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.

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.6–8 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 Act13 (MHPA, Title VII); the 2008 Paul Wellstone and Pete Domenici Mental Health Parity Addiction Equity Act14 (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.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.20 However, the MHPAEA retained exemptions for employers with ≤ 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.26–28 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.

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

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

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

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. 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
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). 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 (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 and (2) mutually exclusive categories of parity versus no or weak parity legislation. 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) were of greatest design suitability; nine (reported in ten papers) were of moderate suitability; and ten (reported in 11 papers) were least suitable. Twelve studies (reported in 18 papers) were of good quality of execution, and 18 (reported in 19 papers) were fair. Twenty-eight studies (reported in 35 papers) were fair. Twenty-eight studies (reported in 35 papers) were fair.

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 age change of employees with coverage for MH/SA services was 13.6 (IQI = 3.8, 48.0). Four studies \[39,53,65,66\] provided additional evidence. One of those \[66\] 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).

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

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

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.
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 \(^4^6\) 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 \(^3^7,^4^1\) reported evidence on reduced suicide rate using national data from the same source. Klick and Markowitz \(^3^7\) 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 \(^4^1\) 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 2. Results of Studies Evaluating Effect of Mental Health Parity on Guideline-Concordant Care

<table>
<thead>
<tr>
<th>Author (year)</th>
<th>Need indicator</th>
<th>Population</th>
<th>Outcome</th>
<th>Conclusion</th>
</tr>
</thead>
</table>
| Busch (2006)\(^2^4\) | 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)\(^4^0\) | 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\(^\ast\) percentage point difference) | ▲
| | | | 30-day follow-up for plans that continued full parity versus plans that discontinued full parity (adjusted\(^\ast\) percentage point difference) | ▲

\(^\ast\)Adjusted for sociodemographic and health plan characteristics, clustering by plan, and repeated measurements of enrollees.

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

<table>
<thead>
<tr>
<th>Author (year)</th>
<th>Need indicator</th>
<th>Population</th>
<th>Outcome</th>
<th>Conclusion</th>
</tr>
</thead>
</table>
| Harris (2006)\(^1^2\) | K6 Distress Scale score > 6\(^a\) | Adults with employer-sponsored insurance | % past year any MH service use | ▲
| Dave (2009)\(^3^8\) | Privately referred | Adults with public or private insurance or uninsured | Substance abuse treatment admissions (DDD) | ▲
| Pacula (2000)\(^3^5\) | MHI-5 score < 50\(^b\) | Adults with private insurance | No. of MH specialty visits (OLS regression) | ▲
| Bao (2004)\(^3^9\) | MHI-5 score < 50\(^b\) | Adults with private insurance | No. of MH specialty visits | ▲
| Busch (2008)\(^4^6\) | 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/mspd.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 amhcn.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\textsuperscript{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\textsuperscript{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\textsuperscript{36,44} indicated that effects for financial protection were similar for children and adults. Analysis by region\textsuperscript{13,44,60,64,68} and employer size\textsuperscript{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\textsuperscript{40} reported evidence on effectiveness in low-SES populations for appropriate utilization among Medicare enrollees aged $\geq 65$ years; MH benefit changes were most effective for people in the lowest income and education groups ($p < 0.05$). Another study\textsuperscript{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

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

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

\textsuperscript{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.

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

\textsuperscript{c}Uninsured population not covered by parity legislation.

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

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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\(^{51}\) 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\(^{75}\) 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 appropriate-ness 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. 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). 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 or MarketScan database, 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. Fifth, classifications of strength of state parity mandates differed across studies. Although many authors relied on the National Conference of State Legislatures, 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. 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. 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. 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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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of CDC or the National Institute of Mental Health.

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**Appendix**

**Supplementary data**