The Mental Health Parity and Addiction Equity Act (MHPAEA) Evaluation Study: Impact on Quantitative Treatment Limits

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Objective: The Mental Health Parity and Addiction Equity Act (MHPAEA) significantly changed regulations governing behavioral health benefits for large, commercially insured employers. Pre-MHPAEA, many plans covered only a specific number of behavioral health treatment days or visits; post-MHPAEA, such quantitative treatment limits (QTLs) were allowed only if they were "at parity" with medical-surgical limits. This study assessed MHPAEA's effect on the prevalence of behavioral health QTLs.

Methods: Analyses used 2008–2013 specialty behavioral health benefit design data for Optum large-group plans, both carve-outs (N=2,257 plan-years, corresponding to 1,527 plans and 40 employers) and carve-ins (N=11,644 plan-years, 3,569 plans, and 340 employers). Descriptive statistics were calculated for limits existing at parity implementation, distinguished by accumulation period (annual or lifetime), level of care (inpatient, intermediate, or outpatient), unit (days, visits, or courses), condition, and network level. Proportions of plans using specific limits during the preparity (2008–2009), transition (2010), and postparity (2011–2013) periods were compared with Fisher's exact tests.

Results: Preparity, the most common QTLs were annual visit or day limits. Accounting for overlap in limit types, 89% of regular carve-out plans, 90% of in-network-only carve-outs, and 77% of carve-in plans limited outpatient visits; 66% of regular carve-out plans, 74% of in-network-only carve-outs, and 73% of carve-ins limited inpatient or intermediate days. Postparity, QTLs almost entirely disappeared ($p<.001$).

Conclusions: Before MHPAEA, QTLs were common. Post-implementation, virtually all plans dropped such limits, suggesting that MHPAEA was effective at eliminating QTLs. However, increasing access to behavioral health care will mean going beyond such QTL changes and looking at other areas of benefit management.

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Historically, insurance coverage in the United States was less generous for mental health and substance use disorders than for general medical conditions. State parity laws have been limited in remedying these inequities because the Employee Retirement Income Security Act of 1974 exempts self-insured firms from state insurance mandates, thereby excluding 61% of commercially insured patients (1). Although the federal Mental Health Parity Act of 1996 included self-insured groups, it required parity only for annual and lifetime dollar limits, which led many employers to change benefit design to be more restrictive in other ways, such as by introducing quantitative treatment limits (QTLs) (2). In 2001, the Federal Employees Health Benefits Program was required to offer comprehensive parity for within-network service use to its 8.7 million beneficiaries (3).

In 2008, Congress passed the Mental Health Parity and Addiction Equity Act (MHPAEA), effective for plans renewing on or after January 1, 2010 (4). With a few exemptions, MHPAEA prohibited large employers offering behavioral health coverage from separately accumulating deductibles and out-of-pocket maximums or applying more restrictive financial requirements (for example, coinsurance and copayments) than the "predominant" requirements applying to "substantially all" medical-surgical benefits. Parity was also required for QTLs (for example, number of visits or days of coverage) and care management and applied to both in- and out-of-network services.

The MHPAEA Interim Final Rule (IFR) was issued February 2, 2010, taking effect for most plans on the first day of their plan year on or after July 1, 2010 (so plans renewing on a calendar-year cycle had to comply by January 1, 2011). The IFR introduced the term "non-quantitative treatment limits" (NQTLs) and clarified the management techniques included under parity, such as preauthorization. The MHPAEA Final Rule was issued

in November 2014, retaining the NQTL provisions and clarifying interactions of MHPAEA with the Affordable Care Act.

MHPAEA and its regulations went beyond prior parity laws by being nationally applicable; applying to self-insured as well as fully insured plans; explicitly including substance use disorders; and requiring parity in financial requirements, QTLs, and NQTLs. The impact of MHPAEA on QTLs is of particular interest for two reasons. First, MHPAEA may have resulted in more drastic changes to QTLs compared with other benefit features, because, historically, QTLs were not used for medical coverage (5). Second, removing QTLs may increase utilization among enrollees who previously used the allowed level of care (6,7), typically enrollees with severe mental illness or chronic conditions, who often have greater need for resource-intensive services and are thus the most vulnerable (8,9).

Determining whether and how plan benefit design changed is the first step to evaluating MHPAEA's impact. QTL changes could significantly reduce expenses for patients whose service needs exceed pre-MHPAEA limits. If QTLs changed significantly with MHPAEA implementation, then we would know that the legislation was effective in improving potential financial access even if effects on utilization were modest.

The Assistant Secretary for Planning and Evaluation (ASPE) issued a report on the early effects of MHPAEA, including benefit design plans from 252 employers, suggesting that QTL use declined from roughly half of plans in 2009 to around 6%–8% by 2011 (4). In the only peer-reviewed study on this topic, Horgan and colleagues (10) used plan-reported data from a national sample of 939 insurance products, reporting that 28% of plans used annual outpatient visit limits in 2009, dropping to 4% in 2010. They did not report on inpatient or intermediate care limits, lifetime or episode limits, or in-network versus out-of-network limits.

The study reported here was conducted in collaboration with researchers from the behavioral health division of Optum, which contracts with approximately 2,500 facilities and 130,000 providers to serve 2,500 customers (including UnitedHealthCare and other commercial medical vendors), with 60.9 million members across all U.S. states and territories. Optum administrative databases were used to assess how common behavioral health care limits were pre-MHPAEA, the type and extent of the actual limits, and how and when they changed post-MHPAEA. Our study adds to the published literature on this topic by using benefit design information from actual claims-processing engines rather than plan-reported data; using a longer study period (to allow for potential anticipatory and lag effects) and a larger sample; distinguishing "carve-in" from "carve-out" plans, for which the administrative processes required to comply with parity are entirely different; comparing QTLs for in-network versus out-of-network services, which may be differentially affected, hence changing patient incentives for staying within provider networks for their care; and including greater detail about different types of limits affected by MHPAEA (for example, lifetime versus annual versus episode limits; and limits affecting mental health only, substance use disorders only, or combined) to provide information about which user subpopulations were most affected by MHPAEA's QTL provisions. This large-scale, detailed, and reliable assessment should aid policy makers in evaluating MHPAEA's real impact. Our linked enrollment files also allowed us to report the number of lives affected by each limit, which is a better measure of the overall magnitude of the improvements in financial access for patients than the number of plans affected.

METHODS

Data Sources

This study used 2008–2013 data from Optum, a fully owned subsidiary of UnitedHealth Group. These data included a "Book of Business" describing plan and employer characteristics (for example, employer size and industry) and information about specialty behavioral health benefit design from two Optum databases, Facets (containing information for carve-outs) and the Online Processing System (with information for carve-ins). We linked to eligibility information to calculate the numbers of enrollees affected by each QTL.

Study Cohorts

The carve-out sample initially included all plans from all employers who contracted with Optum for managed behavioral health care in a carve-out arrangement (meaning that medical benefits were covered separately, by another insurer) at any time during 2008–2013. Plans were excluded if data were not available from the Facets database (because of prior mergers); if they had research restrictions; if the employer was "small" (50 or fewer employees); if it was a collective bargaining group; if renewal was not on the calendar year; if behavioral health was not covered (for example, an employee assistance program only); and if the plan had no enrollees, was not in Optum's "Book of Business," or was nonstandard (retiree or supplemental). These exclusions ensured that the study plans would be subject to MHPAEA compliance on a standard timeline. This process led to a final sample of 40 employers, with 1,527 unique plans, corresponding to 2,257 plan-years. [A flowchart in an online supplement to this article provides further details.]

The carve-in sample included all plans offered by employers with Optum carve-in plans during 2009 or during at least one year between 2008 and 2009 and one year between 2010 and 2012. After plans were excluded by using the criteria above, the final sample included 340 employers, with 3,569 plans, corresponding to 11,644 plan-years [see online supplement].

The unit of analysis is the plan-year. For example, a plan active in three years would contribute three observations to the sample. For the carve-out sample, analyses are stratified by whether plans covered only in-network care or in-network and out-of-network care. In-network and out-of-network limits were always combined for carve-in plans; we did not stratify.

Sensitivity analyses were conducted with longitudinal subsamples (cutting sample sizes approximately in half) [see figure footnotes in online supplement].

Measures

For each plan in each year, we constructed measures of QTLs by time period (annual versus lifetime), level of care (inpatient, intermediate, or outpatient), unit (days, visits, or courses), condition (mental disorders versus substance use disorders), and, where relevant, network level (in network versus out of network). On the basis of these measures, we created indicators for the use of each type of limit (for example, whether a plan had a limit on inpatient days for behavioral health treatment). Not included are limits related to detoxification services, which were rare, or dollar limits, which the Mental Health Parity Act of 1996 had previously required to be at parity and were uncommon.

TABLE 1. Associations of the Mental Health Parity and Addiction Equity Act with changes in the percentages of plans with any annual limits[a]

	Preparity (2008–2009)		Transition (2010)		Postparity (2011–2013)			2009 enrollees affected	
Plan type and service	N	%	N	%	N	%	p[b]	N	%
Carve-out plans with in- and out-of-network benefits[c]									
Inpatient or intermediate days[d]	209	66	36	10	3	<1	<.001	961,099	70
Outpatient visits	280	89	38	10	3	<1	<.001	1,145,921	83
Carve-out plans with in-network benefits only[e]									
Inpatient or intermediate days[d]	43	74	1	3	0	—	<.001	137,419	39
Outpatient visits	52	90	5	15	0	—	<.001	148,512	42
Carve-in plans[f]									
Inpatient or intermediate days[d]	2,652	73	204	9	152	3	<.001	2,824,326	73
Outpatient visits	2,787	77	206	9	143	3	<.001	3,035,192	78

[a] Plan-years were included in the counts if the plan had any limit for the relevant level of care or for mental or substance use disorders or both.
[b] From Fisher's exact test
[c] Of the 2,086 total plan-years, 316 were in the preparity, 367 in the transition, and 1,403 in the postparity period. N of enrollees=1,376,267
[d] Intermediate care accumulates against the inpatient limit using standard substitution of benefits ratios: 1 inpatient day=1.5 residential treatment days, 2 day treatment or partial hospital days, 5 structured outpatient treatment days, or 10 sober living or transitional living days.
[e] Of the 171 total plan-years, 58 were in the preparity, 34 in the transition, and 79 in the postparity period. N of enrollees=352,798.
[f] Of the 11,644 total plan-years, 3,615 were in the preparity, 2,304 in the transition, and 5,725 in the postparity period. N of enrollees=3,871,042

In some cases, limits were combined across conditions or levels of care. For example, often intermediate and inpatient care were included in the same limit, with an intermediate day (for example, residential treatment or partial hospitalization) counted as part of an inpatient day. Most often, mental and substance use disorder care were counted together toward an overall behavioral health limit. Totals are provided to account for plans that had any limits within a given category (for example, the inpatient total counts plans that had either a combined or a separate limit for mental or substance use disorders).

Data Analysis

Descriptive data report employer size, industry, census region, plan type, and funding type. Cross-tabs with Fisher's exact tests were used to test for significant associations between proportions of plans with each specific limit and period (preparity, 2008–2009; transition, 2010; and postparity, 2011–2013). Tests were two-sided and used a .05 cutoff for type I error. Median, minimum, and maximum values for limits existing preparity illustrate the distribution of care limits used, and the number of unique enrollees in sampled Optum plans affected by each limit in 2009 quantify the population subject to these limits. Plans not covering a particular service were excluded from the analysis of that outcome. Only four carve-in plans did not cover specific services. [A table in the online supplement presents the number of carve-out plan-years excluded for each type of service.]

RESULTS

Carve-out employers were mostly very large—more than half had 10,000 or more employees—while carve-in employers were smaller, with more than half having fewer than 5,000 employees [see online supplement]. Diverse industries were represented. Most carve-out plans were preferred-provider organizations, whereas most carve-ins were point-of-service plans. The vast majority of plans were "administrative services only"—that is, self-insured.

Table 1 summarizes the percentage of plans with limits by parity period. Preparity, 66% of carve-out plans with in- or out-of-network benefits had an annual limit on inpatient or intermediate care for mental or substance use disorders or both; 89% had an annual limit pertaining to outpatient visits. In 2009, a total of 961,099 individuals had a limit on any inpatient or inpatient and intermediate day services, and more than one million had limits on outpatient visits. For carve-out plans with in-network-only benefits, 74% (137,419 enrollees in 2009) had an annual limit on inpatient and intermediate care, and 90% (148,512 2009 enrollees) had an annual limit on outpatient visits. For carve-in plans, 73%, covering almost three million people in 2009, had a preparity annual inpatient or intermediate limit. Preparity, 77% (over three million enrollees) had an annual outpatient limit. [As shown in the online supplement, these percentages were similar when the sample was restricted to employers (carve-outs) or plans (carve-ins) that could be tracked longitudinally.]

Table 2 presents changes in specific QTLs for carve-out plans. For plans with in- and out-of-network benefits, the most

TABLE 2. Associations of the Mental Health Parity and Addiction Equity Act with changes in the percentages of plans with behavioral health quantitative treatment limits, among carve-out plans[a]

	Preparity (2008–2009)		Transition (2010)		Postparity (2011–2013)			Preparity limit among plans with relevant limit			2009 enrollees affected	
Plan type and service	N	%	N	%	N	%	p[b]	Median	Min	Max	N	%
Plans with in- and out-of-network benefits (N=2,086 plan-years)	316		367		1,403							
Combined in- and out-of-network												
Inpatient hospital days, annual												
Behavioral health combined	12	4	1	<1	0	—	<.001	45	30	45	26,048	2
Mental health only	4	1	0	—	0	—	<.001	37	30	45	1,776	<1
Substance use disorder only	4	1	0	—	0	—	<.001	30	30	30	1,776	<1
Inpatient or intermediate days, annual												
Behavioral health combined	88	28	11	3	0	—	<.001	30	30	60	236,137	17
Mental health only	71	23	9	3	0	—	<.001	45	14	120	78,852	6
Substance use disorder only	91	29	13	4	0	—	<.001	30	10	45	116,036	8
Intermediate days, annual												
Behavioral health combined	2	1	4	1	0	—	<.001	60	60	60	20,867	2
Mental health only	4	1	0	—	0	—	<.001	75	60	90	1,776	<1
Substance use disorder only	18	6	0	—	0	—	<.001	60	21	65	2,282	<1
Inpatient hospital admissions, lifetime												
Substance use disorder only	4	1	0	—	0	—	<.001	2	2	3	62,047	5
Inpatient or intermediate days, lifetime												
Behavioral health combined	10	3	1	<1	0	—	<.001	60	60	90	30,023	2
Inpatient or intermediate admissions, lifetime												
Mental health only	1	<1	0	—	0	—	.152	2[c]			789	<1
Substance use disorder only	54	17	3	1	0	—	<.001	2	2	2	156,158	11
Outpatient visits, annual												
Behavioral health combined	97	31	15	4	0	—	<.001	45	20	60	177,579	13
Mental health only	90	29	9	3	0	—	<.001	45	15	60	110,532	8
Substance use disorder only	95	30	13	4	0	—	<.001	40	20	60	108,609	8
Outpatient courses of treatment, lifetime												
Substance use disorder only	2	1	0	—	0	—	.023	2	2	2	14,829	1
All services courses of treatment, lifetime												
Substance use disorder only	25	8	0	—	0	—	<.001	2	2	2	115,420	8
In network												
Inpatient hospital days, annual												
Behavioral health combined	1	<1	1	<1	0	—	.107	60[c]			123	<1
Mental health only	1	<1	1	<1	0	—	.107	60[c]			123	<1
Substance use disorder only	2	1	2	1	0	—	.011	60	60	60	894	<1
Inpatient days per admission												
Substance use disorder only	1	<1	0	—	0	—	.151	3[c]			789	<1
Inpatient or intermediate days, annual												
Mental health only	2	1	0	—	0	—	.023	45	45	45	273	<1
Substance use disorder only	2	1	0	—	0	—	.023	28	28	28	273	<1
Inpatient or intermediate admissions, lifetime												
Substance use disorder only	4	1	0	—	0	—	<.001	2	2	2	17,669	1
Outpatient visits, annual												
Behavioral health combined	4	1	0	—	0	—	<.001	35	30	40	1,548	<1
Mental health only	1	<1	0	—	0	—	.152	35[c]			0	—
Substance use disorder only	3	1	1	<1	0	—	.004	45	35	45	786	<1

continued

TABLE 2, *continued*

Plan type and service	Preparity (2008–2009)		Transition (2010)		Postparity (2011–2013)		p[b]	Preparity limit among plans with relevant limit			2009 enrollees affected	
	N	%	N	%	N	%		Median	Min	Max	N	%
Out of network												
Inpatient hospital days, annual												
Behavioral health combined	1	<1	1	<1	0	—	.107	30[c]			123	<1
Mental health only	2	1	2	1	0	—	.011	60	60	60	894	<1
Substance use disorder only	2	1	2	1	0	—	.011	30	30	30	894	<1
Inpatient or intermediate days, annual												
Behavioral health combined	28	9	7	2	3	<1	<.001	30	20	50	310,004	23
Mental health only	5	2	0	—	0	—	<.001	30	30	45	319,443	23
Substance use disorder only	2	1	0	—	0	—	.023	6	6	6	273	<1
Inpatient or intermediate admissions, lifetime												
Substance use disorder only	12	4	2	1	0	—	<.001	2	1	2	107,293	8
Outpatient visits, annual												
Behavioral health combined	127	40	24	7	3	<1	<.001	35	10	100	601,475	44
Mental health only	17	5	4	1	0	—	<.001	28	17	60	350,266	25
Substance use disorder only	8	3	0	—	0	—	<.001	23	17	28	25,693	2
Plans with in-network benefits only (N=171 plan-years)	58		34		79							
Inpatient or intermediate days, annual												
Behavioral health combined	39	67	1	3	0	—	<.001	30	20	50	126,853	36
Mental health only	4	7	0	—	0	—	.023	45	31	60	10,566	3
Substance use disorder only	2	4	0	—	0	—	.152	45	45	45	5	<1
Inpatient or intermediate days, lifetime												
Behavioral health combined	4	7	0	—	0	—	.024	75	60	90	9,346	3
Inpatient or intermediate courses, lifetime												
Substance use disorder only	9	16	4	12	0	—	<.001	2	2	2	11,093	3
Outpatient visits, annual												
Behavioral health combined	40	69	1	3	0	—	<.001	40	20	50	126,853	36
Mental health only	12	21	4	12	0	—	<.001	28	20	30	21,659	6
Substance use disorder only	2	4	0	—	0	—	.152	20	20	20	5	<1
Outpatient courses, lifetime												
Substance use disorder only	8	14	4	12	0	—	<.001	2	2	2	11,093	3
All services courses, lifetime												
Substance use disorder only	2	4	0	—	0	—	.152	2	2	2	8,872	3

[a] The table does not include rows for types of limits that did not exist in the data (for example, annual admission limits for any level of care, in-network-only).
[b] p values are from Fisher's exact test
[c] Median is from a single plan (minimum and maximum values are not relevant).

common preparity limits for inpatient or intermediate days were combined in-network and out-of-network annual day limits, with a median of 30 days. The most common outpatient limit was a combined in- and out-of-network behavioral health limit, with a median of 45 visits. Almost all limits disappeared during 2010, the year of transition to parity. By 2011, virtually all QTLs had disappeared. Limits were just slightly more common preparity for in-network-only plans. Median values were the same for inpatient or intermediate days but slightly lower for outpatient visits. (For these plans, mental health annual limits were more common, whereas for substance use disorders, lifetime limits were more prevalent.) By 2011, virtually all limits in all service categories disappeared. [A table in the online supplement shows the analogous percentages for the smaller, longitudinal sample.]

For carve-in plans (Table 3), the most common inpatient or intermediate day limit was a behavioral health combined annual day limit (median, 30). The most common outpatient limit was annual behavioral health combined visits (median, 30). As above, there was a substantial decrease in the number of plans with QTLs in the transition period, and an even greater drop postparity, although compared with carve-out plans, a larger percentage of carve-in plans retained some limits. [A table in the online supplement shows the analogous percentages for the smaller, longitudinal sample.]

DISCUSSION

The passage of MHPAEA, the most far-reaching and comprehensive parity law to date, had substantial impacts on QTL use among managed behavioral health organizations (MBHOs). Before MHPAEA, most carve-in and carve-out plans in our sample limited behavioral health visits, regardless of a member's diagnosis. In 2010, most QTLs were dropped, and by

TABLE 3. Associations of the Mental Health Parity and Addiction Equity Act with changes in the percentages of plans with behavioral health quantitative treatment limits, among carve-in plans[a]

	Preparity (2008–2009) (N=3,615)		Transition (2010) (N=2,304)		Postparity (2011–13) (N=5,725)			Preparity limit among plans with relevant limit			2009 enrollees affected	
Service	N	%	N	%	N	%	p[b]	Median	Min	Max	N	%
Inpatient or intermediate days, annual												
Behavioral health combined	1,512	42	139	6	108	2	<.001	30	7	175	1,417,517	37
Mental health only	1,087	30	61	3	42	1	<.001	30	8	165	1,388,636	36
Substance use disorder only	924	26	38	2	20	<1	<.001	30	6	183	1,143,494	30
Inpatient or intermediate days, lifetime												
Behavioral health combined	156	4	10	<1	24	<1	<.001	90	30	190	217,998	6
Mental health only	39	1	6	<1	4	<1	<.001	90	45	150	52,040	1
Substance use disorder only	190	5	16	1	3	<1	<.001	60	10	120	261,042	7
Inpatient or intermediate admissions, lifetime												
Substance use disorder only	4	<1	2	<1	2	<1	.037	2	2	2	15	<1
Inpatient or intermediate days per admission												
Behavioral health combined	30	1	13	1	16	<1	<.001	30	30	45	10,188	<1
Substance use disorder only	28	1	6	<1	12	<1	<.001	28	7	45	3,645	<1
Outpatient visits, annual												
Behavioral health combined	1,923	53	160	7	110	2	<.001	30	3	90	1,993,811	52
Mental health only	846	23	44	2	35	1	<.001	31	5	60	1,025,377	26
Substance use disorder only	661	18	34	1	21	<1	<.001	35	5	130	730,892	19
Outpatient visits, lifetime												
Behavioral health combined	50	1	1	<1	1	<1	<.001	150	30	400	112,324	3
Mental health only	2	<1	0	—	0	—	.096	90	90	90	1,866	<1
Substance use disorder only	96	3	2	<1	4	<1	<.001	60	20	120	95,795	2

[a] The table does not include rows for types of limits that did not exist in the data. For carve-in plans, limits were always combined in-network and out-of-network (if there were out-of-network benefits). Total 2009 enrollees for all carve-in plans, N=3,871,042

[b] From Fisher's exact test

2011, virtually all plans had dropped QTLs on behavioral health care. Plans with limits postparity presumably include a mix of plans with analogous medical limits and plans that had not yet complied.

Our findings are limited by the lack of a control group to isolate the effects of parity from secular trends. Control group candidates, such as small employers and fully insured plans in states with prior parity laws, were considered, but ultimately the comparisons were deemed inappropriate or there were too few to provide meaningful controls. However, the elimination of QTLs was consistent across plans and happened shortly after enactment of the law. It is reasonable to conclude that this large effect would not have occurred in the absence of this legislation.

Our study was also limited in including data from only one MBHO and further restricting the sample on the basis of certain inclusion and exclusion criteria. However, Optum was the largest MBHO in the United States during the study period, and we have no reason to believe that our sample selection criteria would have introduced systematic biases, because most of the criteria were designed to limit the sample to plans for which MHPAEA was relevant. Plans excluded because of timing of implementation (for example, collective bargaining and non–calendar-year plans) also eliminated QTLs by 2011. Our study included both carve-in and carve-out plans, increasing the generalizability. Our sampled plans covered millions of Americans and are notably diverse in terms of employer size, employer industry, and medical plan type.

Our findings for the early implementation period are consistent with those of Horgan and colleagues (10) and the ASPE report (4), although the percentages of plans limiting behavioral health visits preparity were comparatively smaller than observed in this study, and the percentages with remaining QTLS postparity were larger. Although there were numerous differences in data sources, sample inclusion criteria and stratification might account for these differences, and one possible explanation is that our study period started in 2008, prior to possible anticipatory effects, and ended in 2013, allowing for lag effects.

Whereas previous studies did not distinguish between carve-in and carve-out plans, we found more complete removal of QTLs in carve-out plans. This may have been in part because of the significant administrative hurdle posed by MHPAEA to carve-out plans—because general medical and behavioral health benefits are administered by separate companies, it is difficult for carve-out vendors to know exactly what medical benefits are in place. Optum now requests

and tracks this information from employers annually, but for QTLs the easiest solution was simply removal from all plans. It is worth noting that this administrative burden led to a reduction in the number of employers using the carve-out model. The increased popularity of carve-in models in commercial insurance and less complete removal of QTLs for carve-in plans means that a relatively larger number of enrollees are affected. Understanding the administrative and typical coverage differences between these two behavioral health care models could aid policy makers to better tailor future improvements for one model versus another and to anticipate unintended consequences, such as impacts to the viability of the carve-out model.

Use of claims processing databases linked to eligibility files allowed us to look more closely at the ways limits were actually combined or separate across conditions, service types, and network level; to document the full range of limits used preparity (including lifetime courses and days per course); and to estimate the numbers of enrollees affected by limits. This information provides a greater understanding of how many patients and which subpopulations benefited most from MHPAEA's QTL provision and were most likely to have experienced greater access and more dramatic changes in treatment patterns postimplementation. For example, among carve-out plans with in-network and out-of-network benefits, only about 1% imposed a specific in-network limit on annual outpatient behavioral health visits preparity, yet about 40% did so for out-of-network care, suggesting that we might expect to see a shift from in-network to out-of-network services postparity among this patient population.

Our findings have implications for both plans and patients. Use of QTLs is associated with moderate plan cost-savings (6,7), suggesting that plan expenditures may have increased when plans dropped QTLs. For patients, the removal of QTLs may be one of the biggest changes affecting access to care because the impact of parity on financial requirements was modest (10). Among our study plans, nearly one million carve-out enrollees and nearly three million carve-in enrollees were subject to inpatient or intermediate day limits, and over one million carve-out enrollees and over three million carve-in enrollees were subject to outpatient visit limits preparity. Our findings suggest that nearly all these enrollees were unconstrained by QTLs postparity. In carve-in claims analyses not shown here, approximately 15% of outpatient users and 5% of inpatient users had sufficiently high levels of utilization that they were likely to have reached their limits prior to parity. Evidence from Peele and colleagues' (7) study suggests that among enrollees subject to QTLs, those with diagnoses of depression, bipolar disorder, or psychosis were most likely to reach their inpatient and outpatient limit thresholds preparity. In addition, Peele and colleagues found that patients who reached their inpatient limit were more likely than other patients to be children. One of the most meaningful impacts of MHPAEA is improved insurance protection for needed specialty behavioral health care for children and adults with depression, bipolar disorder, or psychosis, who were most likely to reach their inpatient and outpatient limit thresholds preparity.

CONCLUSIONS

MHPAEA was associated with elimination of almost all annual and lifetime limits on the number of days and visits or treatment courses for both mental health and substance use disorder treatment. This was true for both carve-out and carve-in samples, across diverse sets of services, and across diverse types of QTLs (for example, limits on visits, days, or courses of treatment). The changes had an impact on the benefits of more than one million carve-out and three million carve-in subscribers in the study plans. One of the most meaningful impacts of MHPAEA might be increased access to needed specialty behavioral health care for children and adults with depression, bipolar disorder, or psychosis, who were most likely to reach their inpatient and outpatient limit thresholds preparity.

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First-Person Accounts Invited for Column

Patients, family members, and mental health professionals are invited to submit first-person accounts of experiences with mental illness and treatment for the Personal Accounts column in *Psychiatric Services.* Maximum length is 1,600 words.

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