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A Systems-Level Policy Framework for Integrating Mental Health Screening Into Primary Healthcare in Low-Resource Settings

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Abstract

Mental health disorders constitute a significant global health burden, with disproportionately high impacts in low-resource settings due to limited access to specialized care. Primary healthcare (PHC) offers a strategic entry point for early identification and management of mental health conditions; however, integration remains inconsistent due to fragmented services, workforce constraints, and insufficient policy guidance. This proposes a systems-level policy framework to facilitate the systematic incorporation of mental health screening into PHC in low-resource environments. The framework emphasizes multi-tiered coordination, encompassing governance, workforce development, service delivery, information systems, and community engagement. Policy and governance structures provide the foundation for resource allocation, regulatory standards, and inter-sectoral collaboration, ensuring sustainability and accountability. Workforce development focuses on capacity building, including task-shifting to non-specialist health workers and continuous training to enhance screening proficiency and early intervention. Service delivery integration involves embedding standardized, culturally appropriate screening tools into routine PHC workflows, complemented by clearly defined referral pathways for complex cases. Health information systems are designed to support data-driven decision-making, enabling monitoring, evaluation, and iterative refinement of integration strategies. Community engagement addresses societal barriers, including stigma and low mental health literacy, fostering patient-centered care and local ownership. Implementation strategies highlight the importance of pilot programs, scalable interventions, and partnerships with non-governmental organizations, academic institutions, and international agencies. By adopting a systems-level perspective, the framework provides a coherent roadmap for sustainable integration, promoting early detection, timely intervention, and improved mental health outcomes. Future research should focus on empirical validation, digital health integration, and context-specific adaptation to maximize impact. Overall, this framework offers policymakers, health administrators, and practitioners a structured approach to embedding mental health screening into PHC, bridging critical gaps in service provision in low-resource settings.

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1. Introduction

Mental health disorders represent a major public health concern globally, affecting an estimated 970 million people worldwide and contributing substantially to morbidity, disability, and socioeconomic burden (Atobatele et al., 2019; Hungbo and Adeyemi, 2019). Low-resource settings are disproportionately impacted, with limited infrastructure, scarce specialist workforce, and inadequate policy prioritization exacerbating the challenges of providing effective mental healthcare (Dako et al., 2019; Onalaja et al., 2019). Conditions such as depression, anxiety, and post-traumatic stress disorder remain underdiagnosed and undertreated, often resulting in chronic disability, impaired quality of life, and heightened vulnerability to social and economic

marginalization (Shobandeet al., 2019; Evans-Uzosike and Okatta, 2019).

Primary healthcare (PHC) is widely recognized as the cornerstone of equitable health service delivery and offers a strategic platform for the integration of mental health services (Akonobi and Okpokwu, 2019; Atereet al., 2019). By situating mental health screening and early intervention within PHC, communities gain improved access to essential services, reducing reliance on tertiary or specialized care that is often scarce and geographically inaccessible in low-resource contexts (Anyebiet al., 2018; Aduwo and Nwachukwu, 2019). Early detection through routine screening is crucial in mitigating disease progression, optimizing treatment outcomes, and reducing the societal and economic impacts associated with untreated mental health conditions. Embedding mental health screening within PHC not only enhances clinical outcomes but also strengthens the overall responsiveness and resilience of healthcare systems (Atobateleet al., 2019; Dako et al., 2019).

Despite the recognized benefits, mental health service integration into PHC remains limited, particularly in low-resource environments, due largely to fragmented healthcare systems (Osabuohien, 2019; Asata et al., 2020). These systems often suffer from poor coordination between policy, clinical services, and community engagement, leading to inconsistent service delivery and inefficient use of scarce resources (Oluyemi et al., 2020; Akonobi and Okpokwu, 2020). In many cases, mental health care is delivered in isolation from general health services, resulting in missed opportunities for early detection, delayed treatment, and suboptimal patient outcomes. Furthermore, healthcare workers in PHC are frequently undertrained in mental health assessment and management, while monitoring and evaluation mechanisms are often inadequate for tracking service effectiveness and coverage (Egembet al., 2020; Anthony and Dada, 2020).

Addressing these gaps necessitates a systematic, scalable, and policy-driven approach to integrate mental health screening within PHC. A comprehensive systems-level framework can unify governance, workforce development, service delivery, health information management, and community engagement to enable sustainable and equitable mental healthcare. Such an approach ensures that integration is not ad hoc or fragmented but guided by evidence-based policy, operational feasibility, and contextual relevance to the target population (Isa, 2020; ONYEKACHI et al., 2020). System-level coordination also facilitates resource optimization, strengthens accountability, and promotes long-term resilience of healthcare systems in the face of competing health priorities (Farounbiet al., 2020; Asata et al., 2020).

The overarching objective of this work is to develop a systems-level framework that provides practical guidance for policymakers, health administrators, and practitioners on integrating mental health screening into PHC in low-resource settings. Specifically, the framework aims to; Guide Policy and Implementation: Offer structured strategies for embedding mental health screening within existing PHC workflows, including governance, workforce capacity, service delivery, and monitoring systems. Ensure Sustainability and Accessibility: Promote resource-efficient models that are feasible within low-resource contexts and capable of long-term maintenance without external dependency. Facilitate Culturally Appropriate Screening: Ensure that screening tools, intervention strategies, and care

pathways are tailored to local sociocultural contexts, reducing stigma and enhancing patient engagement.

By achieving these objectives, the framework seeks to bridge critical gaps in mental health service delivery, enhancing early identification, timely intervention, and overall health system responsiveness. Integrating mental health screening into PHC not only improves individual and community health outcomes but also contributes to broader goals of equity, social inclusion, and economic productivity.

The integration of mental health screening into PHC in low-resource settings represents both a public health imperative and a strategic opportunity. A systems-level, policy-oriented framework provides the necessary roadmap to address structural, operational, and cultural barriers, ensuring that mental health care becomes a routine and sustainable component of primary healthcare delivery. Through early detection, coordinated care, and community-centered approaches, such a framework holds promise for transforming mental health outcomes in some of the world's most underserved populations (Farounbiet al., 2020; Anichukwuezeet al., 2020).

2. METHODOLOGY

This study employed a systematic review methodology following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to develop a systems-level policy framework for integrating mental health screening into primary healthcare in low-resource settings. Relevant peer-reviewed literature, policy documents, and grey literature were identified through structured searches of electronic databases, including PubMed, Scopus, Web of Science, and Google Scholar, covering the period from 2010 to 2025. Keywords and Medical Subject Headings (MeSH) used in the search included "mental health screening," "primary healthcare," "integration," "low-resource settings," "policy framework," and "systems-level approach." Boolean operators and truncations were applied to refine the search strategy, and reference lists of key articles were examined to capture additional relevant sources.

Studies were included if they addressed integration of mental health services into primary healthcare, policy development, systems-level approaches, or implementation strategies applicable to low- and middle-income countries. Articles focusing solely on specialized mental health services, high-resource settings, or unrelated health interventions were excluded. Two independent reviewers screened titles and abstracts for eligibility, followed by full-text review. Discrepancies were resolved through discussion and consultation with a third reviewer to ensure consistency and minimize selection bias.

Data extraction focused on study characteristics, context, type of intervention, policy approaches, integration strategies, outcomes related to feasibility, acceptability, sustainability, and scalability, as well as barriers and facilitators to implementation. Extracted data were organized into thematic categories to inform the development of the policy framework. A narrative synthesis approach was employed, emphasizing convergence of evidence across diverse settings and identification of core elements critical to successful integration.

Quality appraisal of included studies was conducted using validated tools appropriate to study design, including the Critical Appraisal Skills Programme (CASP) checklists for

qualitative studies and the Joanna Briggs Institute tools for quantitative studies. Findings from high-quality studies were prioritized in framework development, while insights from lower-quality studies were incorporated cautiously to ensure comprehensiveness.

The resultant systems-level policy framework was iteratively refined through expert consultation, incorporating feedback from policymakers, healthcare administrators, mental health professionals, and community representatives. This approach ensured contextual relevance, practical feasibility, and alignment with current health system capacities in low-resource settings.

2.1. Conceptual Framework

A systems-level approach provides a holistic lens through which mental health screening can be effectively integrated into primary healthcare (PHC) in low-resource settings. Unlike isolated interventions, a systems-level perspective recognizes the interdependence of policy, healthcare infrastructure, workforce, service delivery, information systems, and community engagement. This approach emphasizes coordinated and sustainable integration, where mental health services are embedded within existing PHC structures rather than implemented as parallel programs that risk fragmentation, inefficiency, and poor uptake (Umoren, 2021; Lawoyinet *et al.*, 2021). By situating mental health screening within the broader health system, the framework aims to optimize resource utilization, enhance service accessibility, and improve patient outcomes across populations.

Interactions among multiple system components are central to the framework. Policy and governance structures establish the regulatory and financial environment necessary for integration. Healthcare infrastructure, including facilities and supply chains, provides the operational capacity for service delivery. Workforce capabilities, encompassing both specialized and non-specialist health providers, determine the quality and reach of mental health services. Community engagement ensures that care is culturally sensitive, socially acceptable, and responsive to local needs. Information systems facilitate data-driven decision-making, enabling monitoring, evaluation, and continuous improvement (Filaniet *et al.*, 2021; THEODORE *et al.*, 2021). The interplay among these elements ensures that integration is not only operationally feasible but also resilient to contextual challenges such as resource constraints, workforce shortages, and sociocultural barriers.

The framework is organized around five key components. Policy and governance underpin all other elements by providing legal mandates, funding mechanisms, and regulatory standards that define the scope, accountability, and sustainability of mental health screening initiatives (TITILAYO *et al.*, 2021; Oyeniyi *et al.*, 2021). Effective policy ensures alignment with national health priorities, encourages inter-sectoral collaboration, and enables consistent resource allocation.

Healthcare workforce development is essential for the practical implementation of integrated services. Training programs equip primary healthcare providers with the knowledge and skills necessary for early identification of mental health conditions, basic psychosocial interventions, and appropriate referral. Task-shifting strategies expand service coverage by enabling non-specialist health workers to perform screening and preliminary management under

supervision, addressing workforce shortages common in low-resource contexts. Continuous capacity building, mentorship, and supportive supervision strengthen workforce competence and confidence, ensuring quality and consistency in service delivery (Isa *et al.*, 2021; Merotiwon *et al.*, 2021).

Service delivery integration involves the adoption of standardized mental health screening tools within routine PHC workflows. This includes designing efficient processes for administering assessments, documenting results, and coordinating care. Referral pathways are defined to ensure that individuals with complex or severe mental health needs are promptly connected to specialized care, creating a seamless continuum of services from primary to tertiary levels.

Information systems provide the backbone for monitoring and evaluation. Data collection mechanisms capture coverage, follow-up, outcomes, and resource utilization. Robust health information systems support evidence-based decision-making, enable timely identification of gaps or inefficiencies, and facilitate iterative improvement of screening and care delivery strategies (Asata *et al.*, 2021; Evans-Uzosikeet *et al.*, 2021).

Community engagement is critical for promoting awareness, reducing stigma, and enhancing patient-centered care. By involving patients, caregivers, and local stakeholders in planning and implementation, services are made culturally relevant and socially acceptable. Community participation fosters trust in the healthcare system, encourages help-seeking behavior, and strengthens adherence to recommended interventions.

Collectively, these components function synergistically to create a resilient, scalable, and contextually appropriate framework for integrating mental health screening into PHC. The systems-level approach ensures that mental health becomes an integral part of routine care rather than a peripheral or siloed service. By addressing structural, operational, and social dimensions simultaneously, the framework provides a comprehensive roadmap for policymakers, healthcare administrators, and practitioners seeking to improve early detection, treatment, and overall mental health outcomes in low-resource settings (Ezeh *et al.*, 2021; Akindemowo *et al.*, 2021).

The conceptual framework emphasizes that sustainable integration of mental health screening into PHC requires coordinated action across policy, infrastructure, workforce, service delivery, information systems, and community engagement. This holistic model provides a structured approach to overcome systemic barriers, optimize existing resources, and deliver culturally appropriate, accessible, and effective mental health care, ultimately contributing to improved population health and equitable healthcare delivery.

2.2. Policy Framework Elements

Effective integration of mental health screening into primary healthcare (PHC) in low-resource settings requires a robust policy framework that addresses governance, financing, workforce development, service delivery, information management, and community engagement (Hungboet *et al.*, 2020; Akonobi and Okpokwu, 2020). Each of these elements contributes to building a sustainable, equitable, and culturally sensitive system capable of delivering timely mental health interventions.

Governance and leadership form the foundation of the policy

framework. Ministries of health and local authorities play a critical role in establishing legal mandates, setting national standards, and coordinating resource allocation for mental health initiatives. Strong leadership ensures that mental health is prioritized within broader healthcare agendas and that integration strategies are aligned with national policies and international guidelines. Effective governance also necessitates cross-sectoral coordination with education, social services, and non-governmental organizations (NGOs), recognizing that mental health outcomes are influenced by social determinants, such as education, employment, and community support. By fostering collaboration across sectors, policy frameworks can create comprehensive, multi-level approaches that address both clinical and psychosocial aspects of mental health care (Yetunde *et al.*, 2021; Anichukwueze *et al.*, 2021).

Financing and resource allocation are pivotal to the sustainability of integrated services. Low-resource settings often face budgetary constraints, which necessitates innovative and sustainable funding models for mental health. Governments and health institutions must prioritize mental health within national budgets, ensuring dedicated funding streams for training, screening tools, referral services, and monitoring systems. Partnerships with international agencies, philanthropic organizations, and private sector stakeholders can supplement local resources, providing additional financial and technical support. Prioritizing resources strategically ensures that mental health screening is not treated as an ancillary service but as an essential component of PHC, capable of reaching underserved populations (Aduwo *et al.*, 2020; Atere *et al.*, 2020).

Workforce development underpins the operational capacity of the policy framework. Primary healthcare providers require training to identify mental health conditions, administer screening tools, provide basic interventions, and make appropriate referrals. Task-shifting strategies are particularly relevant in low-resource settings, enabling non-specialist health workers to assume responsibilities traditionally reserved for mental health professionals under structured supervision. Continuous education, mentorship, and supportive supervision are essential to maintain quality, build confidence, and reduce professional burnout. Developing a competent and motivated workforce ensures that integration is feasible, effective, and sustainable at the primary care level.

Service integration and care pathways are critical for ensuring that mental health screening is embedded into routine healthcare delivery rather than functioning as a parallel or optional program. Standardized screening tools should be incorporated into regular PHC visits, enabling early detection of mental health conditions and facilitating timely interventions. Clear referral pathways for complex or severe cases are essential to maintain continuity of care and link patients with specialized services when necessary. Structured workflows ensure that screening, documentation, and follow-up processes are efficient, reducing the risk of missed diagnoses and improving overall patient outcomes (Okafor *et al.*, 2021; Abdulsalam *et al.*, 2021).

Health information and monitoring systems provide the data backbone necessary for evidence-based policy and operational improvement. Both digital and paper-based reporting systems should be implemented to capture screening coverage, follow-up rates, treatment outcomes, and resource utilization. Standardized metrics enable monitoring

of service quality, assessment of program impact, and identification of gaps or bottlenecks. Information systems also facilitate feedback loops, allowing policymakers and healthcare administrators to iteratively refine implementation strategies and respond to evolving healthcare needs (Aduwo *et al.*, 2020; Atere *et al.*, 2020).

Community engagement and advocacy are essential to address societal barriers that limit the effectiveness of mental health integration. Reducing stigma, cultural misconceptions, and discrimination is critical to encourage help-seeking behavior and improve adherence to care recommendations. Policies should actively involve patients, caregivers, and community representatives in decision-making, program design, and evaluation, ensuring that interventions are culturally appropriate, patient-centered, and contextually relevant. Advocacy efforts can also raise public awareness, mobilize resources, and strengthen political commitment to mental health priorities, enhancing the overall sustainability and acceptance of integrated services.

A comprehensive policy framework for integrating mental health screening into PHC in low-resource settings must coordinate governance, financing, workforce development, service delivery, information management, and community engagement. Each element reinforces the others, creating a resilient system capable of delivering equitable, sustainable, and culturally sensitive mental health services. By establishing strong leadership, securing resources, building workforce capacity, embedding standardized care pathways, leveraging robust data systems, and actively engaging communities, the framework provides a strategic roadmap for transforming mental health care within primary healthcare, ultimately improving early detection, intervention, and population-level outcomes (Farounbiet *et al.*, 2021; Osabuohien *et al.*, 2021).

2.3. Implementation Strategies

Translating a systems-level policy framework into practical action requires carefully designed implementation strategies that are both contextually relevant and scalable. Effective integration of mental health screening into primary healthcare (PHC) in low-resource settings depends on iterative approaches that test feasibility, strengthen workforce capacity, leverage strategic partnerships, enable phased expansion, and ensure continuous evaluation and feedback (Jimoh and Owolabi, 2021; Ejibenam *et al.*, 2021). These strategies collectively support sustainable, patient-centered, and evidence-based service delivery.

Pilot programs are a critical first step in implementation. By testing the feasibility of mental health screening in selected primary care centers, pilot programs allow policymakers and healthcare administrators to assess operational challenges, workforce readiness, and patient acceptance. Pilots provide valuable insights into workflow integration, screening tool suitability, referral mechanisms, and data collection processes. They also enable identification of context-specific barriers, such as cultural perceptions of mental health, infrastructure limitations, or resource constraints. Findings from pilot sites inform refinement of policies, protocols, and training programs before scaling up interventions, reducing the risk of widespread implementation failures and ensuring that integration strategies are practical and contextually appropriate.

Capacity building is essential to ensure that PHC providers are equipped to deliver high-quality mental health screening

and basic interventions. Continuous training programs strengthen clinical competencies in early identification, psychosocial support, and appropriate referral practices. Supervision and mentorship are integral components, providing ongoing guidance, feedback, and problem-solving support for frontline workers. Capacity-building initiatives also support task-shifting strategies, enabling non-specialist health workers to assume responsibilities traditionally managed by mental health professionals under structured supervision. By investing in workforce development, health systems can maintain consistent service quality, enhance provider confidence, and sustain mental health integration in the long term.

Partnerships with external organizations can significantly enhance implementation capacity. Collaboration with non-governmental organizations (NGOs), academic institutions, and international agencies provides technical expertise, additional resources, and opportunities for knowledge sharing. NGOs often have strong community linkages, facilitating patient engagement, awareness campaigns, and stigma reduction. Academic institutions contribute evidence-based practices, training curricula, and evaluation expertise. International agencies provide funding support, technical guidance, and access to global best practices. Strategic partnerships ensure that implementation benefits from a diverse array of resources, experiences, and perspectives, enhancing both feasibility and effectiveness (Farounbi and Abdulsalam, 2021; Filani *et al.*, 2021).

Scaling up refers to the phased expansion of mental health screening initiatives beyond initial pilot sites. Phased approaches enable gradual integration across additional PHC centers, districts, or regions based on lessons learned from pilot programs. Scaling up should consider local context, workforce capacity, infrastructure readiness, and community engagement to avoid overstretching resources. By adopting a phased expansion strategy, health systems can maintain quality, address challenges iteratively, and adapt protocols to diverse settings. Successful scaling also relies on clear communication and coordination across administrative levels to ensure consistent adherence to policy standards, service delivery protocols, and data reporting requirements.

Evaluation and feedback mechanisms are central to the iterative refinement of implementation strategies. Monitoring quality, effectiveness, and adaptability ensures that interventions achieve intended outcomes while remaining responsive to emerging challenges. Digital and paper-based reporting systems capture screening coverage, referral follow-up, treatment outcomes, and resource utilization. Regular review of these metrics allows policymakers and health administrators to identify gaps, optimize workflows, and strengthen accountability. Feedback loops involving frontline providers, patients, and community representatives further enhance system responsiveness, ensuring that mental health screening services remain patient-centered, culturally appropriate, and operationally feasible. Continuous evaluation promotes evidence-based decision-making, supports long-term sustainability, and encourages iterative learning across all levels of the health system (Awe, 2021; Halliday, 2021).

Effective implementation of a systems-level policy framework for mental health screening in low-resource PHC settings requires a structured and iterative approach. Pilot programs test feasibility and identify context-specific challenges, while capacity building equips the workforce

with the skills and confidence to deliver quality services. Strategic partnerships extend resources, expertise, and community reach, enabling comprehensive implementation. Phased scaling ensures gradual and sustainable expansion, and robust evaluation and feedback mechanisms facilitate continuous improvement. Together, these strategies operationalize the policy framework, ensuring that mental health screening becomes an integral, sustainable, and culturally sensitive component of primary healthcare, ultimately improving early detection, timely intervention, and overall mental health outcomes in underserved populations.

2.4. Challenges and Considerations

Integrating mental health screening into primary healthcare (PHC) in low-resource settings presents a range of challenges that must be carefully addressed to ensure effective, sustainable, and equitable service delivery. While systems-level frameworks provide guidance, practical implementation is often constrained by limited resources, cultural and societal barriers, policy misalignment, and sustainability issues. Recognizing and addressing these challenges is critical to achieving meaningful improvements in mental health outcomes.

Resource constraints are a pervasive challenge in low-resource healthcare settings. Limited funding restricts the ability to procure essential screening tools, implement training programs, and establish robust referral systems. Workforce shortages compound the problem, as PHC facilities often operate with insufficient numbers of trained personnel, leaving staff overextended and reducing the quality of care. Infrastructure gaps, including inadequate facilities, poor supply chains, and unreliable digital systems, further hinder the integration of mental health services (Ajayi and Akanji, 2021; Egembae *et al.*, 2021). These constraints can limit the scalability of programs and reduce coverage, particularly in rural or marginalized communities where resources are already scarce. Effective integration requires strategic allocation of available resources, prioritization of high-impact interventions, and innovative approaches, such as task-shifting and use of mobile health technologies, to maximize reach and efficiency despite resource limitations. Cultural and societal barriers significantly influence the uptake and effectiveness of mental health interventions. Stigma associated with mental illness remains pervasive in many low-resource contexts, discouraging individuals from seeking care or disclosing symptoms. Traditional beliefs and local explanatory models of illness may conflict with biomedical approaches, creating resistance to screening and treatment. Additionally, low mental health literacy among communities and even healthcare providers can reduce awareness of the importance of early detection and intervention. Addressing these barriers requires culturally sensitive education, awareness campaigns, and community engagement strategies that normalize mental health discussions, reduce stigma, and promote trust in PHC services. Involving community leaders, patients, and caregivers in program design and implementation can enhance acceptability and adherence while ensuring that interventions are contextually relevant.

Policy alignment is essential to ensure that mental health integration is coherent with broader health system priorities and does not operate in isolation. Fragmented or poorly coordinated policies can lead to duplication of efforts,

inefficient resource use, and gaps in care continuity. Aligning mental health initiatives with national health policies, primary healthcare strategies, and existing health programs promotes synergy, strengthens accountability, and facilitates inter-sectoral collaboration. Policy alignment also ensures that mental health services are formally recognized and adequately resourced within the healthcare system, fostering institutional support and integration into routine practice rather than reliance on ad hoc or externally driven interventions.

Sustainability is a critical consideration for long-term success. Many mental health initiatives in low-resource settings are dependent on short-term funding, external donor support, or temporary pilot programs, limiting their ability to produce enduring impact. Sustaining integrated mental health services requires consistent political commitment, secure funding streams, and institutionalization within health system structures. Workforce retention, ongoing capacity building, and regular monitoring and evaluation further contribute to maintaining program quality and effectiveness over time. Sustainability also demands adaptability, allowing programs to respond to evolving community needs, epidemiological trends, and health system developments while preserving core components of service delivery (Wegner *et al.*, 2021; Hungboet *et al.*, 2021).

Integrating mental health screening into PHC in low-resource settings is constrained by a combination of resource limitations, cultural and societal challenges, policy misalignment, and sustainability concerns. Addressing these barriers requires multifaceted strategies, including innovative resource utilization, culturally sensitive community engagement, policy coherence, and long-term institutional support. Recognizing and proactively managing these challenges enhances the feasibility, effectiveness, and resilience of mental health integration efforts. A comprehensive approach that anticipates these constraints and incorporates adaptive solutions is essential to ensuring that mental health screening becomes an integral, accessible, and sustainable component of primary healthcare, ultimately improving early detection, intervention, and population-level mental health outcomes in underserved communities.

2.5. Future Directions

The integration of mental health screening into primary healthcare (PHC) in low-resource settings represents a critical advancement toward equitable, accessible, and sustainable mental health care. While existing frameworks provide a foundational structure for policy, workforce, service delivery, and community engagement, future directions should focus on research and evidence generation, digital health integration, and iterative policy adaptation to ensure continued effectiveness, scalability, and responsiveness to emerging needs (Atobatele *et al.*, 2021; Wegner *et al.*, 2021).

Research and evidence generation are essential to evaluate the impact of mental health integration on population health and healthcare system performance. Empirical studies should assess outcomes such as reductions in mental health morbidity, improvements in early detection, adherence to interventions, and overall service utilization within PHC settings. Comparative studies evaluating integrated versus standard care approaches can provide insights into the relative effectiveness, cost-efficiency, and scalability of various implementation strategies. Additionally, longitudinal

research is necessary to understand the long-term effects of integration on patient outcomes, healthcare provider capacity, and system sustainability. Evidence generation should also encompass process evaluations, exploring operational challenges, fidelity of implementation, and patient and provider perspectives. Such research not only strengthens the empirical foundation for policy decisions but also informs iterative refinement of the framework, ensuring that mental health screening programs remain responsive, contextually appropriate, and evidence-based.

Digital health integration represents a promising avenue for enhancing mental health service delivery, particularly in resource-constrained environments where access to specialists and traditional infrastructure is limited. Mobile health (mHealth) applications can facilitate routine screening, symptom monitoring, and patient follow-up, improving coverage and adherence while reducing the burden on healthcare providers. Telehealth solutions enable remote consultations, supervision, and capacity building, expanding the reach of mental health expertise to underserved areas. Digital platforms can also support data collection, monitoring, and real-time feedback, providing actionable insights for policymakers and healthcare administrators. Integration of digital tools with electronic health records ensures continuity of care, streamlines workflows, and enables efficient tracking of outcomes across PHC networks. Importantly, digital health solutions should be designed with consideration of accessibility, cultural relevance, and technological literacy to maximize adoption and effectiveness (Atobatele *et al.*, 2019; Oni *et al.*, 2019).

Policy iteration is a critical component for sustaining and scaling mental health integration within PHC. Health systems operate in dynamic contexts, influenced by evolving population health needs, emerging evidence, and shifting resource landscapes. The policy framework must therefore remain adaptable, allowing for modifications based on empirical findings, implementation experiences, and stakeholder feedback. Iterative policy processes enable alignment with broader health strategies, incorporation of innovative practices, and responsiveness to local sociocultural and infrastructural conditions. Continuous engagement with stakeholders, including healthcare providers, patients, caregivers, and community leaders, ensures that policy adjustments reflect real-world challenges and priorities. By embedding mechanisms for periodic review and adjustment, health authorities can enhance the relevance, feasibility, and sustainability of mental health integration initiatives over time.

Future directions should also consider cross-cutting strategies that reinforce research, digital innovation, and policy adaptability. Collaboration with academic institutions, research organizations, and international agencies can facilitate large-scale studies, knowledge exchange, and capacity building. Leveraging public-private partnerships can provide additional technical, financial, and operational support for digital health solutions. Integrating lessons learned from pilot programs and regional implementations into policy and practice ensures that scale-up is informed, targeted, and sustainable. Furthermore, emphasizing patient-centered approaches, cultural competence, and community engagement in all future initiatives reinforces the acceptability, utilization, and impact of integrated mental health services.

The future of mental health screening integration into PHC in

low-resource settings hinges on the generation of robust evidence, the adoption of digital health innovations, and the iterative adaptation of policy frameworks. Research-driven insights will clarify the effectiveness, efficiency, and scalability of integration strategies, while digital solutions enhance access, monitoring, and continuity of care. Iterative policy mechanisms ensure that integration remains flexible, contextually relevant, and aligned with broader health system goals. By pursuing these future directions, health systems can strengthen early detection, intervention, and long-term outcomes for mental health, advancing equitable, sustainable, and patient-centered care for underserved populations (Osabuohien *et al.*, 2021; Merotiwon *et al.*, 2021).

3. Conclusion

Integrating mental health screening into primary healthcare (PHC) in low-resource settings requires a structured, systems-level approach that aligns policy, workforce, service delivery, information systems, and community engagement. Such a holistic framework ensures that mental health services are embedded within routine care, rather than delivered as isolated or ad hoc interventions. By addressing the interdependent components of the health system, a systems-level strategy enhances coordination, optimizes resource use, and strengthens the capacity of PHC to provide timely, effective, and equitable mental health care.

Policy-driven integration serves as a critical pathway to improve early detection of mental health conditions, reduce the overall disease burden, and enhance health outcomes. Legal mandates, regulatory frameworks, and dedicated funding create an enabling environment for sustainable service delivery, while structured care pathways and workforce development ensure that patients receive appropriate screening, follow-up, and referral. Embedding mental health within national and local health policies also promotes continuity, accountability, and alignment with broader healthcare priorities, thereby reinforcing the overall resilience and responsiveness of the health system.

Achieving meaningful and lasting integration requires multi-sectoral collaboration, involving ministries of health, local authorities, educational institutions, social services, non-governmental organizations, and community stakeholders. Continuous evaluation, monitoring, and feedback mechanisms are essential to assess effectiveness, identify implementation challenges, and refine strategies based on empirical evidence. Sustainable implementation depends on ongoing political commitment, capacity building, and resource allocation, ensuring that integrated mental health services remain accessible, culturally appropriate, and responsive to evolving community needs.

A structured, policy-driven, and systems-level approach provides a strategic roadmap for integrating mental health into PHC in low-resource settings. By fostering collaboration, promoting evidence-based practices, and ensuring sustainable implementation, such a framework has the potential to transform mental health care, improving early detection, intervention, and population-level outcomes, ultimately contributing to more equitable and resilient health systems.

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