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Health care disparities in emergency department visits for mental health disorders

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Abstract

Mental health disorders are a leading cause of emergency department (ED) visits in the US. Unaddressed mental health problems can have a negative influence on society due to homelessness, poverty, unemployment, safety, and other issues. They may also impact the ability of children and youth to succeed in school, impact quality of life and increase health care costs. A total of 2,770 patients presenting with mental health related conditions, meeting the criteria of psychotic disorders, anxiety, mood disorders, depression, and other (ICD-10 code: F20-41) were extracted from the 2018 National Hospital Ambulatory Medical Care (NHAMCS) survey. The data were analyzed using descriptive analysis and Chi square tests and ANOVA with alpha significance level at 0.05. The visits to the ED for mental health were affected by various demographic factors, including age, race, region, and method of payments. The findings of the study have critical policy and public health implications. The results can aid hospitals and policy makers in addressing the critical health care issue facing our society.

Keywords: Mental Health; Health Care Disparity; Utilization of Resources; Health Care Costs

1. Introduction

Mental health disorders are serious, debilitating health conditions with devastating effects on individuals, families and communities in the United States. The lack of treatment for mental health disorders not only lowers the quality of life of an individual, but also impacts physical health, life expectancy, and should be regarded as a public health crisis.

Mental health disorders are a leading cause of emergency department (ED) visits in the United States, with depressive disorders and schizophrenia ranking in the top 20 primary diagnoses for inpatient visits.¹ In 2020, approximately one in five U.S. adults had a mental health condition, with 20.3% of these adults receiving any mental health treatment.² The five leading mental disorder for inpatient stays in the US are depressive disorders, schizophrenia spectrum and other psychotic disorders, bipolar and related disorders, suicidal ideation or attempt and intentional self-harm, and trauma- and stressor-related disorders, from 2016 to 2018.¹ The high number of mental health visits to the ED reflect many factors, including the prevalence of mental disorders in the community, the social stigma associated with mental health,³ the availability of treatment options, as well as the lack of access to treatment.⁴ Untreated mental health conditions can result in mental and physical disability, unemployment, homelessness, increased incarceration, failure in education, and economic insecurity.⁵

Access to mental health care is a key factor driving the health care disparities that exist in the United States. Rural populations are more likely to have to travel long distances to access healthcare services, such as doctor visits, pharmacies, and counseling services. Research shows that as the level of urbanization decreased, the percentage of adults who had taken medication for their mental health increased, and the percentage who had received counseling or therapy decreased.⁶

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Employment status and employment insecurity also impacts mental health due to the increased stress. Poor mental health shows a reciprocal effect on homelessness, failure in education, and economic insecurity. Support programs giving access to education, employment, and basic needs (Housing First, Supplemental Nutrition Assistance Program (SNAP), Universal Primary Health Care Access) were shown to be successful in stability, community functioning, and overall quality of life.⁷

Social determinants of health are believed to drive many deep-rooted world health inequalities, such as lower life expectancy, higher rates of child mortality, and poor mental health among disadvantaged populations. Approaching the issue of health care disparities using social determinants frameworks focus on understanding how the circumstances in which people live and work shape their health outcomes. Observed differences in social determinants are thought to develop from unequal distribution of resources, and thus can be reduced through targeted social and economic policies and programs.⁷

Socioeconomic disparities between different racial or ethnic groups are key driving factors in mental health disparities that require intervention. Research has found that members of racial and ethnic minority groups are less likely than Whites to be seen in specialty mental health services, take antidepressants, receive appropriate care in concordance with guidelines, or follow up with mental health treatment. The result is that members of certain racial or ethnic minority groups might become more acutely ill and require emergency mental health treatment. The complex relationship between socioeconomic status, race, and mental health highlight the importance of considering the socioeconomic disparities that exist between races when designing interventions to reduce racial/ethnic disparities.⁸

The stigma towards mental illness is an established issue and can negatively impact the lives of people living with mental health conditions in a multitude of ways including limiting their options for employment, housing, and education. Mental health providers also have the potential to provide inadequate care due to the stigma that exists towards mental illness. A study conducted to analyze the influence of provider gender on mental health stigma found that male mental health providers hold significantly more stigmatizing views toward people with schizophrenia and posttraumatic stress disorder (PTSD). The combination of stigmatized beliefs towards mental illness by a group with social power leads to discrimination and marginalization. Because of this power, mental health providers' stigmatizing beliefs about mental illness can reinforce negative societal perceptions and beliefs.⁹

Mental health disorders also create a profound economic burden. The cost of mental health can be classified as "direct" and "indirect" cost. Direct cost includes any monetary value directly relating to the mental health condition, such as hospitalization, cost of medications, psychotherapy sessions, and visits to a clinic. The impact of untreated mental health also results in a significant "indirect" cost, which represents any cost associated with loss of income due to mortality, disability, and loss of productivity due to work absence or early retirement.¹⁰ Approximately \$280 billion were spent on mental health services in 2020 with Medicaid covering roughly one-fourth of that expenditure.¹¹ Additionally, lost productivity as a result of anxiety and depression costs the global economy US\$ 1 trillion each year.¹²

The coverage of mental health in the media is often associated with the increase in gun violence events in the United States, and even cited as a cause for mass shooting events specifically. The association of mental health and gun violence has resulted in immediate shifts in perception following mass shooting events over recent years. A study published in 2020 aimed to investigate the public's perception of mental health relative to mass shootings, violence, and politics/government by looking at google search trends during the times of shootings (from January 2004 to July of 2019). The study found that there had been an increase in searches about mental health in the 2010s compared to the mid 2000s. This is partially attributed to the increase in internet availability and usage, and a possible suggestion that teenagers and young adults are experiencing mental health conditions more than the previous generation. Additionally, the study found that there had been a huge increase in searches containing both the umbrella terms mental health and gun in the week following a mass shooting. Those search trends were not limited to the state in which the incident occurred but were rather spread across the U.S. These findings have two key implications. For one, people are developing negative attitudes towards people with psychiatric conditions. This, subsequently, causes people with possible mental health disorders to be stigmatized and shy away from receiving treatment.¹³

The novel coronavirus disease 2019 (COVID-19) pandemic has a profound impact on both physical and mental health, and resulted in major disruption of the healthcare system. Measures implemented to slow the spread of the virus included physical distancing measures, the shutdown of businesses, schools, and other public entities, and bans of social gatherings. Those measures, coupled with fear of contagion, may have caused a detrimental effect on mental health. Economic stress, including financial hardship and loss of employment resulted in reduced access to mental health treatment, addiction and recovery support services. Additionally, to avoid risk of exposure to COVID-19, many people delayed or avoided seeking medical care, potentially increasing the risk of poor mental health, substance use, and

violence outcomes. The elderly population in particular suffered due to the vulnerability of infections, being confined at home, and isolation. The increase in adverse mental health was reported to be higher in women of all racial/ethnic backgrounds than men, which could be due to the gender gap implemented in society, such as increased difficulty to balance their work and family life among others.¹⁴

A cross-sectional study using data from the Centers for Disease Control and Prevention's National Syndromic Surveillance Program found that visit rates for mental health conditions, suicide attempts, all drug and opioid overdoses, intimate partner violence, and child abuse and neglect were higher in mid-March through October 2020, during the COVID-19 pandemic, compared with the same period in 2019.¹⁵ A study conducted in 2020 to examine the effects of COVID-19 on the number of individuals reporting to the ED with mental health disorders found that there was a decrease in the amount of visits to the ED for mental health during the pandemic. The moral decision of not burdening hospitals already overwhelmed by COVID-19 patients, the limitation of displacement and isolation imposed by the quarantine and the fear of contamination may have been some of the most intuitive reasons that contributed to this decrease in ED visits for mental health conditions.¹⁶ The COVID-19 pandemic also impacted the mental health of people with bipolar disorder. A prospective study analyzing the impact of COVID-19 on patients recently diagnosed with Bipolar Disorders found a meaningful increase in manic symptomatology from pre-COVID-19 into the initial phases of the pandemic. These symptoms decreased during the following months when lockdown measures were eased. The disrupting effects for daily life of the pandemic, coupled with the lack of access to mental health care services during the lockdown could be contributing factors to the increase in manic symptomatology.¹⁷ A combination of social isolation, fear of disease, economic upheaval, and lack of access to care perpetuated a wave of mental health crises amongst various sections of society.¹⁵

There are a number of factors that may contribute to the increased rate of ED visits for mental health, including age, sex, insurance status, race/ethnicity, and geographic variations. Identifying the factors that contribute to the increase in ED visits for mental health can aid health care providers, hospitals and policy makers in identifying patterns of mental health ED visits in order to address the mental health crisis facing the community. The purpose of this research is to study the various patient characteristics that affect visits to the ED for mental health disorders.

2. Material and Methods

This study pulled data from the 2018 National Hospital Ambulatory Medical Care (NHAMCS) survey. This database is collected by the National Center of Health Statistics (NCHS), and is designed to collect data on the utilization and provision of ambulatory medical care services in the United States.¹⁸ Mental health conditions were divided into 5 different categories. Psychotic disorders consisted of schizophrenia, schizotypal disorder, delusional disorders, brief psychotic disorder, shared psychotic disorder, and schizoaffective disorders (diagnosis code F20-F29). Mood disorder consisted of manic episodes and bipolar disorder (F30-F31). Depression included depressive episode, and major depressive disorder, recurrent (F32-F33). Anxiety included panic disorders and generalized anxiety disorders (F41). Mental health conditions not meeting the aforementioned categories were classified as "others". A total of 2770 patients were pulled from the database for ED visits for mental health related conditions, meeting the criteria of psychotic disorders, anxiety, mood disorders, depression, and other. The data collected consists of two different analyses. One is the analysis of each individual category (age, sex, race, insurance, region, mental health) and the other is a cross tabulation of the independent variables (age, sex, race, insurance, region) and the dependent variable (mental health conditions). The data was sorted and checked for integrity and exported into the Statistical Package for Social Sciences software (SPSS®). Data was analyzed by chi-squared tests, analysis of variance (ANOVA), and descriptive statistics with a significance level of 0.05.

3. Results and Discussion

Patients above 50 years of age represented the highest proportion of ED visits for mental health. Similarly, females represented the majority of visits compared to males. White patients were the highest ethnic demographic in ED visits for mental health. The southern region of the U.S and patients with Medicaid represented the majority of ED visits for mental health (Table 1). Anxiety disorders represented the highest proportion of mental health visits, as compared to psychotic disorders, mood disorders, depression, and others (Figure 1).

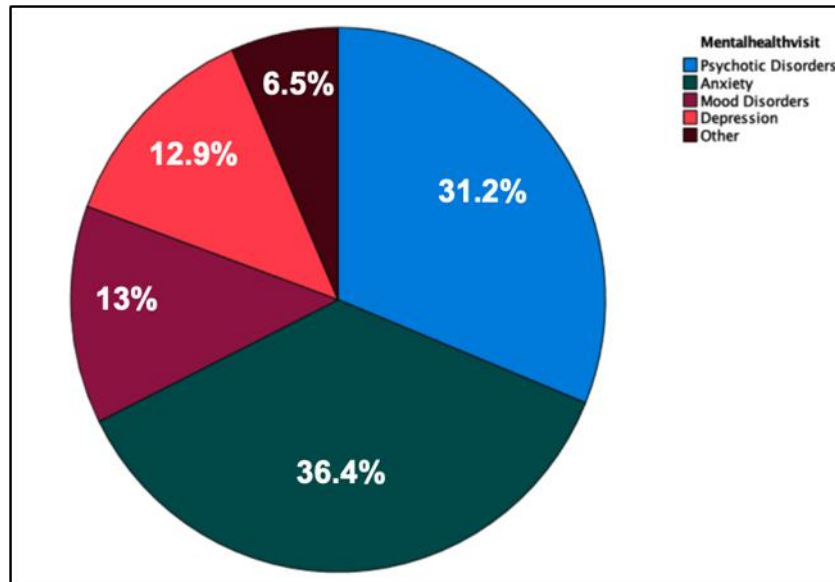


Figure 1 Mental Health ED Visits

Table 1 Demographics of Emergency Visits for Mental Health Disorders in the United States

Demographic Variables	Frequency (n=2127)	Percentage (%)
Sex		
Male	1223	44.1
Female	1547	55.8
Age Range		
0-18	559	20.2
18-25	267	9.6
26-35	179	6.5
36-50	552	19.9
50+	1213	43.8
Race		
Black	605	21.8
Hispanic	384	13.9
Asian	330	11.9
White	1244	44.9
Region		
Northeast	689	24.9
Midwest	466	16.8
West	633	22.8
South	982	35.4
Insurance		
Private insurance	60.9	22.0

Medicare	614	22.2
Medicaid	1168	42.2
Self-pay	353	12.7

Majority of ED visits for mental health occurred in patients above 50 years old (43.8%), followed by an approximately similar frequency in the number of individuals under 18 years of age and 36- to 50-year-olds (20.2% and 19.9% respectively). Comparison of mental health disorders by age highlighted the increased prevalence of ED visits for psychotic disorders in patients above 50 years of age ($P < 0.001$). Additionally, patients above 50 years old had the highest number of visits across four of the different mental health categories, with the exception of mood disorders mostly represented by patients below 18 years old. Considering the 4 categories alone, visits for depressive disorders were lowest amongst patients below 18 years and 26 to 35 years old, while visits for mood disorders were lowest amongst 18 to 25 and 36 to 50 year-olds.

Most patients were female (55.8%) compared to males (44.1%). The highest number of mental health visits occurred for anxiety disorders in both female and male categories. Comparison of mental health disorders by sex showed a higher prevalence of mental health visits among females across all five categories, however the difference did not meet the level of significance ($P = 0.574$). White patients represented the majority of ED visits for mental health (44.9%), followed by Black (21.8%), Hispanics (13.9%), and Asian (11.9%). Anxiety disorders represented the majority of mental health visits across White, Black and Asian ethnicities. Psychotic disorders represented the majority of mental health visits in the Hispanic population ($P < 0.001$). Depression represented the lowest mental health visits in the Asian population.

Patients from the southern region of the U.S represented the highest demographic (35.4%), followed by the northeast region (24.9%), the west (22.8%), and the midwest region with the lowest frequency (16.8%). Comparison of mental health disorders by region highlighted the increased prevalence of psychotic disorders (34.6%), anxiety (34.4%), and depression (42.2%) in the south. Anxiety disorders had the highest prevalence in comparison to all the mental health diagnoses. Medicaid was the most common method of payment (42.2%), followed by Medicare (22.2%), private insurance (22%), and self-pay as the least used methods of payment (12.7%). Medicaid was used in 47.6% of psychotic disorder hospitalizations, 43.4% of anxiety hospitalization, 43.1% for mood disorders, and 33.5% for depression (Table 2).

Table 2 Relationship between Demographic Characteristics and Emergency Visits for Mental Health Disorders

Demographic Characteristics	Mental Health Disorders	ANOVA Significance(P), *Denotes statistical significance
Age	Psychotic Disorders Anxiety Mood Disorders Depression	< 0.001
Sex	Psychotic Disorders Anxiety Mood Disorders Depression	0.574
Race	Psychotic Disorders Anxiety Mood Disorders Depression	< 0.001

4. Discussion

In this study, the incidence of ED visits due to mental health varied significantly by age, geographic location, method of payment, and race. The results of this study reflect the impact of socioeconomic factors as it relates to treatment for mental health conditions. Factors that contribute to the healthcare disparities in ED visits for mental health related conditions include access to adequate healthcare, lack of financial resources, alcohol/drug consumption, and previous trauma or neglect.^{19,20} Certain barriers that reflect on those individuals seeking mental health support include, “identifying and communicating distress, stigmatizing beliefs, shame, preference for self-reliance, and anticipations that help will be difficult to access.”²¹ Health care providers have a responsibility to work with local community agencies and support services to ensure that all patients are treated in the most appropriate setting in order to reduce hospital admissions for mental health disorders. Mental health has serious developmental impacts on children, quality of life impact on adults, and socioeconomic implications. The findings of the study have critical policy and public health implications and can be used to assist hospitals and policy makers in identifying patterns of mental health ED visits in order to address the critical health care issue facing our society. This study was limited to the data sources of the NHAMCS 2018 survey of patients who visited the ED for mental health conditions. The lack of longitudinal information available from this study is another limitation.

5. Conclusion

The findings of this study indicate that ED visits for mental health disorders are affected by various demographic factors, such as race, sex, age, and geographic location and have significant societal implications. Providing further training to physicians and ED staff about mental health disorders would be a crucial step in addressing this rampant crisis. In addition, efforts should be made to encourage patients to express their needs without any inhibitions or barriers. Further research is needed to provide sustained interventions to reduce ED visits, patient’s communication, and assess economic consequences of this critical public health emergency.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest in the planning, designing and conducting of the study. This study was not funded by any entity.

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