ETHNIC AND RACIAL DISPARITIES IN PEDIATRIC MENTAL HEALTH ACCESS AND ADEQUACY OF HEALTH INSURANCE

by
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Abstract

Background: The U.S. mental health care system is challenged by the need to be responsive to the ethnic and cultural diversity of families and the desire to combat the persistence of ethnic/racial disparities. Consequently, racial/ethnic minority children in the United States are more likely than non-Hispanic White children to have severe and persistent mental, emotional, developmental or behavioral disorders and less likely to access mental health services. This dissertation examines racial/ethnic differences in access to mental health services for children with mental, emotional, behavioral, or developmental disorders and the adequacy of health insurance coverage to meet their needs. **Methods:** This dissertation begins with a chapter on the background and significance of this topic. The first manuscript discusses the current state of pediatric mental health care, underlining the challenges and potential obstacles for racial/ethnic minority families to access care. The second manuscript examines racial/ethnic disparities in children receiving any mental health services and difficulties in obtaining mental health care. The third manuscript focused on perceived adequacy of health insurance coverage to meet their child's needs. **Results:** This study found that being a racial/ethnic minority increases the likelihood of parents reporting difficulty obtaining mental health services and having inadequate insurance coverage. **Conclusion:** Disparities in mental health care for racial/ethnic minorities represents a serious public health concern. Initiatives to improve access to mental health care for racial/ethnic minorities should recognize these disparities and address the lack of culturally appropriate services within the health care system and health insurance policies.

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Dedication

This dissertation is dedicated to my daughters, Gabriella and Machiavelli Allen. Words cannot express the joy, inspiration and happiness you have brought into my life. I am a better public health professional because I am your mother.

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Chapter 1
Introduction

Abstract

Background: Mental, emotional, behavioral, or developmental disorders can have a serious impact on a child's health, development, and well-being. **Significance:** Disparities in access to mental health care, referrals for specialty care, satisfaction with mental health care coverage, and unmet mental health needs are disproportionate among children who have low social economic status, are Hispanic or non-Hispanic Black, reside in rural areas of the U.S., and lack full health insurance coverage. **Theoretical Framework:** Resource Deprivation Theory states that disparities in health exist because of differences in race/ethnicity within the community context in which people live. **Study Aims:** In this paper, we examine racial/ethnic disparities in access and insurance coverage for children with mental, emotional, behavioral or developmental disorders.

Background

Mental, emotional, behavioral, or developmental disorders (MEBD) represent a serious public health concern in the United States. They are defined as fundamental changes in the way children, adolescents and youth (hereafter referred to as "children" unless distinctions need to be made) learn, behave, or handle their emotions, and include conditions meeting criteria described in the Diagnostic and Statistical Manual of Mental Disorders (Centers for Disease Control and Prevention [CDC], 2021). Mental, emotional, behavioral, or developmental disorders can have a serious impact on a child's health, development, and well-being. The more common MEBDs that are diagnosed in childhood include: attention deficit/hyperactivity disorder (9.8%), anxiety (9.4%), depression (4.4%), and behavior disorders (8.9%) such as oppositional defiant disorder or conduct disorder (CDC, 2021; Bitsko et al., 2022). Some of these conditions commonly occur together. For example, among children aged 3-17 years old, an estimated 3 in 4 children with depression also had a cooccurring anxiety disorder (Bitsko et al., 2022). Symptoms usually start in early childhood, although some disorders may develop throughout a child's teenage years and can persist into adulthood. According to a recent survey, 1 in 6 children aged 2-8 years (17.4%) have a diagnosable MEBD (Cree et al., 2018). Another study estimated a lifetime and current prevalence of one or more MEBD among children 2-17 years old to be 21% and 14.8%, respectively (Lu, 2017). Without early diagnosis and treatment, children with MEBD have a higher risk of academic failure, violence, and substance use, and other risk-taking behaviors (Bitsko et al., 2022; Lu, 2017; Lu et al., 2021; Marrast, Himmelstein, & Woolhandler, 2016).

Significance

The disease burden of MEBD among children in the U.S. is not equally distributed across populations. Disparities in access to mental health care, referrals for specialty care, satisfaction with mental health care, and unmet mental health needs are disproportionate among children with MEBD who have a low social economic status, are Hispanic or non-Hispanic Black, reside in rural areas of the U.S., and lack full health insurance coverage (Alegria, Vallas, & Pumariega, 2010; Glassglow, & Voorhees, 2017; Howell, & McFeeters, 2008; Lu et al., 2021; Planey et al., 2019). In addition, minority children with MEBD have disproportionate contact with the juvenile justice and child welfare system (Alegria, Vallas, & Pumariega, 2010; Desai, Falzer, Chapman, & Borum, 2012; Fong, Alegria, Bair-Merritt, & Beardslee, 2018; Marrast, Himmelstein, & Woolhandler, 2016). Children with MEBD are typically referred to the juvenile justice system—particularly if they display externalizing behaviors (e.g., ADHD, oppositional defiant disorder, or conduct disorders) rather than internalizing behaviors (e.g., depression, anxiety, or bipolar disorder)—without consideration of whether their behavior is the result of an untreated MEBD (Alegria, Vallas, & Pumariega, 2010; Desai, Falzer, Chapman, & Borum, 2012; Marrast, Himmelstein, & Woolhandler, 2016). Externalizing behaviors tend to negatively impact the lives of people around the child, and consequently are more readily identified by parents. In contrast, internalizing behaviors may be more difficult for parents to detect. As such, children with MEBD exhibiting internalizing behaviors are usually at a greater risk of having their mental health needs unmet. In addition, there is increased recognition that children placed in the child welfare system have high mental health needs (Alegria, Vallas, & Pumariega, 2010; Alegría et al., 2012; Fong, Alegria, Bair-Merritt, & Beardslee, 2018). Children with MEBD in the welfare system are significantly underserved partly due to a shortage of mental health providers to address their needs (Fong, Alegria, Bair-Merritt, & Beardslee, 2018). Based on findings from two recent studies, for example, Black youths in contact with the welfare system receive less mental health services than non-Hispanic White youth (Fong, Alegria, Bair-Merritt, & Beardslee, 2018; Gudiño, Martinez, & Lau, 2012). Despite well-documented consequences, substantial differences in health status between groups of children that result in systematic health and mental health disparities persist.

This study contributes to the existing literature by examining racial/ethnic disparities for children with MEBD among seven population groups. Race and ethnicity are common variables around which researchers design studies to identify disparities and test interventions. However, racial/ethnic minority groups have generally been underrepresented in research (Santiago & Miranda, 2014). When ethnic/racial minority groups are included, non-Hispanic Black and Hispanics are most often represented (Cook et al., 2019; Santiago & Miranda, 2014). Very few studies are available for non-Hispanic Asian, non-Hispanic American Indian and Alaska Native, or non-Hispanic Native Hawaiian and Pacific Islander. The study sample includes underrepresented racial/ethnic minority respondents, which provides preliminary results that address knowledge gaps in the literature. We also summarize important findings and provide recommendations for future research and health policy.

Theoretical Framework

Disparities are defined as differences in the incidence, prevalence, morbidity, mortality, and burden of disease that adversely impact specific population groups in the U.S. (LaVeist, 2005). This includes differences in access, health care quality, and health outcomes. Typically, disparities in mental health are the result of a complex interplay of many contributing factors associated with social determinates of health. These factors include socioeconomic status, education, social support, healthcare access, and housing insecurity. Socioenvironmental or contextual theorists suggest that disparities in health exist because of differences in race/ethnicity within the community context in which people live. For example, LaVeist (2005) proposes Resource Deprivation Theory as one explanation for how social factors impact health.

Resource Deprivation Theory states that racial/ethnic minorities are more likely to live in communities that lack necessary resources to support a healthy lifestyle. Structural racism and segregation in the U.S. contributed to stark and persistent racial disparities and fewer socioeconomic resources in minority communities. Studies have shown non-Hispanic Blacks and non-Hispanic Whites generally live in separate communities, where they have different social and environmental risk exposures (Gaskin, Dinwiddie, Chan, & McCleary, 2012; LaVeist, Gaskin, & Trujillo, 2011). Social and environmental risks exposures are typically characterized by high crime, poor housing, and limited access to health-promoting resources. This differential exposure to neighborhood stressors can contribute to the progression or early onset of mental health disorders.

Study Aims

The aim of this paper is to examine racial/ethnic disparities in access and health insurance coverage for children with MEBD. Specifically, we investigated disparities that exist by various sub-population groups to further understand the potential differences in outcomes. The null hypotheses are presented below:

1. H1: There are racial/ethnic differences in accessing mental health care among children with mental, emotional, behavioral, or developmental disorders.
    a. H1a: Parent's reported difficulty receiving any treatment or counseling from a mental health professional for their child with MEBD. Among those that received treatment or counseling, parent's reported difficulty obtaining treatment from a mental health professional for their child with MEDB.
    b. H1b: Age, sex, race/ethnicity, parental nativity, primary household language, family structure of child's household, income level of child's household, highest education of adult in child's household, children who were born in US, number of family members in the household, and military status of adults in household.
2. H2: There are racial/ethnic differences in health insurance coverage for mental health care among children with mental, emotional, behavioral, or developmental disorders.
    a. H2a: Parent's perceived adequacy of health insurance coverage for mental health care treatment or counseling for their child with MEBD.
    b. H2b: Age, sex, race/ethnicity, parental nativity, primary household language, family structure of child's household, income level of child's household, highest

education of adult in child's household, children who were born in US, number of family members in the household, and military status of adults in household.

This dissertation follows the three-manuscript format as prescribed by the Johns Hopkins Bloomberg School of Public Health Doctor of Public Health degree requirements. It is divided into five chapters, beginning with this introduction. Each of the next three chapters are individual manuscripts intended to be submitted to a peer reviewed journal for publication. Since each manuscript has been written to stand on its own, background and reference material may be repetitive. The final chapter discusses recommendations for future studies.

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Chapter 2

Racial/Ethnic Differences in Accessing Mental Health Services for Children with MEBD: A Review of the Literature

Abstract

Background: Racial/ethnic minority children in the United States are more likely than non-Hispanic White children to have severe and persistent mental, emotional, behavioral or developmental disorders and less likely to access mental health care services. **Method:** A broad search of the literature was performed using title, abstract and keyword terms in three electronic databases. Resource Deprivation Theory provided the framework to organize, analyze and interpret study findings. **Summary:** Research suggests that racial/ethnic minority children with mental, emotional, behavioral, or developmental disorders are likely to face disparities that reduce their likelihood of receiving quality and effective mental health services; including discrimination, higher rates of misdiagnosis related to cultural differences in how mental, emotional, behavioral, or developmental disorders are experienced and expressed, structural constraints that limit access to services, lack of insurance, immigration status, and lower rates of help-seeking due to distrust of the health care system. **Conclusion:** Developing quality and effective mental health care services that are culturally competent for racial/ethnic minority children will require comprehensive and ongoing collaborative efforts that address low-resource community issues.

Background

Compared to non-Hispanic White children, racial/ethnic minority children in the United States are less likely to access mental health services, more likely to receive lower quality care, and more likely to use emergency room departments (Alegria, Vallas, & Pumariega, 2010;

Breslau et al., 2017; Cook et al., 2019; Lu et al., 2021; Planey, Smith, Moore, & Walker, 2019). Previous research suggests that disparities in mental health care results from a convergence of social and system factors, which puts racial/ethnic minority children at a disadvantage (Cook et al., 2019; Planey, Smith, Moore, & Walker, 2019; So, McCord, & Kaminski, 2019). This includes low socioeconomic status, lack of insurance coverage, nonacceptance of insurance by mental health providers, shortages of mental health providers, and stigma associated with cultural beliefs. Rural compared to urban residency is also another potential source of disparity for children with mental, emotional, behavioral, or developmental disorders (MEBD). Many families living in rural communities experience reduced access to primary care, limited availability of specialists, and limited number of providers that accept public insurance (Cancel-Tirado, Feeney, Washburn, Greder, & Sano, 2018; Fehr, Leraas, & Littles, 2020; Murry, Heflinger, Suiter, & Brody, 201; Planey, Smith, Moore, & Walker, 2019). In addition, immigrant populations face stressors unique to their experiences immigrating to the U.S. that can exacerbate or cause MEBDs to develop (Derr, 2016; Lu et al., 2021). For example, less accultured families may contend with barriers that may interfere with engagement in mental health care including fragmented or distant support networks, income insecurity, and language barriers (Cook et al., 2019; Kim, Lau, & Chorpita, 2016; Lu, 2017). As a result, these populations tend to access care at rates lower than the general population, leaving them at risk for untreated mental health disorders (Derr, 2016; Lu et al., 2021). Inadequate access to mental health services and lack of continuity of care may result in academic failure, violence, sexual risk behaviors, substance use, and other risky behaviors (Cook et al., 2019; Lu, 2017; Lu et al., 2021; Marrast, Himmelstein, & Woolhandler, 2016). Key provisions of The Patient Protection and Affordable Care Act (ACA) hold promise for addressing long-standing access problems and system fragmentation that affect the wellbeing of children with MEBD and their families. Although the proportion of uninsured families has declined over the last decade, access to healthcare that is inclusive of mental healthcare has not improved (Agency for Healthcare Research and Quality [AHRQ], 2019; Williams, Gilroy, Chang, & Seymour, 2017). This review synthesizes current findings on racial/ethnic disparities among children with MEBD to inform future research efforts addressing disparities in access to mental healthcare.

Methods

In this paper, a broad search of the literature was performed on January 10, 2022, using title, abstract and keyword terms in three electronic databases: PubMed, PsychInfo, and Google Scholar. Different combinations of the following search terms were used: child, adolescent or youth; mental health, mental illness, behavioral health, developmental disorder, or emotional disorder; race, ethnic, or minority; and disparity, bias, inequity, or inequality. These search terms were based on common key words within the literature associated with the aim of this paper. The search generated over 1,500 published journal articles from January 2010 to January 2022. Duplicate articles between databases were identified and excluded by hand. We reviewed the reference lists of retrieved systematic reviews to identify additional studies missed in the original search. Articles were included in this review if they met inclusion criteria: peer reviewed, based in the United States, explicitly focused on children with MEBD, and focused on ethnic/racial disparities in access to mental health care services.

Further, Resource Deprivation Theory provided the framework to organize, analyze and interpret study findings. Resource Deprivation Theory states that racial/ethnic minorities are more likely to live in communities that are lacking in necessary resources to support a healthy lifestyle (LaVeist, 2005). Structural racism and segregation contributed to persistent racial

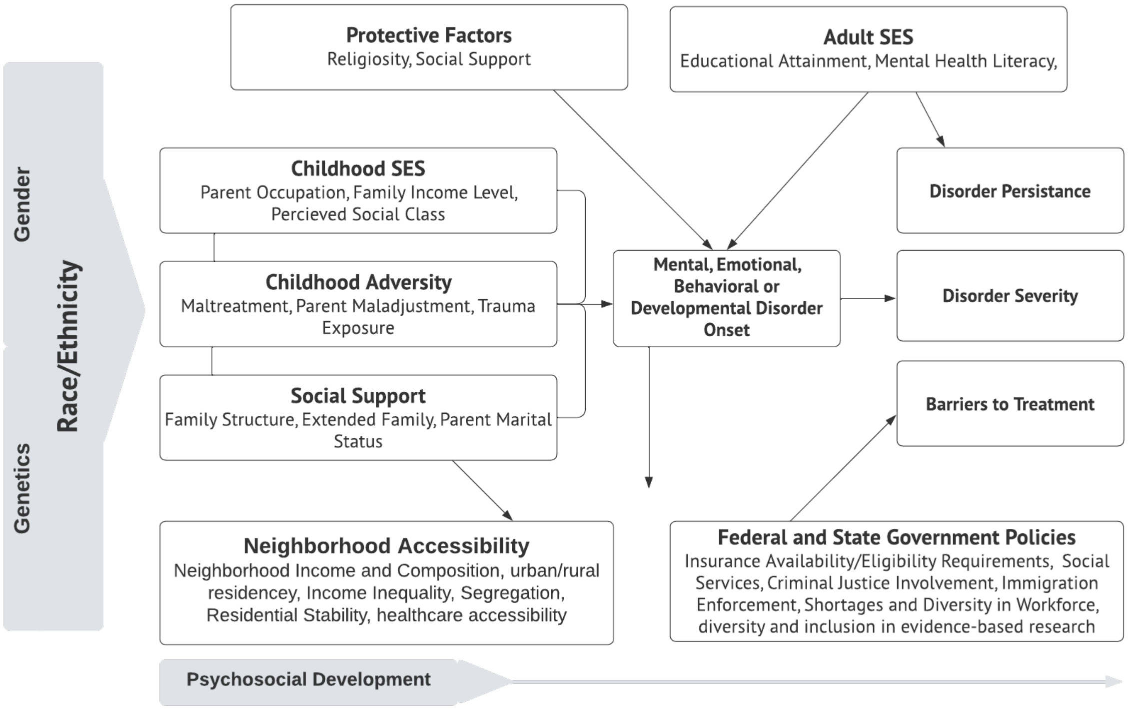

Figure 2.1 Conceptual Model for Child Mental Health and Mental Health Service Disparities. (Adapted from Alegría, Green, McLaughlin, & Loder (2015). https://wtgrantfoundation.org/library/uploads/2015/09/Disparities-in-Child-and-Adolescent-Mental-Health.pdf)

disparities and fewer socioeconomic resources within minority communities (Gaskin, Dinwiddie, Chan, & McCleary, 2012; Harris et al., 2020; LaVeist, Gaskin, & Trujillo, 2011). As a result, racial/ethnic minority children may be impacted negatively by social determinates of health at disproportionate rates to their non-Hispanic White peers (Fig. 1). In this paper we discuss five mechanisms possibly responsible for these disparities in access to pediatric mental health services: (i) childhood socioeconomic status (e.g., family income level, parent occupation) (ii) parent socioeconomic status (e.g., mental health literacy), (iii) social support (e.g., stigma, cultural mistrust), (iv) neighborhood accessibility (e.g., mental health care accessibility, workforce shortages), and (v) federal and state government policies (e.g., insurance availability/eligibility requirements, diversity and inclusion in evidence-based research).

Childhood Socioeconomic Status

Lower childhood socioeconomic status, which is disproportionately represented in ethnic minority families, is associated with greater barriers to receiving services for MEBD and poorer mental health outcomes in children (Glassgow & Van Voorhees, 2017; Slobodin & Masalha, 2020). Factors such as parent education, parent occupation, perceived social class, and family income contribute to childhood socioeconomic status. According to 2019 census data, Black children and American Indian persistently have the highest poverty rate (31% and 30% respectively) compared to all other racial groups, including Hispanic (23%), Asian (10%) and non-Hispanic White children (10%) (Annie E. Casey Foundation, 2020). Low socioeconomic status affects the ability of parents to meet a child's overall basic needs, and the financial impact of caring for a child with MEBD is markedly burdensome. Limited income results in a high likelihood families lack insurance coverage and are limited in the choices of providers and services offered in their commuting area (Slobodin & Masalha, 2020).

Families living in poverty may also have reduced resources of time and energy to utilize available mental health services. For example, families may have less time to attend treatment, limited means of transportation, and fewer emotional resources to address the needs of other family members (Houtrow & Okumura, 2011; Slobodin & Masalha, 2020). In addition, residing in a low-income and low-resource community often exposes parents and children to a variety of adverse health and social factors such as violence, toxic stress, racism, and food and housing insecurity. These adverse health and social factors can increase parental risk for mental health problems and substance abuse, which can diminish their capacity to engage in positive parenting practices (e.g., responsiveness, nurturance, and supervision) and increase the potential for child abuse and neglect.

Minority communities also tend to be underserved, with limited access to mental health care and potentially higher mental health concerns found among their residents. The conventional practice of most mental health agencies also contributes to these disparities in access to health care (Lu et al., 2021; Planey, Smith, Moore, & Walker, 2019). For example, clinic hours, which are often during the day, do not accommodate parents working low-wage shift positions who may not have the flexibility to attend weekly mental health appointments held during business hours. Mental health clinics often have long wait times for appointments and require multiple intake visits before treatment is rendered. The effects of these barriers are exacerbated by the daily stressors and demands of living in poverty that can keep families from prioritizing their child's mental health needs (Houtrow & Okumura, 2011).

Adult Socioeconomic Status

Previous research has indicated that minority parents are less likely to identify their child's MEBD as requiring intervention, and less likely to initiate contact with professionals once problems are recognized (Alegria et al., 2012; Breslau et al., 2017; Merikangas et al., 2011). This may be the result of attitudinal barriers, which include uncertainty about treatment benefits, perceptions of barriers to care, and less knowledge about MEBDs and treatment options (Lu et al., 2021; Lu, 2017; Planey, Smith, Moore, & Walker, 2019). Mental health literacy (MHL) refers to knowledge, attitudes, and beliefs about mental health disorders, help-seeking and treatment options that aid in recognition, and management and prevention of such disorders (Hurley, Swann, Allen, Ferguson, & Vella, 2020; Jorm, 2012). Mental health literacy has been found to be an important predictor of supportive attitudes towards MEBDs and help-seeking behaviors.

However, among the US general public, MHL is low and differentially distributed across racial groups (Planey, Smith, Moore, & Walker, 2019; Tambling, D'Aniello, & Russell, 2021). Most individuals struggle to identify MEBDs and are uncertain how to obtain information and treatment if they encounter difficulties (Tambling, D'Aniello, & Russell, 2021). This includes parents of children who report not knowing how to or when to intervene (Hurley, Swann, Allen, Ferguson, & Vella, 2020; Lu et al., 2021). According to one study, Black and Asians scored the highest on the mental health literacy scale suggesting these groups are mental health illiterate (Tambling, D'Aniello, & Russell, 2021). Further, another study found that low mental health literacy among Chinese populations has been found to be associated with seeking informal help from friends, family and religious leaders, which can result in delays in seeking formal help from mental health providers for their children (Liu, Li, Wu, Tung, & Hahm, 2020). Low-income and rural populations are more likely to have received less education than those of higher economic status or living in urban areas, leaving them less knowledgeable of MEBDs and when to seek care (Lazar & Davenport, 2018; Lu, 2017). States with primarily rural or frontier communities (e.g. Idaho, Oregon, and Utah) are characterized by geographic and social isolation (Story, Kirkwood, Parker, & Weller, 2016). Distance and rugged terrain may become barriers for parents to seek health care resources, including education about topics such as mental health (Murry, Heflinger, Suiter, & Brody, 2011). Lack of service providers in low-income and rural areas also contributes to low MHL rates. Much of the treatment is provided by primary care physicians rather than mental health professionals, who may lack the knowledge or resources to provide adequate care for children with MEBD (Story, Kirkwood, Parker, & Weller, 2016).

Further, acculturation plays a role in promoting or prohibiting service use among minority children. Due to stronger adherence to heritage, cultural attitudes about MEBD, stigma, and less familiarity with social problems affecting children in the host culture; foreign-born minority parents may be less likely than native-born minority parents to seek out mental health services (Galvan & Gudiño, 2021; Lu et al., 2021). Parents with limited English proficiency often have low mental health literacy, may be less likely to identify a need for treatment, and less likely to use available mental health services (Alegria, Vallas, & Pumariega, 2010; Galvan & Gudiño, 2021; Tambling, D'Aniello, & Russell, 2021). Children with MEBD do not seek mental health services for themselves. Rather it is the adult gatekeeper, often parents, who seek out services on their behalf. Therefore, community outreach programs should focus on promoting mental health literacy, and de-stigmatizing mental health service use within minority communities.

Social Support

The quality of a parent's social support network may influence or lead to delays in problem recognition, help-seeking and treatment initiation. Social support provides physical and psychological advantages for individuals faced with stressful physical and psychological events and is considered as an important factor in reducing psychological distress when faced with stressful events. According to Planey et al., African American youth who had social networks that were supportive of using mental health services were more likely to seek help (2019). Social support is classified in terms of "structural components" such as social networks and "functional components" such as perceived quality of social support. The sources from which individuals derive and perceive social support are diverse and include family members, friends, significant others, and religious leaders (Derr, 2016; Johnson, McNeish, & Vargo, 2020; Murry, Heflinger, Suiter, & Brody, 2011). However, the availability and quality of one's social network may also hinder the use of mental health services for minority families. Lack of social support can lead to feelings of isolation and loneliness. Further, higher levels of perceived stigma were reported by mothers whose children with problems, whose homes included fewer adults, who had lower social support, and who felt greater general and cultural mistrust (Derr, 2016; Murry, Heflinger, Suiter, & Brody, 2011; Planey, Smith, Moore, & Walker, 2019; Slobodin & Masalha, 2020; Thomas, Temple, Perez, & Rupp, 2011).

Parents who have negative attitudes toward mental health services and treatments often have a preference to seek advice from informal sources such as family members, friends, media "experts," religious leaders, or from self-help books and resources (Derr, 2016; Johnson, McNeish, & Vargo, 2020; Planey, Smith, Moore, & Walker, 2019; Thomas, Temple, Perez, & Rupp, 2011). Negative expectations about mental health services and treatments have also been found to adversely affect parent's help-seeking behaviors for their children (Banta, James, Haviland, & Andersen, 2013). Parents often rely on their social support network when making decisions to seek, accept or remain in treatment for their child (Lu et al., 2021). However, a parent may be discouraged or shamed from seeking mental health services if members of their social support network make negative comments about the effectiveness of therapy or simplify mental health symptoms as "a phase individuals grow out of over time".

In addition, historical abuses have influenced minority populations to be distrustful of institutions and agencies (Derr, 2016; Murry, Heflinger, Suiter, & Brody, 2011; Planey, Smith, Moore, & Walker, 2019; Slobodin & Masalha, 2020). Having limited English proficiency may also contribute to misunderstanding health and social service systems as well as distrust outsiders. Recently immigrated and less accultured families also may contend with immigration-specific stressors that may interfere with engagement in mental health care including fragmented or distant support networks, income insecurity, and lack of insurance (Kim, Lau, & Chorpita, 2016; Lu et al., 2021). Having mental health providers who are minorities, from the family's culture, or immigrants themselves may help to establish trust, but this must be combined with policies and practices that promote respect for cultural differences and partnership between providers and families (Johnson, McNeish, & Vargo, 2020; Planey, Smith, Moore, & Walker, 2019; Slobodin & Masalha, 2020). More needs to be done to increase the diversity of the pediatric mental health workforce and train pediatric mental health professionals on delivering culturally competent services. Minorities populations are vastly underrepresented among clinically trained mental health practitioners in the U.S (Santiago & Miranda, 2014). While there is some movement toward a more diverse workforce, efforts to improve diversity may be less apparent due to the lengthy training and licensure processes for mental health professionals. For example, time needed to train mental health professionals after high school is often a minimum of 11 to 12 years for psychiatrist, 8 to 10 years for psychologists, and 5 to 6 years for social workers. Therefore, in-depth and on-going training is necessary to improve providers' responsiveness to diverse cultures, increase awareness of cultural vulnerability in how MEDB may present, reduce cultural biases in clinical assessments, and ensure that knowledge and skills are incorporated into practice.

Neighborhood Accessibility

Despite the increasing need for pediatric mental health services, growth of mental health providers has been slow, compounding the severe shortage of mental health resources. This lack of accessibility to mental health resources disproportionately affects minority children with MEBD, as multiple studies have demonstrated racial/ethnic disparities in access to care across different healthcare settings (Abrams, Badolato, Boyle, McCarter, & Goyal, 2022; Alegria, Vallas, & Pumariega, 2010; Dickson, Ramsay, & VandeBurgh, 2021). Research suggests that minority children are likely to face multiple barriers (e.g., discrimination, misdiagnosis, poverty, lack of insurance, and immigration status) that reduce their likelihood of receiving appropriate and effective mental health services (Johnson, McNeish, & Vargo, 2020; Murry, Heflinger, Suiter, & Brody, 2011). Further, rural localities are ill-equipped to provide services and supports to children with MEBD (Cancel-Tirado, Feeney, Washburn, Greder, & Sano, 2018; Murry, Heflinger, Suiter, & Brody, 2011). For example, many families living in rural communities experience reduced access to primary care, limited availability of specialists, and limited number of providers that accept public insurance (Cancel-Tirado, Feeney, Washburn, Greder, & Sano, 2018; Fehr, Leraas, & Littles, 2020; Planey, Smith, Moore, & Walker, 2019). Rural residents have higher poverty rates and longer distances to travel to receive health services. In addition, the uptake of innovative approaches to mental health care has not been consistent in rural areas compared to urban areas, thus exacerbating an already wide differences in accessibility and quality of care.

Not only is the provider shortage contributing to difficulty accessing outpatient resources, but also many children with MEBD who begin treatment face further barriers leading to a lack of follow-up. It is estimated that of those who seek treatment, minority families are more likely to discontinue services prematurely due to limited resources including transportation, paid time off and childcare for other siblings (Abrams, Badolato, Boyle, McCarter, & Goyal, 2022; Lu et al., 2021). Client disengagement—also referred to as discontinuation, lack of follow-up, drop-out, and non-adherence to treatment—presents a significant obstacle to recovery and symptom improvement. Evidence-based mental health interventions are developed under the assumption that mental health outcomes will improve for patients who fully and actively participate in the treatment as specified in the protocol. However, disengagement can interfere with receiving the specified treatment, and thus interfere with an individuals' ability to benefit from the evidence-based intervention (Kim, Lau, & Chorpita, 2016; Moore, 2018). Disengagement from mental health services is a particular challenge for adolescent and youth populations with MEBD. Developmental milestones such as identity exploration, independence seeking, and increased responsibility for their own well-being are often essential during this phase of life. However, disengagement from mental health services presents a significant obstacle to recovery and symptom improvement that can result in poorer long-term mental health outcomes (Johnson, McNeish, & Vargo, 2020; Moore, 2018). Further, parent engagement is important particularly to the success of the child's mental health services, because parents are presumably responsible for bringing the child to therapy (Johnson, McNeish, & Vargo, 2020). Therefore, there is an added interest to keep parents engaged in the therapeutic process.

As a result of low level of engagement, the overall number of children presenting to the emergency room department (ED) with a mental health crisis continues to grow (Abrams, Badolato, Boyle, McCarter, & Goyal, 2022). Emergency departments are usually environments with high levels of activity and distractions which are counterproductive to the care of agitated patients requiring calm and reassuring environments. Further, patients with MEBDs necessitate time and resources that the fast pace of the ED cannot provide. In 2011, the American Academy of Pediatrics issued a technical report outlining many of the barriers to providing quality mental health services in EDs, including lack of access to outpatient mental health services, suboptimal setting for comprehensive mental health evaluations, and need for further education of ED staff regarding management of mental health crisis. However, patients who are unable to access a mental health provider in their community may position families to feel that EDs are their only option when seeking care for their child with MEBD.

Federal and State Government Policies

Previous research has shown that having insurance—regardless of the specific type (i.e., public, private, or combination of private and public insurance)—significantly increased a child's likelihood of utilizing mental health services (Alegria, Vallas, & Pumariega, 2010; Lu et al., 2021; So, McCord, & Kaminski, 2019). Yet, another study has shown that network adequacy, or a health insurance plan's ability to offer access to mental health providers, is a real issue (Williams, Gilroy, Chang, & Seymour, 2017). The ACA requires insurers to maintain a network that is sufficient in numbers and types of providers, including providers that specialize in mental health and substance abuse services, to assure that all services will be accessible without unreasonable delay (Beronio, Glied, & Frank, 2014; Williams, Gilroy, Chang, & Seymour, 2017). This federal requirement, however, does not specify what constitutes a "sufficient" number of providers or "unreasonable delay," giving each state the power to define and enforce these requirements arbitrarily. As a result, children with MEBD and their families may have to wait longer periods before accessing mental health services, travel long distances to see in-network providers, or see out-of-network providers at higher out-of-pocket costs (Bogusz, 2020).

Moreover, the ACA includes provisions that directly and indirectly impact pediatric mental health workforce capacity. Specifically, the ACA increased the demand for health professionals through provisions like expanded Medicaid eligibility, direct incentives, and financial support to increase healthcare providers in low-resource communities (Alegria, Vallas, & Pumariega, 2010; Mace & Dormond, 2018). However, despite the increasing demand for mental health providers, the Health Resource and Services Administration estimates that 150 million Americans are living in mental health professional shortage areas (2021). This issue is further compounded by an inequitable distribution of pediatric mental health providers in low-resource and rural areas (Fehr, Leraas, & Littles, 2020). As a result, families who are unable to access a mental health provider in their community may wait until an acute crisis occurs to seek care for their child with MEBD and rely on EDs for care.

In addition, the federal government, as well as state governments, have failed to routinely monitor outcomes or comprehensively assess the quality and integrity of evidence-based mental health treatments for racial/ethnic minority populations. For example, research used to generate professional treatment guidelines for most mental health interventions do not include or report large enough samples of racial/ethnic minority populations to allow for group specific determinations for efficacy (Breslau et al., 2017; Santiago & Miranda, 2014). Similarly, in studies where racial/ethnic minority groups are incorporated into the study population, Black and Hispanic populations are largely included while other minority groups, like Asian and Indigenous populations, are largely excluded within the quality and effectiveness literature. There is a tendency in public health research to use broad census categories for race, potentially obscuring ethnic differences and variability within racial groups. Race and ethnicity are a common variable around which researchers design studies to identify barriers and test interventions. However, even within racial/ethnic groups, subpopulations exist that may differ in mental health attitudes, beliefs and behaviors. Important differences within racial/ethnic populations can be missed when researchers broadly apply conclusions to an entire group (Derr, 2016). Yet, applying a more specific focus when making interpretations may compromise our ability to generalize results from studies, and can make drawing meaningful conclusions for an application more difficult. Nevertheless, improving racial/ethnic minority representation in research remains an important strategy for understanding treatment effectiveness and increasing knowledge of evidence-based care on within minority populations.

Conclusion

In interpreting the information in this review several cautions need to be considered. First, in our search strategy, we only used PubMed, PsychInfo, and Google Scholar to complete our initial search. Thus, articles published in journals not indexed by these databases may be missed for review. Second, we only reviewed publish academic research, which excludes dissertations and theses that may contribute to this review. While this review aimed to present, an up-to-date review of the current literature on racial/ethnic disparities in accessing mental health services for children with MEBD, this review is limited by its not exhaustive literature search. Nevertheless, this review presents relevant findings that may inform future research and mental health policies.

The mental health care system in the U.S. is challenged by both the need to be responsive to the ethnic and cultural diversity of families and the desire to combat the persistence of racial disparities. Findings from a broad search of the literature show commonly identified barriers to accessing mental health services for minority children with MEBD who often live in low-resource communities. Given that there is a shortage of mental health providers and racial/ethnic minority children have less access, it is likely that disparities in mental health care for children with MEBD will continue to rise. Developing quality and effective mental health treatment for racial/ethnic minority children will require comprehensive and ongoing collaborative efforts that address low resource community issues such as, improving childhood socioeconomic status, increasing mental health literacy, fostering strong social support networks, making mental health care access more accessible, and reforming federal and state policies.

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Chapter 3

Racial/Ethnic Differences in Receiving and Obtaining Mental Health Care among Children with Mental, Emotional, Developmental or Behavioral Disorders

Abstract

Background: Parents of children with mental, emotional, behavioral or developmental disorders often struggle to obtain and/or receive mental health services for their children. Disparities in access and quality of mental health services persist for racial/ethnic minority children, who are more likely to receive fewer and relatively inferior mental health services compared to their non-Hispanic White peers. **Methods:** Parents of children ages 3-17 (n=13,110) were asked questions related to mental disorders in the 2018-2019 National Survey of Children's Health. Statistical analysis included descriptive statistics, chi squared, univariate and multivariate logistic regression. **Results:** Compared to non-Hispanic White children, Hispanic children (OR = 1.06, CI = 0.88-1.27, p = 0.54), non-Hispanic Asian (OR = 1.13, CI = 0.78-1.63 p = 0.52) and non-Hispanic Native Hawaiian or Pacific Islander (OR = 1.29, CI = 0.38-4.43 p = 0.68) had increased odds of having difficult experience obtaining mental health services. In contrast, Hispanic children and non-Hispanic Asian children had no to minimal differences in receiving mental health services compared to their non-Hispanic White counterparts. **Discussion:** This study's findings indicate that substantial disparities persist in a parent's perceived ability to obtain mental health services for their child with MEDB. Public Health initiatives to improve access to mental health services for racial/ethnic minorities should recognize these disparities and address the lack of culturally competent care.

Background

Mental, emotional, behavioral, or developmental disorders (MEBD), which includes anxiety, mood, attention and disruptive behavior disorders, continue to be a severe public health concern among children and adolescents (hereafter referred to as "children" unless distinctions need to be made). Mental, emotional, behavioral or developmental disorders have a severe impact on children's health and well-being. In the U.S., an estimated 17% of children aged 2-8 years old have a diagnosable MEBD (Centers for Disease Control and Prevention [CDC], 2021). Although effective treatments for MEBD exists, many children in the U.S. who need mental health services never receive it (DeRigne, 2010; Marrast, Himmelstein, & Woolhandler, 2016; Merikangas et al., 2011; Olfson, Druss, & Marcus, 2015; Zhang, Bo, & Lu, 2021). According to a recent study, an estimated 7.7 million children in the U.S. with a treatable mental health disorder did not receive needed treatment from a mental health professional (Whitney & Peterson, 2019). Untreated mental health disorders can lead to substantial negative health and social consequences, including academic failures, self-injuries, substance abuse, violence and crime (Lu, 2017; Lu et al., 2021).

Racial/ethnic minority children are more vulnerable to mental health problems but less likely to use mental health services across different settings compared to their non-Hispanic White counterparts (Alegria, Vallas, & Pumariega, 2010; Lu, 2017; Lu et al., 2021). Findings from two recent studies show, non-Hispanic Black and Hispanic adolescents with depression are less likely than non-Hispanic Whites to utilize mental health services across health care settings, including school-based, specialty, and primary care settings (Lu, 2019; Lu, 2020; Lu et al., 2021). Further, non-Hispanic Asian children were least likely to use medications for depression (Lu, 2019). Even if racial/ethnic minority children have access to appropriate treatments or medications they are more likely to terminate mental health treatment prematurely (Kim, Lau, & Chorpita, 2016; Lu et al., 2021).

Despite the serious public health implications that MEBD poses for children, health care disparities in children are under-investigated in the U.S. Previous studies focus their analysis on broad racial/ethnic groupings of their study population (i.e., Non-Hispanic White, Non-Hispanic Black, Hispanic, and Other), ignoring within-group differences and leaving children of smaller minority groups that don’t conform to conventional population groupings under-investigated or grouped into “other” non-specific categories. Further, racial/ethnic minority children are often treated as a homogonous group, and few studies have examined the potential differences between immigrant and native-born populations (Zhang, Bo, & Lu, 2021).

In this study, we aimed to examine ethnic/racial disparities among children with MEBD using data from the 2018-2019 National Survey of Children's Health (NSCH). Specifically, we examined racial/ethnic disparities in children with MEBD receiving any treatment or counseling from a mental health professional. Further, we examined racial/ethnic disparities in obtaining treatment among children with MEBD that reported they had received any treatment or counseling from a mental health professional. Our analysis grouped the study population into seven categories compared to the conventional four category grouping to better examine racial/ethnic differences.

Methods

Study Design

Design: A cross-sectional design was conducted to assess differences in mental health care access outcomes by race/ethnicity.

Data Source: The National Survey of Children's Health (NSCH) is a national survey, federally sponsored and directed by the Health Resources and Services Administration's Maternal and Child Health Bureau (HRSA MCHB). This survey was conducted using electronic and paper methodology and designed to produce national and state-level data on the physical and emotional health of children 0-17 years old in the United States. This data set provides rich data on multiple, intersecting aspects of children's health and well-being—including physical and mental health, access to and quality of healthcare, and the child's family, neighborhood, school, and social context. For the purposes of this study, we analyzed a subsample (n=13,110) of the 2018-2019 NSCH combined data set (N=59,963). The subsample for this study was drawn from those children identified in the screener as 3-17 years of age and having a mental, emotional, developmental or behavioral disorder.

Study Periods: The 2018 NSCH was conducted from June 2018 to January 2019, and the 2019 NSCH was conducted from June 2019 to January 2020. The 2018 and 2019 NSCH data files were appended using a unique household identifier. Only survey items that are the same across both data sets are included in the 2018-2019 NSCH combined data set. The weighted response rate for 2018 was 43.1% and 42.4% for 2019.

Study Sample: The study sample was restricted to parents of children aged 3-17 years old with MEDB. This includes children diagnosed with the following 10 conditions: Tourette Syndrome, anxiety problems, depression, behavioral and conduct problems, developmental delay, intellectual disability, speech or other language disorder, learning disability, Autism Spectrum Disorder, Attention Deficit Disorder and Attention-Deficit Hyperactivity Disorder. Children with special health care needs (CSHCN) who qualify on the CSHCN Screener for ongoing MEDB with or without a formal diagnosis were also included in the study sample. The NSCH uses the CSHCN Screener to identify children with special health care needs across the range and diversity of childhood chronic conditions and special needs.

Exclusion: Parents of children 0-3 years old were excluded from the study. In the initial survey, parents with children younger than three years old were not asked survey items related to mental disorders. Values coded as missing in error (e.g. the value is missing due to respondent or system errors, or the respondent did not provide a valid answer), legitimate skip (e.g. the survey item is not applicable to the respondent), not in universe (e.g. the item is not included on the respondent's age-specific questionnaire) or suppressed for confidentiality (e.g. the value is suppressed in order to protect the privacy of the respondent/child) in the 2018-2019 combined data set were also excluded.

Outcome Variables: The primary outcome of interest was (1) parent's reported difficulty receiving any treatment or counseling from a mental health professional for their child with MEBD; and (2) among those that received treatment or counseling, parent's reported difficulty obtaining treatment from a mental health professional for their child with MEDB. Difficulty receiving mental health care services was defined by a parent's response to the following question: "During the past 12 months, has this child received any treatment or counseling from a mental health professional, age 3-17 years?" If the parent answered "no but needed to see a mental health professional" the child was categorized as not receiving treatment or counseling. Difficulty obtaining mental health care services was defined by a parent's response to the following question: "How difficult was it to get the mental health treatment or counseling that this child needed?" If the parent answered, "somewhat difficult, very difficult, or it was not possible to obtain care" the child was categorized as having difficulty obtaining care. The denominator for this measure is children 3-17 years old even though the survey question was asked for all children 0-17 years old.

Control Variables: The primary control variables were age, sex, race/ethnicity, parental nativity, primary household language, family structure of child's household, income level of child's household, highest education of adult in child's household, children who were born in US, number of family members in the household, and military status of adults in household.

Protection of Human Rights: The Johns Hopkins Bloomberg School of Public Health Institutional Review Board reviewed this study and deemed it exempt from oversight.

Statistical Analysis

Statistical analysis included descriptive statistics, univariate and multivariate logistic regression. Univariate and multivariate logistic regressions were used to test racial/ethnic differences in mental health care utilization among children with MEDB. Categorical outcome variables were collapsed into dichotomous variables (e.g. yes, no) to indicate agreement/disagreement for ease of interpretation. All comparisons were made using a statistical significance level of 0.05, and statistical analyses were conducted in Stata/IC, version 15.1 statistical package (Stata Corp, 2017).

Results

Table 3.1 displays the demographic characteristics of children with MEDB (n=13,110) by racial/ethnic group. In summary, children in the sample tended to be older rather than younger (40.0% compared to 24.0%), non-Hispanic White (72.6%), and female (58.3%). Specifically, non-Hispanic White and non-Hispanic Asian children tended to be older in age compared to non-Hispanic American Indian or Alaskan Native and non-Hispanic Native Hawaiian or Pacific Islander. Majority of non-Hispanic Asian children had parents born outside of the U.S. (63.8%), which was more than double the percentage of parents of Hispanic children (33.7%) and almost triple for parents of non-Hispanic Native Hawaiian and Pacific Islander children (21.1%). Less than a third of non-Hispanic Black children lived in a currently married, two parent household, while 37.8% come from households with incomes below 100 percent the federal poverty level (FPL), and over a third have a parent or guardian with a college degree or higher. In contrast, 24.8% of parents of non-Hispanic Asian children are non-English speaking, more than half come from households with incomes above 400 percent of FPL, and 80.7% have a parent or guardian with a college degree or higher.

Table 3.2a displays the results of univariate logistic regression analysis evaluating whether children with MEDB are receiving mental health services. Hispanic children (OR = 1.00, CI = 0.90-1.12, p = 0.96) and non-Hispanic Asian children (OR = 0.95, CI = 0.75-1.20, p =

0.64) had no to minimal differences in receiving mental health services compared to their non-Hispanic White counterparts. However, non-Hispanic Black children had 14% increased odds (OR = 1.14, CI = 0.89-1.32, p = 0.07) of not receiving mental health services. Children whose parents were born outside the US had 17% increased odds (OR = 1.17, CI = 1.04-1.38, p = 0.01), and whose primary household language was non-English had 63% (OR = 1.63, CI = 1.32-2.01, p = 0.00) increased odds of not receiving mental health services. Children with private only health insurance had 16% increased odds (OR = 1.16, CI = 1.07-1.25, p = 0.00), whereas children currently uninsured had 64% increase odds (OR= 1.64, CI = 1.34-2.00, p = 0.00) of not receiving mental health services.

Table 3.1 Demographics of children with mental, emotional, behavioral, or developmental disorders (3-17 years) by race/ethnicity

	White, non-Hispanic		Hispanic		Black, non-Hispanic		Asian, non-Hispanic		American Indian or Alaska Native, non-Hispanic		Native Hawaiian or Pacific Islander, non-Hispanic		Multiracial, non-Hispanic		Other, non-Hispanic			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	x^2	p
Age																	82.67	0.00
4-7 years[1]	1136	11.93	222	15.42	133	15.50	50	17.24	13	13.40	4	21.05	151	18.00	8	16.67		
8-11 years	2277	23.92	360	25.00	192	22.38	63	21.72	31	31.96	5	26.32	213	25.39	11	22.91		
12-14 years	2150	22.59	327	22.70	235	27.39	54	18.62	23	23.71	3	15.79	187	22.29	14	29.17		
15-17 years	3956	41.56	531	36.88	298	34.73	123	42.42	30	30.93	7	36.84	288	34.32	15	31.25		
Sex																	10.77	0.15
Male	3999	42.01	609	42.29	321	37.41	134	46.21	43	44.33	7	36.84	340	40.52	18	37.50		
Female	5520	57.99	831	57.71	537	62.59	156	53.79	54	55.67	12	63.16	499	59.48	30	62.50		
Parental Nativity[2]																	0.00	0.00
Parent(s) born in US	8375	87.98	797	55.35	641	74.71	93	32.07	80	82.47	12	63.16	615	73.30	31	64.58		
Parent(s) born outside US	467	4.91	485	33.68	68	7.93	185	63.79	2	2.07	4	21.05	140	16.69	8	16.67		
Other	581	6.10	137	9.51	132	15.38	11	3.79	15	15.46	3	15.79	81	9.65	7	14.58		
Household Language																	0.00	0.00
English	9429	99.43	1153	80.63	844	99.06	218	75.17	97	100.00	17	89.47	829	99.28	43	91.49		
non-English	54	0.57	277	19.37	8	0.94	72	24.83	0	0.00	2	10.53	6	0.72	4	8.51		
Family Structure[2]																	710.25	0.00
Two parents, currently married	6298	66.16	730	50.69	256	29.84	220	75.86	37	38.14	8	42.11	425	50.66	23	47.92		
Two parents, not currently married	587	6.17	144	10.00	59	6.88	9	3.10	10	10.31	1	5.26	74	8.82	3	6.25		
Single parent (mother or father)	1979	20.79	404	28.06	388	45.22	48	16.55	32	32.99	7	36.84	249	29.68	15	31.25		
Grandparent household	400	4.20	88	6.11	90	10.49	3	1.03	13	13.40	2	10.53	55	6.56	4	8.33		
Other relation	120	1.26	34	2.36	43	5.01	5	1.72	4	4.12	1	5.26	23	2.74	2	4.17		
Income Level																	846.96	0.00
0-99% FPL	1036	10.88	320	22.22	325	37.88	26	8.97	22	22.68	5	26.32	131	15.61	6	12.50		
100%-199% FPL	1608	16.89	380	26.39	194	22.61	30	10.34	27	27.84	7	36.84	190	22.65	9	18.75		
200%-399% FPL	3049	32.03	387	26.88	196	22.84	78	26.90	31	31.96	4	21.05	266	31.70	17	35.42		
400% FPL or above	3826	40.20	353	24.51	143	16.67	156	53.79	17	17.52	3	15.79	252	30.04	16	33.33		
Highest Education Level																	505.80	0.00
High School Degree or GED	1347	14.15	304	21.11	206	24.01	18	6.21	22	22.68	3	15.79	130	15.49	6	12.50		
Less than High School	147	1.54	108	7.50	40	4.66	4	1.38	5	5.15	1	5.26	15	1.79	1	2.10		
Some College or Technical School	2509	26.36	416	28.89	279	32.52	34	11.72	39	40.21	10	52.63	262	31.23	15	31.23		
College Degree or Higher	5516	57.95	612	42.50	333	38.81	234	80.69	31	31.96	5	26.32	432	51.49	26	54.17		
Number of Family Members in the Household[2]																	166.14	0.00
1 or 2 People	786	8.26	131	9.10	139	16.20	20	6.90	11	11.34	1	5.26	106	12.63	8	16.67		
3 People	2928	30.76	417	28.96	292	34.03	94	32.41	32	32.99	5	26.32	247	29.44	16	33.33		
4 People	3455	36.30	457	31.74	227	26.46	105	36.21	29	29.90	7	36.84	252	30.04	13	27.08		
5 People	1576	16.56	269	18.68	122	14.22	43	14.83	19	19.59	3	15.79	149	17.76	5	10.42		
6 People	591	6.21	112	7.78	44	5.13	20	6.90	6	6.19	3	15.79	65	7.75	4	8.33		
Military Status of Adult(s)[2]																	53.84	0.00
Active Duty	98	1.03	15	1.04	11	1.28	0	0.00	0	0.00	0	0.00	13	1.55	0	0.00		
Previously Active Duty	997	10.47	129	8.96	77	8.97	18	6.21	10	10.31	1	5.26	91	10.85	4	8.33		
Reserves or National Guard	179	1.88	24	1.67	10	1.17	5	1.72	2	2.06	0	0.00	13	1.55	0	0.00		
No military service	8097	85.06	1227	85.21	731	85.20	259	89.31	85	87.63	18	94.74	705	84.03	42	87.50		
Insurance Status[2]																	127.40	0.00
Insured[3]	8984	94.38	1323	91.88	765	89.16	276	95.17	73	75.26	16	84.21	786	93.68	46	95.83		
Uninsured	485	5.10	107	7.43	83	9.67	9	3.10	19	19.59	2	10.53	46	5.48	2	4.17		
Insurance Type[2]																	818.76	0.00
Public only	2160	22.69	586	40.69	452	52.68	43	14.83	47	48.45	7	36.84	290	34.56	15	31.25		
Private only	6293	66.11	646	44.86	258	30.07	213	73.45	24	24.74	8	42.11	438	52.21	23	47.92		
Combination of public and private	618	6.49	96	6.67	83	9.67	20	6.90	7	7.22	3	15.79	72	8.85	8	16.67		
Currently uninsured	328	3.45	74	5.14	45	5.24	7	2.41	18	18.56	1	5.26	32	3.81	2	4.17		
Received mental health care																	9.08	0.25
Yes	3893	41.05	586	40.98	322	37.88	123	42.41	44	45.83	10	52.63	362	43.20	15	31.91		
No	5590	58.95	844	59.02	528	62.12	167	57.59	52	54.17	9	47.37	474	56.70	32	68.09		
Difficulty accessing mental health care																	10.38	0.17
Yes	1920	43.84	298	44.61	158	39.80	67	47.52	20	38.46	6	50.00	203	48.22	12	63.16		
No	2460	56.16	370	55.39	239	60.20	74	52.48	32	61.54	6	50.00	218	51.78	7	36.84		

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17 year old

[2] missing data was excluded; column percents may not equal 100%

[3] children had consistent health insurance coverage during the past 12 months

Table 3.2a Univariate association between children with mental, emotional, behavioral or developmental disorders and not receiving any mental health or counseling services

	OR	95% CI	p
Race/Ethnicity			
White, non-Hispanic	1.00	--	--
Hispanic	1.00	0.90-1.12	0.96
Black, non-Hispanic	1.14	0.89-1.32	0.07
Asian, non-Hispanic	0.95	0.75-1.20	0.64
American Indian or Alaska Native, non-Hispanic	0.82	0.55-1.23	0.34
Native Hawaiian and Pacific Islander, non-Hispanic	0.63	0.25-1.54	0.31
Multiracial, non-Hispanic	0.91	0.79-1.02	0.21
Other, non-Hispanic	1.49	0.80-2.75	0.21
Age			
4-7 years[1]	1.00	--	--
8-11 years	0.45	0.39-0.51	0.00
12-14 years	0.43	0.38-0.50	0.00
15-17 years	0.31	0.27-0.35	0.00
Sex			
Male	1.00	--	--
Female	1.37	1.27-1.46	0.00
Parental Nativity			
Parent(s) born in US	1.00	--	--
Parent(s) born outside US	1.17	1.04-1.38	0.01
Other	0.76	0.67-0.87	0.00
Household Language			
English	1.00	--	--
non-English	1.63	1.32-2.01	0.00
Family Structure			
Two parents, currently married	1.00	--	--
Two parents, not currently married	0.86	0.75-0.99	0.04
Single parent (mother or father)	0.79	0.73-0.86	0.00
Grandparent household	0.64	0.55-0.76	0.00
Other relation	0.40	0.31-0.52	0.00
Income Level			
0-99% FPL	1.00	--	--
100%-199% FPL	1.02	0.90-1.16	0.74
200%-399% FPL	1.01	0.91-1.14	0.80
400% FPL or above	0.83	0.74-0.92	0.00
Highest Education Level			
High School Degree or GED	1.00	--	--
Less than High School	0.89	0.69-1.13	0.33
Some College or Technical School	0.79	0.71-0.89	0.00
College Degree or Higher	0.69	0.62-0.76	0.00
Number of Family Members in the Household			
1 or 2 People	1.00	--	--
3 People	1.18	1.04-1.35	0.01
4 People	1.48	1.31-1.69	0.00
5 People	1.61	1.39-1.85	0.00
6 People	1.79	1.50-2.15	0.00
Military Status of Adult(s)			
Active Duty	1.00	--	--
Previously Active Duty	0.93	0.65-1.32	0.68
Reserves or National Guard	1.13	0.74-1.74	0.57
No military service	1.11	0.79-1.55	0.56
Insurance Status			
Insured[2]	1.00	--	--
Uninsured	1.53	1.30-1.79	0.00
Insurance Type			
Public only	1.00	--	--
Private only	1.16	1.07-1.25	0.00
Combination of public and private	0.78	0.67-0.90	0.00
Currently uninsured	1.64	1.34-2.00	0.00

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17; 4-7 year olds used as reference

[2] children had consistent health insurance coverage during the past 12 months

Table 3.2b Univariate association between children with mental, emotional, behavioral or developmental disorders and difficulty obtaining mental health or counseling services

	OR	95% CI	p
Race/Ethnicity			
White, non-Hispanic	1.00	--	--
Hispanic	1.03	0.88-1.22	0.71
Black, non-Hispanic	0.85	0.69-1.04	0.12
Asian, non-Hispanic	1.16	0.83-1.62	0.39
American Indian or Alaska Native, non-Hispanic	0.80	0.46-1.40	0.44
Native Hawaiian and Pacific Islander, non-Hispanic	1.28	0.41-3.98	0.67
Multiracial, non-Hispanic	1.19	0.98-1.46	0.08
Other, non-Hispanic	2.20	0.86-5.59	0.10
Age			
4-7 years[1]	1.00	--	--
8-11 years	0.71	0.58-0.88	0.00
12-14 years	0.64	0.52-0.78	0.00
15-17 years	0.63	0.52-0.77	0.00
Sex			
Male	1.00	--	--
Female	1.07	0.97-1.18	0.19
Parental Nativity			
Parent(s) born in US	1.00	--	--
Parent(s) born outside US	1.04	0.87-1.23	0.69
Other	0.86	0.71-1.03	0.10
Household Language			
English	1.00	--	--
non-English	1.20	0.88-1.64	0.26
Family Structure			
Two parents, currently married	1.00	--	--
Two parents, not currently married	1.10	0.90-1.34	0.371
Single parent (mother or father)	1.11	0.98-1.25	0.09
Grandparent household	0.78	0.62-0.97	0.03
Other relation	1.10	0.80-1.51	0.57
Income Level			
0-99% FPL	1.00	--	--
100%-199% FPL	1.00	0.84-1.20	0.99
200%-399% FPL	0.97	0.83-1.14	0.72
400% FPL or above	0.84	0.72-0.98	0.03
Highest Education Level			
High School Degree or GED	1.00	--	--
Less than High School	0.81	0.56-1.17	0.27
Some College or Technical School	1.11	0.94-1.32	0.21
College Degree or Higher	1.09	0.93-1.27	0.28
Number of Family Members in the Household			
1 or 2 People	1.00	--	--
3 People	0.99	0.83-1.18	0.88
4 People	0.98	0.82-1.17	0.83
5 People	1.04	0.85-1.27	0.70
6 People	1.15	0.88-1.49	0.31
Military Status of Adult(s)			
Active Duty	1.00	--	--
Previously Active Duty	1.17	0.68-2.00	0.58
Reserves or National Guard	1.43	0.75-2.71	0.27
No military service	1.32	0.78-2.23	0.29
Insurance Status			
Insured[2]	1.00	--	--
Uninsured	1.92	1.53-2.41	0.00
Insurance Type			
Public only	1.00	--	--
Private only	0.94	0.84-1.06	0.31
Combination of public and private	1.17	0.96-1.43	0.12
Currently uninsured	1.49	1.11-1.98	0.01

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17; 4-7 year olds used as reference

[2] children had consistent health insurance coverage during the past 12 months

Table 3.2b displays the results of univariate logistic regression analysis evaluating the difficulty for children to obtain mental health services. Hispanic children had 3% increased odds (OR = 1.03, CI = 0.88-1.22, p = 0.71), and non-Hispanic Asian children had 16% increased odds (OR = 1.16, CI = 0.83-1.62, p = 0.39) of having difficulty obtaining healthcare. Non-Hispanic Black children had 85% decreased odds (OR = 0.85, CI = 0.69-1.04, p = 0.12), while non-Hispanic Native Hawaiian and Pacific Islander children had 28% increase odds (OR= 1.28, CI = 0.41-3.98, p = 0.67) of having difficulty obtaining mental health services. Children whose parents were born outside the US had 4% increased odds (OR = 1.04, CI = 0.87-1.23, p = 0.69), and whose primary household language was non-English had 20% increased odds (OR = 1.20, CI = 0.86-1.64, p = 0.26) of having difficulty obtaining mental health services. Children with a combination of public and private health insurance had 17% increased odds (OR = 1.17, CI = 0.96-1.43, p = 0.12), whereas children currently uninsured had 49% increase odds (OR= 1.49, CI = 1.11-1.98, p = 0.01) of having difficulty obtaining mental health services.

Table 3.3a and table 3.3b display the results for model twelve of a multivariate logistic regression analysis. After controlling for all covariates, we saw 6% increased odds (OR = 1.06, CI = 0.88-1.27, p = 0.54) of having a difficult experience obtaining mental health services among Hispanic children. Among non-Hispanic Asian children, we saw 13% increased odds (OR = 1.13, CI = 0.78-1.63 p = 0.52), and among non-Hispanic Native Hawaiian and Pacific Islander we saw 29% increased odds (OR = 1.29, CI = 0.38-4.43 p = 0.68) of having a difficult experience obtaining mental health services. Children with parents born outside the US (OR = 0.99, CI = 0.81-1.21, p = 0.92) had no to minimal differences in obtaining mental health services compared to their non-Hispanic White counterparts; however, children from non-English speaking households had 22% increased odds (OR = 1.22, CI = 0.83-

1.78, p = 0.32) in difficulty obtaining mental health services. In contrast, Hispanic children (OR = 0.93, CI = 0.82-1.07, p = 0.30) and non-Hispanic Asian children (OR = 0.91, CI = 0.70-1.20, p = 0.51) had no to minimal differences in receiving mental health services compared to their non-Hispanic White counterparts. However, non-Hispanic Black, children had 24% increased odds (OR = 1.24, CI = 1.06-1.46, p = 0.01) of not receiving mental health care. Children whose parents were born outside the US had 6% increased odds (OR = 1.06, CI = 0.92-1.22, p = 0.43), and whose primary household language was non-English had 28% (OR = 1.28, CI = 0.98-1.66, p = 0.07) increased odds of not receiving mental health services.

Table 3.3a Multivariate association between children with mental, emotional, behavioral or developmental disorders and not receiving any mental health or counseling services

	Model XII		
	OR	**95% CI**	**p**
Race/Ethnicity			
White, non-Hispanic	1.00	–	--
Hispanic	0.93	0.82-1.07	0.30
Black, non-Hispanic	1.24	1.06-1.46	0.01
Asian, non-Hispanic	0.91	0.70-1.20	0.51
American Indian or Alaska Native, non-Hispanic	0.81	0.52-1.26	0.35
Native Hawaiian and Pacific Islander, non-Hispanic	0.57	0.22-1.48	0.25
Multiracial, non-Hispanic	0.91	0.78-1.06	0.21
Other, non-Hispanic	1.60	0.82-3.10	0.17
Age			
4-7 years[1]	1.00	–	--
8-11 years	0.44	0.38-0.51	0.00
12-14 years	0.41	0.36-0.47	0.00
15-17 years	0.30	0.26-0.34	0.00
Sex			
Male	1.00	–	--
Female	1.29	1.19-1.39	0.00
Parental Nativity			
Parent(s) born in US	1.00	–	--
Parent(s) born outside US	1.06	0.92-1.22	0.43
Other	5.99	2.92-12.31	0.00
Household Language			
English	1.00	–	--
non-English	1.28	0.98-1.66	0.07
Family Structure			
Two parents, currently married	1.00	–	--
Two parents, not currently married	0.78	0.67-0.91	0.00
Single parent (mother or father)	0.79	0.71-0.88	0.00
Grandparent household	0.10	0.05-0.21	0.00
Other relation	0.12	0.06-0.22	0.00
Income Level			
0-99% FPL	1.00	–	--
100%-199% FPL	1.06	0.93-1.22	0.38
200%-399% FPL	1.02	0.89-1.17	0.79
400% FPL or above	0.86	0.74-1.00	0.05
Highest Education Level			
High School Degree or GED	1.00	–	--
Less than High School	0.92	0.69-1.21	0.55
Some College or Technical School	0.75	0.66-0.85	0.00
College Degree or Higher	0.58	0.51-0.65	0.00
Number of Family Members in the Household			
1 or 2 People	1.00	–	--
3 People	1.13	0.97-1.31	0.13
4 People	1.28	1.09-1.50	0.00
5 People	1.36	1.15-1.62	0.00
6 People	1.51	1.22-1.86	0.00
Military Status of Adult(s)			
Active Duty	1.00	–	--
Previously Active Duty	1.35	0.93-1.96	0.11
Reserves or National Guard	1.65	1.06-2.59	0.03
No military service	1.54	1.08-2.20	0.02
Insurance Status			
Insured[2]	1.00	–	--
Uninsured	1.35	1.04-1.77	0.03
Insurance Type			
Public only	1.00	–	--
Private only	1.48	1.32-1.66	0.00
Combination of public and private	0.86	0.73-1.01	0.07
Currently uninsured	1.38	0.98-1.95	0.06

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17; 4-7 year olds used as reference

[2] children had consistent health insurance coverage during the past 12 months

Table 3.3b Multivariate association between children with mental, emotional, behavioral or developmental disorders and difficulty obtaining mental health or counseling services

	Model XII		
	OR	**95% CI**	**p**
Race/Ethnicity			
White, non-Hispanic	1.00	–	--
Hispanic	1.06	0.88-1.27	0.54
Black, non-Hispanic	0.81	0.64-1.01	0.07
Asian, non-Hispanic	1.13	0.78-1.63	0.52
American Indian or Alaska Native, non-Hispanic	0.80	0.45-1.42	0.45
Native Hawaiian and Pacific Islander, non-Hispanic	1.29	0.38-4.34	0.68
Multiracial, non-Hispanic	1.15	0.93-1.42	0.19
Other, non-Hispanic	2.50	0.93-6.75	0.07
Age			
4-7 years[1]	1.00	–	--
8-11 years	0.70	0.56-0.87	0.00
12-14 years	0.64	0.51-0.79	0.00
15-17 years	0.64	0.52-0.79	0.00
Sex			
Male	1.00	–	--
Female	1.04	0.94-1.16	0.43
Parental Nativity			
Parent(s) born in US	1.00	–	--
Parent(s) born outside US	0.99	0.81-1.21	0.92
Other	1.76	0.90-3.43	0.10
Household Language			
English	1.00	–	--
non-English	1.22	0.83-1.78	0.32
Family Structure			
Two parents, currently married	1.00	–	--
Two parents, not currently married	1.02	0.83-1.27	0.83
Single parent (mother or father)	1.11	0.95-1.30	0.20
Grandparent household	0.46	0.23-0.93	0.03
Other relation	0.83	0.50-1.38	0.47
Income Level			
0-99% FPL	1.00	–	--
100%-199% FPL	0.97	0.80-1.18	0.77
200%-399% FPL	0.92	0.76-1.12	0.41
400% FPL or above	0.81	0.65-1.00	0.05
Highest Education Level			
High School Degree or GED	1.00	–	--
Less than High School	0.76	0.50-1.14	0.18
Some College or Technical School	1.19	0.99-1.43	0.06
College Degree or Higher	1.31	1.09-1.58	0.00
Number of Family Members in the Household			
1 or 2 People	1.00	–	--
3 People	1.06	0.87-1.30	0.55
4 People	1.06	0.86-1.31	0.60
5 People	1.14	0.90-1.43	0.29
6 People	1.17	0.88-1.56	0.29
Military Status of Adult(s)			
Active Duty	1.00	–	--
Previously Active Duty	1.24	0.71-2.15	0.45
Reserves or National Guard	1.55	0.81-3.00	0.19
No military service	1.36	0.80-2.32	0.26
Insurance Status			
Insured[2]	1.00	–	--
Uninsured	2.25	1.55-3.25	0.00
Insurance Type			
Public only	1.00	–	--
Private only	0.98	0.84-1.15	0.81
Combination of public and private	1.15	0.93-1.42	0.20
Currently uninsured	0.79	0.49-1.28	0.34

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17; 4-7 year olds used as reference

[2] children had consistent health insurance coverage during the past 12 months

Discussion

Mental, emotional, developmental or behavioral disorders continue to be a severe public health concern in the U.S. among children. This study's findings indicate that disparities persist in a parent's perceived ability to obtain and receive mental health services for their child with MEDB, a phenomenon that has been well documented in the literature (Lu, 2017; Lu et al., 2021; Marrast, Himmelstein, & Woolhandler, 2016; So, McCord, & Kaminski, 2019). This suggests that even if racial/ethnic minority children have access to appropriate mental health treatments and services, they still experienced difficulties obtaining the mental health care they need.

Several factors at the individual, provider and system level may explain disparities in obtaining mental health services among racial/ethnic minority children with MEDB. This includes perceived stigma and negative attitudes toward mental health care, low mental health literacy, cultural mistrust of mental health professionals, poor family communication, and service fragmentation in healthcare (Lu, 2017; Lu et al., 2021; Marrast, Himmelstein, & Woolhandler, 2016). As a result, minorities may prefer to—or are forced to—rely on informal sources such as family members, friends and minsters. Those who seek formal care are more likely to be treated by a primary care physician instead of a specialist (Marrast, Himmelstein, & Woolhandler, 2016). Therefore, low mental health service use rates could also reflect primary care providers' failure to recognize mental health illness or failure to offer a referral. To better serve racial/ethnic minority children with MEBD more evidence-based interventions are needed to engage and retain racial/ethnic minority children and their families in treatment.

Another factor that may contribute to low mental health service use and difficulties obtaining mental health services among racial/ethnic minority children with MEBD is their insurance status (Harris et al., 2020; Lu et al., 2021; So, McCord, & Kaminski, 2019). Several public health initiatives have sought to increase access to mental health services for children with MEBD. The State Children's Health Insurance Program (S-CHIP), which subsidizes mental health services, has expanded access to health care for low income and previously uninsured children (Merikangas et al., 2011). In contrast to physical health problems—for which private insurance benefits may be more generous than public insurance—the array of mental health services for children under public insurance has been robust compared to services covered by commercial private insurers (DeRigne, 2010; Harris et al., 2020; Marrast, Himmelstein, & Woolhandler, 2016). Our results indicate that children with MEDB were less likely to receive mental health care services if they have private only insurance. Often, publicly funded mental health services are subject to fewer limitations and restrictions than mental health services covered privately (DeRigne, 2010; So, McCord, & Kaminski, 2019). The findings of this analysis partially support the view that expansion of public insurance has expanded access to mental health care services for low income and previously uninsured children. For example, children with a combination of public and private insurance had an increased odds of receiving care but reported obtaining that care was difficult. This finding suggests that while Black, non-Hispanics don't have difficulty receiving mental health care services (e.g., receiving referrals, or scheduling the appointment), they may have difficulty obtaining these services (e.g., transportation issues, job doesn't offer paid leave, or nonreliable childcare). In order to create mental health equity for children across the U.S., families should have equal access to mental health services regardless of the underwriter.

Our data also highlighted the disparities experienced by non-native born and non-English speaking parents. Children with MEBD whose parents were born outside of the U.S. or reside in non-English speaking households were less likely to receive needed mental health treatment or counseling. Children of immigrants may have an increased risk of MEBD due to multiple risk factors associated with immigration; including poverty, immigration status, discrimination related to language barriers, prejudice, and social isolation (Derr, 2016; Harris et al., 2020; Zhang, Bo, & Lu, 2021). Further, children of immigrants that need mental health services are less likely to receive treatment than their peers whose parents are native-born due to a variety of structural and sociopolitical obstacles. This includes poverty, lack of insurance, language/cultural barriers and insufficient availability of mental health services in largely immigrant communities (Derr, 2016). However, previous research often compares children whose parents are non-native born with their native-born parent counterparts (Zhang, Bo, & Lu, 2021). Racial/ethnic minority populations have often been treated as a homogeneous group limiting our ability to understand differences between subgroups. Such an approach may miss vital information on how children with non-native born parents fare compared with their more accultured, same race/ethnicity peers of native-born parents. Eliminating disparities among racial/ethnic minority children with MEBD requires addressing disparities among immigrant populations, because immigrants constitute a large portion of some racial/ethnic groups. However, the literature shows that immigrant children and their families may face additional challenges unique to the experiences of migration that lead to patterns of obtaining and receiving mental health care that differ from those experienced by nonimmigrant minorities (Derr, 2016; Harris et al., 2020; Zhang, Bo, & Lu, 2021).

Limitations

Several limitations of this study need to be noted. First, the 2018-2019 NSCH utilized parental reporting to identify children with MEBD, which might lead to inaccurate estimations. Additionally, all information about children's health conditions and unmet need is based on parental recollection and is not independently verified. Second, the NSCH is a large data set containing many cases and variables. All analyses were conducted using secondary data; therefore, our analyses were limited to the variables that were included in the NSCH dataset. It is important for future studies to also consider additional variables to help better explain the racial/ethnic disparities. We would have liked to include additional variables in the model to help better explain the ethnic/racial discrepancies observed but were not able to as those variables were not included in the initial data collection. Third, the weighted response rate for 2018 and 2019 was less than 50%. This could indicate that the surveyed population is not a representative sample of the U.S. population, or selections bias. Lastly, the NSCH data are cross-sectional; thus, conclusions regarding causality cannot be inferred. Despite these limitations, NSCH provides researchers with a consumer-driven national measurement of perceived needs for mental health care services.

Conclusion

Widespread gaps in mental health care for children with MEBD pose serious challenges to public health planners and policy makers. Many children with MEBD have never received treatment for their condition, especially racial/ethnic minority children who are more likely to receive fewer and inferior mental health services than their non-Hispanic White peers. Initiatives to improve access to mental health care for racial/ethnic minorities should recognize these disparities and address the lack of culturally appropriate services.

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Chapter 4

Health Insurance Adequacy for Children with Mental, Emotional, Developmental or Behavioral Disorders

Abstract

Background: There is substantial interest in alleviating the financial burden of mental, emotional, developmental or behavioral disorders on families. Health Insurance Adequacy is crucial to ensuring access to mental health care services. The Patient Protection and Affordable Care Act mandates that health insurance plans include sufficient access to mental health care providers but lacks specific guidelines that define sufficient access. **Methods:** Parents of children ages 3-17 (n=13,110) were asked questions related to their child's mental or behavioral health needs in the 2018-2019 National Survey of Children's Health. Statistical analysis included descriptive statistics, chi squared, univariate and multivariate logistic regression. **Results:** After controlling for all covariates, we saw an increased likelihood for inadequate insurance coverage for non-Hispanic Native Hawaiian and Pacific Islander children, and a decrease likelihood of inadequate health insurance coverage for non-Hispanic Black children compared to non-Hispanic White Children. No difference in having inadequate insurance among Hispanic, non-Hispanic American Indian or Alaskan native, and non-Hispanic Asian children compared to non-Hispanic White children. **Discussion:** In contrast to physical health problems, the array of mental or behavioral health services for children under public insurance is robust compared to services covered by commercial private insurers. Further, immigrants and their families my experience

difficulties with the U.S. healthcare system due to language barriers, cultural misunderstandings, and differences in legal rights that are not experienced by those from native-born families. Initiatives to improve access to mental health care for racial/ethnic minorities should recognize these disparities and address the lack of culturally appropriate services within the health care system and insurance policies.

Background

The disease burden of mental, emotional, developmental or behavioral disorders (MEDB) in children and adolescents (hereafter referred to as "children" unless distinctions need to be made) in the United States is not equally distributed across populations. The consequence is substantial differences in health status between racial/ethnic groups of children that result in systematic health and behavioral disparities (Alegria, Vallas, & Pumariega, 2010; Elster, Jarosik, VanGeest, & Fleming, 2003; Lu, 2017; Lu et al., 2021; Marrast, Himmelstein, & Woolhandler, 2016). In the U.S., an estimated 17% of children 2-8 years of age have a parent reported MEDB diagnosis, which includes attention-deficit/hyperactivity disorder (ADHD), depression, anxiety problems, behavioral or conduct problems such as oppositional defiant disorder or conduct disorder, Tourette syndrome, autism spectrum disorder, learning disability, intellectual disability, developmental delay, or speech or other language problems (Centers for Disease Control and Prevention [CDC], 2021; Cree et al., 2018). For some children, untreated MEDB can result in academic failure, violence, sexual risk behaviors, substance use, and other risky behaviors (Lu, 2017; Lu et al., 2021; Marrast, Himmelstein, & Woolhandler, 2016). Despite the enormous toll that MEDB takes on the wellbeing of children and their families, disparities in access to and intensity of quality mental health services continue to persist for racial/ethnic minorities.

There is substantial interest in alleviating the economic impact of MEBD on families (Lu et al., 2021; So, McCord, & Kaminski, 2019). The Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act (MHPAEA) was a critical first step toward bringing mental health and substance use disorders into the mainstream of the U.S. medical care system by requiring parity in insurance coverage (Beronio, Glied, & Frank, 2014; Centers for Medicare and Medicaid Services [CMS], n.d.). The MHPAEA originally applied to group health plans that provided benefits for mental health and substance use disorders from imposing less favorable benefit limitations on those benefits than on medical/surgical benefits. This law was later amended by the Patient Protection and Affordable Care Act of 2010 (ACA) to also include individual health insurance plans. Key provisions of the ACA hold promise for addressing long-standing access problems and system fragmentation that affect the well-being of children with MEBD and their families. For example, MHPAEA requirements only apply to health plans that choose to include mental health and substance use disorder benefits in their benefit packages; however, the ACA builds on this and requires coverage of mental health and substance use disorder services as one of ten essential health benefit categories in non-grandfathered individual and group insurance plans. Further, the State Children's Health Insurance Program (S-CHIP), which subsidizes mental health services, has expanded access to health care for low income and previously uninsured children (Beronio, Glied, & Frank, 2014; CMS, n.d.; Merikangas et al., 2011). S-CHIP provides publicly financed insurance for children in families earning too much to qualify for Medicaid but without adequate income or alternative access to health insurance (Garfield, Beardslee, Greenfield, & Meara, 2011). Thus, providing a pathway to increase access to mental health services for children with MEBD enrolled in these programs and minimizing the personal and societal costs of treatment among this vulnerable population.

Previous research has shown that having insurance—regardless of the specific type (i.e., public, private, or combination of private and public insurance)—significantly increased a child's likelihood of utilizing mental health services (Alegria, Vallas, & Pumariega, 2010; Lu et al., 2021; So, McCord, & Kaminski, 2019). Yet, other studies have shown that network adequacy for mental health services are a real issue (Williams, Gilroy, Chang, & Seymour, 2017). The ACA requires insurers to maintain "a network that is sufficient in numbers and types of providers, including providers that specialize in mental health and substance abuse services, to assure that all services will be accessible without unreasonable delay". This federal requirement, however, does not specify what constitutes a "sufficient" number of providers or "unreasonable delay," giving each state the power to define and enforce these requirements arbitrarily. As a result, children with MEBD and their families may have to wait longer periods before accessing mental health services, travel long distances to see an in-network provider, or see a professional outside of their network at a high out-of-pocket cost (Bogusz, 2020; Williams, Gilroy, Chang, & Seymour, 2017). The current study was concerned with addressing this issue. This research is focused on parental perceived adequacy of health insurance coverage to meet their child's mental or behavioral health needs.

Methods

Study Design

Design: A cross-sectional design was conducted to assess differences in mental health care access outcomes by race/ethnicity.

Data Source: The National Survey of Children's Health (NSCH) is a national survey, federally sponsored and directed by the Health Resources and Services Administration's Maternal and Child Health Bureau (HRSA MCHB). This survey was conducted using electronic and paper format and designed to produce national and state-level data on the physical and emotional health of children 0-17 years old in the United States. This data set provides rich data on multiple, intersecting aspects of children's health and well-being—including physical and mental health, access to and quality of healthcare, and the child's family, neighborhood, school, and social context. For the purposes of this study, we analyzed a subsample (n=13,110) of the 2018-2019 NSCH combined data set (N=59,963). The subsample was drawn from those children identified in the screener as being 3-17 years of age and having parent reported a mental, emotional, developmental or behavioral disorder.

Study Periods: The 2018 NSCH was conducted from June 2018 to January 2019, and the 2019 NSCH was conducted from June 2019 to January 2020. The 2018 and 2019 NSCH data files were appended using a unique household identifier. Only survey items that are the same across both data sets are included in the 2018-2019 NSCH combined data set. The weighted response rate for 2018 and 2019 was 43.1% and 42.4% respectively.

Study Sample: The study sample was restricted to parents of children aged 3-17 years old with MEDB. This includes children diagnosed with the following 10 conditions: Tourette Syndrome, anxiety problems, depression, behavioral and conduct problems, developmental delay, intellectual disability, speech or other language disorder, learning disability, Autism Spectrum Disorder, Attention Deficit Disorder and Attention-Deficit Hyperactivity Disorder. Children with special health care needs (CSHCN) who qualify on the CSHCN Screener for ongoing MEDB with or without a formal diagnosis were also included in the study sample. The NSCH uses the CSHCN Screener to identify children with special health care needs across the range and diversity of childhood chronic conditions and special needs.

Exclusion: Parents of children 0-3 years old were excluded from the sample, as those parents with children younger than three years old were not asked survey items related to mental disorders. Children whose parents reported that they did not need mental or behavioral health services were also excluded from the study. Lastly, values coded as missing in error (e.g. the value is missing due to respondent or system errors, or the respondent did not provide a valid answer), legitimate skip (e.g. the survey item is not applicable to the respondent), not in universe (e.g. the item is not included on the respondent's age-specific questionnaire) or suppressed for confidentiality (e.g. the value is suppressed in order to protect the privacy of the respondent/child) in the 2018-2019 combined data set were also excluded.

Outcome Variable: The primary outcome of interest was parents' perceived adequacy of health insurance coverage for their child's mental health care services. Inadequate mental or behavioral health coverage was defined by a parent's response to the following question: "how often does this child's health insurance offer benefits or cover services that meet his/her mental or behavioral health needs?" If the parent answered "sometime or never" the child was categorized as having inadequate insurance coverage. The denominator for this variable was children aged 3-17 years who are currently insured and used mental or behavioral health care.

Control Variables: The primary control variables were age, sex, race/ethnicity, parental nativity, primary household language, family structure of child's household, income level of child's household, highest education of adult in child's household, children who were born in US, number of family members in the household, and military status of adults in household.

Protection of Human Rights: The Johns Hopkins Bloomberg School of Public Health Institutional Review Board reviewed this study and deemed it exempt from oversight since it was determined that it was not human subjects research.

Statistical Analysis

Statistical analysis included descriptive statistics, chi squared, univariate and multivariate logistic regression. Univariate and multivariate logistic regressions were used to produce odd ratios (OR) to test racial/ethnic differences in mental health care access among children with MEDB. Categorical outcome variables were collapsed into dichotomous variables (e.g. yes, no) to indicate agreement/disagreement for ease of interpretation. All comparisons were made using a Type 1 error tolerance level of 0.05. Statistical analyses were conducted in Stata/IC, version 15.1 statistical package (Stata Corp, 2017).

Results

Table 4.1 displays the demographic characteristics of children with MEDB (n=13,110) by racial/ethnic group. In summary, children in the sample tended to be older rather than younger (40.0% compared to 24.0%), non-Hispanic white (72.6%), and female (58.3%). Specifically, non-Hispanic White and non-Hispanic Asian children tended to be older in age compared to non-Hispanic American Indian or Alaskan Native and non-Hispanic Native Hawaiian or Pacific Islander. Majority of non-Hispanic Asian children had parents born outside of the US (63.8%), which was more than double the percentage of parents of Hispanic children (33.7%) and almost triple for parents of non-Hispanic Native Hawaiian and Pacific Islander children (21.1%). Less than a third of non-Hispanic Black children lived in a currently married, two parent household, while 37.8% come from households with incomes below 100 percent the federal poverty level (FPL), and over a third have a parent or guardian with a college degree or higher. In contrast, 24.8% of parents of non-Hispanic Asian children are non-English speaking, more than half come from households with incomes above 400 percent of FPL, and 80.7% have a parent or guardian with a college degree or higher.

Most children with MEBD had consistent health insurance coverage for the past 12 months (93.6%). This trend was consistent across racial/ethnic groups, however there was a slight deviation for non-Hispanic American Indian or Alaskan Native children (75.3%). Majority of non-Hispanic White and non-Hispanic Asian children had private only insurance, but less than half reported their insurance coverage for mental health care was adequate (66.1% and 73.5%, compared to 47.8% and 42.4%). In contrast, non-Hispanic Black children and non-Hispanic American Indian or Alaskan Native children reported having public health insurance (52.7% and 48.5% respectively) and over half of parents reported their insurance coverage for mental health care was adequate (62.6% and 54.9%).

Table 4.2 displays the results of the univariate logistic regression analysis. Non-Hispanic Asian children had 25% increased odds (OR = 1.25, CI = 0.92-1.69, p = 0.16) and non-Hispanic Native Hawaiian and Pacific Islander children had 7% increased odds (OR = 1.07, CI = 0.36-3.18, p = 0.91) of having inadequate insurance coverage, compared to non-Hispanic White children. In contrast, non-Hispanic Black children had 55% decrease odds (OR = 0.55, CI = 0.45-0.66, p = 0.00) and non-Hispanic American Indian or Alaska Native had 75% decreased odds (OR = 0.75, CI = 0.43-1.31, p = 0.31) of having inadequate insurance coverage compared to non-Hispanic White children.

Children whose parents were born outside of the U.S. had 12% increased odds (OR = 1.12, CI = 0.97-1.30, p = 0.13) and those who resided in a non-English speaking household had 9% increased odds (OR = 1.09, CI = 0.84-1.43, p = 0.52) of inadequate insurance. Children whose parents have a college degree or higher had 94% increased odds (OR = 1.94, CI = 1.69-2.22, p = 0.00) of inadequate insurance compared to children whose parents have a high school diploma or GED. Children whose parents have private only health insurance coverage had twice the likelihood (OR = 2.24, CI = 2.02-2.48, p = 0.00) of having inadequate insurance, and children whose parents had a combination of private and public insurance had 55% increased odds (OR = 1.55, CI = 1.30-1.85, p = 0.00) of inadequate insurance.

Table 4.1 Demographics of children with mental, emotional, behavioral, or developmental disorders (3-17 years) by race/ethnicity

	White, non-Hispanic		Hispanic		Black, non-Hispanic		Asian, non-Hispanic		American Indian or Alaska Native, non-Hispanic		Native Hawaiian or Pacific Islander, non-Hispanic		Multiracial, non-Hispanic		Other, non-Hispanic			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	χ^2	p
Age																	82.67	0.00
4-7 years[1]	1136	11.93	222	15.42	133	15.50	50	17.24	13	13.40	4	21.05	151	18.00	8	16.67		
8-11 years	2277	23.92	360	25.00	192	22.38	63	21.72	31	31.96	5	26.32	213	25.39	11	22.91		
12-14 years	2150	22.59	327	22.70	235	27.39	54	18.62	23	23.71	3	15.79	187	22.29	14	29.17		
15-17 years	3956	41.56	531	36.88	298	34.73	123	42.42	30	30.93	7	36.84	288	34.32	15	31.25		
Sex																	10.77	0.15
Male	3999	42.01	609	42.29	321	37.41	134	46.21	43	44.33	7	36.84	340	40.52	18	37.50		
Female	5520	57.99	831	57.71	537	62.59	156	53.79	54	55.67	12	63.16	499	59.48	30	62.50		
Parental Nativity[2]																	2300.00	0.00
Parent(s) born in US	8375	87.98	797	55.35	641	74.71	93	32.07	80	82.47	12	63.16	615	73.30	31	64.58		
Parent(s) born outside US	467	4.91	485	33.68	68	7.93	185	63.79	2	2.07	4	21.05	140	16.69	8	16.67		
Other	581	6.10	137	9.51	132	15.38	11	3.79	15	15.46	3	15.79	81	9.65	7	14.58		
Household Language																	1900.00	0.00
English	9429	99.43	1153	80.63	844	99.06	218	75.17	97	100.00	17	89.47	829	99.28	43	91.49		
non-English	54	0.57	277	19.37	8	0.94	72	24.83	0	0.00	2	10.53	6	0.72	4	8.51		
Family Structure[2]																	710.25	0.00
Two parents, currently married	6298	66.16	730	50.69	256	29.84	220	75.86	37	38.14	8	42.11	425	50.66	23	47.92		
Two parents, not currently married	587	6.17	144	10.00	59	6.88	9	3.10	10	10.31	1	5.26	74	8.82	3	6.25		
Single parent (mother or father)	1979	20.79	404	28.06	388	45.22	48	16.55	32	32.99	7	36.84	249	29.68	15	31.25		
Grandparent household	400	4.20	88	6.11	90	10.49	3	1.03	13	13.40	2	10.53	55	6.56	4	8.33		
Other relation	120	1.26	34	2.36	43	5.01	5	1.72	4	4.12	1	5.26	23	2.74	2	4.17		
Income Level																	846.96	0.00
0-99% FPL	1036	10.88	320	22.22	325	37.88	26	8.97	22	22.68	5	26.32	131	15.61	6	12.50		
100%-199% FPL	1608	16.89	380	26.39	194	22.61	30	10.34	27	27.84	7	36.84	190	22.65	9	18.75		
200%-399% FPL	3049	32.03	387	26.88	196	22.84	78	26.90	31	31.96	4	21.05	266	31.70	17	35.42		
400% FPL or above	3826	40.20	353	24.51	143	16.67	156	53.79	17	17.52	3	15.79	252	30.04	16	33.33		
Highest Education Level																	505.80	0.00
High School Degree or GED	1347	14.15	304	21.11	206	24.01	18	6.21	22	22.68	3	15.79	130	15.49	6	12.50		
Less than High School	147	1.54	108	7.50	40	4.66	4	1.38	5	5.15	1	5.26	15	1.79	1	2.10		
Some College or Technical School	2509	26.36	416	28.89	279	32.52	34	11.72	39	40.21	10	52.63	262	31.23	15	31.23		
College Degree or Higher	5516	57.95	612	42.50	333	38.81	234	80.69	31	31.96	5	26.32	432	51.49	26	54.17		
Number of Family Members in the Household[2]																	166.14	0.00
1 or 2 People	786	8.26	131	9.10	139	16.20	20	6.90	11	11.34	1	5.26	106	12.63	8	16.67		
3 People	2928	30.76	417	28.96	292	34.03	94	32.41	32	32.99	5	26.32	247	29.44	16	33.33		
4 People	3455	36.30	457	31.74	227	26.46	105	36.21	29	29.90	7	36.84	252	30.04	13	27.08		
5 People	1576	16.56	269	18.68	122	14.22	43	14.83	19	19.59	3	15.79	149	17.76	5	10.42		
6 People	591	6.21	112	7.78	44	5.13	20	6.90	6	6.19	3	15.79	65	7.75	4	8.33		
Military Status of Adult(s)[2]																	53.84	0.00
Active Duty	98	1.03	15	1.04	11	1.28	0	0.00	0	0.00	0	0.00	13	1.55	0	0.00		
Previously Active Duty	997	10.47	129	8.96	77	8.97	18	6.21	10	10.31	1	5.26	91	10.85	4	8.33		
Reserves or National Guard	179	1.88	24	1.67	10	1.17	5	1.72	2	2.06	0	0.00	13	1.55	0	0.00		
No military service	8097	85.06	1227	85.21	731	85.20	259	89.31	85	87.63	18	94.74	705	84.03	42	87.50		
Insurance Status[2]																	127.40	0.00
Insured[3]	8984	94.38	1323	91.88	765	89.16	276	95.17	73	75.26	16	84.21	786	93.68	46	95.83		
Uninsured	485	5.10	107	7.43	83	9.67	9	3.10	19	19.59	2	10.53	46	5.48	2	4.17		
Insurance Type[2]																	818.76	0.00
Public only	2160	22.69	586	40.69	452	52.68	43	14.83	47	48.45	7	36.84	290	34.56	15	31.25		
Private only	6293	66.11	646	44.86	258	30.07	213	73.45	24	24.74	8	42.11	438	52.21	23	47.92		
Combination of public and private	618	6.49	96	6.67	83	9.67	20	6.90	7	7.22	3	15.79	72	8.85	8	16.67		
Currently uninsured	328	3.45	74	5.14	45	5.24	7	2.41	18	18.56	1	5.26	32	3.81	2	4.17		
Insurance coverage for Mental Health is adequate																	42.37	0.00
Yes	2680	47.81	419	50.6	290	62.63	75	42.37	28	54.90	6	46.15	249	48.82	13	48.15		
No	2926	52.19	409	49.4	173	37.37	102	57.63	23	45.10	7	53.85	261	51.18	14	51.85		

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17 year old

[2] missing data was excluded; column percents may not equal 100%

[3] children had consistent health insurance coverage during the past 12 months

Table 4.2 Univariate association between children with mental, emotional, behavioral or developmental disorders and inadequacy of insurance coverage for mental health or counseling services

	OR	95% CI	p
Race/Ethnicity			
White, non-Hispanic	1.00	--	--
Hispanic	0.89	0.77-1.03	0.13
Black, non-Hispanic	0.55	0.45-0.66	0.00
Asian, non-Hispanic	1.25	0.92-1.69	0.16
American Indian or Alaska Native, non-Hispanic	0.75	0.43-1.31	0.31
Native Hawaiian and Pacific Islander, non-Hispanic	1.07	0.36-3.18	0.91
Multiracial, non-Hispanic	0.96	0.80-1.15	0.66
Other, non-Hispanic	0.99	0.46-2.10	0.97
Age			
4-7 years[1]	1.00	--	--
8-11 years	0.86	0.73-1.02	0.08
12-14 years	0.79	0.66-0.93	0.01
15-17 years	0.89	0.76-1.04	0.15
Sex			
Male	1.00	--	--
Female	1.10	1.01-1.21	0.04
Parental Nativity			
Parent(s) born in US	1.00	--	--
Parent(s) born outside US	1.12	0.97-1.30	0.13
Other	0.55	0.46-0.65	0.00
Household Language			
English	1.00	--	--
non-English	1.09	0.84-1.43	0.52
Family Structure			
Two parents, currently married	1.00	--	--
Two parents, not currently married	0.83	0.69-0.99	0.04
Single parent (mother or father)	0.83	0.75-0.93	0.00
Grandparent household	0.44	0.35-0.54	0.00
Other relation	0.47	0.34-0.65	0.00
Income Level			
0-99% FPL	1.00	--	--
100%-199% FPL	1.04	0.88-1.22	0.66
200%-399% FPL	1.49	1.23-1.72	0.00
400% FPL or above	1.60	1.38-1.84	0.00
Highest Education Level			
High School Degree or GED	1.00	--	--
Less than High School	0.84	0.59-1.19	0.32
Some College or Technical School	1.34	1.15-1.56	0.00
College Degree or Higher	1.94	1.69-2.22	0.00
Number of Family Members in the Household			
1 or 2 People	1.00	--	--
3 People	1.19	1.00-1.40	0.04
4 People	1.41	1.20-1.66	0.00
5 People	1.33	1.10-1.60	0.00
6 People	1.26	1.00-1.60	0.05
Military Status of Adult(s)			
Active Duty	1.00	--	--
Previously Active Duty	0.86	0.55-1.35	0.52
Reserves or National Guard	1.11	0.65-1.92	0.70
No military service	1.19	0.77-1.82	0.43
Insurance Status			
Insured[2]	1.00	--	--
Uninsured	2.02	1.47-2.77	0.00
Insurance Type[3]			
Public only	1.00	--	--
Private only	2.24	2.02-2.48	0.00
Combination of public and private	1.55	1.30-1.85	0.00
Currently uninsured	--	--	--

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17; 4-7 year olds used as reference

[2] children had consistent health insurance coverage during the past 12 months

[3] demominator for adequacy of insurance coverage for mental health care is children age 0-17 years who are currently insured

Table 4.3 displays the results from models 9-12 of a multivariate logistic regression analysis. After controlling for all covariates, we saw 15% increased odds (OR = 1.15, CI = 0.35-3.75, p = 0.82) for inadequate insurance coverage for non-Hispanic Native Hawaiian and Pacific Islander children compared to non-Hispanic White children. In contrast, non-Hispanic Black children had 68% decreased odds (OR = 0.68, CI = 0.55-0.84, p = 0.00) of inadequate health insurance compared to non-Hispanic White children. There was no difference in having inadequate insurance across three of the seven racial/ethnic groups—Hispanic (OR = 0.97, CI = 0.82-1.14 p = 0.70), non-Hispanic American Indian or Alaskan native (OR = 0.97, CI = 0.55-1.7, p = 0.90), and non-Hispanic Asian (OR = 0.99, CI = 0.71-1.38 p = 0.95)—compared to non-Hispanic White.

Children whose parents were born outside of the U.S. had 6% increased odds (OR = 1.06, CI = 0.89-1.27, p = 0.51) and reside in a non-English speaking household had 18% increased odds (OR = 1.18, CI = 0.85-1.65, p = 0.32) of inadequate insurance. Children whose parents have a college degree or higher had 48% increased odds (OR = 1.48, CI = 1.26-1.74, p = 0.00) of inadequate insurance compared to children whose parents have a high school or GED. Children whose parents have private only health insurance coverage had twice the likelihood (OR = 2.23, CI = 1.92-2.58, p = 0.00) of having inadequate insurance, and children whose parents had a combination of private and public insurance had 55% increased odds (OR = 1.55, CI = 1.28-1.87, p = 0.00) of inadequate insurance.

Table 4.3 Multivariate association between children with mental, emotional, behavioral or developmental disorders and inadequacy of insurance coverage for mental health or counseling services

	Model XII		
	OR	95% CI	p
Race/Ethnicity			
White, non-Hispanic	1.00	--	–
Hispanic	0.97	0.82-1.14	0.70
Black, non-Hispanic	0.68	0.55-0.84	0.00
Asian, non-Hispanic	0.99	0.71-1.38	0.95
American Indian or Alaska Native, non-Hispanic	0.97	0.55-1.71	0.90
Native Hawaiian and Pacific Islander, non-Hispanic	1.15	0.35-3.75	0.82
Multiracial, non-Hispanic	1.04	0.87-1.27	0.63
Other, non-Hispanic	1.20	0.54-2.67	0.66
Age			
4-7 years[1]	1.00	--	–
8-11 years	0.84	0.70-1.00	0.05
12-14 years	0.74	0.62-0.88	0.00
15-17 years	0.83	0.70-0.98	0.03
Sex			
Male	1.00	--	–
Female	1.14	1.03-1.25	0.01
Parental Nativity			
Parent(s) born in US	1.00	--	–
Parent(s) born outside US	1.06	0.89-1.27	0.51
Other	1.37	0.69-2.71	0.37
Household Language			
English	1.00	--	–
non-English	1.18	0.85-1.65	0.32
Family Structure			
Two parents, currently married	1.00	--	–
Two parents, not currently married	1.10	0.90-1.34	0.34
Single parent (mother or father)	1.20	1.04-1.39	0.01
Grandparent household	0.60	0.29-1.24	0.17
Other relation	0.71	0.42-1.21	0.21
Income Level			
0-99% FPL	1.00	--	–
100%-199% FPL	0.87	0.72-1.04	0.12
200%-399% FPL	0.88	0.73-1.05	0.17
400% FPL or above	0.77	0.63-0.94	0.01
Highest Education Level			
High School Degree or GED	1.00	--	–
Less than High School	0.82	0.55-1.22	0.32
Some College or Technical School	1.21	1.03-1.43	0.02
College Degree or Higher	1.48	1.26-1.74	0.00
Number of Family Members in the Household			
1 or 2 People	1.00	--	–
3 People	1.13	0.93-1.37	0.21
4 People	1.27	1.04-1.55	0.02
5 People	1.24	1.00-1.55	0.05
6 People	1.29	0.99-1.68	0.06
Military Status of Adult(s)			
Active Duty	1.00	--	–
Previously Active Duty	1.18	0.75-1.86	0.48
Reserves or National Guard	1.47	0.84-2.57	0.18
No military service	1.62	1.05 2.50	0.03
Insurance Status			
Insured[2]	1.00	--	–
Uninsured	2.48	1.78-3.48	0.00
Insurance Type			
Public only	1.00	--	–
Private only	2.23	1.92-2.58	0.00
Combination of public and private	1.55	1.28-1.87	0.00
Currently uninsured[3]	—	--	--

Notes & Abbreviations:

[1] denominator for MEDB is children 3-17; 4-7 year olds used as reference

[2] children had consistent health insurance coverage during the past 12 months

[3] demominator for adequacy of insurance coverage for mental health care is

Discussion

Results of the current study show that children with MEDB who have private only health insurance coverage had statistically significant higher odds of having inadequate insurance compared to children with MEBD who have public only health insurance coverage. This finding suggests that there may be limited insurance benefits for mental health treatment or counseling for children with private insurance. Majority of non-Hispanic white and Non-Hispanic Asian children in our study had private only insurance, while non-Hispanic Black and non-Hispanic American Indian and Alaskan Native children had public only insurance. In contrast to physical health problems—for which private insurance benefits may be more generous than public insurance—the array of mental or behavioral health services for children under public insurance is robust compared to services covered by commercial private insurers (DeRigne, 2010; Harris et al., 2020; Marrast, Himmelstein, & Woolhandler, 2016; Williams, Gilroy, Chang, & Seymour, 2017). According to a study by Lu (2017), children covered by public insurance were more likely to use mental or behavioral health services. This finding highlights the effectiveness of programs such as Medicaid and S-CHIP in improving mental health service use among children from low-income households. Further, publicly funded coverage of mental or behavioral health care is often subjected to fewer limitations and restrictions compared to privately funded mental or behavioral health care (DeRigne, 2010; So, McCord, & Kaminski, 2019). For example, private insurance companies can circumvent mental health parity mandates by imposing restrictive standards of medical necessity for certain services. Insurers may use guidelines to interpret mental health claims more stringently compare to claims for physical health (The Kennedy Forum, 2021). As a result, insurers may choose to only pay enough for services to stabilize the patient's condition, but not enough to improve their underlying illness. Continued efforts are needed to ensure eligible children, especially minority children, are enrolled in health insurance programs that provide coverage for the mental health services they need.

Another potential source of disparity in adequacy of health insurance for mental health services for children with MEBD is patient satisfaction and ease of using health care services. Our study found an increased likelihood for inadequate insurance coverage for children with MEBD whose parents were born outside of the U.S., and among children with MEBD who reside in a non-English speaking household. Immigrants and their families my experience difficulties with the U.S. healthcare system brought on by language barriers, cultural misunderstandings, and differences in legal rights that are not experienced by those from native-born families (Derr, 2016; Perreira, Allen, & Oberlander, 2021). Further, confusion regarding eligibility requirements as well as the complexity of some states' enrollment procedures for Medicaid/CHIP create obstacles to a child's health insurance coverage status. For example, parents may encounter language barriers in accessing coverage options and be less familiar with excessively complicated health insurance arrangements in the U.S (Perreira, Allen, & Oberlander, 2021). Federal and State governments should take steps to improve language services in public health insurance programs like Medicare, Medicaid or SCHIP by providing reimbursement for language services, and offer stronger incentives for private insurance companies to pay for these services. When effective communication is impeded due to language barriers, there are significant risks for errors, patient dissatisfaction, and poor quality of care.

Limitations

Several limitations of this study need to be noted. First, the 2018-2019 NSCH utilized parental reporting to identify children with MEBD, which might lead to inaccurate estimations. Additionally, all information about a child's health condition and adequacy of health insurance coverage is based on parental recollection and is not independently verified. Second, the NSCH is a large data set containing many cases and variables. Analysis conducted in this study used secondary data and were limited to the variables that were included in the NSCH dataset. Adequacy of insurance coverage for mental health care was assessed using only one measure, and no other follow-up questions were included in the questionnaire. Third, the weighted response rate for 2018 and 2019 was less than 50%. This could indicate that the surveyed population is not a representative sample or selection bias. Lastly, data analysis was cross-sectional. Therefore, conclusions regarding causality cannot be inferred. Despite these limitations, NSCH provides researchers with a consumer-driven national measurement of parent-reported mental and behavioral health needs of children in the U.S.

Conclusion

The presence of MEDB in childhood is associated with negative outcomes, including poor social mobility and reduced social capital (Alegria, Vallas, & Pumariega, 2010; Glassgow & Van Voorhees, 2017). Although access to mental health treatment for children seems to be improving overall, there are continued racial/ethnic disparities in health insurance adequacy among children with MEBD. Future research should delineate within-group differences among racial/ethnic groups. Black, Hispanic and Asian Americans encompass hugely heterogeneous populations with distinctive cultural norms and values, which may lead to differential patterns not seen when grouped all together. Also, future research should compare state health insurance programs to determine whether there are some programs providing more comprehensive coverage of mental health services that could be a model for policy reform. Investments in research are critical to reducing disparities that create adverse consequences for children with MEBD across the life course, their families and society.

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Chapter 5

Ethnic and Racial Disparities in Access and Health Insurance Adequacy and a Discussion of Implications for Future Research

The purpose of this study was to examine racial/ethnic differences in access to mental health services for children with mental, emotional, behavioral or developmental disorders and the adequacy of health insurance coverage to meet their needs. The results from this study support previous findings that indicate the persistence of disparities in mental health care access and health insurance coverage. We will first discuss racial/ethnic disparities in children receiving mental health services and difficulties in accessing mental health care, and then discuss the adequacy of health insurance coverage to meet their child's needs. Finally, we will summarize important findings and provide recommendations for future research.

Disparities in Accessing Mental Health Care

After controlling for all covariates, our study found Hispanic children and non-Hispanic Asian children had no to minimal differences in receiving mental health services compared to their non-Hispanic White peers. Our study also found non-Hispanic Black children had an increased odds of not receiving mental health services. However, our results also indicated that Hispanic children, non-Hispanic Asian, and non-Hispanic Native Hawaiian and Pacific Islander who received mental health care had increased odds of having difficulty obtaining mental health services compared to non-Hispanic White children. These findings suggest that even if racial/ethnic minority children have access to appropriate mental health treatments and services, they still experienced difficulties obtaining the mental health care they need.

A convergence of individual, social, provider and system level factors put racial/ethnic minority children at a disadvantage in accessing mental health care services. This includes stigma, health care system distrust, low mental health literacy, poor social support, and health care system fragmentation (Lu, 2017; Lu et al., 2021; Marrast, Himmelstein, & Woolhandler, 2016). For example, typical clinic hours do not accommodate parents working low-wage shift positions who may not have the flexibility to attend weekly mental health appointments held during business hours (Lu et al., 2021; Planey, Smith, Moore, & Walker, 2019). Likewise, mental health clinics often have long wait times for appointments and require multiple intake visits before treatment is rendered. Thus, working low-income parents, who often do not get paid sick leave, lose precious income when they take time off to take their child to scheduled appointments.

In addition, families living in poverty may also have limited resources, time, and energy to utilize available mental health services. For example, families may have less time to attend treatment, limited means of transportation, unreliable childcare options for other family members, and poor social support networks (Houtrow & Okumura, 2011; Slobodin & Masalha, 2020). Rural residents have higher poverty rates and longer distances to travel to receive health services (Cancel-Tirado, Feeney, Washburn, Greder, & Sano, 2018; Fehr, Leraas, & Littles, 2020; Murry, Heflinger, Suiter, & Brody, 201; Planey, Smith, Moore, & Walker, 2019). The effects of these barriers are exacerbated by the daily stressors and demands of living in poverty that can keep families from prioritizing their child's mental health needs (Houtrow & Okumura, 2011).

Furthermore, ethnic/racial minorities populations are vastly underrepresented among clinically trained mental health practitioners in the U.S (Santiago & Miranda, 2014). Less accultured families may also contend with barriers that may interfere with engagement in mental health care including fragmented or distant support networks, income insecurity, and language barriers (Cook et al., 2019; Kim, Lau, & Chorpita, 2016; Lu, 2017). Difficulty obtaining mental health services could also reflect a provider's failure to recognize mental health illness or failure to offer a referral. As a result, racial/ethnic minorities may prefer to seek informal help from friends, family and religious leaders, which can result in delays in seeking formal help from mental health providers (Derr, 2016; Johnson, McNeish, & Vargo, 2020; Liu, Li, Wu, Tung, & Hahm, 2020; Planey, Smith, Moore, & Walker, 2019; Thomas, Temple, Perez, & Rupp, 2011).

Having mental health providers who are minorities, from the family's culture, or immigrants themselves may help to establish trust, but this must be combined with policies and practices at promote respect for cultural differences and partnership between provider and families (Johnson, McNeish, & Vargo, 2020; Planey, Smith, Moore, & Walker, 2019; Slobodin & Masalha, 2020).

Adequacy of Health Insurance for Mental Health Care

Results from our study showed that non-Hispanic Native Hawaiian and Pacific Islander children had increased odds for inadequate insurance coverage compared to non-Hispanic White children. In contrast, non-Hispanic Black children had a decreased odds of inadequate health insurance coverage compared to non-Hispanic White children. Our study also found no difference in having inadequate insurance among Hispanic, non-Hispanic American Indian or Alaskan native, and non-Hispanic Asian children compared to non-Hispanic White children. However, children whose parents were born outside of the U.S. and reside in non-English speaking households had an increased odds of inadequate insurance coverage. These findings suggest that racial/ethnic differences in adequacy of health insurance may be the result of patient satisfaction and ease of accessing mental health care services.

Racial/ethnic minority families, specifically recently immigrated and less accultured families, may experience difficulties with the U.S. healthcare system brought on by limited English proficiency, cultural misunderstandings, distrust of social service systems, and differences in legal rights that are not experienced by those from native-born families (Derr, 2016; Perreira, Allen, & Oberlander, 2021). Confusion regarding eligibility requirements as well as the complexity of some States' enrollment procedures for Medicaid/CHIP create obstacles to a child's health insurance coverage status. For example, parents may encounter language barriers in accessing coverage options and be less familiar with the excessively complicated health insurance arrangements in the U.S (Perreira, Allen, & Oberlander, 2021). Recently immigrated families may also contend with immigration-specific stressors that may interfere with engagement in mental health care including fragmented or distant social support networks, income insecurity, and lack of health insurance (Kim, Lau, & Chorpita, 2016; Lu et al., 2021). Furthermore, many families living in rural areas experience reduced access to primary care, limited availability of specialists, and limited number of providers that accept public insurance (Bogusz, 2020; Cancel-Tirado, Feeney, Washburn, Greder, & Sano, 2018; Fehr, Leraas, & Littles, 2020; Murry, Heflinger, Suiter, & Brody, 201; Planey, Smith, Moore, & Walker, 2019).

Majority of non-Hispanic white and Non-Hispanic Asian children in our study had private only insurance, while non-Hispanic Black and non-Hispanic American Indian and Alaskan Native children had public insurance. In contrast to physical health ailments, which private insurance benefits are often more generous than public insurance, the coverage of mental health services for children with public insurance is broader compared to services covers by private insurers (DeRigne, 2010; Harris et al., 2020; Marrast, Himmelstein, & Woolhandler, 2016; Williams, Gilroy, Chang, & Seymour, 2017). Publicly funded coverage of mental or behavioral health care is often subjected to fewer limitations and restrictions compared to privately funded mental or behavioral health care (DeRigne, 2010; So, McCord, & Kaminski, 2019). Thus, alleviating some financial barriers that racial/ethnic minorities encounter when attempting to access mental health care services.

Implications for Future Research

Despite the serious public health implications that MEBD poses for children, racial/ethnic disparities in access are under-investigated. Research used to generate professional treatment guidelines for most mental health interventions do not include or report large enough samples of racial/ethnic minority populations to allow for group specific determinations for efficacy (Breslau et al., 2017; Cook, Barry, & Busch, 2013; Derr, 2016; Santiago & Miranda, 2014). There is a tendency in public health research to use broad census categories for race, potentially obscuring ethnic differences and variability within racial groups. Race and ethnicity are common variables around which researchers design studies to identify barriers and test interventions. However, even within racial/ethnic groups, subpopulations exist that may differ in mental health attitudes, beliefs and behaviors. For example, Black, Hispanic and Asians encompass heterogeneous populations with distinctive cultural norms and values, which can lead to differential patterns not seen when grouped all together. Similarly, previous studies have compared children whose parents are non-native born with their native-born parent counterparts (Derr, 2016; Zhang, Bo, & Lu, 2021). As a result, important differences within racial/ethnic populations can be missed when researchers broadly apply conclusions to an entire group.

In studies where racial/ethnic minority groups are incorporated into the study population, Black and Hispanic populations are largely included while other minority groups, like Asian and Indigenous populations, are largely excluded within the quality and effectiveness literature (Cook et al., 2019; Santiago & Miranda, 2014). Likewise, few studies examine differences among and between subethnic groups, such as Arab Americans or Chinese Americans despite significant media attention regarding discrimination, hate crimes, and other societal factors that are likely to increase psychological distress among individuals in this group. Racial/ethnic minority populations have often been treated as a homogeneous group limiting our ability to understand differences between subgroups. However, applying a more specific focus when making interpretations may compromise our ability to generalize results from studies, and can make drawing meaningful conclusions for an application more difficult. Nevertheless, improving racial/ethnic minority representation in research remains an important strategy for understanding treatment effectiveness and increasing knowledge of evidence-based care within racial/ethnic minority populations. Future research in this area should focus on delineating within-group differences among racial/ethnic minority populations.

Furthermore, previous research has shown that having health insurance significantly increases a child's likelihood of utilizing mental health services (Alegria, Vallas, & Pumariega, 2010; Lu et al., 2021; So, McCord, & Kaminski, 2019). Yet, other studies have shown that network adequacy for mental health care services are a real issue (Williams, Gilroy, Chang, & Seymour, 2017). Although key provisions of The Patient Protection and Affordable Care Act (ACA) hold promise for addressing long-standing access problems and system fragmentation that affect the wellbeing of children with MEBD and their families, access to healthcare that is inclusive of mental healthcare has not improved (Agency for Healthcare Research and Quality, 2019; Williams, Gilroy, Chang, & Seymour, 2017). For example, the ACA requires insurers to maintain "a network that is sufficient in numbers and types of providers, including providers that specialize in mental health and substance abuse services, to assure that all services will be accessible without unreasonable delay". This federal requirement, however, do not specify what constitutes a "sufficient" number of providers or "unreasonable delay," giving each state the power to define and enforce these requirements arbitrarily. Future research should compare state health insurance programs to determine whether there are some programs providing more comprehensive coverage to mental health services that could be a model for policy reform.

Conclusion

Mental, emotional, developmental or behavioral disorders represent serious public health concerns among children and adolescents in the United States. The mental health care system is challenged by both the need to be responsive to the cultural diversity within the general population and the desire to combat the persistence of racial/ethnic disparities. Effectively addressing mental health disparities in access and adequacy of health insurance requires consideration of the unique experiences of racial/ethnic minority families. The elevated need for mental health services also exacerbates the already problematic gaps in culturally and linguistically appropriate care. Increasing the number of mental health workers, recruiting providers to work in low-resource communities, and training them to be culturally competent will remain a challenge for the foreseeable future. Similarly, efforts to increase accessibility to mental health care services have been thwarted by a lack of technology, limited financial mechanisms to support different methods to deliver care, and underenforcements of mental health parity laws. Public health and health care policy initiatives to improve access to mental health care services for racial/ethnic minority children should recognize these disparities will likely persist until we address the lack of culturally appropriate mental health care services and insurance coverage for evidence-based mental health care services.

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