

h : U .

June 20, 2012

INTRODUCTION

Overview of Methods: The main data source used to develop the prevalence estimates was the National Survey on Drug Use and Health (NSDUH). The populations who would be eligible for insurance under the Medicaid Expansion or Health Insurance Exchanges were determined by examining their age, insurance status, and income. We assumed that all adults ages 18 to 64 who were identified as uninsured who reported household incomes of between 133 percent and 400 percent of the Federal Poverty Level (FPL) would become eligible for the Health Insurance Exchanges. Similarly, adults ages 18 to 64 who were identified as uninsured who reported household incomes of less than 139 percent¹ of the FPL would become eligible for the Medicaid Expansion. The prevalence of serious mental illness (SMI), serious psychological distress (SPD), and substance use disorder (SUD) was then determined within these populations using the measures on the NSDUH.

Estimates of the number of individuals with behavioral health conditions eligible for the Medicaid Expansion and Health Insurance Exchanges under the Affordable Care Act (ACA) were based on data from the 2010 American Community Survey (ACS). This was done by applying the prevalence estimates from the NSDUH to the number of people identified as eligible for the Medicaid Expansion or Health Insurance Exchanges in ACS using the same income criteria as described above.

The demographic characteristics of individuals with behavioral health conditions who would be eligible for the Medicaid Expansion or Health Insurance Exchange was determined nationally by

¹ The actual criterion is that individuals at 133 percent of the FPL are eligible but there is a 5 percent income disregard, which brings the level to 138 percent of the FPL or less than 139 percent of the FPL.

examining the characteristics as described on the NSDUH. Although the NSDUH sample size was large enough in almost all states to develop behavioral health estimates, it was not large enough to estimate demographic characteristics of the populations with behavioral health disorders that would be eligible for the Medicaid Expansion or Health Insurance Exchange by state. Thus, the national rate of behavioral health conditions was calculated for each demographic characteristic (gender, age group, ethnicity, educational level) within the group that would be eligible for the Medicaid Expansion and among those individuals that would be eligible for the Health Insurance Exchanges. This rate was applied to the state estimates of the number of people with those demographic characteristic within each state. This is explained in more detail below.

Outline of Document: In this document we first describe the NSDUH and the variables that were used from the survey. Next, we describe the ACS and the variables that were used from that survey. Third, we describe the methods used to estimate the percent and number of individuals with behavioral health conditions who would be eligible for the Medicaid Expansion or Health Insurance Exchanges. Finally, we describe the method used to estimate the demographic characteristics of those individuals.

NATIONAL SURVEY ON DRUG USE AND HEALTH (NSDUH)

The prevalence of behavioral health conditions was estimated from NSDUH. The NSDUH is the primary source of statistical information on the use of illegal drugs, alcohol, and tobacco by the civilian, noninstitutionalized population ages 12 or older in the United States. It also contains information about mental health treatment use and the insurance status of treatment users. The survey is sponsored by the SAMHSA, U.S. Department of Health and Human Services (DHHS).

NSDUH collects information from residents of households and noninstitutional group quarters (e.g., shelters, rooming houses, dormitories) and from civilians living on military bases. The survey excludes homeless persons that do not use shelters, military personnel on active duty, and residents of institutional group quarters, such as jails and hospitals. NSDUH employs a state-based design with an independent, multistage area probability sample within each state and the District of Columbia, which allows for state-level estimates. Approximately 60,000 interviews are completed each year. The survey collects data by administering questionnaires to

a representative sample of the population through face-to-face interviews at the respondent's place of residence.²

This analysis was based on the restricted access analytic file of the NSDUH that contains information at the state level and more detailed information on income levels that is not available in the public use files.³ Results are based on the average of three years of the NSDUH data for 2008, 2009, and 2010.

The behavioral health conditions examined were *serious mental illness* (SMI), *serious psychological distress* (SPD), and *substance use disorders* (SUD). The NSDUH variable indicating whether the individual had SMI during the year was used for the analysis of the prevalence of SMI. The variable for SMI is based on responses to questions from standard instruments that measure the individuals' symptoms and functioning. The SMI variable is relatively new. In contrast to the measure of SPD, the SMI measure captures functioning as well as symptoms.⁴ The SPD measure is based on the K6 scale⁵ and results in larger prevalence estimates than the SMI. However, the population with SMI is not a subset of SPD.

The NSDUH has developed variables that measure the extent of substance abuse or dependence (i.e., an SUD) based on whether or not the respondent reported a positive response to one or more of the following four abuse criteria: (1) respondent reported having serious problems due to substance use at home, work or school; (2) respondent reported using

² For more information on the NSDUH see <http://oas.samhsa.gov/nsduh.htm>

³ To ensure that the analysis met the requirements of the Confidential Information Protection and Statistical Efficiency Act, staff working with the data received training from SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ) staff. The data presented in the report had a disclosure analysis by CBHSQ.

⁴ As described by the Center for Behavioral Health Statistics and Quality in 2008, statistical models were developed to produce predicted probabilities of SMI by using the K6 and WHODAS scales as predictors of SMI determined using the SCID-I/NP and GAF data collected from the MHSS subsample (Hedden et al., 2012). In 2009, the K6 scale and an abbreviated version of the WHODAS were administered to all adult NSDUH respondents. The prediction model developed in 2008 was then used in combination with the data collected from the K6 and WHODAS in 2009 to produce predicted probabilities of SMI for each adult in the 2009 NSDUH. The predicted probabilities were then dichotomized to produce prevalence estimates of SMI in the full NSDUH sample.

⁵ For a description and properties of the K6 scale, see Kessler, Barker, Colpe, et al., "Screening for serious mental illness in the general population," *Archives of General Psychiatry* 2003;60(2):184-9.

substance regularly and then did something where substance use might have put them in physical danger; (3) respondent reported substance use causing actions that repeatedly got them in trouble with the law; (4) respondent reported having problems caused by substance use with family or friends and continued to use substance even though it was thought to be causing problems with family and friends. The variable that determined an SUD, ABODILAL, uses a combination of abuse and dependence variables including ABILLALC (illicit drug or alcohol abuse in the past year) and DPILLALC (illicit drug or alcohol dependence in the past year).

Persons were considered *uninsured* if they were coded as such using the health insurance (IRINSUR4) variable on the NSDUH. According to the NSDUH documentation, to be classified as uninsured the respondent had to meet all of the following conditions:

- (1) Not Covered by Private Insurance (IRPRVHLT=2)
- (2) Not Covered by Medicare (IRMEDICR=2)
- (3) Not Covered by Medicaid/CHIPCOV (IRMCDCHP=2)
- (4) Not Covered by Champus, ChampVA, VA, or Military (IRCHMPUS=2)
- (5) Not Covered by Other Health Insurance (IROTHHLT=2)

To determine whether a respondent's *family income* was below a given percentage of the FPL, we referred to the DHHS Poverty Guidelines⁶ for each year between 2004 and 2010. To estimate family income, we took the midpoint of the respondent's value on NSDUH variable IRFAMIN2, which codes total family income into 29 value ranges. We added the DHHS guideline values to the NSDUH data by survey year and household size, and then calculated the FPL by dividing the estimated family income by the poverty guideline value. Using this as a continuous measure, we were able to categorize individuals into any desired level (e.g., < 139 percent, 133 – 399 percent, etc).

Relatively small NSDUH samples formed the basis of the behavioral health prevalence estimates for some states. To reflect the uncertainty in the prevalence estimates, all the estimates were presented along with confidence intervals. In a few cases, the cell sizes were so small that the result was suppressed. Specifically, if the unweighted number of uninsured individuals with a behavioral health condition within an income group was less than four (numerator) or if the unweighted total number of individuals (denominator) was less than 30 for

⁶ <http://aspe.hhs.gov/poverty/10poverty.shtml>

any cell, then the data for that cell were suppressed. (These guidelines were provided by SAMHSA.)

AMERICAN COMMUNITY SURVEY (ACS)

Estimates of the number of individuals who would become eligible under the ACA Medicaid Expansion and Health Insurance Exchanges were based on the Census Bureau's 2010 ACS. The prevalence rates from the NSDUH were applied to the ACS population counts for each relevant population (i.e. Medicaid Expansion and Health Insurance Exchange population). The ACS was used to count the number of individuals rather than the NSDUH because the ACS household sample is larger. The 2010 ACS included interviews with 1.9 million people living in households and 145,000 people living in group quarters, versus about 60,000 interviewed for the NSDUH each year, or approximately 210,000 interviewed over the three years of NSDUH data used in this study. Because the number of interviews in ACS is about 10 times the size of the 3-year samples from NSDUH, the counts of the uninsured will be stronger, particularly in the smallest states. Also, at the time of the study, a number of other organizations were relying on the ACS to develop estimates of the number of individuals who would become insured under the ACA. Thus, the SAMHSA estimates would be more consistent with other estimates if the counts were based on the ACS rather than the NSDUH.

In parallel to the assumptions used for identifying eligible individuals using the NSDUH, we assumed that all adults aged 18 to 64 who were identified as uninsured on the ACS survey, and who reported household incomes of less than 139 percent of the FPL, would become eligible for the Medicaid Expansion. Similarly, all adults aged 18 to 64 who were identified as uninsured on the ACS survey, and who reported household incomes between 133 and 400 percent of the FPL, would become eligible for the Health Insurance Exchange. This is a simplifying assumption in that we did not examine the household composition, whether some of this population was currently eligible for Medicaid but not enrolled, or whether some in this population were undocumented immigrants who are ineligible for insurance programs under the ACA. We contacted the U.S. Bureau of the Census to determine whether there was a way to identify undocumented immigrants on the survey and they reported that there was not a good method for doing this. In general, we surmise that undocumented immigrants will not be a large component of ACS respondents and will not bias the estimates, but we could not test this assumption.

We assumed that there would be no change in the number of individuals that would meet the Medicaid Expansion eligibility criteria from 2009 to 2014. If the economy recovers, then the number of unemployed will drop and private insurance coverage could rise. However, the percentage of workers with coverage through employer-sponsored insurance has been falling over time, and the decline could continue through 2014. We also did not account for general population growth, which is projected at four percent between 2009 and 2014.⁷

Individuals were identified as *uninsured* on the ACS when the response to the Insured/Any Health Insurance Coverage Status variable (HICOV) was 2 or “no.” The FPL was determined by the ACS poverty status recode variable (POVPIP). The variable is based on annual income as reported on the survey and measures the percent of poverty threshold.

⁷ <http://www.census.gov/population/www/projections/summarytables.html>

ESTIMATING THE PERCENT AND NUMBER OF INDIVIDUALS ELIGIBLE FOR MEDICAID EXPANSION AND HEALTH INSURANCE EXCHANGES WITH BEHAVIORAL HEALTH CONDITIONS

Figure 1. Method summary

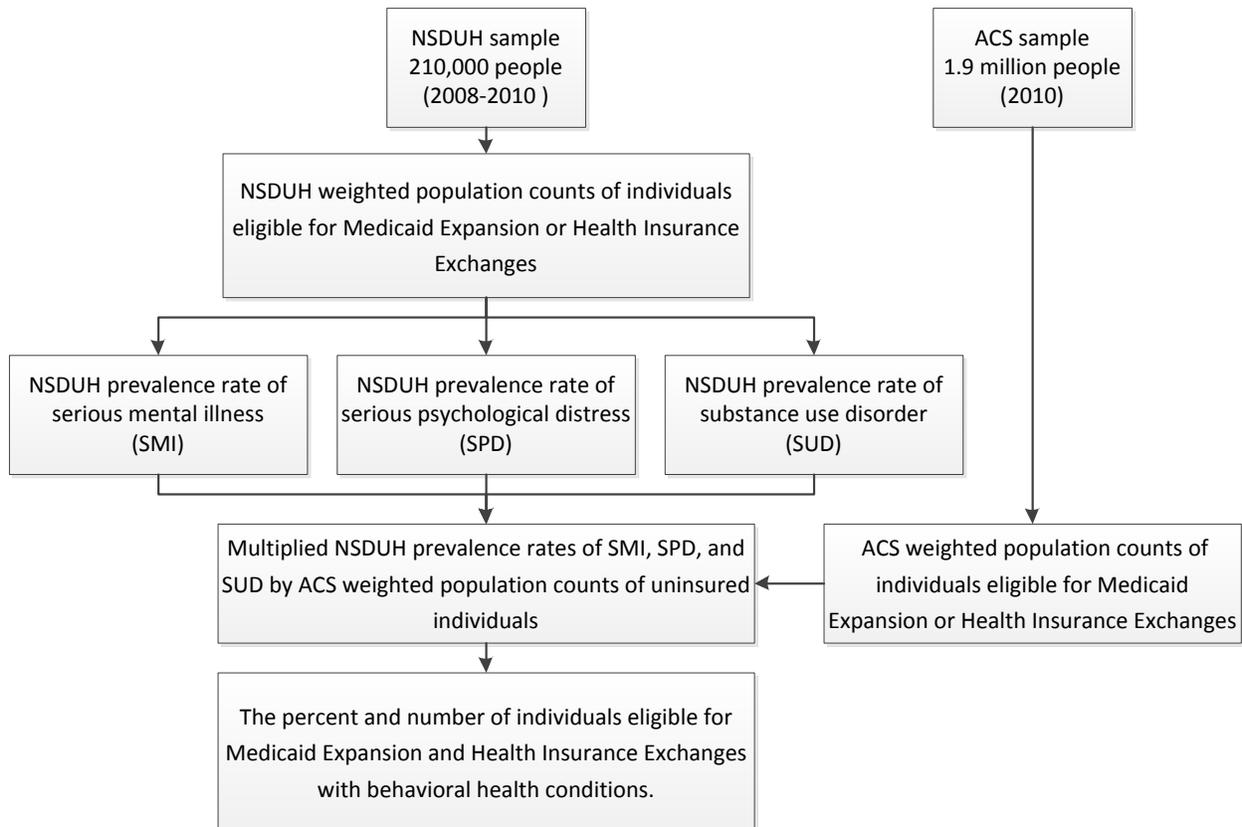


Figure 1 presents a graphical description of how the estimates were created. In step 1, we identified the individuals in the NSDUH who would be eligible for the Medicaid Expansion and Health Insurance Exchanges. In Step 2, we determined what the prevalence rates of SUD, SPD, and SMI were in these populations. In Step 3, we identified the number of individuals in the ACS who would be eligible for the Medicaid Expansion and Health Insurance Exchanges. In Step 4, we multiplied the number of individuals identified in the ACS by the prevalence estimates from the NSDUH.

ESTIMATING THE DEMOGRAPHIC CHARACTERISTICS OF INDIVIDUALS WITH BEHAVIORAL HEALTH CONDITIONS WHO WOULD BE ELIGIBLE TO ENROLL IN MEDICAID EXPANSION OR HEALTH INSURANCE EXCHANGES BY STATE

The sample size of individuals who had SMI, SPD, or SUD was too small for us to directly examine demographic characteristics by state. We therefore projected the demographic characteristics by (1) examining the prevalence of SMI, SPD, or SUD within the demographic populations of interest, (2) multiplying those prevalence rates by the number of people with those demographic characteristics in each state based on data from the ACS, (3) dividing this estimated number of people in the specific demographic with a behavioral health condition by the total population of the state to obtain a percentage. The underlying assumption was that the relative risk of subgroup difference for SMI, SPD, and SUD is relatively constant across states (e.g., the relative risk of SMI among males vs. females would be similar across states). The demographic characteristics examined were gender, age (18 – 34, 35+), ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, other), and maximum education level (< high school, high school graduate, college graduate). Note that this method assumes that the national prevalence estimates within each of the demographic subgroups hold within each of the states as well.

The following is an example: The NSDUH data indicated that the SMI national prevalence rate was 4.9 percent among uninsured males ages 18 – 64 with family income under 139 percent of the FPL. In Alabama, ACS data indicate that there were 175,663 males and 172,529 females between the ages of 18 and 64 who were uninsured and had family income under 139 percent of the FPL. Assuming that the prevalence rate of SMI is the same within sub-groups across the states, we calculated that 4.9 percent of those 175,663 males have SMI, or 8,607 individuals. Similarly, the SMI prevalence rate was 9 percent among uninsured females ages 18 – 64 with family income under 139 percent of the FPL. There were 172,529 females in Alabama in that demographic group, and so we assumed that there were 15,528 females with SMI among them. Using these figures, we determined that the gender distribution of uninsured individuals with SMI, ages 18 – 64, and with family income under 139 percent of the FPL is 36 percent male and 64 percent female. The prevalence estimates that were applied are shown in Table 1.

Table 1. Prevalence Rates for Behavioral Health Populations among Uninsured Adults Ages 18 to 64 by Federal Poverty Level and Demographic Characteristics

	< 139% FPL			139 - 399% FPL		
	Percent with SMI	Percent with SPD	Percent with SUD	Percent with SMI	Percent with SPD	Percent with SUD
Gender						
Male	4.9	12.3	20.5	4.2	10.6	18.7
Female	9.0	17.6	7.7	8.4	17.0	9.2
Age						
18-34	7.3	17.2	17.6	7.0	16.2	20.8
35+	6.6	12.7	10.7	4.9	10.4	8.5
Race/Ethnicity						
Non-Hispanic White	11.1	21.4	17.3	8.1	16.3	15.9
Non-Hispanic Black	4.9	12.9	15.2	4.1	10.8	14.5
Non-Hispanic Other	6.3	12.7	9.7	4.5	10.7	11.0
Hispanic	3.3	8.8	10.7	2.9	9.0	12.9
EDUCATION						
< High School	5.5	13.2	15.6	4.4	10.9	15.6
High School Graduate	7.8	15.1	13.2	6.3	13.6	15.4
College	8.1	17.4	13.4	6.7	14.6	13.4
Population Density						
Core Based Statistical Area: 1 Million +	5.6	12.7	13.0	5.8	13.0	15.3
Core Based Statistical Area: < 1 Million	8.0	17.6	15.8	6.0	13.9	14.4
Non-Core Based Statistical Area	8.9	17.1	14.8	6.7	13.5	13.0
Overall Health						
Excellent	3.5	8.9	10.4	3.4	8.4	10.6
Very Good	5.5	13.4	14.1	5.5	12.8	16.2
Good	6.1	14.4	14.0	6.3	14.0	15.0
Fair/Poor	14.5	24.6	18.4	11.7	22.8	16.7