RESEARCH ARTICLES

Barriers to health care access among US adults with chronic conditions and co-occurring serious psychological distress between 2011-2015

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Abstract

Importance: Nearly 34 million adults – 17 percent of all American adults – have co-occurring mental and physical health conditions. However, the extent to which increased health insurance coverage has facilitated access to needed health care services among this population remains unclear.
Objective: Prior research suggests that people with serious psychological distress (SPD) and cancer, heart disease, diabetes, asthma, or hypertension report worse access to care than people with the same physical conditions but no SPD. While the recent expansion in health insurance coverage was expected to improve access to care for people with SPD, access barriers that people with SPD report remain underexplored.
Setting: Using the cross-sectional data from the National Health Interview Survey 2011-2015, we examined self-reported health care access barriers among adults (between ages 18 to 64) with SPD and co-occurring physical health conditions.
Results: Our sample included 45,294 individuals with chronic conditions (heart disease, high blood pressure, diabetes, cancer, or asthma). Among them, 3,639 also had SPD. After controlling for demographic and socioeconomic factors, results of multivariate logistic regressions showed that individuals with co-occurring SPD and a physical health condition were significantly more likely to report that they had worse health insurance coverage compared to the prior year (OR=1.32, p<0.01), that doctor's office informed that they were not accepting new patients (OR=2.09, p<0.001), that the doctor's office stated they did not accept the particular health insurance they have (OR=1.98, p<0.001), that they couldn't get an appointment soon enough (OR=2.42, p<0.001), they had no transportation to get to the doctor (OR=3.23, p<0.001), and that overall they had trouble finding a doctor/provider (OR=2.12, p<0.001).
Conclusions: Our results suggest that despite an increase in health insurance coverage between 2011 and 2015, barriers to access remain a significant concern for individuals with co-occurring SPD and physical health conditions.
Key Words: Access to Care; Mental Health; Serious Psychological Distress; Health Insurance.

INTRODUCTION

Between 2010 and 2015, there have been changes in the United States' healthcare system that produced a decline in the total number of Americans without health insurance coverage.[1] However, research suggests that giving people access to care through insurance, while important, is not enough to ensure improved access or self-reported health status.[2] Mental health care in recent years has been targeted for improvement through various legislative efforts at both the state and the federal levels including the 2009 Mental Health Parity Act,[3-5] Medicaid expansion through the Affordable Care Act,[6] and the 21st Century Cures Act[7]. However, in the United States mental health care is often administered and provided separately from care for physical health conditions.[8] However, 17 percent of people from the United States (around 34 million people) have both a physical and mental health condition.[9]

Americans who experience mental health conditions are at a higher risk for poor health outcomes and having reduced access to care for several reasons. First, because of the frequently divided nature of physical and mental health care,[10] people with mental health needs must navigate recommendations from multiple physicians, as well as pay for[11] and schedule care with multiple providers. Second, the facilities and programs to care for mental health conditions are in less robust condition than those that address physical conditions for a variety of reasons, including lower reimbursement rates for psychiatry[4] compared with other specialties and decades of declining state-level support for mental health and substance abuse treatment programs.[12,13] Third, the prevalence of mental health conditions is higher among low-income individuals,[14] who may frequently have jobs with less schedule flexibility[15] and limited transportation options.[16,17] Such patients may also have less access to communication technologies such as patient portals and telephones to enable them to stay in touch with their doctors.[18] Low income patients are also disproportionately impacted by cost sharing policies, since flat rate co-pays,[19] represent a greater proportion of their take home income compared to their higher income counterparts. Finally, people with serious mental health conditions – such as those that involve disorders of cognitive organization such as schizophrenia – may have a diminished ability to navigate the health care system.[20] Since the objective of many recent policy efforts included improved access to health care services, it is important to empirically examine reported barriers to care among adults with co-occurring mental and physical health conditions. Our research question is whether people with chronic physical conditions and serious psychological distress experience greater barriers to accessing health care than people with the same physical health conditions but no SPD. We hypothesize that increased health insurance coverage, whether private or public, has not removed many barriers to care for individuals with SPD and physical health conditions, because the focus of reforms has been on increasing health insurance coverage, and not necessarily reshaping the delivery system to make access to care easier for people with complex needs. Findings of this research could be important to potentially inform design of care delivery and to address the needs of the millions of individuals living with mental and physical health conditions.

METHOD

Data

This study uses data from the 2011-2015 National Health Interview Survey (NHIS), which is collected by the Centers for

Disease Control's National Center for Health Statistics (NCHS). The NHIS is based on a stratified multistage sample design and is a nationally representative survey of the noninstitutionalized, civilian U.S. population. Rates of participation were approximately 70% in 2011-2015. NHIS contains detailed information on participants' health care use and access during each year of participation. Participants answer questions on demographic, socioeconomic, and health-related characteristics, including Kessler-6 (K6) scores, which are standardized scores for psychological functioning. The sample of our analysis includes 45,294 individuals with chronic conditions (heart disease, high blood pressure, diabetes, cancer, or asthma) among whom 3,639 also had Serious Psychological Distress (SPD) - as indicated by the Kessler-6 screener. Participants in NHIS provide informed consent. The study was deemed exempt from Human Subjects Protection by our institutional review board because it involved only secondary data analysis.

Our key independent variable, serious psychological distress, is based on scores on the Kessler-6 screener. The Kessler-6 screener has six questions such as, "During the past 30 days, about how often did you feel so depressed that nothing could cheer you up? During the past 30 days, about how often did you feel worthless?" Respondents use a 1 to 5 scale to indicate how often they experienced the psychological state. The Kessler-6 also includes a question that asks, "Taking them altogether, did these feelings occur more often in the past 30 days than is usual for you, about the same as usual, or less often than usual?" Respondents scoring 13 or more on the instrument are considered to have SPD. This threshold has been used frequently in the literature and the Kessler-6 has been validated as an instrument for assessing psychological functioning.[21,22]

Conceptual Model and Control Variables

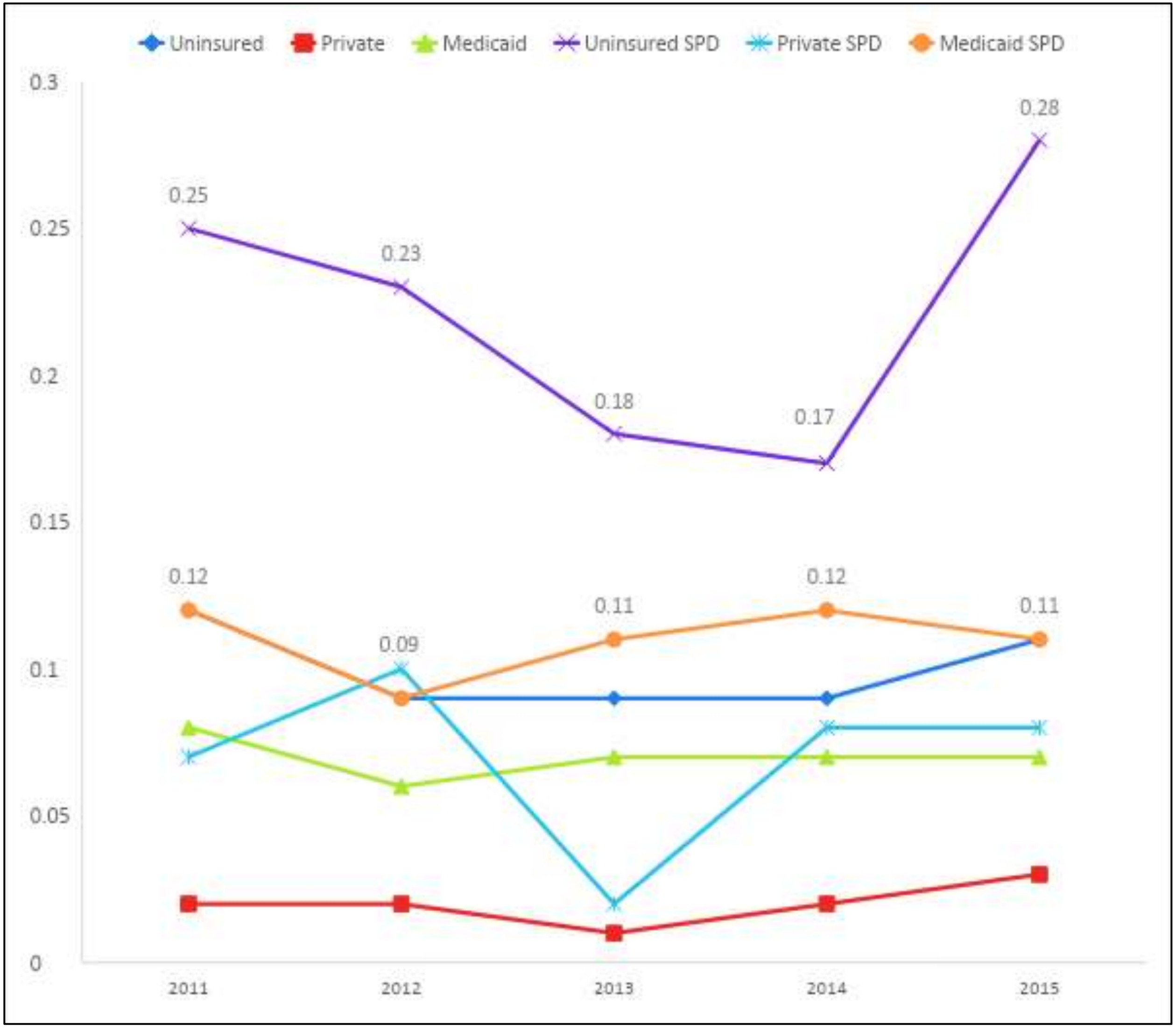
Our outcome variables includes measures of access to health care services: self-reported worse health insurance coverage; individuals reporting that they called a doctor's office and were told that the provider does not participate in their health insurance; they called a doctor's office and were told the doctor's office wasn't accepting new patients; the individual was not able to get an appointment 'soon enough'; the individual did not have transportation to get to the doctor's office; and that overall the individual had 'trouble' finding a doctor.

The control variables in our model were selected based on the Andersen Behavioral Model for health care use.[23] These control variables can be conceptualized as falling into needs, enabling, and predisposing categories. The need factors are the conditions that would influence an individual requiring care on a routine basis. In our model, we included self-reported chronic conditions such as hypertension, diabetes, asthma, heart diseases, and cancer and overall self-reported physical health. All of the respondents in our study population had at least one chronic condition. The enabling factors are the factors that would facilitate or limit the participants' ability to get health care if they need it; specifically, in our study we include family income, education, interview language, and US Census region. Finally, the predisposing characteristics that we control for include race and ethnicity, immigration status, biological sex, and marital status. These Andersen Model domains and variables have been used in over 200 academic papers that examined health care use and spending. We also constructed interaction terms between SPD and the year indicators to examine whether people with SPD reported better health care access over the years.

ANALYSIS

First, we summarize the trends of health care access barriers among individuals with and without SPD and at least 1 chronic co-occurring condition from 2011-2015 by insurance and SPD status.

Figure 1: Trends in Trouble Finding a Doctor by Serious Psychological Distress (SPD) and Insurance Status/Type.



Source: National Health Interview Survey 2011-2015 (survey weights were used).

We used the NHIS population survey weights for all analysis, thus the results are nationally representative. We utilize multivariate logistic regression models to estimate the trends of reported health insurance satisfaction and barriers to care among people with a chronic condition, with or without SPD.

Figure 2: Trends in Transportation Related Access Barriers across All Insurance Types/Status by Serious Psychological Distress (SPD)

Source: National Health Interview Survey 2011-2015 (survey weights were used).

RESULTS

Figure 1 presents the trends in trouble finding a doctor by insurance type and SPD status. All individuals represented in Figure 1 had at least 1 chronic condition. Figure 2 presents transportation related health care access barriers among individuals between the ages of 18 to 64 from 2011 to 2015 by SPD status.

Table 1 provides detailed trends by insurance type, barrier, and SPD status. Overall, our findings suggest modest improvements in access to care since 2011, although the gains did not equally benefit all categories of insurance types; the decline in access barriers were greater for Medicaid enrollees compared to those under private insurance. Specifically, among people with a chronic condition and no SPD, 19 percent of respondents stated that their health insurance was worse in 2011 than the prior year; by 2015, 15 percent of respondents stated their health insurance was worse. In contrast, among those with a chronic condition and SPD, 26 percent reported that their health insurance was worse in 2011 compared to the prior year and by 2015 this rate was 18 percent. Among those with Medicaid insurance and SPD, 16 percent of respondents said their insurance was worse than the prior year in 2011; by 2015, only 9 percent of the Medicaid enrollees with SPD reported worse insurance. For those under private insurance with a chronic condition and SPD in 2011, 30 percent said their insurance was worse than the prior year. Gains were observed in this group and by 2015, 17 percent reported their insurance was worse than prior year

Table 1. Weighted trends of health care access among all people with one or more major chronic conditions, with or without SPD.

	Year	**18-64 with chronic condition**				**18-64 with chronic condition and SPD**			
		All Insurance	Uninsured	Private	Medicaid	All Insurance	Uninsured	Private	Medicaid
Health insurance coverage is worse compared to a year ago	2011	0.19	0.34	0.18	0.12	0.26	0.38	0.3	0.16
	2012	0.17	0.32	0.15	0.1	0.21	0.35	0.24	0.14
	2013	0.16	0.31	0.14	0.1	0.21	0.3	0.23	0.16
	2014	0.15	0.31	0.14	0.08	0.2	0.32	0.21	0.13
	2015	0.15	0.35	0.15	0.08	0.18	0.41	0.17	0.09
Doctor's office would not accept you as new patient, past 12 months	2011	0.04	0.07	0.02	0.08	0.12	0.2	0.06	0.13
	2012	0.04	0.06	0.02	0.09	0.11	0.13	0.08	0.13
	2013	0.03	0.06	0.02	0.08	0.09	0.1	0.05	0.13
	2014	0.03	0.06	0.01	0.06	0.08	0.11	0.03	0.09
	2015	0.04	0.07	0.03	0.07	0.08	0.12	0.04	0.11
Doctor's office did not accept your health insurance, past 12 months	2011	0.05	0.07	0.03	0.1	0.13	0.15	0.07	0.16
	2012	0.05	0.04	0.04	0.11	0.15	0.12	0.11	0.2
	2013	0.04	0.05	0.03	0.09	0.12	0.1	0.08	0.18
	2014	0.04	0.05	0.03	0.1	0.1	0.11	0.05	0.16
	2015	0.04	0.05	0.03	0.1	0.12	0.11	0.08	0.16
Trouble finding a doctor/provider, past 12 months	2011	0.05	0.12	0.02	0.08	0.14	0.25	0.07	0.12
	2012	0.04	0.09	0.02	0.06	0.12	0.23	0.1	0.09
	2013	0.04	0.09	0.01	0.07	0.09	0.18	0.02	0.11
	2014	0.04	0.09	0.02	0.07	0.11	0.17	0.08	0.12
	2015	0.05	0.11	0.03	0.07	0.13	0.28	0.08	0.11

Source: National Health Interview Survey, 2011-2015, Survey Weights Used

Among people who were uninsured, in 2011, 34 percent without SPD said their insurance status was worse than the prior year, while 38 percent who were uninsured, had a chronic condition, and had SPD, said their insurance situation was worse than the prior year. While the absolute numbers of uninsured people decreased24,25 our analysis reveals that among those who were uninsured and had a chronic condition in 2014, 35 percent still said they were worse off than the prior year, suggesting almost no change in perception among this group. However, in 2015, uninsured people with chronic conditions and SPD actually reported a greater percentage—41 percent—who perceived themselves as worse off in terms of health insurance compared with the prior year, compared to 2011 reported levels of dissatisfaction.

Table 2. Multivariate Logistic Regression Results: Respondents Stating Their Health Insurance is Worse than the Prior Year

	Odds Ratio	**95% Confidence Interval**		**p-value**
SPD *No Serious Psychological Distress is the reference group*				
SPD	**1.32**	1.06	1.64	<0.001
SPD and Year Interaction Term *SPD in 2011 is the reference group*				
SPD × 2015	0.90	0.65	1.24	0.51
SPD × 2014	1.04	0.74	1.46	0.82
SPD ×2013	1.01	0.73	1.41	0.95
SPD ×2012	1.02	0.74	1.40	0.90
Year *2011 is the reference year*				
2015	0.84	0.76	0.93	<0.001
2014	0.77	0.70	0.86	<0.001
2013	0.79	0.71	0.87	<0.001
2012	0.83	0.76	0.92	<0.001
Race and Ethnicity *White Non-Hispanic is the reference group*				
Black	0.87	0.79	0.96	<0.001
Hispanic	0.91	0.81	1.02	0.11
Other Race or Ethnicity	0.89	0.78	1.02	0.09
Age *Ages 19-25 is the reference group*				
26-35	0.78	0.68	0.89	<0.001
36-45	0.95	0.86	1.06	0.38
46-55	0.91	0.83	1.01	0.07
56-64	0.82	0.74	0.90	<0.001
Sex *Male is reference group*				
Female	1.19	1.11	1.27	<0.001
Marital Status N*on-married is the reference group*				
Married	1.16	1.08	1.24	<0.001
Citizenship Status *US-born citizens is the reference group*				

Non US citizen less than 5-year residence	0.88	0.61	1.26	0.48
Non US citizen>= 5-year residence	0.72	0.61	0.86	<0.001
Naturalized US citizen less than 5-year residence	0.46	0.17	1.22	0.12
Naturalized US citizen>= 5-year residence	1.10	0.97	1.25	0.16
Income *Family income above 200% of Federal Poverty Level (FPL) is the reference group*				
FPL between 100-120%	1.23	1.09	1.38	<0.001
FPL between 121-200%	1.33	1.20	1.48	<0.001
Education *Less than high school is the reference group*				
High School	1.17	1.03	1.31	<0.001
Some College	1.30	1.15	1.47	<0.001
College Degree	1.26	1.12	1.42	<0.001
More than 4 year degree	1.40	1.21	1.63	<0.001
Insurance *Uninsured is the reference group*				
Private	0.33	0.30	0.36	<0.001
Medicaid	0.21	0.19	0.24	<0.001
Other Insurance	0.22	0.19	0.25	<0.001
Language of Interview *English is the reference group*				
Spanish	1.16	0.94	1.43	0.18
Other non-English	1.28	0.76	2.15	0.35
Region *Northeast is the reference group*				
Midwest	0.85	0.75	0.96	<0.001
South	0.89	0.79	0.99	<0.05
West	1.01	0.90	1.13	0.86
Self-Reported Health Status *Poor health is the reference group*				
Excellent	0.46	0.40	0.53	<0.001
Very Good	0.53	0.46	0.61	<0.001
Good	0.56	0.50	0.64	<0.001
Fair	0.65	0.57	0.74	<0.001

Source: National Health Interview Survey 2011-2015 (survey weights were used).

Table 2 illustrates the control variables that we used in our multivariate logistic regression analysis. Our results showed that patients with co-existing physical condition and SPD were significantly more likely to report that they had worse health insurance coverage compared to the prior year (OR=1.32, p<0.01). Blacks were less likely than Whites to report that their health insurance was worse than the prior year (OR=0.87, P<0.00) Females (OR=1.19, P<0.00), and married people (OR 1.16, p<0.00) people were more likely to state that their health insurance was worse than males or people who weren't married. Compared to natural born US citizens, non-US Citizens who had resided in the US for more than 5 years were less likely to state that their health insurance was worse at the time of interview than the prior year (OR=0.72, p<0.00). Family income appeared to play a role in people's perceptions of health insurance quality; as income increased, people reported greater dissatisfaction with their health insurance as compared to the prior year. Similarly, as education levels increased, people's dissatisfaction with their health insurance rose (See table 2 for details, p values <0.01). Compared with the uninsured, people with Medicaid (OR 0.21, $p<0.00$) were the least likely to report worse coverage than a year prior. There were some regional impacts in reported contentment with health insurance quality; when compared with people in the Northeast, people in the Midwest (OR=0.85, $p<0.01$) and South (OR=0.89, $p<0.01$) were less likely to think that their health insurance was worse than the prior year. Interaction terms with SPD and year indicators (2012, 2013, 2014, and 2015) were not significant, suggesting that improvements in access for people with SPD were not observed over time. Overall, the top determinants of whether people perceived their health insurance as worse were having greater than a 4-year college degree or having Serious Psychological Distress.

Table 3: Multivariate regression results; comparison of barriers to care among people with and without serious psychological distress (SPD)

	Health insurance is worse than it was a year ago				**Doctor's office not accepting new patients**				**Doctor's office doesn't take your insurance**			
	OR	95% CI		p-value	OR	95% CI		p-value	OR	95% CI		p-value
People with SPD	1.32	1.06	1.64	<0.001	2.09	1.55	2.82	<0.001	1.98	1.48	2.65	<0.001
	No appointment "soon enough"				**No transportation to get to doctor's office**				**Trouble finding a doctor**			
	OR	95% CI		p-value	OR	95% CI		p-value	OR	95% CI		p-value
People with SPD	2.42	1.89	3.09	<0.001	3.23	2.42	4.32	<0.001	2.12	1.6	2.81	<0.001

In table 3 we present the odds of access barriers. We estimated odds of people reporting that they called a doctor's office and reported being informed that the practice was not accepting new patients. Once again, controlling for the covariates established by the Andersen model and illustrated in Table 2, people with SPD were more than twice as likely to report that they had called and were informed that the doctor was not taking new patients (OR=2.09, $p<0.00$). Likewise, people with SPD were almost twice as likely to have called a doctor's office and been informed that the practice didn't take their particular insurance (OR= 1.98, $p<0.00$). People with SPD were more likely to report not being able to get an appointment "soon enough" (OR=2.42, $p<0.00$); that they did not have transportation to get to the doctor's office (OR=3.23, $p<0.00$), and that overall, they had trouble finding a doctor (OR=2.12, p<0.00).

DISCUSSION

This study utilized a US nationally representative data set to estimate odds of access barriers among people with co-occurring physical health conditions and SPD. Our hypothesis was that compared to people with a chronic condition without SPD, those that had both a chronic condition and SPD would continue to report barriers after the implementation of US health reform in 2014. Our findings suggest that individuals with co-occurring physical health conditions and SPD continue to face significant barriers to accessing needed health care. Based on our findings, barriers include health insurance coverage being worse compared to the prior year, not being able to find a doctor who was taking patients, not being able to find a doctor's office that took their type of insurance, not being able to get an appointment soon enough to meet their needs, and not being able to get transportation to see the doctor or provider. The specific implications are that people with SPD and chronic physical conditions, who often belong to the high-risk pool, were more than twice as likely to encounter barriers to health care access compared to their counterparts with no SPD. In keeping with the Andersen model, income and education were important moderators of health care access.

These findings are similar to recent work by Weissman and colleagues who found significant barriers to care among people with SPD.[11] This research provides a starting point from which to evaluate specific strategies to reduce barriers to care. We speculate that technology enabled solutions such as websites where patients can input their geographical location and insurance type and be shown a list of physicians who are accepting new patients and the first available appointment. Furthermore, in urban areas, ride sharing may provide a possible solution to transportation barriers. Health care providers ability to integrate and utilize these technologies into their workflow will be critical to viability of such approaches. The findings from our study imply the need to continue to evaluate how barriers to care can be reduced among individuals living with SPD and a chronic conditions.

Possible solutions to the challenge of meeting the physical and psycho-social needs of people living with both a physical need and SPD include the integration of physical and mental health services,[7,26] increasing the workforce prepared to function as mental health care providers in primary care settings,[27-29] increasing the capacity of primary care providers to provide mental health services,[8] and organizing service provision around patients' needs and convenience. There have been both system-level and patient-level approaches proposed, implemented, and evaluated to improve health care access in the US. We speculate that without a cohesive, nationally applied policy to improve service provision around patient needs, interventions to decrease access barriers may be effective at the local level but will do little to improve access outcomes across the US.

A key strategy for decreasing barriers to health care access is delivery system redesign, which moves practices and hospitals away from encounter-based billing that is prevalent in the US toward bundled payments that incentivize local health systems to proactively coordinate care for their patients. Coupled with changes in how payments are made, hospitals, health systems, and practices adopt team-based care and provide care coordination services. These care coordination services are often enhanced by having an electronic "dashboard" that assists care/case managers in visualizing their patient population and which patients are due to come in for follow-up. While technology has a role to play in improving access to the health system, community support programs are an essential component to increase access to care among people with SPD and chronic physical conditions. The Robert Wood Johnson Foundation has developed and funded its "Culture of Health" initiative to promote the social determinants of health.[30] Culture of Health grantees have wide-spanning coalitions that include creating more walkable communities, developing local sustainable food sources, improving health information exchanges, and access to housing, employment, and social supports as underlying determinants of wellness. Such programming may have a role in improving both physical and mental health.

The generalizability of our study is limited to the United States, given that we used data from the United States. In the UK,[31] work to promote integration of mental and physical care has involved co-located services, multidisciplinary teams, liaison services, the use of navigators, shared treatment norms, and information exchange. Many of these strategies are similar to what has been suggested in the US, with the major difference that the UK has nationally provided health care. In large, emerging market economies, such as Brazil,[32] India,[33] and China,[34] protection from high health care expenditures through insurance remains uneven, and the production of mental and physical health services remains siloed and people who experience both physical and mental health conditions must often seek care from multiple specialists.

There are several limitations to our study that are worth noting. While we utilized a nationally representative sample, our data were cross-sectional in nature and thus causality of relationships cannot be established. Secondly, our self-reported SPD measure might be impacted by recall bias, although this limitation is not unique to NHIS and are applicable to other survey data with mental health measures as well. More research is needed on ways to solve specific barriers reported among people with SPD and chronic physical conditions including ways to solve transportation barriers among low-income high-needs individuals and ways to solve perceived barriers such as the inability to get an appointment soon enough.

CONCLUSION

This study provides insights into the impact of increased health insurance coverage on access to care among people living with chronic conditions and SPD. Health insurance coverage expansion by itself appears to be insufficient to guarantee that people with SPD and co-occurring chronic physical health conditions receive the care they need, and ongoing initiatives to help individuals navigate the health care system and design care around patient needs may be beneficial.[35] Future research should continue to assess the impact of health insurance coverage on those with SPD and chronic conditions in order to gain a fuller understanding of the barriers and facilitators that allow these individuals to access the care they need.

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Conflict of Interest Statement

The authors report no conflicts of interest.

Employment/Disclaimers

Priscilla Novak was an employee of the Office of Personnel Management at the time this manuscript was prepared. The views expressed in this manuscript are those of the authors who are solely responsible for the content. The views in this manuscript do not represent those of the Office of Personnel Manage or the US Government.

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