Effects of Mental Health Benefits Legislation

A Community Guide Systematic Review

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Context: Health insurance benefits for mental health services typically have paid less than benefits for physical health services, resulting in potential underutilization or financial burden for people with mental health conditions. Mental health benefits legislation was introduced to improve financial protection (i.e., decrease financial burden) and to increase access to, and use of, mental health services. This systematic review was conducted to determine the effectiveness of mental health benefits legislation, including executive orders, in improving mental health.

Evidence acquisition: Methods developed for the Guide to Community Preventive Services were used to identify, evaluate, and analyze available evidence. The evidence included studies published or reported from 1965 to March 2011 with at least one of the following outcomes: access to care, financial protection, appropriate utilization, quality of care, diagnosis of mental illness, morbidity and mortality, and quality of life. Analyses were conducted in 2012.

Evidence synthesis: Thirty eligible studies were identified in 37 papers. Implementation of mental health benefits legislation was associated with financial protection (decreased out-of-pocket costs) and appropriate utilization of services. Among studies examining the impact of legislation strength, most found larger positive effects for comprehensive parity legislation or policies than for less-comprehensive ones. Few studies assessed other mental health outcomes.

Conclusions: Evidence indicates that mental health benefits legislation, particularly comprehensive parity legislation, is effective in improving financial protection and increasing appropriate utilization of mental health services for people with mental health conditions. Evidence was limited for other mental health outcomes.

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Context

The domestic disease burden of mental health (MH) disorders (including substance use) is well established.[1–4] Nearly 20% of U.S. adults reported a diagnosable mental illness in 2012,[5] and nearly 50% will experience at least one during their lifetime.[1–4] A 1999 U.S. Surgeon General's report estimates that mental illness is the second-largest contributor to disease burden in established market economies such as the U.S.[6]

Moreover, untreated and undertreated MH disorders contribute to the high domestic burden.[7–9] In a 2012 national survey, only 62.9% of adults with a serious mental illness had received any MH services in the past year and only 10.8% of 23.1 million individuals with substance use disorders had been treated.[10] Many affected people cite cost as a major factor preventing them from seeking health care.[5,6,9,11] In 2009, more than half of American families reported limiting health care in the previous year because of cost, and nearly 20% indicated substantial financial concerns associated with medical bills.[9,11]

Mental health benefits legislation (MHBL) involves changing regulations for MH insurance coverage to improve financial protection (i.e., decrease financial burden) and to increase access to, and use of, MH services including substance abuse (SA) services. Such legislation can be enacted at the federal or state level and categorized as

1. parity, which is on a continuum from limited (covering only a few mental illnesses) to comprehensive (covering all mental illness), with varying degrees of benefits; or
2. mandate laws, which (1) provide some specified level of MH coverage; (2) offer option of MH coverage; or (3) require a minimum benefits level if providing MH coverage.

Thus, MHBL is intended to reduce out-of-pocket costs and increase access to care, creating the potential for increased utilization among those in need of MH services.

Legislative Context

Prior to enactment of comprehensive MH/SA parity legislation, health insurance plans generally offered less extensive coverage for MH/SA services compared with physical health services.[12] Three federal laws—the 1996 Mental Health Parity Act[13] (MHPA, Title VII); the 2008 Paul Wellstone and Pete Domenici Mental Health Parity Addiction Equity Act[14] (MHPAEA, Subtitle B); and the Affordable Care Act (ACA)[15]—have addressed parity in MH and MH/SA benefits.[16] As of January 2014, mandate legislation had been passed by 49 states and the District of Columbia.[17]

The first official MH/SA insurance parity action occurred in 1961 through an executive order requiring the Federal Employees Health Benefits (FEHB) Program to cover psychiatric illnesses at a level equivalent to general medical care.[18] Parity was offered in two FEHB insurance plans from 1967 until 1975, when it was discontinued because of increases in cost and utilization associated with *adverse selection* and *moral hazard*.[a,19,20] The uptake of managed care as a mechanism for reducing "inappropriate" utilization of services in the late 1980s and early 1990s provided economic feasibility and renewed the political viability of MH/SA parity legislation.[21,22]

The first federal parity law in 1996, the MHPA, required lifetime and annual limits for MH services to be no different than physical health services.[16] The legislation was limited with no provisions for parity in SA services, treatment limitations, or cost-sharing mechanisms. Thus, the legislation had little impact, although it served as a catalyst for subsequent MHBL, particularly at the state level.[23] In 1999, a second executive order was issued to implement full parity in the FEHB Program, extending MH/SA parity to approximately 8.5 million beneficiaries.[24] The second federal legislation in 2008, the MHPAEA, was part of the Emergency Economic Stabilization Act.[17,25] The MHPAEA was more comprehensive, requiring that financial requirements and treatment limitations beyond annual and lifetime dollar limits for MH/SA be no different than those for physical health.[26] However, the MHPAEA retained exemptions for employers with $\leq$50 employees or demonstrating a 2% cost increase annually as a result of the legislation. The most recent federal legislation, the ACA in 2010, extended existing federal MH/SA parity requirements and differed from previous federal legislation by requiring (1) qualified health plans to offer MH and SA coverage and (2) coverage of specific MH/SA services for certain health plans.[15] See Appendix A (available online) for more details.

The purpose of this systematic review was to summarize and assess evidence on the effectiveness of MHBL in improving MH and related outcomes.

Evidence Acquisition

The Community Guide systematic review process was used to assess the effectiveness of MHBL.[27–29] The process involved forming a systematic review team to work with oversight from the independent, nonfederal, unpaid Community Preventive Services Task Force (Task Force) to develop evidence-based recommendations.

[a]*Adverse selection* occurs when people in poor health enroll in insurance plans that offer more extensive benefits, resulting in a higher risk pool in those health plans. *Moral hazard* occurs when people in healthcare plans with reduced out-of-pocket costs use services at higher rates than people in plans with greater costs. (Frank RG, Koyanagi C, McGuire TG. The politics and economics of mental health "parity" laws. *Health Affairs.* 1994;(4):108–119.)

Conceptual Approach and Analytic Framework

The conceptual approach depicting interrelationships among interventions, populations, and outcomes is represented in the analytic framework (Figure 1). The team hypothesized that MHBL will affect the insured population through reductions in MH/SA coverage restrictions and through increases in MH/SA benefits offered. This will lead to improvements in access to care and financial protection, which may increase appropriate utilization, diagnosis, and quality of care. Subsequent reductions in morbidity and mortality and improvements in quality of life are expected. Managed care is included as an effect modifier implemented before, concurrent with, or after MHBL, and expected to offset anticipated increases in cost and utilization from MHBL.

Research Questions

This review addressed a comprehensive research question: Is legislation for MH/SA benefits effective in improving MH in the community by increasing (1) access to care, (2) financial protection, (3) appropriate utilization of MH services, (4) diagnosis of mental illness, and (5) quality of care; by reducing (6) morbidity and (7) mortality; and by improving (8) quality of life?

Outcome Measures Used to Determine Effectiveness

Outcomes assessed in this review are defined briefly here. See Appendix B (available online) for full definitions and examples.

1. **Access to care:** the ability of those with public or private insurance to obtain MH/SA care including workforce coverage for MH/SA benefits
2. **Financial protection:** the reduction in out-of-pocket costs paid by an individual for MH/SA services; includes measures of out-of-pocket spending[30,31]
3. **Appropriate utilization:** receiving the proper amount and quality of services when needed, including (1) utilization of MH/SA services by people in need; (2) services rendered by MH specialists (e.g., psychiatrist, psychologist, social worker); or (3) receipt of services consistent with evidence-based guidelines for MH/SA care
4. **Diagnosis:** the determination that a person meets established criteria for an MH condition
5. **Quality of care:** health services that are likely to result in the desired health outcomes and are consistent with current professional knowledge[32]
6. **Morbidity:** the presence of any MH condition, such as depression
7. **Mortality:** any death associated with an MH condition, such as suicide
8. **Quality of life (health-related):** perception of physical and mental health over time[33]

Search for Evidence

Eighteen bibliographic databases were searched from their inception through March 2011. Other sources included reference lists; suggestions from team members and other subject matter experts; and searches through Internet portals, Google, and the National Council on State Legislatures website.[17] The search included terms related to parity, MH, SA, and insurance. Search terms and strategy are available at www.thecommunityguide.org/mentalhealth/SS-benefitslegis.html.

Inclusion criteria. Studies were included if they (1) evaluated an intervention relating to MHBL, including executive orders at the federal or state level; (2) measured and reported at least one review outcome; and (3) were reported in English.

Exclusion criteria. Studies were excluded if they were (1) based primarily on simulation data; (2) reforms to restructure care

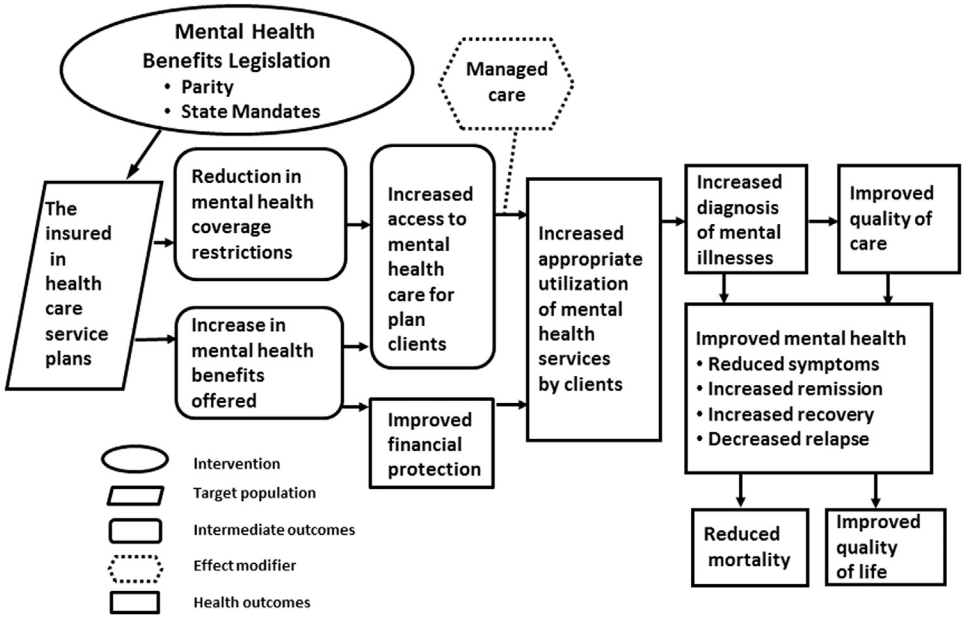

Figure 1. Analytic framework: hypothesized ways in which mental health benefits legislation improves mental health.

only, such as Medicaid waivers; (3) single-disease mandates, such as coverage mandate for autism only; and (4) implemented outside the U.S., because of differences in health systems and legislation.

Abstraction and Evaluation of Studies

Two reviewers evaluated each study using an adaptation of a standardized abstraction form, which included a quality assessment (www.thecommunityguide.org/methods/abstractionform.pdf).[29] Disagreements were resolved by discussion and team consensus. DistillerSR, version 1, was used to manage references, screen citations, and abstract data. Microsoft Excel 2010 was used for effect size calculation and other analyses. Papers based on the same study data set were linked; only the paper with the most complete data (e.g., longest follow-up) was included in analyses. See Appendix C (available online) for more details.

Summarizing the Body of Evidence on Effectiveness

Effect measurement and data synthesis. Effect estimates of absolute percentage point (pct pt) change or relative percentage change were calculated with corresponding 95% CIs and adjusted for baseline data when possible. Regression coefficients or ORs were used as the effect estimates when reported.

Summary effect estimates (medians); interquartile intervals (IQIs); and number of studies are reported when outcomes contained five or more data points. Results for most outcomes of interest were synthesized descriptively and *p*-values are reported when available. Tables illustrating the effect direction are used to display effects based on methods developed by Thomson and Thomas[34] (see Appendix C, available online, for formulas and details on data synthesis). Analyses were conducted in 2012.

Subgroup analyses. Two comparisons were assessed qualitatively: (1) stronger parity legislation versus no or weak parity legislation[35–37] and (2) mutually exclusive categories of parity versus no or weak parity legislation.[38–40] Categories of parity were based on primary author's definitions.

Subgroup analyses were also planned to compare outcomes by settings (e.g., U.S. states); clients (e.g., age group, racial and ethnic group, type of mental illness); employer size; and health plan type (e.g., public vs. private).

Economic Evaluation

The methods and findings of the economic evaluation of MHBL interventions are described elsewhere (www.thecommunityguide.org/mentalhealth/RRbenefitslegis.html).

Evidence Synthesis

Study Characteristics

A total of 15,341 papers were identified from the literature search and screened by title and abstract (Figure 2). Further detailed review of full-text papers produced 30 quasi-experimental and observational studies from 37 papers that met inclusion criteria. Of these, 11 studies (reported in 16 papers[12,24,38–51]) were of greatest design suitability; nine (reported in ten papers[20,35–37,52–57]) were of moderate suitability; and ten (reported in 11 papers[58–68]) were least suitable. Twelve studies (reported in 18 papers[20,24,37,41,43–47,49–52,55–57,61,62]) were of good quality of execution, and 18 (reported in 19 papers[12,35,36,38–40,42,48,53,54,57–60,63–68]) were fair. Twenty-eight studies (reported in 35 papers[12,20,24,35–55,57–63,65–68])

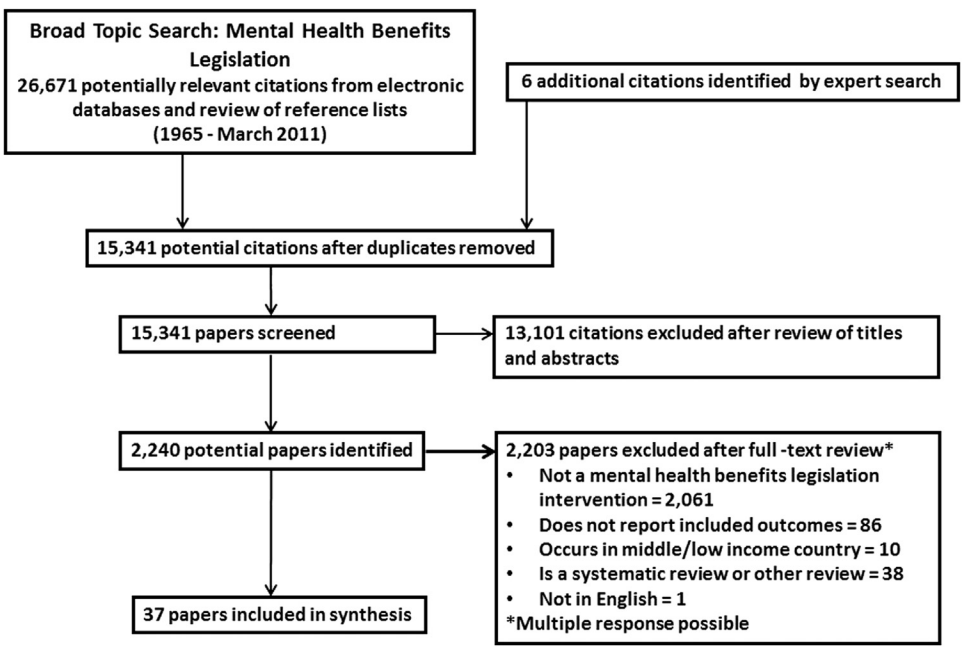

Figure 2. Flow chart showing number of studies identified, reviewed in full text, excluded, and total number included.

examined effects of state or federal MH/SA parity policies or legislation, and two[56,64] examined effects of state-mandated coverage for MH and SA. Six studies[35,37–40,42] examined effects of comprehensive parity legislation or policies. No studies evaluated the 2010 ACA. Most studies used a nationwide sample to examine effects of federal legislation or state mandates and were conducted between 1990 and 2011. Summary evidence tables that present further details of each study are provided at www.thecommunityguide.org/mentalhealth/SET-benefitslegis.pdf. No prior systematic reviews on the effectiveness of MHBL were found in the literature.

Overall Results

Access to care. Seven studies in eight papers[39,53,60,63–66,68] reported changes in access to care, and three studies in four papers[60,63,64,68] (eight data points) reported percentage change of employees with coverage for MH/SA services. Median absolute pct pt increase for employees covered by MH/SA services was 13.6 (IQI=–3.8, 48.0). Four studies[39,53,65,66] provided additional evidence. One of those[65] reported that restrictions for MH/SA remained greater than restrictions for physical health services for 89% of plans after implementation of the 1996 MHPA. Another study[66] reported the percentage of employers covering MH/SA benefits before and after MHPA implementation for specific services; overall results suggested no change in proportion of employers covering MH/SA benefits. Two studies[39,53] found that more people with an MH need (including SA) perceived their access to MH/SA care to be easier after implementation of a state parity mandate, with increases of 8.1 and 3.3 pct pts ($p > 0.05$), respectively.

Financial protection. Five studies in six papers assessed financial protection,[36,44,47,51,52,67] and effectiveness was shown for all financial-protection outcomes. One study[36] found the proportion of people reporting out-of-pocket spending of >$1,000, and people reporting a financial burden for children's MH care in parity states was 7.1 and 9.4 pct pts less, respectively, than for people in non-parity states. Two studies with seven study arms[52,67] reported that MHBL was associated with a median decline of 4.6 pct pts (IQI=–12.0, –4.0) in the percentage of overall out-of-pocket healthcare spending used to pay for MH services. Two studies reported in three papers[44,47,51] found an overall decrease in MH out-of-pocket spending per user comparing those covered under FEHB versus those covered by self-insurance plans: one[47] reported an annual median decline of $9 in adult-only plans (from baselines of $202–$257); similarly, another[51] reported an annual median decline of $37 in child and adult plans (from baselines of $251–$418), and a subgroup analysis[44] also reported an annual median decline of $51 in child-only plans (from baselines of $724–$1,131).

Appropriate utilization. Nine studies assessed appropriate utilization as an increase in the number of (1) visits to MH specialists[35,39,42,56]; (2) evidence-based or guideline-concordant care visits[24,40]; or (3) MH visits for people with an MH need.[12,35,38,39,46] In general, studies reported positive effect estimates following MHBL (specifically, state mandates, FEHB, or Medicare parity in cost sharing). Three studies[35,39,42] reported greater MH specialist service use in those states with parity laws compared to those without (Table 1). Two studies[24,40] reported increases in adoption of guideline-concordant care as a result of MH parity implementation (Table 2). Effects of MH parity on increasing service utilization among populations identified as having an MH need, reported in five studies,[12,35,38,39,46] are shown in Table 3. All five studies reported increased service utilization among populations in need.

Diagnosis of mental health conditions. One study in two papers[20,24] reported relative increases of 13.0% in

Table 1. Results of Studies Evaluating Effect of Mental Health Parity Legislation on Utilization of Mental Health Specialists

Author (year)	Comparison	Population	Outcome	Conclusion
McGuire (1982)[56]	States with a mandate versus states without a mandate	Adults with private insurance	Use of psychiatrists' and psychologists' services	▲
Pacula (2000)[35]	Parity states versus non-parity states	Adults with private insurance	Number of specialty mental health visits	▲
Bao (2004)[39]	Strong parity states versus weak parity states	Adults with private insurance	Number of specialty mental health visits	▲
Barry (2005)[42]	Parity states versus non-parity states	Adults with private insurance	Number of specialty mental health visits	▲

Note: ▲= favors parity; shape does not represent effect magnitude. All studies include adults aged ≥18 years with private insurance. See detailed data in Appendix Table D-1, available online.

Table 2. Results of Studies Evaluating Effect of Mental Health Parity on Guideline-Concordant Care

Author (year)	Need indicator	Population	Outcome	Conclusion
Busch (2006)[24]	Diagnosis of major depressive disorder	Adults with private insurance	Receipt of any antidepressant and/or psychotherapy	▲
			Duration of follow-up (MH/SA visits and/or antidepressants) ≥4 months	▲
			Intensity of follow-up (i.e., any MH/SA visit) first 2 months, ≥2 per month	○
			Intensity of follow-up (i.e., any MH/SA visit) second 2 months, ≥1 per month	○
Trivedi (2008)[40]	Previous hospitalization for psychiatric disorder	Adults with public insurance	7-day follow-up for plans that continued full parity versus plans that discontinued full parity (adjusted[a] percentage point difference)	▲
			30-day follow-up for plans that continued full parity versus plans that discontinued full parity (adjusted [a] percentage point difference)	▲

▲= favors parity; ○= null. Shapes do not represent effect magnitude. See detailed data in Appendix Table D-2, available online.
[a]Adjusted for sociodemographic and health plan characteristics, clustering by plan, and repeated measurements of enrollees.

identification of major depressive disorders and 25.6% in SA disorders, and absolute increases of 0.3 pct pts ($p<0.05$) and 0.1 pct pts, respectively, following implementation of the FEHB parity policy.

Morbidity. One study[46] assessed the effect of state parity mandates on MH-related morbidity. In five states that enacted state parity mandates during the study period, there was a 3.2-pct pt decrease in the prevalence of people reporting poor MH. Similarly, the prevalence of people reporting poor MH was 2.8 pct pts lower in states that had state mandated parity for the entire study period than for those without.

Mortality. Two studies[37,41] reported evidence on reduced suicide rate using national data from the same source. Klick and Markowitz[37] conducted a two-stage least squares regression, controlling for state-level variables, and reported regression coefficients of –0.145 for partial parity versus –0.212 for full parity states, indicating a reduced suicide rate. However, neither of these results was significant ($p>0.05$). In a similar study using updated classification of state parity status, Lang[41] found, among states that enacted parity mandates, the suicide rate per 100,000 decreased significantly by a relative 5% ($p<0.01$) compared to states that enacted no or weak parity mandates.

Quality of care and quality of life. In this review, no independent measures of quality of care or quality of life were reported.

Table 3. Effects of Mental Health Parity on Increasing Service Utilization Among Populations With an Identified Mental Health Need

Author (year)	Need indicator	Population	Outcome	Conclusion
Harris (2006)[12]	K6 Distress Scale score >6[a]	Adults with employer-sponsored insurance	% past year any MH service use	▲
Dave (2009)[38]	Privately referred	Adults with public or private insurance or uninsured	Substance abuse treatment admissions (DDD)	▲
Pacula (2000)[35]	MHI-5 score <50[b]	Adults with private insurance	No. of MH specialty visits (OLS regression)	▲
Bao (2004)[39]	MHI-5 score <50[b]	Adults with private insurance	No. of MH specialty visits	▲
Busch (2008)[46]	MHI-5 score <67[b]	Adults with employer-sponsored insurance	Any mental health service use (logistic regression)	▲

Note: ▲= favors parity; shapes do not represent effect magnitude. See detailed data in Appendix Table D-3, available online.
[a]K6 Distress Scale, The Kessler 6 (a standardized and validated measure of nonspecific psychological distress). (Cited from www.cdc.gov/mentalhealth/data_stats/nspd.htm.)
[b]MHI-5, Mental Health Inventory-5 (measures general psychological distress and well-being and used to assess mental health of consumers with a wide variety of conditions). (Cited from amhocn.org/static/files/assets/bae82f41/MHI_Manual.pdf.)
DDD, difference-in-difference-in-difference; MH, mental health; OLS, ordinary least squares.

Subgroup analyses. Overall, six studies[35,37–40,42] examined the impact of strength and scope of legislation on the outcomes of utilization, appropriate utilization, and suicide rates (Table 4). The first group of studies had an indirect comparison of the effectiveness of comprehensive parity versus no/weak parity to the effectiveness of all types of parity versus no/weak parity (the categories of parity are not mutually exclusive; Table 4, top). The second set of studies (Table 4, bottom) had an indirect comparison of comprehensive parity to more limited forms of parity (i.e., weaker parity); these categories are mutually exclusive.

Additional evidence on utilization. Sixteen studies in 18 papers[12,20,38,39,43,44,46–52,54,56,59,61,62,67] reported utilization of MH or SA services but did not provide sufficient information to meet the criteria for appropriate utilization. Results were mixed (see Appendix D, available online, for more details).

Applicability

All studies were conducted in the U.S., among people who were covered by private or public insurance. Analysis by age[36,44] indicated that effects for financial protection were similar for children and adults. Analysis by region[43,44,60,64,68] and employer size[46,52,60,65,66] showed no difference in access to care. No studies reported outcomes by health plan type or racial/ethnic minority groups; however, the body of evidence includes national samples that should be representative of all health plan types and racial/ethnic groups.

One study[40] reported evidence on effectiveness in low-SES populations for appropriate utilization among Medicare enrollees aged ≥65 years; MH benefit changes were most effective for people in the lowest income and education groups ($p<0.05$). Another study[46] found that employees working for small employers (<100 employees) were more likely to use MH services after implementation of state parity mandates, regardless of income, and state parity mandates were most effective in increasing utilization of any MH service for people in the lowest income group ($p<0.05$). In summary, the body of evidence is applicable to the insured population across the U.S., with some evidence for specific outcomes on children, low-income and low-education groups, and employees of small employers. MHBL does not apply to the uninsured population.

Table 4. Results of Studies Evaluating Strength and Scope of Parity Legislation

Author (year)	Population	Comparative effectiveness	Outcome	Conclusion
Comparative effectiveness of more comprehensive parity to all parity[a]				
Pacula (2000)[35]	Adults with private insurance	Strict parity to all parity	No. of MH visits for general population (no differences) No. of MH visits among those with MH need (MHI-5<50)	○ ▲
Barry (2005)[42]	Adults with private insurance	Full parity to all parity	Mean % of MH/SA users Mean % of specialty MH users Mean number of specialty visits	○ ○ ▲
Klick (2006)[37]	Adults with private or public insurance	Full parity to all parity	Adult suicide rate	▲
Comparative effectiveness of more comprehensive parity to more limited parity[b]				
Dave (2009)[38]	Adults with public or private insurance, and adults without insurance[c]	Broad parity to limited parity	Total SA treatment admissions	▲
Bao (2004)[39]	Adults with private insurance	Strong parity to no/weak parity Medium parity to no/weak parity	Number of MH specialty visits Number of MH specialty visits	▲ ▲
Trivedi (2008)[40]	Adults with public insurance	Full parity versus intermediate parity	% received follow-up in 7 days % received follow-up in 30 days	▲ ▲

▲= differential effects favors comprehensive parity; ○= no differential effects; shapes do not represent effect magnitude. See detailed data in Appendix Table D-4, available online.

[a]More comprehensive parity versus the reference group (no/weak parity) is indirectly compared to all parity versus the reference group (weak/no parity). These groups are not mutually exclusive.

[b]Mutually exclusive groups of more comprehensive parity are compared to more limited forms of parity (reference group in each comparison: no/weak parity).

[c]Uninsured population not covered by parity legislation.

MH, mental health; MHI-5, Mental Health Inventory-5; SA, substance abuse.

Additional Benefits and Harms

One study[56] in this review suggested that increased MH service use after implementation of MHBL might have an additional benefit of decreasing utilization of social or other health services, because of the association between mental and physical health.[56,69] These authors[56] and others[70,71] have speculated that insurance coverage–related discrimination for MH could decrease as a result of legislation because insurance providers would no longer be able to refuse coverage for these conditions.

Two potential harms of MHBL described earlier are moral hazard and adverse selection. No studies in this review provided evidence on moral hazard. However, increased adverse selection was found in one study[61] following implementation of a state parity law, but only in a subgroup that allowed beneficiaries to choose among health plans.

Some researchers have suggested that employers may drop MH/SA coverage to avoid being subject to MHBL.[72,73] A national study conducted in 2010[73] found that although 5% of employers dropped MH/SA coverage that year, only 2% reported dropping coverage after passage of the 2008 MHPAEA. The U.S. General Accounting Office 2011 Mental Health and Substance Abuse Report[72] found similar results, showing that approximately 2% of employers discontinued coverage in 2010 of either (1) MH and substance use or (2) only substance use disorders. Current provisions of the 2010 ACA will require state Medicaid programs and insurance plans in state health insurance exchanges to cover both MH and SA as one of ten categories of essential health benefits in 2014.[74,75]

Considerations for Implementation

Challenges to effective implementation of MHBL include underutilization, access to services, and exemptions. This legislation alone is not sufficient to address underutilization of MH/SA services in the U.S.[10] Additionally, it is unclear to what extent MHBL reduces public stigma, a barrier to utilization of MH/SA services.[76–78] Low awareness of legislative provisions also may hinder service utilization by beneficiaries.[79]

Conversely, limited numbers of MH providers[80] and inpatient beds[81] restrict access to services, especially in rural areas.[81] In some cases, covered services and treatments are not clearly defined in the legislation, allowing individual health plans to limit benefits provided for certain conditions or illnesses.[82] Further, investigational treatments typically are not covered by insurance plans, thus limiting access to care.[82]

Another implementation issue concerns exemptions that may decrease the potential reach of MHBL. Larger employers often self-insure, and are therefore exempt from MH insurance–related state mandate laws because of the 1974 Employee Retirement Income Security Act (ERISA).[83] Both employers with <50 employees and group health plans that demonstrate an MH benefit–related cost increase of 1% (MHPA) and 2% (MHPAEA) are exempt from the respective federal legislation.[16]

Conclusions

Summary of Findings

Results of this review suggest that MHBL has favorable effects on financial protection and access to care. Evidence on increasing appropriate utilization of MH services and certain evidence on aspects of MH care (e.g., increased diagnosis of mental illness) is also favorable, with larger effects for comprehensive parity legislation. In addition, MHBL, and specifically comprehensive parity, is associated with favorable effects for health-related outcomes of reducing suicides and morbidity, although the small number of studies limits inferences.

Discussion

MHBL creates levels of financial protection and access to care that are no more restrictive for certain insured individuals seeking MH/SA services than for those seeking services for physical health conditions.[26] Nonetheless, accurately interpreting these results requires consideration of two caveats:

1. Simultaneous implementation of MHBL and adoption of managed care have made isolating the effects of MHBL difficult. Overall, the interrelationship between managed care and MHBL is unclear; managed care might reduce moral hazard and ensure appropriateness of services rendered following improved financial protection[84] or it might restrict access to services through excessive or inappropriate use of management tools.[56] Further, some parity legislation applies only to managed care insurance plans or explicitly authorizes and encourages the use of managed care.[84]
2. Of 37 included papers, 35 examined effects of state, federal, or executive-ordered MH/SA parity, whereas the remaining two papers[56,64] investigated effects of mandating coverage for MH and SA for only the outcomes of access and utilization. Therefore, effects on most outcomes can be associated with some level of parity legislation.

The 2010 ACA affects MH/SA parity in two critical ways. First, the ACA extends the reach of the two previous federal parity laws to certain types of health plans not

previously required to comply.[17,74] Second, ACA contains provisions mandating that (1) MH and SA services in general are covered by certain health insurance issuers and (2) specific MH and SA disorder services are covered by specified plan types (i.e., qualified health plans, certain Medicaid plans, and plans offered through the individual market).[17,74] Combined, these two new provisions extend the requirements and reach of MH/SA parity.

Limitations

Some of the challenges in studying the effects of MHBL were limitations in the current review but do not threaten validity of findings substantially. First, there was difficulty isolating the effects of managed care from those of MHBL. Second, many studies did not report sufficient information to assess appropriate utilization. Third, there is potential for data dependency (i.e., same people or populations represented more than once in the body of evidence). Some studies in this review used the same national data sources, such as the Healthcare for Communities survey[85] or MarketScan database,[86] but the extent of overlap is unclear. Fourth, data sources might introduce bias either through survey data, which are based on self-reporting and potentially subject to recall bias, or claims data, which might lead to spuriously low results for MH/SA service use because of underreported diagnoses and underutilization of treatment.[45] Fifth, classifications of strength of state parity mandates differed across studies. Although many authors relied on the National Conference of State Legislatures,[17] others used alternative sources or their own classification. Sixth, few studies of private employer plans controlled for exemptions, such as the 1974 ERISA, which exempts self-insured employers (typically large employers with >500 employees) from state mandates.[83] Additionally, no studies controlled for the small employer exemption (≤ 50 employees) or cost exemption (1%–2% cost increase following parity implementation) of the two federal laws.[16] Failure to control for these exemptions could lead to underestimates of MHBL effects.

Evidence Gaps

Research evaluating effects of MHBL on MH outcomes is limited. Studies are needed to assess effects of legislation on morbidity (e.g., symptom reduction, remission, and recovery); mortality; quality of life; and aspects of quality of care (e.g., intensity and duration of treatment, and coordination of care). Most studies that reported utilization did not assess appropriateness of use as indicated by guideline-concordant care or patient need. In addition, researchers often reported outcomes that combined inpatient and outpatient utilization, but the desired direction (i.e., increase or decrease) differed with various patient conditions. Reporting types of utilization separately and including measures of appropriate utilization will allow for assessments of appropriate care.

Research is also needed to clarify the role of MHBL in reducing health-related disparities and improving MH outcomes among subgroups (e.g., low-SES groups, racial/ethnic minorities, and various MH conditions) that may experience greater issues with access to care and impairments. Moreover, evidence is limited for people covered by public health insurance (e.g., Medicaid and Medicare). Further, evaluations are needed to examine effects of the 2008 MHPAEA, which contains more requirements for parity than the 1996 MHPA and the 2010 ACA, which currently has provisions to establish parity for MH/SA in many insurance plans in 2014.[74] Finally, studies that include a longer follow-up (>3 years) are necessary to assess long-term effects of MHBL.

With great sadness, the authors dedicate this paper to the memory of Kevin Doyle Hennessy. Kevin's thinking was central to the development of this systematic review. He also served as an active Liaison to the Community Preventive Services Task Force. He will surely be missed.

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Appendix

Supplementary data

Supplementary data associated with this article can be found at http://www.thecommunityguide.org/mentalhealth/mh-AJPM-appendix-benefitslegis.pdf and are included below.

Appendix A: Affordable Care Act

PART I—ESTABLISHMENT OF QUALIFIED HEALTH PLANS

SEC. 1301. QUALIFIED HEALTH PLAN DEFINED.

(a) QUALIFIED HEALTH PLAN.—In this title: (1) IN GENERAL.—The term ‘‘qualified health plan’’ means a health plan that—(A) has in effect a certification (which may include a seal or other indication of approval) that such plan meets the criteria for certification described in section 1311(c) issued or recognized by each Exchange through which such plan is offered; (B) provides the essential health benefits package described in section 1302(a); and (C) is offered by a health insurance issuer that— (i) is licensed and in good standing to offer health insurance coverage in each State in which such issuer offers health insurance coverage under this title (ii) agrees to offer at least one qualified health plan in the silver level and at least one plan in the gold level in each such Exchange; (iii) agrees to charge the same premium rate for each qualified health plan of the issuer without regard to whether the plan is offered through an Exchange or whether the plan is offered directly from the issuer or through an agent; and (iv) complies with the regulations developed by the Secretary under section 1311(d) and such other requirements as an applicable Exchange may establish.

(Source: Patient Protection and Affordable Care Act (H.R. 3590) Public Law 111-148; 2009. pp. 44-45)

Appendix B: Mental Health Outcome Definitions and Examples

Access to care: The ability of those with public or private insurance to obtain mental health/substance abuse (MH/SA) care. Examples include workforce coverage for MH/SA benefits and insured's perception of that coverage.

Financial protection: The reduction in out-of-pocket costs paid by an individual for MH/SA services.[1,2] Examples include measures of decreased financial burden, dollar amount, and percentage of out-of-pocket spending.

Appropriate utilization: Receiving the proper amount and quality of services when needed, including utilization of MH/SA services by people with an MH/SA need, services rendered by MH specialists (e.g., psychiatrist, psychologist, social worker), or receipt of services conforming to evidence-based guidelines for MH/SA care.

Diagnosis: The determination that a person meets established criteria for an MH condition. Examples include recognition of newly identified mental health–related conditions, such as depression or substance abuse.

Quality of care: "The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." Examples include appropriateness of treatment; type, intensity, and duration of treatment; patient satisfaction; and coordination of care.[3]

Morbidity: The presence of any type of MH condition. Examples include measures of MH status; reduced morbidity includes reduction in symptoms as measured by standardized and validated instruments such as Mental Health Inventory Scale (MHI-5; amhocn.org/static/files/assets/bae82f41/MHI_Manual.pdf), Kessler 6 distress scale (K6;

www.cdc.gov/mentalhealth/data_stats/nspd.htm), increased remission, increased recovery, and decreased relapse. In this review, the team accepted cutoff scores used by primary study authors.

Mortality*:* Any death associated with an MH condition Examples include suicides, deaths related to eating disorders, and alcohol and drug (i.e., substance) abuse.

Quality of life: Health-related quality of life, "an individual's or group's perceived physical and mental health over time."[4] Outcome measures that report health-related quality of life include the Medical Outcomes Study Short Forms 12[5] and 36,[6] the Sickness Impact Profile,[7] and Quality of Life Index for Mental Health.[8]

Appendix C: Data Abstraction and Synthesis

Abstraction and Evaluation of Studies

Two reviewers read and evaluated each study that met inclusion criteria using an adaptation of a standardized abstraction form (www.thecommunityguide.org/methods/abstractionform.pdf)[9] that included data describing elements of mental health benefits legislation, population characteristics, study characteristics, study results, applicability, potential harms, additional benefits, and considerations for implementation. Assessment of study quality included study design and execution, which were evaluated using these criteria: studies with greatest design suitability were those with prospective data on exposed/comparison populations; studies with moderate design suitability were those with retrospective data on exposed/comparison populations or with data collected at multiple pre- and post-intervention time points; studies with least-suitable designs were cross-sectional studies with no comparison population (including one-group single pre- and post-measurement). Studies were assigned limitations for quality of study execution based on seven categories of threats to validity identified in studies, up to a total of nine limitations across six categories: (1) description of study population and intervention to include at least year of intervention, study location and population characteristics (one limitation); (2) sampling to include representation, selection bias, and appropriate control group (one limitation); (3) measurement of exposure to include reliability of outcome and exposure variables (two limitations); (4) data analysis to include appropriate statistical tests and controls (e.g., time, intensity, secular trends, plan types, condition of patient, etc.) and adjustment for multi-year data (one limitation); (5) interpretation of results/sources of potential bias to include attrition < 80%, comparability of comparison group, recall bias for surveys, accounting for

overlapping laws and adequate controls for confounding (three limitations), and (6) other issues such as missing data (one limitation). Study quality of execution was characterized as good (0–1 limitation), fair (2–4 limitations), or limited (≥5 limitations). Studies with good or fair quality of execution and any level of design suitability were included in the analyses. Papers based on the same study dataset were linked; only the paper with the most complete data (e.g., longest follow-up) for each outcome was included in each analysis.

Studies were stratified by five subgroups when data were available: strength and scope of legislation, setting, clients, employer size, and health plan type.

Effect Measurement and Formulas

Effect estimates for absolute percentage point change and relative percentage change were calculated using the following formulas:

For studies with pre- and post-measurements and concurrent comparison groups:

Effect estimate = $(I_{post}-I_{pre}) – (C_{post}-C_{pre})$ (absolute percentage point change)

Effect estimate = $((I_{post}/I_{pre})/ (C_{pos}/C_{pre}) –1) \times 100$ (relative percent change), where:

I_{post} = last reported outcome rate or count in the intervention group after the intervention;

I_{pre} = reported outcome rate or count in the intervention group before the intervention;

C_{post} = last reported outcome rate or count in the comparison group after the intervention;

C_{pre} = reported outcome rate or count in the comparison group before the intervention.

Effect estimates for studies with pre- and post-measurements but no concurrent comparison:

Effect estimate = $I_{post} - I_{pre}$ (absolute percentage point change);

Effect estimate = $((I_{post} - I_{pre})/I_{pre)} \times 100$ (relative percent change)

Outcome data were reported as proportions when possible and were converted to effect estimates of absolute percentage point change or relative percent change.

Summarizing and Synthesizing the Body of Evidence on Effectiveness

The rules of evidence under which the Community Preventive Services Task Force makes its determination address several aspects of the body of evidence, including the number of studies of different levels of design suitability and execution, consistency of the findings among studies, public health importance of the overall effect estimate, and balance of benefits and harms of the intervention.[9–11]

Appendix D: Detailed Tables of Results and Additional Evidence

Table D-1. Results of Studies Evaluating the Effect of Mental Health Parity Legislation on Utilization of Specialty Mental Health Provider Services

Author, year	Comparison	Outcome	Effect estimate	Direction
McGuire, 1982[12]	States with a mandate vs. states without a mandate	Use of psychiatrists' services	Absolute pct pt change: 9.2	Favorable
		Use of psychologists' services	Absolute pct pt change: 18.0	
Pacula, 2000[13]	Parity states vs. non-parity states	Number of specialty MH visits	Ordinary least squares regression coefficient: 0.827, $p<0.01$	Favorable
Bao, 2004[14]	Strong parity states vs. weak parity states	Number of specialty MH visits	Difference-in-Difference-in Difference (DDD): 8.9, SE=4.9, $p<0.10$	Favorable
Barry, 2005[15]	Parity states vs. non-parity states	Number of specialty MH visits	Difference-in-means (weighted means): 4.71, $p<0.001$	Favorable

Note: All studies include adults aged ≥18 years with private insurance.

MH, mental health; pct pt, percentage point

Table D-2. Results of Studies Evaluating the Effect of Mental Health Parity on Guideline-Concordant Care

Author, year	Need indicator	Comparison	Outcome	Effect estimate	Direction
Busch, 2006[16]	Diagnosis of Major Depressive Disorder	Post-FEHB vs. pre-FEHB	Receipt of any antidepressant and/or psychotherapy	OR=1.26 95% CI= 1.18, 1.34; p<0.0001	Favorable
			Duration of follow-up (MH/SA visits and/or antidepressants) ≥4 months	OR=1.37 95% CI= 1.20, 1.56; p<0.0001	Favorable
			Intensity of follow-up (i.e., any MH/SA visit) first 2 months, ≥ 2 per month	OR=1.09 95% CI= 0.95, 1.25; p>0.05	Null
			Intensity of follow-up (i.e., any MH/SA visit) second 2 months, ≥1 per month	OR=1.05 95% CI= 0.92, 1.20; p>0.05	Null
Trivedi, 2008[17]	Previous hospitalization for psychiatric disorder	Full parity Medicare plans vs. discontinued parity Medicare plans	7-day follow-up (Adjusted[a] percentage point difference)	Percentage point difference=19.0 95% CI= 6.6, 31.3; p=0.003	Favorable
			30-day follow-up (Adjusted[a] percentage point difference)	Percentage point difference=14.2 95% CI= 4.5, 23.9; p=0.007	Favorable

[a] Adjusted for socio-demographic and health plan characteristics, clustering by plan, and repeated measurements of enrollees; both studies include adults aged ≥18 years.
FEHB, Federal Employees Health Benefits Program; MH, mental health; SA, substance abuse

Table D-3. Results of Studies Evaluating the Effect of Mental Health Parity on Increasing Service Utilization Among Populations With an Identified Mental Health Need

Author, year	Need Indicator	Comparison	Outcome	Effect Estimate	Direction
Harris, 2006[18]	K6 Distress Scale >6	Parity states vs. weak/non-parity states	% any MH service use in past year	Absolute percentage point change=0.99	Favorable
Dave, 2009[19]	Privately referred	Parity states vs. weak parity states	Substance abuse treatment admissions	Privately referred: DDD coeff=0.207, $p<0.01$ Total population: DDD coeff=0.128, $p<0.05$	Favorable
Pacula, 2000[13]	MHI-5 <50	Parity states vs. non-parity states	Number of MH specialty visits	OLS coeff=0.827 $p<0.01$	Favorable
Bao, 2004[14]	MHI-5 <50	Parity states vs. weak/non-parity states	Number of MH specialty visits	Absolute difference=2.4	Favorable
Busch, 2008[20]	MHI-5 <67	Parity states vs. non-parity states	Any MH service use	Parity: OR=1.032; SE=0.071 Parity*MHI-5<67: OR=1.212; SE=0.207	Favorable

***Notes*:** All studies include adults ≥18 years of age with private or public insurance.

K6 Distress Scale: The Kessler 6 (K6) is a standardized and validated measure of nonspecific psychological distress.

Coeff, Coefficient; DDD, Difference-in-difference-in-difference; MH, mental health; MHI-5, Mental Health Inventory-5; OLS, ordinary least squares regression

Table D-4: Detailed Description

Subgroup analyses on strength and scope of legislation. Overall, six studies[13-15,17,19,21] examined the impact of strength and scope of legislation on the outcomes of utilization,

appropriate utilization, and suicide rates. The first group of studies had an indirect comparison of the effectiveness of comprehensive parity versus no/weak parity to the effectiveness of all types of parity versus no/weak parity (these categories of parity are not mutually exclusive; Table D-4, top). Pacula and Sturm[13] found differential effects for MH service visits among those identified with an MH need when analyzing comparisons of states with a strict parity mandate and states with all levels of parity (reference group: non-parity states). There were no such differences for the general population. Barry[15] found no differential effects for more visits for MH specialty visits in full parity states comparisons than all levels of parity comparisons (reference group: no/weak parity states). There were no differential effects for outcomes of proportion of mental health/substance abuse (MH/SA) users and specialty users. Klick and Markowitz[21] found differential effects for greater reductions in adult suicide rates in states with full parity compared to states with more loosely defined parity mandates.

The second set of studies (Table D-4, bottom) had an indirect comparison of comprehensive parity to more limited forms of parity (i.e., weaker parity); these categories are mutually exclusive. Dave and Mukerjee[19] reported a greater effect for broad parity legislation on increasing SA treatment admissions, compared to limited parity legislation (reference group: weak/no parity states). Bao and Sturm[14] reported a greater increase in the number of MH visits in states with strong parity mandates compared to states with medium parity mandates (reference group: weak/no parity). Trivedi and colleagues[17] reported a larger improvement in follow-up (appropriate utilization) of previously hospitalized psychiatric patients, comparing those with a full parity Medicare plan to those with an intermediate parity Medicare plan.

Table D-4: Results of Studies Evaluating Strength and Scope of Parity Legislation

Comparative effectiveness of more comprehensive parity to all parity					
Study (Years)	**Population**	**Analysis: Outcome(s)**	**Comparative effectiveness[a,b]**	**Results**	**Direction**
Pacula 2000[13] (1997 / 1998)	Adults with private insurance	A) Ordinary Least Squares Regression: Ln (log number of MH service visits) - predicted parity B) Ordinary Least Squares Regression: Ln (log number of MH service visits among those with MH need)	Strict parity vs. Non-parity	A) Coefficient: –0.310 T-score: –0.958 B) Coefficient: 0.827 T-score: 2.918	Null
			Parity vs. Non-parity	A) Coefficient: 0.077 T-score: 0.162 B) Coefficient: 0.295 T-score: 0.461	Favorable
Barry 2005[15] (2001)	Adults with private insurance	A) Mean: % MH/SA abuse users B) Mean: % specialty MH users C) Mean: Number of specialty MH visits	Full parity vs. Non-parity	A) –0.6% (p=0.69) B) –18.0% (p=0.07) C) 2.32 (p=0.27)	Mixed
			Parity vs. Non-parity	A) –2.0% (p=0.039) B) –11.0% (p=0.159) C) 4.71 (p=0.001)	Favorable
Klick 2006[21] (1981–2000)	Adults with private or public insurance	A) Regression: adult suicide rate	Full Parity vs. No/weak parity	A) Coefficient: –0.212 T-value: –0.27	Favorable
			Parity vs. No/weak parity	A) Coefficient: –0.0145 T-value: –0.17	Favorable
Comparative effectiveness of more comprehensive parity versus more limited parity					

Study (Years)	Population	Analysis: Outcome(s)	Comparative effectiveness[a,b]	Results	Direction
Dave 2009[19] (1992–2007)	Adults with private or public insurance, or uninsured[c]	A) Poisson Regression: total substance abuse treatment admissions	Broad vs. Non-parity	A) Coefficient: 0.1278 (p<0.05) SE=0.0512	Favorable
			Limited vs. non-parity	A) Coefficient: 0.0473 (p<0.1) SE=0.0277	Favorable
Bao 2004[14] (1998, 2000/ 2001)	Adults with private insurance	A) Difference-in-Difference: Number of MH specialty visits	Strong vs. No/weak parity	A) 8.9 SE=4.9	Favorable
			Medium vs. no/weak parity	A) 5.3 SE=4.9	Favorable
Trivedi 2008[17] (2002–2006)	Adults with public insurance	A) Difference-in-Difference: % received follow-up in 7 days B) Difference-in-Difference: % received follow-up in 30 days	Full vs. non-parity	A) 10.5% 95% CI= 3.8, 17.1 B) 10.9% 95% CI= 4.6, 17.3	Favorable
			Intermediate vs. non-parity	A) 3.0 % 95% CI= –0.5, 6.5 B) 4.0 % 95% CI= 0.2, 7.8	Favorable

[a] To assess effectiveness of more comprehensive legislation relative to more limited legislation, the results for the top box should be compared to those in the bottom box for the corresponding study.

[b] Definition of terms used in this column:

Broad parity: coverage of a broad range of mental conditions

Full parity: insurers must provide mental health benefits at exactly the same terms applying to physical health benefits

Intermediate parity: mental health care greater than primary care cost sharing but less than or equal to specialist cost sharing

Limited parity: mental health benefits that apply to certain groups only e.g., those with severe biologically based mental illness, require parity for certain diagnoses (mandated offering), or require parity only if the plan already offers any type of mental health service (mandated if offered)
Medium parity: allow exemptions for small employers and employers that experience cost increase due to the law, may contain "if offered" provisions
No parity: no parity law or passed legislation matching the federal MHPA
Strict parity: laws that are more generous than the federal legislation
Strong parity: require equality in all cost-sharing and no exemptions
Weak parity: mandated offering

[c] Uninsured not covered by parity legislation.

MH, mental health; SA, substance abuse

Additional Evidence

Sixteen studies in 18 papers[12,14,18-20,22-34] reported utilization of MH or SA services but did not provide sufficient information to meet the criteria for *appropriate utilization*. Results were mixed, with eight studies[14,18-20,24,27,33,35] indicating that implementation of MHBL was associated with increased utilization of any type of MH care, and three studies[22,23,29] reporting decreased utilization after implementation of either state mandates or FEHB (median 0.6 pct pts; IQI= –0.34, 1.83; 10 studies, 11 papers). Outpatient visits per 100 members per year increased by a median of 5.4 following implementation of state parity mandates (IQI= –3.37, 34.77; 13 data points, 4 studies[26,31,33,36]); three additional studies[18,25,34] that used different metrics for outpatient utilization had mixed results. Inpatient days per 1,000 members per year tended to decrease by a median of 13.47 following implementation of state parity mandates (IQI= –74.05, –3.24; 9 data points, 4 studies[26,31,33,36]); one additional study[30] found a minimal decrease of 0.3 pct pts in MH/SA inpatient use.

Although not included in this review, there is also some evidence of favorable effects when employers voluntarily expanded MH/SA benefits to achieve parity. One study[37] reported that a

reduction in copayments resulted in increased utilization of substance use services. Two studies[38,39] reported the combination of de-stigmatization and lower copayments was associated with a significant increase in the probability of initiating MH treatment by 1.2% and 0.74%, respectively ($p<0.01$ for each). And one study[40] reported that benefit changes and de-stigmatization increased the likelihood of outpatient, pharmaceutical, or any MH treatment among intervention employers compared to control employers.

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