

Chapter 7

Health and Healthcare Disparities Among Veterans with Serious Mental Illness

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Section I: Significance & Background

Compared to the general population, individuals with serious mental illness (SMI) have between 14-30 years shorter life expectancy, depending on the study.^{1, 2, 3, 4, 5, 6, 7} Individuals with SMI who are treated in VA are on the lower end of this mortality gap with between 14-18 years shorter life expectancy compared to the general US population.⁸ SMI as a category has been variably defined across studies. For the purposes of this chapter, and in line with the most typical definitions of SMI, the SMI group included schizophrenia, schizoaffective disorder, bipolar disorders, major depression with psychosis, and psychotic disorders not otherwise specified. Schizophrenia is considered the hallmark disorder of SMI.

In a systematic review across 25 countries, individuals with schizophrenia were found to have, on average, a 2.5 times increased risk of death compared to the general population.⁹ And, although healthcare has improved over the last several decades, individuals with schizophrenia have not benefitted from advances in prevention, medicine, and system design that have reduced mortality and disability in the rest of the population.^{10, 11} In fact, looking across several countries, mortality and morbidity rates for the population with schizophrenia have been *increasing* in a linear fashion during the period from 1980 to 2006.⁹ This loss of health was attributable to a number of factors, such as medication side effects, lifestyle factors and cognitive deficits, and healthcare system disparities in access and utilization.⁶

There is also considerable increased risk of mortality and morbidity for the SMI population from physical health disorders. The 2001-2003 National Comorbidity Survey Replication, a nationally representative epidemiological survey of the U.S. population, found that more than 68% of adults with mental disorders also have medical conditions.¹² People with SMI, both generally and in the VA, have particularly high rates of co-occurring medical disorders,¹ including poorly treated cardiovascular disease, metabolic abnormalities, respiratory and infectious

- 1 Colton C, Manderscheid R. Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Prev Chronic Dis [serial online]*. 2006.
- 2 De Hert M, Correll CU, Cohen D. Do antipsychotic medications reduce or increase mortality in schizophrenia? A critical appraisal of the FIN-11 study. *Schizophr Res*. Vol 117. 2010:68-74.
- 3 Kisely S, Smith M, Lawrence D, Maaten S. Mortality in individuals who have had psychiatric treatment population-based study in Nova Scotia. *The British Journal of Psychiatry*. 2005;187(6):552-558.
- 4 Roshanaei-Moghaddam B, Katon W. Premature mortality from general medical illnesses among persons with bipolar disorder: a review. *Psychiatr Serv*. 2009;60(2):147-156.
- 5 Brazier JE, Roberts J. The estimation of a preference-based measure of health from the SF-12. *Med Care*. 2004;42(9):851-859.
- 6 De Hert M, Correll CU, Bobes J, et al. Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*. 2011;10(1):52-77.
- 7 Tidemalm D, Waern M, Stefansson C-G, Elofsson S, Runeson B. Excess mortality in persons with severe mental disorder in Sweden: a cohort study of 12 103 individuals with and without contact with psychiatric services. *Clinical Practice and Epidemiology in Mental Health*. 2008;4(1):23.
- 8 Kilbourne AM, Morden NE, Austin K, et al. Excess heart-disease-related mortality in a national study of patients with mental disorders: identifying modifiable risk factors. *Gen Hosp Psychiatry*. 2009;31(6):555-563.
- 9 Saha S, Chant D, McGrath J. A systematic review of mortality in schizophrenia: is the differential mortality gap worsening over time? *Arch Gen Psychiatry*. 2007;64(10):1123-1131.
- 10 Laursen TM, Munk-Olsen T, Gasse C. Chronic somatic comorbidity and excess mortality due to natural causes in persons with schizophrenia or bipolar affective disorder. *PLoS One*. 2011;6(9):e24597.
- 11 Dickerson F, Brown C, Kreyenbuhl J, et al. Obesity among individuals with serious mental illness. *Acta Psychiatrica Scandinavica*. 2006;113(4):306-313.
- 12 Alegria M, Jackson JS, Kessler RC, D. T. National Comorbidity Survey Replication (NCS-R) 2001-2003. *Ann Arbor: Interuniversity Consortium for Political and Social Research*. 2003.

diseases.^{13, 14, 15, 16, 17, 18, 19} Cardiovascular disease and coronary artery disease have been identified as leading causes of mortality in the SMI population.^{20, 21, 22}

As a group, mental and substance use disorders have been the leading cause of non-fatal global disease burden and fifth in overall disease burden, which includes impact from both mortality and morbidity as measured in disability-adjusted life years (DALYs).¹⁸ Although depressive and anxiety disorders are more prevalent and carry higher global burden, SMI accounts for the highest disability weights.¹⁸ Despite the low prevalence of SMI (approximately 4% of the U.S. population),²³ they account for the majority of patients treated at outpatient public mental health clinics, including VA.²⁰

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- 13 Colton C, Manderscheid R. Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Prev Chronic Dis [serial online]*. 2006
 - 14 Kilbourne AM, Morden NE, Austin K, et al. Excess heart-disease-related mortality in a national study of patients with mental disorders: identifying modifiable risk factors. *Gen Hosp Psychiatry*. 2009;31(6):555-563
 - 15 Bindman J, Johnson S, Wright S, et al. Integration between primary and secondary services in the care of the severely mentally ill: patients' and general practitioners' views. *Br J Psychiatry*. 1997;171:169-174.
 - 16 Kisely S, Crowe E, Lawrence D. Cancer-related mortality in people with mental illness. *JAMA psychiatry*. 2013;70(2):209-217.
 - 17 Lawrence D, Hancock KJ, Kisely S. The gap in life expectancy from preventable physical illness in psychiatric patients in Western Australia: retrospective analysis of population based registers. Vol 3462013.
 - 18 Whiteford HA, Degenhardt L, Rehm J, et al. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. *The Lancet*. 2013;382(9904):1575-1586.
 - 19 Walker ER, McGee RE, Druss BG. Mortality in mental disorders and global disease burden implications: a systematic review and meta-analysis. *JAMA psychiatry*. 2015;72(4):334-341.
 - 20 Newcomer JW, Sernyak MJ. Identifying metabolic risks with antipsychotics and monitoring and management strategies. *J Clin Psychiatry*. 2007;68(7):e17.
 - 21 Newcomer JW. Metabolic considerations in the use of antipsychotic medications: a review of recent evidence. *J Clin Psychiatry*. 2007;68 Suppl 1:20-27.
 - 22 Dixon LB, Kreyenbuhl JA, Dickerson FB, et al. A comparison of type 2 diabetes outcomes among persons with and without severe mental illnesses. *Psychiatr Serv*. 2004;55(8):892-900.
 - 23 NAMI. Mental health facts in America. 2015; <https://www.nami.org/getattachment/Learn-More/Mental-Health-By-the-Numbers/General-MH-Facts-4-12-15.pdf>. Accessed August 14, 2015.

Formation of Mental Health Groupings

The focus of this chapter is on those Veterans in VA care in FY13 who have a serious mental illness (SMI).

Key Information For Interpreting The Results In This Chapter

In order to contextualize the findings regarding the group of Veterans with SMI, we have established five comparison groups, for a total of six groups:

- 1) serious mental illness;
- 2) mood or anxiety disorders;
- 3) post-traumatic stress disorder (PTSD);
- 4) substance abuse;
- 5) other mental health and
- 6) no mental health diagnoses.

The comparison groups were formed hierarchically such that individuals who had comorbid mental health diagnoses were placed in the highest group for which they had a diagnosis, starting with the SMI group.

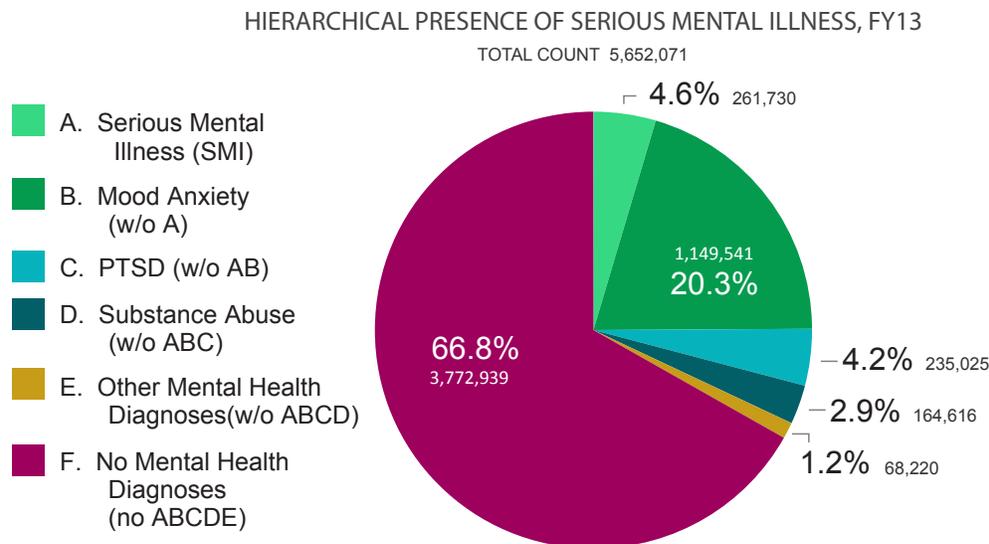
It is important to note throughout this chapter, when comparison groups are referred to, the reader must consider the implications of the hierarchy on interpretation. For example, those in the substance abuse comparison group are only those with a substance abuse diagnosis who did not also have a comorbid SMI, mood, anxiety, or PTSD diagnosis (i.e., groups higher in the hierarchy). It follows, then, that those in the “substance abuse” comparison group were not the whole population with that diagnosis. Only two groups in this chapter include the full VA population in care in FY13 with that diagnosis: the SMI group and the no mental health group. Each of the other groups (mood/anxiety disorders, PTSD, substance abuse, other mental health) contains only a subset of the VA population in care in FY13 with that diagnosis.

Distribution of Veteran VHA Patients by Mental Health Diagnosis

The Veteran population in VA care in FY13 who had no mental health diagnoses was 66.8% ([Exhibit 7-1](#)). The percent of the Veteran population in VA care in FY13 who had an SMI diagnosis was 4.6%. The overall percent of the other mental health groups cannot be interpreted due to the hierarchical build of the groups.

EXHIBIT 7-1

DISTRIBUTION OF MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13



Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS Community epidemiological surveys estimate that as many as 30% of the adult population in the United States meet criteria for a DSM mental disorder within a 12-month period.²⁴ The percent of Veterans in VA care in FY13 with a mental health diagnosis was 33.2%, or over 1.8 million.

According to the National Alliance on Mental Illness, approximately 4% (14 million) of the adult population in the United States is living with a SMI.²⁵ Specifically, about 1% (2 million) has schizophrenia and 3% (6 million) has bipolar disorder.²⁵ The rate of Veterans with a SMI diagnosis in VA care in FY13 was 4.6%, or 261,730 individuals.

Not only is the rate of mental illness diagnoses, and SMI in particular, higher in VA compared to the general adult population, the VA numbers here only include those Veterans with the diagnosis who

24 Kessler RC, McGonagle KA, Zhao S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. *Arch Gen Psychiatry*. 1994;51(1):8-19.

25 NAMI. Mental health facts in America. 2015; <https://www.nami.org/getattachment/Learn-More/Mental-Health-By-the-Numbers/General-MH-Facts-4-12-15.pdf>. Accessed August 14, 2015.

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are also in care in a particular fiscal year. This means the numbers in this chapter are an underestimate of the diagnoses in the Veteran population at large and indicates a higher burden of mental health disorders in Veterans.

Veterans with SMI are treated in VA specialty mental health clinics. National treatment guidelines are clear on both psychopharmacologic and psychosocial treatments indicated for this population. These mental health treatments include guideline-concordant medication management, assertive community treatment (called Mental Health Intensive Case Management, or MHICM, in VA), family and caregiver psychoeducation, supported employment, social skills training, psychoeducation, and cognitive behavioral psychotherapies.^{26, 27, 28}

Comorbidity Amongst Mental Health Diagnoses

Rates of comorbid mental health diagnoses can be high. Additionally, as a consequence of the hierarchical build of the mental health groupings for this chapter it was expected that comorbidity of mental health diagnoses will be even greater in the “highest” groups in the hierarchy (e.g., SMI, mood/anxiety) and lesser in the “lowest” group (e.g., other mental health). Comorbidity of mental health disorders in the Veterans in care in FY13 is available in [Exhibit 7-2](#). The SMI group had high comorbidity with PTSD (28.2%), anxiety disorders (23.5%), alcohol use disorders (23.9%), and drug use disorders (22.6%). Keeping in mind the hierarchical build of the comparison groups, it is still noteworthy that the mood/anxiety group had high comorbidity with PTSD (32.5%) as well as alcohol (15.7%) and drug (10.3%) use disorders. The PTSD comparison group had high comorbidity with alcohol use disorders (11.5%).

26 Dixon LB, Dickerson F, Bellack AS, et al. The 2009 schizophrenia PORT psychosocial treatment recommendations and summary statements. *Schizophr Bull.* 2010;36(1):48-70.

27 Kreyenbuhl J, Buchanan RW, Dickerson FB, Dixon LB. The Schizophrenia Patient Outcomes Research Team (PORT): updated treatment recommendations 2009. *Schizophr Bull.* 2010;36(1):94-103.

28 American Psychiatric Association. Practice guideline for the treatment of patients with bipolar disorder (revision). *Am J Psychiatry.* 2002;159(4 Suppl):1-50.

EXHIBIT 7-2

PERCENT DISTRIBUTION OF MENTAL HEALTH COMORBIDITIES
AMONG VETERAN VHA PATIENTS, FY13

Hierarchical Presence of Serious Mental Illness, FY13

	A.	B.	C.	D.	E.	F.	
	Serious Mental Illness (SMI)	Mood Anxiety (w/o A)	PTSD (w/o AB)	Substance Abuse (w/o ABC)	Other Mental Health Diagnoses (w/o ABCD)	No Mental Health Diagnosis (no ABCDE)	Total
COUNT	261,730	1,149,541	235,025	164,616	68,220	3,772,939	5,652,071
	%	%	%	%	%	%	%
Major Depressive Disorder	19.3	24.8					5.9
Depression, Possible - Other	34.6	70.7					16.0
PTSD	28.2	32.5	100.0				12.1
Acute Stress Disorders	0.5	0.6	0.3	0.2	5.3		0.2
Anxiety Disorders - Other	23.5	39.1					9.0
Adjustment Disorders	4.7	6.8	4.4	3.7	55.2		2.6
Bipolar Disorders	49.9						2.3
Schizophrenia	34.7						1.6
Psychotic Disorders - Other	21.1						1.0
Alcohol Use Disorders	23.9	15.7	11.5	79.2			7.1
Drug Use Disorders	22.6	10.3	5.9	33.5			4.4
Eating Disorders	0.3	0.2	<0.1	<0.1	0.4		0.1
Dissociative Disorders	0.2	0.1	<0.1	<0.1	0.1		<0.1
Personality Disorders	8.2	2.5	0.8	0.6	3.1		1.0
Conduct/Impulse Control Disorders	1.9	0.8	0.4	0.4	2.4		0.3
Somatoform Disorders	1.2	1.2	0.5	0.2	4.3		0.4
Attention Deficit Disorder/Hyper-kinetic Disorder	2.4	2.0	1.2	0.4	11.6		0.7
Psychiatric Disorders - Nonspecific	11.0	4.1	1.5	2.0	22.0		1.7

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as “Veteran FY13 VHA patients” (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS There is considerable burden in this population with SMI of several comorbid mental health diagnoses with at least a quarter also having PTSD or a substance use disorder. There is expertise to be shared across clinicians regarding treatment of Veterans with SMI, substance use disorders, and PTSD. These illnesses are often treated in clinics that are siloed from one another (e.g., specialized PTSD clinic, dual diagnosis clinic) and formal Standards of Practice (SOPs) for consultation across experts of specific mental health diagnoses could improve outcomes and treatment compliance.

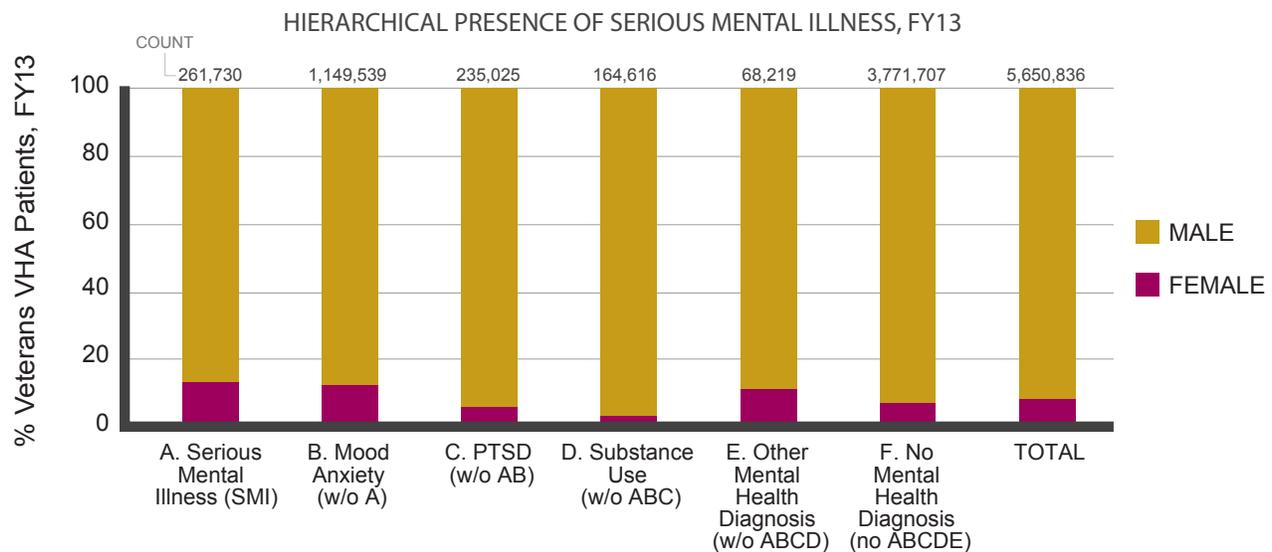
Section II: Sociodemographics

Gender by Mental Health Diagnoses

The Veteran population with SMI in VA care in FY13 had a higher percentage of females (11.8%) compared to the overall Veteran population (6.8%; See [Exhibit 7-3](#)). The female Veteran population was also higher in the comparison groups of mood/anxiety (11.0%) and other mental health (9.8%) compared to the overall Veteran population.

EXHIBIT 7-3

DISTRIBUTION OF GENDER BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13



Missing = 1,235

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as “Veteran FY13 VHA patients” (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS The gender representation of women in the SMI, mood/anxiety, and other mental health groups compared to the overall VA population in care in FY13 highlights the need for VA healthcare services that are gender sensitive within the mental health services care line.²⁹ It also indicates a need for training in the care of SMI for staff and clinicians in the VA women’s clinics.

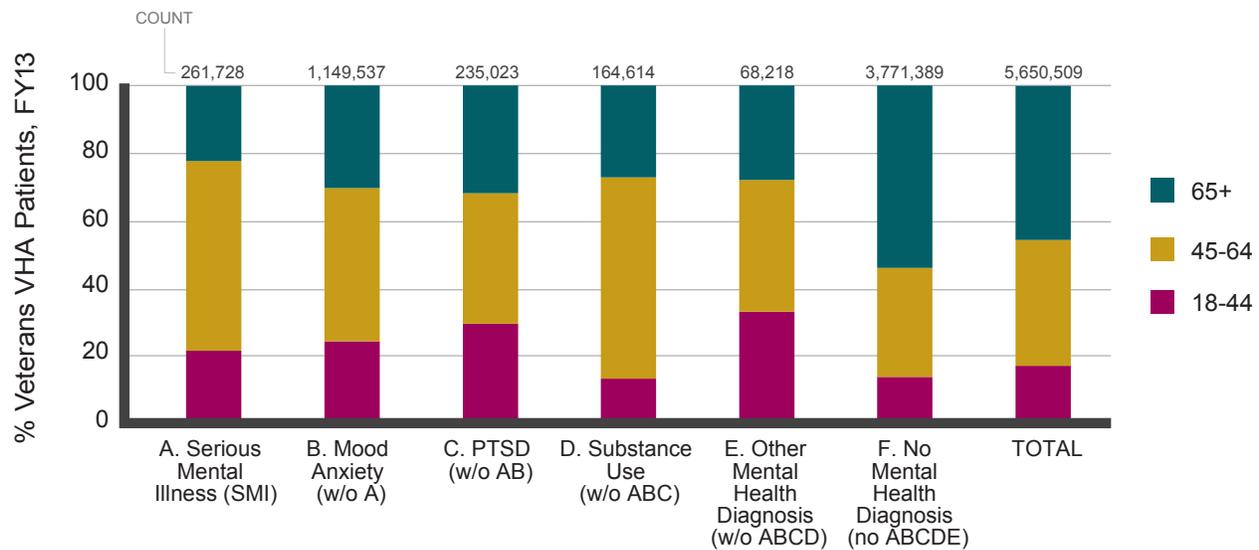
29 Washington DL, Farmer MM, Mor SS, Canning M, Yano EM. Assessment of the healthcare needs and barriers to VA use experienced by women Veterans: findings from the national survey of women Veterans. *Med Care.* 2015;53:S23-S31.

Age by Mental Health Diagnoses

A higher percent of the Veteran population with SMI in care in FY13 was younger than 65 compared to the overall Veteran population ([Exhibit 7-4](#)). Specifically, 77.4% of the SMI group was under 65 while 53.7% of the overall VA population and 45.3% of the no mental health diagnoses group was in that age group. While only 22.6% of the SMI group fell in the 65+ category, all other groups had a higher percentage in those senior years.

EXHIBIT 7-4

PERCENT DISTRIBUTION OF AGE BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13



Missing = 1,562

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS All of the mental health groups in VA care in FY13 had a higher percent of their population in the under-65 age categories. This may reflect the truncated life span experienced by individuals with mental illness or the influx of new Veterans experiencing mental illness post deployment. With younger Veterans entering VA care, there has been an influx of parents and spouses in need of education and support to understand the mental illness of their loved one. Training for staff and clinicians (e.g., couples counseling, family education, shared decision making training) and adjustments to clinic work space (e.g., group rooms, toys for children) will need to be considered. Younger Veterans ask for more technology-based access to care and phone consultation in lieu of face-to-face appointments.

Race/Ethnicity by Mental Health Diagnoses

The Veteran population with SMI in VA care in FY13 was 65.1% White and 23.2% Black/African American ([Exhibit 7-5](#)). The percent of Black/African Americans in the SMI group was considerably higher than the overall VA population (15.5%); and only surpassed by the substance abuse group (26.7%).

EXHIBIT 7-5

PERCENT DISTRIBUTION OF RACE/ETHNICITY BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13

Hierarchical Presence of Serious Mental Illness, FY13

	A. Serious Mental Illness (SMI)	B. Mood Anxiety (w/o A)	C. PTSD (w/o AB)	D. Substance Abuse (w/o ABC)	E. Other Mental Health Diagnoses (w/o ABCD)	F. No Mental Health Diagnosis (no ABCDE)	Total
COUNT	261,730	1,149,541	235,025	164,616	68,220	3,772,939	5,652,071
American Indian/ Alaska Native	0.6	0.7	1.0	0.7	0.6	0.5	0.6
Asian	0.7	0.7	1.0	0.3	1.0	0.9	0.8
Black/African American	23.2	16.3	19.0	26.7	17.6	13.9	15.5
Native Hawaiian/ Other Pacific Islander	0.7	0.7	1.0	0.5	0.7	0.6	0.6
Multi-race	0.9	0.8	0.8	0.6	0.8	0.5	0.6
Hispanic	7.0	6.5	7.8	5.2	7.1	4.7	5.4
Unknown	1.8	2.8	2.1	4.0	4.0	4.1	3.7
White	65.1	71.5	67.3	62.0	68.3	74.8	72.9

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as “Veteran FY13 VHA patients” (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS The VA is committed to providing equitable access to care for all Veterans. African-American Veterans, compared to White Veterans, are more likely to depend on VA to provide at least some of their healthcare^{30,31} and these groups were overrepresented in the population of Veterans with Serious Mental Illness-Patient-Aligned Care Teams (SMI-PACT), or substance abuse. Since African-Americans have been shown to have poorer clinical outcomes in hypertension, cardiovascular care, and diabetes care³² and these physical illnesses are higher in those individuals on second-generation antipsychotics, there is particular concern that gaps in care for these illnesses may exist for the Veteran population with SMI. These illnesses have been targeted as high priority for the new SMI-PACT teams being tested in VISN 22, funded by VA Health Services Research and Development funds (VA HSR&D SDP 12-177).

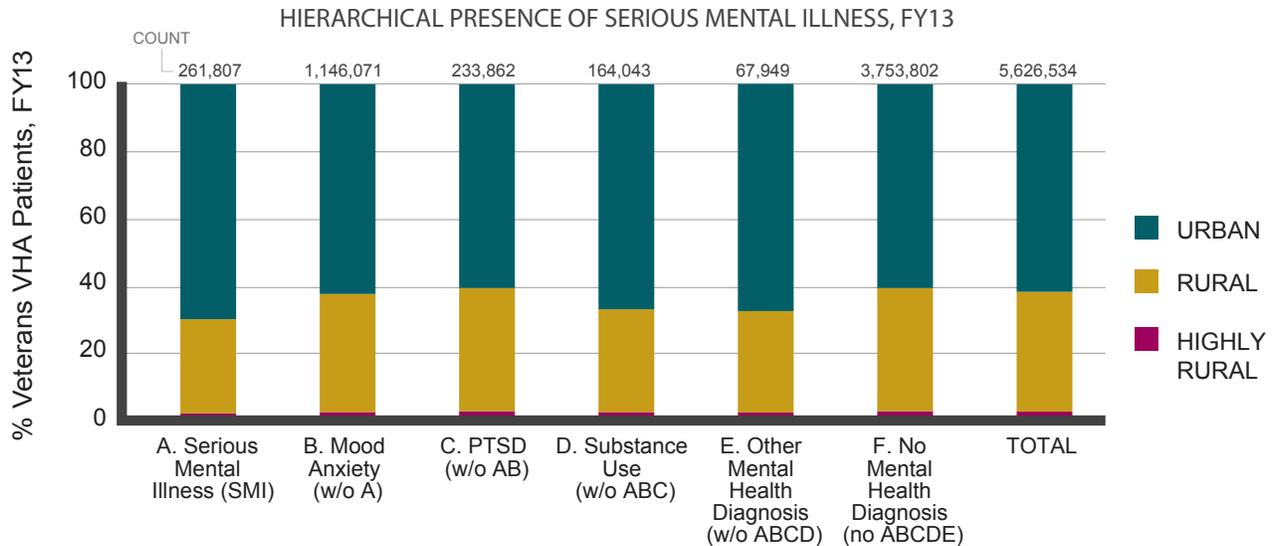
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- 30 Washington DL, Farmer MM, Mor SS, Canning M, Yano EM. Assessment of the healthcare needs and barriers to VA use experienced by women Veterans: findings from the national survey of women Veterans. *Med Care*. 2015;53:S23-S31.
- 31 Harada ND, Damron-Rodriguez J, Villa VM, et al. Veteran identity and race/ethnicity: influences on VA outpatient care utilization. *Med Care*. 2002;40(1 Suppl):1117-128.
- 32 Trivedi AN, Grebla RC, Wright SM, Washington DL. Despite improved quality of care in the Veterans Affairs health system, racial disparity persists for important clinical outcomes. *Health Affairs*. 2011;30(4):707-715.

Rural/Urban Status by Mental Health Diagnoses

As compared to all other mental health groups, those with no mental health, and the overall Veteran population in care in FY13, more Veterans with SMI were living in urban locales and fewer of them were living in either rural or highly rural settings ([Exhibit 7-6](#)).

EXHIBIT 7-6

PERCENT DISTRIBUTION OF RURAL/URBAN STATUS BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13



Missing = 1,562

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as “Veteran FY13 VHA patients” (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS Urban locales allow for easier access to in-person VA care, including both physical and mental health services, but those with SMI often live in parts of the city populated by those with limited income. For this reason, VA research should continue to examine the effects of social determinants of health and health behavior.

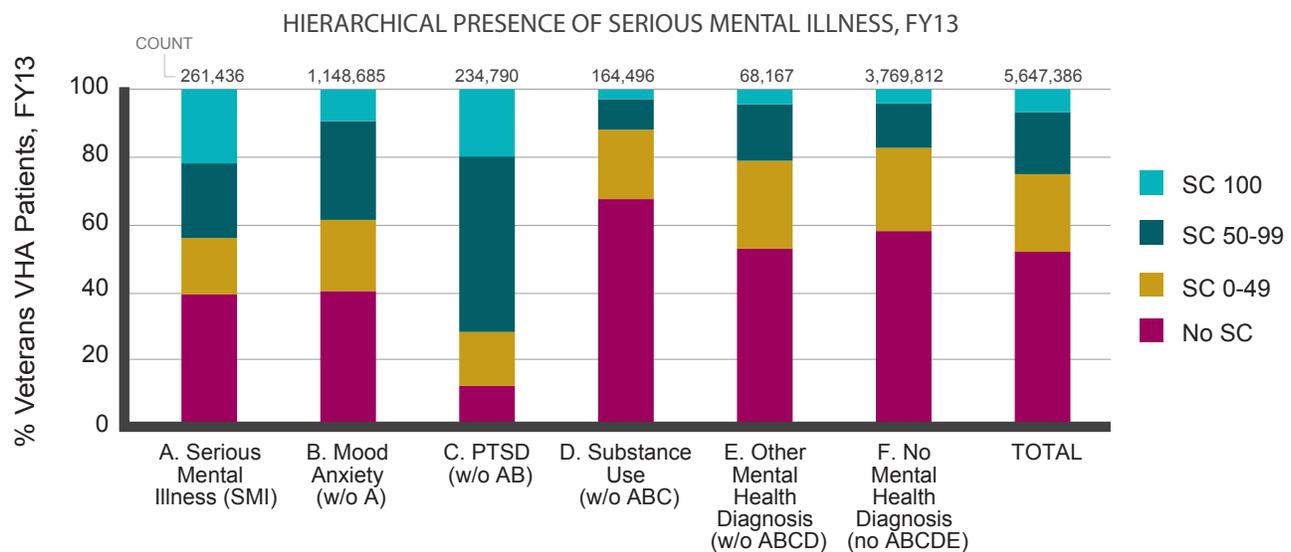
With between a quarter and a third of all Veterans, including those with mental illness, living in rural locales, there needs to be continued support of tele-mental health services. Access to specialty physical health services via the Veterans Access, Choice and Accountability Act of 2014 (Public Law 113-146) is also critical.

Service-Connected Disability Rating Status by Mental Health Diagnoses

A higher percent of the population of Veterans in care with SMI, a mood or anxiety disorder, or PTSD had a service-connected disability (SC \geq 0) in FY13 compared to all other groups. As expected, the PTSD group had the highest percent of those with service-connected disabilities (*Exhibit 7-7*). A total of 44.5% of the Veteran population with SMI had 50% or higher service-connection for their disabilities. The Veteran population in care in FY13 with SMI or PTSD had the highest percent of Veterans with 100% service connection for their disabilities.

EXHIBIT 7-7

PERCENT DISTRIBUTION OF SERVICE-CONNECTED STATUS BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13



Missing = 1,562

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS Having a VA service-connected disability is a strong facilitator of access to VA care. These data do not provide information on what condition or conditions led to a service-connected disability in these populations, but given the increased access allowed to these populations with a service-connection, there needs to be adequate full-time equivalent employees (FTEs) available in both primary care and specialty mental health. These FTEs need experience working with mental health populations with complex physical health illnesses.

Section III: Utilization

VHA Outpatient Encounters by Mental Health Diagnoses

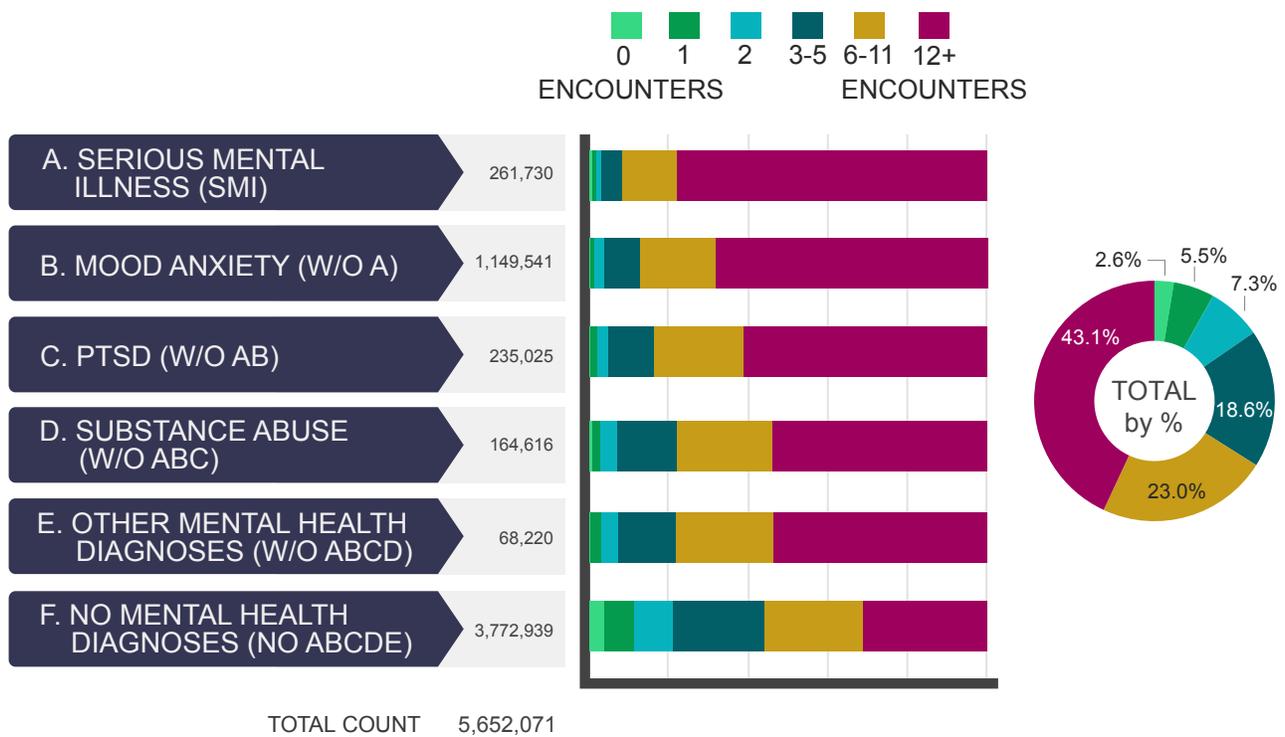
The Veteran population with SMI in VA care in FY13 is noted for its high number of outpatient encounters ([Exhibit 7-8](#)), which includes encounters for physical health (both primary care and specialists) and mental health (including substance use disorders).

The vast majority of the SMI group (78.1%) had 12+ outpatient visits in FY13. Similarly, the majority of each of the comparison mental health groups also received 12+ outpatient visits (range 53.6-68.4%) but these rates were lower than the SMI group. Only a minority of those with no mental health diagnoses received 12+ outpatient visits (31.2%) in FY13.

EXHIBIT 7-8

PERCENT DISTRIBUTION OF OUTPATIENT ENCOUNTERS BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13

HIERARCHICAL PRESENCE OF SERIOUS MENTAL ILLNESS, FY13



Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS In the Healthcare for Communities Survey, a national survey including adults from 60 communities across the United States, service utilization was measured. In a 12-month period, the mean number of visits to specialty outpatient providers was 13 for individuals with SMI, 15 for individuals with mental health diagnoses but not SMI, and 11 for individuals with no mental health diagnosis.³³ The Healthcare for Communities Survey did not include diagnostic measures of the most severe illnesses such as schizophrenia and bipolar disorder and therefore might underrepresent these groups. Additionally, many of those included in the Survey did not have insurance, limiting their ability to use services. In sum, the VA users may be utilizing more services than the community surveys might suggest and usage is high across all mental health groups.

33 McAlpine DD, Mechanic D. Utilization of specialty mental health care among persons with severe mental illness: the roles of demographics, need, insurance, and risk. *Health Serv Res.* 2000;35(1 Pt 2):277-292.

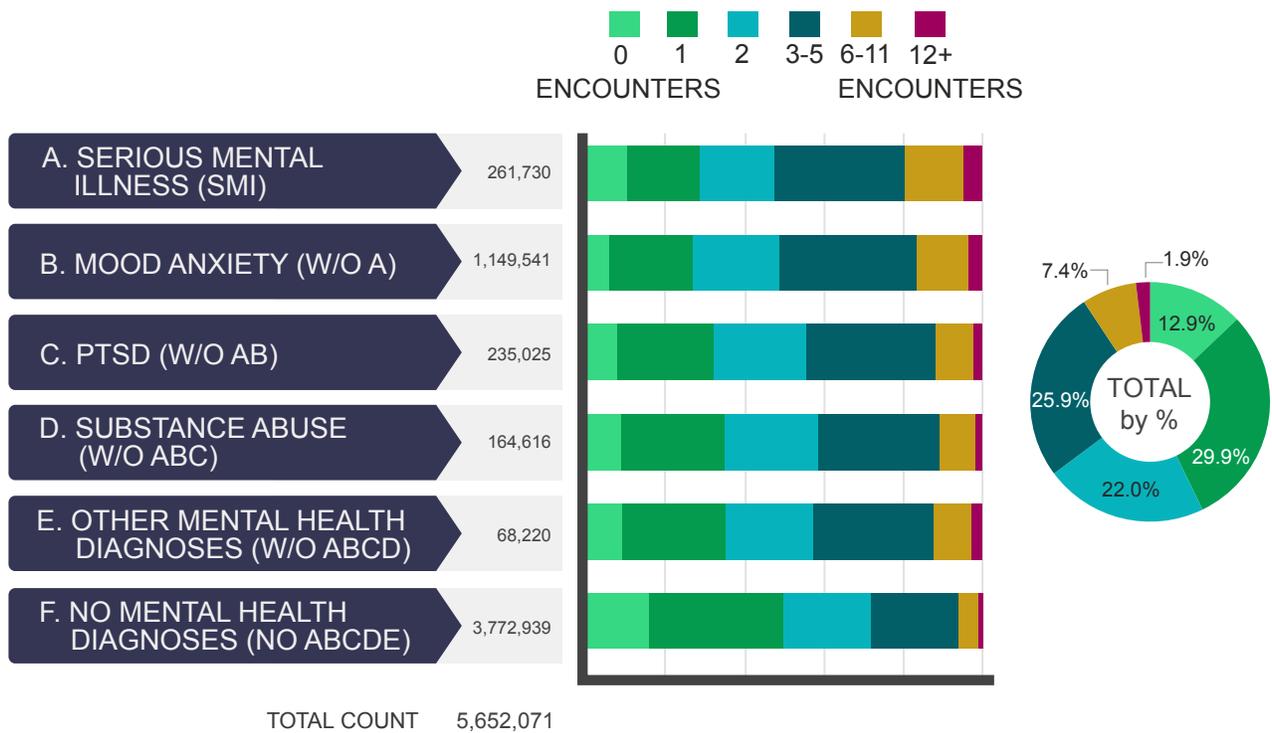
Primary Care Encounters by Mental Health Diagnoses

For the overall VA population in care in FY13, 47.9% utilized primary care two to five times in that fiscal year. This is relatively consistent across all mental health and non-mental health categories ([Exhibit 7-9](#)). What is noteworthy and discrepant is that the SMI group and the mood/anxiety group both had a much higher percent of their population using six or more visits in that fiscal year when compared to the overall VA population.

EXHIBIT 7-9

PERCENT DISTRIBUTION OF PRIMARY CARE ENCOUNTERS BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13

HIERARCHICAL PRESENCE OF SERIOUS MENTAL ILLNESS, FY13



Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS The higher percent of the SMI and mood/anxiety groups using a higher number of primary care visits is consistent with many studies which have established that individuals with mental illness have increased rates of comorbid medical disease.^{34, 35, 36} This level of physical disease burden requires more visits in a year and additionally, due to the cognitive deficits and poor care history of the mental health population, may require more careful monitoring and support. This finding is a change from an earlier VA study in one VISN that found patients with psychiatric disorders had fewer medical visits in FY00 than other VA patients, which contributed to a concern about care quality.³⁷

In line with the VHA Handbook 1101.02 directives for specialty PACTs, SMI-PACT teams have smaller caseloads (n=500) and therefore are able to accommodate an increase in the standard visit length from 20 to 30 minutes. This extra time is needed to allow for increased discussion of complex medical comorbidities. Currently, there is initial implementation and testing of SMI-PACT teams in VISN 22, funded by VA Health Services Research and Development funds (VA HSR&D SDP 12-177).

34 Jeste DV, Gladsjo JA, Lindamer LA, Lacro JP. Medical comorbidity in schizophrenia. *Schizophr Bull.* 1996;22(3):413-430.

35 Koran LM, Sox HC, Jr, Marton KI, et al. Medical evaluation of psychiatric patients: I. results in a state mental health system. *Archives of Gen Psychiatry.* 1989;46(8):733-740.

36 Alegria M, Jackson JS, Kessler RC, D. T. National Comorbidity Survey Replication (NCS-R) 2001-2003. Ann Arbor: Interuniversity Consortium for Political and Social Research. 2003.

37 Craddock-O'Leary J, Young AS, Yano EM, Wang M, Lee ML. Use of general medical services by VA patients with psychiatric disorders. *Psychiatr Serv.* (Washington, D.C). 2002;53(7):874-878.

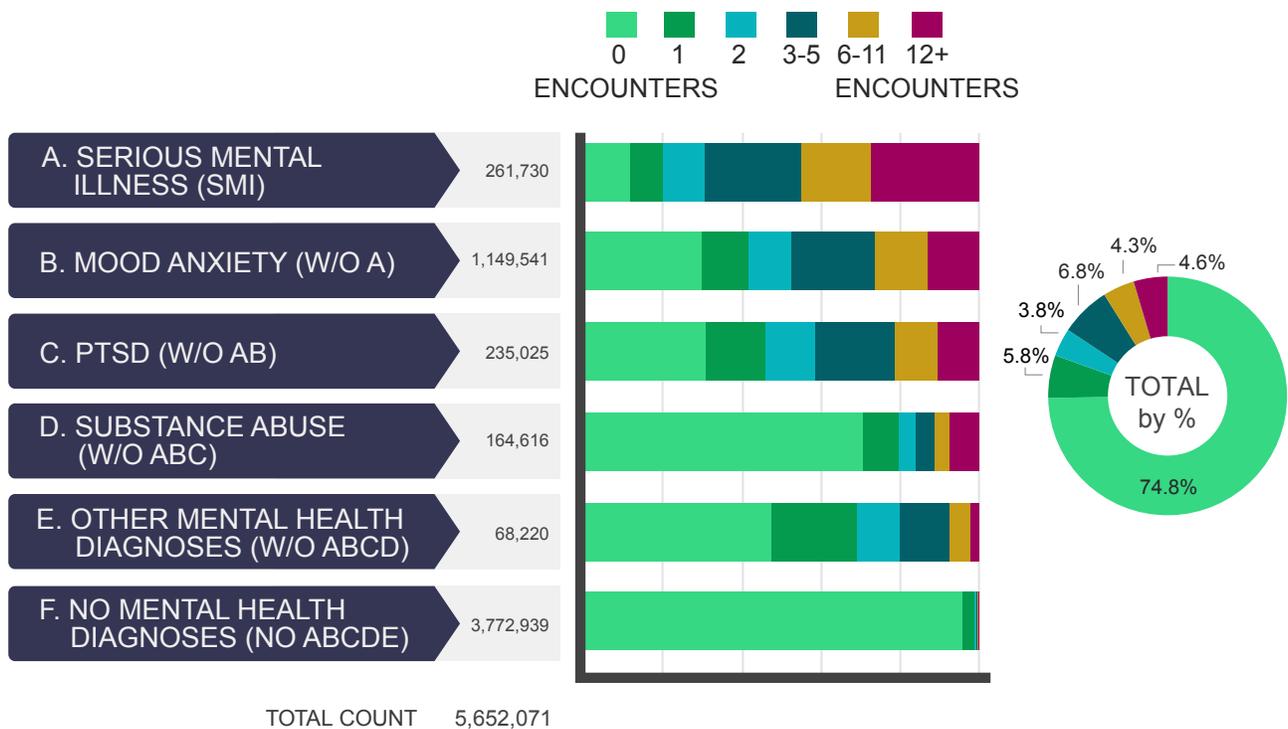
Mental Health/Substance Use Disorder Encounters by Mental Health Diagnoses

The vast majority of the Veteran population with SMI in VA care in FY13 (69.3%) had 3 or more visits in a year for mental health and/or substance use (Exhibit 7-10). A high percentage of the mood/anxiety (47.3%) and PTSD (41.3%) groups also had 3 or more visits in a year for these services. Noteworthy is that the substance abuse comparison group had 70.7% with no mental health/substance use disorder encounters in FY13. This anomaly is most likely a result of the hierarchal build of the groups.

EXHIBIT 7-10

PERCENT DISTRIBUTION OF MENTAL HEALTH/SUBSTANCE USE DISORDER ENCOUNTERS BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13

HIERARCHICAL PRESENCE OF SERIOUS MENTAL ILLNESS, FY13



Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS As expected, the mental health groups had higher utilization of mental health/substance use disorder visits compared to both the no mental health group and the overall VA population in FY13. Also, as expected, a higher percent of Veterans with SMI had more encounters, which is in line with the severity of these disorders. The unexpected encounter distribution in the substance abuse group is explained by the known high comorbidity of mental health and substance abuse disorders coupled with the hierarchical build of the groups for this chapter. Among those with the mental health diagnoses the odds ratio of also having a substance abuse disorder (either drug or alcohol) is approximately 2.7, with a lifetime prevalence of 29%.³⁸

38 Regier DA, Farmer ME, Rae DS, et al. Comorbidity of mental disorders with alcohol and other drug abuse: Results from the epidemiologic catchment area (eca) study. *JAMA*. 1990;264(19):2511-2518.

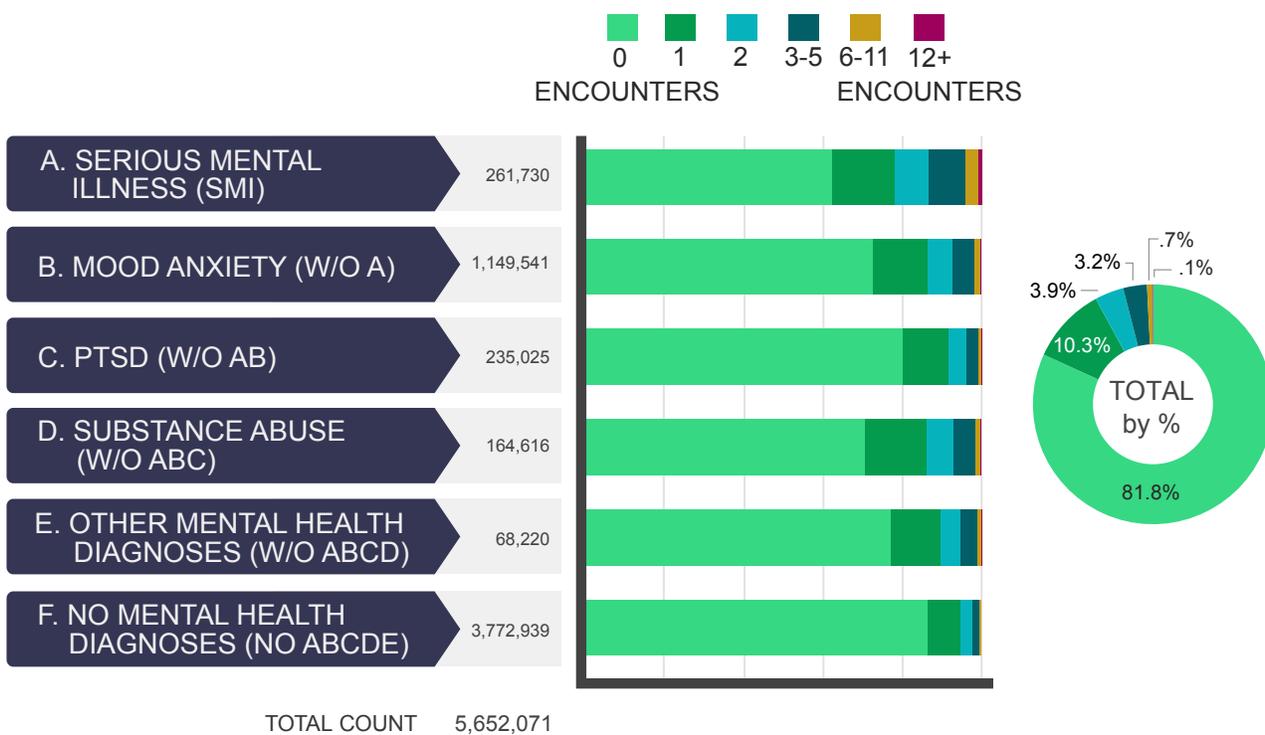
Emergency Department (ED) Encounters by Mental Health Diagnoses

ED visits in these data are for all cause and are not identified in these data as mental health, physical health, or both ([Exhibit 7-11](#)). Across all mental health groups, the majority of Veterans did not use the ED in FY13. The FY13 data did show, though, that ED visits occur at a higher rate across all mental health groups in comparison to the group of Veterans without a mental health diagnosis. When looking at the rates, by group, of those who use the ED two or more times in FY13, the data indicated that SMI has the highest percent using the ED at that frequency (21.7%), followed by the substance abuse group (13.8%), mood/anxiety group (13.3%), other mental health group (10.3%), and PTSD group (8.2%). In contrast, only 5.0% of the group with no mental health diagnosis used the ED two or more times.

EXHIBIT 7-11

PERCENT DISTRIBUTION OF EMERGENCY DEPARTMENT ENCOUNTERS BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13

HIERARCHICAL PRESENCE OF SERIOUS MENTAL ILLNESS, FY13



Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).
Source: VHA National Health Equity Report 2016

IMPLICATIONS Community participants in the Healthcare for Communities Survey indicated that the population of individuals with SMI who use the ED in a year (7.7 %) is over three times the percent of those individuals with mental health, but not SMI who use the ED (2.1%). The Survey indicated that none of the population with no mental disorder, by self-report, utilized the ED in the survey year.³⁹ The higher use of the ED by the SMI and mood/anxiety groups in the VA data is most pronounced compared to the no mental health group and the overall VA population in care in FY13. Alongside the primary care visits in Exhibit 7-9 we can conclude that the use is not due to fewer visits to primary care, but more likely a result of the enormous burden of comorbid physical and mental illness in these individuals.

39 McAlpine DD, Mechanic D. Utilization of specialty mental health care among persons with severe mental illness: the roles of demographics, need, insurance, and risk. *Health Serv Res.* 2000;35(1 Pt 2):277-292.

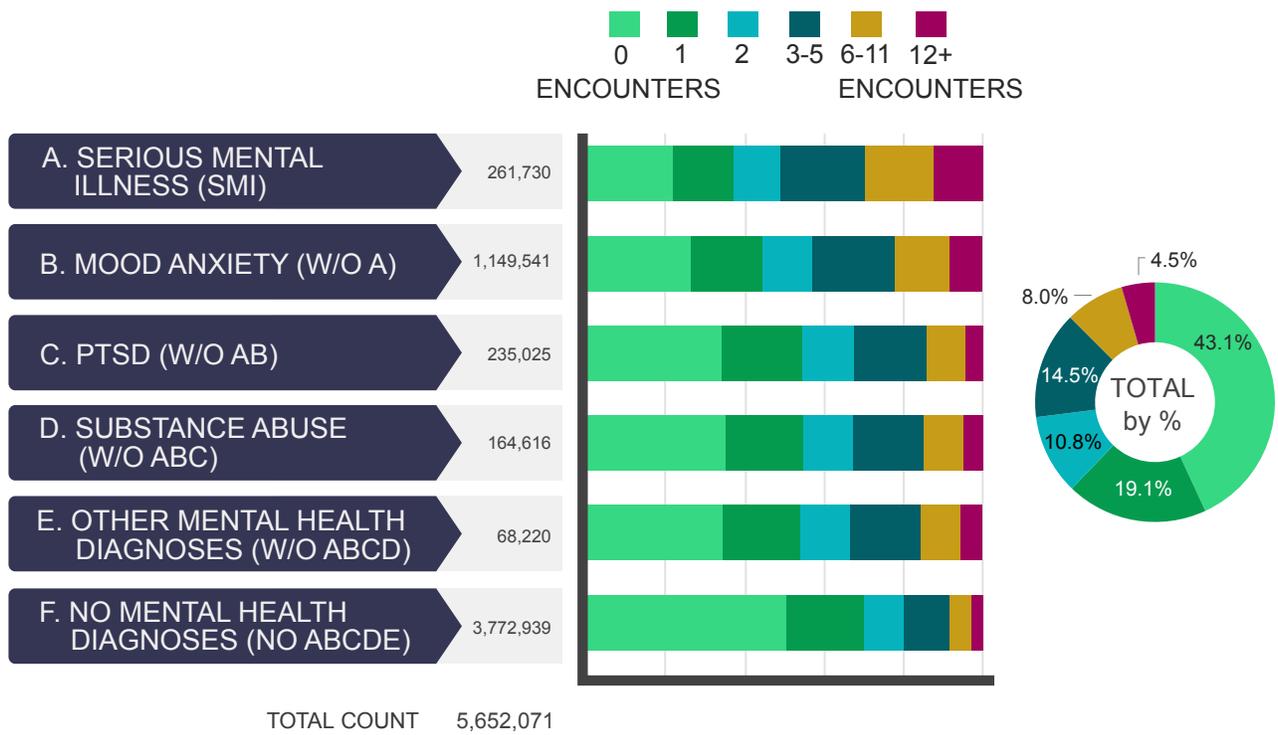
Telephone Encounters by Mental Health Diagnoses

Veterans in the SMI and mood/anxiety groups who were in VA care in FY13 were receiving a considerable number of telephone visits; the percent of Veterans in this group who were receiving six or more telephone encounters were three to four times higher than the percent of Veterans with no mental health diagnosis during this same period. In the no mental health disorder group, 50.7% had no telephone visit encounters in FY13 ([Exhibit 7-12](#)).

EXHIBIT 7-12

PERCENT DISTRIBUTION OF TELEPHONE ENCOUNTERS BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13

HIERARCHICAL PRESENCE OF SERIOUS MENTAL ILLNESS, FY13



Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS These data indicate a skew in both the Veterans with SMI and Veterans with mood/anxiety in care in FY13 towards more telephone encounters compared to both the no mental health group and the overall VA population. This increased number of telephone encounters in these two groups probably reflects the high rates of comorbid illness in these populations.^{40, 41, 42} This higher rate of telephone encounters is also reflective of the move to telephone care management between sessions to provide healthcare follow-up and “telephone care visits,” in lieu of face-to-face visits. Telephone care is a part of the transformation in VA to the medical home model (See VHA Handbook 1101.02).

40 Jeste DV, Gladsjo JA, Lindamer LA, Lacro JP. Medical Comorbidity in Schizophrenia. *Schizophr Bull.* 1996;22(3):413-430.

41 Koran LM, Sox HC, Jr, Marton KI, et al. Medical evaluation of psychiatric patients: I. results in a state mental health system. *Archives of Gen Psychiatry.* 1989;46(8):733-740.

42 Alegria M, Jackson JS, Kessler RC, D. T. National Comorbidity Survey Replication (NCS-R) 2001-2003. Ann Arbor: Interuniversity Consortium for Political and Social Research. 2003.

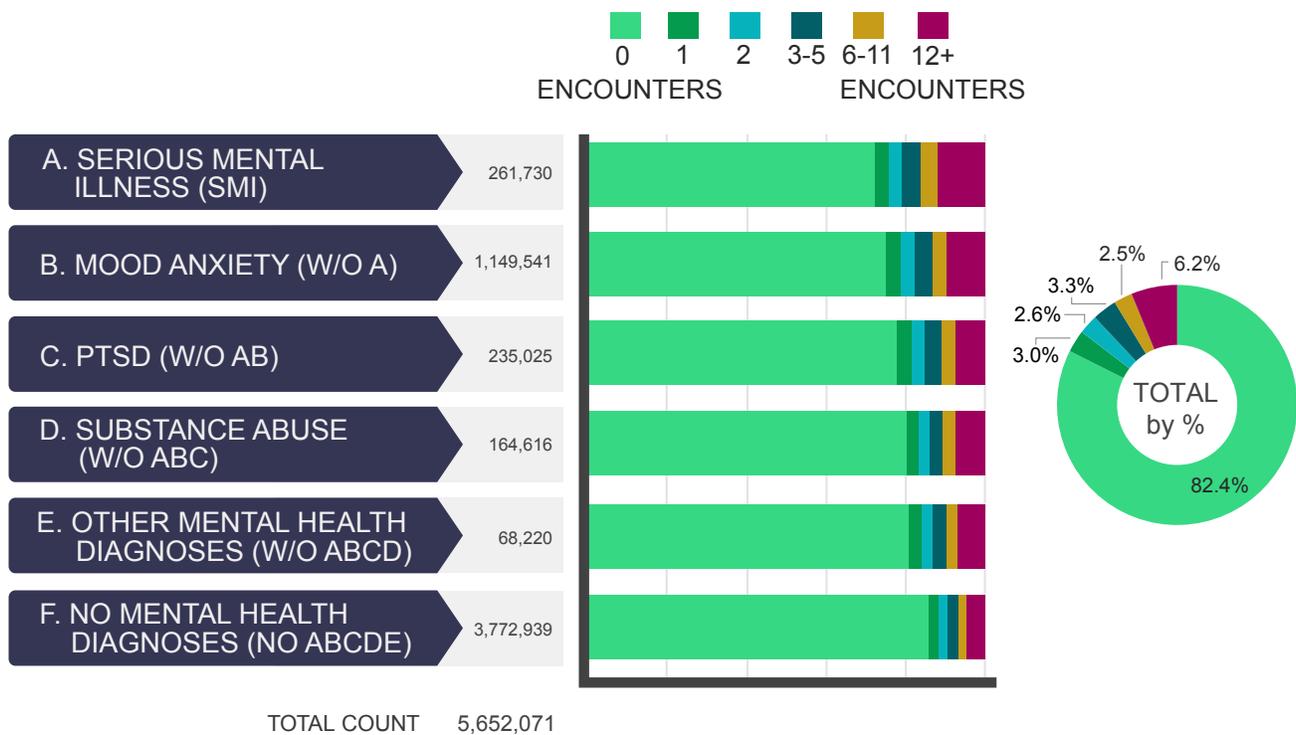
Fee Outpatient Services by Mental Health Diagnoses

The vast majority of Veterans did not have fee outpatient visits in FY13 (82.4%; [Exhibit 7-13](#)). The Veterans in VA care in FY13 who had SMI or mood/anxiety disorders used more fee visits than the other groups. Noteworthy is the frequency of these types of visits with 12.0% of the SMI group and 9.6% of the mood/anxiety group using these types of visits 12+ times in FY13, a much higher rate than all other groups and especially in comparison to the no mental health group.

EXHIBIT 7-13

PERCENT DISTRIBUTION OF FEE OUTPATIENT SERVICES BY MENTAL HEALTH DIAGNOSES AMONG VETERAN VHA PATIENTS, FY13

HIERARCHICAL PRESENCE OF SERIOUS MENTAL ILLNESS, FY13



Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY13 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS VA fee outpatient visits are an adjunctive way for Veterans to receive services. Higher rates of fee use by the SMI and mood/anxiety groups may relate to geographic characteristics of their residential areas, with more than a quarter of each of these two groups living in rural areas. There are also specific services for which VA fee care is often used, and some of these services are specific to females (e.g., OB/GYN services). Both the SMI and mood/anxiety groups in this sample have higher rates of female Veterans compared to the other mental health groups and the overall VA population in care in FY13. VA should identify ways to measure the quality of care delivered via fee visits and should include assessments specifically for the SMI and mood/anxiety populations since they were high utilizers of these services and have special needs due to high rates of comorbidity.

Section IV: Conditions

This section reports on diagnosed conditions (202 clinically meaningful groups of ICD-9-CM diagnosis codes) for each mental health group and those with no mental health diagnoses. The health conditions have been grouped into 17 broad, higher-order major disease condition domains and can be found in [Exhibit 7-14](#), which is available in the supplemental materials.

In order to begin to interpret the findings in Exhibit 7-14, we examined the percent distribution of the condition domains across the groups ([Exhibit 7-15](#)) and found that the six most prevalent health domains experienced by the overall VA population in care in FY13 were also the top six for the SMI population, albeit in a slightly different order. For the overall VA population in VA care in FY13 the order of most prevalent condition domains were: 1) Endocrine/Metabolic/Nutritional; 2) Cardiovascular; 3) Musculoskeletal; 4) Other; 5) Sense Organ; and 6) Gastrointestinal. For the SMI population, the order was 1) Other; 2) Endocrine/Metabolic/Nutritional; 3) Cardiovascular; 4) Musculoskeletal; 5) Gastrointestinal; and 6) Sense Organ. It is notable that each of the four domains with the highest involvement of the VA population with SMI involved upwards of 59% of the group.

Of particular note is the “other” condition domain which involves over 72% of the SMI population. The “other” domain includes both psychosocial factors and residual codes. Psychosocial factors encompassed a broad range of issues including, but not limited to, unemployment, history of abuse, family circumstances, identity disorder, relationship problems, legal circumstances, and psychological stress. Residual codes encompassed a broad range of issues including, but not limited to, being transsexual, experiencing muscle weakness, acute pain due to trauma, abnormal pap smear, history of drug therapy, lifestyle problems not otherwise specified, and history of major organ surgery.

Other than the breast condition domain, which was expected to be low in the male-dominated population in VA, the domains with low involvement by the overall VA population in care in FY13 were cancer, hematologic/immunologic and the dental domains. Low involvement by the SMI population was also found in the cancer and hematologic/immunologic domains, but more than double involvement was exhibited in the dental domain, indicating particular problems for the SMI population.

EXHIBIT 7-15

PERCENT DISTRIBUTION OF DIAGNOSED CONDITIONS CATEGORIES
BY MENTAL HEALTH DIAGNOSES AMONG VETERAN
VHA PATIENTS, FY13

Hierarchical Presence of Serious Mental Illness, FY13

	A. Serious Mental Illness (SMI)	B. Mood Anxiety (w/o A)	C. PTSD (w/o AB)	D. Substance Abuse (w/o ABC)	E. Other Mental Health Diagnoses (w/o ABCD)	F. No Mental Health Diagnosis (no ABCDE)	Total
Count	261,730	1,149,541	235,025	164,616	68,220	3,772,939	5,652,071
CONDITION	%	%	%	%	%	%	%
Infectious Disease	37.0	29.2	24.4	31.2	25.4	17.0	21.3
Endocrine/ Metabolic/ Nutritional	68.7	68.6	63.2	61.9	59.6	61.9	63.6
Cardio-Vascular	60.6	63.0	57.2	67.3	53.4	59.9	60.6
Respiratory	37.8	36.1	30.4	33.6	30.2	23.6	27.4
Gastro-Intestinal	47.5	45.3	38.3	48.4	36.7	29.7	34.7
Urinary	21.2	18.9	14.6	16.3	16.4	15.4	16.4
Reproductive Health	25.7	28.5	25.2	22.3	25.2	23.3	24.5
Breast Cancer	1.4	1.3	0.7	0.6	1.2	0.6	0.8
Hematologic/ Immunologic	14.4	12.3	8.9	16.0	10.3	9.4	10.4
Musculo-Skeletal	59.8	65.4	62.5	55.6	58.7	43.1	49.8
Neurologic	39.2	36.9	30.5	24.6	29.7	18.9	24.3
Mental Health/SUD	100.0	100.0	100.0	100.0	100.0		33.2
Sense Organ	44.0	46.3	47.0	37.5	41.0	41.3	42.6
Dental	20.9	13.8	21.0	7.7	8.7	4.8	8.2
Dermatologic	28.2	26.8	25.2	24.2	24.7	19.5	21.9
Other	72.6	67.5	58.4	73.1	60.9	36.5	46.8

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as “Veteran FY13 VHA patients” (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

We then examined the most prevalent conditions experienced by the mental health population groups using VA in FY13 ordered by the involvement of the overall VA population ([Exhibit 7-16](#)). Percent involvement of the population was only indicated when 20% (rounded) or more of the population was involved.

It was evident that the top conditions (hypertension and lipid disorders) involved more than 20% of all the mental health categories as well as the no mental health group. These conditions were high population-wide. Diabetes mellitus, the third most prevalent disorder in the VA in FY13, was also seen in more than 20% of the population of all groups except the substance abuse group. Of the top 14 conditions seen in the overall population of Veterans in care in FY13, the vast majority were also seen in more than 20% of the SMI and mood/anxiety population, but much less in the other mental health groups (PTSD, substance abuse, other mental health) and the no mental health group.

EXHIBIT 7-16

PERCENT DISTRIBUTION OF MOST PREVALENT CONDITIONS IN THE OVERALL VA POPULATION BY MENTAL HEALTH DIAGNOSES, FY13

Mental Illness Categories, FY13

	A. Serious Mental Illness (SMI)	B. Mood Anxiety (w/o A)	C. PTSD (w/o AB)	D. Substance Abuse (w/o ABC)	E. Other Mental Health Diagnoses (w/o ABCD)	F. No Mental Health Diagnoses (no ABCDE)	Total
Count	261,730	1,149,541	235,025	164,616	68,220	3,772,939	5,652,071
Conditions	%	%	%	%	%	%	%
Hypertension	50.7	52.8	48.7	57.9	43.8	50.5	51.0
Lipid Disorders	47.1	49.6	46.6	41.2	41.5	47.0	47.3
Diabetes Mellitus	25.6	24.4	24.0		19.6	23.9	23.8
Refraction Disorders	24.0	23.2	23.0				
Dermatologic Disorders-Other	23.0	22.5	21.9		20.8		
Esophageal Disorders	24.2	24.9	19.9				
Spine Disorders -Lumbosacral	26.1	28.6	26.2	19.7	22.9		
Eye Disorders - Other		19.7					
Joint Disorders - Lower Extremity	21.5	23.2	22.1		21.5		
Overweight/Obesity	21.6	20.3					
Joint Disorders - Unspecified or Multiple Joints		20.4					
Tobacco Use Disorder	32.8	22.7		44.2			
Residual Codes	22.2						
Psychosocial Factors - Other	21.2						

Key: Blacked out percentages were less than 20% rounded. Table ordered by rank of the total VA population involved in the condition.

Denominator: All Veterans who used any VHA care in FY2013 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as "Veteran FY2013 VHA patients" (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

We then examined the top 20 conditions seen in the Veteran population with SMI in care in FY13 and compared the percent of the SMI population involved with the percent of the population involved in each of the comparison groups ([Exhibit 7-17](#)).

When the prevalence of the health conditions in SMI was compared to the other mental health groups, a number of differences in prevalence were illuminated. Differences highlighted in yellow indicate higher prevalence in the SMI group by at least 10% (rounded). These differences were in tobacco use disorder, spine disorders, residual codes, psychosocial factors, dental disorders, dental caries, and housing insufficiency. There were no differences in the top 20 conditions experienced by the SMI population where the prevalence in the SMI group was at least 10% lower (rounded) than other groups.

EXHIBIT 7-17

PERCENT DISTRIBUTION OF MOST PREVALENT CONDITIONS
IN THE VA POPULATION WITH SMI WITH DIFFERENCES IN PERCENT
INVOLVEMENT OF ALL COMPARISON GROUPS, FY13

Presence of Serious Mental Illness, FY13

	A. Serious Mental Illness (SMI)	B. Mood Anxiety (w/o A)	C. PTSD (w/o AB)	D. Substance Abuse (w/o ABC)	E. Other Mental Health Diagnoses (w/o ABCD)	F. No Mental Health Diagnoses (no ABCDE)	Total
Count	261,730	1,149,541	235,025	164,616	68,220	3,772,939	5,652,071
Condition	%	- SMI%	- SMI%	- SMI%	- SMI%	- SMI%	
Hypertension	50.7	2.1	-2.0	7.2	-6.9	-0.2	51.0
Lipid Disorders	47.1	2.5	-0.5	-5.9	-5.6	-0.1	47.3
Tobacco Use Disorder	32.8	-10.2	-14.3	11.4	-16.3	-23.4	14.7
Spine Disorders - Lumbosacral	26.1	2.5	0.1	-6.4	-3.2	-12.9	17.8
Diabetes Mellitus	25.6	-1.2	-1.5	-8.7	-6.0	-1.7	23.8
Esophageal Disorders	24.4	0.5	-4.5	-5.7	-6.3	-9.4	17.8
Refraction Disorders	24.0	-0.8	-1.0	-4.9	-4.8	-7.3	18.7
Dermatologic Disorders - Other	23.0	-0.5	-1.1	-4.0	-2.2	-6.7	18.2
Residual Codes	22.2	-4.6	-7.8	-3.2	-6.3	-11.5	13.2
Overweight/Obesity	21.6	-1.2	-3.9	-7.2	-2.5	-8.2	15.4
Joint Disorders - Lower Extremity	21.5	1.7	0.6	-3.8	<0.1	-8.3	16.2
Psychosocial Factors - Other	21.2	-7.4	-13.2	-9.9	-9.3	-18.6	6.3
Eye Disorders - Other	18.7	0.9	0.5	-3.5	-1.9	-3.3	16.6
Joint Disorders - Unspecified or Multiple Joints	18.3	2.1	0.4	-3.1	-2.0	-5.2	15.2
Cataract	16.4	1.1	2.0	-1.0	-2.0	-0.2	16.6
Endocrine, Metabolic and Nutritional Disorders - Other	16.1	-1.3	-4.0	-0.6	-3.5	-6.0	11.6
Dental Disorders - Other	15.4	-5.1	0.7	-10.4	-9.0	-11.9	6.1
Other Injuries and Conditions Due to External Causes	14.4	-3.4	-5.5	-4.3	-5.7	-9.5	6.9
Dental Caries	13.9	-4.9	0.8	-9.8	-8.5	-10.9	5.3
Housing Insufficiency	13.6	-7.4	-11.1	-2.9	-7.8	-12.5	3.1

Key: Yellow highlight indicates conditions in which the diagnosed prevalence in people with SMI exceeded the comparison group prevalence by 10% (rounded) or more. There were no conditions in which the diagnosed prevalence in SMI was 10% (rounded) or lower than the comparison group prevalence. Conditions (rows) removed from the table included bipolar disorder, schizophrenia, depression, PTSD, alcohol use, anxiety disorder, drug use disorders, psychotic disorders, major depressive disorders.

Denominator: All Veterans who used any VHA care in FY13 (VHA outpatient care, inpatient care, pharmacy care, or Non-VA [Fee] Medical Care), referred to as “Veteran FY13 VHA patients” (Data source: WHEI Master Database).

Source: VHA National Health Equity Report 2016

IMPLICATIONS What stands out in these data regarding specific conditions and health domains was the very high percentage of the population with SMI who were having physical health complications most likely related to psychosocial burdens. For example, the high rate of conditions in the “other” domain and dental disorders coupled with the higher rate of housing insufficiency lends support to the conclusion that this population with SMI in VA care in FY13 had ongoing lifestyle and stressful life histories that had negative healthcare consequences. True rates of dental disorders are likely substantially higher than the rates identified here, because most VA patients would not be eligible for dental care, and thus would have less opportunity to have a diagnosis recorded. Attention and referral for dental issues must be addressed, as these impact overall health and quality of life. It is established that homeless Veterans have a high rate of mental illness and of substance abuse.⁴³ Veteran homelessness has been a high priority for VA nationally and there are ongoing efforts to place and support homeless Veterans, especially those with SMI.⁴⁴ Efforts include The Department of Housing and Urban Development (HUD) – Veterans Affairs (VA) Supportive Housing (HUD-VASH) Program which should be further evaluated for impact on housing placement and sustainment as well as linkages to healthcare utilization for those Veterans with SMI.

The population with SMI, both inside and outside VA, have a high rate of tobacco use. This was evidenced again in these data. Although there are clinical reminders related to tobacco use disorders, the emphasis and tailoring of tobacco services for this population, which has cognitive issues associated with their mental health disorders, should be addressed.

The VA population overall and those with SMI, have considerable burden from the endocrine/metabolic/nutritional and cardiovascular domains. These domains include hypertension, diabetes mellitus and lipid disorders. In addition to the fact that these disorders are a problem nationwide due to the highly publicized obesity epidemic in this country, these conditions have affected the SMI population in particular due to the side effect profile of the second generation antipsychotics.⁴⁵ Individuals who are on antipsychotics fall in the SMI group but may also include some individuals with PTSD. There have been efforts in VA to monitor and address the metabolic syndrome, including successful efforts to tailor and implement weight management programs for the population with the cognitive deficits associated with SMI.^{46, 47} There needs to be continued emphasis on weight and lipid monitoring in this population.

43 Yuan AH, Gabrielian S, Andersen R, McGuire J, Rubenstein L, Gelberg L. What medical care needs of homeless and housed veterans are served by the VA? *Drug & Alcohol Dependence*. 2014;140:e248.

44 Gabrielian S, Yuan AH, Andersen RM, Rubenstein LV, Gelberg L. VA health service utilization for homeless and low-income veterans: A spotlight on the VA supportive housing (VASH) program in greater los angeles. *Med Care*. 2014;52(5):454-461.

45 Newcomer JW. Metabolic considerations in the use of antipsychotic medications: a review of recent evidence. *J Clin Psychiatry*. 2007;68 Suppl 1:20-27

46 Cohen AN, Chinman MJ, Hamilton AB, Whelan F, Young AS. Using patient-facing kiosks to support quality improvement at mental health clinics. *Med Care*. 2013;51(3 0 1):S13.

47 Niv N, Cohen AN, Hamilton A, Reist C, Young AS. Effectiveness of a psychosocial weight management program for individuals with schizophrenia. *The Journal of Behavioral Health Services & Research*. 2014;41(3):370-380.

Section V: Conclusions

The Veteran population with SMI in VA care in FY13 is 4.6%, which is a rate that is slightly higher than the global rates of those living with these disorders. This chapter systematically examined the demographic characteristics, VA service utilization rates, and rates of diagnosed health conditions by mental health status. Some caution is needed in interpreting results in this chapter due to the hierarchical build of the mental health groups. The only two groups that represent all members of that group are those in the SMI group and those in the no mental health diagnoses group.

Comorbidity of mental health diagnoses was found to be high in VA, which is similar to non-VA samples. Those Veterans with SMI, compared to those with no mental health diagnoses and the overall VA population in FY13, have a greater representation of women, African-Americans, and those with service-connected disabilities. Veterans with SMI were younger than all comparison groups which may be a consequence of a shortened lifespan and of the demographic of Veterans returning from the current conflicts. Veterans with SMI were more likely to be living in urban locales, although over a quarter are residing rurally. The group of Veterans with SMI was using more outpatient services than any other comparison group. Specifically, the Veterans with SMI were using more primary care, mental health/substance use visits, and emergency department visits when compared to most of the other mental health groups and to those with no mental health diagnoses. Telephone care is also high in the population with SMI, probably due to the high need for close care management. This higher utilization of all services is in line with the severity of the diagnosis of an SMI and their service-connected status. Although in other populations, a younger cohort would be expected to use fewer services, SMI has a heavy burden early when the illness appears and disrupts functioning significantly. Early intervention is needed in the population with SMI and organizational adjustments for supporting their families (e.g., parents, spouses) are needed.

Similar to the overall VA population and every mental health group, the population with SMI in VA care in FY13 had high rates of hypertension and lipid disorders. Unique to the SMI population, there was also a very high rate of tobacco use disorder. These are each major risk factors for coronary heart disease, which is a leading cause of early mortality in this group. The establishment of SMI-PACT teams hopes to address these issues and shrink the mortality gap. For the SMI population, considerable burden was also due to psychosocial factors and housing insufficiency. VA efforts to house homeless Veterans should continue to be supported and tailored for the SMI population. Dental disorders and dental caries were also seen in higher rates than in other groups, were probably an underestimate of prevalence, and will need to be addressed.

In order to reduce mortality and disability in SMI, efforts should address provider attitudes towards SMI, quality of care, access to preventative medical care, and help managing chronic comorbid medical conditions. Clinicians, outside of specialty mental health, often have limited experience, discomfort, and a lack of familiarity with evidence-based practices for this population. At the organizational level, systems may lack protocols for care management, shared treatment arrangements, and effective partnerships between primary care and mental health staff. The core difficulty with treating comorbid medical and mental health is the mismatch between the patient, in whom medical and mental conditions and their treatments are interrelated, and a healthcare system with separate services for each disorder; though in VA, primary care-mental health integration is designed to address part of this concern. However, even in VA, a large, quasi-integrated system, the experience of the patient with SMI and their providers is often that of a fragmented healthcare system.

The SMI population lags behind their comparison group with a diminished quality of life from preventable chronic diseases and a shortened life span due to premature death. Given these disparities, great strides need to be made to adapt prevailing models of medical care for the population with SMI.