

National Trends in Outpatient Mental Health Service Use Among Adults Between 2008 and 2015

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Objective: This study sought to characterize recent trends in mental health visits of adult outpatients to primary care physicians (PCPs), specialty mental health providers (SMHPs), and other providers (non-primary care physicians, specialists other than SMHPs, nurse practitioners, and physician assistants). Trends determined by degree of patients' psychological distress and in the types of treatments received within different settings were also examined.

Methods: Data were from the household component of the nationally representative Medical Expenditure Panel Survey for the 2008–2011 and 2012–2015 periods for adults ages ≥ 18 years ($N=13,111$) who had a mental health outpatient visit. Bivariate logistic regression was used to compare means between the two periods.

Results: The percentage of adults having mental health outpatient visits increased between the two periods, largely driven by an increase in visits with providers other than

SMHPs and PCPs, which rose from 11.9% ($N=667$) to 15.5% ($N=1,048$). Outpatient mental health visits with PCPs decreased from 29.0% ($N=1,802$) to 26.8% ($N=1,945$). The proportion of respondents with mental health outpatient visits increased both among those with high psychological distress and among those with low or no psychological distress (from 30.7% [$N=1,332$] to 36.2% [$N=1,491$] and from 6.0% [$N=4,516$] to 6.9% [$N=5,772$], respectively). The percentage of respondents receiving only psychotropic medication decreased over the two periods.

Conclusions: Mental health outpatient visits for adults increased between 2008 and 2015, and visits with SMHPs remained relatively stable during that time. A greater understanding of recent trends in types of outpatient mental health services may help identify targets for future mental health workforce studies.

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Since 1995, the use of outpatient mental health services by adults has been rising in the United States (1–4). This overall upsurge reflects increasing numbers of mental health-related visits with both primary care providers and specialty mental health providers (SMHPs) (5, 6). Several changes in the practice and policy environment since 2008 and decreased stigma may have driven more recent increases in mental health treatment (3). The proliferation of the collaborative care model for delivering integrated mental health and medical care in primary care settings has improved access to care for a range of mental health conditions (7). Furthermore, multiple policies, including the Medicare Improvements for Patients and Providers Act of 2008 (8), the Mental Health Parity and Addiction Equity Act of 2008 (9, 10), and the Patient Protection and Affordable Care Act of 2010 (particularly the essential health benefits clauses), have aimed to make mental health services more affordable (11).

In spite of improvements in financial support for mental health treatment and increases in the use of outpatient mental health services, concerns remain that many people with mental health conditions are not receiving treatment

(3, 12) or receive inadequate treatment (13–15). Many individuals may face high barriers to accessing mental health care, in part because of insufficient numbers of SMHPs (i.e., psychologists, psychiatrists, social workers, or counselors) (16, 17). In 2018, the Health Resources and Services Administration estimated that the United States had 5,124 areas of shortage of mental health professionals (18). Furthermore,

HIGHLIGHTS

- Over the 2008–2015 period, outpatient mental health visits for adults increased overall.
- Although the percentage of visits with specialty mental health providers remained relatively stable, and the percentage of visits with primary care physicians decreased, visits with other types of providers significantly increased.
- Overall, the percentage of respondents receiving only psychotropic medication decreased across all settings of care.

patients with serious psychological distress may not have timely access to SMHPs (12) and may experience delays in receiving recommended adjunctive psychotherapy or mental health counseling along with psychotropic medications (14). Primary care physicians (PCPs) are often the first point of contact in the health care system for patients with mental health concerns (19, 20). However, PCPs may not have the time nor the expertise to treat patients with more serious mental health conditions. It is thus important to examine the types of mental health treatment that patients are receiving in different settings.

Research on the delivery of mental health services has traditionally focused on visits with PCPs and SMHPs (3, 5, 12, 21). An examination of trends in sources of outpatient mental health care found that between 2005 and 2015, among adults with any outpatient mental health visit, the percentage of visits with SMHPs increased (12). Examination of other mental health care providers, including other specialists or primary care providers other than PCPs such as nurse practitioners (NPs) and physician assistants (PAs), has been largely absent from the literature. Given that the NP and PA workforces (22), specifically, the psychiatric mental health (PMH) advanced-practice registered nurse (APRN) workforce, have been growing over the past 20 years (23), it is critical to examine the contributions of these providers to outpatient mental health care.

Using national survey data from the Medical Expenditure Panel Survey (MEPS) gathered between 2008 and 2015, here we report trends not considered in previous MEPS-based studies (i.e., trends in visits with other providers) and sought to answer the following questions. Over this period, were there changes in the types of providers and combinations of providers that adults were seeing for mental health-related reasons? Did visits with different types of providers vary by the degree of psychological distress? Were some visits with providers (i.e., physicians practicing in specialties other than primary care and SMHPs, NPs, and PAs, herein referred to as “other providers”) not captured in previous studies? Did the types of treatment (i.e., number of visits, psychotropic medication, psychotherapy or mental health counseling, and combination of medication and counseling) change for patients seeing different types of providers? A greater understanding of recent trends in the sources and types of outpatient mental health services may help identify targets for future mental health workforce studies.

METHODS

Data Source, Sample, and Measures

Our data source was the 2008–2015 MEPS–Household Component (MEPS-HC), a set of large-scale surveys of household members and their medical providers across the United States. The MEPS collects data on health care utilization, costs, and insurance coverage (24, 25). The survey has a panel design, featuring several rounds of interviewing covering 2 full calendar years. The sampling frame is drawn

from respondents to the National Health Interview Survey. Surveyed households are selected from communities across the United States to create a nationally representative sample. This research relies entirely on deidentified, publicly available data and was exempted from human subjects review by the institutional review board of the University of Pittsburgh.

The sample included all adult (age ≥ 18 years) MEPS respondents, which we split into two groups representing two periods, 2008–2011 and 2012–2015. Among the 204,456 respondents, 13,111 (6.4%) had at least one mental health-related outpatient visit: 5,848 in 2008–2011 and 7,263 in 2012–2015. For an explanation of how our measures were derived from the survey questions, see the online supplement. Respondents were asked to identify the condition that led them to visit a care provider. We defined “mental health-related outpatient visits” as visits that contained at least one of the following mental disorder clinical classification codes: 650 (adjustment disorder), 651 (anxiety disorder), 657 (mood disorder), 658 (personality disorders), 659 (schizophrenia or other psychotic disorder), and 662 (suicide and intentional self-inflicted injury).

Respondents were also asked about the specialty of the provider they saw. We grouped the provider for each visit into three categories: PCPs, SMHPs, and other providers. PCPs included physicians specializing in family medicine, general practitioner, general internists, general pediatricians, as well as obstetricians and gynecologists. SMHPs included psychiatrists, psychologists, and social workers. The other-provider category included all other provider types, including physicians not in primary care, non-SMHP specialties, NPs, and PAs. The MEPS does not list specialties for NPs or PAs.

The MEPS asked respondents about the type of care provided during each outpatient visit, with response categories including psychotherapy or mental health counseling. Respondents were asked whether medications were prescribed and filled during visits with providers they identified, and they provided the name of the prescriptions filled. Therapeutic class codes were imputed by MEPS. Psychotropic medications were identified by the therapeutic class codes (67–70, 76, 77, 79, 208–210, 242, 249–251, 280, 306–308, and 341) and included antidepressants, anxiolytics and sedatives, antipsychotics, mood stabilizers, and stimulants.

The Kessler 6 Scale (K6) is a six-item inventory that asks about distress in the 30 days before the administration of the inventory (26). The psychometric properties of the K6 are robust in the adult population (26). Sample questions include “During the past 30 days, about how often did you feel: nervous? hopeless? restless or fidgety?” Five responses range from “all of the time” to “none of the time.” Additional questions ask about how those feelings affected the individual. We stratified our analyses by whether patients had a K6 score of ≥ 13 , which is a standard indicator of psychological distress (26). High psychological distress indicated by the K6 is strongly associated with use of outpatient, inpatient, and emergency health services (27).

Statistical Analysis

We calculated means and totals using MEPS pooled survey weights. MEPS survey weights account for MEPS differential sampling probabilities and nonresponses. Moreover, the construction of survey weights involves poststratification to external control totals. Pooled survey weights allow researchers to calculate means and other statistics across sample years. The means for each of the two periods were compared by using linear regressions, which were adjusted for MEPS survey design (16). To calculate differences between the two periods, we used linear regression adjusted for demographic characteristics, including gender, age (18–39, 40–64, and ≥ 65 years), race-ethnicity (non-Hispanic white, non-Hispanic Black, Hispanic, or other), and income (household income more than or less than 200% of the federal poverty level).

We first compared trends in outpatient mental health visits with different provider types (PCP, SMHP, both PCP and SMHP, and other) between 2008–2011 and 2012–2015. Next, among MEPS respondents who had a mental health visit, we compared trends in site of outpatient mental health service visits between the two periods. These analyses were performed with the whole sample and separately for each K6 severity group, in which case we used MEPS self-administered questionnaire survey weights. Last, only among respondents with a mental health visit did we compare trends in the number of visits and type of treatment. These visits included treatment with only a psychotropic medication, with both a psychotropic and nonpsychotropic medication, only with psychotherapy or mental health counseling, with both psychotherapy or mental health counseling and a nonpsychotropic medication, and with both psychotherapy or mental health counseling and a psychotropic medication. To examine whether trends varied by demographic characteristics, we performed a supplemental analysis of trends in outpatient mental health visits across all respondents and mental health service users, stratified by gender, age, race-ethnicity, and income (see online supplement). All statistical analyses were performed with Stata-SE, version 15.

RESULTS

Respondent Characteristics

The demographic characteristics of respondents who had an outpatient mental health visit in 2008–2011 or 2012–2015 are summarized in Table 1. The 2012–2015 period had a greater proportion of respondents age 65 or older than did the 2008–2011 period (18.8% vs. 17.0%, $p < 0.001$). Additionally, the proportion of respondents who were non-Hispanic white decreased (67.7% vs. 64.9%, $p < 0.001$), and the proportion of respondents reporting their race as Hispanic or as other increased (14.1% vs. 15.3% and 6.7% vs. 8.2%, respectively, both $p < 0.001$) between 2008–2011 and 2012–2015.

Outpatient Mental Health Visits

Among all respondents, between 2008–2011 and 2012–2015, the percentage of mental health–related outpatient visits overall increased (Table 2). The percentage of respondents in our sample with at least one outpatient mental health visit statistically significantly increased from 7.1% to 8.2% ($p < 0.001$) between the two periods. The percentages of respondents with any mental health–related outpatient visit with an SMHP also significantly increased from 4.2% to 4.8% ($p < 0.001$), as did those of respondents who used only SMHPs for mental health–related outpatient visits (from 3.7% to 4.2%, $p < 0.001$). Among respondents with mental health visits, most were visits only with SMHPs (51.5% and 51.2%). Between the two periods, the percentage of visits only with PCPs significantly decreased from 29.0% to 26.8% ($p = 0.018$), and the percentage of visits only with other providers increased from 11.9% to 15.5% ($p < 0.001$). Within the other-provider category, the mental health visits specifically with NPs increased from 314 to 549 (corresponding to an increase in survey-weighted percentages from 9.2% to 14.5%, respectively).

Outpatient Mental Health Services Use by Provider Type and K6 Score

Between 2008–2011 and 2012–2015, the percentage of respondents with mental health–related outpatient visits increased both among those with low or no psychological distress (from 6.0% to 6.9%, $p < 0.001$) and with high psychological distress (from 30.7% to 36.2%, $p < 0.001$) (Table 3). In both patient groups, the percentages of those with any mental health–related outpatient visit with SMHPs and mental health–related outpatient visits with only SMHPs increased (K6 < 13: from 3.4% to 3.8%, $p < 0.001$, and from 3.0% to 3.4%, $p < 0.001$; K6 ≥ 13 : from 19.4% to 23.3%, $p < 0.002$, and from 15.7% to 19.6%, $p < 0.001$).

Among those with low or no psychological distress, the mental health–related outpatient visits with only other providers also increased between the two periods (from 0.8% to 1.2%, $p < 0.001$). Among participants with mental health–related outpatient visits, most respondents (both with low or no psychological distress and with high psychological distress) were treated only by SMHPs. Among those with low or no psychological distress, mental health–related outpatient visits only with PCPs decreased 2.8 percentage points (from 30.1% to 27.3%, $p < 0.011$) and visits with only other providers increased by 4.4 percentage points (from 12.8% to 17.2%, $p < 0.001$). Among respondents with high psychological distress, no significant shift was detected in the distribution of mental health visits across different provider types.

Outpatient Mental Health Services Use Frequency and Treatment by Provider Type

Between 2008–2011 and 2012–2015, among respondents with mental health–related outpatient visits, no statistically significant shifts occurred in the types of treatment received

TABLE 1. Demographic characteristics of respondents to the Medical Expenditure Panel Survey (MEPS) who had an outpatient mental health visit, 2008–2011 and 2012–2015^a

Characteristic	2008–2011 (N=98,888)		2012–2015 (N=105,568)		Adjusted difference		
	N	%	N	%	Coeff. ^b	95% CI	p
Gender: female	52,897	51.6	56,362	51.8	.08	–.43, .59	.75
Age group							
18–39	42,433	39.7	45,318	39.0	–.66	–1.54, .23	.146
40–64	41,510	43.3	43,579	42.2	–1.26	–2.14, –.38	.005
≥65	14,945	17.0	16,671	18.8	1.92	1.16, 2.67	<.001
Race-ethnicity							
Non-Hispanic white	45,661	67.7	42,627	64.9	–2.88	–3.95, –1.82	<.001
Non-Hispanic Black	19,010	11.5	21,468	11.7	.21	–.38, .8	.48
Hispanic	25,093	14.1	30,561	15.3	1.41	.91, 1.92	<.001
Other	9,124	6.7	10,912	8.2	1.26	.62, 1.9	<.001
Income: <200% of the federal poverty level	40,111	30.3	44,366	30.4	.17	–.76, 1.1	.722

^a Data are from the MEPS, and MEPS pooled person weights were used to calculate percentages and differences. Differences and their statistical significance levels were calculated from linear regressions with MEPS survey weights, strata, and primary sampling units.

^b Coeff., coefficient.

during visits with PCPs, both PCPs and SMHPs, or other providers (Table 4). Overall, the percentage of respondents receiving only psychotropic medication significantly decreased (from 39.3% to 36.4%, $p=0.002$). Among those with visits with only SMHPs, the percentage receiving only psychotropic medication also decreased (from 16.3% to 13.4%, $p=0.016$) and the percentage receiving both psychotropic medication and psychotherapy or mental health counseling increased (from 55.5% to 59.8%, $p=0.051$). Among respondents with any mental health–related outpatient visits with

a psychiatrist, the percentage receiving only psychotropic medications decreased from 22.1% to 18.3% ($p=0.021$) (Table 5). We did not find any evidence that the intensity of treatment, as indicated by the number of visits, changed over time (Tables 4 and 5).

Trends in Outpatient Mental Health Visits Stratified by Demographic Groups

Using a stratified analysis of outpatient mental health visit trends over the two periods, we found significant differences

TABLE 2. Trends in U.S. outpatient mental health visits among Medical Expenditure Panel Survey (MEPS) respondents, 2008–2011 and 2012–2015^a

Mental health visit category	2008–2011		2012–2015		Adjusted difference		
	N	%	N	%	Coeff. ^b	95% CI	p
All respondents (N=204,456)							
Any mental health visit	5,848	7.1	7,263	8.2	1.35	.95, 1.76	<.001
Any mental health visit with a primary care physician (PCP)	2,249	2.6	2,456	2.8	.21	–.02, .45	.077
Any mental health visit with a specialty mental health provider (SMHP)	3,379	4.2	4,270	4.8	.71	.41, 1.02	<.001
Mental health visits with PCP only	1,802	2.1	1,945	2.2	.19	–.01, .39	.063
Mental health visits with SMHP only	2,932	3.7	3,759	4.2	.69	.41, .97	<.001
Visits with PCP and SMHP	447	.5	511	.5	.02	–.07, .12	.635
Visits with other provider only	667	.8	1,048	1.3	.45	.29, .61	<.001
Mental health services users (N=13,111)							
Visits with PCP only	1,802	29.0	1,945	26.8	–2.73	–4.99, –.47	.018
Visits with SMHP only	2,932	51.5	3,759	51.2	.16	–2.26, 2.59	.895
Visits with both PCP and SMHP	447	7.6	511	6.6	–.97	–2.14, .2	.104
Visits with other provider only	667	11.9	1,048	15.5	3.54	1.69, 5.4	<.001

^a Data are from the MEPS, and MEPS pooled person weights were used to calculate percentages and differences. PCP specialties included family medicine, general practitioner, general internists, and general pediatricians, as well as obstetricians and gynecologists. SMHPs included psychiatrists, psychologists, and social workers. Other providers included other physician specialties, nurse practitioners, and other provider types (e.g., physician assistant, licensed practical nurse). Differences and their statistical significance levels were calculated from linear regressions with MEPS survey weights, strata, and primary sampling units. Differences were adjusted for gender, age group, race-ethnicity, and income.

^b Coeff., coefficient.

TABLE 3. Trends in U.S. outpatient mental health services use by provider type and K6 score, 2008–2011 and 2012–2015^a

Mental health visit category	2008–2011		2012–2015		Adjusted difference		
	N	%	N	%	Coeff. ^b	95% CI	p
Respondents with low psychological distress (K6<13) ^c							
All respondents (N=195,182)	(N=94,047)		(N=101,135)				
Any mental health visit	4,516	6.0	5,772	6.9	1.17	.79, 1.55	<.001
Any mental health visit with a primary care physician (PCP)	1,708	2.2	1,932	2.3	.17	–.03, .38	.097
Any mental health visit with a specialty mental health provider (SMHP)	2,529	3.4	3,273	3.8	.57	.27, .88	<.001
Mental health visits with PCP only	1,423	1.8	1,575	1.9	.14	–.03, .32	.109
Mental health visits with SMHP only	2,244	3.0	2,916	3.4	.54	.25, .84	<.001
Visits with PCP and SMHP	285	.4	357	.4	.03	–.06, .12	.486
Visits with other provider only	564	.8	924	1.2	.45	.29, .62	<.001
All mental health services users (N=10,288)	(N=4,516)		(N=5,772)				
Visits with PCP only	1,423	30.1	1,575	27.3	–3.37	–5.96, –.79	.011
Visits with SMHP only	2,244	50.5	2,916	49.6	–.38	–3.21, 2.45	.789
Visits with both PCP and SMHP	285	6.6	357	5.9	–.66	–1.98, .66	.328
Visits with other provider only	564	12.8	924	17.2	4.41	2.18, 6.65	<.001
Respondents with high psychological distress (K6≥13) ^c							
All respondents (N=9,274) ^d	(N=4,841)		(N=4,433)				
Any mental health visit	1,332	30.7	1,491	36.2	5.2	2.49, 7.90	<.001
Any mental health visit with PCP	541	12.5	524	13.2	.63	–1.47, 2.72	.556
Any mental health visit with SMHP	850	19.4	997	23.3	3.63	1.37, 5.89	.002
Mental health visits with PCP only	379	8.7	370	9.5	.78	–1.08, 2.64	.409
Mental health visits with SMHP only	688	15.7	843	19.6	3.78	1.77, 5.8	<.001
Visits with PCP and SMHP	162	3.8	154	3.7	–.15	–1.22, .91	.778
Visits with other provider only	103	2.6	124	3.4	.78	–.18, 1.75	.112
All mental health services users (N=2,823)	(N=1,332)		(N=1,491)				
Visits with PCP only	379	28.4	370	26.4	–1.75	–6.41, 2.92	.461
Visits with SMHP only	688	51.1	843	54.1	2.94	–1.96, 7.84	.239
Visits with both PCP and SMHP	162	12.3	154	10.2	–2.16	–5.21, .89	.164
Visits with other provider only	103	8.3	124	9.4	.97	–1.87, 3.81	.502

^a Data are from the Medical Expenditure Panel Survey (MEPS). MEPS pooled supplementary analysis questionnaire weights were used to calculate percentages and totals. PCP specialties included family medicine, general practitioner, general internists, and general pediatricians, as well as obstetricians and gynecologists. SMHPs included psychiatrists, psychologists, and social workers. Other providers included other physician specialties, nurse practitioners, and other provider types (e.g., physician assistant, licensed practical nurse). Differences and their statistical significance levels were calculated from linear regressions with MEPS supplementary analysis questionnaire weights, strata, and primary sampling units. Differences were adjusted for gender, age group, race-ethnicity, and income.

^b Coeff., coefficient.

^c K6, Kessler 6 Scale.

^d Totals include respondents who had high psychological distress but no mental health visits.

in these temporal trends across different demographic groups. First, the percentage of women with any outpatient mental health visit increased by 1.9 percentage points ($p<0.001$) from 2008–2011 to 2012–2015, whereas the corresponding increase for men was only 0.8 percentage points ($p<0.01$). Second, older adult and higher-income respondents had 1.7 ($p<0.001$) and 2.1 ($p<0.001$) percentage point increases, respectively, in outpatient mental health care visits, which were higher than for younger respondents (1.15 percentage points for 18–39 years old and 1.36 percentage points for 40–64 years old, both $p<0.001$) and respondents with lower income (1 percentage point, $p<0.001$). Third, among mental health services users, older and female respondents had 8.6 ($p<0.01$) and 4.5 ($p<0.01$) percentage point decreases in having visits only with PCPs. Fourth, having a visit with

another provider increased by 4.5 ($p<0.001$), 3.8 ($p<0.01$), and 3.8 ($p<0.001$) percentage points among female, younger, and non-Hispanic white respondents, respectively.

DISCUSSION

Between the 2008–2011 and 2012–2015 periods, mental health–related outpatient visits for adults increased overall, and the percentages of visits with both PCPs and SMHPs remained relatively stable. The percentage of visits with only PCPs decreased, and the percentage with other providers and only SMHPs increased. These trends persisted even when stratified by degree of psychological distress. We also identified a decrease in the percentage of respondents being treated only with psychotropic medications and an increase

TABLE 4. Trends in U.S. outpatient mental health services visit frequency and type of treatment by provider type, 2008–2011 and 2012–2015^a

Mental health visit category	2008–2011		2012–2015		Adjusted difference		
	N	%	N	%	Coeff. ^b	95% CI	p
Any mental health services use (N=13,111)							
No. of visits	5,848	6.7	7,263	6.9	.31	–.27, .89	.295
Type of treatment							
Psychotropic and nonpsychotropic medication ^c	4,528	81.2	5,482	80.9	–.41	–2.05, 1.23	.624
Psychotherapy/mental health counseling and a nonpsychotropic medication ^c	3,042	53.5	4,007	55.2	2.37	–.05, 4.79	.055
Only psychotropic medication ^d	2,331	39.3	2,579	36.4	–3.43	–5.54, –1.32	.002
Only psychotherapy or mental health counseling	627	12.0	799	11.3	–.59	–2.10, .92	.444
Psychotherapy/mental health counseling and psychotropic medication	2,197	37.3	2,903	39.4	2.22	–.21, 4.66	.074
Only mental health visits with a primary care physician (PCP) (N=3,747)							
No. of visits	1,802	2.4	1,945	2.4	–.05	–.34, .24	.732
Type of treatment							
Psychotropic and nonpsychotropic medication ^c	1,523	89.1	1,613	87.8	–.82	–3.33, 1.69	.522
Psychotherapy/mental health counseling and a nonpsychotropic medication ^c	113	5.8	127	6.8	.82	–1.34, 2.98	.454
Only psychotropic medication ^d	1,433	82.6	1,509	79.9	–2.04	–4.99, .90	.173
Only psychotherapy or mental health counseling	20	.8	20	.9	.00	–.76, .76	1.00
Psychotherapy/mental health counseling and psychotropic medication	90	4.8	104	5.6	.72	–1.28, 2.72	.479
Only mental health visits with a specialty mental health provider (SMHP) (N=6,691)							
No. of visits	2,932	8.6	3,759	9.3	.74	–.18, 1.66	.116
Type of treatment							
Psychotropic and nonpsychotropic medication ^c	2,188	77.6	2,799	79.2	1.08	–1.67, 3.83	.440
Psychotherapy/mental health counseling and a nonpsychotropic medication ^c	2,347	80.8	3,091	83.5	2.89	.12, 5.66	.041
Only psychotropic medication ^d	507	16.3	549	13.4	–3.12	–5.65, –.58	.016
Only psychotherapy or mental health counseling	489	18.6	617	17.0	–1.25	–3.74, 1.24	.322
Psychotherapy/mental health counseling and psychotropic medication	1,681	55.5	2,250	59.8	3.53	–.01, 7.08	.051
Only mental health visits with other providers (N=958)							
No. of visits	667	3.9	1,048	3.9	.02	–.70, .74	.953
Type of treatment							
Psychotropic and nonpsychotropic medication ^c	399	67.8	595	67.3	–1.04	–6.53, 4.46	.710
Psychotherapy/mental health counseling and a nonpsychotropic medication ^c	239	35.7	384	34.4	–.75	–6.75, 5.25	.806
Only psychotropic medication ^d	291	45.1	424	45.2	–.83	–7, 5.35	.793
Only psychotherapy or mental health counseling	96	14.9	142	13.4	–1.38	–5.74, 2.98	.535
Psychotherapy/mental health counseling and psychotropic medication	108	16.2	171	15.0	–1.12	–5.69, 3.45	.630

^a Data are from the Medical Expenditure Panel Survey (MEPS). MEPS pooled person weights were used to calculate means and totals. PCP specialties included family medicine, general practitioner, general internists, general pediatricians, as well as obstetricians and gynecologists. SMHPs included psychiatrists, psychologists, and social workers. Other providers included other physician specialties, nurse practitioners, and other provider types (e.g., physician assistant, licensed practical nurse). Differences and their statistical significance levels were calculated from linear regressions with MEPS survey weights, strata, and primary sampling units. Differences were adjusted for gender, age group, race-ethnicity, and income.

^b Coeff., coefficient.

^c Respondent could have received another type of nonpsychotropic medication during visit.

^d Respondent did not receive any other type of treatment during visit.

TABLE 5. Trends in U.S. outpatient mental health services visits with psychiatrists and treatment types among respondents to the Medical Expenditure Panel Survey (MEPS), 2008–2011 and 2012–2015^a

Mental health visit category	2008–2011		2012–2015		Adjusted difference		
	N	%	N	%	Coeff. ^b	95% CI	p
Any treatment by psychiatrists (N=5,537)							
No. of visits	2,464	9.2	3,073	9.6	.43	–.69, 1.55	.452
Type of treatment							
Psychotropic and nonpsychotropic medication ^c	2,159	89.1	2,663	89.8	.39	–1.98, 2.77	.746
Psychotherapy/mental health counseling and a nonpsychotropic medication ^c	1,859	75.8	2,396	79.0	3.21	–.34, 6.76	.076
Only psychotropic medication ^d	555	22.1	587	18.3	–3.82	–7.06, –.59	.021
Only psychotherapy or mental health counseling	196	8.8	251	7.9	–.69	–2.78, 1.40	.515
Psychotherapy/mental health counseling and psychotropic medication	1,604	64.8	2,076	68.4	3.19	–.84, 7.21	.120
Only treatment by psychiatrist (N=3,709)							
No. of visits	1,685	5.6	2,024	5.6	–.01	–.69, .66	.973
Type of treatment							
Psychotropic and nonpsychotropic medication ^c	1,442	87.5	1,706	87.9	.06	–3.11, 3.23	.970
Psychotherapy/mental health counseling and a nonpsychotropic medication ^c	1,192	70.1	1,458	72.6	2.26	–2.39, 6.91	.339
Only psychotropic medication ^d	445	26.8	488	23.8	–2.87	–7.16, 1.42	.189
Only psychotherapy or mental health counseling	148	9.6	193	9.2	–.09	–2.96, 2.77	.948
Psychotherapy/mental health counseling and psychotropic medication	997	58.0	1,218	61.0	2.29	–2.66, 7.23	.363

^a Data are from the MEPS, and MEPS pooled person weights were used to calculate percentages and differences. Differences and their statistical significance levels were calculated from linear regressions with MEPS survey weights, strata, and primary sampling units. Differences were adjusted for gender, age group, race-ethnicity, and income.

^b Coeff., coefficient.

^c Respondent could have received another type of nonpsychotropic medication during visit.

^d Respondent did not receive any other type of treatment during visit.

in the percentage of respondents being treated with a combination of psychotropic medications and psychotherapy or mental health counseling.

Our findings differ from those of recent research reporting that most adults who use outpatient mental health services are treated only by general medical professionals (12). This difference could be explained by different definitions of mental health services and by the inclusion of the other-provider category in the present study. The other study used data from the MEPS-HC covering three periods (2004–2005, 2009–2010, and 2014–2015), as opposed to our continuous use from 2008 to 2015. Moreover, unlike in the present study, the authors of the previous report defined their groups in hierarchical categories, including psychiatrists, other mental health professionals, (i.e. psychologists and social workers), and general medical professionals only. Also contrary to the recently published study (12), we did not find a significant increase in treatment with psychotropic medications.

We acknowledge several limitations of this study. First, the MEPS-HC relies on participant recall and may underestimate mental health care service use, although a provider survey verifies reported service use. Second, the response rate for the full-year file of the MEPS decreased between 2008 and 2015 from 59.3% to 47.7% (28). We also acknowledge nonresponse as a limitation, but sampling

weights can adjust for nonresponses (29). Third, the K6 includes only depression and anxiety symptoms and may underestimate rates of serious mental illness. Additionally, the K6 may misclassify adults who are being effectively treated, so the potential for misclassification bias exists (i.e., they may be flagged as having high psychological distress on the basis of a response to a K6 that does not reflect a post-treatment score) (30). Fourth, the MEPS does not indicate within what settings and specialties the advanced-practice providers, including NPs and PAs, are practicing and therefore could be undercounting the number of specialty mental health practice settings. Last, the periods included in our analysis (2008–2011 and 2012–2015) are somewhat brief. However, we were limited by a redesign in the MEPS that was implemented in 2008 and by the transition to *ICD-10* coding that was implemented in 2016. Thus, we used the broadest possible periods whose data are not affected by changes in survey design and coding.

Further research is needed that examines the practice settings for the other-provider category, which represents a significant share of the increased proportion of mental health services during the two periods examined here. For example, among respondents with low or no psychological distress, the significant increase in the proportion of outpatient mental health visits with other providers and the decrease in

the proportion of visits with primary care providers warrant further investigation. The expansion of the collaborative care model, which embeds psychiatry into primary care and sometimes specialty settings, will likely affect where patients receive mental health services (7, 31). It is possible that other providers, including NPs and PAs, are working as psychiatric consultants on collaborative care teams and are getting referrals from primary care.

Additionally, as reported in previous studies using different data sets such as the National Survey on Drug Use and Health (32), we did find that a substantial percentage of respondents with high psychological distress did not report having had a previous mental health visit. This finding could mean that people in need of mental health services are not accessing the treatment they need, which has significant policy implications in support of evolving models of care, including optimal utilization of NPs. Both primary care NPs (33, 34) and PMH APRNs, who composed more than one-quarter of the psychiatric workforce in 2018 (18), are providing mental health services. PMH APRNs have the education, training, and licensure to meet the needs for assessment, diagnosis, psychotherapeutic and psychotherapy interventions, and psychotropic medication treatment (23). Starting in January 2017, the Centers for Medicare and Medicaid Services began paying clinicians for behavioral health integration services that include NPs and PAs as psychiatric consultants (35). However, further research is needed to identify the facilitators and barriers of high-quality behavioral health care among NPs. One study found that NPs receive significantly more mental health-related visits than physicians in community health centers in states with independent practice authority (33).

CONCLUSIONS

The sweeping mental health policy and practice changes over the past decade have created an upsurge in the use of outpatient mental health services. We found that between 2008–2011 and 2012–2015, among MEPS respondents with mental health-related outpatient visits, the percentage of respondents who visited only PCPs decreased and that the percentage of those who visited only other providers increased. We also found that among respondents who had visits only with SMHPs, the percentage treated only with psychotropic medications decreased and that the percentage treated with both psychotropic medications and psychotherapy or mental health counseling increased.

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REFERENCES

1. Olfson M, Kroenke K, Wang S, et al: Trends in office-based mental health care provided by psychiatrists and primary care physicians. *J Clin Psychiatry* 2014; 75:247–253
2. Olfson M, Marcus SC, Druss B, et al: National trends in the outpatient treatment of depression. *JAMA* 2002; 287:203–209
3. Hockenberry JM, Joski P, Yarbrough C, et al: Trends in treatment and spending for patients receiving outpatient treatment of depression in the United States, 1998–2015. *JAMA Psychiatry* 2019; 76:810–817
4. Mulvaney-Day N, Gibbons BJ, Alikhan S, et al: Mental Health Parity and Addiction Equity Act and the use of outpatient behavioral health services in the United States, 2005–2016. *Am J Public Health* 2019; 109(Suppl 3):S190–S196
5. Kuramoto-Crawford SJ, Han B, Jacobus-Kantor L, et al: Receipt of depression treatment from general medical providers and specialty mental health providers. *Psychiatr Serv* 2016; 67:758–765
6. Han B, Compton WM, Mojtabai R, et al: Trends in receipt of mental health treatments among adults in the United States, 2008–2013. *J Clin Psychiatry* 2016; 77:1365–1371
7. Goodrich DE, Kilbourne AM, Nord KM, et al: Mental health collaborative care and its role in primary care settings. *Curr Psychiatry Rep* 2013; 15:383
8. Medicare Improvements for Patients and Providers Act, Pub. L. 110-275, 122 Stat. 2494 (2008)
9. Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008, Pub. L. 110-343, 26 U.S.C. § 9812, 29 U.S.C. § 1185a, and 42 U.S.C. § 300gg-5
10. Final Rule: Medicaid and Children's Health Insurance Programs; Mental Health Parity and Addiction Equity Act of 2008; the Application of Mental Health Parity Requirements to Coverage Offered by Medicaid Managed Care Organizations, the Children's Health Insurance Program (CHIP), and Alternative Benefit Plans. Baltimore, Centers for Medicare and Medicaid Services, 2016. www.federalregister.gov/documents/2016/03/30/2016-06876/medicaid-and-childrens-health-insurance-programs-mental-health-parity-and-addiction-equity-act-of. Accessed Oct 15, 2019
11. Patient Protection and Affordable Care Act, Pub. L. 111-148, 42 U.S.C. §§ 18001–18121 (2010)
12. Olfson M, Wang S, Wall M, et al: Trends in serious psychological distress and outpatient mental health care of US adults. *JAMA Psychiatry* 2019; 76:152–161
13. Wang PS, Demler O, Kessler RC: Adequacy of treatment for serious mental illness in the United States. *Am J Public Health* 2002; 92:92–98
14. Cook BL, Zuvekas SH, Carson N, et al: Assessing racial/ethnic disparities in treatment across episodes of mental health care. *Health Serv Res* 2014; 49:206–229
15. Kilbourne AM, Goodrich D, Miklowitz DJ, et al: Characteristics of patients with bipolar disorder managed in VA primary care or specialty mental health care settings. *Psychiatr Serv* 2010; 61: 500–507
16. Thomas KC, Ellis AR, Konrad TR, et al: County-level estimates of mental health professional shortage in the United States. *Psychiatr Serv* 2009; 60:1323–1328
17. Andrilla CHA, Patterson DG, Garberson LA, et al: Geographic variation in the supply of selected behavioral health providers. *Am J Prev Med* 2018; 54(Suppl 3):S199–S207

18. Beck AJ, Page C, Buche J, et al: The distribution of advanced practice nurses within the psychiatric workforce. *J Am Psychiatr Nurses Assoc* 2020; 26:92–96
19. Kessler R, Stafford D (eds): *Collaborative Medicine Case Studies*. New York, Springer-Verlag, 2008
20. Mechanic D, Bilder S: Treatment of people with mental illness: a decade-long perspective. *Health Aff* 2004; 23:84–95
21. Petterson S, Miller BF, Payne-Murphy JC, et al: Mental health treatment in the primary care setting: patterns and pathways. *Fam Syst Health* 2014; 32:157–166
22. Auerbach DI, Staiger DO, Buerhaus PI: Growing ranks of advanced practice clinicians—implications for the physician workforce. *N Engl J Med* 2018; 378:2358–2360
23. Delaney KR: Psychiatric mental health nursing advanced practice workforce: capacity to address shortages of mental health professionals. *Psychiatr Serv* 2017; 68:952–954
24. MEPS-HC Panel Design and Collection Process. Rockville, MD, Agency for Healthcare Research and Quality. meps.ahrq.gov/survey_comp/hc_data_collection.jsp. Accessed Feb 14, 2020
25. Chowdhury SR, Machlin SR, Gwet KL: Methodology Report #33: Sample Designs of the Medical Expenditure Panel Survey Household Component, 1996–2006 and 2007–2016. Rockville, MD, Agency for Healthcare Research and Quality, 2019. meps.ahrq.gov/data_files/publications/mr33/mr33.pdf. Accessed Feb 15, 2020
26. Kessler RC, Andrews G, Colpe LJ, et al: Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychol Med* 2002; 32:959–976
27. Dismuke CE, Egede LE: Association of serious psychological distress with health services expenditures and utilization in a national sample of US adults. *Gen Hosp Psychiatry* 2011; 33:311–317
28. MEPS-HC Response Rates by Panel. Rockville, MD, Agency for Healthcare Research and Quality, 2019. meps.ahrq.gov/survey_comp/hc_response_rate.jsp. Accessed Feb 2, 2020
29. Machlin S, Yu W, Zodet M: Computing Standard Errors for MEPS Estimates. Rockville, MD, Agency for Healthcare Research and Quality, 2005. www.meps.ahrq.gov/survey_comp/standard_errors.jsp. Accessed Feb 14, 2020
30. Dhingra SS, Zack MM, Strine TW, et al: Psychological distress severity of adults reporting receipt of treatment for mental health problems in the BRFSS. *Psychiatr Serv* 2011; 62:396–403
31. Moser NL, Plante WA, LeLeiko NS, et al: Integrating behavioral health services into pediatric gastroenterology: a model of an integrated health care program. *Clin Pract Pediatr Psychol* 2014; 2:1–12
32. Walker ER, Cummings JR, Hockenberry JM, et al: Insurance status, use of mental health services, and unmet need for mental health care in the United States. *Psychiatr Serv* 2015; 66:578–584
33. Yang BK, Trinkoff AM, Zito JM, et al: Nurse practitioner independent practice authority and mental health service delivery in US community health centers. *Psychiatr Serv* 2017; 68:1032–1038
34. Poghosyan L, Norful AA, Ghaffari A, et al: Mental health delivery in primary care: the perspectives of primary care providers. *Arch Psychiatr Nurs* 2019; 33:63–67
35. Press MJ, Howe R, Schoenbaum M, et al: Medicare payment for behavioral health integration. *N Engl J Med* 2017; 376:405–407