HRMS has provided information on health care affordability, access to care, and self-reported health measures. HRMS questions are based upon those in several national surveys, including the ACS, BRFSS, CPS ASEC, and NHIS.

RAND Health Reform Opinion Study

The RAND Health Reform Opinion Study (RHORS) is a longitudinal study of public opinion regarding the ACA. Administered monthly since November 2013 to 5500 adults, the RHORS asks three main questions regarding individual opinions of the ACA in addition to two health insurance coverage questions and a question related to ACA-related current events.

Other Data Sources

Several other specialized data sets have been used to study the ACA. The Centers for Medicare and Medicaid Services (CMS) provides detailed administrative data for individuals with Medicare or Medicaid coverage and has been a useful source of information for studying Medicaid expansion. The Healthcare Cost and Utilization Project (HCUP) supplies administrative data pertaining to inpatient populations and emergency department use in its State Inpatient Databases (SIDs), State Emergency Department Databases (SEDDs), Nationwide Inpatient Sample (NIS), and Nationwide Emergency Department Sample (NEDS). The National Survey of Drug Use and Health (NSDUH) has detailed measures on access to mental health care and related behavioral health outcomes and has been used to study how the ACA has affected individuals with mental health needs. Finally, researchers have utilized spending data contained in the Consumer Expenditure Survey (CE) in order to see how health care costs and expenditures have been affected by the reform. We expect these and other specialized administrative and provider data sources to become increasingly important as researchers study more specialized patterns and trends emerging from the legislation.

²⁸See Long et al. (2015) for a discussion on how these nonfederal surveys fill an important gap in the data available for studying the ACA, description of the design of these surveys, and comparison of their findings to date.

Table A1:

Large Scale Public Data Sources.

	Data structure	Number of observations	Geographic identifiers	Insurance measures	Health care access measures	Health measures	Labor market measures
American Community Survey (ACS)	Cross-sectional	0.5–2.2 million households	State, county, census tract ^a	X			X
Behavioral Risk Factor Surveillance System (BRFSS)	Cross-sectional	0.5 million individuals	State, county	X	X	X	
Current Population Survey (CPS)	Cross-sectional	60,000 households	State, county	X		X	X
Medical Expenditure Panel Survey (MEPS) – Household Component	Panel	12,000–14,000 individuals	State, county ^b	X	X	X	X
National Health Interview Survey (NHIS)	Cross-sectional	35,000 households	State, county ^b	X	X	X	X
Survey of Income and Program Participation (SIPP)	Panel	14,000–52,000 households	State	X	X	X	X

^a ACS multi-year data are representative down to the census-tract level, and public use microdata sample (PUMS) data are available down to the public use microdata area (PUMA) level.

^b County level data are available only in restricted use files.

Table A2:Independent Surveys.^a

	Sponsoring organization	Data structure	Number of observations	Geographic identifiers	Insurance measures	Private ESI measures	Health care access measures	Health measures	Labor market measures
Commonwealth Fund Tracking Surveys	Commonwealth Fund	Cross-sectional	1000–2000 individuals	Nationally representative	X	X			
Gallup Healthways Well-Being Index (WBI)	Gallup	Cross-sectional	N/S	Nationally representative	X		X	X	
Health Reform Monitoring Survey (HRMS)	Urban Institute	Cross-sectional	7500 individuals	Nationally representative	X	X	X	X	
RAND Health Reform Opinion Study (RHROS)	RAND	Panel	5500	Nationally representative	X	X			

^a See Long et al. (2015) for a detailed discussion of the nonfederal surveys providing information on the ACA.

Appendix B:: Summary of Preliminary Findings for Young Adults

Table B1:

Preliminary Findings of Effects of ACA on Coverage for Young Adults.

Study	Data source(s)	Study design	Findings
Antwi et al. (2013)	SIPP	- Difference-in-differences model with state fixed effects - Study period: 2008–2011 - Treatment group: ages 19–25; comparison group: ages 16–18 and 27–29	- 2.6 million young adults added parental ESI after ACA implementation - Parental ESI rates rose prior to law taking effect
Antwi et al. (2015a)	NIS	- Difference-in-differences model with year, seasonality, and hospital fixed effects - Study period: 2007–2011 - Treatment group: ages 19–25; comparison group: ages 27–29	- 12.5% reduction in uninsurance rate among hospitalized young adults ages 19–25
Chua and Sommers (2014)	MEPS	- Difference-in-differences - Study period: 2002–2011 - Treatment group: ages 19–25; comparison group: ages 26–34	- 7.2pp increase in probability of insurance coverage among 19- to 25-year-olds as compared to 26- to 34-year-olds
Cohen and Martinez (2015)	NHIS	- 2014 NHIS coverage estimates	- Number of uninsured young adults ages 19–25 fell from 26.5% in 2013 to 20.0% in 2014
Collins et al. (2012)	Commonwealth Fund Health Insurance Tracking Survey	- Survey results weighted to correct for sample design and nonresponse - Survey period: November 2010–November 2011	- 13.7 million young adults remained on or joined parent's health insurance plan between November 2010 and November 2011, and 6.6 million would not have been able to do so prior to the ACA - 39% of young adults ages 19–29 were uninsured at some point in 2011 - 70% of young adults with incomes below 133% FPL were uninsured at some point in 2011
Collins et al. (2014)	Commonwealth Fund Health Insurance Tracking Survey	- Survey results weighted to correct for sample design and nonresponse - Survey periods: July–September 2013, April–June 2014	- 5.7 million fewer uninsured young adults ages 19–34 in April to June 2014 cohort than July to September 2013 cohort - Uninsurance rate declined from 28% to 18% during this time
Depew (2013)	SIPP	- Difference-in-differences model with state and year fixed effects - Study period: 2001–2011 - Treatment group: ages 19–25; comparison group: ages 26–29	- Females ages 19–25 were 3.2pp more likely to have health insurance after the ACA than females ages 26–29 - Similar males 4.7pp more likely to be insured
Lloyd et al. (2014)	CPS	- Difference-in-differences - Study period: pre-ACA 2004–2009; post-ACA 2010–2011 - Treatment group: ages 19–23 (excluding students) and ages 24–25 (all); comparison group: ages 27–30 (all)	- Percentage of young adults age 26 and under with non-spousal insurance rose 7.2pp between pre-ACA period (2004–2009) and period immediately after implementation (2010–2011) - Percentage of uninsured young adults decreased 4.5pp
Kotagal et al. (2014)	BRFSS NHIS	- Difference-in-differences - Study period: pre-ACA 2009; post-ACA 2012 - Treatment group: ages 19–25; comparison group: ages 26–34	- 68.3% to 71.1% increase in coverage for young adults ages 19–25 between 2009 and 2012
Martinez and Cohen (2014)	NHIS	- NHIS coverage estimates	- 4.5 million young adults gained coverage between the implementation of the dependent coverage provision and second quarter of 2014

Study	Data source(s)	Study design	Findings
McMorrow et al. (2015)	NHIS	- Examined temporal coverage trends - Study period: 2009–2014	- Uninsurance rate among 19–25 year-olds fell from 30% in 2009 to 19% in second quarter of 2014 - Dependent coverage expansion disproportionately affected higher-income young adults - Largest reductions in Medicaid expansion states
Mulcahy et al. (2013)	IMS Health CDM Database	- Difference-in-differences model - Study period: 2009–2011 - Treatment group: ages 19–25; comparison group: ages 26–31	- 1.7pp decrease in proportion of ED visits by uninsured young adults ages 19–25 between January 2009 and December 2011 compared to adults ages 26–31 - 3.1 pp increase in private coverage rates of nondiscretionary ED visits by young adults
O'Hara and Brault (2013)	ACS	- Difference-in-differences model with state effects - Study period: 2008–2011 - Treatment group: ages 19–25; comparison group: ages 26–29	- Private insurance rate increased 4.6pp from 2010–2011 for young adults ages 19–25, corresponding to net increase in coverage of 1.4 million individuals and net decrease in uninsurance of 1.3 million
Scott et al. (2015)	National Trauma Data Bank	- Difference-in-differences model with facility-level fixed effects - Study period: pre-ACA 2007–2009; post-ACA 2011–2012 - Study population: individuals with trauma experience - Treatment group: ages 19–25; comparison group: ages 26–34	- Uninsurance rate decreased 3.4pp among young adult trauma patients ages 19–25, as compared to similar adults ages 26–34 - Largest decrease among men and non-Hispanic Whites
Slusky (2012)	CPS	- Difference-in-differences model with age, state, and time fixed effects - Study period: pre-ACA 2005–2009; post-ACA 2011 - Treatment group: ages 19–25; comparison group: ages 16–18 and 27–29	- Insurance coverage rate rose 3pp to 4pp for young adults ages 19–25 - Parental insurance coverage rates rose by 7pp–9pp and self-coverage fell by 4pp–5pp
Sommers et al. (2013)	NHIS CPS ASEC	- Difference-in-differences - Study period: 2005–2010 - Treatment group: ages 19–25; comparison group: ages 26–34	- 6.7pp increase in proportion of young adults ages 19–25 gaining dependent coverage between September 2011 and September 2012, as compared to adults ages 26–35
Wallace and Sommers (2015)	BRFSS	- Difference-in-differences model with state and time fixed effects - Study period: 2005–2012 - Treatment group: ages 19–25; comparison group: ages 26–34	- 6.6pp increased likelihood of having health insurance post-reform for young adults ages 19–25, as compared to adults ages 26–34

Table B2:

Preliminary Findings of Effects of ACA on Access to Health Care for Young Adults.

Study	Data source(s)	Study design	Findings
Abraham (2014)	MEPS	- Calculations based on quasi-experimental literature	- Using 2008–2011 data, ACA is estimated to increase office visits between 33 million and 149 million annually
Antwi et al. (2015a)	NIS	- Difference-in-differences model with year, seasonality, and hospital fixed effects	- 3.5% increase in inpatient visits among young adults ages 19–25, as compared to 27- to 29-year-olds

Study	Data source(s)	Study design	Findings
		- Study period: 2007–2011 - Treatment group: ages 19–25; comparison group: ages 27–29	- 9.0% increase in visits related to mental illness
Antwi et al. (2015b)	HCUP NEDS	- Difference-in-differences model with age, year, and seasonality fixed effects - Study period: pre-ACA 2007–2009; post-ACA 2011 - Treatment group: ages 19–25; comparison group: ages 27–34	- Quarterly emergency department visit rate decreased 1.6pp per 1000 young adults ages 19–25, compared to adults ages 27–34 - Largest decreases for women, weekday visits, nonurgent conditions, and conditions that could be treated elsewhere
Barbaresco et al. (2015)	BRFSS	- Difference-in-differences model with age, state, and time fixed effects - Study period: 2007–2013 - Treatment group: ages 23–25; comparison group: ages 27–29	- ACA dependent coverage provision increased likelihood of having primary care physician by 1.8pp–3.9pp - Decreased likelihood of forgoing medical care due to cost by 2.2pp–2.8pp among 23- to 25-year-old adults - Decreased likelihood of receiving flu vaccine by 2.1pp–2.7pp
Busch et al. (2014)	MEPS	- Difference-in-differences model with age and time fixed effects - Study period: pre-ACA 2007–2009; post-ACA 2010–2011 - Treatment group: ages 19–25; comparison group: ages 26–29	- Significant reduction in share of young adults ages 19–25 with annual out-of-pocket expenditures exceeding \$1500 (4.2%–2.9%) following ACA, as compared to those ages 26–29
Chen et al. (2015)	MEPS	- Difference-in-differences - Study period: pre-ACA 2008–2009; post-ACA 2011–2012 - Treatment group: ages 19–26; comparison group: ages 27–30	- White and African American young adults ages 19–26 had significantly lower total health spending in 2011 and 2012 as compared to those ages 27–30
Chua and Sommers (2014)	MEPS	- Difference-in-differences - Study period: 2002–2011 - Treatment group: ages 19–25; comparison group: ages 26–34	- No significant changes in health care use (outpatient, primary care, or emergency department visits; hospitalizations; prescription fills) - 3.7pp decrease in out-of-pocket expenditure rate among 19–25 year-olds as compared to 26–34 year olds, corresponding to an 18% reduction in out-of-pocket expenditures
Golberstein et al. (2015b)	NIS California SID and SEDD	- Difference-in-differences model with age and time fixed effects - Study period: 2005–2011 - Treatment group: ages 19–25; comparison group: ages 26–29	- 0.14 more inpatient admissions for psychiatric diagnoses per 1000 among 19- to 25-year-olds than 26- to 29-year-olds - 0.45 fewer psychiatric emergency department visits per 1000 California 19- to 25-year-olds than 26- to 29-year-olds
Han et al. (2014)	MEPS	- Difference-in-differences - Study period: pre-ACA 2009; post-ACA 2011–2012 - Treatment group: ages 19–25; comparison group: ages 26–30	- Adults ages 19–25 were significantly more likely to receive a dental checkup, blood pressure measurement, and routine health checkup after implementation than those ages 26–30 - No significant change in flu vaccination or pap smear rates
Hernandez-Boussard et al. (2014)	HCUP SIDs HCUP SEDDs	- Difference-in-differences model with age, state, and year fixed effects - Study period: 2009–2011 - Treatment group: ages 19–25; comparison group: ages 26–31	- Decrease of 2.7 emergency department visits per 1000 young adults ages 19–25
Kotagal et al. (2014)	BRFSS NHIS	- Difference-in-differences - Study period: pre-ACA 2009; post-ACA 2012 - Treatment group: ages 19–25; comparison group: ages 26–34	- Decrease in likelihood of having a usual source of care for young adults ages 19–25 and adults ages 26–34 between 2009 and 2012, though larger decrease for latter group - No significant change in rates of young adults receiving routine checkup or flu shot in last year
Lau et al. (2014)	MEPS	- Pre-post design with multivariate logistic regression	- Between 2009 and 2011, young adults ages 18–25 had significantly higher rates of

Study	Data source(s)	Study design	Findings
		- Study period: pre-ACA 2009; post-ACA 2011 - Study group: ages 18–25	routine exam receipt (44% vs. 48%), blood pressure screening rates (65% vs. 68%), cholesterol screening rates (24% vs. 29%), and annual dental visit rates (55% vs. 61%) - Insurance status fully accounted for differences in routine exam and blood pressure screening rates
Lipton and Decker (2015)	NHIS	- Difference-in-differences model with age and year fixed effects - Study period: 2008–2012 - Treatment group: women ages 19–25; comparison group: women ages 18 or 26	- ACA increased likelihood of HPV vaccine initiation by 7.7pp and HVP vaccine completion by 5.8pp for women ages 19–25 relative to women age 18 or 26
Saloner and Le Cook (2014)	NSDUH	- Difference-in-differences - Study period: 2008–2012 - Treatment group: ages 18–25; comparison group: ages 26–35	- 5.3pp increase in mental health treatment rates for young adults ages 18–25 with possible mental health disorders, as compared to 26- to 35-year-old adults
Scott et al. (2015)	National Trauma Data Bank	- Difference-in-differences model with facility-level fixed effects - Study period: pre-ACA 2007–2009; post-ACA 2011–2012 - Study population: individuals with trauma patient experience - Treatment group: ages 19–25; comparison group: ages 26–34	- No significant changes in use of intensive care among young adult trauma patients ages 19–25, as compared to similar adults ages 26–34
Slusky (2012)	CPS ASEC BRFSS CE	- Difference-in-differences model with age, state, and time fixed effects - Study period: pre-ACA 2005–2009; post-ACA 2011 - Treatment group: ages 19–25; comparison group: ages 16–18 and 27–29	- Young adults ages 19–25 are 2-3pp more likely to have personal doctor than individuals ages 16–18 and 27–29 - Young adults 1–2pp less likely to forgo care due to cost - Young adults spent average of \$45 to \$60 per 3 months less on health insurance
Sommers et al. (2013)	NHIS CPS ASEC	- Difference-in-differences - Study period: 2005–2010 - Treatment group: ages 19–25; comparison group: ages 26–34	- Significant reduction in number of young adults ages 19–25 delaying care or not receiving needed care due to cost, as compared to adults ages 26–34
Vujicic et al. (2014)	NHIS	- Difference-in-differences - Study period: pre-ACA 2008–2010; post-ACA 2011–2012 - Treatment group: ages 19–25; comparison group: ages 26–34	- Coverage of private dental benefits increased 6.9pp for young adults ages 19–25 between 2008 and 2012, compared to those ages 26–34 - Dental care utilization increased 3.3pp for young adults vs. those ages 26–34 during this time
Wallace and Sommers (2015)	BRFSS	- Difference-in-differences model with state and time fixed effects - Study period: 2005–2012 - Treatment group: ages 19–25; comparison group: ages 26–34	- Young adults ages 19–25, 2.4pp more likely to have usual source of care and 1.9pp less likely to be unable to receive care due to cost than adults ages 26–34

Table B3:

Preliminary Findings of Effects of ACA on Health Outcomes for Young Adults.

Study	Data source(s)	Study design	Findings
Barbaresco et al. (2015)	BRFSS	- Difference-in-differences model with age, state, and time fixed effects - Study period: 2007–2013 - Treatment group: ages 23–25; comparison group: ages 27–29	- 2.1pp–2.4pp increased probability of self-reported excellent health among 23- to 25-year-olds
Carlson et al. (2014)	CPS	- Difference-in-differences - Study period: pre-ACA 2008–2009; post-ACA 2010–2011	- Better self-reported health statuses among young adults ages 19–25

Study	Data source(s)	Study design	Findings
Chua and Sommers (2014)	MEPS	- Treatment group: ages 19–25; comparison group: ages 28–34 - Difference-in-differences - Study period: 2002–2011 - Treatment group: ages 19–25; comparison group: ages 26–34	- 6.2pp increase in reporting excellent physical health and 4.0pp increase in reporting excellent mental health for 19- to 25-year-olds, as compared to 26- to 34-year-olds
Kotagal et al. (2014)	BRFSS NHIS	- Difference-in-differences - Study period: pre-ACA 2009; post-ACA 2012 - Treatment group: ages 19–25; comparison group: ages 26–34	- No significant change in health status for 19- to 25-year-olds compared to 26- to 34-year-olds between 2009 and 2012
Scott et al. (2015)	National Trauma Data Bank	- Difference-in-differences model with facility-level fixed effects - Study period: pre-ACA 2007–2009; post-ACA 2011–2012 - Study population: individuals with trauma patient experience - Treatment group: ages 19–25; comparison group: ages 26–34	- No significant changes in mortality among young adult trauma patients ages 19–25, as compared to similar adults ages 26–34
Wallace and Sommers (2015)	BRFSS	- Difference-in-differences model with state and time fixed effects - Study period: 2005–2012 - Treatment group: ages 19–25; comparison group: ages 26–34	- Young adults ages 19–25 had 0.8pp decreased likelihood of reporting fair/poor health than those ages 26–34

Table B4:

Preliminary Findings of Effects of ACA on Labor Market Outcomes for Young Adults.

Study	Data source(s)	Study design	Findings
Abramowitz (2015)	ACS	- Difference-in-differences model with age, state, and year fixed effects - Study period: 2008–2012 - Treatment group: ages 20–25; comparison group: ages 16–18 and 27–29	- 20- to 25-year-old women 0.35pp (6%) less likely to marry than 16- to 18- and 27- to 29-year-old counterparts - Significant 0.006pp reduction in cohabitation for young adults ages 20–25
Antwi et al. (2013)	SIPP	- Difference-in-differences model with state fixed effects - Study period: 2008–2011 - Treatment group: ages 19–25; comparison group: ages 16–18 and 27–29	- Young adults worked 3% fewer hours - Young adults 5.8% less likely to work FT - No evidence dependent mandate significantly affected likelihood of employment
Bailey (2013)	ACS	- Difference-in-differences - Study period: 2005–2011 - Treatment group: ages 19–25; comparison group: ages 27–33	- Significant 13% to 24% increase in self-employment among young adults ages 19–25 - Individuals receiving health insurance through dependent coverage more likely to start a small business
Bailey and Chorniy (2016)	CPS	- Difference-in-differences model with state and cohort fixed effects - Study period: 2008–2013 - Treatment group: ages 20–25; comparison group: ages 16–18 and ages 27–29	- No significant effect on job mobility for young adults ages 20–25
Depew (2013)	SIPP	- Difference-in-differences model with state and year fixed effects - Study period: 2001–2011 - Treatment group: ages 19–25; comparison group: ages 26–29	- ACA reduced labor force participation by 2.4pp for females and 2.2pp for males ages 19–25 - 1.8pp increase in likelihood of being full time student for both males and females ages 19–25

Study	Data source(s)	Study design	Findings
Gollu (2014)	MEPS	- Difference-in-differences - Study period: 2009–2011 - Treatment group: ages 23–25; comparison group: ages 26–30	- Females under age 26 2.6pp less likely to be married - 4.3% decrease in likelihood of employment among young adults ages 23–25 - No significant change among 19- to 22-year-olds
Heim et al. (2015)	Administrative tax records from IRS CDW	- Difference-in-differences model with age and year fixed effects - Study period: 2008–2012 - Treatment group: ages 19–25; comparison group: ages 27–29	- No significant changes in labor-related outcomes after ACA implementation, including employment status, job characteristics, and enrollment in postsecondary program
Slusky (2012)	CPS ASEC BRFSS CE	- Difference-in-differences model with age, state, and time fixed effects - Study period: pre-ACA 2005–2009; post-ACA 2011 - Treatment group: ages 19–25; comparison group: ages 16–18 and 27–29	- Mandate caused shift from full-time to part-time work and from private 4-year to public 2-year colleges for young adults ages 19–25

Appendix C:: Summary of Preliminary Findings for General Population

Table C1:

Preliminary Findings of Effects of ACA on Coverage for General Population.

Study	Data source(s)	Study design	Findings
Carman and Eibner (2014)	HROS	- Survey results weighted to correct for sample design and nonresponse - Survey period: September 2013–March 2014	- 9.3 million adults ages 18–64 gained insurance coverage between September 2013 and March 2014 - Uninsurance rate fell from 20.5% to 15.8% during this time
Collins et al. (2015)	Commonwealth Fund Health Insurance Tracking Survey	- Survey results weighted to correct for sample design and nonresponse - Survey period: July–December 2014	- Number of uninsured working-age adults fell from 37 million (20% of population) in 2010 to 29 million (16% of population) in second half of 2014 - Uninsurance rate fell from 15% to 10% for non-Hispanic Whites, 24% to 18% for African Americans, and 39% to 34% for Latinos between 2010 and 2014
Collins et al. (2014)	Commonwealth Fund Health Insurance Tracking Survey	- Survey results weighted to correct for sample design and nonresponse - Survey periods: July–September 2013, April–June 2014	- Approximately 9.5 million fewer uninsured adults ages 19–64 in April to June 2014 cohort than July to September 2013 cohort, corresponding to a decline in the uninsurance rate from 20% to 15%
Cohen and Martinez (2015)	NHIS	- 2014 NHIS coverage estimates	- 36 million Americans (11.5%) were without insurance coverage at time of interview
Davidoff et al. (2015)	MEPS	- Simulation model - Study sample: adult cancer survivors ages 18–64	- 19% of adult cancer survivors expected to be Medicaid eligible under ACA, including 30% of uninsured survivors and 39% of those reporting financial hardship
Department of Health and Human Services (2014)	CMS	- CMS enrollment figures from October 2013 to March 2014	- Over 8 million individuals selected a plan through the Marketplace during the first open enrollment period as of March 31, 2014, 2.2 million (28%) of whom were young adults ages 18–34
Department of Health and	Gallup Healthways WBI	- Survey results weighted to correct for sample design and nonresponse	- 16.4 million previously uninsured Americans have gained coverage since ACS took effect

Study	Data source(s)	Study design	Findings
Human Services (2015a)		- Survey data through March 4, 2015	- 14.1 million adults gained coverage between October 2013 and March 4, 2015
Department of Health and Human Services (2015b)	CMS	- CMS enrollment figures from November 2014 to February 2015	- 11.7 million Americans selected or were automatically reenrolled into a 2015 plan through the Marketplace during the second open enrollment period
Garfield and Damico (2016)	CPS ASEC	- Weighted estimates directly from 2014 CPS ASEC data	- Nearly 4 million poor uninsured adults in nonexpansion states who would have received coverage if residing in expansion state
Garfield et al. (2015)	CPS ASEC	- Weighted estimates directly from 2014 CPS ASEC data	- Nearly 4 million poor uninsured adults fall into coverage gap
Garfield and Young (2015)	Kaiser Survey of Low-Income Americans and the ACA	- Survey estimates - Survey period: September 2 to December 15, 2014	- Approximately 11 million non-elderly adults gained coverage in 2014 - 30 million individuals remained uninsured in 2014
Kates et al. (2014)	CDC's Medical Monitoring Project (MMP)	- Weighted survey estimates - 2009 data projected through 2013	- Nearly 200,000 individuals with HIV could gain coverage from the ACA
Levy (2015)	Gallup Healthways WBI	- Survey estimates - Survey period: fourth quarter of 2013 to first quarter of 2015	- Uninsurance rate at 11.9% in first quarter of 2015, down 5.2pp from 2013 and the lowest WBI estimate since survey began in 2008 - Largest decline among low-income and Hispanic individuals
Long et al. (2014)	HRMS	- Survey results weighted to correct for sample design and nonresponse - Survey period: September 2013–September 2014	- Uninsurance rate fell 36.3% in Medicaid expansion states and 23.9% in nonexpansion states - Most adults in coverage gap are considered working poor, and the coverage gap disproportionately affects individuals of color
Long et al. (2015)	HRMS	- Survey results weighted to correct for sample design and nonresponse - Survey period: September 2013–March 2015	- Number of uninsured adults fell 15 million (42.5%) between September 2013 and March 2015 - Uninsurance rate declined 52.5% in Medicaid expansion states and 30.6% in nonexpansion states - Largest coverage gains among adults in expansion states who are ages 18–30, low-income, Hispanic, or male - Coverage gap between non-Hispanic Whites and non-Hispanic nonWhites fell from 7.2pp to 3.1pp between September 2013 and March 2015
Schartzer et al. (2014)	HRMS	- Survey results weighted to correct for sample design and nonresponse - Survey period: September 2013–June 2014	- 13.9% of adults lacked coverage as of June 2014 - Uninsured adults more concentrated in Medicaid nonexpansion states and South and more likely to be unmarried, Spanish-speaking, and have less than a high school education - 60.6% of remaining uninsured adults lived in Medicaid nonexpansion states as of June 2014
Smith and Medalia (2015)	CPS ASEC ACS	- Enrollment figures weighted to be nationally representative - Study period: 2013–2014	- 10.4% of Americans (33.0 million) were without coverage for entire 2014 calendar year, a 2.9pp decrease from 2013 (13.3% of or 41.8 million Americans) - Approximately 2/3 of Americans covered by private insurance, 1/3 by public insurance - Non-Hispanic Whites had lowest uninsurance rate (7.9%), followed by Asians (9.3%), Blacks (11.8%), and Hispanics (19.9%)
Sommers et al. (2014c)	Gallup Healthways WBI	- Regression estimates - Survey population: ages 18–64 - Survey period: January 2012–June 2014	- Percentage of adults without insurance fell 4.2–7.1pp between fourth quarter of 2013 and second quarter of 2014 - Subgroup changes: 4.0pp decrease among non-Hispanic Whites, 6.8pp decrease among non-

Study	Data source(s)	Study design	Findings
Sommers et al. (2014a)	Official Medicaid enrollment figures	- Difference-in-differences - Study period: 2008–2011 - Treatment groups: CT, DC, MN, CA; comparison groups: nearby states	Hispanic Blacks, 7.7pp decrease among Hispanics (all significant) - Significant decline for adults below 138% FPL in Medicaid expansion states; decline insignificant in nonexpansion states - Statistically significant 4.9pp increase in Medicaid enrollment in Connecticut following expansion - Washington, DC had 3.7pp increase in Medicaid coverage (not significant) - Medicaid enrollment rates highest among adults reporting health limitations

Table C2:

Preliminary Findings of Effects of ACA on Access to Health Care for General Population.

Study	Data source(s)	Study design	Findings
Aitken et al. (2015)	IMS Institute for Healthcare Informatics databases	- Descriptive analysis	- Medicaid patients in expansion states filled prescriptions 25.4% more in 2014 than in 2013 - Prescription fill rate increased 2.8% in nonexpansion states
Clemans-Cope et al. (2013)	MEPS	- Multivariate regression analysis - Study sample: low-income adults ages 19–64 with one or more chronic health conditions and either full-year Medicaid coverage or uninsured	- Expanding Medicaid to all low-income uninsured adults projected to increase likelihood of having usual source of care by 28.6pp
Collins et al. (2014)	Commonwealth Fund Health Insurance Tracking Survey	- Survey results weighted to correct for sample design and nonresponse - Survey periods: July–September 2013, April–June 2014	- By June 2014, 60% of adults with Marketplace or Medicaid coverage reported visiting a doctor or hospital or filling a prescription - 62% reported they would not have accessed this care previously
Collins et al. (2015)	Commonwealth Fund Health Insurance Tracking Survey	- Survey results weighted to correct for sample design and nonresponse - Survey period: July–December 2014	- Number of adults not receiving needed care due to cost fell from 80 million (43% of population) in 2012 to 66 million (36%) in 2014
Li et al. (2015)	Insurance, disease, and risk factor rates gathered from literature	- State-transition simulation model considering Medicaid expansion status as of January 2014 - Model assumes an expansion to 13.9 million adults - Study population: adults ages 25–64	- State expansions as of January 2014 projected to increase treatment rate by 5.1% for adults with hypertension
Sommers et al. (2014c)	Gallup Healthways WBI	- Regression estimates - Survey population: ages 18–64 - Survey period: January 2012–June 2014	- 2.2pp increased likelihood of having a personal doctor and 2.7pp decrease in inability to afford care among adults ages 18–64 between fourth quarter of 2013 and second quarter of 2014

Study	Data source(s)	Study design	Findings
Wagner et al. (2014)	Pre-published rates gathered from literature (Kaiser Commission on Medicaid and the Uninsured, Congressional Budget Office, BRFSS)	- Microsimulation model for 2013–2017 - Considered state Medicaid expansion status as of July 2013	- ACA projected to result in additional 466,153 individuals being tested for HIV and 2598 new diagnoses of HIV by 2017

Table C3:

Preliminary Findings of Effects of ACA on Health Outcomes for General Population.

Study	Data source(s)	Study design	Findings
Kaufman et al. (2015)	Private clinical laboratory database	- Chi squared tests for statistical significance - Study period: 2013–2014 - Study population: adults ages 19–64 without previous diabetes diagnosis	- 23% increase in number of Medicaid patients with newly identified diabetes between 2013 and 2014 in 26 Medicaid expansion states - Nonexpansion states experienced 0.4% increase in new diabetes diagnoses
Li et al. (2015)	Insurance, disease, and risk factor rates gathered from literature	- State-transition simulation model considering Medicaid expansion status as of January 2014 - Model assumes an expansion to 13.9 million adults - Study population: adults ages 25–64	- Medicaid coverage gains expected to lead to 111,000 fewer coronary heart disease events, 63,000 fewer stroke events, and 95,000 fewer cardiovascular disease-related deaths by 2015

Table C4:

Preliminary Findings of Effects of ACA on Labor Market Outcomes for General Population.

Study	Data source(s)	Study design	Findings
Garrett and Kaestner (2015)	CPS	- Regression analysis with state and time fixed-effects - Study period: 2000–2014	- No evidence 2014 ACA policies adversely affected labor force participation, employment, or hours worked - ACA policies associated with 1.8pp increase in employment and 0.5pp increase in part-time employment among non-elderly adults with high school diploma or less
Goopu et al. (2016)	CPS	- Difference-in-differences model with state and year fixed effects - Study period: January 2005–August 2014 - Treatment group: low-educated adults in Medicaid expansion states; comparison group: similar individuals in nonexpansion states	- No significant evidence that Medicaid expansions increased job turnover rates or affected wages

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