State Parity Legislation and Changes in Health Insurance and Perceived Access to Care Among Individuals with Mental Illness: 1996–1998

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Abstract

Background: The 1990's witnessed a new wave of state and federal legislation affecting mental health insurance in the United States. Although patient advocacy groups have hailed the passage of numerous 'parity' laws that require insurance coverage for mental illnesses to equal that for physical ailments, it is unclear whether this activity represents a major improvement in insurance benefits among mentally ill or significantly increases their access to care.

Aims: This paper contrasts how insurance coverage has changed among individuals with mental health problems in states with and without parity legislation.

Methods: National survey data from 1996 to 1998, subset to a panel of 1220 individuals exceeding clinical screeners for a mental health disorder. Dependent variables are change in insurance status, insurance generosity and perception of access to care. The analysis contrasts changes in dependent variables between states with and without parity legislation (a difference-in-differences analysis).

Results: There are no statistical significant effects of state parity; point estimates suggest that parity mandates are associated with a slightly higher number of mentally ill reporting improved insurance generosity and access to care, but also with a higher number of mentally ill losing all insurance coverage in parity states. The estimated effects are too small to be statistically significant, although the sample size is limited and the study had only good statistical power to detect large effects.

Discussion: At the population level, state parity legislation appears to have not had large effects on the insurance coverage of the group that was intended as the primary beneficiary of legislation. Likely reasons include the limited scope of the actual legal requirements and large numbers of mentally ill that are not covered by health insurance subject to such legislation. The results do not exclude the possibility that some subgroups experienced substantial improvements in their insurance coverage. At the population level, large effects experienced by small subgroup are diluted by groups that experienced no similar changes. However, parity legislation was not considered a minor issue by advocates and opponents and this analysis has the statistical power to detect the sizeable differences that were argued in the policy debate.

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Implications for Health Policies: While state parity legislation may have improved insurance benefits for some, it appears not to have resulted in substantial improvements for the mentally ill as a whole. The results could be very different, however, if strong federal legislation were passed that has a broader scope than state legislation.

Implication for Research: The parity debate provides an important reminder of how little research is available to inform policy. This study provides a crude picture, but it is far from being a conclusive evaluation. The most urgent need is for data that continue to track changes in markets and policies. Copyright © 2000 John Wiley & Sons, Ltd.

Insurance benefits for mental health care have traditionally been much more limited than insurance benefits for medical care. In response, the late 1990s have seen federal and state legislative activity in the form of insurance mandates that require coverage for mental health care at the same level as medical care ('parity'). The enactment of a modest federal mental health parity act in 1996 was followed by more ambitious state activity. Only five states enacted parity legislation prior to the 1996 Federal Parity Act, but 26 states have passed legislation in that area since then.[1]

These parity bills were always accompanied by an acrimonious debate about their possible cost and utilization consequences, which was primarily driven by varying actuarial assumptions and old data. Even now, empirical evaluations of parity legislation primarily consist of case studies of state employee programs or a time trend for Maryland,[2] a serious gap given that parity debates appear to be far from over. There are attempts at the federal level and several states to modify recently passed legislation, partly in anticipation of the expiration of the Federal Mental Health Parity Act, which would expire in 2001 unless modified or reauthorized by Congress.

This paper analyzes national survey data from 1996–1998 and focuses on patients with mental illnesses to evaluate how their insurance status, insurance generosity and their perception of access to care have changed. It contrasts changes in those variables between states with and without parity legislation (a difference-in-differences

analysis), which may increase the internal validity of the analysis compared to pure cross-sectional analyses.

Cross-sectional comparisons may be biased because legislation is not the result of a random process and states with below-average utilization and fewer psychiatrists *per capita* were significantly more likely to enact legislation initially than states with above-average utilization.[3,4] Although the study by Pacula and Sturm[4] took the endogeneity into account and found no significant effect of parity legislation on insurance status and any mental health utilization in a general population, it has been criticized for being a cross-sectional analysis and because it focused on utilization of mental health care in the general population. The longitudinal comparison addresses the first criticism and a difference-in-differences approach removes confounding differences in levels. However, the approach is not immune against biases caused by omitted variables, especially if *changes* (rather than *levels*) in insurance generosity or utilization are confounded by other factors. Parity legislation was intended to primarily benefit more severely ill patients and this group could be substantially affected without changes in the percentage of the general population using any mental health care. Thus, an analysis of individuals with mental health need may provide a better comparison. The new contribution of this paper is a longitudinal comparison that focuses on individuals with mental health disorders.

Data and Methods

The data come from the Health Tracking Initiative funded by the Robert Wood Johnson Foundation, which supported two national surveys to identify variations and track changes over time in healthcare: HealthCare for Communities (HCC) and the Community Tracking Study (CTS). The HCC household survey re-interviewed adult CTS participants about 15 months after their initial interview. The CTS sample is representative of the US civilian, non-institutionalized population and samples from 60 randomly selected US communities, as well as a geographically dispersed sample. Weights were derived based on the inverse of the probability of selection, non-response and non-telephone households. Design papers of the surveys have been published and provide more information.[5,6]

This paper uses the subset of individuals with particular need for mental health care. The effect of state parity legislation is compared for two groups: (i) individuals with any probable mental health disorder; (ii) individuals with probable major depression. Disorder status was assessed based on screening items rather than full diagnostic interviews, primarily the screening versions of the Composite International Diagnostic Interview (CIDI-SF).[7]

Respondents 65 years or older were excluded from this analysis because almost all elderly in the study are eligible for a government program (Medicare) that is not affected by current parity legislation. All respondents in the sample selected for this paper were interviewed by HCC after the federal legislation had become effective. Not all individuals have insurance plans that are directly affected by state legislation: they may be unemployed, covered by a public program, not insured through their employer or work for an employer not subject to state legislation. However, the indirect effects of mandates are important and state mandates and other public policies that govern mental health services may not only affect the structure of insurance, but also have resonating effects on the behavior of firms offering insurance and individuals.[8,9] In fact, parity advocates generally emphasize that those mandates are intended to bring the mentally ill back into the private insurance system, whereas opponents often argue that indirect consequences (such as employers terminating insurance coverage in response to increased costs) overwhelm the intent of legislation. According to the CTS/HCC survey, the majority of individuals with mental illness, even among respondents with the most severe disorders (bipolar or psychotic), holds private health insurance at baseline. A sensitivity analysis, subset to respondents with private insurance, tests whether results differ for the more narrowly defined group of respondents with mental illness and private health insurance.

After this selection, there were 1028 individuals with any disorder and 722 with depression in non-parity states. In parity states, there were 192 respondents with any disorder and 143 with depression.

Dependent Variables

Three dependent variables are analyzed. One is a measure of change in insurance status (from uninsured to insured, no change or from insured to uninsured) over the interval covered by the CTS and HCC interviews. The other measures are responses to these two questions: compared to 2 years ago, is your health insurance coverage now better, worse or about the same? Compared to 2 years ago, is it easier, harder or about the same to get good healthcare when you need it? These measures are not specific to mental health benefits, which is a limitation, although individuals evaluate insurance benefits with an emphasis on coverage for services they are most likely to need. This sample is limited to individuals likely to have a current mental health disorder.

Statistical Power

One centrally important concept in designing evaluation studies is statistical power, which summarizes the extent to which a study can detect differences between populations. A common, albeit arbitrary, benchmark is that a study should be able to detect a 'meaningful' difference (which is determined at the outset of the study) at least four out of five times, which corresponds to a statistical power of 0.8. Studies with low statistical power are unlikely to detect small, but economically or socially meaningful, differences according to the common, although also arbitrary, 1% or 5% significance levels. Nevertheless, even studies with low power can provide informative point estimates despite

having high standard errors and remain useful for situations where little empirical data exists.

But what constitutes a 'meaningful' difference in this case? One reasonable effect size could be that individuals with and without mental illness have similar outcomes on these dependent variables in parity states, but not in the other states. The effect of parity could even be larger because parity is intended to increase mental health benefits and individuals with mental illness in parity states should therefore benefit more than the general population. Sturm and Wells[10] have reported rates of insurance loss and reported deterioration of insurance generosity and access for people with and without mental health disorders and their rates were used for the power calculation: among individuals with insurance at baseline, 3.6% of respondents without a mental health disorder lost insurance; 6.7% of respondents with any mental health disorder lost insurance; 7.4% of individuals with depression lost insurance. Regarding insurance generosity and access, 9.4% of individuals without disorder reported insurance being worse now than 2 years ago and 14.2% said that access to care became harder. For individuals with any disorder, the rates are 15.6% and 22.5%; for individuals with depression, the rates are 17.5% and 24.6%. Based on a one-sided test and the sample sizes for this study, the statistical power is over 80% to detect similar effect sizes for two of the three dependent variables (insurance generosity and access to care). Regarding insurance change, the power is slightly lower (55% for individuals with any disorder and 65% for individuals with depression). These are substantial effect sizes, yet are smaller than some claims brought forward in policy debates.

Explanatory Variables

The main explanatory variable is a state parity indicator, which identifies respondents in a state with some form of mental health or substance abuse parity legislation that became effective before the HCC interview. The following states had some parity legislation in effect for some respondents: Arizona, Arkansas, Colorado, Georgia, Indiana, Maine, Maryland, Minnesota, Missouri, New Hampshire, Rhode Island, South Carolina, Texas and Vermont. Parity legislation in other states had not taken effect during the interview window. The state parity indicator includes only legislation that exceeds the federal law in several dimensions, using the list of states and summary of bills of Sturm and Pacula.[3] Arizona, Georgia, Indiana, and South Carolina had very limited legislation (Georgia mandated insurance offering only; the other three mirrored the federal legislation) and are therefore not defined as parity states in the state indicator in the results shown. For sensitivity analysis, a definition that includes those states was used, although that only decreased the estimated effects of parity. Other explanatory variables were age groups (<35 and ≥50, each contrasted with 35–49), female contrasted with male, years of schooling, log of family income, ethnic minority versus white and a count of chronic medical conditions.

Data Analytic Procedures

The dependent variables have ordered categorical responses (either 'better–same–worse', 'easier–same–harder', 'became insured–same–lost insurance'), and ordered logistic regression models are used to control for confounding factors. Separate regressions for each of the three disorder groups are estimated, with state parity indicator as the main explanatory variable and controlling for other sociodemographic differences.

Limitations

There are many limitations to this analysis. An important concern is that other factors between parity and non-parity states that could lead to differences in outcomes. In contrast to a cross-sectional comparison, where legislation may be endogenous to differences in insurance coverage, legislation driven by differential changes in insurance coverage would bias this evaluation. This could occur, for example, if states with a deteriorating economic performance (leading to increased uninsurance rates) were systematically more likely to pass parity legislation because of the deteriorating economic climate. The sample size provides only limited statistical power and small 'true' effects are unlikely to be statistically significant. The dependent variable focuses on insurance, which is most directly affected by the legislation, but not utilization or health outcomes, which are the ultimate goals of health care. The study cannot comment how utilization and health outcomes are affected because the only longitudinal utilization data available at this point is for any mental health specialty care. However, a second wave currently in the field will provide more information on that issue. Mental health disorders are assessed by a clinical screening instrument, not a full diagnostic measure, and the individuals may be somewhat less ill than if they passed a full diagnostic interview. However, a precise classification is not particularly important as the only purpose is to identify individuals with need for mental health care. Finally, state parity legislation may have larger effects for some subgroups of mentally ill, but these effects are diluted by many other mentally ill who are not covered by insurance plans subject to state legislation.

Results

Table 1 provides descriptive statistics for the dependent variables. The first row shows that mentally ill individuals in states that passed parity legislation have fared worse in terms of keeping any insurance. Despite a higher rate of losing all insurance coverage, more individuals in parity than in non-parity states report that their insurance improved and that access to care became easier. Thus, based on simple descriptive comparisons, state parity legislation would appear to be associated with a moderate improvement for a somewhat larger proportion of individuals with mental illness, but a deterioration (loss of insurance) for a small

Table 1. Descriptive statistics by state parity

	Parity states		Non-parity states	
	Any MH disorder	Depression	Any MH disorder	Depression
Uninsured now, insurance before	8.9	9.4	6.6	6.3
Health insurance better now	21.6	15.0	16.5	17.6
Health insurance worse now	16.1	15.0	16.5	17.0
Access to care easier	16.3	10.9	13.0	13.0
Access to care harder	27.7	28.0	26.0	24.8
N	192	143	1028	722

group. However, the compared groups may also differ in many other sociodemographic characteristics across states.

Tables 2 and **3** control for the sociodemographic differences using ordered logit regression and provide formal statistical tests. The point estimates confirm the descriptive results of **Table 1** in that state parity is associated with a reduced probability of any insurance coverage for individuals with mental illness, but higher generosity and easier access. However, none of the estimated coefficients of state parity are statistically significant, even though the two groups would have been large enough to detect a meaningful effect size with acceptable statistical power. The absence of statistical significance therefore suggests that any effect size is likely to be small in magnitude. This does not change when subsetting to individuals with private insurance at baseline.

Translating the coefficients into percentage changes, the point estimates indicate that state parity legislation is associated with a 2.4 percentage points increase in losing all insurance among individuals with a mental health disorder

Table 2. Effect of state parity on insurance and access among respondents with any mental health disorder (standard errors in parentheses)

	Insurance change	Insurance generosity	Access to care
Parity	0.338	−0.225	−0.172
	(0.270)	(0.249)	(0.236)
Female	−0.110	0.251	−0.088
	(0.220)	(0.183)	(0.190)
Young	−0.005	−0.087	−0.218
	(0.252)	(0.206)	(0.201)
Old	−0.082	−0.248	−0.535**
	(0.341)	(0.244)	(0.225)
Log family income	0.062	−0.037	−0.019
	(0.072)	(0.034)	(0.049)
Years of schooling	0.020	0.063	0.015
	(0.042)	(0.044)	(0.034)
Non-white	0.434	0.459**	0.301*
	(0.294)	(0.210)	(0.185)
Number of chronic conditions	0.006	0.051	0.130***
	(0.094)	(0.051)	(0.040)

Note: Dependent variables are coded: 1, gained insurance/insurance got better/access got easier; 2, no change; 3, lost insurance/insurance got worse/access got worse. A negative sign implies improvement; a positive sign implies deterioration. $N = 1220$; ***significant at 1%; **significant at 5%; *significant at 10%.

Table 3. Effect of state parity on insurance and access among respondents with major depressive disorder (standard errors in parentheses)

	Insurance change	Insurance generosity	Access to care
Parity	0.416	−0.131	0.013
	(0.334)	(0.222)	(0.230)
Female	−0.065	0.256	−0.132
	(0.272)	(0.200)	(0.226)
Young	−0.327	−0.030	−0.158
	(0.299)	(0.230)	(0.233)
Old	−0.350	−0.450*	−0.509**
	(0.426)	(0.272)	(0.223)
Log family income	0.020	−0.078	−0.043
	(0.062)	(0.048)	(0.051)
Years of schooling	−0.041	0.102**	0.042
	(0.047)	(0.050)	(0.039)
Non-white	0.562	0.448*	0.379*
	(0.366)	(0.262)	(0.228)
Number of chronic conditions	−0.034	0.085	0.170***
	(0.127)	(0.061)	(0.051)

Note: Dependent variables are coded: 1, gained insurance/insurance got better/access got easier; 2, no change; 3, lost insurance/insurance got worse/access got worse. A negative sign implies improvement; a positive sign implies deterioration. $N = 865$; ***significant at 1%; **significant at 5%; *significant at 10%.

and a 2.9 percentage point increase among individuals with depression. At the same time, state parity is also associated with 3.3 point increase in the percentage of individuals with any disorder (1.9 among individuals with depression) who report that their insurance became more generous. The any disorder group also reported that access to good care became easier (2.1 percentage points), but not the depressed group (no change). While these numbers are the best single point estimates, they need to be interpreted with caution as a 95% confidence interval includes the case of no effect for all of them.

Discussion

This paper analyzes the effect of state parity legislation on insurance coverage and perceived access to care among individuals with mental illness. This analysis has two advantages over prior evaluations. First, limiting the sample to individuals with mental illness focuses the results

on the target group of parity legislation rather than the general population as in prior evaluations. Second, combining longitudinal changes among individuals with cross-sectional variation in legislation (a difference-in-differences approach) is a methodological advantage that should reduce biases in cross-sectional data caused by the endogeneity of legislation. However, unmeasured differences in changes (for example, due to macroeconomic factors that change differentially between parity and non-parity states) could introduce other biases that did not exist in cross-sectional data. The main result of the statistical analysis is a null finding: there is no statistically significant effect of state parity legislation, even though sample sizes were sufficient to detect meaningful changes in insurance generosity and access rates. Differences in the percentage of individuals reporting more generous insurance or improved access by state legislation are relatively small and nowhere near the expectations of some advocates of parity legislation. Rather than seeing 50% or more of the persons with mental illness report improved insurance or access in parity states, the difference to non-parity states is in the single digits and not statistically significant. Similarly, the complete loss of insurance, the specter raised by opponents of insurance mandates, was also not statistically significantly higher in parity states, although the point estimate was in that direction.

The mindset in policy debates has been that state parity makes a big difference and this paper provides some evidence that this is not the case. However, one has to ask whether the expectations of large effects were realistic given the scope of legislation. The 'true' effects of parity are likely to be much subtler and probably differ across subgroups of mentally ill. Unfortunately, no better data sources are currently available for a more complete evaluation.

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