Primary Care–Mental Health Integration Programs in the Veterans Affairs Health System Serve a Different Patient Population Than Specialty Mental Health Clinics

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ABSTRACT

Objective: To assess whether Primary Care–Mental Health Integration (PC-MHI) programs within the Veterans Affairs (VA) health system provide services to patient subgroups that may be underrepresented in specialty mental health care, including older patients and women, and to explore whether PC-MHI served individuals with less severe mental health disorders compared to specialty mental health clinics.

Method: Data were obtained from the VA National Patient Care Database for a random sample of VA patients, and primary care patients with an *ICD-9-CM* mental health diagnosis (N = 243,806) in 2009 were identified. Demographic and clinical characteristics between patients who received mental health treatment exclusively in a specialty mental health clinic (n = 128,248) or exclusively in a PC-MHI setting (n = 8,485) were then compared. Characteristics of patients who used both types of services were also explored.

Results: Compared to patients treated in specialty mental health clinics, PC-MHI service users were more likely to be aged 65 years or older (26.4% vs 17.9%, $P < .001$) and female (8.6% vs 7.7%, $P = .003$). PC-MHI patients were more likely than specialty mental health clinic patients to be diagnosed with a depressive disorder other than major depression, an unspecified anxiety disorder, or an adjustment disorder ($P < .001$) and less likely to be diagnosed with more severe disorders, including bipolar disorder, posttraumatic stress disorder, psychotic disorders, and alcohol or substance dependence ($P < .001$).

Conclusions: Primary Care–Mental Health Integration within the VA health system reaches demographic subgroups that are traditionally less likely to use specialty mental health care. By treating patients with less severe mental health disorders, PC-MHI appears to expand upon, rather than duplicate, specialty care services.

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Mental health care is underutilized in the United States, with less than half of those with mental health disorders receiving some treatment in the previous 12 months.[1,2] Several factors affect the use of mental health services, including the perceived efficacy of care, stigma associated with receiving mental health treatment, and access to services.[3,4] In addition, demographic factors such as older age[5] and female gender[2,6] are associated with decreased use of specialty care among patients treated for a mental health condition. One approach to increase effectiveness and access to mental health care, and potentially reduce stigma, is integration of mental health services into the primary care setting.[4,7]

Integrated mental health care for patients with depression in primary care settings results in greater adherence to treatment and improvements in depression symptoms compared to usual care.[8] Case reports suggest that providing general mental health services in primary care also can reduce delays in patients' initiation of treatment, reduce the incidence of patients not showing up for appointments, and improve patient satisfaction with care. Integrated mental health care in some settings has also improved access to specialty mental health care and reduced referrals to separate specialty services.[9]

The benefits of integrated mental health care prompted the Veterans Affairs (VA) health system to begin national implementation of Primary Care–Mental Health Integration (PC-MHI) in fiscal year 2007. The primary goal of the VA PC-MHI programs was to improve detection of common mental health conditions (ie, depression, anxiety, and alcohol misuse), which may be treated initially by primary care physicians and staff with sufficient support.[10] PC-MHI programs can include both colocated integrated care and care management services. Colocated integrated care involves mental health clinicians being physically present in primary care settings, often with open access to services (ie, patients are seen on the same day or as a walk-in rather than at scheduled appointments). Care management typically utilizes nurse or social work staff to provide psychoeducation, monitoring of depression or anxiety symptoms, and guideline-based recommendations following initiation of pharmacologic treatment or during a period of watchful waiting.[10] PC-MHI programs vary across VA facilities in their age, service activity, staffing, and emphasis on providing colocated care, care management, or both services.[9,11] VA PC-MHI programs have collectively provided over one million patient encounters as of October 2010.

Although considerable data exist on the efficacy of integrated care models, fewer data are available on large-scale implementations of integrated mental health care in large health systems, including data on the groups of patients who might be preferentially served by this new service. In this study, we compared the demographic and clinical characteristics of patients with mental health diagnoses who received treatment exclusively in PC-MHI encounters to those who received mental health treatment exclusively in specialty mental health clinic encounters. We also assessed patients who used both services, as well as those who did not receive

Clinical Points

- PC-MHI programs serve patients with less severe mental illness, such as nonmajor depressive disorders, without involving specialty mental health clinics.
- PC-MHI programs may be particularly useful for serving patients aged 65 years and older.
- PC-MHI programs should be prepared to effectively liaison with specialty mental health clinics for patients with severe mental illnesses.

treatment in either setting (individuals who received mental health treatment exclusively in non–PC-MHI primary care encounters).

We hypothesized that PC-MHI users would be older and more likely to be female than specialty mental health clinic users, as these characteristics have been associated with less frequent specialty mental health use. We further hypothesized that PC-MHI users would be less likely than specialty mental health care users to be diagnosed with a severe mental illness (eg, bipolar or psychotic disorder), in keeping with the expectation that PC-MHI programs would focus on common mental health conditions for patients less likely to require specialty services. Understanding the extent to which PC-MHI programs deliver services to populations distinct from traditional specialty mental health care users will inform the implementation of PC-MHI programs within the VA and in other health care settings.

METHOD

Study Population

We used administrative data from the VA National Patient Care Database for a random sample of 30% of all VA patients receiving primary care in fiscal year 2009 (N = 1,326,480). Within this cohort, we identified all patients (n = 243,806) who in fiscal year 2009 (1) were seen in a primary care setting, (2) had a mental health diagnosis recorded during an outpatient clinical encounter, and (3) were seen at a VA facility with documented PC-MHI program encounter activity.

Patients were categorized on the basis of whether they had received a PC-MHI program encounter, a specialty mental health clinic encounter, both services, or neither service (ie, patients with a mental health diagnosis who were seen in the primary care setting only). Patients with a mental health diagnosis who were seen in primary care only were used as a comparison group in these analyses, as they represent patients with mental health conditions who did not receive services in PC-MHI or specialty mental health settings. Patients who received both PC-MHI and specialty mental health care were further categorized on the basis of whether their initial PC-MHI encounter in the study period was preceded by a specialty mental health encounter in the prior 12 months. This study was conducted in accordance with institutional review board approval from the VA Ann Arbor Health System, Ann Arbor, Michigan.

Measures

Demographic characteristics included age (categorized as 18–34, 45–64, and ≥65 years), gender, race (white, black, other), Hispanic ethnicity, marital status, and service-connected disability of ≥70%. This measure of service-connected disability may be indicative of access to care, illness severity, and affiliation with the VA health care system.[12] Mental health diagnoses were categorized on the basis of the *International Classification of Diseases*, Ninth Revision, Clinically Modified (*ICD-9-CM*) diagnostic codes as follows: major depressive disorder (MDD) (296.2, 296.3), other depression (dysthymic disorder or depressive disorder not otherwise specified) (293.83, 296.90, 296.99, 301.12, 300.4, 309.0, 309.1, 311), posttraumatic stress disorder (PTSD) (309.81), major anxiety (panic disorder, generalized anxiety disorder, phobias, obsessive-compulsive disorder) (300.01, 300.02, 300.2, 300.3), unspecified anxiety disorders (anxiety not otherwise specified, other anxiety, acute stress: 300.00, 300.09, 308), psychotic disorders (schizophrenia: 295.1–295.6, 295.9), schizoaffective disorder (295.7), other psychoses (297.1, 297.3, 298.0, 298.8, 298.9), bipolar disorder (296.0, 2961, 296.4–296.8), personality disorders (301.0, 301.4, 301.6, 301.7, 301.9, 301.20, 301.22, 301.50, 301.81–301.83), alcohol dependence (303), alcohol abuse (305.0), substance dependence (304.0, 304.7, 304.2, 304.4, 304), substance abuse (305.5–305.7, 305.2–305.4, 305.8, 305.9), adjustment disorders (309 excluding 309.81), and other mental health diagnoses (the remainder of 290–319 not classified above, excluding 305.1). Mental health V-codes, which clinicians use to indicate mental health concerns or stressors (eg, family or work problems) not meeting criteria for a disorder, included V61.0, V61.1, V61.2, V61.8, V61.9, V62.83, 995.8 (excluding 995.86 and 995.89), V62 (excluding V62.6), V40 (excluding V40.0 and V40.1), and V65.42.

Analyses

Frequencies and means describing the demographic characteristics and mental health diagnoses were calculated for patients who received PC-MHI, specialty mental health care, both services, or treatment only through their primary care provider. Comparisons between patients who received mental health services only through PC-MHI were compared to those who received services only through a specialty mental health clinic using χ^2 tests. All analyses were performed with SAS version 9.2 (SAS Institute, Cary, North Carolina), and significance was evaluated at the false discovery rate of $\alpha = .025$, reflective of 32 comparisons being made for 3 sets of tests (96 total comparisons) that include the overall test, between PC-MHI and specialty mental health exclusive users test, and between PC-MHI with and without any specialty mental health use test.

RESULTS

Of the 243,806 sampled primary care patients with a mental health diagnosis in fiscal year 2009, 128,248 (52.6%)

Table 1. Characteristics of Veterans Affairs (VA) Primary Care Patients Diagnosed With a Mental Health Condition in 2009[a]

Demographic Characteristics	Primary Care Only (n = 89,659)	PC-MHI (n = 8,485)	Specialty Mental Health Clinic (n = 128,248)	P^b
Age group, y				< .001
18–44	8,113 (9.1)	1,633 (19.3)	24,925 (19.4)	
45–64	42,963 (47.9)	4,610 (54.3)	80,412 (62.7)	
≥65	38,583 (43.0)	2,242 (26.4)	22,911 (17.9)	
Gender (female)	4,233 (4.7)	732 (8.6)	9,917 (7.7)	.003
Race/ethnicity				
White	60,990 (68.0)	5,749 (67.8)	85,072 (66.3)	< .001
Black	15,610 (17.4)	1,399 (16.5)	28,746 (22.4)	< .001
Other	2,034 (2.3)	244 (2.9)	3,929 (3.1)	< .001
Unknown	11,025 (12.3)	1,093 (12.9)	10,501 (8.2)	< .001
Hispanic	2,918 (3.3)	318 (3.8)	5,494 (4.3)	.017
Married	47,315 (52.8)	4,166 (49.1)	56,807 (44.3)	< .001
Service-connected disability ≥ 70%	13,694 (15.3)	1,352 (15.9)	42,462 (33.1)	< .001
Major depressive disorder	2,485 (2.8)	1,439 (17.0)	26,903 (21.0)	< .001
Other depression	24,184 (26.9)	4,506 (53.1)	42,538 (33.2)	< .001
Posttraumatic stress disorder	8,274 (9.2)	1,530 (18.0)	53,713 (41.9)	< .001
Major anxiety disorder	2,260 (2.5)	724 (8.5)	14,211 (11.1)	< .001
Other anxiety disorder	9,193 (10.3)	1,339 (15.8)	11,165 (8.7)	< .001
Psychotic disorder	2,127 (2.4)	174 (2.1)	15,013 (11.7)	< .001
Bipolar disorder	967 (1.1)	167 (2.0)	12,443 (9.7)	< .001
Personality disorder	319 (0.4)	80 (0.9)	5,851 (4.6)	< .001
Alcohol dependence	6,799 (7.6)	642 (7.6)	23,450 (18.3)	< .001
Alcohol abuse	5,574 (6.2)	536 (6.3)	8,117 (6.3)	.960
Substance dependence	1,795 (2.0)	242 (2.9)	17,827 (13.9)	< .001
Substance abuse	2,059 (2.3)	213 (2.5)	6,241 (4.9)	< .001
Adjustment disorder	1,763 (2.0)	367 (4.3)	2,592 (2.0)	< .001
Other mental health diagnosis	27,730 (30.9)	1,806 (21.3)	36,793 (28.7)	< .001
Mental health V code	22,201 (24.8)	1,833 (21.6)	36,286 (28.3)	< .001
No. of distinct mental health diagnoses				< .001
1	67,084 (74.8)	3,463 (40.8)	34,518 (26.9)	
2	17,963 (20.0)	3,326 (39.2)	42,354 (33.0)	
3	3,826 (4.3)	1,319 (15.6)	26,726 (20.8)	
≥4	786 (0.9)	377 (4.4)	24,650 (19.2)	

[a]Data are presented as n (%).
[b]Represents the *P* value for differences between PC-MHI and specialty mental health clinic samples using χ^2 tests.
Abbreviation: PC-MHI = Primary Care–Mental Health Integration.

received a specialty mental health encounter and no PC-MHI encounter; 8,485 (3.5%) received a PC-MHI encounter and no specialty mental health encounter; 17,414 (7.1%) received both categories of encounters; and 89,659 (36.8%) received neither type of encounter. Among those who received both PC-MHI and specialty mental health encounters, 11,338 (65.1%) received specialty mental health care prior to PC-MHI and 5,635 (32.4%) received PC-MHI prior to specialty mental health care.

Comparison of Demographic Characteristics of PC-MHI and Specialty Mental Health Clinic Patients

Primary care patients who received only PC-MHI (and no specialty mental health encounters) were more likely to be aged 65 years or older than were those with specialty mental health encounters exclusively (26.4% vs 17.9%). PC-MHI users were also more likely to be female (8.6% vs 7.7%), white (67.8% vs 66.3%), and married (49.1% vs 44.3%); less likely to be black (16.5% vs 22.4%) or Hispanic (3.8% vs 4.3%); and less likely to have service-connected disabilities ≥ 70% (15.9% vs 33.1%) (Table 1). Demographic characteristics of the patients treated in PC-MHI were indicative of a shared population that emerged from both the primary care only and specialty mental health treatment groups, except patients treated in PC-MHI were more likely to be female and less likely to be black than patients treated in either of the other treatment settings (Table 1).

Comparison of Mental Health Conditions of PC-MHI and Specialty Mental Health Clinic Patients

PC-MHI users were more likely than specialty mental health clinic users to be diagnosed with a depressive disorder other than major depression (53.1% vs 33.2%), an unspecified anxiety disorder (15.8% vs 8.7%), or an adjustment disorder (4.3% vs 2.0%). Users of PC-MHI were less likely to be diagnosed with MDD (17.0% vs 21.0%), PTSD (18.0% vs 41.9%), a major anxiety disorder (8.5% vs 11.1%), a psychotic disorder (2.1% vs 11.7%), bipolar disorder (2.0% vs 9.7%), a personality disorder (0.9% vs 4.6%), alcohol dependence (7.6% vs 18.3%), substance abuse (2.5% vs 4.9%), substance dependence (2.9% vs 13.9%), any other mental health diagnosis (21.3% vs 28.7%), or a mental health V code (21.6% vs 28.3%). There were no statistically significant differences in the prevalence of alcohol abuse (6.3% vs 6.3%). Patients seen in PC-MHI only were more likely to have only 1 or 2 mental health diagnoses, whereas specialty mental health

Table 2. Characteristics of Veterans Affairs (VA) Primary Care Patients Diagnosed With a Mental Health Condition in 2009 Seen in Both PC-MHI and Specialty Mental Health Clinics[a]

Demographic Characteristics	PC-MHI Prior to Specialty Mental Health Clinic (n = 5,635)	Specialty Mental Health Clinic Prior to PC-MHI (n = 11,338)	P^b
Age group, y			<.001
18–44	1,556 (27.6)	3,147 (27.8)	
45–64	3,269 (58.0)	6,842 (60.4)	
≥65	810 (14.4)	1,349 (11.9)	
Gender			<.001
Female	489 (8.7)	1,167 (10.3)	
Male	5,146 (91.3)	10,171 (89.7)	
Race/ethnicity			<.001
White	3,651 (64.8)	7,809 (68.9)	
Black	1,157 (20.5)	2,265 (20.0)	
Other	147 (2.6)	336 (3.0)	
Unknown	680 (12.1)	928 (8.2)	
Hispanic	226 (4.0)	522 (4.6)	
Marital status			.08
Married	2,741 (48.6)	4,732 (41.7)	
Not married	1,713 (30.4)	3,851 (34.0)	
Never married	1,157 (20.5)	2,717 (24.0)	
Unknown	24 (0.4)	38 (0.3)	
Service-connected disability ≥ 70%	1,084 (19.2)	3,269 (28.8)	<.001
Diagnoses recorded in the 12 mo subsequent to index diagnosis			
Major depressive disorder	1,594 (28.3)	3,179 (28.0)	.73
Other depression	2,741 (48.6)	4,529 (40.0)	<.001
Posttraumatic stress disorder	2,159 (38.3)	5,166 (45.6)	<.001
Major anxiety disorder	726 (12.9)	1,557 (13.7)	0.13
Other anxiety disorder	853 (15.1)	1,348 (11.9)	<.001
Psychotic disorder	272 (4.8)	1,055 (9.3)	<.001
Bipolar disorder	322 (5.7)	1,176 (10.4)	<.001
Personality disorder	204 (3.6)	869 (7.7)	<.001
Alcohol dependence	893 (15.8)	26,06 (23.0)	<.001
Alcohol abuse	468 (8.3)	907 (8.0)	.49
Substance dependence	507 (9.0)	1,958 (17.3)	<.001
Substance abuse	300 (5.3)	699 (6.2)	.03
Adjustment disorder	131 (2.3)	207 (1.8)	.03
Other mental health diagnosis	1,753 (31.1)	3,906 (34.4)	<.001
Mental health V code	1,849 (32.8)	4,530 (40.0)	<.001
No. of distinct mental health diagnoses			<.001
1	937 (16.6)	1,704 (15.0)	
2	1,931 (34.3)	3,260 (28.8)	
3	1,584 (28.1)	2,783 (24.6)	
≥4	1,183 (21.0)	3,591 (31.7)	

[a]Data are presented as n (%).
[b]Represents the *P* value for differences between PC-MHI and specialty mental health clinic samples using χ^2 tests.
Abbreviation: PC-MHI = Primary Care–Mental Health Integration.

users were more likely to have 3 or 4 or more separate diagnoses (Table 1).

The prevalence of each diagnosis for PC-MHI users was between that of specialty mental health clinic and exclusively primary care users, except PC-MHI users were more likely to be diagnosed with a nonmajor depressive disorder, an unspecified anxiety disorder, or an adjustment disorder than either of the other treatment settings and were less likely to be diagnosed with a mental health V code or a mental health condition not included in our other categories.

Characteristics of Patients Who Used Both PC-MHI and Specialty Mental Health Clinics

Comparisons of characteristics among patients who received PC-MHI care prior to being seen in specialty mental health clinics and patients who received care in specialty mental health clinics prior to PC-MHI services are shown in Table 2. Among patients who received both PC-MHI and specialty mental health services, those who used PC-MHI services first were more likely to be aged 65 years or older (14.4% vs 11.9%), male (91.3% vs 89.7%), black (20.5% vs 20.0%) or unknown race (12.1% vs 8.2%), and married (48.6% vs 41.7%). Patients seen in PC-MHI before a specialty mental health clinic visit were less likely to be white (64.8% vs 68.9%) or Hispanic (4.0% vs 4.6%).

Patients who had a PC-MHI encounter followed by a specialty mental health clinic encounter compared to those who had a specialty mental health clinic visit first were more likely to be diagnosed with nonmajor depression (48.6% vs 40.0%), an unspecified anxiety disorder (15.1% vs 11.9%),

or an adjustment disorder (2.3% vs 1.8%). Patients seen in a specialty mental health clinic prior to their PC-MHI encounter were more likely to be diagnosed with PTSD (45.6% vs 38.3%), psychotic disorder (9.3% vs 4.8%), bipolar disorder (10.4% vs 5.7%), personality disorder (7.7% vs 3.6%), alcohol dependence (23.0% vs 15.8%), substance dependence (17.3% vs 9.0%), substance abuse (6.2% vs 5.3%), some other mental health condition (34.4% vs 31.1%), or a mental health V code (40.0% vs 32.8%). Each of the above diagnoses and demographic comparisons, with the exception of marital status, were significantly different at $P < .05$.

DISCUSSION

The PC-MHI program within the VA is the largest implementation of integrated mental health care in the United States. We evaluated whether PC-MHI programs provide services to patients who are less likely to access specialty mental health care and to what extent PC-MHI program users were diagnosed with conditions more appropriate for initial treatment in primary care settings. In essence, we wanted to determine whether PC-MHI services represent a complement to or a substitute for specialty mental health services. We found that PC-MHI programs served a distinct population from specialty mental health clinics. Specifically, PC-MHI users were older, more likely to be female, and less likely to have severe mental health disorders, as compared to specialty mental health clinic users.

Our finding that VA patients older than age 65 years were more likely to be seen in primary care (with or without PC-MHI) compared to specialty mental health care is consistent with prior research showing that older adults are more likely to receive mental health services in primary care settings.[12] This finding is particularly important because integrated care may address the frequently inadequate depression care that older patients receive in primary care settings and may specifically reduce suicidal ideation among older adults.[13,14]

In the general population, women are more likely to receive mental health services than men; however, among those receiving any mental health care, men are more likely to receive specialty care.[2,6] Consistent with our hypothesis, PC-MHI patients were more likely to be female compared to patients who received specialty mental health services; however, in contrast to non-VA populations, women also comprised a larger proportion of specialty mental health care patients when compared to primary care–only patients. With the increased prevalence of women in the military and subsequently among VA patients,[15] there has been concern about whether VA mental health services are adequately addressing women's needs. Specialized programs for women's mental health were created in response to this issue, and sites with comprehensive women's primary care clinics were also more likely to deliver integrated mental health services.[16] The greater representation of women in PC-MHI programs compared to primary care–only or specialty health clinics could also be related to the greater incidence of depression, a target of PC-MHI programs, among women. Men are more likely than women to serve in combat roles, and male VA patients are accordingly more likely to be diagnosed with PTSD.[17,18] Because PC-MHI programs do not focus on treatment of PTSD, differences in prevalence of PTSD between genders might also account for differences in PC-MHI use.[19]

Consistent with the goals of the VA PC-MHI program and with our hypotheses, we found that PC-MHI patients were less likely to be diagnosed with mental health conditions that often warrant longer-term treatment in specialty mental health clinic settings. PC-MHI patients were much more likely to be diagnosed with less severe depression and other anxiety disorders compared to specialty mental health clinic patients, who were more frequently diagnosed with more severe mental illnesses such as schizophrenia, bipolar disorder, personality disorders, or substance dependencies. As expected, rates of PTSD, MDD, and major anxiety disorder diagnoses were lower in PC-MHI than in specialty mental health, although the rates of diagnosis within PC-MHI highlight the range of diagnoses that may need management within PC-MHI prior to referral to specialty mental health clinics from PC-MHI. We observed somewhat lower rates of "other" mental health disorders (eg, cognitive disorders, eating disorders, attention-deficit/hyperactivity disorder) in PC-MHI as compared to either specialty mental health clinics or primary care–only treatment. The lower rates of other mental health disorders diagnosed in PC-MHI programs were most likely because managing these conditions has not been a focus of PC-MHI programs, and, therefore, patients willing to seek treatment for these conditions would most likely be referred directly to a specialty mental health clinic. We also found lower rates of mental health V codes among PC-MHI users compared to those treated in other settings, which suggests that patients are not often referred to PC-MHI for psychosocial stressors in the absence of a diagnosable mental health disorder; rather, these conditions may occur more often during the course of routine primary care or are comorbid with other mental health conditions in specialty mental health clinic settings.

Although we found a clear contrast between patients treated exclusively in PC-MHI settings compared to those treated exclusively in a specialty mental health clinic, only one-third of patients with a PC-MHI encounter had no prior or subsequent specialty mental health clinic use. This finding suggests that PC-MHI often serves as a "gateway" to specialty mental health clinics or, alternatively, is used to assist patients who have fallen out of specialty mental health care and reemerge in the primary care setting. The possibility that PC-MHI programs serve a linkage role that may approximate or exceed the treatment or care management role has important implications regarding the need to establish related evidence-based practices and tools to evaluate linkage effectiveness.

We explored the characteristics of patients who received care in both PC-MHI and specialty mental health settings on the basis of the location of their initial mental health treatment. In general, we found that patients seen in PC-MHI settings followed by a specialty mental health clinic had less severe mental health diagnoses compared to patients

with specialty mental health clinic use prior to their PC-MHI encounter. PC-MHI within the VA specifically targets alcohol use disorders and PTSD for screening, assessment, and referral to specialty care when indicated. Consistent with these goals, we found these conditions to be more prevalent among patients initially seen in PC-MHI settings who then had a subsequent specialty mental health clinic visit compared to patients seen only in PC-MHI settings. It has not been a priority of PC-MHI implementation within the VA to address the needs of patients with other severe mental illnesses such as bipolar disorder and schizophrenia, nor has much attention been given within the literature. Nonetheless, with the availability of mental health services in primary care provided by PC-MHI, these services are utilized by patients with severe mental illness and should be anticipated and addressed in future research.

Our results should be interpreted in context of potential limitations. We identified VA facilities with PC-MHI programs and PC-MHI program use through utilization of an administrative code during clinical encounters. Characteristics of the PC-MHI programs, such as the program size, the length of time the program has been implemented, or specific treatment modalities, were not included. This information may have significantly influenced the number of patients seen in PC-MHI, as well as the frequency and types of diagnoses documented within the PC-MHI setting. Additionally, diagnoses were derived from clinical encounters, not standardized interviews, and differences in diagnoses may partially reflect differences between provider types, particularly when making comparisons to patients only seen in primary care by health care providers who are not mental health specialists (ie, because mental health specialists receive additional training in diagnosing mental health disorders). Further, because this is a sample of VA health system users, the generalizability of the results to other health systems may be limited, as patient characteristics and health care utilization patterns of VA users may be specific to the VA. We note that PC-MHI within the VA health system remains relatively new, and subsequent work should evaluate the extent to which access to PC-MHI services and utilization patterns may change over time as programs mature.

In summary, the PC-MHI program within the VA is the largest national implementation of an integrated mental health treatment program to date. The data suggest that the PC-MHI program serves a patient population distinct from traditional specialty mental health services in that PC-MHI patients are more likely to be female, older, and diagnosed with less severe forms of depression and anxiety disorders. Patients with severe mental illnesses are generally referred to or exclusively use specialty mental health services. Given that the majority of patients seen in PC-MHI programs also have contact with specialty mental health services, PC-MHI clinicians should receive sufficient training to identify severe mental disorders and effectively link these patients to the appropriate specialty care setting. Future work should explore the impact and completion of transitions between primary care, PC-MHI, and specialty care settings and develop new evidence-based practices to evaluate and optimize these transitions in the context of patients' overall mental health care.

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