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Improving Care for Psychiatric Patients in Rural Emergency Departments

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College of Management and Human Potential

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Tonya Jones

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and that any and all revisions required by
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Walden University
2025

Improving Care for Psychiatric Patients in Rural Emergency Departments

by

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Integrative Review Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Healthcare Administration

Walden University

February 2025

Abstract

Due to an increase in the presentation of adults with mental health crises and substance use disorders in rural emergency departments (EDs), solutions should focus on the enhancement of patient outcomes, improving the quality of care, health conditions, and overall patient experience. The purpose of this integrative review was to synthesize international evidence associated with initiatives to improve ED care identified through the concepts of the Donabedian framework model that can support ED managers in implementing evidence-based interventions to improve behavioral healthcare in rural EDs. An integrative review of literature published between 2019 and 2024 was conducted. The findings of the thematic analysis identified three key themes that address the improvement of care: (a) organizational processes, (b) procedural improvements, and (c) improving outcomes. These three key themes can be impactful in detecting the root cause of bottlenecking, stagnation, and inefficiency of patient flow and throughput. They can also decrease wait times and ED boarding, improving timeliness in the delivery of care and enhancing patient satisfaction and regulatory compliance while reducing ED overusage and readmission rates through the usage of measurable performance indicators while simultaneously managing and reducing costs. Drawing from the concepts of Donabedian's model, ED managers can equip staff with specialized behavioral health training and resources needed to manage behavioral health crises, standardize interventions to improve the quality of care and enhance behavioral healthcare outcomes. Improving behavioral healthcare in the ED can promote healthcare equity, reduce stigma, and improve health outcomes for this patient population.

Part 1: Practice-Based Problem

Problem of Interest

Before COVID-19, many U.S. hospital emergency departments (EDs) experienced overcrowding and boarding challenges (Radfar et al., 2021). For some hospitals, ED overcrowding impacted workflow to the point that patients are triaged and placed back in the waiting area until ED beds are available. Those patients already occupying ED beds who were to be admitted or transferred are sometimes placed, or boarded, in hallways (Janke et al., 2022) or other holding areas until they are admitted or transferred (Thrasher et al., 2019). When overcrowding leads to boarding, it not only impacts workflows but also affects the quality of care patients receive (The Joint Commission [TJC], 2023); it increases the risk for adverse outcomes, potentially resulting in sentinel events (Beckerleg & Hudgins, 2022), especially for patients in cardiac, respiratory, and psychiatric emergencies and crises (Mohr et al., 2021). Individuals with extreme psychiatric and substance use disorders (SUDs) encounter various obstacles in accessing the care they need and frequently utilize the EDs as a means to receive care. Various studies suggest that people with behavioral health and SUD needs are almost three times more likely than the average person to be hospitalized and twice as likely to present in an ED setting (Nordstrom et al., 2019; Beckerleg & Hudgins, 2022). Post-COVID, there has been an influx of psychiatric and SUD patients frequenting the ED, resulting in an increase in ED boarding, increasing wait times, and delayed delivery of care.

Healthcare Administration Problem

Background

Due to a fragmented infrastructure in the U.S. behavioral health system, there has been an influx of patients with psychiatric and substance use disorder conditions presenting to EDs. These individuals frequently access the ED for emergent and nonemergent conditions (Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services, 2021). With this population of patients making frequent ED visits (Schall et al., 2020; Vandyk et al., 2019; Zhang et al., 2021), they are not considered a high priority as those who present with physical illnesses (Fleury et al., 2019; Navas et al., 2022). ED staff face various challenges in providing care for patients with psychiatric and SUD issues due to the complexity of their needs, the ED setting, limited resources, and the negative attitudes (Mongelli et al., 2020) and stigma (Blas et al., 2023; Pawaskar et al., 2022) that staff may have toward these types of patients (Isbell et al., 2023).

Often, psychiatric and SUD patient visits increase their length of stay (Gabet et al., 2020), delaying mental health treatment (Kraft et al., 2021) and ultimately resulting in ED boarding (Lane et al., 2021). ED boarding for psychiatric patients can lead to exacerbation of psychological distress for those patients in psychiatric crisis (TJC, 2023). ED boarding can also weigh heavily on ED staff, intensifying tension and increasing unconscious bias and stereotyping (Drake & Bond, 2021). Increasing wait times is detrimental to all ED patients (Nyce et al., 2021; TJC, 2023), delaying emergency care for those with severe medical conditions (Shen & Lee, 2020; TJC, 2023). Wait times can

be so lengthy that some patients leave against medical advice or before being seen (Roby et al., 2021; Smalley et al., 2021). According to a report from *JAMA Psychiatry* (2022), post-COVID-19 pandemic, there has been an increase in the number of people with mental health- and SUD-related concerns presenting to EDs (Anderson et al., 2022). Decreasing the length of stay for psychiatric patients in the ED can enhance the quality of care they receive by providing immediate access to treatment, potentially deescalating their disease process while increasing the chances of providing additional treatment (TJC, 2022).

Operational Problem

Prolonged ED boarding increases the delay in care, putting psychiatric and SUD patients at risk for exacerbation of symptoms such as anxiety, hallucinations, paranoia, homicidal, and suicidal ideations, including putting the patient, staff, and others within the ED in potential danger (Nordstrom et al., 2019; TJC, 2021). Isbell (2023) stated, "that there are challenges in caring for psychiatric and SUD patients in the ED, particularly amid a strained and fatigued healthcare system." The needs of this patient population are usually time- and energy-consuming and often conflict with the unpredictable situations of the ED environment, frequent and constant interruptions, noisiness, fast-paced activities, limited resources, and staff exhibiting stigmatic and negative attitudes toward these patients affecting the delivery and quality of care provided which may in turn result in adverse outcomes (Nordstrom et al., 2019). For every psychiatric or SUD patient boarding or awaiting transfer, this is another patient whose needs may be overlooked, potentially increasing morbidity and mortality (Thrasher et al., 2019).

Ideal State of Operations

While the COVID-19 pandemic dissipates and the world normalizes, U.S. hospital EDs continue to endure increased ED visits (Janke et al., 2022). The Centers for Disease Control and Prevention (CDC) *Morbidity and Mortality Report* shows that mental health and substance use-related ED visits increased by 50% to 60%, pre- to post-COVID (Anderson et al., 2023; Bommersbach et al., 2023). With ED visits increasing, crowding, wait times, and boarding will increase (TJC, 2022). Improving the ED processes is ideal for decreasing these challenges while improving the quality of care for psychiatric and SUD patients. Improving the ED processes will also allow EDs to comply with national and state benchmarks. Tennessee's average wait time for ED boarding of psychiatric patients is 25 hours, 1,500 minutes (Tennessee Department of Mental Health & Substance Abuse Services, 2023), with the national average being 257 minutes and the state average of 202 minutes (Centers for Medicare and Medicaid Services [CMS], 2023). The goal is to identify best practices to decrease the 1,500 minutes wait time to the national and state average of 202 minutes.

Professional Practice Gap Statement

TJC and CMS recognize ED boarding of psychiatric patients as a continuing problem, and ED measures OP-18c were implemented. OP-18c are ED mandatory reportable measures with benchmarks that look at the median time from ED arrival to ED departure for psychiatric/mental health patients (TJC, 2022). The purpose of this integrative review is to identify best practices to decrease rates from 1,500 minutes to the national average of 257 minutes for rural, critical access, and low-volume hospitals.

Summary of Evidence

U.S. hospital EDs have had challenges with ED crowding and boarding of psychiatric patients for decades. The majority of U.S. hospital EDs need to prepare to take on the diverse challenges associated with caring for psychiatric and SUD patients for an extended length of time. TJC and CMS have recognized ED boarding of psychiatric patients as a safety risk and created national and state benchmarks for the boarding of psychiatric patients. Although ED boarding adversely impacts patient outcomes, patient safety, satisfaction, and quality of care, these challenges have yet to be remedied or resolved. Improving ED boarding will not only improve patient flow and staff workflow, but it can also remove barriers that are impactful to the delivery of care to psychiatric and SUD patients. With hospital leadership buy-in and various attempts made by rural EDs, they are not meeting the national or state benchmarks for ED boarding.

Purpose of the Integrative Review

The purpose of this integrative review is to provide leadership with strategic initiatives to drive improvement in behavioral health quality, change the ED culture, and the delivery to patients with mental health and substance use disorders who present in rural EDs through current literature reviews.

Integrative Review Question

What evidence-based practices can be incorporated into the quality improvement process for rural/critical access hospitals' EDs to improve care for psychiatric and SUD patients?

Conceptual Framework

The selected framework for this study, the Donabedian framework, is a three-component model used to initiate a systematic framework for improving the quality of healthcare services (Moayed et al., 2022; Panteli et al., 2019). The three components of the model are structure, processes, and outcomes. The framework implies that outcomes are influenced by care delivery structures and processes, which directly impact outcomes (Moayed et al., 2022; Panteli et al., 2019). Donabedian's framework is commonly used and helps hospital leadership conceptualize the root cause contributing to inadequate quality of care and delivery of healthcare services (Schall et al., 2020).

Part 2: Literature Review, Quality Appraisal, and Analysis

Literature Search Strategy

An integrative review was conducted of peer-reviewed English language articles published from 2019–2024 using databases Medline OVID, PsycINFO, Cumulative Index Nursing and Allied Health Literature (CINAHL), and Cochrane. Articles from the *Journal of Healthcare Management, Frontiers of Health Services Management,* and Psychiatry Online were also used in addition to hand-searching references from Psychiatry Online and Google Scholar, yielding positive results. Key search words used were *mental illness** OR *mental disorder** OR *emergency department** OR *emergency room* OR *quality performance** OR *improved care** OR *patient outcomes** OR *length of stay* OR *delayed treatment* OR *mortality*. These keywords were put into the search fields as titles using Boolean operators.

Inclusion and exclusion criteria are outlined in Table 1. The inclusion criteria were broadened to ensure thoroughness and relevancy of the literature. The criteria included peer-reviewed articles published within the last 5 years (2019–2024) that identified the patient population = mentally ill presentation to the ED, interventions = ED performance measures, outcomes = ED wait times and length of stay.

Table 1

Inclusion and Exclusion Search Criteria

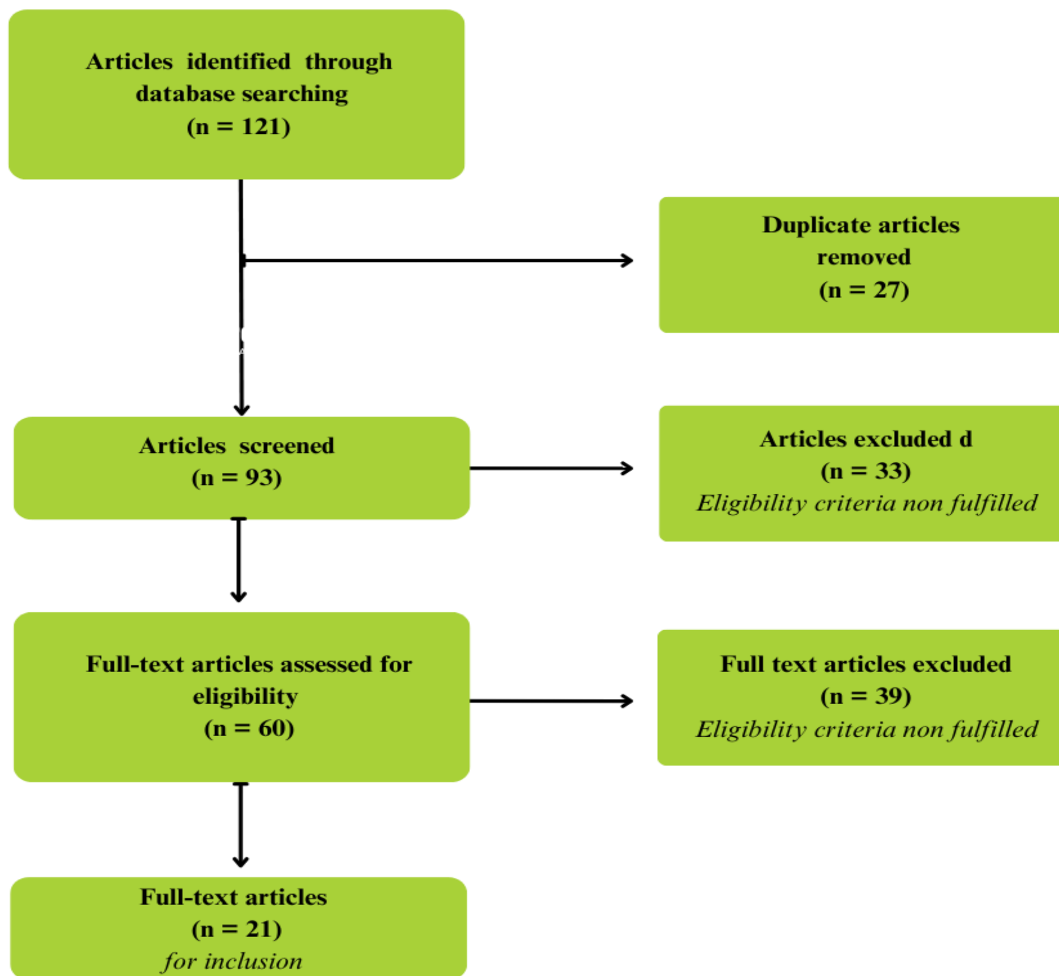
Inclusion search criteria	Exclusion search criteria
Peer-reviewed	Long-term care facilities
English 1anguage	Pediatric patients
2019–2024	Non-English language
Mental health presentation	Emergency ward
Emergency department	Primary care facility
Length of stay	Community mental health center
Emergency department workflow	Pre-hospital care
Patient outcomes	Dementia
performance	Alzheimer's
Staff experience	
Quality improvement	
Mental illness	
Psychiatric crisis	
Structure	
Process	
Outcomes	
Patient safety	

A total of 121 eligible articles were identified for this review. Twenty-seven duplicative articles were removed. Afterward, 93 articles were screened via titles and abstracts using the inclusion and exclusion criteria. Then, 33 articles were excluded, with 13 articles exceeding the 5-year timeframe and the remaining 20 failing to meet the inclusion criteria (as shown in Table 1), leaving 60 articles for further analysis. Full-text reviews resulted in a further 39 articles being excluded due to a lack of focus on mental health presentation to general hospital EDs, irrelevant interventions not aligned with the desired quality improvement initiatives and outcomes, non-peer-reviewed articles, and invalid study designs. This resulted in 21 articles for final selection. Figure 1 shows the Prisma flow diagram for the study selection. For more information on the search results,

see Appendix B. Institutional Review Board (IRB) approval was not needed for this integrative review.

Figure 1

Prisma Flow Diagram for Study Selection



Quality Appraisal

A total of 21 articles were included for analysis, and the John Hopkins nursing evidence-based practice model (JHNEBP) was used in the appraisal process of these articles. The articles obtained evidence levels of 4 and 5 with quality ratings of high and

good (John et al., 2022). The JHNEBP tool rated 10 articles with an evidence level of 5 and a quality rating of high. Six articles were evidence Level 5 and quality rating of good. Three articles were evidence Level 4 and a quality rating of high. One article had evidence Level 4 and a quality rating of good. The articles yielded harmonious results, logical conclusions, concise recommendations, and potential resolutions. For more details on the quality appraisal results see Appendix C.

Thematic Analysis

The majority of the articles were cross-sectional, mixed-methods, descriptive, non-experimental, cohorts, or expert consensus-based studies whose participants were volunteers, and the studies used semistructured interviews, surveys, questionnaires, or practice guidelines. Because the studies consisted of secondary data sources such as cohort studies, surveys, and administrative and clinical data, there was a risk of bias (Baldwin et al., 2022). Although most codes in this analysis fell under a particular theme, some codes were coded in two themes: safety culture and quality of care. Safety culture typically falls under the structure theme; however, Im et al. (2022) and Moayed et al. (2022) found it to be an outcome due to its positive impacts on patient and staff safety.

Eight authors found the quality of care to be both a process and an outcome: a process because of the action it takes in delivering care and an outcome because of the results of healthcare on the health status of behavioral health patients and the behavioral health population (Fleet et al., 2020; Fleury et al., 2019; Im et al., 2022; Moayed et al., 2022; Morales et al., 2020; Perrone McIntosh, 2021; Roennfeldt et al., 2021; Simko et al., 2022; Thrasher et al., 2019). To lessen the risk of bias, authors used surveillance data

systems and clinical data registries for data collection, measure selection, and utilization of the correct research framework and simple random sampling and guidelines and measured developed via CMS, TJC, and National Committee for Quality Assurance (Thibault et al., 2023). Additional limitations and occurrences were cross-sectional data, longitudinal studies, and other competing factors that demonstrated limits on the evidence to determine causality ($n = 4$); single center study concerns with generalizability of results ($n = 5$); cultural differences ($n = 5$); and lack of control variables susceptible to implicit bias ($n = 4$).

Part 3: Presentation of Results

The thematic analysis conducted on the 21 included articles yielded 118 codes arranged into themes and subthemes and placed into a classification derived from Donabedian's framework model. For the thematic analysis results see Appendix D. The following are examples of codes from articles included in the thematic analysis matrix:

- Organizational or administrative processes: Access to care, bottlenecking, general hospital ED, emergency room boarding, equipment, facility readiness, human resources, input, overcrowding, staffing, skills and training.
- Procedural improvements: Communication, delay of treatment, decision making, diagnosis, delivery of care, interventions, patient-family education, safety, triage, throughput, workflow, and wait times, treatment protocols, discharge planning and
- Improving outcomes: Disparity, equity, social determinants of health, cost of care, length of stay, patient and family satisfaction, staff retention, readmissions, overutilization of the ED, increase cost of care, safety, quality of care, staff satisfaction and retention, facility's reputation, and patient state of health.

Once all the codes were pulled from the 21 articles that met the John Hopkins criteria, Donabedian's framework model was used to arrange the codes into subthemes corresponding to the model's three overarching themes for structure, process, and outcomes. The three-themed model was used to further refine and categorize thematic results identified during the integrative review of the literature. Subthemes are listed below the main themes.

Organizational Structure

Facility–Organizational Structure (Physical Structure)

Redesigning the layout of the ED for patients in behavioral health crises can calm and decrease patients' anxiety and other psychiatric symptoms, increasing patient and staff safety. At the same time, (organizational structure) the ED managers and supervisors must provide the ED staff with training and resources (continuously) to ensure that the staff understands and can provide the needed care for patients in psychiatric crisis.

Medical Resources

With thorough screening and credentialing, the hiring and onboarding of adequately skilled and trained staff enhances workplace culture and compliance with policies and regulations.

Clinical Resources

With adequate and operational medical equipment, supplies, and technology, assessing underlying conditions can enhance performance time and improve care management for patients in the ED. The interoperability of electronic health records and telehealth can reduce patient wait times in the ED.

Payment System

Payment systems are influential in the quality of care provided and the allocation and distribution of monetary incentives.

Procedural Practices

This theme includes specific steps or techniques used in the delivery of care.

Sequence of Operation (Workflow)

Just as there are workflows for medical emergencies, designing, implementing, and executing workflows for behavioral health emergencies can improve patient flow and decrease overcrowding, wait times, and length of stay.

Management of Care (Treatment)

Standardizing guidelines for assessment and evidence-based interventions can lead to better management and treatment for patients in behavioral health crisis.

Throughput

Adequately training ED staff in trauma-informed care, deescalation techniques, and utilization of telehealth can improve patient interactions, decrease wait times, and improve patient outcomes.

End Results

This theme addresses the effects of interventions that impact the health status of patients and populations.

Clinical Results

The adoption of evidence-based practices can lead to a decrease in incidence and mortality, such as ED visits, avoidable readmissions, decreasing suicide rates, and an increase in medication and therapy compliance.

Health Conditions

Improving a patient's health includes physical and mental well-being, autonomy and functional status, and overall quality of life.

Tactical Outcomes

ED managers and supervisors use outcome data and metrics, such as length of stay and ED wait times, to identify areas for improvement, allocation of resources, and desired patient outcomes.

Based on the review of literature, outcomes are influenced by the care delivery structures and processes, and both structure and processes impact the outcomes for mentally ill patients in the ED.

Interpretation of the Findings

Healthcare organizations such as hospitals can use Donabedian's model to enhance healthcare quality in the ED by assessing structure, monitoring processes, and measuring outcomes. The first component of the model assesses the structure, referring to the physical and organizational factors that affect care delivery. These structural factors are highly impactful in improving the quality and effectiveness of the ED (Moayed et al., 2022). The second component of the Donabedian model is processes, which looks at how structures and processes work to render favorable results. They help determine whether clinical and quality of care has been adequately performed. The processes link behavioral changes to outcomes, making them necessary for quality improvement initiatives. Processes complement the outcome, reflecting the final effect on patients. Outcomes, the third component of the model, are the results and validate whether the processes, actions, or interventions were successful. By addressing all three components, hospital EDs can drive positive changes in healthcare quality and provide a holistic view of quality using

the Donabedian framework model (Niles & Olin, 2021). This illustration is represented in Appendix E.

Organizational Infrastructure

The organizational infrastructure of the hospital ED supports and promotes safe, efficient, and effective care for patients and staff. Ensuring that an area in the ED is safe, quiet, and comforting can reduce stress and anxiety (Austin et al., 2024; Garcia-Carpintero Blas et al., 2023; Im et al., 2022; Schall et al., 2020), enhancing the delivery of thorough and organized care by ED staff who have been trained and are equipped with the skills and knowledge to provide care for behavioral health emergencies anxiety (Austin et al., 2024; Pawaskar et al., 2022). With an interoperable electronic health record system providing pertinent patient information (Austin et al., 2024), ED staff can better coordinate and improve care for these patients (Im et al., 2022). Payment models incentivizing quality over quantity, such as value-based reimbursement and alternative payment models, encourage the delivery of high-quality, patient-centered care being delivered and managed in the ED. The subthemes are physical and organizational infrastructure, human resources, healthcare resources, and payment models. Together, these subthemes can initiate an operational system that takes a holistic approach to ensure the alignment of behavioral healthcare in the ED, improving patient outcomes. Physical and organizational infrastructure is impactful in the policies and procedures of the ED, which is influential in the processes (Schall et al., 2020).

Procedural Practices

This theme embodies all activities, actions, and interactions involved in delivering patient care. Procedural Practices includes triage, diagnosis, treatment, patient and provider communication, education, medication administration and management, procedures, and protocols. Processes directly affect the quality of care provided and patients (Moayed et al., 2022). Thorough evaluations and enhancements of ED processes can improve overall healthcare quality (Laderman et al., 2019). The subthemes are workflow, treatment, and throughput.

Sequence of Operation

Effective sequence of operations can reduce wait times and length of stay, improve patient outcomes, and increase patient satisfaction (Austin et al., 2024) with the appropriate protocols. Implementing proper protocols for psychiatric crisis can lead to a better coordinated and supportive EDs for patients in psychiatric emergencies, similar to the protocols in place for medical emergencies (Lane et al., 2021).

Management of Care

Management of care is a broad approach that involves numerous strategic efforts to obtain the best possible patient outcomes. ED treatment for behavioral health and SUD patients must be prompt with applying evidence-based interventions (Fleury et al., 2019; Schall et al., 2020). Timely assessments and interventions can reduce patients' anxiety, decrease conflicts and exacerbation of psychiatric symptoms (Thrasher et al., 2019; Van der Linden et al., 2019), and decrease staff burnout and compassion fatigue (Perrone McIntosh, 2021). Treatment requiring medication administration should have protocols

that follow evidence-based guidelines, and patients should be monitored for the safety and effectiveness of this treatment (Austin et al., 2024; Im et al., 2022; Lane et al., 2024). Treatment should also include accessing psychiatric consultations and crisis intervention services. The appropriateness of treatments determines the outcomes (Schall et al., 2020).

Patient Throughput

Throughput refers to the efficiency and effectiveness of processes in care delivery, while patient throughput refers to the movement or flow of the patient from triage to discharge (Van der Linden et al., 2019). Effective throughput for behavioral health patients in the ED requires immediate initiation with rapid assessment, diagnosis, and, if possible, disposition decisions (Van der Linden et al., 2019). Throughput for this population must be timely without any needless delays. Delays in behavioral health assessments, being inadequately staff, no inpatient beds, and lack of appropriate treatment can hinder patient throughput (Thrasher et al., 2019). It is imperative that EDs collaborate and communicate with community mental health centers and other mental health resources to facilitate appropriate transitions of care (Morales et al., 2020). By focusing on workflows, treatments, and throughput, EDs can improve the quality of care, patient satisfaction, and operational efficiencies (Keller et al., 2023). These are the subthemes of outcomes.

Results

Results refer to the outcome of a healthcare intervention (Austin et al., 2024). Improving the care for behavioral health and SUD patients in the ED can lead to favorable interventions that can lead to desired or positive outcomes (Im et al., 2022;

Roennfeldt et al., 2021) for both patients and the facility (Gabet et al., 2020). Clinical, patient, and operational outcomes, which are also metrics, significantly impact the patient population and the healthcare facility, so much so that these outcomes are considered quality metrics monitored and measured by CMS (CMS, 2023). Per CMS (2023), these metrics ensure that the care and interventions provided improve a patient's overall care.

Clinical Results

CMS (2023) refers to clinical results or outcomes as measurable changes in a patient's/population's health resulting from treatment and interventions performed in the ED, accessing the quality and effectiveness of the patient's care (Niles et al., 2021). Incidence and mortality rates, adverse events, evidence-based interventions, and efficiency of care are considered ED metrics (CMS, 2023). Mostafa and El-Atawi (2024) found that implementing evidence-based strategies and interventions that promote accuracy in diagnosis and appropriate treatment can reduce incidence and mortality in the ED. Meanwhile, Van der Linden et al. found that strategic efforts not only improve incidence and mortality but also reduce length of stay and increase the quality and efficiency of care provided in the ED.

Health Conditions

Im et al. (2020) found that with mentally ill patients in crisis, immediate stabilizing, treatment, ensuring safety, and reducing acute symptoms can improve their autonomy and quality of life. When behavioral health patients are stabilized, and symptoms are managed, they are more apt to make explicit and informed decisions

(Thrasher et al., 2019), regaining a sense of empowerment and control and reducing their dependency on the ED (Simko et al., 2022).

Tactical Outcomes

Tactical outcomes can help ED management improve behavioral care with the utilization of operational data analysis to identify and track patterns and trends in visits (Brathwaite et al., 2022; Mohr et al., 2020), care, workflows and processes, opportunities for improvement, reduction of length of stay, wait times, waste, and adequate allocation of resources (Laderman et al., 2022; Nordstrom et al., 2019). Operational outcomes data can be critical to improving access to care and patient outcomes for at-risk populations such as those with behavioral conditions in the ED (Morales et al., 2020). Austin et al. (2020) found that data-driven insights aid in improving care for behavioral health conditions in the ED.

Part 4: Recommendation for Professional Practice and Implications for Social Change

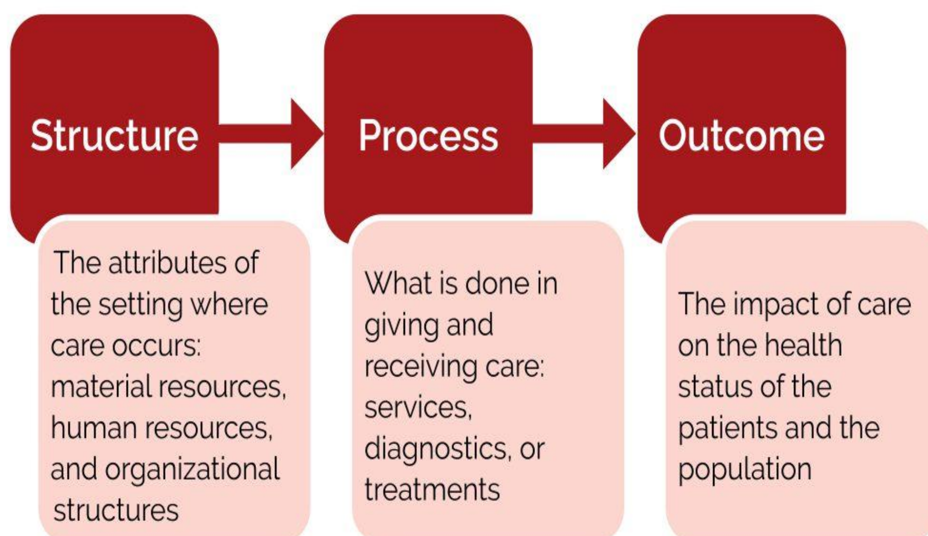
Recommendations for Professional Practice

Donabedian Model

The pivotal model focused on care and quality improvement in the ED is the Donabedian framework (Moayed et al., 2022; Schall et al., 2020). Patients presenting with behavioral health conditions to the ED have increased, leaving EDs as the initial place for treatment (Keller et al., 2023). Roennfeldt et al. (2021) has ample evidence to show that the ED is ineffective in providing the appropriate and needed care for this patient population. However, Austin et al. (2024), Im et al. (2022), and Moayed et al. (2022) found a comprehensive approach to improving behavioral health care in the ED through structure, process, and outcomes: the Donabedian framework (Figure 2).

Figure 2

Donabedian Model for Quality Improvement



Organizational or Administrative Processes

Designing or redesigning a dedicated area within the ED with calming and secure sensory rooms can provide a safe and therapeutic environment for patients in mental health crises. Depending on a patient's acuity, the room can be an all-in-one room where the patient is triaged, treated, and discharged without being exposed to others and is treated with dignity and respect (Niles et al., 2021). Schall et al. (2020) also found that integration of an interoperable electronic health record and data sharing is vital in the ED by improving care coordination, providing faster and real-time access to pertinent patient information, and decreasing chances for medication errors, safety risks, and adverse events. Providing all staff, including ED staff and other support staff within the organization, with specialized training in behavioral health care, crisis intervention (García-Carpintero Blas et al., 2023), and trauma-informed care (Laderman et al., 2019; Schall et al., 2020) can boost staff confidence and improve their delivery of care to patients with behavioral health conditions (Pawaskar et al., 2022). Implementing structural components can produce a supportive and operative environment for behavioral healthcare in the ED. This can result in desired patient outcomes and overall quality of care (Schall et al., 2020).

Procedural Improvements

Improving procedures like workflows, treatment protocols, and throughput can improve behavioral health care in the ED. Streamlining workflows and utilizing designated rooms (as previously stated in structural infrastructure) decrease wait times for patients in mental health crisis (Niles et al., 2021). Optimizing the throughput process

can ensure an effective and smooth patient flow through the ED and decrease the chances for bottlenecking, overcrowding, and length of stay (Im et al., 2022; Mohr et al., 2021), decreasing heightened anxiety and stress for the patient and ED staff and increasing patient outcomes and satisfaction. Implementing standardized treatment protocols for behavioral conditions can improve the quality of care and compliance with consistency in following clear evidence-based practices (Mostafa & El-Atawi, 2024).

Improving Outcomes

Implementation of evidence-based practices for behavioral health care can improve clinical outcomes and decrease morbidity and mortality rates in the ED by making sure that patient care is safe, timely, and appropriate (Laderman et al., 2019). Adherence to evidence-based practice and effective care management can decrease behavioral health patients' frequency of ED visits (Schall et al., 2020) and increase the probability of these patients' following up with both their behavioral health and medical providers (Fleury et al., 2019; Keller et al., 2023). Focusing on these outcomes can help create a more effective and supportive environment for managing behavioral health care in the ED. Utilizing evidence-based protocols can increase staff retention and decrease burnout, stress, and workload when working with patients in psychiatric crisis (Gabet et al., 2019; Pawaskar et al., 2022). This also allows ED managers to use data to analyze, monitor, and improve ED performances, ensuring that quality metrics are based on accurate performances and results (Im et al., 2022; Schall et al., 2019) meeting or exceeding benchmarks. Effective operational management can lead to effective cost management, decreasing unnecessary costs while increasing investment in other quality

improvement projects (CMS, 2023) in the ED. Improving behavioral health care in the ED can lead to better outcomes across clinical, patient health status, and operational outcomes.

Implication for Social Change

With an influx of mental health and SUD presentations to EDs, EDs are challenged with providing care for these patients. Unfortunately, many EDs, especially rural EDs, fall short and are not capable of providing adequate and efficient care to patients in mental health and SUD crises, leading to undesirable outcomes, even death. Focusing on this review's three major themes and subthemes and valuing their significance to improving psychiatric care, including SUD in rural EDs, will positively impact the delivery of appropriate care, mental health recovery, and cost control for this population.

The positive social change for improving behavioral healthcare is building trust within the community, reducing mental health disparities, and improving patient experiences for this population and their families. In addition, this will fulfill a sense of social responsibility as a provider of high-quality care, giving these individuals a chance to reach their full ability to live a fruitful and productive life within the community.

Limitations

This review was focused on whether the positive quality improvement approach underpinning the Donabedian model provides a systematic approach that ED managers in rural hospitals could utilize to enhance the care provided to psychiatric patients in the ED. As previously stated, the goal was to focus on rural EDs; there were not enough

articles that specified the geographics of the EDs, and therefore, articles from all types of EDs with psychiatric presentations, excluding psychiatric EDs, were included in the final review. Implementation of some of the recommended quality initiatives would be expected to be adjusted according to the facility's resources when using the Donabedian model.

Conclusion

The delivery of adequate and safe care for psychiatric/SUD patients in rural ED is of great concern. Providing ED staff with the necessary tools, skills, and training is imperative to improving care for this unique population. This review proves that the Donabedian model offers a valuable framework for developing quality improvement approaches supporting ED staff performance.

The Donabedian framework model and the alignment of themes can be used to develop managerial approaches that support implementing and evaluating interventions to improve care delivery for psychiatric patients in the ED. The review focused on improving various structures and processes to improve patient outcomes. ED managers can use the Donabedian framework model to measure how the ED performs and whether the newly implemented interventions result in the desired outcome. Leadership can also use the model to ensure compliance with CMS clinical quality guidelines. Using the Donabedian framework model and evidence-based practices, ED staff can improve care delivery by using specialized training and standardized interventions, increasing patient safety, and improving the overall health of behavioral health patients and the population.

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Appendix A: Practice-Based Problem Literature Review Matrix

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Gross, T. K., Lane, N. E., Timm, N. L., Conners, G. P., Hoffmann, J., Hsu, B., Lee, L., Marin, J., Mazor, S., Paul, R., Saidinejad, M., Waseem, M., Cicero, M., Ishimine, P., Eisenberg, A., Fallat, M., Fanflik, P., Johnson, C. W., Kinsman, S., &	Input-Throughput-Output (Conceptual Framework)	ED Crowding is associated with higher morbidity and mortality, delayed pain control, delayed time to administration of antibiotics, increased medical errors, and less-than-optimal health care.	Several scales and measurements indirectly attempt to quantify crowding used in this study, with the primary being The National ED Overcrowding Scale (a national standard for measuring the degree of general ED crowding).	ED crowding will follow that model, focusing on input, throughput, and output elements.	There is no single approach that can principally affect the issue of crowding in the ED. Assessing the potential factors that could be contributing to the issue and addressing these will be important to improve the care of children and the effects of crowding on patients and care providers	The Joint Commission has acknowledged that patient safety is linked to patient throughput; hospitals' leadership needs guidance to ensure engagement in the process of safe egress of the patient out of the ED and, most recently, to address the efficient disposition of patients with mental health emergencies.	This report will be of interest to primary care providers, ED leaders, hospital administrators, health care system planners, and health care regulatory bodies for improvement initiatives improve care for patients in the ED.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Lightfoot, C. (2023).								
Simko, L., Birgisson, N. E., Pirrotta, E. A., & Wang, E. (2022).	N/A	To We investigate ED length of stay (LOS) for mental health compared to non-mental health visits by disposition, diagnosis, and region.	Authors used the weighted data from the National Hospital Ambulatory Medical Care Survey (2009-2015), visits by patients ages 18-64, grouped into mental health and medical groups. The LOS was compared by disposition. Mental health vs. medical LOS and disposition were examined across four regions of the U.S..	The study found that mental health ED visits continued to be substantially longer than medical ED visits; in addition to the negative effects of prolonged ED LOS for individual mental health patients, increased LOS can contribute to crowding, which is deleterious for all ED patients.	ED visits continue to be longer for mental health vs. medical patients. For mental health visits resulting in transfer and for co-occurring disorders (psychiatric and substance use), ED visits were especially long.	There is a need for standards in the management of mental health emergencies. Increased resources directed toward mental health patients would decrease crowding and improve care for all ED patients.	Healthcare leaders in the hospital system and clinical settings can collaborate and work together to improve the quality of care by reducing ED boarding for psychiatric patients.	Yes
Brathwaite, D., Waller, A., Gaynes, B. N., Stemerman, R.,	N/A	The study seeks to understand the mental health-related ED burden in North	A retrospective study using statewide ED surveillance data, from NC DETECT, this investigation	Total ED utilization increased over time, and mental health-specific visits would increase	Patients who present to the ED with a comorbid MHD are distinctly different than those who	The contextual information may strengthen future studies looking at ED	As this unique patient population continues to grow, there is a need for continued	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Deselm, T. M., Bischof, J. J., Tintinalli, J. E., Brice, J. H., & Bush, M. (2022).		Carolina (NC) by describing trends in ED visits associated with a mental health diagnosis (MHD) over time.	describes trends in NC ED visits from January 1, 2008, through December 31, 2014, by presence of a MHD code.	in parallel. The rate of increase among MHD-related visits is three times that of non-MHD visits. An increase in visits associated with multiple mental health diagnoses was identified. This investigation also found characteristic differences between non-MHD and MHD-related ED visits.	present with only non-MHD concerns. Time trends indicate that these patients are increasingly more likely to present with a mood disorder or suicidal/homicidal ideation, and increasingly receive multiple mental health diagnoses.	disposition in relation to mental health-related ED visits, and the inclusion of a psychiatric admission indicator would strengthen the ability of studies to assess a patient's full hospital course.	surveillance and improved resources to care for them in the ED.	
Keller, S., Einat Tilbor, Afnan Shwiki, Florentin, S., Laufer, S., Bonne, O., Canetti, L., & Inbal	N/A	To investigate the contribution of psychiatric referrals to this issue, to identify potential determinants of these referrals and	Retrospective data was used to from psychiatric admission (over a one-year period).	The leading causes for potentially ineffective referrals to a GHED were psychiatric illness exacerbation, and suicidal ideations and most referrals	The available recommendations for differential referral to psychiatric versus general hospital emergency care should be clearer. Guidelines for	The number of potentially ineffective referrals of psychiatric patients to GHED is substantial and represents a major public-health	Healthcare leaders can collaboratively develop interventions to educate this population and their caregivers on when and how to utilize the ED.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Reuveni. (2023).		offer means to reduce them.		were initiated by the patient or their family, and not by a primary care physician or psychiatrist.	referrals of psychiatric patients in need by community service providers and patients alike are needed.	concern due to its substantial burden on GHED workload and negative effect on the psychiatric patient's well-being and quality of care.		
Niles, L., & Olin, S. (2021).	Quality Improvement Framework	Individuals with BH conditions experience higher morbidity, poorer health outcomes, and lower life expectancy than the general population.	The National Committee for Quality Assurance (NCQA) employed a mixed-methods approach involving an environmental scan and key stakeholder interviews to evaluate the current BH quality measurement landscape and better understand the needs and challenges of	BH integration is inconsistently and insufficiently measured by current standardized measures.	NCQA recommends testing a proposed BH Quality Framework to promote joint accountability for whole-person BH care.	To drive improvement s in BH quality and promote joint accountability across entities responsible for serving individuals with BH needs, we propose a BH Quality Framework is needed.	Healthcare providers, stakeholders, and insurers (MCOs and ACOs) must integrate mental health and physical health care to enhance patients' outcomes and decrease the cost of care.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
			entities responsible for BH care across the health care system.					
Lane, D. J., Roberts, L., Currie, S., Grimminck, R., & Lang, E. (2021).	N/A	The association between boarding time and hospital length of stay for psychiatric patients.	The association was assessed using hierarchical Bayesian Poisson regression,	Several key associations of increased boarding time consistent with previous literature were also identified, which could be targets for interventions aimed at reducing boarding time in the future.	Boarding in the ED was associated with a high probability of increased hospital length of stay for psychiatric patients and efforts to decrease boarding time in acute psychiatric crisis should be considered.	Future research is needed because there are likely other benefits of reducing boarding time that were not consider in this study, the patients, families, and care givers experiences while in the ED, and addressing the underlying disparities that prolong ED boarding time.	Because of continuous concerns on psychiatric patients boarding in the ED, Healthcare providers, BH advocates and governmental agencies has to come together and to develop interventions to ensure patient safety.	Yes
Im, D. D., Scott, K. W., Venkatesh	Donabedian Framework	Identifying key variables in care and measuring the	Structures, processes, and outcomes	Gap analysis revealed gaps in structural measures to	Donabedian framework can be the foundation for	Future programmatic evaluation and research	Leadership and coordination for measure	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
, A. K., Lobon, L. F., Kroll, D. S., Samuels, E. A., Wilson, M. P., Zeller, S., Zun, L. S., Clifford, K. C., & Zachrison, K. S. (2022).		quality of care delivered to ED psychiatric patients are crucial first steps to improving patient outcomes.		assess the infrastructure of capacity, systems, and processes in place to evaluate and risk stratify patients presenting to ED with acute psychiatric conditions. The gap analysis also found the need for outcome measures linked to restrictive treatment or management provided and timely or appropriate patient assessment.	future research and the application of measures that can be utilized to thoroughly evaluate the current ED workflow for managing psychiatric crises.	are needed to determine whether these measures are reliable, valid, feasible to implement, and usable to increase accountability while improving patient-oriented health outcomes.	development, more research is needed to develop and assess generalizable and practical measures for accountability needs.	
Pawaskar, R., Mahajan, N., Wangoo, E., Khan, W.,	N/A	To examine ED staff perceptions regarding the management of mental health	A qualitative study design, integrating semi-structured interviews of current ED staff. Researchers	Case study	A combination of departmental and hospital-wide issues, in conjunction with individual staff attitudes	More research is needed to view other rural health systems to determine site	Hospital leaders can utilize studies such as this to enhancing staff training to eradicate	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Bailey, J., & Vines, R. (2022).		presentations in a rural Australian ED.	used thematical analysis to find key themes from the data.		regarding mental health conditions, contributes to issues including increased time to definitive treatment of mental health patients in this rural ED.	specific issues.	the stigma of the BH population and ensure that these patients receive the appropriate and quality care.	
García-Carpintero Blas,E., Gómez-Moreno, C., Moreno-Gómez-Toledano, R., Ayuso-del-Olmo, H., Rodrigo-Guijarro, E., Polo-Martínez, S., Cesar Manso Perea, & Vélez-Vélez, E. (2023).	Theoretical framework	To describe nursing staff's experiences in the emergency department, in the care they provide to people with mental health problems who often feel stigmatized by society and in health care settings.	Descriptive qualitative study with a phenomenological approach.	The study results indicated that emergency nurses consciously or unconsciously harbor negative feelings, biases, and prejudices about people with MHC.	Due to the stressful work pace and the care load in the emergency department, it is challenging to care for patients with MH conditions because they present unique characteristics that require being cared for by nurses with specific training.	In the ED, the care provided to patients with and without MH problems is performed by frontline ED staff not specialized in psychiatric care. Providing safe, quality care for people in mental health crises in the emergency department requires unique skills	Providing more training and education on Mental Health literacy and how to interact with patients in mental crisis in the ED will help to decrease stigma, increase patient outcomes and patient and employee satisfaction.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
						and special training. Additional research is needed to enhance training and develop new interventions.		
Roennfeldt, H., Wyder, M., Byrne, L., Hill, N., Randall, R., & Hamilton, B. (2021).	Arksey and O'Malley's framework	The ED is not appropriate nor effective in responding to people in mental health crises. Insufficient attention has been paid to the subjective experience of people seeking support during a mental health crisis.	N/A	The findings highlight the predominance and impact of negative experiences of the ED and the incongruence between the expectations of people presenting to the ED and the experience of treatment.	This systematic review highlights significant gaps in the current literature regarding understanding people's experiences of mental health emergency care. The lack of well-designed and lived-experience-informed research on people's experiences of mental health crisis and effective	Future studies are needed to examine components of mental health emergency care that make the greatest contribution towards improving outcomes for people in mental health crises.	To better improve care for patients with mental health crises in the ED, Hospital leaders must understand that there is a needed change in ED workflow and staff education to support these patients.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
					assistance is troubling.			
Mohr, N. M., Wessman, B. T., Bassin, B., Elie-Turenne, M.-C., Ellender, T., Emlet, L. L., Ginsberg, Z., Gunnerson, K., Jones, K. M., Kram, B., Marcolini, E., & Rudy, S. (2020).	Society of Critical Care Medicine and the American College of Emergency Physicians convened a Task Force Framework.	Prolonged boarding in the emergency department has been associated with longer duration of mechanical ventilation, longer ICU and hospital length of stay, and higher mortality.	Crowding Resources Task Force Structure	Both retrospective and prospective observational studies showed worse outcomes for critically ill patients after ED boarding, including increased duration of mechanical ventilation, longer ICU length of stay, and higher mortality.	The specifics of the problem in each institution are embedded in institutional culture, with flow of information, prioritization of resources, and individual relationships significantly impacting feasible solutions.	Future work is needed to establish formal criteria for analysis and benchmarking of emergency department–based boarding.	With additional research, education, training, and collaboration, hospital leaders can focus on strategic efforts to develop and report on improving clinical measures and outcomes for critically and mentally ill patients boarded in the ED.	Yes
Gabet, M., Grenier, G., Cao, Z., & Fleury, M.-J. (2020).	Explanatory design	ED use for mental health reasons including substance use disorders and suicidal behaviors contributes	N/A	Implementation issues identified in this study were like those reported elsewhere in the context of ED or in the general	Managers need to better identify key issues before embarking on implementation initiatives: improving staff training and	Future research is needed to confirm the relevance of these interventions and promote stronger ED	Healthcare leaders must work together collaboratively on interventions to improve mental health services and	Yes

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		substantially to ED overcrowding.		implementation literature.	actively involving them in new interventions, particularly physicians; developing collaborative tools geared especially to preventing cultural clashes between staff and organization and encouraging continuous quality assessment.	strategies to improve access to mental health services and decrease ED use for mental health conditions.	reduce unnecessary ED utilization and avoidable hospitalizations among patients with behavioral health disorders.	
Fleury, M.-J., Grenier, G., Farand, L., & Ferland, F. (2019).	Anderson Behavioral Model	Emergency department use form mental health reason would be most strongly associated with need factors.	N/A	The results confirmed the hypothesis that patients' needs would constitute the primary reasons for ED visits, and this population tends to view their visits as unavoidable.	Patients with mental disorders contribute significantly to congestion in EDs and to the frequency and length of stay.	Due to this being the first known study, additional research is needed for validation.	Collaboration amongst healthcare leaders, providers, crisis centers and other behavioral health organizations to improve education and access to	Yes

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							patients with mental health and substance use disorders in efforts to reduce non-emergent ED use.	
Schall, M., Laderman, M., Bamel, D., & Bolender, T. (2020).	Quality Improvement	Hospital emergency room departments have challenges providing adequate care and support for patients with mental health and, or substance abuse disorders, resulting in increased length of stay and prolonged periods of "psychiatric boarding."	N/A	Based on eight U.S. hospitals that participated in this initiative, four essential elements presented that led to the formation of the critical foundation of effective improvement.	Additional processes are needed to show patient care patterns that may be driven by inequities, particularly racism in society and healthcare, affecting those with mental health and substance abuse disorders.	Continuous research is needed to address the challenges and improve care within the ED for patients with mental health and substance abuse disorders	Hospital leaders can ensure that patient outcomes improve by supporting the ED improvement initiative, the ED staff and making sure that adequate resources are accessible.	Yes
Morales, D. A., Barksdale,	The National Institute on Minority	Can NIMHD framework be applied to	N/A	N/A	The authors concluded that research that	Additional research is needed to test	Although much research has been	Yes

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C. L., & Beckel-Mitchener, A. C. (2020)	Health and Health Disparities (NIMHD) research framework	provide a greater understanding to help address the mental health disparities in rural communities?			utilizes innovative methodologies that address the reduction of stigma and overtly evaluate the effects on behavior and patient outcomes is needed.	hypotheses about causativeness at various levels of influence and domain with an experimental therapeutic method.	referencing rural suicides and the risk and protective factors linked with rising occurrences, additional research is necessary to improve knowledge of the primary processes and interactions.	
Kelen G., Wolfe, R., D'Onofrio , G., Mills, M., Diercks, D., Stern, S., Wadman, M., So(2021)	IOP system theory (Input-throughput-output	Misaligned healthcare economics that pressures hospitals to maintain inefficient high inpatient census levels often preferencing high-margin patients	N/A	ED crowding leads to increased violence toward staff, high clinician, and nursing turnover, decreased provider productivity, human error due distractive staff and consequential legal action	ED overcrowding and boarding can result in adverse occurrences	ED crowding continues to be a significant problem for U.S. hospitals, primarily small health systems with few emergency room beds.	ED crowding indicates dysfunction in the U.S. healthcare system; patients will continue to be at risk for harm without immediate action.	Yes
Nordstrom K., Berlin,	N/A	Can ED-focused and	N/A	The results revealed that	ED visits for patients with	This overflow phenomenon	There are several	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
J., Nash, S., Shah, S., Schmelzer, N., Worley, L. (2019)		systemwide considerations reduce inappropriate "boarding" and improve care for mentally ill patients in emergency departments.		the U.S. mental health system needs realignment due to many individuals being without sufficient mental health and substance abuse services. Therefore, the only option in seeking care is to utilize emergency departments that are not structured for individuals in mental health crises. Unfortunately, many patients remain in the emergency department for hours, even days, waiting to receive appropriate care.	psychiatric illness continue to rise, shared planning and resources are needed to decrease the boarding of these population of patients in EDs.	is so prevalent that it has been called "boarding." "Boarding" is detrimental to patients and staff in that it has initiated efforts on vast levels for understanding and resolutions. When contemplating resolutions, there must be emphasis placed on ED and systemwide factors.	changes that EDs can make to improve the care of patients that enter through their doors, ultimately community, state and national efforts will have to focus on assisting with the diversion of patients to lower levels of care and to ease transition of those in EDs and the inpatient setting back into the community.	

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Radfar, A., Ferreria, MM., Sosa, JP., Filip, I. (2021)	Improvement	Are the Government and health systems having challenges in improving mental health outcomes post COVID-19?		Governmental officials, policymakers, and Public Health advocates must re-assess and improve funding and policies to support new strategies to improve mental health outcomes post-COVID	The authors concluded that the U.S. healthcare system has various difficulties in delivering high-quality mental care due to multiple gaps in the mental healthcare system.	There is a dire need for further research to evaluate psychological influences and increase understanding of contributing factors that will aid in developing interventions to improve mental health.	Addressing the gaps and improving the delivery of high-quality care can improve mental health care outcomes.	Yes
Vandyk, A., Kaluziens ki, M., Goldie, C., Stokes, Y., Ross-White, A., Kronick, J., Gilmour, M., MacPhee, C., Graham, I. (2019)	Quality Improvement	Hospital emergency departments are struggling with finding and implementing optimal methods designed to increase the appropriate care for those with mental health concerns who	Joann Briggs Methodology for Mixed Methods Systemic Reviews	The authors used eleven studies that investigated a variety of interventions and the effectiveness of these interventions in decreasing ED visits.	The authors stated that, at present, there is yet to be an established process to evaluate the quality of complex interventions.	More research is needed because there needs to be a method to assess and measure the quality of complex interventions need for positive outcomes	Decision makers need definitive evidence to support the implementatio n and evaluation of interventions to improve the care patients with mental health disorders receive in	Yes

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		present to the emergency department.					emergency departments.	
Drake, R., Bond, G. (2021)	Improvement	The current U.S. mental health crisis system does not provide evidence-based practices to improve patient care and decrease harm for those in behavioral health crises.	N/A	The authors reported that if U.S. policy makers would support existing evidence-based practices, creating a new crisis care system, and addressing SDOH for prevention can easily be executed.	The authors stated that the U.S. must do what it takes to stop or decrease mental health crises by using the most appropriate hierarchy of evidence and making simple, specific changes.	Incrementalism shows that small stages of change in healthcare can be more effective than extreme healthcare reforms. Therefore, implementing and providing evidence-based practices is essential to improving care.	Many closely examined interventions can reduce and resolve potential problems that may result in a mental health crisis.	Yes
Greenwood-Eriksen, M., Kocher, K. (2019)	N/A	Is there a difference between payer type and patient demographics between rural and urban emergency department visits?	Cross-sectional	Rural ED visit rates increased over fifty percent per one hundred patients, topping urban ED visit rates of 42.8 visits per one hundred patients. Rural	An increase in ED visits in rural hospitals implies decreased visits to PCPs, deterioration of care, and increased disparities for underserved	Additional research is needed to provide quality care for patients in rural hospital EDs continuously.	Improving the fragmented structure in rural healthcare will decrease hospital EDs being used as Safety-Net EDs.	Yes

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				EDs had a flux of Medicaid recipients and non-insured patients, a more significant proportion of rural EDs safety-net.	populations, including Medicaid recipients and the non-insured.			
Novotney, A. (2018)	N/A	Can integrating behavioral health providers in the ED improve and decrease the LOS for patients with behavioral health needs?	N/A	The Community Resources for Emergency Department Overuse (CREDO) program was created to manage the increasing number of frequent emergency room users. After the development of the CREDO, two hundred fifty-five medical charts of super-frequent users were examined,	Integrating behavioral health professionals in the ED decreases LOS while increasing patient safety and satisfaction.	More research is needed to improve patient and staff safety for patients in mental health crisis.	Decreasing LOS in the ED improves patient care and outcomes.	Yes

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				and results showed a significant reduction in emergency room visits by super-frequent users, from thirty-two percent to twelve percent.				
Maeng, D., Richman, H., Lee, B., Hasselberg, M. (2020)	Unknown	Will Psychiatric Assessment Officers (PAOs) and telepsychiatry assist in rural hospitals in reducing their all-cause ED revisit rates?	Retrospective data analysis	Three PAOs were embedded (full-time) in three rural New York State hospitals, resulting in a thirty-six percent lower all-cause ED revisit rate within the first ninety-day timeframe.	The PAO program is a prospective approach to assisting in decreasing overloaded rural EDs that struggle with providing adequate care for patients with severe mental health concerns that present to these EDs.	Additional research is needed so that Hospital administrators can understand the importance of adopting and implementing the quality improvement strategy.	The outcome offers empirical evidence that supports the application of PAOs in EDs to assist with reducing ED revisit rates for individuals with mental health issues.	Yes
Fleet, R., Turgeon-Pelchat, C., Smithman, M., Alami,	Participatory Action	Identifying challenges and resolutions appropriate for	Exploratory qualitative	Two EDs were used for this study, showing differing data in annual visits, inter-facility	The study confirmed the significance of taking on a more extensive research study	More research is needed to identify barriers to improving	Involving rural stakeholders in a discussion about challenges and	Yes

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H., Fortin, J., Poitras, J., Ouellet, J., Gravel, J., Renaud, M., Dupuis, G., Légaré, F. (2020)		improvement of patient care in rural EDs		transfers, and wait times. Although the data differed, the stakeholders were more concerned with context's influence on the ED's challenges and resolutions regarding governance, management, health services organization, resources, and professional practice.	to enhance care delivery in rural EDs by confirming the viability and relevance of summoning stakeholders to identify context-specific challenges and solutions.	care delivery in rural ED.	solutions may be a promising approach to foster improvements to rural EDs and the patient care that is provided in these EDs.	
Nataliansyah, M., Merchant, K., Crker, J., Zhu, X., Mohr, N., Marcin, J., Rahmouni, H., Ward, M. (2022)	Consolidated Framework for Implementation Research (CFIR)	Does U.S. rural hospital have difficulties with facilitating and implementing telehealth services in their EDs?	Inductive qualitative analysis	The results identified three stages of implementation, and each stage identified positive and negative factors of the process. These factors were then placed in eight domains.	Telehealth used in rural hospitals EDs can improve the accessibility, quality, and effectiveness of care. However, implementation and sustainability will require intensive preparation,	Future research is needed for development and strategic interventions to enhance quality and safe patient care through Telehealth in rural EDs.	The implication for practice is linked to the factors that affect the execution and viability of telehealth in rural EDs	Yes

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					management, and evaluation.			
McIntosh, J. (2021)	Arskey and O'Malley framework and Biddle's Role Theory	Can hospital systems use published literature to improve care delivery and gap closure for mentally ill patients in the ED?	Scoping methodology	Sixteen studies were included; most were those of international nurses and provided more significant knowledge about the scope and nature of the literature with the aid of Biddle's Role theory.	The authors stated that understanding the influences that affect the care is necessary as it will provide greater insight into the source of the ED nurses' role and behaviors.	Additional research is needed to evaluate outcomes of educational modifications to increase ED staff's beliefs, understanding , and skills to provide for caring for individuals with mental illness.	Healthcare executives can use these studies to understand better environmental influences and how they impact the care of patients in EDs.	Yes
Hennen, R., Phillips, K. (2023)	N/A	Does workplace violence have an impact on the lack of care that patients with mental illnesses receive in the ED-by-ED nurses?	N/A	Thirty-five nurses, primarily female, were interviewed, and about half of these participants experienced workplace violence. The nurses who experienced injury from	Increasing behavioral health knowledge, skills, and workflow is necessary to improve the quality of care for patients with mental illness in the ED and the safety of the	Further research will gain a better understanding of how to strategize to drive nurses to improve their knowledge and skills in behavior, primarily in the ED.	Healthcare administrators will improve ED nurses' competency and work performance by providing education at onboarding and annually so that nurses can cope with challenging	Yes

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				workplace violence were more knowledgeable, with less stigma and appropriate workplace performances.	patients and staff.		behaviors efficiently and therapeuticall y while reducing stigma.	
Van Der Linden, M.C., Balk, F., Van Der Hoeven, B., Loon, M., Voeght, F., Linden, N. (2019)	N/A	Can a psychiatric intervention team impact the patient flow and length of stay of mentally ill patients in the ED?	Longitudinal	The study looked at three years of data, a total of 153,820 ED arrivals, with the before and after outcomes showing a thirty-six percent increase of patients with mental health issues coming to the ED; however, there was a forty-six percent decrease in the length of stay.	The authors reported that although there were increased visits of patients during the study phase, there was a reduction in wait times due to the interventions of the Psychiatric Intervention Team.	Future research is needed due to some limitations of this study, and data should be collected on all patients presenting with mental health crises to establish a more controlled model with a more thorough reporting system.	Healthcare executives will improve the quality of care and reduce wait times for individuals in mental health crises with the adoption and implementatio n of the Psychiatric Intervention Team.	Yes
Mapanga, W., Casteleijn, D.,	PRISMA	Can evidence mapping strengthen how primary	Systemic Review	Three hundred and six articles were used, revealing	Future research is needed for a greater understanding	Evidence mapping can provide Healthcare	Healthcare executives can use evidence mapping to	No

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Ramiah, C., Odendaal		care providers provide mental health services in their offices?		numerous differing results that affected the implied strategies.	of how evidence mapping can result in favorable outcomes for HSOs.	executives with information that can be used to engage stakeholders, policymakers, and governance around how it can be used in strengthening facilities' mental health care systems and programs.	structured counseling strategies to efficiently address mental health issues.	
Finley, B (2019)	N/A	Can Psychiatric Nurse Practitioners have a positive impact in providing care for patients with mental health disorders in rural communities?	N/A	N/A	The author reports favorable outcomes to accessibility to care for patients with mental health in underserved rural communities using telepsychiatry.	Further research is needed for those rural areas that cannot adopt nor implement telepsychiatry services.	Healthcare administrators can improve the access and quality of care by adopting and implementing Psychiatric Nurse Practitioners and using telehealth in	No

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							hospitals' EDs.	
Holland, K., Jones, C., Vivolo-Kantor, A. (2023)	N/A	Were there increased mental health and substance abuse patients presenting to U.S. hospital EDs during the COVID-19 pandemic?	Cross sectional	One hundred-ninety million ED visits for behavioral health and substance abuse disorders increased from the middle of March through October midst COVID-19 pandemic compared to data from the same timeframe in 2019.	The authors explained that changes were in EDs nationwide and the visits and rates were linked to society, community, and individual-level stressors connected with the COVID-19.	Future research is needed for interventions to improve s surveillance to track and trace the long-term effects of future epidemics and pandemics.	research on natural disasters affection human origin have shown that these occurrences have negatively influenced those with mental health disorders and substance abuse problems both short and long term.	No
Sun, H., Liu, H., Ma, C., Chen, Z., Wei, Y., Tang, X., Xu, L., Hu, Y., Xie, Y., Chen, T., Lu, Z., Wang, J.,	N/A	Did EDs in China see a difference in mental health crises during COVID-19 pandemic?	N/A	Two years of data from ED visits pre-COVID was compared to post-COVID, which showed a fifty percent increase in patients with mental health disorders	The authors reported that psychiatric patients needed increased care during COVID-19	Additional research is needed to adopt and implement the need for integrated mental health services and programs during public health crises.	Healthcare administrators can improve care delivery by exploring the accessibility and efficiency of remote behavioral health and substance	No

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Zhang, T. (2023)				presenting to the ED during the pandemic.			disorders services in emergency departments.	
Wolff, J. C., Maron, M., Chou, T., Hood, E., Sodano, S., Cheek, S., Thompson, E., Donise, K., Katz, E., & Mannix, M. (2023)	N/A	To identify strengths and contributors to success in keeping patients safe while awaiting inpatient psychiatric care, obstacles to quality care, bottlenecks in patient flow, and potential points of intervention by which to alleviate burden and strain on patients, families, hospital staff, and resources.	Journey Mapping (Galloway guidelines)	From 2019 to 2021, patients awaiting psychiatric treatment spent an average of three to four days in the hospital ED awaiting a disposition.	The study provided understanding into the pediatric psychiatric boarding crisis from the perspective of staff involved in the patient journey. It also identified three phases of journey through the boarding process and provided insight into the positive and negative components of each phase.	Future research is needed to add to the insight gained from this study, which can be used to create interventions to address the challenges to the boarding crisis.	Healthcare executives can use this study to assist with developing interventions and systemic changes needed to decrease challenges with ED boarding.	Yes
Fleury, M.-J., Grenier,	Anderson Model	N/A	N/A	A cluster analysis was used to identify	Based on the Andersen model, this	This is believed to be the first study	Leaders can use this study to create	Yes

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G., Bamvita, J.-M., & Ferland, F. (2020)				characteristics among subsamples. Classification was determined using the Schwarz-Bayesian criterion and goodness-of-fit model.	study developed a typology of individuals who use the emergency department for MD-SUD reasons.	to identify a typology of ED usage for Mental and SUD individuals Future research is needed to support these findings	interventions to improve and guide the appropriate care for Mental and SUD patients who present to the ED.	
Mohr, N. M., Wu, C., Ward, M. J., McNaughton, C. D., Faine, B., Pomeranz, K., Richardson, K., & Kaboli, P. J. (2021)	N/A	Emergency department (ED) crowding is increasing and is associated with adverse patient outcomes.	N/A	This study revealed that crowding delays early evaluation and care. Crowding influences outcomes and we need to understand the importance developing effective countermeasures.	ED crowding is often considered an urban high-volume problem. however, the impact of transfer boarding is exaggerated in low-volume, small rural hospital EDs.	Additional study is needed to continue focus on preventing the impact of ED overcrowding and improving identifying best practices in both urban and rural EDs	Improving overcrowding will improve patient outcomes.	Yes
Nyce, A., Gandhi, S., Freeze, B., Bosire, J., Ricca, T., Kupersmit	N/A	Are prolonged waiting times associated with worse patient experience in patients	N/A	A multivariable regression analysis found that door-to-doctor tine was significantly associated with	Prolonged ED wait times were significantly associated with patients having undesirable experiences in	Finding interventions that focus on decreasing ED wait times and door-to-	Leadership can implement more strategic efforts to improve throughput to decompress	Yes

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h, E., Mazzarelli, A., & Rachoin, J.-S. (2021)		discharged from the emergency department.		all outcomes in patients discharged from the ED.	the ED due to LOS.	doctor experience.	ED boarding and decrease ED wait times.	
Ellison, A. G., Jansen, L. A. W., Nguyen, F., Martina, A., Spencer, J., Wierdsma, A. I., Kathol, R. G., & van Schijndel, M. A. (2022)	N/A	N/A	Systemic Review	Analysis advises that that small, rural, for-profit-hospitals were less likely to have psychiatrists or any behavioral health professional.	There needs to be some enhancement in the accessibility for psychiatric care in medical settings	Innovative measures are needed to improve accessibility for psychiatric patients to receive care in small, rural, for-profit-hospitals.	Improve access to appropriate and adequate care to psychiatric patients will yield positive outcomes.	No
Venkatesh, A. K., Janke, A. T., Kinsman, J., Rothenberg, C., Goyal, P., Malicki, C.,	N/A	N/A	N/A	ED visits declined during the early stage of the pandemic and started increasing in mid-2021. SUD visits increased during, amid and post pandemic.	The essential role of the hospital-based ED in providing around the clock access and care for patients with mental health conditions and SUDs has	Additional research is needed to in be providing best practices to improve care for patients with mental health conditions and SUDs in	Allocating the needed resources to EDs to assist with decreasing or eradicating morbidity and mortality for mental health	Yes

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D'Onofrio, G., Taylor, A., & Hawk, K. (2022)					become more obvious.	hospital based EDs.	and SUDs patients.	
Isbell, L. M., Chimowitz, H., Huff, N. R., Liu, G., Kimball, E., & Boudreaux, E. (2023)	Grounded Theory	N/A	N/A	High rates of comorbidity did not differentiate between patients with SUDs and other psychiatric conditions.	Physicians and nurses show biases and negative attitudes toward patients with psychiatric problems and SUDs.	Because real challenges threaten the quality of care received by patients with psychiatric conditions and/ or SUDs in EDs, additional research is needed to remedy these challenges.	New interventions and policies need to be implemented to improve patient care and eradicate stigma and bias toward patients who present in mental health or SUD crises.	No
Greenwood-E., Eriksen, M., Macy, M., Ham, J., Nypaver, M., Zochowski, M., & Kocher, K. (2019)	N/A	Do rural hospital EDs have fewer resources to reduce avoidable admissions than urban hospital ED?	N/A	ED volume was predictive of clinical pathways rather than rurality.	Both rural and urban EDs have diversity in resources and barriers, ED size rather than rurality may be a more important indicator of ability to reduce	More research is needed to increase the reduction of unnecessary admission in rural hospital EDs	Reducing avoidable and unnecessary admissions in rural EDs can decrease bottleneck, ED crowding and boarding.	Yes

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					avoidable hospitalizations.			
Laam, L. A., Wary, A. A., Strony, R. S., Fitzpatrick, M. H., & Kraus, C. K. (2021)		How patient boarding in the ED impacts ED length of stay for all patients admitted to the hospital from the ED.	N/A	Patient boarding has a greater impact on ED LOS for all admitted patients.	There is an opportunity to decrease ED LOS for admitted patients through quality improvement efforts.	Future studies are needed to examine the results of this study and the impact it has on morbidity and mortality for admission related to ED boarding.	Improving the impact on ED boarding will enhance the quality of life of all patients admitted through the ED.	No
Boudi, Z., Lauque, D., Alsabri, M., Östlundh, L., Oneyji, C., Khalemsky, A., Lojo Rial, C., W. Liu, S., A. Camargo, C., Aburawi, E., Moeckel, M., Slagman,	N/A	Is ED boarding (EDB) time is associated with in-hospital mortality (IHM)	Systematic Review	There was not strong evidence to show that EDB increased IHM but did reveal that a link between EDB and IHM.	The is extensive focus on EDB due to connection with ED crowding and increased LOS, that negatively impacts the quality and safety of care.	Additional research is needed for clarification of results.	EDB has been linked to sentinel events for patients, improving EDB will enhance patients' care and safety.	Yes

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A., Christ, M., Singer, A., Tazarourte, K., Rathlev, N. K., A. Grossman, S., & Bellou, A. (2020)								
Nataliansyah, M. M., Zhu, X., Vaughn, T., & Mueller, K. (2022)	Institutional, Organizational, and Management Theory	N/A	Explanatory sequential	Internal values, economic conditions and social responsibilities are motivational drivers for rural hospitals community health improvement efforts.	Rural hospitals utilize their communities to in strategic efforts to improve rural health.	More studies are needed to capture rationales and activities required for rural community health improvement initiatives.	Hospital leaders should provide their communities with a clear understanding of the importance of community networking; this can lead to new policies that can incentivize rural hospitals with unique funding opportunities.	Yes
Coombs, N. C., Meriwethe	Levesque's conceptual framework	To quantify the prevalence of barriers to	N/A	Rural providers have become make-shift	Systems throughout the U.S. have	Telehealth is now a common way	Improving interoperability with	Yes

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r, W. E., Caringi, J., & Newcomer, S. R. (2021)		healthcare access among U.S. adults with and without mental health challenges (MHC) and evaluate the relationship between MHC and no usual source of care (NUSC).		mental healthcare specialists out of the necessity for treating the geographic population. Due to these missing resources, the needs of their populations can further burden rural healthcare organizations.	modified practices to mitigate face-to-face encounters by providing telehealth as a more widespread modality.	to access care, however, future studies are needed to evaluate all dimensions of healthcare access to ensure comprehensive recovery for future generations.	telehealth will help ensure that patients with mental health conditions have access to quality care.	
Mongelli, F., Georgakopoulos, P., & Pato, M. T. (2020)	N/A	To provide a better understanding of the needs of psychiatrically underserved and disenfranchised populations, the causes of mental health disparities.	N/A	Policy initiations against stigma associated with mental disorders will help encourage the involvement of service users, family members, and communities as active participants in mental health.	Academic psychiatrists have the potential to play a major role in gathering information about mental health and in understanding the rapidly evolving needs of more vulnerable populations.	There is more studying that needs to be done to help better advocate for this population of patients.	Health providers and policy makers to come together and implement an action plan to improve care for millions of mental health patients in the United States	No
Janke, A. T., Melnick,	N/A	N/A	STROBE	Hospital occupancy greater than	The harms connected to ED boarding	More research is needed to	Leadership and policy makers must	No

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
E. R., & Venkatesh , A. K. (2022)				85% was associated with increased ED boarding beyond the 4-hour standard.	and crowding, long-standing before the COVID, may have been further entrenched.	study complex measures.	ensure that measures are in place to avoid future disasters and or pandemics that causes potential harm to hospital system and patient care and outcomes.	
Thrasher, T. W., Rolli, M., Redwood, R. S., Peterson, M. J., Schneider, J., Maurer, L., & Repplinger , M. D. (2019)	Task Force	N/A	Literature and Systematic Review	Quality of care is improved when physicians communicate directly about assessment of medical stability, exclusionary criteria, and admission.	Although caring for psychiatric patients in ED is not uncommon, there are interventions to improve the care that they receive while in the ED.	There is more research needed to develop interventions to improve care for mentally ill patients in the ED.	Leaders, Stakeholder, and political advocates can collaborate and to implement best practice measures to ensure that mental health patients receive quality care while in the ED.	Yes
Beckerleg, W., & Hudgins, J. (2022)	N/A	To evaluate the relationship between substance use and ED	N/A	The presence of SUDs was associated with significantly increased rates of mental health	Substance use- and mental health-related ED visits are rising and are associated with	More research is needed to increase mental health	Better understanding the trends of patients with mental health and SUDs	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
		resource utilization.		consultations in the ED, which in turn have been shown to be associated with increased ED length of stay.	increased resource utilization.	support in the ED.	with help with ensuring that there is adequate resources in ED to provide appropriate care for this population of patients	
Zhang, X., Wang, N., Hou, F., Ali, Y., Dora-Laskey, A., Dahlem, C., & McCabe, S. (2021)	N/A	To better understand the relationship between SUDs and ED visits	N/A	ED patients with SUDs have a higher chance of revisiting the ED within 72 hours.	Patients with SUD are more likely to be admitted to the hospital and ICU and are more likely to return to the ED.	Additional research is needed to because of the frequency of ED visits amongst this population to develop interventions and protocols to improve the quality of care for these patients.	Identifying current risk factors that coincide with SUD, interventions to reduce potential for mental ill and SUD patients.	No
Carbonell, Á., Navarro-Pérez, J., & Mestre, M. (2020).	Systematic integrative review	To analyze the challenges and barriers found in mental healthcare systems and the impact		The analysis provided evidence of the deficiencies and limitations of institutional policies and procedures that	This systematic integrative review shows the burden taken on by families due to the of a fragmented	Future research is implicated because the stigma associated with mental illness is	Healthcare executives can provide cultural competency training on unconscious bias to	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
		they have on the family.		restrict access to treatment for people with mental illness. Although evidence from the literature regarding system shortcomings and the efforts of some politicians in charge, the fact that mental healthcare systems all over the world are still in a process of development and have yet to meet the quality indicators set by the WHO (2010).	mental healthcare systems and shows the need of integrating mental health at primary healthcare level and fighting to reduce the stigma of mental health in all areas.	firmly established in all social structures and acts as the main limiting factor for the creation and development of policies to guarantee the well-being of this collectively.	eradicate stigma.	
Bommersbach, T. J., McKean, A. J., Olfson, M., & Rhee, T. G. (2023)	N/A	To estimate annual trends in mental health–related ED visits among U.S. children, adolescents,	N/A	Over the study period, the proportion of all types of mental health–related visits increased significantly	These results underscore a critical need to expand nonhospital alternatives to mental health	Because there is a critical need to expand care, more research is needed to develop interventions	Leaders must be willing to dedicated national commitment will be needed to address gaps and	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
		and young adults between 2011 and 2020.			care for young people.	to enhance the care for this population of patients.	deficiencies in mental health outpatient and crisis services for children, adolescents, and young adults.	
DeVore, K., Schneider, K. A., Laures, E., Harmon, A. H., & Paul Van Heukelom. (2024)	The Iowa Model and Implementation Framework	to (1) improve knowledge of Receiver Driven Handoff (RDH), (2) increase satisfaction and perceptions surrounding RDH, (3) modify behaviors in relation to RDH, and (4) decrease referred patients leaving without being seen (LWBS).	N/A	While this project was successful in the adoption of the RDH process, barriers were still encountered.	Using receiver-driven communication in combination with a standardized triage screening may assist in improving the transfer of correct information during the transition of care from the outpatient setting to the ED and may reduce the proportion of patients who leave without being seen.	Finding additional information in the RDH process is needed being that many hospital organizations are focusing on throughput and expediting treatment.	Healthcare leaders can adopt similar initiatives, customized according to their organization for improvement with throughput and expediating services.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Shen, Y., & Lee, L. H. (2020)	Quality Improvement Framework	To improve the overall wait time to consultation.	Plan-Do-Study-Act (PDSA)	Having many nurses with various experience levels made it more challenging to reduce the triage outcome even the implementation of the PDSA.	The PDSA revealed that continuous engagement from important stakeholders' hospital wide is needed to further address and improve issues identified through the PDSA cycle.	Due to the various complexities of the nurses, there is a continuous need for quality improvement efforts to improve triaging to decrease patient's wait times.	Leadership must transparent and participate in quality improvement efforts in efforts to provide better quality of care for ED patients in triage.	Yes
Roby, N., Smith, H., Hurdelbrink, J., Craig, S., Hawthorne, C., DuMontier, S., & Kluesner, N. (2021)	N/A	To characterize associated subsequent care utilization within a healthcare system for patients who left the ED without being seen.	N/A	Many patients who LWBS continue to present to the ED where they initially left prior to being seen, returning within 72 hours.	The high prevalence of ED returns within a narrow turnaround window highlights a missed opportunity to provide services to these patients during their initial encounter.	Additional research is needed to develop interventions to decrease patients LWBS.	Hospital Leaders must ensure that staff is efficient in triaging and assessing patient timely to increase quality of care and decrease patients leaving without being seen.	Yes
Anderson, K. N., Johns, D.,	N/A	N/A	N/A	N/A	Prioritizing implementation of evidence-	There is a continuous need for	Healthcare leaders must make it a	No

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Holland, K. M., Chen, Y., Vivolo-Kantor, A. M., Trinh, E., Bitsko, R. H., Leeb, R. T., Radhakrishnan, L., Bacon, S., & Jones, C. M. (2023)					based prevention and trauma-informed early intervention and treatment strategies that promote mental and behavioral health among adolescents might help prevent MHCs, suicide-related behaviors, and drug overdoses, and improve overall health.	research to enhance evidence-based initiatives for continuity of care.	priority to collaborate with external leaders to increase access to care for psychiatric and SUD for children, adolescents and young adults.	
Moayed, M. S., Khalili, R., Ebadi, A., & Parandeh, A., (2022)	Donabedian Framework	To explain factors determining the quality of health services provided to COVID-19 patients from the perspective of healthcare providers based on the	Quality Framework for Evaluation of Healthcare Delivery	The study indicated that to achieve desired outcomes, quantitative and qualitative improvements are needed.	The study can assist management with a greater understanding of public health crisis affects the structure, processes and outcomes of organizations providing care and treatment to individuals.	For future studies it is imperative to learn from the experiences of experts, such as senior managers, disaster health professionals, and healthcare policy	Leaders and healthcare policy makers must be engaged and transparent with providing their knowledge and expertise in this field of study.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
		Donabedian model				makers, in this field.		
TDMHSAS, (2023)	N/A	The Joint Annual Report (JAR) allows TDMHSAS, jointly with the Statewide Planning and Policy Council membership, to report accomplishments and challenges annually to the Governor and State Legislature	N/A	N/A	N/A	One ongoing challenge for TDMHSAS is maintaining a high-quality continuum of services while facing increased demands.	TDMHSAS continued to engage in collaborations to improve service outcomes while containing costs; maintaining and improving community mental health and substance abuse services; providing effective education and prevention services; decreasing prescription drug abuse; and promoting wellness and recovery for the citizens of Tennessee.	No

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Smalley, C. M., Meldon, S. W., Simon, E. L., Muir, M. R., Delgado, F., & Fertel, B. S. (2021)	Time series study	To examine LBTC return visits characteristics and potential revenue effects for a large healthcare system.	N/A	Facility type had less influence on the factors which led LBTC	Patients who left AMA or eloped (LSBS) had longer time to return and much higher admission rates with resultant less financial loss to the healthcare system than patients who left without being seen before a medical screening exam was completed.	Further studies are needed in developing programs that reduce LWBS and LSBS to improve patient safety outcomes and reduce financial losses.	Healthcare leaders and ED staff can work together to reduce the prevalence of patients LBTC- since this group of patients represents an area of lost revenue for the healthcare system.	Yes
Austin, E. E., Cheek, C., Richardson, L., Testa, L., Dominello, A., Long, J. C., Carrigan, A., Ellis, L. A., Norman, A.,	Systematic literature review	The purpose of this systematic review was to examine the research evidence provided in the peer-reviewed literature to identify the relationship between the	Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, Joanna Briggs Institute critical appraisal tool.	The systematic review found illness-specific strategies oriented to longer-term care delivery beyond the ED, and general mental illness interventions oriented to process improvements.	The study identified strategies for improving ED care delivery for mental illness presentations. The strategies included models of care, decision support tools, discharge and transfer refinements,	developing capacity in community services as well as appropriately resourced Consultation Liaison Psychiatry (CLP) to support the ED to fulfil its role in	Hospital executives and administrators can use this study a guide to improving care to patient that present in mental health or SUD crisis in the emergency departments.	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
Murphy, M., Smith, K., Gillies, D., & Clay-Williams, R. (2024).		strategies used to improve ED care delivery for adult mental illness presentations and measures of (1) system performance, (2) patient outcomes, (3) patient experience, and (4) staff experience.			case management adjustments to liaison psychiatry services, telepsychiatry, changes to roles and rostering, environmental changes, education, new multidisciplinary teams, and standardizations of care.	delivering safe and timely urgent care		
Keller, S., Tilbor, E., Shwiki, A., Florentin, S., Laufer, S., Bonne, O., Canetti, L., & Reuveni, I. (2023).		The study investigates the contribution of psychiatric referrals to this issue, to identify potential determinants of these referrals and offer means to reduce them.		The results demonstrate that about 58% of patients referred to the GHED during the study period did not need the facilities of a general hospital and could have been referred directly to ED services in dedicated psychiatric facilities and	The number of potentially ineffective referrals of psychiatric patients to GHED (General Hospital Emergency Department) is substantial and represents a major public-health concern due to its extensive burden on	The results suggest that available recommendations for differential referral to psychiatric versus general hospital emergency care should be clearer. Guidelines for referrals of psychiatric	As Healthcare Leaders and advocates we should ensure that healthcare policies promote services that provide accessible alternatives to the GHED also help mitigate GHED workload and allow more	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
				were therefore deemed as potentially ineffective.	GHED workload and negative effect on the psychiatric patient's well-being and quality of care.	patients in need by community service providers and patients alike are needed.	time and resources to treat populations with psychiatric symptoms, such as pregnant women, patients with eating disorders, young children, and geriatric patients, who should be evaluated in a GHED to exclude physical medical issues that require immediate attention.	
Laderman, M., Waghray, A., & Zeller, S. (2019)	Quality Improvement	Emergency rooms are having difficult time providing adequate and timely care	N/A	Based on eight U.S. hospitals that participated in this initiative, four essential	More processes are needed to improve the care for this population of patients to decrease staff	Continuous research is needed address and improve care the care of mental and	Health system leaders can take to make positive change for both patients and care	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
		for mental ill and SUD patient		elements presented that led to the formation of the critical foundation of effective improvement.	bias, inequalities, patient experience and autonomy	SUD presentation to EDs.	teams in the ED by supporting the work to build motivation and remove barriers, changing the culture in the ED around behavioral health, encouraging community partners, and practicing patience to realize sustained improvement.	
Mostafa, R., & El-Atawi, K. (2024).	Quality Improvement	Emergency department escalating challenges with overcrowding, resource allocations and improving patient outcomes	Systemic Review	Findings indicate that tailored strategies, such as implementing advanced triage protocols and leveraging telemedicine,	The study has systematically outlined a comprehensive range of strategies to enhance various aspects of ED performance, spanning from structural improvements to process	the need for a comprehensive approach, incorporating both organizational and technological innovations, to address the evolving needs of	evidence suggests that dynamic staffing models and the integration of cutting-edge diagnostic tools contribute to operational efficiency and	Yes

Author/ date	Theoretical/ conceptual framework	Research question(s)/ hypotheses	Methodology	Analysis & results	Conclusions	Implications for future research	Implications for practice	Empirical research? (yes or no)
				can significantly reduce wait times and enhance patient throughput	optimizations, outcome enhancements, and satisfaction measures.	emergency healthcare.	improved quality of care. Healthcare systems can utilize these standards to improve care in their EDs	

Appendix B: Review Question(s) Search Log

Database or location name	Search terms	Results	Notes
Medline (OVID)	mental health* OR mental illness* OR psychiatric illness* OR mental disorder* OR behavioral health* OR behavioral illness* hospital emergency service* OR emergency department* OR emergency room* OR acute care hospital OR rural hospital* OR remote OR rural communities OR safety-net quality improvement* OR quality performance OR quality of care OR quality of life OR patient care benchmarks* OR core measures OR standards of care* OR sentinel events* OR adverse reactions OR left without being seen OR left against medical advice OR length of stay OR ED boarding OR patient perception or staff experience OR staff attitudes* OR delay in treatment OR mortality OR morbidity	117	
CINAHL Cumulative Index of Nursing and Allied Health Literature	mental health* OR mental illness* OR psychiatric illness* OR mental disorder* OR behavioral health* OR behavioral illness*OR mental health presentation hospital emergency service* OR emergency department* OR emergency room* OR acute care hospital OR rural hospital* quality improvement* OR quality performance OR performance indicators OR quality of care OR patient care benchmarks* OR core measures OR standards of care* OR sentinel events* OR adverse reactions OR length of stay OR left without being seen OR left against medical advice OR left before treatment was started OR left before treatment was completed OR staff experience* OR staff behavior OR patient perception OR delayed care* OR patient complaints OR functional decline	42	22 duplicative with 20 remaining for inclusion and exclusion screenings
Journal of Healthcare Management	mental health	20	10-duplicative with 10 remaining for inclusion and exclusion screenings
Cochrane	mental health* OR mental illness* OR psychiatric illness* OR mental disorder* OR behavioral health* OR behavioral illness* hospital emergency service* OR emergency department* OR emergency room* OR acute care hospital OR rural hospital* quality improvement* OR quality performance OR quality of care OR patient care benchmarks* OR core measures OR standards of care* OR sentinel events* OR adverse reactions OR length of stay OR left without being seen OR left against medical advice OR staff experience* OR staff behavior OR patient perception OR delayed care* OR patient complaints OR continuity of care OR care interventions*	10	

Database or location name	Search terms	Results	Notes
Google Scholar	N/A	10	10
Frontiers of Health Services Management	mental health	15	10 duplicative with 5 remaining for inclusion and exclusion screenings

Appendix C: Appraisal Results Log

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
Simko, L., Birgisson, N. E., Pirrotta, E. A., & Wang, E. (2022). Waiting for care: Length of stay for ED mental health patients by disposition, diagnosis, and region (2009–2015). *Cureus*, *14*(6). https://do i.org/10.7759/cureus.25604	Evidence level 4, High quality rating	Hospital: Emergency departments, four regions of the U.S. Mental health patients experience some of the most extended LOS in EDs. The study investigated ED length of stay (LOS) for mental health compared to non-mental health visits by disposition, diagnosis, and region. The study will also examine the mental health subpopulations of psychiatric vs. substance use vs. co-occurring disorders. Lastly, it will explore the differences in ED use for mental health conditions across the U.S. by comparing regional mental health ED LOS and disposition patterns.	Mental health visits had a median (4.7) hours while medical visits had a median (2.7) hours. Mental health compared to medical visits were more likely to result in admission or transfer and to last >6 and >12 hours. Mental health visits resulting in transfer had the longest LOS with a median (7.7) hours. Of mental health visit types, co-occurring disorders visits were more likely to be >6	National Center for Health Statistics' National Hospital Ambulatory Medical Care Survey(NHAMCS) , for years 2009 through 2015. A three-stage probability sampling design is used; geographic primary sampling units were defined, hospitals within each primary sampling unit were selected, and f EDs are sampled. All acute care hospitals, not including federal, military, and Veterans Administration hospitals were eligible. Data is obtained by United	This study uses the NHAMCS database, which has multiple known limitations including chart abstraction mistakes, incongruent longitudinal data collection, and variables with significant missingness. The data was from 2009 to 2015 and may not reflect current trends. the most recent NHAMCS data in this study because ED LOS data for 2016 and 2017 were not released due to published data quality issues. psychiatric diagnoses are

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
		This data has been used by others to better understand overarching trends in ED utilization.	and >12 hours regardless of disposition. Across U.S. regions, there was significant variation in disposition patterns for mental health vs. medical visits. The odds of mental health visits lasting >6 and >12 hours were greatest in the Northeast and the least in the South with a median of (5.8) hours and (4.0) hours, respectively.	States Census interviewers.	seldom made in the ED, thus visits for initial presentation might not capture the entire mental health ED population.
García-Carpintero Blas, E., Gómez-Moreno, C., Moreno-Gómez-Toledano, R., Ayuso-del-Olmo, H., Rodrigo-Guijarro, E., Polo-Martínez, S., Manso Perea, C., & Vélez-Vélez, E. (2023). Help! Caring for people with mental	Evidence Level 5, Quality rating Good	Seven hospitals' Emergency Department in the Community of Madrid- emergency room nurses.	Improving the care of patients with MHC in the emergency department	Fifteen nurses who met the criteria, which were caring for at least one patient with an MHC while	The context-specific findings may not fully represent all professionals in the field.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
health problems in the emergency department: A qualitative study. *Journal of Emergency Nursing*, *49*(5). https://doi.org/10.1016/j.jen.2023.04.007		This study aimed to describe nursing staff's experiences in the emergency department, in the care they provide to people with mental health problems who often feel stigmatized by society and also in health care settings.	requires organizational changes, most importantly the training of the ED staff, which, if conducted, would represent a unique opportunity to offer interventions that positively influence patients with MH needs. Some essential changes would be training of emergency nurses in the care of patients with MH disorders, adequate emergency spaces, standardized protocols, and the support of	working in the ED ability to provide relevant information to respond to the study's objective, beginning with a purposive sampling (nurses with MH training, and those with MHC were excluded); were selected to be interviewed. There were no dropouts. A detailed analysis of the nurses' interviews resulted in the extraction of three main categories: health care, psychiatric patients, and work environment, with ten subcategories.	Furthermore, the results lack generalizability due to the study methodology and sample size. Findings from this study may not be transferable to other clinical settings. This study is also geographically confined, focusing exclusively on a single health system, which might limit the transferability of the results to staff in different locations or health systems.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			professionals specialized in highly complex situations. Emergency departments should provide targeted training including bias education, standardized care protocols, suitable treatment spaces, and access to experts in complex situations for a comprehensive approach to mental health emergencies.		
Im, D. D., Scott, K. W., Venkatesh, A. K., Lobon, L. F., Kroll, D. S., Samuels, E. A., Wilson, M. P., Zeller, S., Zun, L. S., Clifford, K. C., & Zachrison, K. S. (2022). A quality measurement framework for emergency department care of psychiatric emergencies. *Annals*	Evidence Level 5, Section 2, High Quality	Hospital: Emergency department, mentally ill and substance use disorder patients and patient outcomes. To develop a quality measurement	This framework may be helpful for health systems and providers aiming to	Cross sectional review that identified measures applied to emergency psychiatric care in the following	It excluded measures and quality measurement programs that exist solely

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
of Emergency Medicine. https://doi.org/10.1016/j.annemergmed.2022.09.007		framework that could guide future clinical quality improvement initiatives, measure program effect, and inform policy and research for adult psychiatric care in the ED.	evaluate and improve the quality of ED psychiatric care from patient arrival to disposition. Suitable for public reporting and value-based payment programs. Identifying gaps in structural measures to assess the infrastructure of capacity, systems, and processes to evaluate and risk stratify patients presenting with psychiatric conditions and the gap analysis can expose	national programs: National Quality Forum (NQF); Centers for Medicare and Medicaid Services (CMS) - Outpatient Quality Reporting, CMS - Inpatient Quality Reporting, CMS - Inpatient Psychiatric Facility Quality Reporting; CMS - Merit-Based Incentive System Program; The Joint Commission (TJC); National Committee for Quality Assurance Hospital Effectiveness Data and Information Set (NCQA), (HEDIS); Clinical Emergency Data Registry (CEDR); Institute for Healthcare Improvement (IHI). Standardized measures have	outside of the U.S. context. Include measures used for local and regional programs, allowing for an expansive review of U.S.-based measures related to emergency psychiatric care. Excluded measures not explicitly designed for patients with psychiatric emergencies, ED processes, or outcomes that disproportionately affect psychiatric patients were captured in the analysis (eg, ED length of stay) and May does not represent the most up-to-date measures. As all panelists were

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			outcome measures related to restrictive treatment or management provided in lieu of timely or appropriate patient assessment.	undergone testing by NQF or met the criteria to be included in the Centers for Medicare and Medicaid services measure inventory tool; the CMS-run inventory of measures used by CMS is various quality, reporting, and payment programs.30,31 Non-standardized measures include those limited to single or specific regions, as well as those that have not been appraised by NQF or met the criteria to be included in the Centers for Medicare and Medicaid services measure inventory tool. Extraction of the following measure	physicians, it is possible that their focus was biased toward quality improvement efforts related to medical decision-making.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
				details: name, measure description, endorsing program or institution, the numerator and denominator definitions, target population to whom the measure is applied, inclusion and exclusion criteria, NQF identification number, and NQF endorsement status (if applicable). To assess how the existing measures aligned with dimensions of health care quality improvement and to identify any remaining measurement gaps, classification of each identified measure by Donabedian classification of measure types and	

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
				National Academy of Medicine quality domains.	
Lane, D. J., Roberts, L., Currie, S., Grimminck, R., & Lang, E. (2021). Association of emergency department boarding times on hospital length of stay for patients with psychiatric illness. *Emergency Medicine Journal*, emermed-2020-210610. https://doi.org/10.1136/emermed-2020-210610	Evidence Level 5, Section 2-D Good Quality rating	Hospital: EDs, ED clinical records, mental health presentation, Bayesian Poisson regression, Is boarding in the ED was associated with a high probability of increasing the hospital length of stay for psychiatric patients; and increases morbidity for psychiatric patients held in the ED.	extended ED boarding time likely results in a minimal increase in hospital length of stay for patients with primary psychiatric disorders. Several key associations of increased boarding time consistent with previous literature were also identified, which could be targets for interventions aimed at reducing boarding time in the future.	The primary exposure was boarding time (admission decision to inpatient bed transfer), and primary outcome was inpatient length of stay. Confounders for this relationship, including indicators of illness severity, were selected a priori then the association was assessed using hierarchical Bayesian Poisson regression, which accounts for repeat observations of the same patient and differences between hospital sites. Changes in length of stay were measured using a rate ratio (ie,	Patients were selected based on their primary diagnosis of a psychiatric disorder, but this approach may miss patients with serious medical problems likely comorbid to their psychiatric disorder (eg, acute liver failure) that did not have a psychiatric diagnosis documented as their primary diagnosis for that hospital admission. excluded patients that were missing the primary outcome of hospital length of stay but were unable to

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
				expected change in length of stay for each 1 hour increase in boarding time).	determine why this measure was missing from their records. These patients may represent a unique subpopulation of patients with psychiatric disorders. id not explicitly consider the inpatient management of these patients in our analysis as all inpatient management could be influenced by the exposure of interest in the ED (ie, on the causal pathway). Factors including treatment type, legal status, patient's capacity and acceptance of treatment, as well as their disposition

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
					destination, availability of community support and outpatient care, no doubt influenced each patient's length of stay. did not consider insurance status of patients as a predictor of boarding time or confounder for length of stay. able to obtain data representing all potential confounders identified a priori in our causal model, the possibility of unmeasured confounders contributing to a spurious effect is always present when randomization of

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
					patients is not possible.
Schall, M., Laderman, M., Bamel, D., & Bolender, T. (2020). Improving Behavioral health care in the emergency department and upstream. In *ihi.org* (pp. 1–36). Institute for Healthcare Improvement.	Evidence level 5, Section 2-D, High Quality rating	Hospital: Emergency departments, psychiatric/SUD patients, ED staff (nurses, doctors etc). This study describes current gaps in care for psychiatric and SUD patients, tested improvements to close those gaps, and resources and tools that may provide additional support. The long-term goal of this work is to ultimately build systems of care in every community in the U.S. so that needless pain, suffering, and deaths from untreated mental health conditions and substance use disorders are addressed and eliminated.	This study provides a framework, practical ideas, and examples for how hospitals and health systems can improve care in the emergency department and upstream for mental health and substance use disorder patients. The study is based on the experience of organizations participating in the Learning Community, progress in providing better care for this patient population is	Process: Standardize ED Processes: a. Measure Numerator Denominator Exclusions Context to Consider Percentage admitted to inpatient. b. ED revisits within 7 days c. ED length of stay (LOS) d. ED length of stay by segment. e. ED boarding time Provider Culture: Create a Trauma-	The high-leverage changes are intentionally broad and apply to different types of hospitals with different staffing levels, access to in-house psychiatric specialists, and the availability of community resources. Not all ED are designed alike and may lack the needed resources to implement the needed changes.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			possible by linking improvements in internal ED processes with community-based providers and community organizations.	Informed Culture in the ED a. Average daily duration (in minutes) of ED patients in restraints b. The total number of ED patients restrained. c. Percentage of agitated patient codes in the ED that result in the use of restraints. d. Average rating of ED staff confidence in managing disruptive behaviors	

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
				using de-escalation skills and procedures (using a staff survey with a 1-to-5 rating scale) e. Total number of patient-to-staff assaults in the ED (assaults defined as a physical or verbal attack) Patients: Engage and Activate Patients and Families in ED Care Redesign a. MH/SUD patient experience of ED care (using a 1-to-5 scale,	

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
				survey responses rating the degree to which ED staff treated MH/SUD patient with respect, listened to the patient, and communicated effectively) b. Percentage of families of MH/SUD patients who participate in and receive the post-Ed discharge care plan.	

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
				Partnerships: Strengthen Relationships with Community Partners to Support Patients' Ongoing Needs a. Total number of patients with a scheduled follow-up appointment at a community provider b. Percentage of referrals completed.	
Austin, E. E., Cheek, C., Richardson, L., Testa, L., Dominello, A., Long, J. C., Carrigan, A., Ellis, L. A., Norman, A., Murphy, M., Smith, K., Gillies, D., & Clay-Williams, R. (2024). Improving emergency department care for adults presenting with mental illness: a systematic review of strategies and their impact on outcomes, experience, and	Evidence level 5, Section 2-A, High Quality rating	Hospital: Emergency Departments, mental ill presentation, systematic domain. To improve ED care delivery outcomes, experience, and performance for adults	identified strategies for improving ED care delivery for mental illness presentations. The strategies included	Cohort studies, Qualitative research, Quasi-experimental studies, and cross-sectional studies	Limitations of the current review include pragmatic choice to only include strategies implemented within the ED only. Patient and public were not

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
performance. *Frontiers in Psychiatry*, *15*. https://doi.org/10.3389/fpsyt.2024.1368129		presenting with mental illness.	models of care (e.g., ED initiated MOUD, ED-initiated social support, and deliberate self-harm), decision support tools, discharge and transfer refinements, case management, adjustments to liaison psychiatry services, telepsychiatry, changes to roles and rostering, environmental changes (e.g., specialized units within the ED), education, new multidisciplinary teams, and standardization		involved in this review who may have contributed valuable insights into the experiences and outcomes of interest. Patient and public were not involved in this review who may have contributed valuable insights into the experiences and outcomes of interest.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			s of care (e.g., assessment and monitoring). No single study evaluated all four domains of system performance, patient outcomes, patient experience, and staff experience. Furthermore, many strategies fill a gap in service delivery for patients that does not align with the functional purpose of the ED. The expanded scope of care delivered by EDs puts the system under		

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			considerable strain. We need to think critically about whether care is delivered in the right place at the right time for adults with mental illness.		
Thrasher, T. W., Rolli, M., Redwood, R. S., Peterson, M. J., Schneider, J., Maurer, L., & Repplinger, M. D. (2019). “Medical Clearance” of patients with acute mental health needs in the emergency department: A literature review and practice recommendations. *WMJ : Official Publication of the State Medical Society of Wisconsin*, *118*(4), 156–163. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7215859/	Evidence level 5, Section 2-A, Good Quality rating	Hospital: ED, literature review and multi-disciplinary expert consensus. The purpose of this paper is to provide a literature review and practice recommendations regarding the care of emergency department (ED) patients with acute mental health needs.	Five categories of recommendations were developed. The recommendations of this report seek to facilitate the safe and efficient care of patients requiring admission for psychiatric services.	A task force with representation from emergency physicians (WACEP) and psychiatrists (Wisconsin Psychiatric Association, [WPA]) met to create this position statement. The members reviewed clinical practice guidelines and primary literature sources to develop evidence-based recommendations.	N/A
Keller, S., Einat Tilbor, Afnan Shwiki, Florentin, S., Laufer, S., Bonne, O.,	Evidence level 4 High quality rating	General hospital emergency	Ineffective referrals to the	Retrospective anonymous data	As to the limitations, the

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
Canetti, L., & Inbal Reuveni. (2023). Psychiatric referrals to the general hospital emergency department: are we being effective? *Frontiers in Psychiatry*, *14*. https://doi.org/10.3389/fpsyt.2023.1166191		department, The Hadassah Ein-Kerem Medical Center. Mental health referrals This study aims to investigate the contribution of psychiatric referrals to this issue, to identify potential determinants of these referrals and offer means to reduce them	GHED pose a burden on general hospital resources and may be less effective for psychiatric patients. This calls for clear guidelines for the provision of optimal emergency treatment for mental-health patients.	was collected from the admission files. Files of all the patients who were examined by a psychiatrist in the GHED in Hadassah Ein-Kerem Hospital over a 1year period, between October 1st, 2015, and September 30th, 2016, were included. Two experienced psychiatrists (SK and AS) separately assessed each referral, to determine whether it was an effective referral. When needed, a case-by-case discussion was conducted between raters until an agreement on the classification of the case was reached.	study was based on hospital records. Therefore, the information presented here is limited. The effectiveness of the referrals was categorized by clinicians retrospectively and may be subjected to bias. data presented in this study was collected during 2015-2016. Therefore, changes that may have occurred during this time, such as the pandemic and economic turmoil following it, may affect the results and need to be taken into account when interpreting the results.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
Pawaskar, R., Mahajan, N., Wangoo, E., Khan, W., Bailey, J., & Vines, R. (2022). Staff perceptions of the management of mental health presentations to the emergency department of a rural Australian hospital: qualitative study. *BMC Health Services Research*, *22*(1). https://doi.org/10.1186/s12913-022-07476-7	Evidence level 5, Section 2-D Good quality rating	Australia Hospital ED, ED clinician, To examine ED staff perceptions regarding the management of mental health presentations in a rural Australian ED.	The core findings of this study were that perceived deficiencies in staff expertise, de-escalation techniques and referral pathways contributed to increased mental health patient retention in ED, thereby increasing staff workloads.	A combination of departmental and hospital-wide issues in conjunction with individual staff attitudes regarding mental health conditions contributes to issues in mental health patient care in this ED. In particular, limited training in mental health and resources available to ED staff affects confidence in managing mental health presentations and contributes to prolonged time to definitive treatment.	Sample consisted predominantly of nurses, with only a few junior doctors participating and no senior doctors, which may limit the applicability of our findings to a general population of ED clinicians. However, data saturation was deemed to have been achieved with this participant group. It is also noteworthy that it is typically the nurses and junior doctors on the ground who provide hands-on patient care in this ED setting.
Roenfeldt, H., Wyder, M., Byrne, L., Hill, N., Randall, R., & Hamilton, B. (2021). Subjective experiences of mental health crisis care in emergency	Evidence level 5- Section 2- High quality	Hospital ED in UK, Europe, Canada and Austrillia , mental	The findings represent the experience of accessing	The review was guided by Arksey and O'Malley's methodological	The potential to miss relevant articles given that subjective

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
departments: A narrative review of the qualitative literature. *International Journal of Environmental Research and Public Health*, *18*(18), 9650. https://doi.org/10.3390/ijerph18189650		health patients' perception. The study aims to describe qualitative literature involving the subjective experiences of people presenting to the ED during a mental health crisis.	EDs, through to the impact of treatment. The review found points of opportunity that improve people's experiences and characteristics associated with negative experiences.	framework for scoping studies follows the Preferred Reporting Items for Systematic reviews and Meta-analysis extension for scoping reviews to ensure rigor (PRISMA-ScR). A narrative synthesis methodology was applied to summarize, explain, and interpret findings. Recognizing the time sequence of ED experience, findings have been presented based on journey mapping to depict the series of events that shaped the subjective experience of the EDs.	experiences are not always separated from other outcomes. The studies included are limited to the UK, Europe, Canada, and Australia and given differences between health systems, the results may not be generalizable to other countries. The lack of non-Western countries is a limitation of this study. The studies were also limited in mostly describing the experiences of participants who had multiple presentations to the ED, and this may not reflect participants with

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
					infrequent presentations or presenting for the first time.
Gabet, M., Grenier, G., Cao, Z., & Fleury, M.-J. (2020b). Implementation of three innovative interventions in a psychiatric emergency department aimed at improving service use: a mixed-method study. *BMC Health Services Research*, *20*(1). https://doi.org/10.1186/s12913-020-05708-2	Evidence level 5 Section 2-D Good quality	Canada hospital emergency department, mixed method using quantitative and qualitative data. The study aimed to describe the implementation of three innovative interventions provided by a brief intervention team, crisis center team, and family-peer support team in a Quebec psychiatric ED, including the identification of implementation barriers, and evaluate the impacts of these ED innovations on MH service use and response to needs.	This study focused on brief interventions in a Quebec psychiatric ED on crisis prevention and for improving MH services and for reducing ED use and hospitalization among MH patients.	Mixed methods with data triangulation, the implementation and impact of the three above-named ED interventions were studied. Quantitative data were collected using a user questionnaire and patient medical records. Qualitative data were gathered from focus groups with key intervention staff members The user questionnaire also included open-ended questions. Descriptive, comparative and content analyses were produced.	The sample was selected from a psychiatric ED in a Quebec MH university institute, and on a voluntary basis, the findings may not be generalizable to all ED, and particularly not general ED or those located in semi-urban or rural areas. The innovations targeted few ED patients compared with the overall yearly patient volume in the hospital ED. Also, the small sample size for users of each ED intervention prevented the

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
					generation of more complex statistics, especially for the family-peer user group. It was also difficult to assess the family-peer support team, as no research on this type of intervention was identified in the literature.
Fleury, M.-J., Grenier, G., Farand, L., & Ferland, F. (2019). Reasons for emergency department use among patients with mental disorders. *Psychiatric Quarterly*, *90*(4), 703–716. https://doi.org/10.1007/s11126-019-09657-w	Evidence level 5-Section 2-D Good quality	2 general EDs, psych ED, 1 general ED w/psych ED (integrated) in Quebec Canda, The authors hypothesized that ED use for mental health (MH) reasons would be most strongly associated with need factors.	ED visits were more strongly related to needs factors, while predisposing and enabling factors also influenced ED visits, particularly in more complex cases. improving access to other resources, may reduce	Mixed method - quantitative and qualitative. Data were organized using a conceptual framework based on the Andersen Behavioral model.	The study took place in Canada, where the health and social safety net is far more robust than in the U.S. or other countries without a universal healthcare regime. the four selected EDs were located in urban areas, results may not be generalizable to rural territories

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			non-urgent ED use.		or other ED settings. ED-P participants were overrepresented in our sample, which may have affected the results. The mixed methodology was not sensitive to differences among patients with mental disorders due to their use of EDs with different operating models. several predisposing or enabling factors, such as benefits provided by religion, tele-psychotherapy or online mental help use were not considered.
Morales, D. A., Barksdale, C. L., & Beckel-Mitchener, A. C. (2020). A call to action to address rural mental health disparities. *Journal of Clinical and*	Level 4-Section 1-Good rating	Non-HSO (CDC, National Institute on Minority Health and Health Disparities,	The way NIMHD's Research Domain	NIMHD (National Institute on Minority Health and	N/A

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
Translational Science, *4*(5), 1–20. https://doi.org/10.1017/cts.2020.42		mental health patients in rural communities. This study emphasizes the National Institute on Minority Health and Health Disparities (NIMHD) research framework to conceptualize the complexity of rural mental health disparities and to enhance study designs that advance the rural mental health research agenda.	Criteria is a research framework for investigating mental disorders, the NIMHD framework can be applied to understand the nature of mental health disparities and how to address them. The NIMHD framework provides a useful structure to guide study designs that can address the complexities of delivering rural mental health care and to show mechanisms underlying disparity as	Health Disparities) framework.	

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			well as how best to remedy them.		
Fleet, R., Turgeon-Pelchat, C., Smithman, M. A., Alami, H., Fortin, J.-P., Poitras, J., Ouellet, J., Gravel, J., Renaud, M.-P., Dupuis, G., & Légaré, F. (2020). Improving delivery of care in rural emergency departments: a qualitative pilot study mobilizing health professionals, decision-makers and citizens in Baie-Saint-Paul and the Magdalen Islan in Canada, Québec, Canada. *BMC Health Services Research*, *20*(1). https://doi.org/10.1186/s12913-020-4916-1	Level 5 Section 2-C high quality rating	Rural hospital ED in Canada, Improving the delivery of care in rural and remote ED settings. This study evaluates the feasibility and relevance of the selected approach and to explore challenges and solutions to improve delivery of care in selected EDs.	Mobilizing rural stakeholders in a dialogue about challenges and solutions may be a promising approach to foster improvements . Our approach can help produce recommendations that are both evidence-based and better adapted to real-world constraints.	Combining quantitative and qualitative data provided a more comprehensive understanding of the challenges and solutions in the two rural EDs	The use of champions was particularly effective in recruiting participants and supporting ties in each setting, but this may also have created a bias in the recruitment process. the number of participants and type of interviews varied, certain stakeholder groups may have had more influence on the findings.
Mostafa, R., & El-Atawi, K. (2024). Strategies to measure and improve emergency department performance: A review. *Cureus*, *16*(1). https://doi.org/10.7759/cureus.52879	Evidence level 5 and quality rating High	Hospital- quality improvement in the ED-challenges with overcrowding, lack of resources, and	Tailored strategies, such as implementing advanced triage	ED metrics (LWBS)left with out being seen, (LOS) length of stay, time to diagnosis, time to	N/A

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
		increased patient demands	protocols and leveraging telemedicine, that reduce wait times and enhance patient throughput	treatment, ED wait times, correct and appropriate diagnosis, ED returns with in 72-hour window, ED readmissions, patient satisfaction, mortality rates, resuscitation techniques in the ED.	
Mohr, N. M., Wu, C., Ward, M. J., McNaughton, C. D., Faine, B., Pomeranz, K., Richardson, K., & Kaboli, P. J. (2021). Transfer boarding delays care more in low-volume rural emergency departments: A cohort study. *The Journal of Rural Health*, *38*(1), 282–292. https://doi.org/10.1111/jrh.12559	Evidence level 5 and quality rating High	Veteran Health Administration (VHA) EDs. This study was to measure the relative impact between ED boarding on timeliness of early ED care for new patient arrivals, with a focus on the differential impact in low-volume rural hospitals.	Patients with mental health diagnoses in the ED may require increased use of ancillary resources but medically complex patients often require more diagnostic tests, procedures, and repeat evaluation leading to a greater impact on ED	The primary exposure was the number of patients in the ED at the time of ED registration, stratified by disposition (admit, discharge, or transfer) and mental health diagnosis. The primary outcome was time-to-provider evaluation, and secondary outcomes included time-to-EKG, time-to-laboratory testing, time-to-radiography, and total ED length-	All data were observational and were retrieved from the VHA electronic medical records. This design allowed for a large sample, but it limits data elements available for analysis. Another limitation is the algorithm used to define transfer, was used a linkage rather than a disposition

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			operations. The magnitude of effect was relatively small, but the additive impact can result in substantial delays. The second finding was that timeliness was affected disproportionately by the number of ED patients waiting for interfacility transfer. This observation parallels findings from a recent qualitative study of low-volume VHA EDs: interfacility transfer is a burdensome	of stay. Rurality was measured using the Rural-Urban Commuting Area.	variable and may have inadvertently misclassified some patients who were discharged then admitted to another hospital in a short timeframe.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			process that requires significant physician, nurse, and clerk-focused administrative effort. This administrative effort can compete with the care of other patients—boarding in an ED affects patients even who are not boarding. The transfer process involves time talking with an accepting facility, completing documentation and transfer authorizations, arranging transportation, and		

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			coordinating the transfer. While patients are transferred from all sizes of hospitals, the impact of transfer boarding on small rural facilities was greater than on larger facilities. As these EDs have less staffing and correspondingly less surge capacity, this finding was not surprising.		
Brathwaite, D., Waller, A., Gaynes, B. N., Stemerman, R., Deselm, T. M., Bischof, J. J., Tintinalli, J. E., Brice, J. H., & Bush, M. (2022). A 7 Year summary of emergency department visits by patients with mental health disorders. 13. https://doi.org/10.3389/fpsyt.2022.831843	Evidence Level 5 and quality rating High	EDs in North Carolina, retrospective study. This study seeks to understand the mental health-related ED burden in North Carolina (NC) by describing trends in ED visits linked with a mental health	Non-observational randomized trials have looked to reduce post-hospitalization ED utilization among similar patient groups,	Data was used from NC DETECT that described trends in NC ED visits from January 1, 2008, through December 31, 2014, by presence of a MHD code. A visit was classified by the first	One limitation is that the data was unable to differentiate between psychiatric admissions and medical admissions. Without a clear

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
		diagnosis (MHD) a seven-year timeframe.	including acutely injured trauma survivors and hospitalized patients with comorbid substance use disorders. These trials employed care coordination and case management interventions to limit adverse outcomes post-hospitalization. Similar study designs could prove useful in developing targeted interventions to prevent MHD-related ED visits across NC.	listed MHD ICD-9-CM code in the surveillance record and MHD codes were grouped into related categories for analysis. Visits were summarized by MHD status and by MHD category.	and consistent indicator of psychiatric admission among all ED sites, the term "admission" was used to describe any hospital admissions, regardless of the unit or service. Another limitation was the ED discharge disposition used in this study did not have information on where a patient had been transferred to , and whether a patient was discharged home with appropriate follow-up care.
Niles, L., & Olin, S. (2021). *Behavioral health quality framework: A roadmap for using measurement to promote joint*	Evidence level 5 and quality rating High	Non-HSO- 39 Federal programs focusing on Behavioral Health.	To drive improvements in BH quality	Only 35 unique standardized BH quality measures	NA

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
accountability and whole-person care. A White Paper. https://www.ncqa.org/wp-content/uploads/2021/07/20210701_Behavioral_Health_Quality_Framework_NCQA_White_Paper.pdf		The fragmented and inequitable state of BH care delivery and management calls for a measurement framework that can be guide and hold entities jointly accountable for improving care access and outcomes for individuals with BH conditions.	and promote joint accountability across entities responsible for serving individuals with BH needs, the study proposed a BH Quality Framework. This framework prioritizes alignment and use of meaningful sets of quality measures, uniquely targeted to each level of the health care system, that coordinate and assess progress towards population-level goals.	were used across all federal programs; 16 were used only in a single program. − Four measures were most frequently used across programs: Follow-Up After Hospitalization for Mental Illness; Screening for Depression and Follow-Up Plan; Initiation and Engagement of Alcohol and Other Drug Abuse and Dependence Treatment; Preventive Care and Screening: Tobacco Use—Screening and Cessation Intervention.	
Nordstrom, K., Berlin, J., Nash, S., Shah, S., Schmelzer, N., & Worley, L.	Evidence level 5 and quality rating Good	U.S. hospitals ED/ED physicians	This study has unique	A survey of 1400 ED directors by the	NA

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
(2019). Boarding of mentally ill patients in emergency departments: American psychiatric association resource document. *Western Journal of Emergency Medicine, Volume 20, Issue 5*, *20*(5), 690–695. https://doi.org/10.5811/westjem.2019.6.42422		To explore ways to reduce inappropriate “boarding” of psychiatric patients in the ED and to improve care.	recommendations to improve care, treatment, and outcomes of psychiatric patients while they wait in the for admission or transfer.	American College of Emergency Physicians was used along with published average boarding times .	
Van Der Linden, M. C., Balk, F. J. E., Van Der Hoeven, B. J. H., Van Loon, M., De Voeght, F. J., & Van Der Linden, N. (2019). Emergency department care for patients with mental health problems, a longitudinal registry study and a before and after intervention study. *International Emergency Nursing*, *44*, 14–19. https://doi.org/10.1016/j.ienj.2019.02.003	Evidence level 4 and quality rating High	U.S. hospital EDs, inappropriate ED usage via mental and SUD patients. To systematically review interventions designed to improve appropriate use of the emergency department for mental health reasons.	This study provides decision makers with concrete evidence to support the implementation and evaluation of interventions to improve emergency department use for mental health reasons.	Joann Briggs Methodology for Mixed methods systemic reviews	Heterogeneity of interventions eligible for inclusion and incomplete information reported about the interventions in the literature.
Perrone McIntosh, J. T. (2021). Emergency department nurses’ care of psychiatric patients: A scoping review. *International Emergency Nursing*, *54*, 100929.	Evidence level 5 and quality rating High	International hospital ED, ED nurses’ care for mental ill /SUD population,	Findings can help Hospital administrators allocate efforts to design	A scoping methodology was used to explore the breadth of literature on ED nurses’ care	More than half of the studies occurred outside of the U.S. because of this

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
https://doi.org/10.1016/j.ienj.2020.100929		This study looks to determine what is known about the nursing care of psychiatric patients in the ED and discover the factors that impact the quality of nursing care of psychiatric patients in the ED.	training and competencies tailored to the care of individuals with mental illness in the ED setting. This can better equip staff on unconscious bias, improve safety, quality, respectful and dignified care to psychiatric patients. Findings can also bring awareness to policy makers to create and allocate the needed and appropriate resources for this population of individuals.	of psychiatric patients	there is limitations because of the different cultures, processes, and surrounding across international locations.
Moayed, M. S., Khalili, R., Ebadi, A., & Parandeh, A. (2022). Factors determining the quality of health services provided to COVID-19 patients	Evidence level 5 and quality rating High	Hospital/medical center, explain factors determining the quality of health	The results of this study indicate that to achieve more	Donabedian Model	Due to the qualitative nature of this study, the difficulty in

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
from the perspective of healthcare providers: Based on the Donabedian model. *Frontiers in Public Health*, *10*. https://doi.org/10.3389/fpubh.2022.967431		services provided to COVID-19 patients from the perspective of healthcare providers based on the Donabedian model.	desirable outcomes, such as professional excellence, quantitative and qualitative improvements in hospital services, and acceptability of healthcare professionals (patient satisfaction and trust) in public health crises, more attention is needed to be paid to structures, such as operational (organizational) readiness, along with continuous training. crisis affects the structure of organizations		recruiting an adequate number of participants to reach data saturation was one of the limitations of this study.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			providing care and treatment and how treatment processes must be followed in the organization.		
Laderman, M., Waghray, A., & Zeller, S. (2019, November). *Improving behavioral health care in the ED and upstream | Institute for Healthcare Improvement*. Www.ihi.org. https://www.ihi.org/resources/publications/improving-behavioral-health-care-ed-and-upstream	Evidence level 5 and quality rating High	Hospital EDs, quality improvement initiative to enhance care for Behavioral health (including SUD) in the ED	The initiative tested improvements in four key areas: building community partnerships to enhance coordination and communication, standardizing processes in the ED, engaging and activating patients and family members, and creating a trauma-informed	Percentage admitted to inpatient, ED revisits within 7 days, ED length of stay (LOS), ED LOS by segment, ED boarding time, average daily duration (in minutes) of ED patients restrained, total number of ED patients restrained, Percentage of agitated patient codes in the ED that result in the use of restraints, Average rating of ED staff confidence in managing disruptive behaviors using de-escalation skills and procedures (using a	Only consisted of eight hospital for 18-months. While behavioral health is commonly used to encompass a wide range of conditions, the improvement stories refer specifically to patients with mental health conditions and substance use disorders presenting to the emergency department.

Author, date, and title	Evidence level and quality rating	Focus: HSO type, research domain, and specific problem being addressed	Findings that help answer the review question(s)	Metrics and measures if used	Source limitations
			culture among ED staff.	staff survey with a 1- to-5 rating scale). Total number of patient-to-staff assaults in the ED (assaults defined as a physical or verbal attack). H/SUD patient experience of ED care (using a 1-to-5 scale, survey responses rating the degree to which ED staff treated MH/SUD patient with respect, listened to the patient, and communicated effectively). Percentage of families of MH/SUD patients who participate in and receive the post-ED- discharge care plan.	

Appendix D: DHA Thematic Analysis Results

Author(s) and date	Data extracted	Initial codes	Preliminary themes
Simko, L., Birgisson, N. E., Pirrotta, E. A., & Wang, E. (2022). Waiting for Care: Length of stay for ED mental health patients by disposition, diagnosis, and region (2009–2015). *Cureus*, *14*(6). https://doi.org/10.7759/cureus.25604	Mental health visits had a median (4.7) hours while medical visits had a median (2.7) hours. Mental health compared to medical visits were more likely to result in admission or transfer and to last >6 and >12 hours. Mental health visits resulting in transfer had the longest LOS with a median (7.7) hour. Of mental health visit types, co-occurring disorders visits were more likely to be >6 and >12 hours regardless of disposition. Mental health ED visits continued to be substantially longer than medical ED visits. LOS benchmarks have long been used in ED operations as an indicator of the quality of care and patient satisfaction. Community and rural centers may have a lack of specialization and in-house mental health professionals may not be available. The negative effects of prolonged ED LOS for individual mental health patients, increased LOS can contribute to crowding, which is deleterious for all ED patients.	Access to care, Emergency department, mental ill patients/visits, LOS benchmarks, Community and rural, lack of specialization, mental health professional, Input-Throughput-Output Framework. ED operations, treatment, disposition, improvement. Improved quality of care, overcrowding, deleterious, negative effects, increased LOS, patient satisfaction.	Structures Processes Outcomes
García-Carpintero Blas, E., Gómez-Moreno, C., Moreno-Gómez-Toledano, R., Ayuso-del-Olmo, H., Rodrigo-Guijarro, E., Polo-Martínez, S., Manso Perea, C., & Vélez-Vélez, E. (2023). Help! Caring for people with mental health problems in the emergency department: A qualitative study. *Journal of Emergency Nursing*, *49*(5). https://doi.org/10.1016/j.jen.2023.04.007	Improving the care of patients with Mental Health Conditions in the emergency department requires organizational changes, most importantly the training of the ED staff, which, if conducted, would represent a unique opportunity to offer interventions that positively influence patients with MH needs. The primary findings were the need to train the ED nurses to be prepared to care for people who experience mental health concerns and the need for implementation of standardized protocols.	access to care, training of ED staff, Emergency department, mental health patients, suitable treatment spaces, mental health presentations. interventions, organizational change, patient care, standardized protocols, bias education.	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
		positive influence on MH patients Improved care, patient, and staff satisfaction	
Im, D. D., Scott, K. W., Venkatesh, A. K., Lobon, L. F., Kroll, D. S., Samuels, E. A., Wilson, M. P., Zeller, S., Zun, L. S., Clifford, K. C., & Zachrison, K. S. (2022). A quality measurement framework for emergency department care of psychiatric emergencies. *Annals of Emergency Medicine*. https://doi.org/10.1016/j.annemergmed.2022.09.007	This framework may help health systems and providers evaluate and improve the quality of ED psychiatric care from patient arrival to disposition that is suitable for public reporting improvement initiatives, measure program effect, and inform policy and research for adult psychiatric care in the ED. Psychiatric emergencies have longer LOS and boarding times and leads to ED crowding, which is has harmful effects on all ED patients. Morbidity and mortality related to treatment delays and preventable errors. The findings identified only five standardized measures for the care of psychiatric emergencies in the ED setting. Three were stratified ED throughput measures, and only two were endorsed by NQF as of March 2022.	hospital ED, psychiatric patients, regulatory bodies, policy, research, Donabedian Classification, NQF (National Quality Framework) guidelines. psychiatric care, quality improvement initiatives, disposition, public reporting, treatment delays. ED crowding, morbidity, mortality, preventable errors, increased boarding time, harmful effects, improved quality of care.	
Schall, M., Laderman, M., Bamel, D., & Bolender, T. (2020). Improving behavioral health care in the emergency department and upstream. In *ihi.org* (pp. 1–36). Institute for Healthcare Improvement.	The findings are from experience of organizations participating in the Learning Community, progress in providing better care for mental ill and SUD patient by linking improvements in internal ED processes with community-based providers and community organizations. The framework for improvement looks at evidence-based practices for a better system. It focuses on processes in the ED, the healthcare system's culture, patient and family engagement, leadership,	staff training, staff experience with mental health presentation, hospital culture, mental ill and SUD presentations, ED restructure, Community providers, community organizations, leadership, stakeholders.	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
	and community relationships. It also has a system to evaluate these measures for improvement.	ED workflow, protocols and quality measures, improvement initiatives, treatment for mental health and SUD patients, ED boarding. improved quality of life/better care, LOS.	
Austin, E. E., Cheek, C., Richardson, L., Testa, L., Dominello, A., Long, J. C., Carrigan, A., Ellis, L. A., Norman, A., Murphy, M., Smith, K., Gillies, D., & Clay-Williams, R. (2024). Improving emergency department care for adults presenting with mental illness: a systematic review of strategies and their impact on outcomes, experience, and performance. *Frontiers in Psychiatry*, *15*. https://doi.org/10.3389/fpsyt.2024.1368129	This review found strategies to improve ED care delivery for adults presenting with mental illness and measures of system performance, patient experience, patient outcomes, and staff experience. To improve the capacity of ED staff to provide care safely and ethically for adults presenting with mental illness, interventions must be aligned with current clinical guidelines and the purpose of the ED system.	ED, mental health presentation, staff experience, access, staff ethics, clinical guidelines. measure of performance, interventions, patient safety, workflow, delivery of care. patient experience/satisfaction, improved quality of care.	
Thrasher, T. W., Rolli, M., Redwood, R. S., Peterson, M. J., Schneider, J., Maurer, L., & Repplinger, M. D. (2019). "Medical Clearance" of patients with acute mental health needs in the emergency department: A literature review and practice Recommendations. *WMJ: Official Publication of the State Medical Society of Wisconsin*, *118*(4), 156–163. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7215859/	Expert consensus developed recommendations for assessing medical stability for patients with mental health crisis is its effect on ED boarding The task force developed five categories regarding the care of emergency department (ED) patients with acute mental health needs. Patients with mental health complaints have a significantly greater ED LOS than patients with non-psychiatric complaints. Recommendations: 1.The emergency department evaluation of patients with acute mental health needs should include a detailed history and physical exam. 2. Diagnostic testing should be guided by an individual patient's history, review of systems, and	Structure: mental health presentation, ED, medical resource (internal/external), medical presentation, Process: medical stability, medical treatment, diagnostic testing, exams, evaluations, tool guide, doctor to doctor communication/collaboration	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
	physical examination and is not always required for assessing medical stability. 3. Emergency physicians should help facilitate the medical treatment of patients referred to freestanding psychiatric facilities, which have limited medical resources. 4. A uniform tool to guide the medical evaluation should be employed in all emergency departments in the State: (for this study it was The Wisconsin SMART Form). 5. Emergency physicians and psychiatrists should communicate directly about patient care.	Outcome: LOS, ED boarding, improving quality of care, morbidity	
Lane, D. J., Roberts, L., Currie, S., Grimminck, R., & Lang, E. (2021). Association of emergency department boarding times on hospital length of stay for patients with psychiatric illness. *Emergency Medicine Journal*, emermed-2020-210610. https://doi.org/10.1136/emermed-2020-210610	MH advocates, physicians and governmental organizations were concerned about the possible harms of that extended boarding times in the ED had on patients with psychiatric disorders. Because extended ED boarding time resulted in an increase in hospital LOS for psychiatric patients several key associations of increased boarding time were identified, leading to interventions designed to reduce boarding times. Psychiatric boarding may be perpetuated through structural stigma, including funding disparities for mental health services, including inpatient beds, and hospital practices, policies and procedures that restrict the rights of people with mental illness.	ED, mental health presentation, medical patients, MH advocates, governmental organizations, staff/structural stigma, hospital practices, policies, and procedures, funding disparities, mental health services. workflow, interventions to reduce boarding. LOS, ED boarding, improve quality of care, adverse events (harm), funding	
Keller, S., Einat Tilbor, Afnan Shwiki, Florentin, S., Laufer, S., Bonne, O., Canetti, L., & Inbal Reuveni. (2023). Psychiatric referrals to the general hospital emergency department: are we being effective? *Frontiers in Psychiatry*, *14*. https://doi.org/10.3389/fpsyt.2023.1166191	This was the first study to investigate the effectiveness of referrals of adult psychiatric patients to a GHED (General Hospital Emergency Department). The findings demonstrate that more than half of patients referred to the GHED during the study period did not need the facilities of a general hospital ED and could have been referred	General hospital ED, psychiatric patient, patient, families. referrals (effective-ineffective), mental health disorders (psychiatric	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
	directly to ED services in dedicated psychiatric facilities and were therefore deemed as potentially ineffective. The leading causes for potentially ineffective referrals to a GHED were psychiatric illness exacerbation and suicidal ideations. Most referrals were initiated by the patient or their family, and not by a primary care physician or psychiatrist.	exacerbations, suicidal ideations). decrease harm, improve quality of life.	
Pawaskar, R., Mahajan, N., Wangoo, E., Khan, W., Bailey, J., & Vines, R. (2022). Staff perceptions of the management of mental health presentations to the emergency department of a rural Australian hospital: qualitative study. *BMC Health Services Research*, *22*(1). https://doi.org/10.1186/s12913-022-07476-7	The core findings in this study were that perceived deficiencies in staff expertise, de-escalation techniques and referral pathways contributed to increased mental health patient retention in rural EDs, thereby increasing staff workloads. ED Staff felt inexperienced in responding to mental health presentations, and deficient in their understanding of mental health legislation, de-escalation techniques for agitated patients, and confidence in caring for acute presentations.	rural ED, staff experience, mental health presentation, staff stigma, mental health legislation, de-escalation techniques, referral pathways, staff workloads. retention, deficiencies, patient satisfaction, improve quality of care	
Roenfeldt, H., Wyder, M., Byrne, L., Hill, N., Randall, R., & Hamilton, B. (2021). Subjective experiences of mental health crisis care in emergency departments: A narrative review of the qualitative literature. *International Journal of Environmental Research and Public Health*, *18*(18), 9650. https://doi.org/10.3390/ijerph18189650	The findings reflect the experience of accessing EDs, through to the impact of treatment and observed points of opportunity that improve people's experiences and characteristics associated with negative experiences. The findings highlight the predominance and impact of negative experiences of the ED and the incongruence between the expectations of people presenting to the ED and the experience of treatment.	access to care, ED, ED staff experience, stigma, health system, lack of resources, staff views, mental health presentation. treatment norms, workflow, crisis intervention. Negative experiences, unavoidable presentation, patient experience, improve patient's experience, improve quality of care.	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
Gabet, M., Grenier, G., Cao, Z., & Fleury, M.-J. (2020). Implementation of three innovative interventions in a psychiatric emergency department aimed at improving service use: a mixed-method study. *BMC Health Services Research*, *20*(1). https://doi.org/10.1186/s12913-020-05708-2	Findings were focused interventions in a Quebec psychiatric ED on crisis prevention and improving mental health services for reducing general hospital ED use and hospitalization among mental health patients. The interventions focused on improving staff training and actively involving them in new interventions, predominantly physicians; developing collaborative tools geared especially to preventing cultural clashes between staff and organization and encouraging continuous quality assessment.	general hospital ED, mental health and SUD presentation, ED staff, systems, organization, cultural conflicts/resolutions, staff training. psychiatric ED workflow, general ED workflow, interventions, continuous quality assessments, collaborative tools. ED usage, quality of care for MH and SUD patients, patient, and family satisfaction, improve staff responsiveness to patient.	
Fleury, M.-J., Grenier, G., Farand, L., & Ferland, F. (2019). Reasons for emergency department use among patients with mental disorders. *Psychiatric Quarterly*, *90*(4), 703–716. https://doi.org/10.1007/s11126-019-09657-w	Most individuals with mental health or SUD frequently utilize the EDs, some with urgent and life-threatening health conditions such as suicidal ideations. Other MH/SUD patients perceive that they have a life-threatening health condition because symptoms associated with anxiety disorders mimic symptoms of a heart attack. Findings also indicate that users with mental disorders often justified their ED visits by the lack of community resources, particularly during evenings and weekends. Improving access to other resources and reducing non-urgent ED usage.	Structure: EDs, mental health and SUD presentation, MH resources, access. Process: interventions, life-threatening health conditions, suicidal ideations, anxiety, ED utilization, Andersen Behavioral model, Outcomes: improved quality of care, staff and patient perception, improving access.	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
Morales, D. A., Barksdale, C. L., & Beckel-Mitchener, A. C. (2020). A call to action to address rural mental health disparities. *Journal of Clinical and Translational Science*, *4*(5), 1–20. https://doi.org/10.1017/cts.2020.42	Findings show that Rural residents in the USA disproportionately suffer from negative effects of living with unmet or under-met mental health needs. The NIMHD developed a framework that focused on collaboration with providers and members of the rural community to continue developing, implementing, and improving existing suicide prevention efforts that can appropriately address the unique and complex challenges and assets of rural areas.	rural communities, mental health patients, access to care, neighborhood factors affecting heath (unmet/under-met mental health needs), lack of BH specialty. suicide prevention initiatives, collaboration between provider and members of the community, stigma reduction. improving disparities, quality of life, preventable deaths, improve MH outcomes	
Fleet, R., Turgeon-Pelchat, C., Smithman, M. A., Alami, H., Fortin, J.-P., Poitras, J., Ouellet, J., Gravel, J., Renaud, M.-P., Dupuis, G., & Légaré, F. (2020). Improving delivery of care in rural emergency departments: a qualitative pilot study mobilizing health professionals, decision-makers and citizens in Baie-Saint-Paul and the Magdalen Islan in Canada, Québec, Canada. *BMC Health Services Research*, *20*(1). https://doi.org/10.1186/s12913-020-4916-1	The findings suggest that local contexts of rural and remote settings considerably affect care delivery in rural EDs and the potential solutions to improve it. The facts also point to the importance of the global context in which rural EDs are evolving in understanding the barriers and facilitators that may influence the implementation of solutions. Findings also identified challenges and solutions; without prompting, stakeholders repeatedly highlighted the strengths of rural EDs. They strive to deliver accessible, high-quality, efficient care despite limited means – creatively and flexibly adapting to their contexts to overcome challenges. These findings point to essential facilitators of change that can be harnessed to improve care delivery in rural EDs.	All ED presentation, rural EDs, rural communities, access to care, stakeholders. Staff retention, lack of modern technology, poor standards of care, guidelines, telehealth, implementation, delivery of care, understanding barriers. Improved care in the ED, resolutions.	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
Mohr, N. M., Wu, C., Ward, M. J., McNaughton, C. D., Faine, B., Pomeranz, K., Richardson, K., & Kaboli, P. J. (2021). Transfer boarding delays care more in low-volume rural emergency departments: A cohort study. *The Journal of Rural Health*, *38*(1), 282–292. https://doi.org/10.1111/jrh.12559	Findings showed that ED operations for time-sensitive conditions are slower for patients who present to an ED that is more congested and that mental health boarding does not dramatically impact the care of other patients; however, patients with mental health diagnoses in the ED require an increased use of ancillary resources especially in rural facilities. Findings also show that interfacility transfer is a burdensome process that requires significant physician, nurse, and clerk-focused administrative effort which can compete with care of other patients—boarding in an ED affects patients even who are not boarding.	rural hospitals ED, VHA EDs, mental health presentation, medical patient presentation, ED staff, ancillary resources. ED boarding, interfacility transfer, ED workflow, administrative efforts, interventions. Time-sensitive conditions (timeliness), delivery of care, improved wait times, improve quality of care.	
Brathwaite, D., Waller, A., Gaynes, B. N., Stemerman, R., Deselm, T. M., Bischof, J. J., Tintinalli, J. E., Brice, J. H., & Bush, M. (2022). A 7 year summary of emergency department visits by patients with mental health disorders. 13. https://doi.org/10.3389/fpsyt.2022.831843	Total ED utilization had increased over some time; the rate of increase among MHD-related visits was three times that of non-MHD visits, and an increase in visits associated with multiple mental health diagnoses was identified. The findings also found characteristic differences between non-MHD and MHD-related ED visits. When compared to non-MHD visits, MHD-related visits were more likely to occur among older female patients (≥65 years) and were more likely to be paid for by Medicare. These results are essential for hospital administrations considering the resources needed to initiate additional resources in the EDs and that patients with associated MHD-related visits were more likely to arrive by ambulance and be admitted to the hospital, signifying that patients were more likely to present in a mental health crisis.	ED, mental health presentation, medical presentation, hospital administrators, female geriatric patients, Medicare, ambulance service, resources. ED workflow (increase visits), admissions process, initiation of resources. Medicare cost/pay, multiple mental health diagnosis, hospitalization, disease activity (mental health crisis).	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
Van Der Linden, M. C., Balk, F. J. E., Van Der Hoeven, B. J. H., Van Loon, M., De Voeght, F. J., & Van Der Linden, N. (2019). Emergency department care for patients with mental health problems, a longitudinal registry study and a before and after intervention study. *International Emergency Nursing*, *44*, 14–19. https://doi.org/10.1016/j.ienj.2019.02.003	Findings showed that ED staff struggled with crowding, increased patient boarding, and lengthy stays for MH patients. Findings brought insight into the patterns of MH presentations in the ED. The results of the before- and after analysis suggest that strategic efforts to reduce LOS of MH in the ED and increase quality of care.	ED, ED staff, Mental health presentation, specialist-psychiatrist, staff experience-expertise. ED workflow. ED crowding, patient boarding, LOS (prolonged/reduce), improve quality of care.	
Perrone McIntosh, J. T. (2021). Emergency department nurses' care of psychiatric patients: A scoping review. *International Emergency Nursing*, *54*, 100929. https://doi.org/10.1016/j.ienj.2020.100929	The findings of this review can be utilized to design, develop, and implement meaningful educational resources to improve ED nurses' and staff's knowledge, confidence, and attitudes in caring for psychiatric patients. These findings can also be used to increase awareness of the need for advocacy and policy development to support psychiatric patients.	EDs, ED nurses, ED staff, psychiatric patients, psychiatrist, staff's knowledge, attitudes, education, resources. policy, advocacy, improvement ED workflow. improved care, patient support.	
Niles, L., & Olin, S. (2021). Behavioral health quality framework: A roadmap for using measurement to promote joint accountability and whole-person care. A white paper. https://ww.ncqa,org/wp-content/uploads/2021/07/20210701_Behavioral_Health_Quality_Framework_NCQA_White Paper.pdr	The findings show that Federal and state entities are positioned to drive improvements and impact population health goals for individuals with BH conditions by setting priorities and directing resources through regulations and financial support, however; stakeholders, organizations, and individuals at all levels of the delivery system play a critical role. The BH Quality Framework demands a diverse group of stakeholders that includes state policymakers, payers, providers, and consumers to prioritize population goals for BH, develop relevant measure bundles, and address known inequities in care that stymie progress.	stakeholders, policymakers, payors, patients, mental health organizations mental and primary care providers (organizations), access to care. improvement initiatives, NCQA guidelines, BH Quality Framework, collaboration between, providers, payers and patients, measurement bundles, care delivery	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
		systems-workflows, progress, improvements, cost of care, decreased hospitalizations, improve quality of care.	
Moayed, M. S., Khalili, R., Ebadi, A., & Parandeh, A. (2022). Factors determining the quality of health services provided to COVID-19 patients from the perspective of healthcare providers: Based on the Donabedian model. *Frontiers in Public Health*, *10*. https://doi.org/10.3389/fpubh.2022.967431	The results of this study can help managers better understand how a public health crisis affects the structure of organizations providing care and treatment, quality of treatment processes in the organization and the consequences. The study can also be used as a model for optimizing the structures and processes to improve outcomes	EDs, hospitals, medical centers, quality improvement, outcomes, Donabedian-structure-process-outcomes, organizational structure, training, human resources, trained personnel, structural development, policies, procedures, leadership-decision-making, buy-in, quality of care, desired outcomes.	
Laderman, M., Waghray, A., & Zeller, S. (2019, November). *Improving behavioral health care in the ED and upstream | Institute for Healthcare Improvement*. Www.ihi.org. https://www.ihi.org/resources/publications/improving-behavioral-health-care-ed-and-upstream	The initiative tested improvements in four key areas: building community partnerships to enhance coordination and communication; standardizing processes in the ED; engaging and activating patients and family members; and creating a trauma-informed culture among ED staff. Based on learnings to date from the initiative, there are specific actions that hospitals and health system leaders can take to make positive change for both patients and care teams in the ED.	Hospital EDs, culture, leadership, quality improvement initiatives, mental health and SUD patients, structure, processes, outcomes, measures, training, education, collaborations, community partners, the community, staff expertise, patients' experience, health outcomes, crisis and interventions	

Author(s) and date	Data extracted	Initial codes	Preliminary themes
Laderman, M., Waghray, A., & Zeller, S. (2019, November). Improving behavioral health care in the ED and upstream | Institute for Healthcare Improvement. Www.ihi.org. https://www.ihi.org/resources/publications/improving-behavioral-health-care-ed-and-upstream	The initiative tested improvements in four key areas: building community partnerships to enhance coordination and communication; standardizing processes in the ED; engaging and activating patients and family members; and creating a trauma-informed culture among ED staff. Based on learnings to date from the initiative, there are specific actions that hospitals and health system leaders can take to make positive change for both patients and care teams in the ED.	Hospital EDs, culture, leadership, quality improvement initiatives, mental health and SUD patients, structure, processes, outcomes, measures, training, education, collaborations, community partners, the community, staff expertise, patients' experience, health outcomes, crisis and interventions	
Mostafa, R., & El-Atawi, K. (2024). Strategies to measure and improve emergency department performance: A Review. *Cureus*, *16*(1). https://doi.org/10.7759/cureus.52879	Key findings indicate that tailored strategies, such as implementing advanced triage protocols and leveraging telemedicine, can significantly reduce wait times and enhance patient throughput. Furthermore, evidence suggests that dynamic staffing models and the integration of cutting-edge diagnostic tools contribute to operational efficiency and improved quality of care. These strategies, when combined, offer a multifaceted solution to the complex challenges faced by EDs, promising better patient care and satisfaction. The study underscores the need for a comprehensive approach, incorporating both organizational and technological innovations, to address the evolving needs of emergency healthcare.	Hospital EDs, leadership, quality improvement, LOS, wait times, ED staff, training, quality measures, training, education, collaborations, community partners, the community, staff expertise, patients' experience, health outcomes, crisis and interventions	

Appendix E: Thematic Map