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RESEARCH ARTICLE

Mental Health 911: Advocating for the Integration of Behavioral Health Services in Pediatric Hospital Emergency Departments

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ABSTRACT
The COVID-19 pandemic of 2020 has led to increased awareness of mental health needs among pediatric populations. As the number of pediatric mental health emergency department visits have increased, so has the need for integrated behavioral health services in hospitals. This paper describes a standard of mental health care and the benefits of providing mental health services in pediatric hospital settings. The Trauma Mental Health Counseling Program, Hurt-2-Healing (H2H™) was developed and implemented in a Level-1 pediatric hospital and has served a total of 1,523 pediatric trauma patients and their caregivers since 2021. This program established a new hospital-based standard of mental healthcare for pediatric trauma patients and their caregivers. A questionnaire was developed to evaluate the efficacy of the Hurt-2-Healing program within domains such as openness to seeking counseling, psychoeducation, helpfulness of counseling, and ability to cope with the traumatic injury. The majority of (83%) patients/caregivers had no previous counseling experience prior to hospital admittance. Questionnaire responses indicated that after receiving mental health services, caregivers felt more aware of their children's mental health needs and reported being more open to seeking future mental health counseling services for their child. Further, most respondents were in strong agreement that receiving mental health counseling services during the hospital stay was helpful. These results highlight the need for, and benefit of, providing a standard of care integrating behavioral health services in pediatric hospitals.

Keywords: integrated behavioral health, mental health standard of care

Rise of Pediatric Mental Health Needs during the COVID-19 Pandemic

The COVID-19 pandemic had a profound impact on pediatric mental health across the world due to social isolation, school closures, financial issues, and concern for friends and loved ones. Children and adolescents have been faced with unprecedented stress levels and a tremendous amount of uncertainty in the years following the rise of the pandemic. Pediatric mental health struggles have been at the forefront of the conversation since the COVID-19 pandemic due to an increase in need and a lack of accessible resources for mental health care. Over the course of this article the investigators will discuss the implications of the COVID-19 pandemic on pediatric mental health, the importance of bridging the gap in accessible pediatric mental health care in emergency departments, and the evidence for a proposed new standard of care,Hurt-2-Healing (H2H™), that provides mental health services to pediatric patients and their caregivers at the hospital bedside.

Holland et al.[1] found a relationship between the COVID-19 pandemic and increased emergency department visits and violent consequences related to social, community-based, and personal distress. Hospitals, emergency departments, and other healthcare facilities have seen a substantial rise in mental health concerns such as eating disorders, depression, anxiety, obsessive-compulsive disorders, and trauma-related conditions[2].

Adolescent mental health emergency department visits and revisits are on the rise[3] with more adolescent visits to the emergency rooms for self-harm or suicide-related concerns rather than anxiety and depression than pre-pandemic[4]. A cohort study conducted by Cushing et al.[3] saw over 200,000 pediatric patients from thirty-eight different US hospitals. The researchers found that pediatric mental health visits increased by 8% every year, with 13% of the patients returning within six months. Holland et al.[1] found that emergency department use for mental health treatment-seeking evolved during the coronavirus pandemic, emphasizing the need for assessment and management of mental health, substance misuse, and violence risk during public health crises.

Emergency Departments as Primary Healthcare Facilities

Emergency Department providers (ED) have continued to experience an uptick in patients inappropriately utilizing ED services for primary care type needs[5], with up to one-third of all ED visits considered non-emergent or inappropriate[6]. Non-urgent ED visits create a strain on ED resources, increases the staff workload, divert attention from patients' severe needs, impact the quality of care and patient satisfaction, and can lead to inadequate treatment and avoidable complications [6-8].

Patients expressed several reasons why they would seek treatment in the ED rather than primary care such as perceived better quality of care and after-hours availability needs[9-10]. Pereira et al. conducted a 2020 study[11] which found that when mental health services are implemented in urgent, specialty care settings and mental health providers are available to consult, they found a diversion of up to 91% of mental health crises away from the ED and significant cost-savings are possible.

According to Rodriquez[12], accessing emergency mental health and trauma-related services is one of the significant gaps in behavioral health care across the United States. Many Americans must resort to emergency rooms for health care because of financial or insurance circumstances. Another study conducted by Chen et al.[13] found that low-income and lower-middle-class parents, as well as parents of color, experienced more influential and financial hardships due to the pandemic when compared to their upper-class white peers. The current study provides substantial evidence in support of lessening the gap by providing wrap around care therefore reducing inappropriate use of the emergency department.

Lack of Integrated Behavioral Health Services in Emergency Departments

Though mental and physical healthcare have traditionally been considered independent entities[14], a growing body of research demonstrates the need for connecting the two[15]. Mental health struggles are correlated with physical diseases such as coronary heart disease, diabetes, and autoimmune disorders[15]. Shim & Rust[14] report that patients are more likely to seek behavioral health care within primary care settings rather than seeking treatment through mental health professionals (e.g., psychiatrists, counselors, psychologists). Integrated Behavioral Healthcare (IBH) refers to a systematic delivery approach that aims to provide mental and behavioral healthcare within primary healthcare settings[16]. However, integrated behavioral health models in hospitals are rare. Berwick et al.[17] identify three major benefits to providing IBH within primary healthcare settings: (1) IBH increases patient quality of care and patient satisfaction, (2) IBH improves patient health, and (3) IBH reduces the cost of healthcare.

Researchers suggest an increased need for IBH within hospital ED settings [18-20]. Zealberg et al.[21] outline the need for IBH services within the ED due to patients presenting to the ED for mental health issues which exacerbate physical health problems. Regier et al.[22] presented issues within hospital settings that do not provide IBH services, reporting that these hospitals miss or unintentionally overlook patients suffering from a significant mental health disorder. North and & Pfefferbaum[23] identify the need for IBH services to be available within the ED, especially after the patient has experienced a traumatic event, as one's mental health is significantly impacted after exposure to trauma, and early intervention can reduce the likelihood of developing long-term effects of trauma[24-25] (e.g., development of PTSD).

For children who come to the ED and are discharged with a mental health condition, Hoffman et al.[26] found that among 28,551 children ages 6 to 17 years old from January 2018 to June 2019, only 31.2% had a follow up appointment within 7 days, and 55.8% had follow-up within 30 days of discharge. Non-Hispanic Black children were less likely to have a follow up appointment within 7 or 30 days than Non-Hispanic White children, and children with insurance were more likely to secure a follow-up appointment than those who had fee-for-service or Medicaid insurance[26]. Children who had an outpatient follow-up visit scheduled within 30 days were 26% less likely to show back up for an acute care visit within 5 days of the ED discharge[26].

The rise of pediatric mental health needs have been driven by the coronavirus pandemic and have overwhelmed emergency departments that are increasingly serving as primary healthcare facilities, particularly among underserved populations. The lack of integrated behavioral health services in emergency departments are critical to address these growing needs. According to McBain [27], experts are concerned that emergency departments are not prepared to accommodate the continuing care that young individuals with long-term behavioral disorders require due to lack of child and adolescent psychiatrists. Cushing et al.[3] mentioned that patients who utilize emergency rooms frequently are of particular concern for future repeated ED visits concerning pediatric mental health needs. Mental health revisits were also linked with markers of disease severity and access to health care[3]. This article indicates the severe lack of integrated behavioral health services and how this issue is interconnected with the rise and trends of pediatric mental health needs.

Method

In an effort to address the lack of integrated mental health services in pediatric trauma hospitals, investigators from the BRAIN Center Memphis were awarded a grant to establish a standard of mental healthcare through the creation of a Trauma Mental Health Counseling Program (Hurt-2-Healing: H2H™) at the region's largest Level-1 pediatric trauma hospital. Through the cooperative effort between the pediatric hospital and the BRAIN Center Memphis, this partnership was created to address the prevalence of pediatric trauma patients experiencing symptoms of acute stress, and thereafter providing integrated mental health counseling services alongside medical care in the hospital setting. As part of a new hospital standard of care, mental health counseling services were offered to all patients who were treated in the Trauma Services Division of the hospital at the time a patient was treated for physical injury. Patients were treated for various injury types such as motor vehicle accidents, firearm related incidents, non-accidental trauma, falls, sports injuries, and burns. All patients receiving medical services in the Trauma Services Division during business hours from 8-5pm, Monday-Friday were approached by trauma mental health staff.

As part of the preliminary work in establishing integrated behavioral health services within the pediatric Trauma Services Department, the BRAIN Center Memphis team conducted a needs assessment to discern how many patients were experiencing mental health symptoms consistent with Acute Stress Disorder. The investigators found that 64.8% of the 617 patients treated in the first 6 months of the program were suffering from symptoms of Acute Stress Disorder[28]. The study was the largest study of pediatric trauma patients and mental health distress highlighting the link between physical injury and mental health distress[28].

Cohort-based Learning Model

The H2H™ program is modeled after a medical resident training program wherein advanced graduate level students (Masters and Doctoral) in Clinical Mental Health Counseling are trained to provide evidence-based and resilience-focused mental health services under licensed supervision. The cohort-based learning model ensures that 8-15 counseling interns have ongoing, intensive exposure to: 1) screen for acute stress symptoms and trauma related symptomology; 2) provide evidenced-based counseling interventions for children, adolescents, and families in a pediatric hospital setting; and 3) participate in integrated,

multidisciplinary team meetings to coordinate patient care.

The training process required all trauma mental health interns to complete over 30 hours of intensive training and receive certifications in Mindfulness-based Stress Reduction, Interpersonal and Social Rhythm Therapy, Trauma-informed Care training, in addition to assessment administration and data collection procedures. Individual and group supervision was provided by licensed university staff and university faculty. Additionally, supervisors oriented students to the internship site and behavioral health model, facilitated case consultation and supervisory meetings, and provided feedback about students' progress though live supervision evaluations.

Counseling Services

Initial patient mental health consultation visits were implemented as part of a new integrated behavioral health standard of care within the Trauma Services Division. Consultations occurred at bedside upon inpatient hospital admission into the Trauma Services Division, or at the outpatient clinic location where patients who were not admitted to the hospital receive follow-up care after discharge for injuries treated in the Emergency Department. The initial consultation visits include a structured clinical interview which is comprised of a collection of demographic questionnaires and the Childhood Stress Disorders Checklist- Short Form (CDCS-SF)[29]. All patients, regardless of score, were engaged in emotional support, psychoeducation, and were given information for free outpatient counseling services. Patients who scored higher than a "1" indicated acute stress and potential for the further development of PTSD. These patients and their caregivers were educated on potential risk factors for PTSD, coping mechanisms for stress, anxiety, and given a strong recommendation to continue outpatient services to mitigate risk.

Following the counseling consultation, patients and/or caregivers that expressed interest in services received unlimited, free mental health counseling sessions that were individually tailored based on the individual presenting symptoms of the patient and caregivers in the inpatient setting. Counseling sessions focused on reducing negative physiological responses , improving emotional awareness and global symptom reduction. Interventions were grounded in the Hurt-2-Healing model incorporating elements of Mindfulness Based Stress Reduction, Interpersonal and Social Rhythm Therapy, Acceptance and Commitment Therapy, Solution-focused brief therapy, grief and loss therapy, play and expressive arts therapy.

Results

Counseling Services Results

Since February 2021, a total of 1,523 pediatric trauma patients and their caregivers received mental health counseling services during or after hospital admittance. Most services were delivered in-person, hospital-based (70%), while 30% received outpatient or telehealth services. The average age of patients and caregivers receiving services was 9.31 (Range 2-42). Regarding biological sex, 60% of patients were male and 40% were female. Over half of those receiving services were Black/African American (54.9%), followed by White (36%), and Hispanic/Latinx (6%). Most patients and caregivers (83%) reported never receiving counseling services before. However, of those who previously received counseling services, the most common settings include outpatient agency/clinic (37.7%), school (37.7%), private practice (21.4%), inpatient agency/clinic (9.1%), and hospital/primary care physician office (7.8%). The most common types of injury experienced by patients were burns (29%), motor vehicle collisions (20%), falls (12%), and firearm injuries (9%).

Caregiver Survey Results

In late 2022, the investigators developed a series of evaluation questions as part of a program evaluation on the efficacy of the Hurt-2-Healing program and to gather information related to patients and caregiver experience with the mental health counseling services offered both to them and their child. Caregivers were asked to provide feedback on the mental health counseling services received during and after their child's hospital stay. A total of 216 caregivers were contacted either in person prior to a patients discharge or over the phone. In total, we obtained 105 responses, and the response rate was 48.6%. Our survey consisted of five retrospective questions, with participants rating each question on a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

After meeting with the trauma mental health counselors, 68 participants (64.8%) strongly agreed with the statement "I am more aware of the link between physical injuries and emotions," and 66 participants (63.5%) strongly agreed with the statement "I am more aware of acute stress signs and symptoms." There were 80 participants (76.9%) who expressed strong agreement with the statement "I am open to seeking mental health counseling for my child in the future if needed," and

similarly, 63 participants (61.2%) expressed strong agreement with the statement "The mental health counseling we received at the hospital helps me to better cope with the stress caused by my child's injury." Overall, 80 participants (76.9%) strongly agreed with the statement "It was helpful to have access to mental health counseling services while at the hospital." Based on the participant responses, most participants endorsed satisfaction with the trauma mental health service received during their hospital stay as well as increased openness to counseling, increased education on mental health education, and helpfulness of the services.

Discussion

The aftermath of the global COVID-19 pandemic has exacerbated mental health conditions worldwide. In the U.S. alone, data from the Centers for Disease Control and Prevention[31] found an increase of adults experiencing recent symptoms of anxiety and depression from 36.4% to 41.5%. A central component of this problem lies in the lack of access to mental health services. Increasingly across the United States, Emergency Departments have served as primary care facilities for mental healthcare needs, particularly in underserved, low-income and minority families where access to mental healthcare resources is limited.

Traumatic events requiring emergency care such as accidents and medical emergencies experienced during youth, whether intentional or accidental, have significant developmental implications on a child's social, emotional, physical, and economic wellbeing for children and their families. The aftermath of such events, particularly for underserved, low-income, minority families, can be dire given limited resources and ongoing risks these children face due to poverty, exposure to community violence, food and housing insecurity among other poor social determinants of health. Lack of access to critical mental health support in Emergency Departments during a time of crisis can lead to a cascade of poor outcomes, including Acute and Posttraumatic Stress Disorder, other mental health conditions such as anxiety and depression, poor school outcomes, and addiction. Implementing mental health services across pediatric emergency departments will serve as a vital way to reach these underserved populations who may not have access to mental health care otherwise.

Preliminary data[28] for this project provides evidence for the need of immediate mental health services as 64.8% of our participants exhibited signs of acute stress disorder within 24-48 hours of their injuries. This program evaluation of Hurt-2-Healing has shown that incorporating mental health services at the patient bedside is not only possible but demonstrates the benefits of doing so. Implementing mental health services within hospital settings allows for the vital connection of mental health workers and underserved populations that may not have access to these services otherwise. This is evidenced by our findings in that a majority of our patients and caregivers (83%) reported not ever accessing mental health services previous to their hospital stay. After engaging with our mental health services our participants (76.9%) expressed openness to seeking mental health services for their child, exhibiting the importance of connection. 64.8% of participants expressed an increased knowledge of the relationship between physical injuries and mental health distress as well as 63.5% reported an increased knowledge of Acute Stress Disorder signs and symptoms, demonstrating the need for psychoeducation following a traumatic injury. Lastly, an overwhelming 76.9% strongly agreed that having access to the mental health team while in the hospital was helpful with 61.2% of participants expressing improved coping post traumatic event. This evidence shows that the majority of pediatric patients and caregivers feel that this program was a beneficial piece of their hospital care. The evidence provided demonstrates that for the majority of the participants, the Hurt-2-Healing program provided a critical access point for many underserved populations, increased participants' openness to counseling, increased participants' knowledge of mental health, and is beneficial for the participants' well-being. Given these facts, it is critical that pediatric emergency departments adopt models such as Hurt-2-Healing for integrated mental health screening and counseling services to provide critical mental health intervention at the time of a patients' greatest need.

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