



Full length article

## Did the dependent coverage expansion increase risky substance use among young adults?



Joshua Breslau<sup>a,\*</sup>, Hao Yu<sup>a</sup>, Bing Han<sup>b</sup>, Rosalie L. Pacula<sup>b</sup>, Rachel M. Burns<sup>a</sup>, Bradley D. Stein<sup>a</sup>

<sup>a</sup> RAND Corporation, 4570 Fifth Avenue, Pittsburgh, PA 15213, USA

<sup>b</sup> RAND Corporation, 1776 Main Street, Santa Monica, CA 90401, USA

### ARTICLE INFO

#### Keywords:

Health insurance coverage  
Young adults  
Substance use  
Affordable Care Act  
Moral hazard

### ABSTRACT

**Background:** The dependent coverage expansion (DCE) enacted through the Affordable Care Act increased health insurance coverage among young adults. Increasing insurance coverage in this age group has the potential for unintended consequences on risky substance use.

**Methods:** Repeated cross-sectional surveys were used to compare change in substance use during the period the DCE was implemented in the 19–25 year old target age group (Pre-DCE n = 15,772, Post-DCE n = 22,719) with contemporaneous change in a slightly older age group that was not targeted by the policy (Pre-DCE = 19,851, Post-DCE n = 28,157). Outcomes include 11 measures of alcohol, illicit drug and cigarette use. Statistical controls were included for demographic and socioeconomic factors and for early initiation of substance use to adjust for historical trends in developmental trajectories.

**Results:** Risky substance use decreased in young adults relative to the older age group over the period that the DCE was implemented. However, statistical adjustment for initiation of substance use prior to age 18, which is prior to exposure to the DCE, accounted for the differences between the age groups. In adjusted models, associations between the DCE and substance use outcomes range from 0.96 to 1.08 with p-values ranging from 0.330 to 0.963.

**Conclusions:** Historical trends in initiation of substance use prior to age 18, not the DCE, account for change in risky substance use among 19–25 year olds relative to 26–34 year olds. The evidence does not support the suggestion that health insurance coverage would increase risky substance use among young adults.

### 1. Introduction

In an effort to increase health insurance coverage among young adults, a group that historically has had low rates of coverage and low rates of medical care utilization (Callahan and Cooper, 2005; Collins et al., 2012; Mulye et al., 2009), the Patient Protection and Affordable Care Act (ACA) required that private insurers allow dependents to remain covered through age 25 on all policies that include dependent care. This dependent care expansion (DCE), which was implemented in September of 2010 as the first major component of the ACA to take effect, remains highly popular. Evidence suggests that it was successful in increasing health insurance coverage in the targeted 18–25 year old age group (Sommers and Kronick, 2012; Wallace and Sommers, 2015). However, the ultimate public health impact of the DCE will depend on further consequences of increasing health insurance coverage in this population, about which little is known (Breslau et al., 2017). In particular, concern has been raised regarding the potential influence of

health insurance coverage on substance use (Barbaresco et al., 2015). Given the potential consequences of risky substance use for young adults (Keng and Huffman, 2010), an increase in these behaviors could offset positive impacts of insurance coverage on access to health care.

The concern regarding the potential impact of the DCE on substance use is based on evidence of a phenomenon known as *ex ante moral hazard*, i.e., relative disregard for health risks due to anticipated mitigation of their impact by health insurance (de Preux, 2011; Ehrlich and Becker, 1972; Simon et al., 2017; Stanciole, 2008). For instance, previously uninsured individuals are more likely to smoke and consume alcohol after receiving health insurance coverage through Medicare when they turn 65 (Dave and Kaestner, 2009). In the young adult age group, there is evidence that losing health insurance at age 19, which was more common prior to the ACA, is associated with a decrease in risky alcohol consumption (Yoruk, 2015). However, there are few studies examining whether gaining or maintaining insurance coverage is associated with an increase in risky use of alcohol or if the association

\* Corresponding author.

E-mail addresses: [jbreslau@rand.org](mailto:jbreslau@rand.org) (J. Breslau), [Haoyu@rand.org](mailto:Haoyu@rand.org) (H. Yu), [bhan@rand.org](mailto:bhan@rand.org) (B. Han), [pacula@rand.org](mailto:pacula@rand.org) (R.L. Pacula), [rburns@rand.org](mailto:rburns@rand.org) (R.M. Burns), [stein@rand.org](mailto:stein@rand.org) (B.D. Stein).

<http://dx.doi.org/10.1016/j.drugalcdep.2017.06.017>

Received 15 February 2017; Received in revised form 6 June 2017; Accepted 10 June 2017

Available online 14 July 2017

0376-8716/ © 2017 Elsevier B.V. All rights reserved.

holds true for a broader range of substance use behaviors. We are aware of only one study that examines this question, a comparison of young adults in the age range impacted by the DCE with a slightly older comparison group using phone interview data from the Behavioral Risk Factor Surveillance System (BRFSS) (Barbaresco et al., 2015). That study found no evidence of an effect of the DCE on current smoking or past-month alcohol use (personal communication, Courtemanche, 11/14/2016).

This study aims to test whether the DCE had an adverse impact on risky substance use behavior, examining a broader range of outcomes than has been examined in prior studies of the effects of insurance. In addition, we examine a potential alternative explanation for apparent effects of insurance in the young adult age group. Specifically, the years preceding the DCE saw a secular decrease in substance use among adolescents (Giovino et al., 2013; Grucza et al., 2016). Since early initiation of substance use is associated with persistence of use into adulthood and development of substance use disorder (Behrendt et al., 2009; Brook et al., 2002; McCambridge et al., 2011), this secular trend is likely to have altered trajectories of substance use over time in younger relative to older birth cohorts. Prior studies of the DCE and other potential cases of insurance impacts on substance use have not taken such life course patterns of substance use into account.

## 2. Methods

### 2.1. Sample

Data come from the National Survey of Drug Use and Health (NSDUH), an annual cross-sectional survey conducted by the Substance Abuse and Mental Health Services Administration (Substance Abuse and Mental Health Services Administration, 2016). The NSDUH sample is based on a multi-stage area probability sample of households and group living quarters and is designed to be representative of the non-Active Duty Military general population of the U.S. at the state level. Interviews are conducted in respondents' homes using computer assisted interviewing methods (Center for Behavioral Health Statistics and Quality, 2015). Data from six consecutive years of the survey, covering 2008 through 2013 were analyzed. This analysis of publically accessible data was reviewed and approved by RAND IRB.

### 2.2. Assessments

#### 2.2.1. Substance use outcomes

A total of 11 substance use outcomes are examined, covering use of alcohol, illicit drugs and cigarettes. For alcohol use we examine any past month use, past month heavy drinking (Five or more drinks on the same occasion on each of 5 or more days in the past 30 days), past month binge drinking (Five or more drinks on the same occasion), and past-year alcohol use disorder (defined by DSM-IV criteria) (American Psychiatric Association, 1994). For illicit drug use we examine past month use of any illicit drug, past month use of marijuana, past month use of an illicit drug other than marijuana, and past year illicit drug use disorder (defined by DSM-IV criteria) (American Psychiatric Association, 1994). For cigarette use we examine any past month use, daily use in the past month and nicotine dependence in the past year. Nicotine dependence was assessed by the Nicotine Dependence Symptom Scale (Shiffman et al., 2004) (NDSS) or the Fagerstrom Test of Nicotine Dependence (Heatherton et al., 1991).

#### 2.2.2. Demographic and socioeconomic characteristics

To adjust for differences in the demographic composition of the population groups, statistical adjustments were made for the following demographic and socioeconomic characteristics: sex, age, race/ethnicity, language of interview (Spanish vs. English), marital status, household size, urbanicity, income, employment status and educational attainment.

#### 2.2.3. Substance use prior to age 18

Respondents are asked the age at which they first used each substance. Binary indicators were constructed for first use of alcohol, illicit drugs and cigarettes before age 18, to identify those individuals who used substances prior to any potential impacts of the DCE.

### 2.3. Time period

The timing of NSDUH interviews is available by quarter. Since the ACA's DCE took effect during September of 2010, the pre-DCE period was defined as the first quarter of 2008 through the third quarter of 2010 and the post-DCE period was defined as the fourth quarter of 2010 through the fourth quarter of 2013.

### 2.4. Statistical analysis

Following prior studies of the impact of the DCE (Breslau et al., 2017; French et al., 2016; Sommers et al., 2013), we examined its impact on substance use outcomes using a difference-in-differences (DD) model. The DD model is specified using repeated cross-sectional data to compare change over the time in the 19–25 age group with change over the same period in the 26–34 age group. The older group provides a control for the temporal trends that would have occurred to the younger group in the absence of the intervention, i.e., the DCE. Although the prevalence of substance use is likely to vary across these age groups, the DD model remains valid, provided that trends in the two age groups would have been parallel in the absence of the intervention. The parallel trends assumption was tested using 'placebo tests' as described below (Slusky, 2015).

The DD model was implemented in a series of logistic regression models in which age (18–25 vs. 26–34), time period (pre- vs post- DCE) and the interaction between them are predictors of each substance use outcome. A statistically significant interaction term indicates that change over time in the target age group differs from contemporaneous change in the control group. Three models were specified for each outcome. Model 1 includes no other adjustment. Model 2 includes demographic and socioeconomic characteristics, and Model 3 includes indicators for initiation of substance use prior to age 18.

Four approaches to testing the robustness of the results were taken. First, to test the assumption that temporal trends in the two age groups were parallel prior to the DCE, a set of 'placebo' models were run using an alternative date, 2008, as the intervention date (Slusky, 2015). Second, to test the sensitivity of the results to the modeling strategy, a second series of models was run using a linear (OLS) regression model in place of the logistic regression model. All models were fitted in SAS Software, version 9.4, using survey adjusted procedures (PROC SURVEYREG and PROC SURVEYLOGISTIC) to adjust for the informative survey designs in NSDUH (SAS Institute Inc, 2014). Third, given the staged implementation of the DCE, with some companies extending coverage prior to the statutory date, we re-ran the analyses omitting data from calendar year 2010. Fourth, subgroup (Domain) analyses (Heeringa et al., 2010)(p.113), with stratification by race/ethnicity and educational attainment, were conducted to test whether changes in demographic composition may confound the results.

## 3. Results

### 3.1. Sample characteristics

Demographic and socioeconomic characteristics of the sample are shown in Table 1 by age group and time period. As expected, differences across time within age groups are small while differences across age group are quite large for some time-varying characteristics. For instance, there is a slight decrease in the proportion of the 19–25 year-old sample that is married between the pre- and post-DCE periods, from 13.4% to 11.8%. The corresponding proportions of the 26–34 year old

Download English Version:

<https://daneshyari.com/en/article/5120387>

Download Persian Version:

<https://daneshyari.com/article/5120387>

[Daneshyari.com](https://daneshyari.com)