



Has recommended preventive service use increased after elimination of cost-sharing as part of the Affordable Care Act in the United States?☆



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ARTICLE INFO

Available online 23 July 2015

Keywords:

Affordable Care Act
Preventive services
Cancer screening
Cost-sharing
Insurance

ABSTRACT

Background. An early provision of the Affordable Care Act (ACA) eliminated cost-sharing for a range of recommended preventive services. This provision took effect in September 2010, but little is known about its effect on preventive service use.

Methods. We evaluated changes in the use of recommended preventive services from 2009 (before the implementation of ACA cost-sharing provision) to 2011/2012 (after the implementation) in the Medical Expenditure Panel Survey, a nationally representative household interview survey in the US. Specifically, we examined: blood pressure check, cholesterol check, flu vaccination, and cervical, breast, and colorectal cancer screening, controlling for demographic characteristics and stratifying by insurance type.

Results. There were 64,280 (21,310 before and 42,970 after the implementation of ACA cost-sharing provision) adults included in the analyses. Receipt of recent blood pressure check, cholesterol check and flu vaccination increased significantly from 2009 to 2011/2012, primarily in the privately insured population aged 18–64 years, with adjusted prevalence ratios (95% confidence intervals) 1.03 (1.01–1.05) for blood pressure check, 1.13 (1.09–1.18) for cholesterol check and 1.04 (1.00–1.08) for flu vaccination (all *p*-values < 0.05). However, few changes were observed for cancer screening. We observed little change in the uninsured population.

Conclusions. These early observations suggest positive benefits from the ACA policy of eliminating cost-sharing for some preventive services. Future research is warranted to monitor and evaluate longer term effects of the ACA on access to care and health outcomes.

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Introduction

Out-of-pocket payments can be a barrier to the use of recommended preventive services (Rezayatmand et al., 2013; Trivedi et al., 2008). Previous studies have shown that reductions in cost-sharing were associated with increased use of preventive services (Goodwin and Anderson, 2012; Guy, 2010; Meeker et al., 2011; Sabatino et al., 2012; Solanki and Schaffler, 1999; Solanki et al., 2000), although these studies were limited by older data or selected study participants with certain insurance types or employers. Few studies evaluated the effects of cost-sharing on use of preventive services in national population-based samples (Rezayatmand et al., 2013). Further, many of these studies only evaluated a few types of preventive services, mostly cancer screening (Rezayatmand et al., 2013).

With a strong emphasis on disease prevention, the Affordable Care Act (ACA) requires non-grandfathered private health plans (i.e. plans effective after the ACA was signed on March 23, 2010 or plans that existed before the ACA but lost its grandfathered status at renewal (Washington State Office of the Insurance Commissioner, 2014)) to provide coverage without cost-sharing for preventive services rated as 'A' (strongly recommended) or 'B' (recommended) by the US Preventive Services Task Force (USPSTF), for vaccinations recommended by the Advisory Committee on Immunization Practices (ACIP), and services for infants, women, and children recognized by the Health Resources and Services Administration (Fox and Shaw, 2015). This provision took effect for non-grandfathered private health plans starting with plan years beginning after September 23, 2010. Medicare was also required to eliminate cost-sharing starting January 1, 2011 for preventive services recommended by the USPSTF (Fox and Shaw, 2015). By definition, elimination of cost-sharing for recommended preventive services did not affect the uninsured. Thus, the implementation of this ACA provision provides an opportunity to evaluate the association between cost-sharing elimination and utilization of recommended preventive services by type of health insurance, at a national population-based level.

☆ Note: The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the National Institutes of Health or the Centers for Disease Control and Prevention.

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To fill research gaps on the relationship between cost-sharing and preventive service use and to evaluate the early impact of ACA elimination of cost-sharing provision, we analyzed nationally representative survey data and examined changes in use of multiple preventive services and cancer screening services before and after the implementation of the ACA provision. Furthermore, we also examined the heterogeneity in the effects of cost-sharing: if the low income and the sickest population were more likely to adjust health care utilization in response to changes in cost-sharing, as suggested by previous studies (Baicker and Goldman, 2011).

Methods

Study sample

The study sample included adults aged ≥ 18 years in the pooled data from 2009 (before the implementation of ACA elimination of cost-sharing for recommended preventive services) and from 2011/12 (after the implementation) Medical Expenditure Panel Survey (MEPS) Household Component. The MEPS is a nationally representative survey of the US civilian non-institutionalized population sponsored by the Agency for Healthcare Research and Quality. The MEPS collects data on health insurance, access to care, utilization, and cost of specific health services in addition to demographic characteristics and health history. The combined average annual response rate for 2009, 2011 and 2012 was approximately 56% (57%, 55% and 56% for 2009, 2011 and 2012, respectively). More information about the survey design and content is available from <http://meps.ahrq.gov/mepsweb/>. All data used were publicly available and identified, thus Institutional Review Board approval was not required for this study.

In our analysis, we included privately insured individuals aged 18–64 years, Medicare insured individuals aged ≥ 65 years, and uninsured individuals aged 18–64 years. The ACA provision eliminating cost-sharing applies to the first two groups, but not the last one. Those aged 18–64 years with public insurance were excluded because of mixed requirements regarding cost-sharing and different responses to the ACA provision in various public insurances (e.g. TRICARE, Medicaid of different states) (Office of the Secretary, Department of Defense, 2011; Wilensky and Gray, 2013). Those younger than 65 with Medicare only and those aged ≥ 65 without Medicare were excluded because of low frequencies.

Our study population for each preventive service was defined separately to be consistent with the recommendation from the USPSTF and ACIP, and thus potentially covered by the ACA-preventive care provision. The specific recommendations (the specific year of the USPSTF recommendation used is provided in parentheses), level of evidence (grade), and participants in analysis are listed in the Appendix Table for the preventive services: blood pressure screening (2007), cholesterol screening (2008), influenza (flu) vaccinations (2009), and cancer screening services for breast cancer (2002), cervical cancer (2012) and colorectal cancer (2008). We used the age range 21–65 years for cervical cancer screening according to the USPSTF recommendation released in 2012 because this age range is applicable to all three study years while the previous recommendations are not. Women who had hysterectomy were excluded from the analyses for cervical cancer screening. Survey respondents were also excluded if time since last preventive service was missing or they had a history of the condition related to the preventive service in question (no exclusion was made based on history of condition for flu vaccination). A detailed inclusion/exclusion diagram and sample sizes for analyses of each of the preventive services is presented in Fig. 1.

Measures

Outcomes

Receipt of preventive services, including cancer screening, recommended by the USPSTF and ACIP was measured by a series of related questions. Our outcome variables include self-reported receipt of the following services within the past year: blood pressure check, cholesterol check, flu vaccination, cervical cancer screening [Papanicolaou (Pap) test] and breast cancer screening (mammogram) for females, and any colorectal cancer screening (home blood stool testing, colonoscopy, or sigmoidoscopy). These variables were available in MEPS and recommended by the USPSTF. The exact wordings of the MEPS questionnaire items for these preventive services are listed in the Appendix Table.

Covariates

Survey year (2009 as the pre-ACA year vs. 2011/2012 as the post-ACA years) was the main covariate of interest in this study. Demographic characteristics in the multivariable analyses include: age (18–25, 26–29, 30–39, 40–49, 50–65, 65–74, 75+), gender, race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, other), education (less than high school, high school graduate, some college, college graduate or more), marital status (yes, no), region (Northeast, Midwest, South, West), residence in a metropolitan statistical area (MSA) (yes, no) and number of chronic conditions (0, 1, 2+). The number of chronic conditions was ascertained from a series of questions about whether a doctor or other health professional ever told the person they had high blood pressure, heart disease (including coronary heart disease, angina, myocardial infarction, and other unspecified heart disease), stroke, emphysema, high cholesterol, cancer (including cancer type), diabetes, arthritis, or asthma. Conditions were categorized by the absolute number of chronic conditions for each participant. We measured insurance type for each participant as: 1) aged 18–64 years with any private insurance, 2) aged ≥ 65 years with Medicare, and 3) aged 18–64 years with no insurance. Family income was classified into three categories according to the poverty line: low income (less than 200%), middle income (200% to <400%) and high income ($\geq 400\%$); missing income was imputed using logical editing and weighted, sequential hot-decks (Agency for Healthcare Research and Quality, 2014a).

Statistical analysis

Descriptive statistics were calculated by survey year, and distributions were compared with chi-square tests (two-sided, significance level = 0.05). Missing values for education and number of chronic conditions were treated as not missing completely at random in the weighted frequency calculation. To evaluate the association between survey year and receipt of preventive services, adjusted prevalence of receipt and marginal prevalence ratio (PR) and the 95% confidence intervals (CI) (Bieler et al., 2010) were calculated for each insurance type using multivariable logistic regression controlling for age, gender, race/ethnicity, education, marital status, region, residence, and number of chronic conditions. In order to assess if the association varied by socioeconomic status (Damiani et al., 2011; Hoeck et al., 2014; Sambamoorthi and McAlpine, 2003) and health status, we further conducted stratified analyses by family income and the number of chronic conditions, particularly for adults aged 18–64 years with any private insurance. Family income was chosen for the stratified analysis instead of education because of data completeness. The interaction effect between survey year and family income or number of chronic conditions was tested at a significance level of 0.05 in separate models with an interaction term added.

All analyses were conducted using SAS 9.3 and SAS-Callable SUDAAN (SAS Institute Inc, Cary, NC). Survey procedures were used to account for the MEPS complex survey design and survey nonresponse (Agency for Healthcare Research and Quality, 2014a).

Results

We identified 64,280 (21,310 before and 42,970 after the implementation of ACA cost-sharing provision) adults eligible in the study. The majority of the participants were younger than 65 years old, non-Hispanic white, living in an MSA and privately insured (Table 1). Participants were similar before and after the ACA implementation, except that those from 2009 were slightly younger (56.5% vs. 54.5% less than 50 years old) and had a lower educational level (45.9% vs. 41% did not go to college) (Table 1).

As shown in Table 2, adults aged ≥ 65 years had higher rates of almost every preventive service within the past year than adults aged 18–64 years except Pap test, for which the highest rate (65% over the study period) was seen in the younger population with private insurance. Uninsured adults aged 18–64 years had the lowest rate of every service compared to insured adults. Among the preventive services studied, blood pressure check had the highest receipt rate with around 80% in privately insured adults 18–64 years, over 90% among those with Medicare and around 50% in uninsured younger population. Flu vaccination was low in the younger population, while relatively high (around 70%) in the elderly.

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