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Barriers and facilitators for the implementation of mental health programmes in primary care in low- and middle-income countries: a systematic review

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Summary

Integration of services into primary health care for people with common mental disorders is considered a key strategy to improve access to mental health care in low- and middle-income countries, yet services at the primary care level remain largely unavailable. We conducted a systematic review to understand previously experienced barriers and facilitators in the implementation of mental health programmes. We searched five databases (MEDLINE, EMBASE, PsycINFO, Global Health, and LILACS), and included studies published between January 1, 1990 until September 1, 2017 that used qualitative methods to assess the implementation of programmes for adults with common mental disorders at primary health care settings in low- and middle-income countries. The CASP Qualitative Checklist was used to assess the quality of eligible papers. We used the “best fit” framework approach to synthesise findings according to the Consolidated Framework for Implementation Research (CFIR). We identified 24 papers for inclusion. These described the implementation of nine programmes in 11 countries. Key factors included the extent to which an organisation is ready for implementation; the attributes, knowledge and beliefs of providers; complex service user needs; adaptability and perceived advantage of interventions; and the processes of planning and evaluating the implementation. Evidence on implementation of mental health programmes in low- and middle-income countries remains limited. Synthesizing results according to the CFIR helped to identify key areas for future action, including investment on primary health care strengthening, capacity building for health providers and increased support to address the social needs of service users.

Key words
Common mental disorders, depression, anxiety, programmes for mental health, implementation, barriers, facilitators, primary health care, Consolidated Framework for Implementation Research, systematic review
Background

Common mental disorders such as depression and anxiety are among the leading causes of years lived with disability globally.\textsuperscript{1} In low- and middle-income countries estimates indicate that 79-93\% of people with depression and 85-95\% of people with anxiety do not have access to treatment.\textsuperscript{2} Low availability of human resources for mental health and limited implementation of mental health programmes at scale contribute to this large unmet need for mental health care.\textsuperscript{3, 4} The WHO promotes the integration of mental health services into primary health care as a feasible strategy to tackle these resource shortages.\textsuperscript{5, 6} Many countries have endorsed this strategy, including the 97\% of WHO member states that promote the delivery of mental health services in community-level or primary health care.\textsuperscript{7}

Yet mental health services remain unavailable at the primary care level in a large majority of countries.\textsuperscript{8} Compared to integrated care for other conditions, mental health has been under prioritized due to difficulties in establishing the impact of mental disorders on premature mortality, the historic reliance on psychologists and psychiatrists to deliver care, and stigma towards mental disorders.\textsuperscript{9-11} Difficulties in implementation also pose significant barriers to the provision of integrated services at scale.\textsuperscript{12} Large workloads, limited specialist support and shortages of psychotropic medication have previously been identified as some of the key challenges.\textsuperscript{12} However, many other factors play a role in this intricate process as implementation in primary care generally involves complex interventions, coordination and engagement of a range of stakeholders, and implementation into dynamic health systems and contexts\textsuperscript{13, 14}.

Factors that hinder or enable the adoption of a new practice and influence outcomes of the implementation of an intervention have been defined as implementation determinants.\textsuperscript{15} Multiple frameworks of implementation determinants have been developed with the aim of providing a comprehensive understanding of the variety of elements (e.g. health professionals, interventions, service users, organisation, resources, context) involved in the implementation of interventions and their complex relationships.\textsuperscript{16}

Given that integration into primary care is a key priority to address the disease burden of common mental disorders,\textsuperscript{5} this study aims to improve the understanding of the barriers previously faced by implementers and the facilitators that have enabled implementation through a review and synthesis of peer-reviewed qualitative literature of the determinants for the implementation of mental health programmes in primary health care for common mental disorders in low- and middle-income countries. Our objectives are to identify barriers and facilitators to implementation, and to adopt a
pre-existing framework for understanding implementation determinants to synthesize available
evidence and identify research gaps.

Methods
This systematic review is reported according to the Preferred Reporting Items for Systematic Review
and Meta-Analyses (PRISMA) criteria. The protocol for this review was not registered.

Data collection and analysis
To identify relevant literature we combined search terms related to (a) implementation
determinants, (b) primary health care settings, and (c) common mental disorders to perform
searches in five bibliographic databases (MEDLINE, EMBASE, PsycINFO, Global Health, and LILACS).
Additionally, we conducted searches in Google and Google Scholar and hand searched reference lists
of included articles.

After removing duplicates, GME screened all titles and abstracts, and SH and OQ independently
double-screened a 10% random sample of the titles and abstracts. The inter-rater reliability between
first and second screeners was calculated at 96%. All full-texts papers were then assessed for
eligibility by GME and SH who independently double-screened a sample of 20%. Both authors
discussed all disagreements, and, if necessary, a third author (RK) mediated agreement.

Eligibility criteria
We included peer-reviewed studies that used qualitative methodologies to explore barriers or
facilitators to the implementation of programmes for common mental disorders in primary health
care settings within low- and-middle income countries. Studies published from January 1, 1990
onwards in English or Spanish and meeting the criteria detailed in Table 1 were eligible for inclusion.
We focused on determinants to implementation since our primary focus was on the factors that
influence the process of implementation. We only included studies of programmes that delivered
services at primary care settings by non-specialist health workers (e.g. medical doctors, nurses or
social workers) or lay workers given that models of integration in primary care in low- and-middle
income countries often utilise these cadres due to resource shortages. We focused on common
mental disorders due to their high prevalence and comorbidity with other health conditions. Young
populations and other vulnerable groups were excluded since implementation requirements for
interventions targeting these population groups are likely to differ. We excluded studies from high
income countries given that human and technical resources available as well as health system
characteristics are significantly different.
<table>
<thead>
<tr>
<th>Table 1. Eligibility criteria for variables of interest</th>
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<tbody>
<tr>
<td><strong>Variable definition</strong></td>
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<tr>
<td>Implementation determinants</td>
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<tr>
<td>Programmes at primary health care settings</td>
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<tr>
<td>Adults with common mental disorders</td>
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<tr>
<td>Low- and-middle income countries</td>
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</table>
**Quality appraisal and data extraction**

We only assessed qualitative methods, hence for included mixed-methods studies our classifications do not reflect the overall study quality. We used the Critical Appraisal Skills Programme (CASP) Qualitative Checklist\(^{24}\) to appraise study quality. Broadly, this checklist assesses the aims of the research, methods used to generate the data, methods for analysis and its implications. We classified studies into three categories according to the number of criteria met or reported on: good (8 or more items), fair (5-7 items) and poor (less than 5 items). We used an Excel spreadsheet to tabulate all extracted information (i.e. type of study, type of mental health services, and results).

**Data synthesis**

We used the “best fit” framework synthesis approach. This method involves: (a) identifying an existing framework or logic model; (b) coding data against this framework; (c) identifying emerging themes and; (d) synthesizing results in a new revised framework.\(^{25, 26}\) For the first step, we identified the Consolidated Framework for Implementation Research (CFIR), an existing meta-framework which includes more than 20 constructs grouped in five domains: characteristics of the intervention, inner and outer settings, characteristics of the individuals involved and aspects of the implementation process (Figure 1).\(^{27}\) The CFIR was selected as it represents a comprehensive categorization of implementation determinants informed by both empirical findings and theory, and has been extensively used in related research.\(^{27, 28}\)

GME extracted data from the results section of all included studies and assigned codes deductively according to the domains and constructs of the CFIR. Subsequently, data coded under each CFIR category was recoded into barriers and facilitators. Lastly, emerging themes were identified and synthesized. We did not find any data that did not fit in the framework. Data coding was undertaken using NVivo (Version 11).

[Suggested location of] Figure 1. Diagram of the Consolidated Framework for Implementation Research\(^{27}\)

**Findings**

We identified 12,661 records through the database, internet and hand searches. 284 papers were eligible for full-text screening. Figure 2 describes the number of papers excluded at each stage. Twenty-four publications which report the findings of 21 studies related to 9 mental health care programmes were included in the review (table 2).

[Suggested location of] Figure 2. PRISMA flow diagram of search results

These programmes were in two low income countries,\(^{29-33}\) four lower-middle income countries,\(^{34-39}\) and one upper-middle income country.\(^{40, 41}\) Two related programmes, the Programme for Improving
Mental Health Care (PRIME) and Emerging mental health systems in low- and middle-income countries (EMERALD), were in multiple sites including three low-, two lower-middle, and one upper-middle income country. At the time of assessment, all programme countries except for Lebanon and Jordan had a mental health policy or strategy that promoted the integration of mental health services in primary care. Since the included studies were published, policies that promote integration in both Lebanon and Jordan have been introduced.

All programmes used qualitative or mixed-methods study designs. Common qualitative methods for data collection included in-depth interviews, focus groups and document review. Sample sizes ranged from 10 to 429 participants and included a variety of stakeholders such as policy makers, government officials, service managers, service providers, community members, service users and family members. Common themes explored included perspectives and experiences with training, service delivery and service access.

Ten studies were rated as being of good quality, 11 studies were rated as being of fair quality, and one study was rated as being of poor quality. Detailed quality ratings for included studies can be found in Appendix 2.
<table>
<thead>
<tr>
<th>Programme</th>
<th>Setting</th>
<th>Study design(s)</th>
<th>Participants and sample size</th>
<th>Data collection methods</th>
<th>Platform of care</th>
<th>Target population</th>
<th>Type of provider</th>
<th>Programme / intervention</th>
<th>CFIR\textsuperscript{7} domains and constructs</th>
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<tbody>
<tr>
<td>Brazilian national mental health programme\textsuperscript{40, 41}</td>
<td>Brazil (Rio de Janeiro and Florianopolis), Latin America</td>
<td>Mixed-methods cross-sectional study and a qualitative study</td>
<td>Personnel involved in primary care and mental health services in Rio de Janeiro: 18 health managers and 24 service providers including general practitioners, psychologists and psychiatrists In Florianopolis: 2 physicians, 2 nurses, 2 managers, 1 primary health care district manager, 1 mental health district manager, 3 psychiatrists and 3 psychologists</td>
<td>Semi-structured interviews (n=42) and in-depth interviews (n=14)</td>
<td>National level/primary health care</td>
<td>General population/ Includes depression but targeted to all disorders</td>
<td>Team of professionals based in primary health clinic and collaborating with medical doctors but can include psychologists, nutritionists, social workers, or others</td>
<td>Matrix approach - the generalist professional talks to a specialist about the cases. Service users that cannot be managed by generalists are referred. Includes pharmacological treatment and psychosocial interventions</td>
<td>Intervention (evidence strength and quality, perceived advantage and complexity), outer setting (service user needs &amp; resources), inner setting (implementation readiness &amp; climate, networks &amp; communication), individuals (knowledge &amp; beliefs, self-efficacy), process (planning)</td>
</tr>
<tr>
<td>EMERALD (linked to PRIME) – multisite\textsuperscript{44}</td>
<td>Ethiopia, India, Nepal, South Africa, Uganda and Nigeria, Sub-Saharan</td>
<td>Qualitative study</td>
<td>141 stakeholders including policy makers at the national level and Ministry of Health, managers at the</td>
<td>In-depth interviews (n=141)</td>
<td>District level/primary health care and community</td>
<td>General adult population/ Psychoses, alcohol use disorders, Variations by country. Different cadres of primary health</td>
<td>Collaborative stepped care, Treatments and services vary by country. Generally</td>
<td>Intervention (complexity), outer setting (service user needs &amp; resources, cosmopolitanism,</td>
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<tr>
<td>Study</td>
<td>Country/Region</td>
<td>Methodology</td>
<td>Sample</td>
<td>Setting</td>
<td>Outcomes</td>
<td>Notes</td>
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<td>Friendship Bench project&lt;sup&gt;29&lt;/sup&gt;</td>
<td>Zimbabwe, Sub-Saharan Africa</td>
<td>Qualitative study</td>
<td>Around 55 lay health workers, 6 service users and 1 supervisor</td>
<td>District level/primary health care and community</td>
<td>Lay health workers (female, literate, with primary education, 62 years old on average)</td>
<td>Collaborative stepped care&lt;sub&gt;a&lt;/sub&gt; Services include clinical assessment, problem solving therapy and referrals to specialised services if needed</td>
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<td>In-depth interviews (n=12) and focus groups (n=5)</td>
<td>General population/Depression and other CMDs</td>
<td></td>
<td>Intervention (perceived advantage, adaptability), outer setting (service user needs &amp; resources), inner setting (implementation readiness &amp; climate), individuals (knowledge &amp; beliefs, other personal attributes), process (planning)</td>
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<tr>
<td>Jordanian national mental health programme&lt;sup&gt;37&lt;/sup&gt;</td>
<td>Jordan, Middle East</td>
<td>Qualitative study</td>
<td>24 physicians, 9 nurse assistants and 17 midwives</td>
<td>National level/primary health care</td>
<td>General population (age not specified)</td>
<td>Primary health care providers (physicians)</td>
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<td>Focus groups (n=5)</td>
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<td>Not specified but using task-shifting, Services and</td>
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<td></td>
<td>Outer setting (service user needs &amp; resources), inner setting (readiness &amp; climate)</td>
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<tr>
<td>Kenyan province mental health programme&lt;sup&gt;30-32&lt;/sup&gt;</td>
<td>Kenya, Sub-Saharan Africa Qualitative study&lt;sup&gt;30, 31, 33&lt;/sup&gt; and a situational analysis&lt;sup&gt;32&lt;/sup&gt;</td>
<td>35 health workers from primary health care clinics, 20 service users and stakeholders from various sectors, professionals, clients, families, and service providers</td>
<td>Focus groups (n=4); situational analysis included document reviews, consultations, site visits, interviews, stakeholder workshops, focus groups and results from other studies</td>
<td>Province level/primary health care</td>
<td>General population (including children and adolescents)/Depression and anxiety, psychoses, child and adolescent mental disorders and learning disabilities</td>
<td>Primary health care providers</td>
<td>Not specified—primary health care providers are trained to assess, diagnose, and manage treatment. Includes pharmacological treatment and counselling (psychosocial interventions)</td>
<td>Intervention (evidence strength &amp; quality, perceived advantage, complexity), outer setting (service user needs &amp; resources, cosmopolitanism, external policies &amp; incentives), inner setting (implementation readiness &amp; climate, networks &amp; communication), individuals (knowledge &amp; beliefs, other personal attributes), process (reflecting &amp; evaluating)</td>
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<td>Study</td>
<td>Country</td>
<td>Setting</td>
<td>Sample Size</td>
<td>Methods</td>
<td>Participants</td>
<td>Intervention</td>
<td>Outcome</td>
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<td>Lebanese national mental health programme</td>
<td>Lebanon, Middle East</td>
<td>Qualitative study</td>
<td>46</td>
<td>Focus groups (n=8)</td>
<td>National level/primary health care</td>
<td>General population including refugees/Depression and anxiety, medically unexplained complaints, sleep problems and maternal and child mental health</td>
<td>Task-shifting, Services include prescription and management of pharmacological treatment and psychoeducation</td>
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<tr>
<td>MANAS project</td>
<td>India (Goa), South Asia</td>
<td>Consultation phase, formative study, pilot study and qualitative study</td>
<td>Consultation phase included 145 doctors, primary care staff and international collaborators; formative study included 10 doctors, 50 service users, 17 PHC staff and 12 members of the intervention team; pilot study included a random sample of 77 service users; qualitative study included 31 PHC</td>
<td>Consultation meetings (n=14), in-depth semi-structured interviews (n=89) for the formative study, semi-structured interviews (n=77) for the pilot study, and in-depth interviews for</td>
<td>Selected facilities in the state/primary health care</td>
<td>General adult population/Depression and anxiety</td>
<td>Collaborative stepped care, Includes pharmacological treatment, psychoeducation, interpersonal therapy, referrals, adherence support, and case management</td>
<td>Intervention (perceived advantage, adaptability, cost), outer setting (service user needs &amp; resources), inner setting (readiness for implementation), individuals (knowledge &amp; beliefs, self-efficacy), process (reflecting &amp; evaluating)</td>
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<tr>
<td>Study</td>
<td>Region</td>
<td>Methodology</td>
<td>Participants</td>
<td>Data Collection</td>
<td>Populations/Interventions</td>
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<tr>
<td>MHaPP – South Africa&lt;sup&gt;24, 39&lt;/sup&gt;</td>
<td>South Africa, Sub-Saharan Africa</td>
<td>Mixed-methods situational analysis&lt;sup&gt;24, 39&lt;/sup&gt; and a qualitative study&lt;sup&gt;40&lt;/sup&gt;</td>
<td>District managers, district hospital personnel, primary care personnel, community level workers, traditional healers, private health care providers and service users. Key informants from other sectors (e.g. welfare and education)</td>
<td>Document review, semi-structured interviews (n=56) and focus groups (n=18)</td>
<td>Not specified</td>
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</table>

General adult population/ Includes mood and anxiety disorders |

Sub-district level/ primary health care |

Not specified |

Intervention (evidence strength & quality, perceived advantage, complexity), outer setting (cosmopolitanism, external policies & incentives), inner setting (implementation readiness & climate, networks & communication), individuals (knowledge & beliefs) and process (planning, engaging, reflecting & evaluating)
<table>
<thead>
<tr>
<th>PRIME – all sites (^2)</th>
<th>Ethiopia, India, Nepal, South Africa and Uganda, Sub-Saharan Africa and South Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cross-sectional situational analysis</strong>(^2) and a qualitative study(^4)</td>
<td>429 stakeholders that represented community members, service users and their families, community health workers, primary care staff and specialists and policy makers</td>
</tr>
<tr>
<td><strong>Data obtained from health information systems, surveillance data, relevant research publications, governmental and non-governmental reports and in-depth interviews</strong> (n=164) and focus groups (n=36)</td>
<td><strong>District level/primary health care and community</strong></td>
</tr>
<tr>
<td><strong>General adult population/ Psychoses, alcohol use disorders, depression and epilepsy (in Ethiopia, Nepal and Uganda)</strong></td>
<td><strong>Variations by country. Different cadres of primary health care staff and lay health workers</strong></td>
</tr>
<tr>
<td><strong>Collaborative stepped care</strong>, Treatments and services vary per country. Generally include assessment, pharmacological treatment and some form of psychosocial or psychoeducation support</td>
<td><strong>Intervention</strong> (evidence strength &amp; quality, perceived advantage), outer setting (service user needs &amp; resources, cosmopolitanism, external policies &amp; incentives), inner setting (readiness for implementation, implementation climate &amp; networks communication), individuals (knowledge &amp; beliefs), process (planning)</td>
</tr>
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<tr>
<th>PRIME – India (^5), (^6), (^7)</th>
<th>India (Madhya Pradesh), South Asia</th>
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<tbody>
<tr>
<td><strong>Mixed-methods situational analysis</strong>(^8) and formative research and pilot study(^5)</td>
<td>4 policy makers, 3 members of the Department of Health Services, 4 service providers and managers, 8 paramedical staff in primary health care facilities, 8 front-line workers, 8 community</td>
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<tr>
<td><strong>Direct observation, in-depth interviews</strong> (n=33) and focus groups (n=5)</td>
<td><strong>District level/primary health care and community</strong></td>
</tr>
<tr>
<td><strong>Mental health case manager, medical officers and paramedical workers and front-line workers at the community</strong></td>
<td><strong>Collaborative stepped care</strong>, Includes pharmacological treatment, brief interventions, psychoeducation, first aid interventions with <strong>Outer setting</strong> (service user needs &amp; resources, external policies &amp; incentives), inner setting (implementation readiness &amp; climate), individuals (knowledge &amp; beliefs), process (planning)</td>
</tr>
<tr>
<td>PRIME – Nepal&lt;sup&gt;45, 46, 48&lt;/sup&gt;</td>
<td>Nepal, South Asia</td>
</tr>
<tr>
<td>PRIME – Uganda</td>
<td>Uganda, Sub-Saharan Africa</td>
</tr>
</tbody>
</table>

*Collaborative stepped care: service model that makes use of multidisciplinary teams which deliver different treatments for mental health according to illness severity

*Task-shifting: service model in which treatments for mental health are delivered by trained and supervised general health workers
Table 3 presents findings according to the CFIR,\textsuperscript{27} and key findings are discussed below.

**Characteristics of the intervention**

Strength of evidence, complexity, and cost were reported as barriers. Facilitators included the capacity to adapt the interventions to fit local needs and perceived advantages of using the intervention. No programmes reported information related to the intervention source, trialability, and design quality.

A common implementation challenge was the complexity of interventions for mental health, which require lengthy consultations,\textsuperscript{44,60} more frequent home visits\textsuperscript{33} and considerable coordination between service providers.\textsuperscript{41} In order to provide services that required more time or technical capacity (e.g. screenings or counselling), the MANAS programme and PRIME-Nepal reported the need to recruit new cadres of health providers,\textsuperscript{35,46} which can be a barrier due additional intervention costs.

Perceived advantages of interventions were the most common facilitators reported by health providers across seven studies. These advantages were identified in comparison to not previously having any interventions for mental health available, and included improved diagnostic and treatment skills\textsuperscript{38} and capacity to provide better care for service users with low adherence and comorbidities.\textsuperscript{31,40,29,35,38} Positive impacts on service users also triggered positive attitudes from clinicians, further improving their engagement with interventions.\textsuperscript{29,31,38}

**Outer setting**

Service user related facilitators included perceived benefits of the intervention. Service user needs, low help-seeking and adherence to treatment were mostly discussed as barriers. Different aspects related to external policies and incentives and cosmopolitanism (i.e. collaboration with other sectors or organisations) were discussed as both barriers and facilitators. Peer pressure from other programmes or organisations was not reported by any of the programmes.

Service users of the MANAS and Friendship Bench programme reported that the interventions helped them feel better, relaxed or empowered,\textsuperscript{29,35,38} which facilitated implementation. Most programmes reported challenges arising from the service user needs and characteristics. For example, service users with common mental disorders commonly experienced comorbid conditions, requiring more time and attention that are difficult to allocate given existing workloads,\textsuperscript{29,30} and those with high symptom severity were perceived as needing specialist care,\textsuperscript{31} not easily accessible through the primary health care level. Exposure to social risk factors such as domestic violence,\textsuperscript{29} family issues,\textsuperscript{37} drug related violence,\textsuperscript{41} poverty,\textsuperscript{29,30,32,37,50} low literacy,\textsuperscript{42} and poor household...
infrastructure were perceived to be difficult to address within the primary care system, given
resource and expertise constraints. Providers of the Brazilian programme expressed the need to
differentiate distress caused by social or contextual circumstances and to tackle this at the
community level or through targeted non-pharmacological interventions. Conversely, in the
MANAS programme, providers identified that many service users expected or preferred
pharmacological treatment over talking-based interventions.

Low levels of help-seeking at health care facilities were attributed to poor mental health literacy in
the PRIME-Uganda, PRIME-South Africa, EMERALD, and the Kenyan national programme. Furthermore, poor adherence to care was identified as a barrier in the Lebanese and Kenyan
national mental health programme, PRIME-Nepal and the MANAS programme. Other
factors hindering implementation included the unavailability of medication, medication side-effects
and service user perceptions of chronic treatment as being harmful, unhelpful or unnecessary.
Service users found attending appointments difficult due to the cost of treatment and
transportation, lengthy travelling and waiting times, and loss of wages. Concerns about
confidentiality among service users also hindered attendance to group interventions in India and
compliance with referrals to psychiatric institutions in Jordan.

The programmes in Nepal, Kenya and South Africa highlighted the importance of mental health
plans and programmes in prioritizing mental health care in the country. Recognizing the lack
of a mental health policy as being an implementation barrier in India is consistent with these
findings.

Primary care providers from PRIME-Uganda identified that regulations limit their capacity to
diagnose or prescribe treatment to service users with mental illnesses. Furthermore, primary care
providers in PRIME-Nepal and EMERALD reported that provision of mental health services is rarely
part of their official mandate, which hinders their capacity to deliver services. In terms of
incentives, barriers to implementation reported by primary care providers from PRIME-all sites
include the lack of official recognition of mental health trainings and the absence of financial
compensation.

Inner setting

Inner setting factors discussed included constructs related to the climate within which the
implementation took place (i.e. compatibility between individuals and intervention, the
establishment of goals and feedback mechanisms, learning climate and readiness for
implementation) and networks and communication, all of which were reported as both barriers and
facilitators. Structural characteristics, culture, tension for change and relative priority were not reported by any programme.

Issues around compatibility emerged in the Brazilian national programme when health managers and providers did not share views considered essential to the design of programmes in primary care settings, such as the relevance of continuity of care\textsuperscript{40} or the use of task-sharing.\textsuperscript{41} In contrast, shared beliefs about the need for task-shifting facilitated commitment of providers in the Mental Health and Poverty Project (MHaPP) in South Africa and PRIME-all sites.\textsuperscript{43, 60} Supportive and collaborative learning climates were also reported by providers as a positive influence on implementation by the Friendship Bench, MHaPP-South Africa and the Lebanese and Brazilian national programmes, since these promoted knowledge exchange and a sense of mutual assistance.\textsuperscript{29, 36, 41, 60}

Regarding goals and feedback, the lack or poor quality of information systems were reported as barriers. In many systems, data collection for mental health indicators is still limited or absent.\textsuperscript{30, 44, 48, 50} The lack of monitoring systems to follow-up service users was also perceived to hinder providers’ capacity to treat mental disorders.\textsuperscript{29, 50}

Strong leadership was found necessary at different levels. All sites in the PRIME programme reported the absence of a mental health manager at district, state or national level as a barrier.\textsuperscript{42, 48} At the facility level, Hijazi (2011) reported that clinic managers in Lebanon needed to support organisational changes for staff to be able to deliver mental health services, for example by allocating more time to the mental health service users’ consultations.\textsuperscript{36} However, PRIME-India reported that managers could not show support and commitment when mental health is not a priority in the health system and competing targets need to be achieved.\textsuperscript{50}

With regards to resources, the main barriers include human resources challenges (n=9), limited medication supply (n=5), insufficient budgets for mental health (n=4), limited private spaces (n=3) at primary care settings and constrained referral systems (n=3).

Poor access to knowledge and information was perceived as a barrier by providers in the presence of inadequately coordinated efforts to provide training\textsuperscript{29, 34, 40, 45, 50} or the lack of refresher training sessions\textsuperscript{47} since these leave non-specialists ill equipped to attend to the needs of mental health service users. In contrast, health professionals from two programmes reported that efforts to incentivise professional development facilitated implementation.\textsuperscript{41, 60}

The Friendship Bench, MHaPP-South Africa, PRIME-all sites and national programmes at Kenya and Lebanon identified ongoing supervision and professional support as a necessary resource for successful implementation.\textsuperscript{29, 30, 36, 43, 60} However, the capacity to supervise primary care providers
and refer service users is hampered by the limited availability of specialists in the public health system. Referral systems were reported sometimes to be lacking and when available were perceived to be challenging to access due to the limited number of facilities, their capacity, and distance from primary health care clinics.

Poor communication between primary care and specialist services through referral networks was reported as a barrier by PRIME-all sites, MHaPP-South Africa and national programmes in Kenya and Brazil when communication was limited to paper referrals or when specialists failed to share clinical decisions when back referring service users. According to managers in the Brazilian national programme, issues emerge when information on the organisation of systems and structures is not appropriately shared, since this has an impact on the workflow between systems.

**Characteristics of individuals**

Individual characteristics discussed included knowledge and beliefs about the intervention, self-efficacy and other personal attributes. Barriers and facilitators were reported under all factors. Individual stage of change and identification with the organisation were not reported.

Providers who believed the treatment of mental disorders was relevant or beneficial were more engaged and cooperative in implementing interventions. In the MANAS programme providers reporting positive attitudes towards the intervention also motivated service user commitment. However, there were instances when implementation was hindered by resistance to collaborative stepped-care by providers from MANAS, or task shifting, by front line providers and specialists from PRIME-Uganda, EMERALD and the Brazil national programme.

Personal attributes of providers were considered important facilitating factors in the Friendship Bench, PRIME-South Africa, PRIME-Nepal, MANAS and Kenyan national programmes. Being respectful, receptive, discreet, cooperative, and committed were considered key aspects in those providing counselling as these characteristics were appreciated by service users and also facilitated their inclusion within teams of primary care providers. In contrast, acceptability and adherence by service users were hindered when they perceived a provider had poor communication skills or did not safeguard their confidentiality. Collaboration between cadres was affected when others, e.g. supervisors, were perceived as under qualified.

**Process**

Factors related to planning were discussed as both barriers and facilitators to implementation. The evaluation of programme implementation was deemed a facilitator. Absence of engagement with important stakeholders such as traditional healers and service users was reported as a barrier.
The role of implementation leaders within engagement and implementation execution was not discussed by any programmes. Within planning, the development or adaptation of training materials, guidelines or interventions has shown to improve the cultural acceptability and appropriateness of interventions in Zimbabwe and India. In contrast, in Brazil, providers believed that a lack of planning about referral processes prevented services users from receiving specialised care.

Finally, piloting of programmes served to test initial models of care to allow any necessary changes to be implemented, including the need to increase human resources, adjust training content or other logistical aspects of intervention delivery. Implementers in Kenya and India also perceived preliminary evaluations as useful in identifying existing levels of community needs, such as mental health literacy to decrease stigma and improve treatment seeking behaviours.
<table>
<thead>
<tr>
<th>Domains and constructs</th>
<th>Barriers</th>
<th>Facilitators</th>
<th>Strength of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Characteristics of the intervention</strong></td>
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<tr>
<td>Evidence strength and quality</td>
<td>- Lack of standardised training or guidelines(^{34})</td>
<td>None reported</td>
<td>1 good quality and 2 fair quality studies</td>
</tr>
<tr>
<td></td>
<td>- Perceived low quality of capacity building activities(^{10,40})</td>
<td></td>
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<tr>
<td>Perceived advantage</td>
<td>None reported</td>
<td></td>
<td>5 good and 2 fair quality studies</td>
</tr>
<tr>
<td></td>
<td>- Perceptions that integration can increase help-seeking behaviours(^{60}), improve access to care and attitudes toward mental illnesses(^{43})</td>
<td></td>
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<tr>
<td></td>
<td>- Perceived impact of training on health providers diagnostic and treatment skills(^{38})</td>
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<tr>
<td></td>
<td>- Perceived capacity to deliver better care to service users with low adherence and comorbidities(^{31,40})</td>
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<tr>
<td></td>
<td>- Presence of mental health screenings(^{31,35,38})</td>
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<td></td>
<td>- Service users perceived usefulness of treatment(^{29,35,38})</td>
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<tr>
<td>Adaptability</td>
<td>None reported</td>
<td></td>
<td>2 good and 1 fair quality studies</td>
</tr>
<tr>
<td></td>
<td>- Use of locally validated tools(^{29,38})</td>
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<td></td>
<td>- Use of local idioms in training manuals(^{29})</td>
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<td></td>
<td>- Integration of culturally accepted treatments (e.g. yoga or behavioural activation)(^{29,35})</td>
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<tr>
<td></td>
<td>- Capacity to tailor to service user needs (e.g. number or location of mental health consultations) and provider’s schedules(^{29})</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Complexity | - Need for lengthy consultations\textsuperscript{44, 60} or more frequent home visits\textsuperscript{83}  
- More coordination and communication between health provider cadres required\textsuperscript{41} | None reported | 3 good and 1 fair quality studies |
| Cost | - Cost of recruiting new cadres of health providers\textsuperscript{35, 46} | None reported | 1 fair and 1 poor quality studies |
| **Outer setting** |  |  |  |
| Service user needs and resources | - Presence of comorbid conditions\textsuperscript{29, 30}  
- High severity of symptoms\textsuperscript{31}  
- High exposure to social risk factors\textsuperscript{29, 30, 32, 37, 42, 50}  
- Low mental health literacy\textsuperscript{31, 42, 44, 47, 49}  
- High levels of stigma\textsuperscript{44, 45, 50}  
- Poor adherence to care\textsuperscript{30, 35, 36, 45}  
- Poor attendance to consultations due to financial and time constraints\textsuperscript{35, 43-46, 50}  
- Perception that chronic treatment is harmful, unhelpful or unnecessary\textsuperscript{30, 45, 46}  
- Concerns about confidentiality\textsuperscript{35, 37}  
- Low involvement of service users in service organisation\textsuperscript{44} | - Family support for detection of mental disorders, treatment seeking and adherence\textsuperscript{35, 45} | 7 good, 8 fair and 1 poor quality studies |
| Cosmopolitanism | - Lack of collaborations with other government departments or sectors (e.g. police, prison, education, social welfare and sports departments)\textsuperscript{39, 44, 48} | - Presence of non-governmental or private organisations providing mental health care\textsuperscript{32, 42} Presence of collaborations with other government departments (e.g. police, prison, education, social welfare and sports departments)\textsuperscript{32} | 2 good and 3 fair quality studies |
| External policies and incentives | - Lack of national mental health policy or plan\textsuperscript{43, 50}  
- Regulations that do not allow primary care providers to prescribe or treat mental disorders\textsuperscript{42, 47} | - Presence of national plans or programmes for mental health\textsuperscript{32, 34, 42, 48}  
- Inclusion of psychotropic medications in essential medication lists\textsuperscript{32, 50} | 4 good, 5 fair and 1 poor quality studies |
<table>
<thead>
<tr>
<th>Inner setting</th>
<th>Implementation climate</th>
<th>Goals and feedback</th>
<th>Learning climate</th>
<th>Readiness for implementation</th>
<th>Available resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compatibility</strong></td>
<td>- Providers’ perceived lack of importance of continuity of care</td>
<td>None reported</td>
<td>- Climate is different in each clinic as it depends on relationships between team members</td>
<td>- Absence of a mental health manager</td>
<td>- Low budgets for mental health care provision</td>
</tr>
<tr>
<td></td>
<td>- Providers’ disagreement with use of task-sharing</td>
<td>- Providers’ support of programme design</td>
<td>- Negative or abusive supervision experiences by health workers</td>
<td>- Lack of priority of mental health within the health system</td>
<td>- Mental health budget allocated to psychiatric hospitals</td>
</tr>
<tr>
<td><strong>Goals and feedback</strong></td>
<td>- Limited routine data collection for mental health indicators</td>
<td>3 good and 2 fair quality studies</td>
<td>- Supportive and collaborative relationships between team members</td>
<td>- Positive support from clinic managers to treat mental disorders, e.g. by allocating more time for these consultations</td>
<td>- None reported</td>
</tr>
<tr>
<td></td>
<td>- Absence of monitoring systems</td>
<td>4 good and 1 fair quality studies</td>
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<td></td>
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<tr>
<td><strong>Learning climate</strong></td>
<td></td>
<td>3 good and 2 fair quality studies</td>
<td></td>
<td>1 good and 3 fair quality studies</td>
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<tr>
<td><strong>Readiness for implementation</strong></td>
<td></td>
<td></td>
<td></td>
<td>10 good, 10 fair and 1 poor quality studies</td>
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<tr>
<td><strong>Leadership engagement</strong></td>
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<tr>
<td><strong>Available resources</strong></td>
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<td><strong>Financial resources</strong></td>
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<tr>
<td><strong>Human resources</strong></td>
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<tr>
<td>Characteristics of the individuals</td>
<td>Infrastructure and supplies</td>
<td>Managerial resources</td>
<td>Access to information and knowledge</td>
<td>Networks and communication</td>
<td></td>
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<tr>
<td>Knowledge and beliefs about the intervention</td>
<td>- Resistance of providers to stepped-care or task shifting^{38, 41, 44, 47}</td>
<td>- Availability of psychotropic medications^{34}</td>
<td>- Presence of training or other activities for professional development^{41, 60}</td>
<td>- Limited communication between specialists and PHC providers^{30, 39, 42}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Providers’ stigma towards mental disorders^{43, 45}</td>
<td></td>
<td>- Presence of referral systems^{60}</td>
<td>- Lack of communication of knowledge related to the organisation of systems and structures^{40}</td>
<td></td>
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<tr>
<td></td>
<td>- Providers’ belief that depression is not an illness^{37}</td>
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<tr>
<td></td>
<td>- Providers’ perception that treatment of mental disorders within PHC is relevant or beneficial^{29, 37, 38, 60}</td>
<td></td>
<td>- Presence of specialists at the PHC clinics^{35, 60}</td>
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<tr>
<td></td>
<td>- Positive attitudes from providers and managers towards intervention^{38}</td>
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</table>

**Table:**

- Shortage of health providers^{34, 36, 40, 43, 45}
- High turnover of health providers^{39, 40, 44, 45}
- Heavy workloads^{30, 41, 49, 50, 60}
- Limited availability of specialists in public health system^{32, 39, 43, 48}

**Infrastructure and supplies**

- Lack of private spaces^{31, 35, 46, 49}
- Poor supply of psychotropic medications^{29, 30, 37, 42, 44, 46, 51}
- Limited number of specialist services and distance from PHC clinics^{29, 30, 45, 48, 50}

**Managerial resources**

- Absence of appropriate supervisory mechanisms^{30, 39, 45}
- Absence of referral mechanisms^{42}

**Access to information and knowledge**

- Lack of standardised training manuals or clinical guidelines^{30, 48}
- Poor planning of trainings^{29, 34, 40, 45, 50}
- Lack of refresher sessions^{47}

**Networks and communication**

- Presence of specialists at the PHC clinics^{35, 60}
- None reported

**Access to information and knowledge**

- Presence of training or other activities for professional development^{41, 60}
- Limited communication between specialists and PHC providers^{30, 39, 42}
- Lack of communication of knowledge related to the organisation of systems and structures^{40}
<table>
<thead>
<tr>
<th>Inconsistent beliefs between providers lead to inconsistencies in implementation</th>
<th>Impact of training on knowledge and attitudes towards mental health</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Providers' lack of knowledge about clinical guidelines and poor communication skills</td>
<td>36, 37, 51</td>
</tr>
<tr>
<td>- Providers' limited knowledge on how to deal with complex cases</td>
<td>29, 47</td>
</tr>
</tbody>
</table>

**Self-efficacy**

- Providers' uneasiness when diagnosing and prescribing treatment or providing counselling
- Providers' perceive difficulties dealing with mental health problems caused by social circumstances
- Distress felt by providers when providing mental health treatment

- Providers' perceived confidence when prescribing pharmacological treatments

1 good, 4 fair and 1 poor quality studies

**Other personal attributes**

- Poor communication skills
- Lack of respect for confidentiality
- Perception that specialist supervisors or community health workers are underqualified

- Providers' perceived to be respectful, willing to listen, discreet, cooperative, and committed
- Recruiting providers at the community
- Providers' willingness to accept feedback

4 good, 1 fair and 1 poor quality studies

**Process**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Engaging</th>
<th>Reflecting and evaluating</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Poorly planned interventions</td>
<td>- Limited engagement of traditional healers and service users</td>
<td>None reported</td>
</tr>
<tr>
<td>- Lack of planned systems or processes to make referrals</td>
<td>None reported</td>
<td>- Use of pilots to test programmes</td>
</tr>
</tbody>
</table>

- Use of formative research
- Development or adaptation of training materials, guidelines or interventions

5 good and 7 fair quality studies

- Use evaluations to test feasibility of interventions and make necessary changes and identify further community needs

5 good, 2 fair and 1 poor quality studies
Discussion

This study synthesises stakeholders’ perceptions of factors acting as barriers and facilitators to the implementation of programmes for common mental disorders in primary health care in low- and middle-income countries. To the best of our knowledge, this is the first systematic review on this topic. Most frequently discussed CFIR domains related to contextual factors of the inner and outer setting and characteristics of individuals. Within the inner setting, availability of resources and access to training and supervision were deemed necessary to enable the uptake of programmes for common mental disorders at primary care settings. The complexity of service user health and social needs were the most commonly discussed barriers within outer setting. Finally, provider’s lack of knowledge and negative beliefs about the intervention were common barriers to the uptake of interventions, while positive personal and communications skills were common facilitators to the delivery of services. Although less frequently discussed, characteristics of the intervention in particular its adaptability and perceived advantages were mostly reported among providers as factors enabling implementation. Implementers also largely perceived incorporating planning and evaluation phases into the implementation process as facilitators.

Our findings concur with other reviews which examined the implementation of collaborative models for depression and chronic care models in primary health care in high income countries. Previous reviews identified resource availability and the quality and nature of networks and communication structures as key factors influencing implementation. Perceived knowledge and beliefs among providers about the intervention, particularly resistance to proposed interventions, and the high complexity of the intervention were also identified as main barriers to implementation. Challenges arising due to service user characteristics and the key role of capacity building as an enabling factor were more frequently discussed in this review, both of which may be due to contextual characteristics in low- and-middle income countries. A review of factors affecting the implementation of mental health services in humanitarian settings also identified the shortage of qualified human resources as a key barrier and the perceived advantages of interventions as a facilitator. Engagement with governments and the community was the most commonly reported facilitator, but was rarely discussed by the programmes in this review.

Resource constraints have been consistently highlighted as barriers for the improvement of mental health service delivery in low- and-middle income countries. Low budgets, limited human resources, medication supply and support from specialists often mean that health systems where these services are nested are ill-prepared to integrate and implement effective mental health
services. Other important health system challenges such as lack of strong leadership, poor governance, and mismanaged information systems have also been reported to affect integrated care. Maeseneer and colleagues have pointed out the need for funding agencies to invest in system wide improvements (horizontal investment) rather than only disease specific interventions (vertical investment) to strengthen the health system. However, a systems thinking approach that takes into account the many dynamic and complex elements of health systems is also necessary to design strategies that more effectively address remaining challenges. A systems approach should also integrate investment and coordination with secondary and tertiary level services as specialist services and professionals are also essential to support non-specialists and treat service users with severe symptomatology in order to ensure good quality care.

Capacity building activities within supportive learning environments can support health providers to develop sufficient knowledge and skills to provide services for people with common mental disorders and foster buy-in. However, given high turnover among primary care providers it appears that these need to be long-term interventions. Whereas the presence of interventions for mental health was seen as useful and having a positive impact among providers in this review, it was often perceived as insufficient to address the complex needs of mental health service users in low resource settings. Limited effectiveness of clinical interventions and needs arising due to social problems, such as poverty and violence, may hinder the impact of primary care based models. Intersectoral collaboration and psychosocial interventions outside of the clinical settings are necessary to meet service user needs.

The present review has several strengths. We used a broad search strategy informed by guidance created for the investigation of barriers to research uptake. Not including country related terms in the search strategy ensured that we did not miss studies that did not include country names in their titles or abstracts and hence maximised our likelihood of including all relevant studies. Double screenings were performed at all stages and the synthesis approach adopted was especially developed for synthesising qualitative data. We also used a widely recognised implementation framework to analyse our findings. The quality of studies was assessed through a tool previously used by a similar review, but we did not restrict the inclusion of studies based on quality to capture as much literature as possible. We took a wider scope compared to previous reviews which focused on programmes for depression or utilised collaborative care. Even though our eligibility criteria aimed to be as unrestricted as possible, we had to exclude many studies of programmes that did not explicitly state targeting any common mental disorders.
We acknowledge some limitations of this study. Grey literature may have also been missed since this was not searched systematically. While the overall quality of included studies was considered good, the majority of authors did not discuss their relationship with research participants or its impact on study findings. Moreover, included studies recruited a wide range of stakeholders and it was not always possible to disentangle which barriers or facilitators were reported by each type of stakeholder. This is relevant since the views of government officials, implementers, service providers and service users are likely to differ significantly. Finally, the CFIR is comprehensive framework, but certain constructs are not considered in sufficient depth, such as the characteristics and role of external implementation leaders or teams, and the social, political, and legal characteristics of contexts.16, 81

Four research gaps have been identified through this review. First is the limited number of studies examining the factors that influence mental health programme implementation in low- and-middle income countries. We only identified nine programmes that assessed barriers or facilitators to implementation, and in many cases this was not the primary objective of included studies. Research in more low- and-middle income countries is needed given the importance of contextual factors for successful implementation. Second, the lack of implementation studies might explain why enablers such as champions and support teams for implementation, which have been previously identified as relevant,82, 83 were not discussed. Research with a specific implementation focus that uses comprehensive frameworks is also necessary. Third there is a lack of evidence related to challenges for long-term implementation of programmes. The majority of studies included in this review covered only initial stages of implementation. It is likely that different factors will be relevant to achieve long term implementation and sustainability of such programmes, especially given that in many cases these initial stages of implementation were supported by research teams.25, 46, 51 The fourth gap is related to the unequal inclusion of service users in the process of evaluating the implementation of programmes. Other authors have similarly found limited participation of service users in the evaluation of services.84 This gap needs to be addressed given the key role of barriers such as low treatment seeking and adherence.

Panel: Recommendations for the implementation of mental health programmes in low- and-middle income countries

- Strategies to integrate programmes for mental health in primary care should include components that aim to strengthen health systems (e.g. improved financing, ensure adequate
staff numbers, continuous capacity building, and strengthening of specialist services and referral systems).

- Interventions and treatments should follow a process of contextual adaptation, and both their complexity and resource requirements (e.g. time and skills) should be taken into account.
- The presence of social support interventions is necessary to address the social needs of service users, especially in settings with high levels of poverty.
- Implementation should take place within supportive and collaborative learning climates.
- Communication skills are key and should be a central aspect of competency based trainings for non-specialist health workers.
- Careful planning and monitoring and evaluation are necessary to ensure programmes fit contexts where they are introduced and quality assurance.

Search strategy and selection criteria

We used Boolean operators to combine subject headings and relevant search terms related to (1) implementation determinants, (2) primary health care settings and (3) common mental disorders to perform searches in MEDLINE, EMBASE, PsycINFO, Global Health, and LILACS. We included peer-reviewed qualitative studies published between January 1, 1990 and September 1, 2017 in English or Spanish. The complete list of search terms can be found in Appendix 1. Relevant literature was also identified through searches in Google and Google Scholar and hand searching reference lists of included articles. We only included studies that assessed barriers or facilitators to the implementation because we aimed to examine the process rather than the outcomes of the implementation of programmes for common mental disorders. We focused on programmes being developed to be delivered or being delivered as part of routine care in primary health care settings, since this is a promoted policy in low- and middle-income countries. Services needed to be delivered primarily by non-specialists as this has been advocated as the most feasible strategy in the majority of low- and middle-income countries and we wanted to improve the generalisability of findings. We restricted to programmes for populations with common mental disorders given that these cause the greatest health burden among all mental disorders. Finally, we focused on low- and middle-income countries as this is where the need to improve access to mental health care is the greatest.

Contributors

GME was the lead researcher and was responsible for the study design, screenings, quality appraisals, data extraction, synthesis of results, and the writing of the manuscript. SH provided input
to the development of the eligibility criteria, conducted title/abstract screening, conducted full text screening, and provided comments on earlier drafts of the manuscript. OQ conducted title/abstract screening, and provided comments on earlier drafts of the manuscript. ES advised on the eligibility criteria, data analysis and synthesis, and provided comments and feedback on several drafts of the manuscript. AC advised on the design of the study and provided comments and feedback on all drafts of the manuscript. RK provided extensive guidance in the process of screening, data extraction, synthesis and writing, and also gave detailed comments and feedback on all drafts.

Declaration of interests
We declare no competing interests.

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Supplementary material:
Appendix 1. Complete list of search terms
Appendix 2. Quality appraisal ratings

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Practitioners' experience of the integration of mental health into primary health care in the West Rand District, South Africa. Journal of Mental Health. 2017:1-7


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Records identified through database searching (n = 12,532)

Additional records identified through other sources (n = 129)

Records after duplicates removed (n = 9,608)

Records screened (n = 9,608)

Full-text articles assessed for eligibility (n = 287)

Studies included in qualitative synthesis (n = 24)

Records excluded (n = 9,321)

Full-text articles excluded, with reasons (n = 263)
- 24 missing full-texts
- 54 non-eligible types of publications
- 7 targeting specific population groups
- 52 not including CMDs or only targeting people with comorbidities
- 26 not implemented at PHC settings
- 13 not programmes
- 28 not evaluating barriers or facilitators of implementation
- 59 not LMICs

Studies included in qualitative synthesis (n = 24)