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Factors Influencing the Health Care Utilization Among People With Depression and/or Anxiety Symptoms

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Abstract

BACKGROUND: This analysis aimed to examine the factors predictive of service utilization among patients with anxiety and/or depression. Quick and appropriate treatment for anxiety and depression can reduce disease burden and improve social functioning. Currently, less than half of the population with comorbid anxiety and depression receives the recommended treatment.

AIMS: This analysis aims to identify factors predictive of utilizing mental health treatment for those with anxiety and/or depression by analyzing intrinsic, patient-centered factors.

METHOD: This study is a cross-sectional cohort analysis using National Health Interview Survey (NHIS) 2019 data. The sample size is 7,156 adults aged 18 to 64 with family incomes ≤100% of the federal poverty level. We used multivariate logistic regression analysis to identify factors predictive of care utilization in this population. Variables of interest include scores on Patient Health Questionnaire-8 (PHQ-8) and Generalized Anxiety Disorder-7 (GAD-7), service utilization, level of social functioning, having a usual source for care, and previous mental health care utilization. Additional covariates were age, gender, race, country of origin, education, marital status, and insurance coverage.

RESULTS: Twenty-one percent of respondents reported using mental health services. Factors predictive of care utilization were older age, female gender, limited social functioning, having a usual source of care, and insurance coverage.

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Author Contributions

All authors contributed to the conception or design of the study or to the acquisition, analysis, or interpretation of the data. All authors drafted the manuscript, or critically revised the manuscript, and gave final approval of the version that was submitted for publication. All authors agree to be accountable for all aspects of the work, ensuring integrity and accuracy.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

CONCLUSION: There are significant barriers to receiving quick and appropriate care for anxiety and/or depression. Strategies should focus on reducing barriers for young adults, men, and the uninsured/underinsured. Strategies for integrating mental health services into primary care could increase the percentage of people with anxiety and/or depression who receive services.

Keywords

anxiety and anxiety disorders; community mental health services; depression and depressive disorders

Introduction

Depression and anxiety disorders are highly prevalent and represent significant health concerns in today's society. While they are separate conditions, it is not rare for individuals with depression to experience symptoms of anxiety and vice versa (Chisholm et al., 2016; Felez-Nobrega et al., 2022; Van't Hof et al., 2011). For example, a study that utilized data from the Netherlands Study of Depression and Anxiety demonstrated that approximately 65% of participants experienced comorbid depression and anxiety (Groen et al., 2020). Consequently, they are often considered comorbidities and treated concurrently. Inadequate treatment of these disorders can result in exacerbated physical illness, functional impairment, disability, poor quality of life, loss of independence, and an increased risk of suicide. Patients suffering from both depression and anxiety typically exhibit poorer outcomes compared with those with only one of these disorders (Polacsek et al., 2020). A pertinent systematic review posits that providing appropriate treatment for depression and anxiety could yield an additional 43 million years of healthy life from 2016 to 2030, potentially contributing $310 billion to society (Chisholm et al., 2016).

Typically, the treatment of mental disorders includes both professional counseling and medication (Terlizzi & Zablotsky, 2021). The National Institute of Mental Health (NIMH), however, reports that not all patients receive appropriate treatment for both depression and anxiety. For example, among patients with depression, typically 21% receive only one treatment (i.e., either counseling or medication), and 44% receive both treatments (Terlizzi & Zablotsky, 2021). Despite an increasing number of patients receiving treatment for their comorbid conditions, a significant proportion still do not receive appropriate care at the right time, as reported by the NIMH (Terlizzi & Zablotsky, 2021). Furthermore, because of the financial burden of counseling and medication, depression and anxiety typically are even more debilitating for patients with limited financial means. Studies assert that because low-income adults need to deal with other competing obligations (e.g., transportation and childcare) with limited resources, they cannot prioritize mental health treatment over more immediate concerns (Campbell & Selby-Nelson, 2020; Santiago et al., 2013). Depression and anxiety can cause decreased productivity at work and often result in poor financial outcomes for individuals (Chisholm et al., 2016), which may prevent them from receiving timely treatments. This creates a vicious cycle of poverty and mental illness (Bonafede et al., 2017; Pesa & Lage, 2004).

Several studies (Borson et al., 2019; Colorafi et al., 2017; Mojtabai et al., 2014; O'Callaghan et al., 2022) examined socioeconomic barriers to receiving recommended treatments for depression and anxiety, such as treatment unaffordability and a lack of insurance. However, these studies were not designed to explicitly reflect perceptions of patients. As individuals with different mental disorders are likely to encounter distinct health care experiences, examining specific patient populations could provide more valuable insights into their experiences. Notably, only one study by Fu et al. (2022) explored the perceived barriers to treatment among patients with depression and anxiety. However, generalizing the findings of this research (e.g., short or infrequent primary care appointments, receiving inaccurate program information, low motivation to engage) is challenging due to the limited sample size ($n = 45$).

A more comprehensive understanding of the obstacles faced by low-income patients in accessing appropriate mental health services in a timely manner would empower clinicians and policymakers to better allocate resources and enhance access to care. The National Health Interview Survey (NHIS), conducted by the Centers for Disease Control and Prevention (CDC), is a nationwide survey designed to collect information on demographic and experiential factors that impact disease and health service utilization within the U.S. population. It encompasses mental health disorders and other medical conditions, aiming to be representative of the entire nation (National Center for Health Statistics [NCHS], 2020). While thousands of studies have employed NHIS data to address various research questions, only a handful have specifically focused on mental disorders such as depression and anxiety, particularly among underserved populations (Nguyen et al., 2018). The purpose of the present study is to investigate the factors that affect the timely utilization of mental health services for individuals with depression and/or anxiety symptoms, as perceived by patients, using data from the NHIS.

Method

This study was an observational, cross-sectional secondary data analysis of mental health care needs and utilization using NHIS data collected from 2019 (NCHS, 2020). The NHIS collected and reported on a broad range of U.S. health data using a stratified, multistage probability sampling method. Among 31,997 observations from a sample of adult (age 18 years or older) data, our study analyzed data from 7,156 adults whose ratio of family income to poverty threshold was lower than 1. The institutional review board's approval was waived since the data from NHIS are publicly available and the participant's responses are de-identified.

Sociodemographic Characteristics

Sociodemographic characteristics included age (18–34, 35–49, 50–64, and 65 years or older), sex (i.e., female or male), race (White or non-White), education (less than high school, high school or general equivalency deploma (GED), and some college or associate degree or above), marital status (married or living with a partner, neither), and country of birth (United States or non-United States). Participant respondents were also asked to report

whether or not they have (1) insurance coverage; (2) limitations on social functioning, and (3) a place to go for health care.

Symptoms of Depression and/or Anxiety

Symptoms of depression and/or anxiety were identified with the Patient Health Questionnaire-8 (PHQ-8) and Generalized Anxiety Disorder-7 (GAD-7). The eight-item PHQ-8 scale has been tested and validated to measure depressive symptoms based on the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*)-IV in a population-based study (Kroenke et al., 2009). The total score of PHQ-8 was classified as none/minimal (0–4), mild (5–9), moderate (10–14), and severe (15–24) (Kroenke et al., 2009). The seven-item GAD-7 scale has been tested and validated to assess generalized anxiety symptoms in various populations. The total score of GAD-7 was classified as none/minimal (0–4), mild (5–9), moderate (10–14), and severe (15–21) (Gagné et al., 2014). If a given participant scored at least mild for any symptoms, then he or she was classified as having depression and/or anxiety symptoms. Participants were also asked whether they had any history of depression and/or anxiety disorders.

Health Service Utilization Due to Mental Health Reasons

A given participant's health service utilization for mental health reasons was determined based on his or her responses to a series of questions—for example, (1) *Do you take prescription medication for these feelings?* (2) *Do you take prescription medication for depression?* and (3) *Are you currently receiving counseling or therapy from a mental health professional?* If a given participant used at least one of these services, then he or she was included in the category of health service utilization.

Data Analysis

Data were analyzed with STATA 15 (Stata Corp. 2017). Descriptive statistics and logistic regressions for complex survey designs were used. A series of bivariate and multivariate logistic regressions were used to assess the association of individual characteristics, mental health, and health service utilization. Multivariate-adjusted odds ratios (ORs) and 95% confidential intervals (CIs) were reported.

Results

Table 1 presents the descriptive statistics of (1) sociodemographic features, (2) symptoms of depression and/or anxiety, and (3) health care utilization due to mental illness of those respondents who (1) were identified as adults by age and (2) had incomes less than 100% of the federal poverty level (FPL) (N=7,156). The respondents were largely born in the United States (72%), White (64%), and female (59%). Approximately 38% of the respondents were married or living with a partner, and 36% had completed some college or an associate degree or higher. Approximately 64% of the participants reported limited social functioning, 78% reported having insurance coverage, 85% reported having a place to go for health care, 36% reported symptoms of depression and/or anxiety, and 21% reported service usage.

Table 2 presents the odds of using mental health services among adults with incomes less than 100% of the FPL. As shown, age, sex, race, limitation of social functioning, having insurance, having a place to go for health care, marital status, country of birth, history of depression and/or anxiety, and symptoms of depression and/or anxiety were significantly associated with the use of mental health services. These variables were included in the multivariate logistic regression.

Table 3 presents the multivariate logistic regression of health service utilization on sociodemographic covariates and symptoms of depression and/or anxiety. Relative to the reference group (18- to 34-year-olds), the odds of receiving mental health services increased by 2.199 for those aged 35 to 49 years, 2.613 for those aged 50 to 64 years, and 2.098 for those aged 65 years and older. Based on the Wald test, the odds for each age group significantly differed from zero and were also a statistically significant predictor of mental health service utilization ($F = 7.99$, $p < .001$). The estimated odds of receiving mental health services for men relative to women were 43.2% lower. Compared with those with no limitation of social functioning, people who reported a limitation of social functioning were about 1.653 times more likely to use mental health services (OR = 1.635, 95% CI = [1.226, 2.230]). The odds of receiving mental health services among those who had insurance were 3.348 times the odds for those who did not have insurance coverage (95% CI = [2.125, 5.273]). Participants who reported having a place to go for health care were about 2.098 times more likely to use health services compared with those who did not have a place to go for health care. We observed an interaction between mental health symptoms and mental health history (OR = 0.300, 95% CI = [0.161, 0.560]). Education level, marital status, and country of birth did not influence whether an individual received mental health service among this population.

Discussion

Our examination of the NHIS data set indicates that factors such as older age, being female, limited social or vocational functioning, a history of depression and/or anxiety, access to treatment, and insurance coverage contribute to an increased likelihood of utilizing mental health services among patients with depression and/or anxiety symptoms. Specifically, we identified statistically significant interactions between patients' psychiatric history and their current depression and/or anxiety symptoms, even when controlling for other covariates. These findings are consistent with previous research emphasizing the pivotal role of an individual's mental health history and current symptoms in determining their engagement with mental health care services (Das et al., 2021; Lamers et al., 2011).

Individual Factors

Our findings reveal that young adults between the ages of 18 and 34 utilize mental health services at a lower rate than all other adult age groups. This trend may be attributable to young adults remaining undiagnosed, being unaware of their need for support, or hesitating to seek assistance due to the stigma associated with mental health issues. Prior research (Cho et al., 2009; Mackenzie et al., 2019; Sirey, Bruce, Alexopoulos, Perlick, Friedman, & Meyers, 2001; Sirey, Bruce, Alexopoulos, Perlick, Raue, et al., 2001) has shown that

younger patients with depression report greater levels of perceived stigma compared with their older counterparts, which may deter them from seeking treatment. For instance, both van Voorhees et al. (2005) and Prins et al. (2008) found that the majority of young internet users aged 16 to 29 were reluctant to pursue treatment, fearing that employers could discover their mental health conditions. Furthermore, according to the CDC in 2019, individuals in the 18 to 34 age group were less likely to attend yearly wellness visits compared with those aged 35 to 49, 50 to 64, and 65 and older. The United States Preventive Services Task Force (USPSTF) endorses mental health disorder screening in primary care settings (Siu et al., 2016). However, younger populations might be underrepresented, as they tend to have limited engagement with these screening services.

Despite their prevalence, depression and anxiety among older adults frequently remain undiagnosed and untreated. As the population in the United States continues to age rapidly, addressing untreated depression among older adults presents a significant challenge for the mental health service delivery system (Conner et al., 2010). Although our analysis suggests that older patients are more likely to receive care, other research has found that they are less likely to have access to mental health professionals compared with other adult age groups, which can be attributed to system-level barriers (Kim et al., 2015; Solway et al., 2010; Wuthrich & Frei, 2015). For instance, studies have demonstrated that older adults who meet the criteria for depression are less likely to be referred to mental health services than younger adults (Collins et al., 1997; Crabb & Hunsley, 2006; Frost et al., 2019). The NHIS is a nationwide survey that randomly selects participants from various communities. As such, it represents the general population, which tends to have higher levels of function than participants in those previous studies. This difference could contribute to the discrepancy between our results and those reported in previous literature. Moreover, there is a shortage of mental health specialists with the appropriate training to deliver services to older adults (Merz et al., 2017; Moye et al., 2019). Policymakers should consider these factors when allocating resources and initiating efforts to enhance health service utilization among older patients with depression.

Our analysis reveals that female patients are more likely to access mental health services than their male counterparts. This statistically significant association between mental health service utilization and gender has been corroborated by previous studies (Addis & Mahalik, 2003; Keers & Aitchison, 2010 Hahm et al., 2015). Hahm et al. (2015) found that men are less likely to be screened for mental health issues, access mental health services, and receive adequate levels of treatment compared with women. While our findings align with these observations, it is not certain that female patients demonstrate better adherence to treatment plans than male patients. In fact, we observed a lower treatment retention rate among female patients than male patients, despite females being more likely to undergo screening and consultations with physicians (Hahm et al., 2015). Concurrently, antidepressants may be less effective for women, potentially reducing treatment retention and the probability of maintaining active antidepressant prescriptions (Hahm et al., 2015; Keers & Aitchison, 2010). Therefore, we contend that a deeper understanding of mental health service utilization by gender is necessary to devise gender-specific strategies aimed at enhancing screening and care retention rates for each patient subpopulation.

After controlling for mental illness, our analysis indicates that individuals with limited social functioning, encompassing vocational functioning and frequency of social contact (Yanos et al., 2012), exhibit a higher likelihood of seeking mental health services than those who do not have limited social functioning. While a study by Koekkoek et al. (2010) revealed that patients with limited social functioning have increased utilization of medical services, it did not specifically focus on patients with depression and/or anxiety. Storm et al. (2019) demonstrated that depression treatment enhances social functioning among patients with mental illnesses. Consequently, patients with limited social functioning—who may also be more inclined to engage with mental health services—could potentially benefit more from treatment than those who do not have limited functioning. Since most existing studies have investigated the impact of mental disorders on patients' social functioning rather than the reverse, additional research is necessary to comprehend how varying levels of social functioning might influence patients' preferences regarding their engagement with mental health services. Another area warranting future exploration is the relationship between social and vocational responsibilities and the capacity to attend appointments for psychiatric treatment. Individuals with increased vocational or social activities may endure psychiatric distress for longer periods to maintain these obligations.

Structural Factors

In our analysis, patients who are aware of how to access mental health services are more likely to receive care than those who lack this knowledge. Patients with a history of depression and/or anxiety might already have connections to clinicians or health care systems, thereby increasing the likelihood of knowing how to access mental health care. Various patient groups have reported difficulties in navigating appropriate mental health services to address their needs. Reynolds et al. (2020) found that maneuvering through the mental health care system can be challenging, hindering individuals from obtaining the care they require. For instance, Reardon et al. (2017) demonstrated that between 14% and 75% of patients with depression cite a lack of knowledge about accessing care as a barrier to receiving the care they need. Reduced engagement with mental health services due to dissatisfaction with care primarily stems from a limited understanding of how to locate and access suitable services (Chemerynska et al., 2021).

Older and low-income adults are particularly susceptible to the challenges of navigating mental health services without the aid of a social worker or caregiver. This vulnerability arises not only from the patient's ability to locate care facilities but also from social barriers. For instance, Niazi et al. (2020) highlights structural obstacles to finding suitable providers, such as transportation limitations and difficulties in identifying a provider. Recently, ride-sharing services (e.g., Lyft and Uber) have partnered with insurance companies and hospitals to offer transportation to low-income patients (Dotinga, 2019). However, many patients remain unaware of these services or fear being charged for them. By providing navigational assistance to patients with limited capabilities—such as older adults, low-income individuals, and those with restricted physical functioning—clinicians and hospitals could remove a barrier to accessing care. In addition, the increasing adoption of integrated care in primary care settings could enhance connections to psychiatric and behavioral

treatments, ensuring clear continuity of care, direct referrals, and seamless transitions between providers.

Another structural barrier is health insurance. As anticipated, our findings indicate that health insurance coverage, or the absence of it, plays a major role in mental health service utilization. Compared with other forms of preventive care, mental health services are often expensive or inadequately covered by insurance. Numerous studies have shown that without insurance coverage, patients cannot afford services (Alang et al., 2020; Derr, 2016; Rowan et al., 2013). However, having health insurance coverage does not guarantee that patients can access services for their depression and/or anxiety. Rowan et al. (2013) demonstrated that the impact of insurance coverage on improving access to care for mental health patients depends on the illness severity and the type of service utilized. In our analysis, we did not distinguish between the types of mental health services received, such as medication, counseling, or a combination thereof. Alang et al. (2020) revealed that the type of services used is often restricted by insurance status rather than determined by patients' needs. Policymakers and clinicians should consider the relationship between insurance coverage and health care access for patients with depression. Programs like health care homes can help integrate behavioral health services with primary care and employ alternative funding sources. Supported by the Affordable Care Act's (ACA) funding, these organizations use a sliding scale fee based on the patient's income, providing access to primary care, psychiatric, and behavioral services, thereby increasing continuity and reducing patient costs.

Limitations

First, despite a nationally representative large sample size, the NHIS does not offer all the specific information necessary for analyzing factors that affect mental health service usage for depression and anxiety. Second, the limitations inherent in self-report data and the cross-sectional approach employed by the NHIS must be taken into account. Furthermore, the NHIS survey excludes individuals who are institutionalized or homeless, populations more likely to have severe mental disabilities compared with the general public. Despite these limitations, this study contributes to the empirical understanding of mental health service use among adults with a family income-to-poverty threshold ratio below 1. The sociodemographic characteristics of NHIS participants offer valuable insights into potential methods for enhancing mental health service utilization.

Practical Implications

Approximately one in five adults experiences a mental illness that impairs their ability to function in various aspects of life, such as at home, school, work, or within the community (Substance Abuse and Mental Health Services Administration, 2021). However, less than half of individuals with mental illness have access to mental health services (Terlizzi & Zablotsky, 2021). Most patients who do receive mental health services obtain them from primary care providers (Kroenke & Unutzer, 2017; Olfson et al., 2014). Early detection of symptoms through behavioral screening in primary care practices can facilitate prompt access to treatment. The integration of behavioral health within primary care can further

support timely and appropriate access to mental health care in a familiar environment, reducing wait times and over-coming barriers to care.

Moreover, gender-sensitive approaches should be implemented to enhance service uptake among men with mental illnesses. Health care providers need to recognize that male-specific depressive symptoms, such as substance abuse and violence, often do not align with standard diagnostic criteria (Call & Shafer, 2018; Rice et al., 2015). Identifying externalizing behaviors and symptoms may be more effective in detecting male depressive symptoms compared with generic questions about mood. Other strategies to increase men's mental health service utilization include public destigmatization campaigns featuring male role models and male-only group programs. These approaches have the potential to positively influence men's help-seeking behaviors.

Conclusion

Our analysis of NHIS data indicates that patients who recognize their depressive and/or anxiety symptoms are more likely to utilize mental health services, independent of their prior history of depression and/or anxiety. This trend aligns with existing literature regarding various depressive patient populations (Britt et al., 2020; Schmied et al., 2016; Sword et al., 2008). Similar awareness or educational approaches can be implemented in other community settings, such as schools, community centers, or workplaces, to enhance symptom awareness and prompt individuals to engage with mental health services upon recognizing their symptoms. Our analysis also demonstrates that individuals experiencing depressive and/or anxiety symptoms, without a previous history of depression, were more likely to access mental health care than those with a prior history. This outcome contradicts earlier studies, which report that individuals with histories of anxiety and/or depression are more likely to use mental health services (Kangas & Heissel, 2020). However, the literature currently lacks studies that elucidate this behavioral pattern. Individuals with a prior history of depression might believe their condition will improve over time, or their satisfaction with previous care could influence their decision to seek mental health services when symptoms emerge. To comprehend the complex underlying mechanisms of these behaviors, further in-depth interviews may be necessary.

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References

Addis ME, & Mahalik JR (2003). Men, masculinity, and the contexts of help seeking. American Psychologist, 58(1), 5–14. [PubMed: 12674814]

Alang S, McAlpine D, & McCreedy E (2020). Selection into mental health services among persons with depression. Psychiatric Services, 71(6), 588–592. [PubMed: 32114942]

Bonafede M, Cai Q, Cappell K, Kim G, Sapra SJ, Shah N, & Desai P (2017). Factors associated with direct health care costs among patients with migraine. Journal of Managed Care & Specialty Pharmacy, 23(11), 1169–1176. [PubMed: 29083975]

Borson S, Korpak A, Carbajal-Madrid P, Likar D, Brown GA, & Batra R (2019). Reducing barriers to mental health care: Bringing evidence-based psychotherapy home. Journal of the American Geriatrics Society, 67(10), 2174–2179. [PubMed: 31343734]

Britt TW, Sipos ML, Klinefelter Z, & Adler AB (2020). Determinants of mental and physical health treatment-seeking among military personnel. The British Journal of Psychiatry, 217(2), 420–426. [PubMed: 31258095]

Call JB, & Shafer K (2018). Gendered manifestations of depression and help seeking among men. American Journal of Men's Health, 12(1), 41–51.

Campbell LF, & Selby-Nelson EM (2020). Bringing psychotherapy to people living in poverty. In Zimmerman J, Barnett JE & Campbell LF (Eds.), Bringing psychotherapy to the underserved: Challenges and strategies (pp. 98–122). Oxford University Press.

Chemerynska N, Arsuffi L, & Holdsworth E (2021). Ascertaining the needs of carers of forensic psychiatric inpatients through their experience of navigating mental health services: Guidance for service providers. Journal of Forensic Psychology Research and Practice, 21(3), 230–248.

Chisholm D, Sweeny K, Sheehan P, Rasmussen B, Smit F, Cuijpers P, & Saxena S (2016). Scaling-up treatment of depression and anxiety: A global return on investment analysis. The Lancet Psychiatry, 3(5), 415–424. [PubMed: 27083119]

Cho SJ, Lee JY, Hong JP, Lee HB, Cho MJ, & Hahm BJ (2009b). Mental health service use in a nationwide sample of Korean adults. Social Psychiatry and Psychiatric Epidemiology, 44(11), 943–951. [PubMed: 19294325]

Collins E, Katona C, & Orrell MW (1997). Management of depression in the elderly by general practitioners: Referral for psychological treatments. British Journal of Clinical Psychology, 36(3), 445–448. [PubMed: 9309359]

Colorafi K, Vanselow J, & Nelson T (2017). Treating anxiety and depression in primary care: Reducing barriers to access. Family Practice Management, 24(4), 11–16. [PubMed: 28812852]

Conner KO, Copeland VC, Grote NK, Koeske G, Rosen D, Reynolds IIICF, & Brown C (2010). Mental health treatment seeking among older adults with depression: The impact of stigma and race. The American Journal of Geriatric Psychiatry, 18(6), 531–543. [PubMed: 20220602]

Crabb R, & Hunsley J (2006). Utilization of mental health care services among older adults with depression. Journal of Clinical Psychology, 62(3), 299–312. [PubMed: 16400646]

Das A, Gordon-Ocejo G, Kumar M, Kumar N, & Needlman R (2021). Association of the previous history of maternal depression with post-partum depression, anxiety, and stress in the neonatal intensive care unit. The Journal of Maternal-Fetal & Neonatal Medicine, 34(11), 1741–1746. [PubMed: 31327298]

Derr AS (2016). Mental health service use among immigrants in the United States: A systematic review. Psychiatric Services, 67(3), 265–274. [PubMed: 26695493]

Dotinga R (2019). Baby, you can drive my patient: Uber and Lyft make strides in medical transportation. Caring for the Ages, 20(6), 21.

Felez-Nobrega M, Haro JM, & Koyanagi A (2022). Multimorbidity, depression with anxiety symptoms, and decrements in health in 47 low-and middle-income countries. Journal of Affective Disorders, 317, 176–184. [PubMed: 36055525]

Frost R, Beattie A, Bhanu C, Walters K, & Ben-Shlomo Y (2019). Management of depression and referral of older people to psychological therapies: A systematic review of qualitative studies. British Journal of General Practice, 69(680), e171–e181.

Fu E, Carroll AJ, Rosenthal LJ, Rado J, Burnett-Zeigler I, Jordan N, & Smith JD (2022). Implementation barriers and experiences of eligible patients who failed to enroll in collaborative care for depression and anxiety. Journal of General Internal Medicine, 38, 366–374. [PubMed: 35931910]

Gagné S, Vasiliadis H-M, & Préville M (2014). Gender differences in general and specialty outpatient mental health service use for depression. BMC Psychiatry, 14, 135. 10.1186/1471-244X-14-135 [PubMed: 24884891]

Groen RN, Ryan O, Wigman JT, Riese H, Penninx BW, Giltay EJ, Wichers M, & Hartman CA (2020). Comorbidity between depression and anxiety: Assessing the role of bridge mental states in dynamic psychological networks. BMC Medicine, 18, 1–17. [PubMed: 31898501]

Hahm HC, Cook BL, Ault-Brutus A, & Alegría M (2015). Intersection of race-ethnicity and gender in depression care: Screening, access, and minimally adequate treatment. Psychiatric Services, 66(3), 258–264. [PubMed: 25727113]

Kangas M, & Heissel A (2020). Mental health literacy, treatment preferences and the lived experience of mental health problems in an Australian cancer sample. Psychooncology, 29(11), 1883–1894. [PubMed: 32803818]

Keers R, & Aitchison KJ (2010). Gender differences in antidepressant drug response. International Review of Psychiatry, 22(5), 485–500. [PubMed: 21047161]

Kim JL, Cho J, Park S, & Park EC (2015). Depression symptom and professional mental health service use. BMC Psychiatry, 15(1), 1–12. [PubMed: 25609320]

Koekkoek B, van Meijel B, Schene A, & Hutschemaekers G (2010). Development of an intervention program to increase effective behaviours by patients and clinicians in psychiatric services: Intervention Mapping study. BMC Health Services Research, 10, 1–11. [PubMed: 20044945]

Kroenke K, Strine TW, Spitzer RL, Williams JB, Berry JT, & Mokdad AH (2009). The PHQ-8 as a measure of current depression in the general population. Journal of affective disorders, 114(1–3), 163–173. [PubMed: 18752852]

Kroenke K, & Unutzer J (2017). Closing the false divide: Sustainable approaches to integrating mental health services into primary care. Journal of General Internal Medicine, 32(4), 404–410. [PubMed: 28243873]

Lamers F, van Oppen P, Comijs HC, Smit JH, Spinhoven P, van Balkom AJ, & Penninx BW (2011). Comorbidity patterns of anxiety and depressive disorders in a large cohort study: The Netherlands Study of Depression and Anxiety (NESDA). The Journal of Clinical Psychiatry, 72(3), 341–348. [PubMed: 21294994]

Mackenzie CS, Visperas A, Ogrodniczuk JS, Oliffe JL, & Nurmi MA (2019). Age and sex differences in self-stigma and public stigma concerning depression and suicide in men. Stigma and Health, 4(2), 233.

Merz CC, Koh D, Sakai EY, Molinari V, Karel MJ, Moye J, & Carpenter BD (2017). The big shortage: Geropsychologists discuss facilitators and barriers to working in the field of aging. Translational Issues in Psychological Science, 3(4), 388. [PubMed: 29308422]

Mojtabai R, Chen LY, Kaufmann CN, & Crum RM (2014). Comparing barriers to mental health treatment and substance use disorder treatment among individuals with comorbid major depression and substance use disorders. Journal of Substance Abuse Treatment, 46(2), 268–273. [PubMed: 23992953]

Moye J, Karel MJ, Stamm KE, Qualls SH, Segal DL, Tazeau YN, & DiGilio DA (2019). Workforce analysis of psychological practice with older adults: Growing crisis requires urgent action. Training and education in professional psychology, 13(1), 46–55. [PubMed: 31131069]

National Center for Health Statistics. (2020). Preliminary evaluation of the impact of the 2019 National Health Interview Survey questionnaire redesign and weighting adjustments on Early Release Program estimates. https://www.cdc.gov/nchs/data/nhis/earlyrelease/EReval202009-508.pdf

Nguyen VH, Lin SC, Cappelli DP, & Nair S (2018). The association between dental, general, and mental health status among underserved and vulnerable populations served at health centers in the US. Journal of Public Health Dentistry, 78(1), 41–48. [PubMed: 28719064]

Niazi S, Vargas E, Spaulding A, Gustetic E, Ford N, Paly D, & Rummans T (2020). Barriers to accepting mental health care in cancer patients with depression. Social Work in Health Care, 59(6), 351–364. [PubMed: 32536332]

O'Callaghan E, Sullivan S, Gupta C, Belanger HG, & Winsberg M (2022). Feasibility and acceptability of a novel telepsychiatry-delivered precision prescribing intervention for anxiety and depression. BMC Psychiatry, 22(1), 1–10. [PubMed: 34983462]

Olfson M, Kroenke K, Wang S, & Blanco C (2014). Trends in office-based mental health care provided by psychiatrists and primary care physicians. The Journal of Clinical Psychiatry, 75(3), 21732.

Pesa J, & Lage MJ (2004). The medical costs of migraine and comorbid anxiety and depression. Headache: The Journal of Head and Face Pain, 44(6), 562–570.

Polacsek M, Boardman GH, & McCann TV (2020). Factors influencing self-management of depression in older adults: A qualitative study. Aging & Mental Health, 24(6), 939–946. [PubMed: 30621440]

Prins MA, Verhaak PF, Bensing JM, & van der Meer K (2008). Health beliefs and perceived need for mental health care of anxiety and depression—The patients' perspective explored. Clinical Psychology Review, 28(6), 1038–1058. [PubMed: 18420323]

Reardon T, Harvey K, Baranowska M, O'brien D, Smith L, & Creswell C (2017). What do parents perceive are the barriers and facilitators to accessing psychological treatment for mental health problems in children and adolescents? A systematic review of qualitative and quantitative studies. European Child & Adolescent Psychiatry, 26, 623–647. [PubMed: 28054223]

Reynolds K, Medved M, Mackenzie CS, Funk LM, & Koven L (2020). Older adults' narratives of seeking mental health treatment: Making sense of mental health challenges and "muddling through" to care. Qualitative Health Research, 30(10), 1517–1528. [PubMed: 32452302]

Rice SM, Fallon BJ, Aucote HM, Möller-Leimkühler A, Treeby MS, & Amminger GP (2015). Longitudinal sex differences of externalising and internalising depression symptom trajectories: Implications for assessment of depression in men from an online study. International Journal of Social Psychiatry, 61(3), 236–240. 10.1177/0020764014540149 [PubMed: 24980475]

Rowan K, McAlpine DD, & Blewett LA (2013). Access and cost barriers to mental health care, by insurance status, 1999–2010. Health Affairs, 32(10), 1723–1730. [PubMed: 24101061]

Santiago CD, Kaltman S, & Miranda J (2013). Poverty and mental health: How do low-income adults and children fare in psychotherapy? Journal of Clinical Psychology, 69(2), 115–126. [PubMed: 23280880]

Schmied V, Langdon R, Matthey S, Kemp L, Austin MP, & Johnson M (2016). Antenatal psychosocial risk status and Australian women's use of primary care and specialist mental health services in the year after birth: A prospective study. BMC Women's Health, 16, 1–13. [PubMed: 26729344]

Sirey JA, Bruce ML, Alexopoulos GS, Perlick DA, Friedman SJ, & Meyers BS (2001). Perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence. Psychiatric Services, 52, 1615–1620. [PubMed: 11726752]

Sirey JA, Bruce ML, Alexopoulos GS, Perlick DA, Raue P, Friedman SJ, & Meyers BS (2001). Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. American Journal of Psychiatry, 158, 479–481. [PubMed: 11229992]

Siu AL, Bibbins-Domingo K, Grossman DC, Baumann LC, Davidson KW, & Ebell M, & U. S. Preventive Services Task Force. (2016). Screening for depression in adults: US Preventive Services Task Force recommendation statement. Jama, 315(4), 380–387. [PubMed: 26813211]

Solway E, Estes CL, Goldberg S, & Berry J (2010). Access barriers to mental health services for older adults from diverse populations: Perspectives of leaders in mental health and aging. Journal of Aging & Social Policy, 22(4), 360–378. [PubMed: 20924892]

StataCorp. (2017). Stata statistical software: Release 15. College Station, TX: StataCorp LLC.

Storm M, Husebø AML, Thomas EC, Elwyn G, & Zisman-Ilani Y (2019). Coordinating mental health services for people with serious mental illness: A scoping review of transitions from psychiatric hospital to community. Administration and Policy in Mental Health and Mental Health Services Research, 46, 352–367. [PubMed: 30604004]

Substance Abuse and Mental Health Services Administration. (2021). Key substance use and mental health indicators in the United States: Results from the 2020 National Survey on Drug Use and Health (HHS Publication No. PEP21-07-01-001, NSDUH Series H-56). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/data/sites/default/files/reports/rpt35325/NSDUHFFRPDFWHTMLFiles2020/2020NSDUHFFR1PDFW102121.pdf

Sword W, Busser D, Ganann R, McMillan T, & Swinton M (2008). Women's care-seeking experiences after referral for postpartum depression. Qualitative Health Research, 18(9), 1161–1173. [PubMed: 18689530]

Terlizzi EP, & Zablotsky B (2021). Mental health treatment among adults: United States, 2019 (NCHS Data Brief No. 380). National Center for Health Statistics. https://www.cdc.gov/nchs/products/databriefs/db380.htm

Van't Hof E, Stein DJ, Cuijpers P, & Waheed W (2011). Psychological treatments for depression and anxiety disorders in low-and middle-income countries: A meta-analysis. African Journal of Psychiatry, 14(3), 200–207. [PubMed: 21863204]

van Voorhees BW, Fogel J, Houston TK, Cooper LA, Wang NY, & Ford DE (2005). Beliefs and attitudes associated with the intention to not accept the diagnosis of depression among young adults. Annals of Family Medicine, 3, 38–46. [PubMed: 15671189]

Wuthrich VM, & Frei J (2015). Barriers to treatment for older adults seeking psychological therapy. International Psychogeriatrics, 27(7), 1227–1236. [PubMed: 25739459]

Yanos PT, West ML, Gonzales L, Smith SM, Roe D, & Lysaker PH (2012). Change in internalized stigma and social functioning among persons diagnosed with severe mental illness. Psychiatry Research, 200(2–3), 1032–1034. [PubMed: 22763091]

Table 1.

Descriptive Statistics of Sociodemographic Characteristics, Symptoms of Depression and/or Anxiety, and Health Care Utilization Due to Mental Illness (N = 7,156).

Characteristic	Feature	Weighted proportion (%)	95% confidential interval (CI)
Age	Age 18–34 years	37.826	[0.354, 0.403]
	Age 35–49 years	21.867	[0.202, 0.236]
	Age 50–64 years	22.850	[0.211, 0.246]
	Age ≥65 years	17.457	[0.160, 0.190]
Sex	Female	59.195	[0.569, 0.613]
	Male	40.805	[0.386, 0.430]
Race	White	64.003	[0.609, 0.669]
	Non-White	35.997	[0.330, 0.390]
Education	High school or less	33.513	[0.311, 0.359]
	High school or GED	30.105	[0.281, 0.320]
	Some college/associate degree or above	36.381	[0.339, 0.388]
Limitation of social functioning	No	63.891	[0.618, 0.659]
	Yes	36.109	[0.340, 0.381]
Insurance	Insurance not covered	22.250	[0.200, 0.245]
	Insurance covered	77.750	[0.754, 0.799]
Place to go for healthcare	No	15.322	[0.135, 0.172]
	Yes	84.678	[0.827, 0.864]
Marital status	Neither	62.118	[0.596, 0.645]
	Married or living with a partner	37.882	[0.354, 0.403]
Country of birth	Not United States	27.679	[0.251, 0.304]
	United States	72.321	[0.695, 0.748]
History of anxiety and/or depression	None	70.523	[0.685, 0.724]
	Yes	29.477	[0.275, 0.314]
Symptoms of depression/anxiety	No	63.581	[0.613, 0.657]
	Yes	36.419	[0.342, 0.386]
Service usage	No	79.148	[0.773, 0.808]
	Yes	20.852	[0.191, 0.226]

Table 2.

Bivariate Logistic Regression of Health Service Utilization, Sociodemographic Characteristics, and Symptoms of Depression and/or Anxiety.

Demographic variables		Odds ratio (OR)	95% CI
Age	Age 18–34 years (ref.)	1	
	Age 35–49 years	2.708	[1.978, 3.707]
	Age 50–64 years	3.758	[2.821, 5.006]
	Age ≥ 65 years	2.526	[1.861, 3.428]
Sex	Male (vs. female)	0.458	[0.367, 0.572]
Race	Non-White (vs. White)	0.602	[0.483, 0.750]
Education	Less than high school (ref.)	1	
	High school or GED	1.269	[0.961, 1.676]
	Some college or associate degree or above	1.131	[0.871, 1.468]
Limitation of social functioning (vs. no limitation)		4.504	[3.635, 5.580]
Insurance (vs. not covered)		4.251	[2.941, 6.145]
Place to go for health (vs. none)		4.862	[3.024, 7.817]
Marital status—married or living with partner (vs. neither)		0.635	[0.509, 0.792]
Country of birth, USA (vs. non-US)		2.551	[1.909, 3.410]
History of depression and/or anxiety (vs. no history)		28.802	[21.655, 38.307]
Symptoms of depression and/or anxiety (vs. none)		8.703	[6.961, 10.882]

Table 3.

Multivariate Logistic Regression of Health Service Utilization on Sociodemographic Characteristics and Symptoms of Depression and/or Anxiety.

Sociodemoraphic characteristics		OR	95% CI
Age	Age 18–34 years (ref.)	1	
	Age 35–49 years	2.199	[1.443, 3.349] *
	Age 50–64 years	2.613	[1.761, 3.876] *
	Age >65 years	2.098	[1.378, 3.194] *
Sex	Male (vs. female)	0.568	[0.429, 0.752] *
Race	Non-White (vs. White)	0.759	[0.566, 1.017]
Education	Less than high school (ref.)	1	
	High school or GED	1.379	[0.954, 1.993]
	Some college, associate degree, or above	1.381	[0.976, 1.954]
Limitation of social functioning (vs. no limitation)		1.653	[1.226, 2.230] *
Insurance (vs. not covered)		3.348	[2.125, 5.273] *
Place to go for health care (vs. none)		2.098	[1.153, 3.817] *
Marital status—Neither married nor living with partner (vs. neither)		1.042	[0.763, 1.422]
Country of birth, United States (vs. non-United States)		1.327	[0.881, 1.999]
History of depression and/or anxiety (vs. no history)		35.035	[20.889, 58.758]
Symptoms of depression and/or anxiety (vs. none)		4.782	[2.800, 8.167]
History of Depression and/or Anxiety × Symptoms of Depression and/or Anxiety		0.300	[0.161, 0.560]

*Statistically significant findings.