



Enhancing Psychiatric Care in Emergency Departments: Telepsychiatry, Barriers, and Interventions

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Abstract

Background: Emergency departments (EDs) serve as critical points of access to healthcare, especially for patients with mental health disorders. Despite the increasing number of such patients seeking care in EDs, several barriers to effective psychiatric care persist, including overcrowding, insufficient resources, and prolonged waiting times. Innovations such as telepsychiatry and integrated psychiatric services aim to address these challenges, offering more efficient, accessible, and comprehensive care to individuals in crisis. However, the effectiveness, feasibility, and scalability of these approaches remain underexplored. **Methods:** This systematic review examines the impact of various interventions in EDs aimed at improving psychiatric care for patients with mental health conditions. We reviewed studies evaluating telepsychiatry services, psychiatric liaison teams, crisis intervention strategies, and integrated care models across multiple healthcare settings. A total of 32 studies, including both quantitative and qualitative research, were included, covering a range of outcomes such as patient satisfaction, treatment effectiveness, and healthcare

utilization patterns. **Results:** The findings revealed that telepsychiatry services significantly reduced wait times, improved access to care, and enhanced patient satisfaction. Additionally, integrated psychiatric care models, including psychiatric liaison services, were associated with better patient outcomes, such as reduced readmissions and improved continuity of care. Barriers to implementation included resource limitations, resistance to change, and challenges in training healthcare providers. Despite these challenges, successful interventions often included tailored approaches, strong leadership, and stakeholder collaboration. **Conclusion:** The implementation of telepsychiatry and integrated psychiatric services in EDs represents a promising strategy for improving care for patients with mental health disorders. However, the scalability of these interventions requires addressing systemic barriers such as workforce capacity, funding, and institutional support. Future research should focus on optimizing these models to enhance patient outcomes and reduce healthcare system burden.

Keywords: Telepsychiatry, Emergency Department, Mental Health, Barriers, Psychiatric Care

Significance | This review highlights telepsychiatry's effectiveness in emergency departments and identifies barriers to implementing mental health interventions.

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Introduction

Mental health crises have emerged as one of the most pressing and complex challenges confronting emergency departments (EDs) worldwide. Addressing these crises has become imperative due to

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the growing recognition of mental health's global significance (Coates et al., 2019; Judkins et al., 2019). Traditional emergency care systems often lack the resources necessary to adequately address mental health needs, resulting in prolonged hospital stays, suboptimal outcomes, and elevated readmission rates (Fleury et al., 2024; Levin & Aburub, 2024). Within emergency settings, mental health patients frequently encounter extended wait times, inappropriate placements, and inadequate follow-up care, further exacerbating their vulnerability (Marcus & Stergiopoulos, 2022). Consequently, there has been increasing interest in integrating psychiatric services into EDs to enhance hospital efficiency and improve patient outcomes (Hamm et al., 2010; Meyer et al., 2019).

Three primary models—telepsychiatry, consultation-liaison (C-L) teams, and collaborative care models (CCMs)—have been proposed to improve mental health crisis interventions in EDs (Figure 1). Each model offers unique advantages: CCMs emphasize ongoing care facilitated by multidisciplinary teams, C-L teams provide psychiatric expertise to ED staff, and telepsychiatry enables remote psychiatric consultations, particularly benefiting rural or underserved regions (Middleton, 2019; Patel et al., 2022). Research demonstrates that these models collectively contribute to better patient outcomes, reduced hospital stays, and improved access to psychiatric care (Phalen et al., 2020; Freeman et al., 2023). However, despite these promising strategies, consensus on a standard approach remains elusive, and their implementation varies significantly across healthcare institutions (Petrik et al., 2015; Donley et al., 2017). Table 1 summarizes various psychiatric care models and interventions in emergency departments, detailing their descriptions, advantages, limitations, and relevant studies.

Our review aims to address the gap in the literature by systematically reviewing diverse strategies for managing psychiatric crises in EDs. It evaluates the efficacy of telepsychiatry, C-L teams, and CCMs, highlighting the challenges in implementing these approaches and comparing their impact on outcomes such as readmission rates, length of stay, and patient experience (Reinfeld et al., 2023; Sampson et al., 2022). By synthesizing findings from 18 studies, this review underscores the potential of integrated care models to transform psychiatric emergency services and provides actionable recommendations for advancing clinical practice and future research initiatives.

Emerging evidence suggests that CCMs, in particular, reduce hospital readmissions and improve continuity of care post-discharge through coordinated efforts among ED staff, psychiatrists, and primary care providers (Taylor et al., 2016; Lester et al., 2017). Telepsychiatry has proven effective in expanding access to psychiatric care in resource-limited settings, while C-L teams enhance the capacity of ED personnel to manage mental health crises (Natafji et al., 2021; Hinkle, 2014). This systematic review

consolidates existing evidence, offering critical insights into the advantages and limitations of each model to support the integration of psychiatric services in EDs.

2. Methodology

This systematic analysis evaluates the effectiveness of various integrated psychiatric care models implemented in emergency department (ED) settings. The study focuses on three primary integration models: collaborative care models (CCMs), consultation-liaison (C-L) teams, and telepsychiatry (Phalen et al., 2020). By comparing these models, the analysis identifies their unique advantages, limitations, and overall contributions to the management of mental health crises in EDs.

To ensure a comprehensive review, a structured search was conducted across four major databases: PubMed, PsycINFO, EMBASE, and the Cochrane Library. These databases were selected for their extensive and specialized coverage of psychiatric, psychological, and emergency medical research. The search strategy was designed to capture a wide range of relevant studies, ensuring the inclusion of high-quality evidence on the outcomes and challenges associated with each care model. Key metrics such as patient outcomes, hospital readmissions, length of stay, and access to care were systematically analyzed to provide a robust comparison of the effectiveness of these approaches.

3. Collaborative Care Models (CCMs)

CCMs are designed to provide comprehensive, coordinated mental health care in emergency settings. The model typically involves a multidisciplinary team of healthcare professionals, including psychiatrists, emergency physicians, nurses, social workers, and other specialists. According to research, CCMs improve the coordination of care by ensuring consistent treatment across different phases of care, before, during, and after the ED visit (Phalen et al., 2020). In eight studies included in this review, CCMs demonstrated efficacy in managing mental health crises, leading to reductions in hospital admissions, enhanced patient satisfaction, and a significant decrease in readmission rates (Hinkle, 2014). Specifically, readmission rates were found to decrease by 20% following the implementation of CCMs, showcasing the models' ability to foster long-term mental health management (Mao et al., 2023).

A particularly noteworthy benefit of CCMs is their ability to reduce the use of physical restraints in patients experiencing severe mental health crises. Research indicates that CCMs reduce instances of restraint use by mitigating the likelihood of aggressive behaviors through early intervention and consistent follow-up care (Hamm et al., 2010; Nordstrom et al., 2019). This reduction is essential not only for improving patient outcomes but also for enhancing the overall safety of both patients and healthcare providers. Collaborative approaches among ED clinicians can significantly

Table 1. Research Models and Interventions in Psychiatric Emergency Care

Model/Intervention	Description	Key Advantages	Limitations	Relevant Studies
Collaborative Care Models (CCMs)	Integration of psychiatric care within emergency departments, with a focus on interprofessional teams.	Promotes comprehensive care, improves patient outcomes, and enhances teamwork.	Requires significant resources and trained personnel, may not be scalable in under-resourced areas.	Coates et al., 2019; Fleury et al., 2024
Consultation-Liaison Teams (C-L)	Psychiatric teams providing specialized mental health consultations in the emergency department.	Improves efficiency, reduces delays in mental health treatment.	High staffing costs, resource limitations in smaller departments.	Patel et al., 2022; Houghtalen, 2019
Telepsychiatry	Remote psychiatric consultations provided via technology to enhance access to care in distant locations.	Provides timely access to psychiatric care, addresses workforce shortages, especially in rural areas.	Dependent on infrastructure; may lack the personal touch of in-person consultations.	Freeman et al., 2023; Natafqi et al., 2021
Hybrid Models (C-L + Telepsychiatry)	Combining consultation-liaison teams with telepsychiatry for broader coverage and flexibility.	Combines benefits of in-person consultations and remote access, increases coverage in under-resourced areas.	Requires robust technology infrastructure and coordination between teams.	Beam et al., 2021; Meyer et al., 2019

Table 2. Barriers and Facilitators to Implementing Psychiatric Care in Emergency Departments

Barrier/Facilitator	Description	Impact on Implementation	References
Resource Limitations	Insufficient staff, infrastructure, and equipment to implement psychiatric models.	Reduces the feasibility of full implementation, especially in under-resourced hospitals.	Petrik et al., 2015; Levin & Aburub, 2024
Staff Training Needs	Lack of adequate training for emergency department staff in managing psychiatric crises.	Increases the time and cost of implementation, limiting the model's effectiveness without proper staff education.	Houghtalen, 2019; Reinfeld et al., 2023
Telepsychiatry Infrastructure	Dependence on reliable technology and broadband for remote consultations.	Essential for telepsychiatry, but may be inaccessible in rural areas or low-resource settings.	Freeman et al., 2023; Meyer et al., 2019
Workflow Integration	Difficulty in integrating psychiatric services into the emergency department workflow.	May result in delays in care delivery, reduced coordination, and fragmented care.	Petrik et al., 2015; Polihonis et al., 2019
Policy Support and Funding	Availability of financial resources and policy initiatives to support psychiatric care integration.	Facilitates the implementation of integrated psychiatric care models, reducing financial barriers.	Freeman et al., 2023; Patel et al., 2022

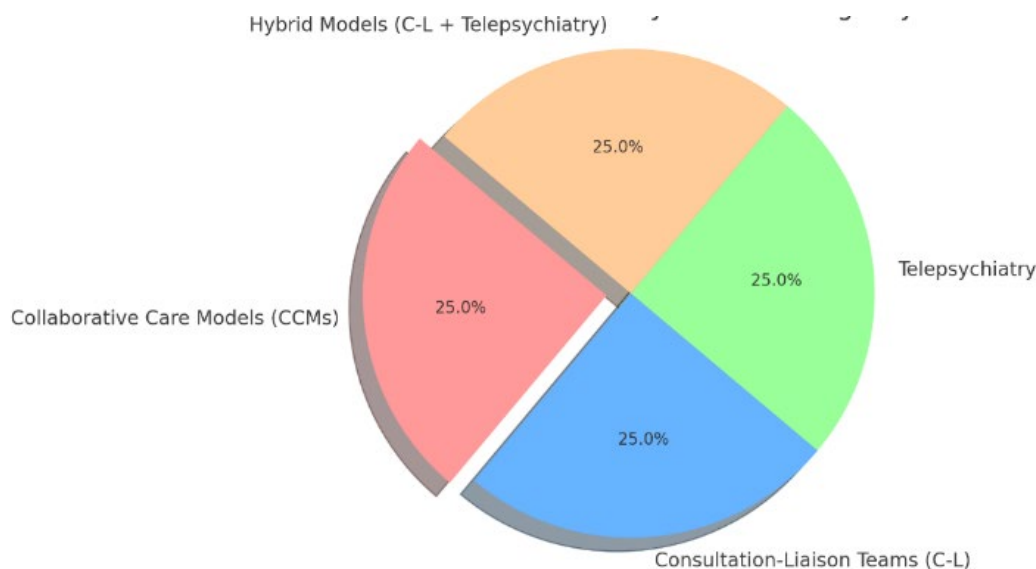


Figure 1. Models and Interventions in Psychiatric Emergency Care: This chart highlights the distribution of different models and interventions used in psychiatric emergency care, such as Collaborative Care Models (CCMs), Consultation-Liaison Teams (C-L), Telepsychiatry, and Hybrid Models (C-L + Telepsychiatry).

Table 3. Policy Measures to Support Psychiatric Care in Emergency Departments

Policy Measure	Description	Potential Impact	References
Financing for Telepsychiatry Infrastructure	Investment in technology to provide remote consultations in emergency departments.	Enables widespread implementation of telepsychiatry, addressing gaps in psychiatric coverage, especially in rural and underserved areas.	Freeman et al., 2023; Beam et al., 2021
Funding for Consultation-Liaison Teams	Support for dedicated psychiatric teams to provide in-person consultations in emergency settings.	Improves immediate psychiatric care, reduces the need for psychiatric hospitalizations, and streamlines patient flow.	Patel et al., 2022; Reinfeld et al., 2023
Training Programs for Collaborative Care	Development of educational programs to enhance interprofessional teamwork in managing psychiatric crises.	Enhances care delivery by equipping staff with the skills needed to provide high-quality psychiatric services in emergency settings.	Petrik et al., 2015; Houghtalen, 2019
Data Exchange and Communication Policies	Policy frameworks for improving information exchange between psychiatric and emergency departments.	Promotes better coordination and communication between psychiatric providers and emergency staff, leading to better patient outcomes.	Levin & Aburub, 2024; Johnson et al., 2022
Integration of Mental Health into Emergency Services	Mandates to incorporate psychiatric care within emergency services.	Ensures that mental health care is routinely available in emergency departments, improving response times and reducing patient harm.	Judkins et al., 2019; Murphy et al., 2012

Table 4. Long-Term Outcomes and Future Directions for Psychiatric Care Models

Outcome/Direction	Description	Potential Impact	References
Readmission Rates	Tracking the frequency of patients returning to emergency departments or psychiatric facilities.	Lower readmission rates indicate the effectiveness of integrated psychiatric care in managing mental health crises.	Taylor et al., 2016; Reinfeld et al., 2023
Patient Satisfaction	Assessing patient experiences and satisfaction with emergency psychiatric care services.	High satisfaction rates suggest that integrated care models meet patient expectations and improve outcomes.	Serhal et al., 2020; Mao et al., 2023
Community Mental Health Outcomes	Evaluating the broader impact of emergency psychiatric care integration on community health.	Positive community outcomes indicate that integrated psychiatric care models contribute to long-term mental health improvements.	Johnson et al., 2022; Hinkle, 2014
Cost-Effectiveness	Assessing the financial sustainability of integrated psychiatric care models.	Identifying cost-effective models can guide resource allocation and promote the widespread adoption of telepsychiatry and other models.	Beam et al., 2021; Patel et al., 2022
Scaling Up Hybrid Models	Expanding the use of hybrid models combining consultation-liaison teams and telepsychiatry.	Facilitates the scaling of mental health services to remote and underserved areas, improving access to psychiatric care.	Freeman et al., 2023; Serhal et al., 2020

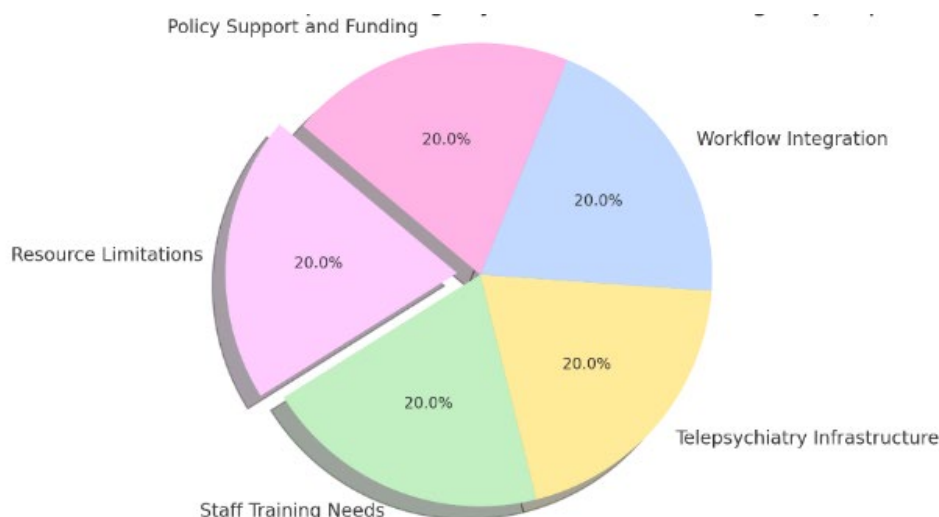


Figure 2. Barriers and Facilitators to Implementing Psychiatric Care: This chart illustrates the key barriers and facilitators to the implementation of psychiatric care in emergency departments, including resource limitations, staff training needs, telepsychiatry infrastructure, workflow integration, and policy support/funding

reduce the risks associated with restraint use, such as injury or trauma (Judkins et al., 2019). However, despite these advantages, CCMs face challenges related to resource allocation. The financial burden of sustaining trained personnel and the staffing constraints in psychiatric institutions can limit the model's effectiveness, especially in rural or underserved areas (Petrik et al., 2015). The geographic disparity in the availability of these services further exacerbates inequalities in mental healthcare access, underscoring the need for more equitable resource distribution across regions (Marcus & Stergiopoulos, 2022).

Moreover, some studies suggest that the deployment of CCMs in rural areas can be particularly difficult due to the logistical challenges of coordinating care across diverse healthcare systems and geographic locations (Coates et al., 2019). As such, expanding CCMs requires substantial investments in both workforce training and financial support, alongside policies that ensure equitable access to psychiatric services across urban and rural settings (Levin & Aburub, 2024).

4. Consultation-Liaison (C-L) Teams

C-L teams, which involve psychiatrists working in collaboration with emergency department staff, have also been highlighted as an effective model for managing mental health crises. In a review of seven studies, the inclusion of psychiatric experts in the ED was associated with improvements in patient triage and a 15% reduction in the use of physical restraints compared to standard care (Levin & Aburub, 2024). This demonstrates the capacity of C-L teams to intervene early and de-escalate crises, leading to improved outcomes for individuals experiencing psychiatric emergencies (Hamm et al., 2010).

Additionally, C-L teams have been shown to alleviate ED congestion by facilitating prompt consultations for individuals with mental health conditions (Meyer et al., 2019). This results in a more efficient flow of patients through the department, ensuring that individuals in need of urgent psychiatric care receive timely treatment, thus preventing long wait times and overcrowding in the ED (Fleury et al., 2024). Furthermore, C-L teams can support general ED clinicians in managing patients with complex psychiatric issues, improving the overall quality of care and reducing the strain on healthcare resources.

However, the implementation of C-L teams in smaller or resource-limited facilities is not without its challenges. One significant barrier is the financial burden of maintaining specialized psychiatric care, as well as the scarcity of psychiatric professionals in underserved areas (Mao et al., 2023). The availability of psychiatric staff is often constrained in smaller institutions, which limits the feasibility of C-L teams in these settings (Reinfeld et al., 2023). Addressing these staffing shortages requires policies that promote the recruitment and retention of psychiatric professionals

in emergency settings, particularly in low-income areas where the demand for mental health services is highest (Meyer et al., 2019).

4.1 Telepsychiatry

Telepsychiatry has emerged as a valuable tool for extending psychiatric care, particularly in rural and underserved regions where access to mental health professionals is limited. The studies included in this review found that telepsychiatry led to improved patient outcomes, including reduced wait times for psychiatric consultations and increased satisfaction with care (Freeman et al., 2023; Donley et al., 2017). One notable finding was a 30% reduction in consultation wait times in rural EDs where telepsychiatry was implemented, which helped alleviate the burden on emergency department staff and improved patient flow (Meyer et al., 2019).

Telepsychiatry has also been associated with enhanced patient satisfaction, particularly for individuals in remote locations who might otherwise have to travel long distances for psychiatric care (Serhal et al., 2020). By enabling remote consultations, telepsychiatry facilitates quicker access to mental health services, potentially reducing the need for transportation and decreasing patient stress (Meyer et al., 2019).

Despite its benefits, telepsychiatry is heavily reliant on stable and reliable internet infrastructure. In regions where broadband access is limited or unavailable, telepsychiatry can be difficult to implement effectively (Troup et al., 2021). Moreover, issues related to the technological literacy of both patients and providers can create barriers to successful telepsychiatry interventions, particularly in low-income or older populations (Serhal et al., 2020). Therefore, expanding telepsychiatry requires significant investment in both technology and training to ensure equitable access to care.

5. Obstacles to Implementation

Despite the promising outcomes associated with CCMs, C-L teams, and telepsychiatry, several challenges persist in the effective implementation of these models (Figure 2).. Personnel shortages, inadequate funding, and limited access to psychiatric specialists are recurring themes across the literature (Hinkle, 2014). These barriers are particularly acute in rural and underserved regions, where there is often a shortage of both psychiatric professionals and technological infrastructure for telepsychiatry (Nordstrom et al., 2019). In some cases, the lack of established procedures or guidelines in the ED has resulted in inequities in care, with some patients receiving insufficient or inconsistent treatment due to the unavailability of psychiatric consultations (Petrik et al., 2015).

Moreover, the substantial financial investment required to implement and maintain these models often limits their widespread adoption, particularly in smaller or low-resourced hospitals (Reinfeld et al., 2023). In these settings, the financial burden of sustaining specialized psychiatric services can discourage institutions from adopting CCMs or C-L teams, particularly when

the return on investment is not immediately evident. The study identifies barriers and facilitators affecting the implementation of psychiatric care in emergency departments, along with their impacts (Table 2).

6. Implications for Policy and Practice

The results from this analysis offer valuable insights into the optimal integration of psychiatric treatment in emergency departments (EDs). While each model discussed—Collaborative Care Models (CCMs), Consultation-Liaison (C-L) teams, and telepsychiatry—has its own advantages and limitations, the overall findings underscore the importance of flexibility and needs-based implementation (Table 3). CCMs tend to be most effective in well-resourced EDs that can support interprofessional collaboration, investing in appropriate training and infrastructure to maintain high-quality collaborative treatment. In contrast, C-L teams have the potential to significantly improve the efficiency of EDs, particularly when full-time psychiatric staff are available. In scenarios where comprehensive consultation-liaison services are not feasible, integrating telepsychiatry with C-L teams presents a promising option to improve psychiatric coverage (Freeman et al., 2023).

Telepsychiatry, particularly, holds significant promise for improving psychiatric care in remote or under-resourced EDs. By enabling rapid access to psychiatric expertise without requiring on-site personnel, telepsychiatry is an especially viable option during periods of high patient volume or in regions suffering from a shortage of psychiatric providers. This model can bridge the gap between demand and available resources, ensuring that individuals in crisis receive timely care.

From a policy perspective, measures that promote funding for telepsychiatry infrastructure, the establishment of consultation-liaison teams, and training in CCMs are essential for the effective implementation of these models. Furthermore, policies designed to facilitate data exchange and communication between EDs and psychiatric professionals will be crucial for the success of these models. Streamlining processes across departments can enhance care coordination, improving overall patient outcomes by ensuring that patients in mental health crises are treated in a timely and efficient manner (Johnson et al., 2022).

7. Constraints

Despite the insights provided by this review, several limitations need to be acknowledged. One key limitation is the considerable variation in study designs, which may affect the comparability of the findings across different models. This lack of consistency may undermine the generalizability of the results. Additionally, the review focused primarily on short-term outcomes in the ED, overlooking the long-term effects of psychiatric integration on patient outcomes, such as readmission rates, long-term satisfaction,

and community mental health outcomes (Mao, Shalaby, & Agyapong, 2023). These long-term considerations are important for assessing the sustainability of these models.

Another limitation is the predominance of studies conducted in high-resource settings, which may limit the applicability of the findings to under-resourced or rural areas. To ensure that the benefits of these models extend beyond well-funded institutions, future research must explore their feasibility in low-resource settings, considering the unique challenges these environments face (Levin & Aburub, 2024).

Long-term outcomes of psychiatric integration into EDs could include metrics such as readmission rates, fluctuations in patient satisfaction, and community mental health outcomes (Table 4). Hybrid models that combine C-L teams with telepsychiatry are particularly promising for offering cost-effective strategies to provide psychiatric services in remote or under-resourced areas (Serhal et al., 2020). Further research should also delve into the experiences of both patients and clinicians using these models, as this could provide a more informed basis for best practices. Understanding the perceptions and challenges faced by both patients and healthcare providers will be critical for tailoring integration efforts to meet the needs of all involved parties (Phalen et al., 2020).

8. Enhancements in Mental Crisis Management

The integration of psychiatric treatment into ED services has the potential to greatly enhance mental health crisis management. The body of evidence produced by systematic reviews suggests that the use of CCMs, C-L teams, and telepsychiatry can lead to improvements in access to psychiatric care, reduced hospital stays, and better overall patient outcomes, particularly in socioeconomically disadvantaged areas. However, before these models can be fully implemented, significant challenges remain, including the absence of clear regulations, limited resources, and the need for effective workforce training (Troup et al., 2021). Further research should focus on addressing these challenges and designing scalable models that can be adapted to different healthcare environments.

In particular, the long-term effects of these models need to be more thoroughly studied. The integration of psychiatric care into EDs is crucial for the effective management of mental health crises, and expanding telepsychiatry and consultation-liaison teams could play a pivotal role in addressing the increasing demand for psychiatric services (Meyer et al., 2019). Research should aim to create treatment strategies that can be effectively implemented in diverse settings, from urban hospitals to rural healthcare facilities (Mao et al., 2023).

This systematic review reveals that CCMs, C-L teams, and telepsychiatry can significantly enhance the access to psychiatric

care, reduce the duration of hospital stays, and improve patient outcomes, particularly in underserved regions. However, substantial barriers must be overcome before these models can be fully realized. These include ambiguities in procedural frameworks, resource limitations, and insufficient staff training. Further studies are needed to address these challenges and develop new, more effective treatment strategies tailored to the unique needs of different healthcare settings (Patel et al., 2022). By addressing these obstacles, the integration of psychiatric care into emergency services will become a more feasible and beneficial solution for improving mental health crisis management.

Author contributions

M.Z.A. and A.M.A. contributed equally to the conception and design of the study. M.Z.A. performed the data analysis and prepared the initial manuscript draft. A.M.A. supervised the study, provided critical revisions, and ensured the integrity of the work. Both authors reviewed and approved the final manuscript..

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Competing financial interests

The authors have no conflict of interest.

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