

Review Article

Integration of app-based interventions into community mental health services: A scoping review

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Abstract

Background: Mobile and web-based mental health applications are increasingly incorporated into community services, but implementation depends on clinical workflows, personnel, governance, and cross-sector coordination.

Objective: To map models used to integrate app-based interventions with community mental health services and describe reported implementation outcomes, barriers, facilitators, and implications for service management.

Methods: This scoping review was described using the Joanna Briggs Institute approach and the PRISMA extension for scoping reviews. The source review reported searches of PubMed/MEDLINE, Scopus, and Web of Science for publications from January 2020 through July 2026, supplemented by citation searching. Study-level findings were charted and narratively organized. The available study documentation did not establish exact search execution dates, the number of screeners or data charters, or the existence of a registered protocol.

Results: Eight studies were retained without alteration. They addressed shared digital care planning, app-supported psychotherapy, youth service integration, technology-specialist support, remote monitoring, migrant-community partnerships, primary care task sharing, and cross-sector youth care. Three descriptive configurations emerged: clinician-supported blended care, primary care/task sharing, and community or cross-sector partnerships. Feasibility and acceptability findings were generally encouraging but heterogeneous, and most designs did not permit causal conclusions. Five provisional management domains were mapped.

Conclusions: App-based tools appear more implementable when accompanied by defined clinical responsibilities and organizational support. The proposed domains may inform implementation planning, but search-reporting gaps and heterogeneous early-stage evidence preclude claims of superiority, broad effectiveness, or validation of the framework.

Background

Mental health services must combine timely treatment, continuity, and person-centred support across formal and informal community settings. Fragmentation between specialty services, primary care, schools, and community agencies can delay assessment, follow-up, and referral. Research on community-based care and task sharing describes the importance of functioning service pathways rather than isolated treatment products (Bolton et al., 2023; Jack et al., 2020; Keynejad et al., 2021; Siddiqui et al., 2022). Wider evidence on service access and inequality underscores the significance of context, though prevalence studies do not themselves establish the efficacy of digital interventions (Al-ramlawi, 2025; Aurizki, 2026; Chao et al., 2025; Chen & Liu, 2025; Elmi et al., 2026; Jiang et al., 2026; Omoge et al., 2026; Thompson & Saleem, 2025; Uzair et al., 2025).

App-based mental health interventions offer functions such as symptom self-monitoring,

psychoeducation, skills practice, therapeutic messaging, and coordination. Yet technological availability is not equivalent to successful implementation. Reviews of digital adoption identify organizational readiness, interoperability, privacy, leadership, workforce capability, and sustainable funding as recurrent implementation challenges (Berardi et al., 2024; Bente et al., 2024; Bostan et al., 2024; Golinelli et al., 2020; Huberty & Beatty, 2024; Soubeiga et al., 2022; Volpe et al., 2024). Design and adoption therefore require attention to both users and organizational systems (Boulos et al., 2021; Connor et al., 2026; Kamuhanda et al., 2026).

Existing reviews address related but distinct questions. The synthesis by Berardi et al. (2024) examines barriers across mental health systems, while McHugh et al. (2024) considers integrated care models for young people. Searby (2024) addresses mental health service integration more generally, Siddiqui et al. (2022) maps community-delivered support, and Iorfino et al. (2021) offers practical implementation guidance for digital

coordination in youth services. Studies of digital navigation describe specific supportive roles rather than comparing app-to-service configurations across heterogeneous community contexts (Rodriguez et al., 2023). These sources provide important context but do not replace a bounded mapping of the organizational interface connecting applications, professionals, and community pathways. Other literature on caregiver support, training, and routine service integration provides relevant but non-equivalent evidence (Doherty et al., 2022; Hasan et al., 2021; Koly et al., 2021; Prom et al., 2022).

The present review accordingly examines how applications are linked to community mental health work rather than whether applications outperform treatment. Its contribution is a descriptive classification of integration configurations and a provisional set of management considerations derived from the original eight-study dataset. Neither the three configurations nor the proposed management domains are claimed to be statistically validated or to have been specified prospectively in a registered protocol.

The review questions were: (1) Which models of app-to-service integration were described in community mental health settings? (2) Which implementation outcomes, barriers, and facilitators were reported? (3) Which management domains can be interpretively mapped from the included reports to inform future implementation studies?

Methods

Study Design

The source study was designed as a scoping review to map diverse empirical evidence, using Joanna Briggs Institute (JBI) guidance (Peters et al., 2020) and the PRISMA extension for scoping reviews (PRISMA-ScR; Tricco et al., 2018). A scoping approach is suitable for heterogeneous qualitative, feasibility, implementation, and mixed-methods evidence; it is not intended to produce a pooled effect estimate. The PRISMA-ScR reporting inventory in Appendix A identifies both reported items and gaps that cannot be reconstructed from the available documentation. The three-model typology and five-domain framework are interpretive products of synthesis and not independently validated instruments.

Review questions and eligibility framework

Eligibility was organized using Population–Concept–Context. Population comprised service users receiving mental health support, professionals involved in care, and community stakeholders engaged in delivering that care. Concept was an identifiable digital or mobile application (including a clinician-facing web interface or care-planning platform) linked to a named service function. Context comprised community mental health teams and clinics, primary care, youth or school-linked services, telephone-delivered psychological care, and community or nongovernmental agencies.

Operationally, an integrated application had to be associated with at least one specified service activity—assessment, shared planning, monitoring, psychotherapy support, referral, supervision, or follow-up—and with an identifiable service actor or organization responsible for delivering, reviewing, or supporting that activity. Preparatory organizational studies were eligible only when they described a specific planned platform and pathway; such reports were treated as pre-implementation evidence and not proof of real-world adoption. Stand-alone self-help apps without a service link, studies of efficacy alone, unsupported protocols, non-peer-reviewed preprints, and exclusively inpatient tools without community links were outside scope. This threshold allows heterogeneity in implementation stage while preserving a common unit of interest: app–service linkage.

The source review considered English-language empirical peer-reviewed studies and peer-reviewed proceedings published between January 2020 and July 2026. The eight original included reports were retained. This revision did not perform a new database search or alter eligibility decisions, study counts, or the included evidence base.

Information sources and search documentation

The submitted review names MEDLINE via PubMed, Scopus, and Web of Science Core Collection as principal sources, alongside backward citation checking and targeted Google Scholar searching. The only recoverable search syntax is the core PubMed logic reproduced in Appendix B. This combines mental health, digital

application, community context, integration, and implementation concepts using AND across five blocks. The originating search file did not preserve the exact execution date of each search, the Scopus or Web of Science fielded strategies and index coverage, database-specific hit counts, Google Scholar screening procedure, or citation-tracking log. Thus, reproducibility is incomplete, and the exact allocation of the 38 records by source cannot responsibly be reported.

The five-block strategy may have been over-restrictive because relevant implementation reports may not mention every concept in titles or abstracts. A future update should pilot broader concept blocks and subject headings, record platform and index coverage, export dated strategies and result counts, and consider peer review under the PRESS guidance (McGowan et al., 2016). These are future methodological steps; no unperformed search is represented here as a completed part of the original review.

Study selection and charting

The source manuscript reports deduplication followed by title/abstract and full-text eligibility screening, with uncertainties addressed through review-team discussion. It does not document the number of screeners at each stage, independence, disagreement adjudication, software, number of data charters, pilot testing or verification of the charting tool. These procedures cannot be retroactively asserted. The documented charting fields were study author, publication year, country, design, setting, digital tool, integration model, implementation outcomes, barriers, and facilitators.

Synthesis and appraisal

Narrative synthesis used the eight study descriptions to group service configurations by where the application connected to care: ongoing clinician contact, primary care/task-sharing structures, or a community/cross-sector partnership. Reported barriers and facilitators were then mapped into five practical domains: service pathway; workforce and human support; technology and governance; partnership; and evaluation, equity, financing, and sustainability. These categories are transparent descriptive interpretations rather than the output of a documented multi-coder consensus process. Related implementation frameworks distinguish

adoption, acceptability, feasibility, fidelity, and sustainability (Proctor et al., 2011) and contextual determinants (Damschroder et al., 2022); these frameworks inform terminology without replacing the primary study findings.

No design-specific critical appraisal or risk-of-bias scoring was documented. Rather than assign unverified quality ratings, claims are bounded by each report's design, implementation stage, and comparator status. Reported clinical improvement in an uncontrolled or multicomponent study cannot be attributed to the digital application alone. The absence of formal appraisal reduces confidence in cross-study comparisons.

Results

The original review reports 38 identified records and seven duplicates, leaving 31 unique records. Nineteen were excluded at title/abstract screening; 12 full texts were assessed. Four reports were excluded at full text (three protocols or preprints without implementation findings and one without sufficient service integration), leaving eight included reports. These totals reconcile arithmetically; retrieval counts, source-specific search yields, screening software, and full-text bibliographic exclusion list were not available. Figure 1 reproduces the documented numbers without inventing missing subcounts.

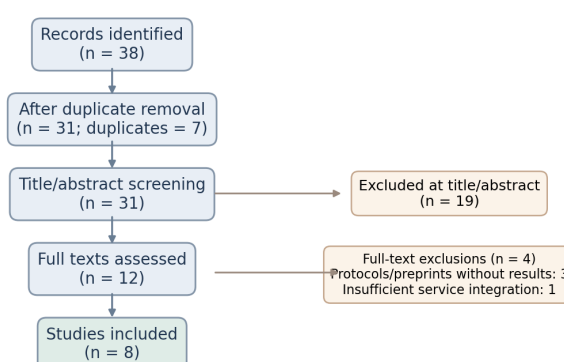


Figure 1. Reported study-selection flow for the eight-study scoping.

The eight studies were published from 2020 to 2025 and represented the United Kingdom, United States, Australia, Macao Special Administrative Region of China, Nigeria, and Canada. The evidence ranged from qualitative service evaluations and focus groups to feasibility, case-study, mixed-methods, pre-implementation, and quasi-experimental work. Table 1 retains all eight

studies in the original synthesis and differentiates observed implementation from anticipated adoption.

Table 1. All eight studies retained from the original scoping review

Study	Service setting	Design	Integration interface	Evidence and limits
Pithara et al. (2020)	United Kingdom; community mental health teams	Qualitative evaluation	Digital shared care-planning pathway in recovery-oriented services	Supported shared planning; infrastructure, clinical workflow and training were important constraints. Direct clinical efficacy not tested.
Adam et al. (2020)	United States; community psychiatric clinic	Feasibility and fidelity trial	Rose app, linked to clinician dashboard, as adjunct to psychotherapy	App completion and usability supported feasibility; symptomatic changes were exploratory, not controlled evidence of added effect.
Knapp et al. (2021)	United States; community youth services	Clinician focus groups	Clinicians discussed existing digital resources and conditions for integration	Identified engagement opportunities, youth access/privacy concerns, and need for integrated platforms; primarily planning perspectives.
Carpenter-Song et al. (2022)	United States; community mental health service	Feasibility study	Technology specialist supporting recovery-goal-driven selection and use of tools	Human navigation supported individualized tool choice and clinical discussion; small feasibility evidence, not comparative effectiveness.
Perry et al. (2021)	Australia; telephone psychological service	Peer-reviewed case study	MindTick symptom tracking and clinician dashboard	Highlighted potential for remote monitoring and clinician feedback; technical/workflow integration issues remained.
Liem et al. (2022)	Macao SAR, China; migrant community/NGO	Mixed-methods evaluation	Kumusta Kabayan within a community partner and stepped support model	Users and partners found the tool acceptable; contextual relevance, access and support influenced implementation.
Iheanacho et al. (2024)	Nigeria; primary health care/community	Quasi-experimental implementation study	HAPPINESS package: mobile support, mhGAP task sharing, supervision and service strengthening	Adoption 84% and fidelity 81% reported in source study; multicomponent design precludes app-only attribution.
Barker et al. (2025)	Canada; youth school, community and care sectors	Qualitative pre-implementation study	Innowell digital platform proposed across youth-serving systems	Leadership, training and readiness anticipated facilitators; interoperability and workload anticipated barriers; not post-implementation outcomes.

Integration configurations

Clinician-supported blended care connected an application to an existing therapeutic relationship. Pithara et al. (2020) examined shared planning; Adam et al. (2020) evaluated Rose as an adjunct to psychotherapy; Carpenter-Song et al. (2022) explored a technology-specialist role; and Perry et al. (2021) studied a remote-monitoring dashboard. Across these four reports, app-generated content gained clinical meaning through professional review and communication; however, workload duplication, information systems, and technical support could obstruct implementation.

Primary care and task-sharing integration was represented most explicitly by the Nigerian HAPPINESS study (Iheanacho et al., 2024). Mobile support formed one part of training, supervision, community engagement, clinical services, and access to medicines. Its reported 84% adoption and 81% fidelity are implementation measures for a package; they do not quantify the independent causal effect of the mobile component.

Community and cross-sector partnership linked applications or implementation planning with organizations beyond specialist mental health teams. Liem et al. (2022) evaluated a migrant-serving NGO partnership; Knapp et al. (2021) described clinicians' perspectives in youth-serving community care; and Barker et al. (2025) examined anticipated implementation conditions across Canadian youth services. The latter two reports inform preparatory planning and cannot be treated as evidence of sustained routine use. The three configurations overlap conceptually and

are offered as descriptive lenses, not exclusive causal categories.

Implementation outcomes and barriers

Feasibility, acceptability, adoption, and engagement were assessed inconsistently. Feasibility studies examined use and feedback; qualitative and preparatory reports explored staff or user perceptions; the HAPPINESS implementation study reported service indicators. This variation rules out pooled adoption or effectiveness estimates. Consistent practical issues included weak interoperability, extra staff time, uncertain responsibility for dashboards and alerts, unequal digital access, language and cultural fit, privacy, and temporary project funding (Pithara et al., 2020; Knapp et al., 2021; Liem et al., 2022; Barker et al., 2025).

Promising facilitators were a clinically meaningful role for app data, visible leadership support, training, ongoing technical navigation, and trusted organizations. These themes are compatible with external reports on health-system readiness, digital navigation, task sharing and digital integration (Iorfino et al., 2021; Rodriguez et al., 2023; Huberty & Beatty, 2024; Connor et al., 2026), but those contextual sources are not part of the eight-study results.

Provisional service-management framework

Table 2 maps recurring implementation considerations into five service-management domains. The categories are interpretive and intended for prospective feasibility work; their content validity, psychometric properties, and contribution to patient outcomes have not been established.

Table 2. Interpretive service-management domains and suggested measures (not a validated instrument)

Domain	Operational concern	Potential evaluation indicators
Care-pathway integration	Link eligibility, monitoring, referral, clinical response and continuity; prevent duplicate documentation.	Actionability of alerts; completion of referrals; documented follow-up; clinical handover.
Workforce and human support	Specify nursing/clinician roles, supervision, onboarding, digital-navigation assistance and backup coverage.	Staff time; training completion; responsibility for alerts; technical assistance.
Technology and data governance	Set interoperability, access control, privacy, security, retention and incident-response policies.	Data completeness; integration failures; access logs; reported privacy incidents.

Domain	Operational concern	Potential evaluation indicators
Community and cross-sector partnership	Plan service-user co-design, inclusive access, agreements and safe information exchange with schools or NGOs.	Partner participation; equitable uptake; referral handovers; culturally appropriate content.
Evaluation and sustainability	Assess implementation and clinical outcomes separately; monitor costs, abandonment, unintended harms and long-term viability.	Reach; adoption; acceptability; fidelity; costs; sustained use; equity gaps.

Discussion

This review preserves an eight-study evidence base while clarifying its contribution: a bounded map of how digital applications intersect with service delivery rather than a demonstration of clinical efficacy. The central conceptual distinction is between an app existing within a service population and an app integrated into work that has identifiable clinical actors, actions and accountability. A shared planning tool, remote symptom dashboard, navigator-supported app, and supervised task-sharing platform may all qualify despite differences in technology. Conversely, standalone downloads do not in themselves constitute integrated care.

The three configurations emphasize distinct service interfaces: the clinician-patient therapeutic relationship, primary care supervision and task sharing, and community or cross-sector connection (Yuliana, 2025; Ang, 2025, Rizki & Akbar, 2020). The proposed five domains translate those interfaces into candidate dimensions for local planning. This classification builds on, but does not duplicate, literature on system barriers (Berardi et al., 2024), youth care integration (McHugh et al., 2024), digital coordination (Iorfino et al., 2021), and community-delivered support (Siddiqui et al., 2022). It offers neither a novel intervention validated in practice nor an evidence-based management scale (Akbar, 20222).

For community and mental health nurses, app adoption should be linked to an observable clinical purpose. A monitoring function requires agreement on who reviews reports, with what frequency, how risk is escalated, where decisions are documented, and how the service responds when technology is unavailable. Human support remains clinically meaningful, especially for people with limited digital literacy or concerns about safety, privacy, or trust. The technology-specialist model (Carpenter-Song et al., 2022),

clinician dashboards (Adam et al., 2020; Perry et al., 2021), and cross-sector preparatory findings (Barker et al., 2025) suggest avenues for piloting, not proof that additional digital staffing reduces workload.

Equity, data governance, and sustainability should be assessed alongside enthusiasm for technology (Joesep et al 2025; Putra & Umar, 2024; Akbar, 2024). Organizational case studies and reviews highlight the need to plan authentication, permissions, vendor responsibilities, safe storage, and replacement costs (Adegoke et al., 2025; Bostan et al., 2024; Kamuhanda et al., 2026; Maua, 2026). Related studies of digital mental health among displaced populations, people with serious mental illness, and diverse service users illustrate context-specific acceptability and usability challenges rather than universal gains (Ramia et al., 2024; Röhricht et al., 2021; Rusch et al., 2022). Economic planning and broader primary care service development also require local appraisal (Ibeneme et al., 2020; Lawson et al., 2022; Ryan et al., 2024).

The multidimensional implementation outcomes proposed by Proctor et al. (2011) and the updated Consolidated Framework for Implementation Research (Damschroder et al., 2022) may inform a prospective assessment plan. For example, adoption is not synonymous with patient improvement; workforce acceptability is not equivalent to affordability; and a service's short-term feasibility does not establish sustained equity or effectiveness. Integration research should therefore separate implementation, service, patient-reported, safety, and economic outcomes.

Implications for further research

Future review teams should update and broaden the search without changing the eight-study historical dataset retrospectively. A prospectively recorded search should test whether fewer obligatory concept blocks retrieve additional

eligible reports, search relevant grey literature when appropriate, document supplementary searching, and apply PRESS peer review (McGowan et al., 2016). Two independent reviewers or another explicitly justified model of eligibility verification should be reported accurately, with a pilot-tested charting tool and an auditable agreement procedure. Such steps cannot be claimed for the current review in the absence of records.

Prospective studies could compare supported app-enabled care with credible non-digital service arrangements, include longer follow-up, and quantify clinical workload, referral completion, safety events, cost and differential participation. Mixed-methods study designs can explain why adoption differs among patients and staff. Proposed framework domains could be tested for content validity with service users, community nurses, clinicians, managers, and partner organizations before being used as formal performance indicators. Evidence from work on leadership, digital transformation, and general community services offers background hypotheses but should not be counted as new included primary studies (Golinelli et al., 2020; Hasan et al., 2021; Searby, 2024; Volpe et al., 2024).

Strengths and limitations

The main strength is focus on the organizational linkage between application use and community mental health care, with all eight reports transparently differentiated by context and implementation maturity. The review also separates descriptive evidence from an interpretive management framework.

Several substantial limitations constrain interpretation. Only eight heterogeneous reports were included, including perspectives from pre-implementation settings. The five-block search may have been too restrictive, and the unusually small yield of 38 identified records cannot be independently evaluated without original database exports. Exact execution dates, per-database yields, citation tracking, search coverage, review-team roles, software, charting verification and protocol status were not recoverable. The PRISMA flow captures total counts but not all expected identification and retrieval detail. No formal study-level critical appraisal was documented. Moreover, the three integration

models and five-domain framework derive from narrative interpretation and have not undergone formal validation. These limitations preclude confidence that the sample exhaustively represents the global literature or that the proposed domains improve outcomes.

Conclusion and Recommendation

Eight studies describe several ways that digital applications can be connected to community mental health services, including clinician-supported care, primary care task sharing, and cross-sector collaboration. This scoping review offers a descriptive classification and five provisional domains that may support local implementation planning and research design. Because the evidence is limited, heterogeneous, and incompletely documented at the search-process level, neither broad effectiveness nor readiness for routine adoption can be inferred. A reproducible review update and prospective evaluation are needed before the framework can be validated.

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Declaration of conflict of interest

The authors declare that they have no competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration on the Use of AI

The authors declare that no artificial intelligence (AI) or AI-assisted technologies were used in the writing, data analysis, or manuscript preparation process for this study. All work presented is original and authored solely by the researchers.

Data Availability Statement

Data sharing is not applicable to this article.

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