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Trends over time in enrollment in non-group health insurance plans by tobacco use in the United States

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ABSTRACT

Healthcare.gov was created to facilitate the market for non-group insurance in states that did not establish their own marketplaces. In Healthcare.gov, families are asked to report their tobacco use status, and tobacco use surcharges of up to 50% may result. We tabulate enrollment information for 35 states offering insurance plans through Healthcare.gov in both 2014 and 2016. The Centers for Medicare and Medicaid Services provided counts of enrollees indicating tobacco use, by state, year, and risk level. The number of enrollees increased from 5.0 million in 2014 to 9.4 million in 2016. From 2014 to 2016, the number of enrollees rose 39% for tobacco users and 90% for non-tobacco users. Reported non-tobacco user enrollment rose faster than reported tobacco user enrollment in 30 out of 35 states. Reported tobacco users are enrolling in marketplace plans at a lower rate and are more likely to enroll in less generous plans. The decline in smoking as reported when purchasing insurance on Healthcare.gov surpasses declines in smoking observed in other data sources, which suggests that tobacco users may be decreasingly likely to report their tobacco use status accurately to avoid surcharges. Finally, we find no evidence of the surcharges being associated with lower enrollment among self-reported tobacco users, or in rates of smoking.

1. Introduction

Tobacco use is associated with over 400,000 annual U.S. deaths (US Department of Health and Human Services, 2014) and one third of all U.S. cancer deaths (Danaei et al., 2009). Health insurance may help tobacco users access effective smoking cessation treatments and, in turn, quit tobacco use. The Affordable Care Act (ACA) improved insurance access overall by establishing marketplaces, which simplify purchasing non-group insurance, and offering premium tax credits that can reduce insurance costs for lower income families. Healthcare.gov was created to facilitate purchasing non-group health insurance for individuals or families.

The ACA limits the factors insurance issuers in the individual market could use in setting premiums to geographic areas, age, family size, and tobacco use. Previously, insurers could use health status to set premiums; insurers could charge sicker people more than healthy people. Health rating was banned by the ACA, but tobacco rating of up to 50% remained a criterion that could be used to differentiate premiums. While charging tobacco users more for health insurance may reduce the moral hazards of tobacco use and provide a financial incentive to quit, tobacco rating may also cause health insurance to be unaffordable to smokers and reduce their access to healthcare services and products that could help them to quit successfully.

Consumers enrolling on Healthcare.gov provide information about their tobacco use and also select a health insurance plan. Consumers are instructed to report whether each adult applying for coverage has used tobacco on average four or more times per week over the past six months, which classifies them as a tobacco user. Insurance plans' actuarial values are represented by different metal levels including platinum, gold, silver, bronze, and catastrophic, with platinum plans having the least cost sharing (but highest premiums) and catastrophic plans providing the most cost sharing (but lowest premiums). Catastrophic plans are only available to people under 30 or meeting a hardship exemption. Consumers who qualify for cost-sharing reductions based on their income must select a silver plan to receive these subsidies (US Centers for Medicare & Medicaid Services).

On average, tobacco use surcharges are roughly 15% above the premiums of non-tobacco users (Kaplan et al., 2014; Liber et al., 2015). Premium tax credits do not apply to tobacco use surcharges, making marketplace enrollment prohibitively expensive for some tobacco users (Hill, 2015). One study suggests high tobacco use surcharges reduced marketplace enrollment in 2014 by 11.6 percentage points

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compared to no surcharges (Friedman et al., 2016). However, the maximum penalty for not reporting tobacco use is a bill for the unpaid surcharges; therefore, there appears to be little financial incentive for smokers to accurately report their tobacco use.

Using aggregate enrollment data from Healthcare.gov, we study how enrollment has changed for individuals reporting the use of tobacco versus non-users. We further explore the influence of the tobacco use surcharge levels on growth in marketplace enrollment by tobacco use status, as well as changes in smoking rates.

2. Methods

Aggregate Healthcare.gov enrollment data for the federally facilitated marketplace (FFM) and state-partnership marketplace (SPM) for 2014 and 2016 was obtained through a Freedom of Information Act (FOIA) request. Specifically, the Centers for Medicare and Medicaid Services (CMS) provided counts of the numbers of enrollees indicating tobacco use, by state, year, and risk level. We calculated the number of non-tobacco users by subtracting the number of tobacco users from total enrollees. For 2014, CMS also provided total enrollees by state and metal level. For year 2016, we obtained total enrollees for each state and the percent of total enrollees in each state's metal level from a publication (US Department of Health and Human Services, 2016). Totals reflect enrollment at the end of the open enrollment period. Additional details on how we aggregated the data are provided in online supplementary materials.

We did not receive data from our FOIA request for states participating in state-based marketplaces (SBM). For the SBM states, we lacked data in both years (CA, CO, CT, DC, KY, MD, MA, MN, NY, RI, VT, WA), in only 2014 (HI, NV, OR), or in only 2016 (ID). We used data for the other 35 states participating in the FFM and SPM in both years, which provided a consistent sample of states throughout the study period.

We do not perform statistical testing of our enrollment data because we have censuses.

We used two survey data sources to compare rates of smoking in Healthcare.gov with rates of smoking among the individuals most likely to use Healthcare.gov. We used both the Behavioral Risk Factor Surveillance System (BRFSS) and National Health Interview Survey (NHIS) for years 2014 to 2015 to compare changes in reported tobacco use in these surveys with that reported on Healthcare.gov (2016 data is not yet available for these surveys).

The BRFSS is a nationally representative telephone-based survey that collects information on health-related risk behaviors, chronic health conditions, and use of preventive services. The large sample size (>400,000 in each year) of BRFSS supports state estimates, and state identifiers are publicly available, allowing us to estimate smoking prevalence in the 35 states in our study. The sample that we use is nonelderly respondents age 25 to 64 in the 35 states who reported their smoking status and reported annual incomes above $20,000, since these are the people most likely to be in the market for non-group health insurance through Healthcare.gov.

The NHIS conducts in-person household interviews to provide data to track health status, health care access, and progress toward achieving national health objectives. While we do not have access to state-specific information in NHIS, the information on health insurance is more detailed than that provided by BRFSS, and we use it to identify rates of smoking nationally among individuals between the ages of 18–64 purchasing private insurance through exchanges. For both data sources, we use population weights to calculate smoking rates.

3. Results

Enrollment on Healthcare.gov across these 35 states increased from 5.03 million in 2014 to 9.38 million in 2016, an 86% increase (Fig. 1). In 2014, 369,000 enrollees were tobacco users, rising to 513,000 in 2016, an increase of 39%. In contrast, enrollment for non-tobacco users rose

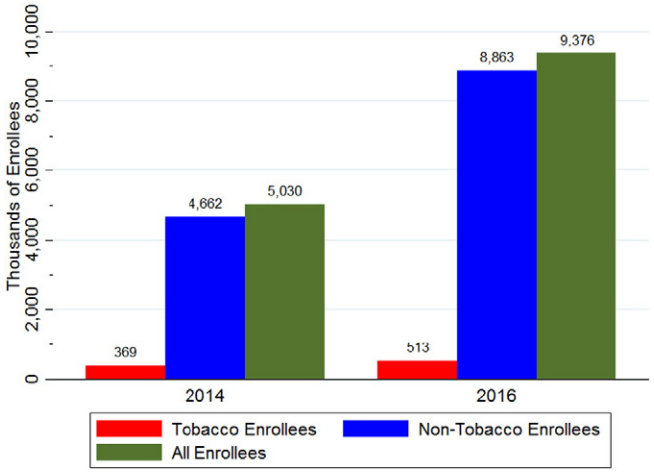

Fig. 1. Marketplace enrollment by tobacco users and non-tobacco users in 2014 and 2016. Source: Authors' analysis of Healthcare.gov 2014 and 2016 enrollment data.

90% over this time period. As a result, tobacco-using enrollees fell from 7.3% to 5.5% of all enrollees between 2014 and 2016.

Table 1 shows the percent change in enrollment from 2014 to 2016 by state and tobacco use. Two states (Arizona and Pennsylvania) had fewer tobacco users in 2016 than in 2014, and 3 states (Iowa, Nebraska, and Wyoming) had more than twice as many tobacco users. In contrast, 14 states more than doubled non-user enrollment. Table 1 also shows the minimum effective surcharge for 2014 for tobacco users purchasing bronze plans. The tobacco use surcharges ranged from 0% to 46% of total premiums. Finally, Table 1 shows the smoking rate decline (3.5% decline, $p < 0.05$) in the 35 states for the population of nonelderly respondents age 25 to 64 who reported their smoking status and reported annual incomes above $20,000. This 3.5% decline in smoking, or 0.7 percentage point decline, was smaller than the 2.2 percentage point decline in reported tobacco users as a share of Healthcare.gov enrollment. As a sensitivity analysis, we also estimated the change in smoking rate from 2014 to 2015 in the same sample, but further restricted to those with health insurance. The year-to-year decline among the insured was similar to that of the larger sample (both with and without health insurance) and was not statistically significant.

We hypothesize that the minimum effective surcharge may have reduced smoking and reduced enrollment in marketplace plans by self-reported tobacco users. To explore this hypothesis, we correlate (with population adjustment) the tobacco use surcharge level (Table 1, column 4) with the growth in tobacco use enrollment (column 1) or the ratio of growth in tobacco user enrollment to non-user enrollment (column 3). Neither correlation provided evidence to support our hypothesis that higher surcharges reduced reported tobacco user enrollment. Additionally, the surcharge was not correlated with a decline in the rate of smoking (column 5), which may suggest that the surcharges are not an effective mechanism to reduce tobacco use.

In unreported results from the NHIS, we found that the smoking rate among individuals between the ages of 18–64 purchasing private health insurance through exchanges was 13.2% in 2014 and 14.8% in 2015. While these numbers are national estimates and are not specific to the 35 states using Healthcare.gov in both years, they do suggest significant underreporting of smoking on Healthcare.gov and no apparent decline in smoking rates in the early years (in contrast to a significant decline on Healthcare.gov). Unfortunately, the public NHIS data does not contain state identifiers that would permit us to explore how the 2014 surcharge levels correlated with changes in smoking in this market.

In Online Fig. 1, we show the percent in each metal level by year for tobacco users and non-users. In both years, tobacco users were more likely to enroll in catastrophic and bronze plans than non-tobacco users, and were less likely to enroll in gold, platinum, and silver plans