Article

The Impact of National Health Care Reform on Adults With Severe Mental Disorders

Rachel L. Garfield, Ph.D.

Samuel H. Zuvekas, Ph.D.

Judith R. Lave, Ph.D.

Julie M. Donohue, Ph.D.

Objective: Little is known about the effect recent health care reform legislation will have on coverage of individuals with severe mental disorders. The authors examined current and predicted sources of insurance coverage and use of mental health services among adults with and without severe mental disorders and modeled postreform changes.

Method: The authors obtained sociodemographic, health status, mental health care use, and insurance coverage data from the 2004–2006 Medical Expenditure Panel Surveys to estimate changes that will occur after reform is fully implemented in 2019.

Results: Adults with severe mental disorders, identified as self-reported severe depression or other psychological distress, were more likely than those without such disorders to be uninsured (21.0% compared with 16.5%). Only one-fifth of individuals with severe mental disorders who lacked full-year insurance coverage had any mental health service use in the 2004–2006 period, compared with approximately half of those who had coverage. The authors estimate that the expansion of insurance coverage under reform will lead to 1.15 million new users of mental health services, which represents a 4.5% increase. The authors estimate an increase of 2.3 million users of mental health services in Medicaid and nearly 2 million in private insurance.

Conclusions: Public insurance programs that currently play a major role in financing mental health services will play an even greater role after reform is implemented. Significant increases can be expected both in the overall number of users of mental health services and in their resources to pay for care.

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The Patient Protection and Affordable Care Act (PPACA) of 2010 will lead to a substantial expansion of health insurance coverage in the United States. PPACA increases coverage through a combination of expanded eligibility for public programs (e.g., Medicaid) and increased availability of private insurance. Private coverage is expanded through an employer mandate, the creation of Health Benefit Exchanges through which individuals and small employers can purchase coverage, and subsidies for the purchase of individual coverage. Policy makers anticipate that when fully implemented (by 2019), PPACA will reduce the number of uninsured by 32 million at a net cost of $788 billion over 10 years (1).

An outstanding question is how reform will affect individuals who have mental disorders. This population tends to have lower incomes (2), is more likely to be enrolled in public insurance programs (3), and on average has poorer physical health status than those without mental disorders (4). Thus, we expect post-health care reform coverage patterns to be different for those with mental health disorders than for the general population. Given the strong tie between insurance coverage and access to health care services (5, 6), these patterns have important implications for access to behavioral health care.

To assess the implications of reform for individuals with mental disorders, we need national data on current patterns of insurance and on the relationship between insurance and service use for this population. However, existing studies of insurance coverage and utilization rely on data from the 1990s or earlier (7, 8), do not distinguish between sources of coverage, use broad income categories (9, 10), and/or rely on small samples that may not be nationally representative (11, 12).

In this study, we used data from the Medical Expenditure Panel Survey (MEPS), a large, nationally representative annual household survey of health care use and costs, to examine current sources of coverage and demographic characteristics of nonelderly adults with and without mental disorders. We also analyzed utilization patterns across insurance coverage sources. Finally, we estimated changes that will occur in insurance coverage and number of service users by mental health status after PPACA is fully implemented in 2019.

Method

Data Sources

We drew our data from the 2004–2006 survey years of the MEPS, a nationally representative household survey conducted

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annually by the Agency for Healthcare Research and Quality (AHRQ). The MEPS has been used extensively to track patterns of mental health treatment in the United States (13–21). The survey, which has been described elsewhere (22–24), uses an overlapping panel design, combining two panels to produce estimates for each calendar year. Households for each panel are interviewed five times over a 2-year period; response rates were 63.1%, 61.3%, and 58.3% in 2004, 2005, and 2006, respectively.

Our analytic sample included all adults ages 18–64 who completed the Adult Self-Administered Questionnaire (Adult SAQ), administered once a year in the MEPS. Response rates for the Adult SAQ among MEPS respondents were 92.6%, 92.3%, and 91.0% in 2004, 2005, and 2006, respectively. Like the full MEPS sample, the Adult SAQ sample is poststratified to the Census Bureau's Current Population Survey and is representative of the civilian noninstitutionalized population. To account for the small degree of item nonresponse in the mental health scales in the Adult SAQ (1.9% combined), we used a propensity-score adjustment procedure to reweight the sample with nonmissing scales to the U.S. community-dwelling population. We pooled the data across years to increase statistical power. The final combined sample size was 51,080 person-year observations for 2004 through 2006 (17,158, 16,970, and 16,952 in each year, respectively).

The main variables of interest were mental health status, family income, health insurance coverage (by source), and mental health service use.

The MEPS Adult SAQ contains a brief depression screen, the two-item Patient Health Questionnaire (PHQ-2) (25, 26), and the K6 scale of nonspecific serious psychological distress (27). Previous research has established construct and criterion validity of the PHQ-2 and suggested that a score ≥3 indicates further depression screening (25, 26). The K6 was designed to detect psychological distress at the 90th to the 99th percentile tail of distribution in the general population, with a score ≥13 indicating serious distress (27, 28). The K6 has been shown in a community sample to be related to diagnoses of serious mental disorders based on standardized psychiatric assessments (27). We used these standard cut-points to construct binary measures of probable depression (PHQ-2 score ≥3), serious psychological distress (K6 score ≥13), and the presence of either. Patients who did not meet these levels of severity were considered not to have a severe mental disorder, but some of them will nevertheless use services for less severe mental disorders.

We divided our sample into three family income groups based on percentage of the federal poverty threshold, matching key thresholds in PPACA: under 133%, 133%–400%, and over 400% of the federal poverty line. The federal poverty line, which varies with household size, was $10,830 for a household of one in 2010. We further divided the sample into five mutually exclusive health insurance categories: full-year Medicare coverage (including those with dual eligibility also enrolled in Medicaid), private health insurance coverage for the entire year, full-year Medicaid (only) coverage, uninsured part of the year, and uninsured the entire year.

We used a binary indicator to represent use of one or more of the following types of mental health services during the year: outpatient treatment in an office-based or clinic setting, hospital outpatient department, or hospital emergency department; hospital inpatient stay; or use of a psychotropic medication. We classified outpatient visits as mental health-related if the respondent reported that the main reason for the visit was for "psychotherapy or mental health counseling"; the visit was to a specialty mental health provider; the visit included services for mental health, alcohol, or drug treatment; or one or more of the conditions associated with the visit was consistent with DSM-IV or ICD-9 codes 291, 292, 295–316, or ICD-9 V codes for screening or treatment. Mental health-related inpatient hospital stays were identified similarly on the basis of reported conditions. Psychotropic medications included antidepressants (tricyclics were included only if reported as being taken for a mental condition), antipsychotics (conventional agents were included only if reported as being taken for a mental condition), antianxiety medications if taken for a mental condition, anticonvulsants if taken for a mental condition, substance use medications, and all stimulants.

Data Analysis

We calculated pooled national estimates of the distribution of health insurance coverage stratified by family income (percent of federal poverty level) and mental health status for the U.S. civilian noninstitutionalized population of adults ages 18–64 for 2004–2006. We then computed the proportion of the population receiving any mental health treatment stratified by health insurance coverage and mental health status.

We used the propensity-score-adjusted sample weights and adjusted for the stratified and clustered sample design of the MEPS, which also adjusts for within-person correlation across years (29). We report standard deviations and 95% confidence intervals (CIs) for means of continuous variables and 95% CIs alone for dichotomous variables (standard deviations are redundant with means in this case). We used Wald tests for all comparisons of means. Following AHRQ/MEPS guidelines for statistical reliability, we omitted all estimates based on sample sizes <100 or with relative standard errors (standard error divided by the mean) >30%. We performed all statistical analyses and tests using Stata/MP, version 11.0 (30).

To estimate the impact of health care reform on coverage by mental health status, we made the following assumptions based on information contained in the legislation and in Congressional Budget Office (CBO) analyses of PPACA (1). Under PPACA, Medicaid eligibility will be expanded to all individuals with incomes ≤133% of the federal poverty level. Individuals with incomes up to 400% of the federal poverty level who purchase insurance through exchanges will receive income-adjusted premium and cost-sharing credits (subsidies). We assumed that PPACA would result in a 59% decrease in the number of uninsured. We further assumed that the uninsured population with incomes below 133% of the federal poverty level that gains coverage does so by moving into Medicaid and that the uninsured with incomes above 133% of the federal poverty level who gain coverage will shift into private coverage. We also assumed a small decline in employer-based coverage and nongroup private coverage when reform is fully implemented. We assumed stable Medicare enrollment because eligibility for this program is unaffected by PPACA. We multiplied our estimates of the uninsured populations in each relevant income and mental health status category by the CBO take-up rate to obtain the number newly insured by source. We then added those numbers to the baseline population in each coverage source to estimate coverage after reform.

To simulate the impact of PPACA on use of mental health services, we first estimated a logistic regression model of the probability of treatment use controlling for health insurance coverage, income, mental health status, and interactions between these key variables, as well as the following covariates: age, sex, race/ethnicity, education level, Census region, Metropolitan Statistical Area residence, physical component summary score of the SF-12 Health Survey (31), and attitudes about health insurance coverage, risk taking, and health care from the MEPS Adult SAQ (see the data supplement that accompanies the online edition of this article for full model results). Model fit was excellent as assessed by the Archer-Lemeshow goodness-of-fit statistic for logistic regression estimated with survey sample data (adjusted $F=1.035$, $df=53, 185$, $p=0.413$) (32). We next calculated the predicted proportion using mental health services in each income/health insurance/mental health status stratum using current health insurance coverage of each individual. We then calculated the predicted

TABLE 1. Characteristics of Adults Ages 18–64 in the 2004–2006 Medical Expenditure Panel Surveys, by Mental Health Status

Variable	Mental Health Status Group					
	Probable Depression		Serious Psychological Distress		Depression or Serious Psychological Distress	
	N	95% CI	N	95% CI	N	95% CI
Person-year observations	5,351		3,199		5,880	
Weighted population (1,000s)	15,408	14,161–16,656	9,056	8,179–9,934	17,013	15,650–18,376
	%	95% CI	%	95% CI	%	95% CI
Family income relative to federal poverty line						
<133%	40.8	38.7–42.9	46.9	44.4–49.3	40.7	38.7–42.7
133%–400%	41.3	39.4–43.2	39.0	36.7–41.2	41.6	39.8–43.5
>400%	17.9	16.2–19.6	14.2	12.3–16.0	17.6	16.0–19.3
Female	57.8	55.9–59.8	59.4	56.7–62.2	58.0	56.0–59.9
Race/ethnicity						
Hispanic	15.9	13.9–18.0	16.5	14.2–18.8	16.3	14.3–18.3
Black	15.7	13.7–17.7	14.3	12.1–16.4	15.5	13.5–17.5
White	62.6	59.9–65.4	64.4	61.3–67.6	62.5	59.7–65.2
Other	5.8	4.4–7.1	4.8	3.5–6.0	5.8	4.5–7.0
Education						
Less than high school	28.9	26.9–39.0	31.7	29.2–34.1	29.0	27.1–31.0
High school diploma	36.9	34.9–38.9	36.6	34.0–39.2	36.6	34.7–38.5
Some college	20.5	18.8–22.3	20.4	18.1–22.6	20.8	19.1–22.5
Bachelor's degree	8.8	7.7–10.0	7.3	6.0–8.7	8.9	7.8–10.0
Advanced degree	4.0	3.2–4.8	3.1	2.3–4.0	3.9	3.2–4.7
Census region						
Northeast	16.7	14.3–19.2	17.0	14.1–19.9	16.9	14.4–19.4
Midwest	20.2	17.9–22.6	20.5	17.6–23.3	20.2	17.8–22.6
South	40.4	37.4–43.5	40.1	36.8–43.4	40.0	37.0–43.0
West	22.6	18.9–26.3	22.4	19.0–25.9	22.9	19.2–26.6
Metropolitan Statistical Area residence	81.4	78.5–84.3	79.9	76.5–83.2	81.4	78.5–84.3
Attitudes (disagree strongly or somewhat)						
Healthy enough, don't need insurance	85.9	84.8–86.9	88.2	86.8–89.6	85.7	84.7–86.8
Health insurance not worth cost	56.7	54.8–58.6	55.8	53.4–58.3	56.6	54.8–58.4
Take more risks than average person	55.9	53.9–57.9	55.6	53.3–57.8	55.8	53.9–57.6
Overcome illness without medical help	69.9	67.9–71.4	72.9	70.9–74.9	69.3	67.7–71.0
	Mean	95% CI	Mean	95% CI	Mean	95% CI
SF-12 Physical Health Summary	43.2	42.6–43.8	41.5	40.8–42.2	43.3	42.8–43.9
Age	42.0	41.5–42.5	42.1	41.4–42.8	41.8	41.4–42.3

proportions in each of these strata assuming, first, that every individual in these strata switched to Medicaid, and then that every individual switched to private insurance. The difference in predicted proportions provides an estimate of the change in probability of treatment use in each stratum due to switching to Medicaid and private insurance, respectively. Finally, we applied the estimates of the number of uninsured individuals switching to Medicaid (among those under 133% of the federal poverty level) and private insurance (among those over 133% of the federal poverty level) to simulate the impact of PPACA on total numbers with treatment use. We do not provide confidence intervals for simulated estimates of coverage and service use because a key component of the variance related to take-up rate is unknown; thus our measure of uncertainty would be artificially low.

Results

Current Income, Insurance Coverage, and Utilization

The prevalence of severe mental disorders in our sample was 9.2% (4.3% for depression only, 0.8% for serious psychological distress only, and 4.1% for both) (data not shown). Table 1 summarizes the sociodemographic and health status characteristics of individuals who did and did not screen positive for mental disorders. Adults with severe mental disorders were more than twice as likely as their counterparts without severe mental disorders to have incomes under 133% of the federal poverty level (the cutoff for Medicaid eligibility under PPACA) (40.7%, 95% CI=38.7–42.7, compared with 17.7%, 95% CI=16.8–18.6; $F=625.6$, $df=1, 237$, $p<0.001$). Correspondingly, they were less likely to have an income above four times the poverty level (the upper threshold for premium subsidies under PPACA) ($F=716.3$, $df=1, 237$, $p<0.001$).

Table 2 shows that across all income groups, individuals with severe mental disorders had a higher risk than those without of being without health insurance for the full year (21.0%, 95% CI=19.4–22.8, compared with 16.5%, 95% CI=15.7–17.3; $F=31.7$, $df=1, 237$, $p<0.001$). Further-

Neither Depression Nor Serious Psychological Distress		Full Sample	
N	95% CI	N	95% CI
45,200		51,080	
167,852	157,354–178,349	184,865	173,528–196,201
%	95% CI	%	95% CI
17.7	16.8–18.6	19.9	19.0–20.8
41.0	40.0–41.9	41.0	40.1–42.0
41.3	40.0–42.6	39.1	37.8–40.3
50.0	49.5–50.5	50.8	50.2–51.3
14.1	12.7–15.4	14.3	12.9–15.6
11.9	10.7–13.0	12.2	11.1–13.3
68.3	66.6–70.1	67.8	66.0–69.5
5.8	5.0–6.5	5.8	5.0–6.5
15.7	15.0–16.5	17.0	16.2–17.8
30.5	29.6–31.5	31.1	30.2–32.1
24.6	23.8–25.4	24.2	23.5–25.0
17.8	16.8–18.8	16.9	16.0–17.9
10.8	10.1–11.5	10.2	9.5–10.8
18.7	16.8–20.6	18.5	16.6–20.4
22.4	20.3–24.6	22.2	20.1–24.3
35.6	32.7–38.6	36.1	33.2–38.9
23.2	20.1–26.3	23.2	20.1–26.2
83.9	81.8–86.1	83.7	81.5–85.8
79.8	79.2–80.5	80.4	79.8–81.0
61.3	60.4–62.2	60.8	60.0–61.7
60.7	60.0–61.4	60.2	59.6–60.9
62.1	61.4–62.9	62.8	62.1–63.6
Mean	95% CI	Mean	95% CI
52.1	52.0–52.3	51.3	51.1–51.4
40.2	40.0–40.4	40.4	40.1–40.6

more, adults with severe mental disorders were significantly more likely than those without to be enrolled in Medicare (11.3%, 95% CI=10.2–12.6, compared with 1.9%, 95% CI=1.7–2.1; F=236.8, df=1, 237, p<0.001) or Medicaid (13.1%, 95% CI=11.8–14.5, compared with 4.1%, 95% CI=3.7–4.4; F=206.8, df=1, 237, p<0.001). Individuals with severe mental disorders were significantly less likely than those without to have private insurance coverage for the full year (38.4%, 95% CI=36.5–40.3, compared with 66.2%, 95% CI=65.1–67.3; F=784.7, df=1, 237, p<0.001).

Among low-income (<133% of the federal poverty level) individuals, those with severe mental disorders had higher rates of full-year Medicaid coverage than their counterparts without severe mental disorders (25.2%, 95% CI=22.8–27.8, compared with 16.2%, 95% CI=14.8–17.6; F=5.2, df=1, 237, p<0.001). Correspondingly, rates of full-year uninsurance among low-income individuals, while still high, were lower for those with severe mental disorders than for those without (29.4%, 95% CI=26.9–32.1, compared with 38.1%, 95% CI=36.5–39.8; F=38.5, df=1, 237, p<0.001). In contrast, rates of uninsurance for people with moderate (133%–400% of the federal poverty level) or higher (above 400% of the federal poverty level) incomes were the same or higher for individuals with depression or serious psychological distress than for those without these disorders.

Figure 1 shows how use of mental health treatment services varies by coverage and mental health status. Only one-fifth (21.5%, 95% CI=18.6–24.3) of individuals with severe mental disorders who lacked insurance coverage for the full year had any mental health service use in the 2004–2006 period, compared with 63.7% (95% CI=58.7–68.8) of those enrolled in Medicare (including those with dual eligibility), 48.4% (95% CI=44.2–52.7) of those on Medicaid, and 38.2% (95% CI=35.2–41.2) of those enrolled in private insurance (F values, 196.3, 102.8, 61.7, respectively, df=1, 237, all p values <0.001).

Postreform Changes in Coverage

We estimate that when reform is fully implemented in 2019, 3.7 million individuals with severe mental disorders who are currently uninsured part-year (1.6 million) or full-year (2.1 million) would gain coverage (Table 3). Among those without severe mental disorders, we estimate that 27.6 million will gain coverage.

Nearly one-third (31.2%) of currently uninsured individuals with severe mental disorders would be covered under the Medicaid expansion, compared with only 21.8% of their counterparts without severe mental disorders (Figure 2). Currently uninsured individuals with severe mental disorders would be less likely to obtain private insurance (e.g., employer-based, nongroup, or new insurance exchanges) (28.0% compared with 37.4% for those without these disorders). Among both those with and without severe mental disorders, about 40% of the uninsured will remain without coverage after reform.

Medicaid will play an even larger role in providing insurance coverage for individuals with severe mental disorders after health care reform than it currently does (Table 3). We estimate that Medicaid will cover 24.5% of this population when reform is fully implemented (in 2019), compared with 12.8% before implementation (in 2006).

Postreform Changes in Use

We estimate that reform will lead to a net increase of 1.15 million mental health care users, of whom 0.45 million will have a severe mental disorder (Table 3). This increase will occur because uninsured individuals (both with and without severe mental disorders) will be more likely to use services once they gain insurance coverage. The increase in service users will be less than the number of newly insured because not everyone gaining coverage will use services. Furthermore, some of the uninsured gaining coverage will already have been receiving services before implementation of reform. For these individuals, reform will lead to

a shift in payment source for services used. Overall, we estimate that PPACA will lead to an increase of 2.3 million users of mental health services in Medicaid and nearly 2 million in private insurance.

Discussion

Our analysis shows that individuals with severe mental disorders experience significantly higher rates of uninsurance than do those without such disorders. We estimate that 3.7 million individuals with severe mental disorders will gain coverage once reform is fully implemented in 2019, and many of them will be covered under Medicaid. We further estimate an increase of 1.15 million new mental health service users in the system.

The only other study we are aware of that reports nationally representative data on insurance coverage by mental health status (7) also found that individuals with severe mental disorders were at greater risk of being uninsured. That study found that in 1996, approximately one in five individuals with a severe mental disorder lacked health insurance, compared with one in 10 without mental illness. Higher rates of uninsurance in our study reflect differences in samples and methods as well as rising uninsurance rates over time (33). Our analysis provides timely evidence to show that efforts to expand health insurance coverage in the United States will be particularly important to individuals with severe mental disorders.

Our study also demonstrates the important role that Medicaid plays in covering individuals with mental disorders. Currently, nearly a quarter (24.1%) of community-dwelling nonelderly adult Medicaid enrollees have a mental disorder. Because they are more likely to meet the income eligibility criteria (because of low income) and categorical requirements for coverage (because of mental health-related disability), nonelderly adults with mental disorders are over three times more likely than those without to be covered by Medicaid. Medicaid will play an even larger role in covering individuals with mental disorders after PPACA is fully implemented. Under reform, Medicaid asset limits and categorical requirements (e.g., having a disability or living in families with dependent children) will cease for individuals with incomes up to 133% of the federal poverty level. As a result, the proportion of nonelderly adults with severe mental disorders covered by Medicaid will nearly double. The change in coverage will vary across states, as the states' current income eligibility limits differ widely (for example, ranging from 54% to 133% of the federal poverty level for the disabled). States that currently have lower eligibility thresholds will experience a larger increase in Medicaid coverage of individuals with severe mental disorders.

Although PPACA will expand insurance coverage among those with severe mental disorders, some will remain uninsured even after reform is fully implemented. This group includes undocumented immigrants ineligible for assistance, individuals who are exempt from the individual mandate, and those who opt to pay penalties rather than carry health coverage (34). Policy makers will be challenged to establish or maintain systems to provide essential services for the uninsured with mental health care needs.

The expansion of health insurance coverage will have implications for utilization of mental health services. We found that over three-quarters of full-year uninsured individuals with severe mental disorders did not receive any mental health treatment in the previous year, while insured individuals with such disorders were significantly more likely to use services. Other studies using different data and analytic approaches have also found that insurance coverage is linked to utilization of mental health services (7–9, 11–12). Based on our simulated changes in service use, the expansion in insurance coverage resulting from PPACA will bring an increase in the number of individuals using behavioral health services as well as increased demand for services among those who used some services while uninsured. While this increase likely represents an improvement in access to services, it could exacerbate the current shortage of mental health professionals (35, 36). Compounding this shortage problem, most of the new service users will be individuals who did not indicate a severe mental disorder, since the population without mental disorders is so much larger than the population with mental disorders. Even though those without severe disorders are much less likely to use mental health services than those with such disorders (Figure 1), they still use some services. Given possible provider shortages, policy makers might consider taking steps to prioritize access for those with more severe disorders.

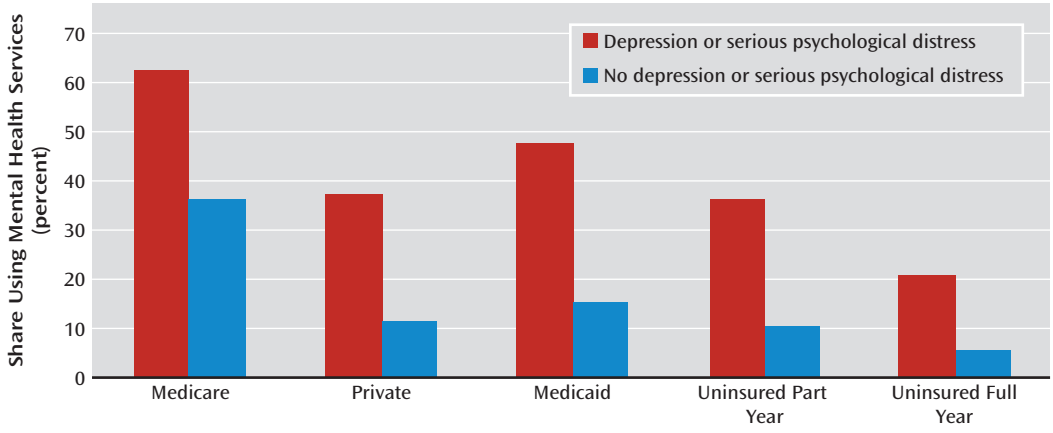
There are several outstanding operational issues that will shape the impact of health care reform for those with mental illness. Policy makers face several implementation decisions regarding the Medicaid expansion, and it is unclear whether it will be structured and implemented with the special needs of this population in mind. For example, Medicaid has developed a unique scope of services to meet the needs of low-income individuals with severe mental illness, including intensive case management, crisis intervention, and wraparound psychosocial services (37). Under PPACA, a similar scope of services may not be available to the newly eligible Medicaid population, since states are only required to provide new Medicaid enrollees coverage on par with private insurance benefits rather than full traditional Medicaid benefits (38). Whether and how states will make exceptions for those with substantial mental health needs who require a broader benefits package is unknown. Similarly, it is unclear whether enrollment procedures for the Health Benefits Exchanges will include provisions to accommodate the special needs of the population with severe mental disorders and what specific provisions will be in place to prevent plans from "cherry-picking" to deter those with more severe mental illnesses (39).

TABLE 2. Distribution of Income and Insurance Coverage Among Adults Ages 18–64 in the 2004–2006 Medical Expenditure Panel Surveys, by Mental Health Status and Relative Income Group

Mental Health Status Group and Income Relative to Federal Poverty Line	Medicare Full Year		Private Full Year		Medicaid Full Year		Uninsured Part Year		Uninsured Full Year		Total Population, 2006
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	N (1,000s)
Probable depression											
<133%	15.0	13.2–17.0	10.3	8.9–11.8	24.9	22.4–27.6	20.3	18.4–22.2	29.5	26.9–32.4	6,124
133%–400%	10.6	8.7–12.9	48.1	45.0–51.2	6.8	5.5–8.3	15.8	13.7–18.1	18.8	16.4–21.5	6,286
>400%	6.1	4.3–8.6	78.6	75.0–81.8	—[a]	—[a]	8.0	6.0–10.7	6.7	5.0–9.0	2,998
All incomes	11.6	10.4–12.9	38.1	36.2–40.1	13.1	11.7–14.5	16.2	15.0–17.6	21.0	19.3–22.8	15,408
Serious psychological distress											
<133%	16.0	13.8–18.6	9.0	7.3–11.1	25.7	22.8–28.7	19.4	17.1–21.8	29.9	26.7–33.3	4,117
133%–400%	12.4	9.7–15.7	44.7	40.8–48.7	7.7	6.0–9.8	16.1	13.2–19.4	19.1	16.2–22.4	3,476
>400%	10.8	7.3–15.6	73.8	67.7–79.1	—[a]	—[a]	7.8	5.1–11.9	7.3	4.8–11.0	1,464
All incomes	13.9	12.2–15.7	32.1	29.8–34.5	15.1	13.4–16.8	16.4	14.9–18.1	22.5	20.4–24.7	9,056
Probable depression or serious psychological distress											
<133%	14.7	13.0–16.6	10.8	9.4–12.4	25.2	22.8–27.8	19.9	18.2–21.7	29.4	26.9–32.1	6,701
133%–400%	10.4	8.6–12.7	48.0	45.1–50.9	6.6	5.4–8.0	16.1	14.1–18.3	18.9	16.6–21.4	7,107
>400%	5.6	3.9–8.0	79.2	75.8–82.3	—[a]	—[a]	7.9	6.0–10.4	6.8	5.1–9.0	3,205
All incomes	11.3	10.2–12.6	38.4	36.5–40.3	13.1	11.8–14.5	16.2	15.0–17.4	21.0	19.4–22.8	17,013
Neither probable depression nor serious psychological distress											
<133%	5.2	4.7–5.8	21.2	19.9–22.6	16.2	14.8–17.6	19.2	18.1–20.4	38.1	36.5–39.8	29,922
133%–400%	1.8	1.5–2.0	62.8	61.5–64.1	2.6	2.3–3.0	13.9	13.3–14.5	18.9	17.8–20.1	68,078
>400%	0.6	0.5–0.8	88.8	87.9–89.7	—[a]	—[a]	5.5	4.9–6.1	4.8	4.2–5.5	69,851
All incomes	1.9	1.7–2.1	66.2	65.1–67.3	4.1	3.7–4.4	11.4	10.9–11.9	16.5	15.7–17.3	167,852

[a] Sample too small for reliable estimate.

FIGURE 1. Use of Mental Health Services Among Adults 18–64 Years of Age, by Insurance Coverage and Mental Health Status, 2004–2006[a]



[a] Based on the authors' analysis of 2004–2006 Medical Expenditure Panel Survey data. Individuals with dual eligibility are included in Medicare.

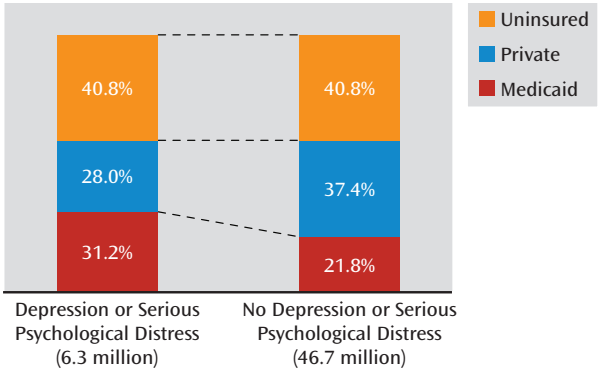
Our study has some limitations. First, our sample included only the noninstitutionalized adult population, but some individuals with mental health disorders (particularly very serious illness) reside in institutions. It is possible that income, coverage, and utilization differ greatly between institutionalized and noninstitutionalized individuals with mental health disorders, in which case our results would not be generalizable to the entire population with mental illnesses. Given the dramatic decline in the institutionalized population over time, the excluded institutionalized population likely represents a small share of the total population with mental health disorders. Second, the screening measures we used to identify the population with mental disorders may not capture all mental disorders and may misclassify individuals who have mental disorders whose symptoms are controlled by

TABLE 3. Simulated Change in Coverage and Service Use After Reform, Based on Data for Adults Ages 18–64 in the 2004–2006 Medical Expenditure Panel Surveys[a]

	Coverage						Users					
	Baseline		Postreform		Change		Baseline		Postreform		Change	
Group and Coverage	N (1,000s)	%	N (1,000s)	%	N (1,000s)	%	N (1,000s)	%	N (1,000s)	%	N (1,000s)	%
Probable depression or serious psychological distress												
Medicare	1,907	11.2	1,907	11.2	0	0.0	1,216	18.0	1,216	17.0	0	0.0
Medicaid	2,174	12.8	4,162	24.5	1,988	91.5	1,052	16.0	1,965	28.0	913	86.8
Private	6,674	39.2	8,391	49.3	1,717	25.7	2,550	39.0	3,122	44.0	572	22.4
Uninsured part year	2,729	16.0	1,113	6.5	–1,615	–59.2	998	15.0	407	6.0	–591	–59.2
Uninsured full year	3,530	20.7	1,440	8.5	–2,090	–59.2	759	12.0	310	4.0	–449	–59.2
Total	17,013	100.0	17,013	100.0	0	0.0	6,575	100.0	7,019	100.0	445	6.8
Neither probable depression nor serious psychological distress												
Medicare	3,182	2.0	3,182	2.0	0	0.0	1,169	6.0	1,169	6.0	0	0.0
Medicaid	6,843	4.0	17,292	10.0	10,449	152.7	1,089	6.0	2,471	13.0	1,382	126.8
Private	111,161	66.0	128,338	76.0	17,177	15.5	13,158	70.0	14,519	74.0	1,361	10.3
Uninsured part year	19,032	11.0	7,765	5.0	–11,267	–59.2	1,953	10.0	797	4.0	–1,156	–59.2
Uninsured full year	27,634	16.0	11,275	7.0	–16,359	–59.2	1,483	8.0	605	3.0	–878	–59.2
Total	167,852	100.0	167,852	100.0	0	0.0	18,853	100.0	19,561	100.0	709	3.8
Full population												
Medicare	5,089	3.0	5,089	3.0	0	0.0	2,385	9.0	2,385	9.0	0	0.0
Medicaid	9,017	5.0	21,453	12.0	12,437	137.9	2,142	8.0	4,436	17.0	2,295	107.1
Private	117,835	64.0	136,730	74.0	18,894	16.0	15,708	62.0	17,641	66.0	1,932	12.3
Uninsured part year	21,760	12.0	8,878	5.0	–12,882	–59.2	2,950	12.0	1,204	5.0	–1,747	–59.2
Uninsured full year	31,164	17.0	12,715	7.0	–18,449	–59.2	2,242	9.0	915	3.0	–1,327	–59.2
Total	184,865	100.0	184,865	100.0	0	0.0	25,427	100.0	26,581	100.0	1,154	4.5

[a] Based on the authors' analysis of Congressional Budget Office projections and data on coverage and income from the 2004–2006 Medical Expenditure Panel Surveys. Totals may not equal sum of components because of rounding. Those with dual eligibility are included in Medicare.

FIGURE 2. Simulated Postreform Health Insurance Coverage of Currently Uninsured Adults Ages 18–64, by Mental Health Status[a]



[a] Based on the authors' analysis of Congressional Budget Office projections and data on coverage and income from the 2004–2006 Medical Expenditure Panel Surveys.

current treatment. However, since our prevalence rates are similar to those reported from the National Comorbidity Study Replication (40), we believe our measures sufficiently capture the target population. Third, our simulation of service use included only partial adjustments (using observed socioeconomic and health status characteristics) for differences in utilization between the currently insured and newly insured populations and did not account for selection among the newly insured population that takes up coverage (versus remaining uninsured). Finally, our analysis of changes in coverage relied on the CBO's approach to estimating coverage changes for the general population. It is possible that the participation and enrollment rates for the population with mental disorders will differ from those for the general population. Take-up could be higher or lower depending on how aggressively states and advocates work to enroll this population. Even if enrollment rates are lower than those used in this analysis, the expansion of coverage under PPACA is likely to dramatically affect coverage and access for individuals with severe mental illness.

In summary, PPACA is likely to expand insurance coverage to a substantial number of individuals with severe mental disorders. This coverage expansion is likely to increase use of mental health services; however, the magnitude of the increase will depend on how provisions of the legislation are implemented as well as on the capacity of the mental health system to absorb the increased demand for services.

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