

Perinatal depression and anxiety in resource-constrained settings: interventions and health systems strengthening

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Prompt management of perinatal mental health conditions is necessary to avoid disabling physical, mental health and social consequences, not only for the women in question, but also for their children.

In South Africa, there are very high levels of depression and anxiety in women during pregnancy and the postpartum year. This is, in large part, due to multiple risk factors, such as gender-based violence, poverty, and food insecurity, which are systemic in the country. Prompt management of these mental health conditions through the health system is necessary to avoid disabling physical, mental health, and social consequences, not only for the women in question, but also for their children and for society at large.

A growing body of evidence-based intervention approaches from resource-constrained settings have been shown to be effective in improving maternal and child health outcomes. However, beyond the research setting, few examples exist of programmatic interventions for perinatal mental health embedded within health systems in these settings. The aim of the study was to assess whether these interventions addressed good practice guidelines and contributed to

health systems strengthening. Examples were sought and three sentinel cases were selected for diversity of location and availability of information, from Uganda, South Africa and Pakistan.

The cases demonstrated stepped (triaged) care, multi-component care, and collaborative (shared) care approaches that drew on culturally adapted, evidence-based psychological therapies, and substantively strengthened the service-delivery platform. The interventions strengthened the health workforce, mainly through task-sharing approaches whereby health promotion, detection and first-level psychological care were tasked to the community, or to primary-level health workers who received training, supervision and support. In each of the three cases, strong partnerships with Ministry of Health stakeholders supported meaningful commitment to sustainability and scale up of the interventions.

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Introduction

The burden and transgenerational impacts of common perinatal mental health conditions (CPMHCs) have been well documented in the scientific literature.¹ For low- and middle-income countries (LMICs), where social determinants of mental ill health are more prevalent,² there are high levels of depressive disorders (18-25%)² and anxiety disorders (25.9%)³ among women in the perinatal period (the time of pregnancy up to the end of the first year postpartum).^{a,4,5}

In South Africa, antenatal depression rates have been reported to be 22-47%.⁶ Antenatal anxiety rates (for any anxiety disorder) have been reported at 15-23%,^{7,8} and postnatal depression rates at 11-34%.⁹

Untreated common mental disorders are associated with disabling consequences for general functioning, including poor physical health and impaired health-seeking behaviours, poor educational engagement and attainment, conflictual interpersonal relationships, impaired quality of parental care, and challenges with self-care and household tasks.² A strengthened health system that provides these women with integrated mental health care can reduce these disabling consequences.

In LMICs, CPMHCs and their associated disabling symptoms are often caused or triggered by poverty, food insecurity, gender-based violence, having no reproductive autonomy, and lack of social support, among other factors.^{4,10} In turn, the symptoms exacerbate the socio-economic adversity in which women find themselves. The causal mechanisms appear to be bi-directional, mutually reinforcing, and syndemic.^{10,11} Additionally, perinatal depression is associated with many adverse child outcomes, including shorter duration of and less exclusive breastfeeding.¹²

Interventions

In LMIC settings, where the treatment gap for mental disorders is highest,^{10,13} there is a growing body of evidence for the effectiveness of psychological treatments for common mental disorders, including CPMHCs, usually delivered by community health workers (CHWs) or peers.¹³ Successful randomised controlled trials (RCTs) for CPMHC-focused interventions have been conducted in Pakistan,^{14,15} India,¹⁶ Nigeria,¹⁷ Chile,¹⁸ Zimbabwe,¹⁹ and South Africa.²⁰ Interventions that address social determinants, such as reduction of gender-based violence, basic income grants, employment and enhanced social capital, also confer benefit for mental health.¹⁰

This chapter provides informative examples of interventions that have continued to operate beyond the research setting, integrated within routine healthcare practice. The study aimed to assess whether these interventions address good practice guidelines and contribute to health systems strengthening.

Cases were sought that focused on maternal mental health, that were integrated into existing health systems, and that had been operational for at least four years.

Selection of the case studies was done through a desk review of literature on real-world implementation of maternal mental health programmes using Google Scholar and PubMed. Potential case studies were also sought through the Mental Health Innovation Network²¹ and through the authors' networks. The authors reached consensus on which case studies sufficiently met the requirements and selected three sentinel cases for this chapter, based on access to detailed information directly from programme officials, and diversity of location. The three cases provided a means to test the proposed analysis of good practice and strengthening of health systems, rather than providing an exhaustive case review.

The case studies were assessed against the criteria of the World Health Organization (WHO) framework for good practice in public health.^{22,23} Identified health systems strengthening strategies were mapped against the WHO's Health Systems Strengthening (HSS) core building blocks: health service delivery, health workforce, health information systems, access to essential medicines, health systems financing, and leadership and governance.²⁴

Sentinel cases

The sentinel cases are: the Maternal Mental Health Project (MMHP) in Uganda, the Perinatal Mental Health Project (PMHP) in South Africa, and the Thinking Healthy Programme (THP) in Pakistan. These are mapped against good practice domains in Table 1. In all three case settings, there is documented evidence of high CPMHC rates,^{6,25,26} and thus the domain on relevance has been removed from the table for reasons of space.

a This definition of the perinatal period is the one commonly used among maternal mental health practitioners and researchers, globally.

Table 1: Sentinel maternal mental health case studies, mapped against good practice domains

	Effectiveness	Efficiency	Ethical soundness	Sustainability	Duplication	Partnerships	Community involvement	Political commitment
Definitions	Practice must work and achieve positive, measurable results	Results produced with reasonable level of resources and time	Respect current rules of ethics for dealing with human populations	Implementable over a long period with the use of existing resources	Replicable elsewhere in the country or region	Involves satisfactory collaboration between several stakeholders	Involves participation of affected communities	Support from the relevant national or local authorities
Maternal Mental Health Project, HealthRight (Uganda) ^{27,29}	<ul style="list-style-type: none"> Local RCT evidence for group interpersonal therapy (IPT) in rural adult population,³⁰ Positive clinical outcomes (symptoms, functioning) regularly measured and reported in Monitoring and Evaluation (M&E) system. 	<ul style="list-style-type: none"> Use of existing, trained CHWs. Referral to existing primary care support, if needed. 	<ul style="list-style-type: none"> Substantive formative research, cultural adaptation of screening tools and interventions. User feedback from pilot used to adapt service delivery. 	<ul style="list-style-type: none"> Donor funding ceased end of 2019. Services no longer operating. 	<ul style="list-style-type: none"> Implementation in two districts in Uganda. Model has been duplicated by non-governmental organisation (NGO) in Burundi. 	<ul style="list-style-type: none"> Memoranda of understanding signed between HealthRight and Ministry of Health. Workers provided psychoeducation for greater community. 	<ul style="list-style-type: none"> Community engagement meetings held. Village Health 	<ul style="list-style-type: none"> Ugandan Ministry of Health provided support. Ministry developed new Mental Health Act: and mental health treatment to be provided at different levels of the healthcare system.
Perinatal Mental Health Project (South Africa) ^{31,35}	<ul style="list-style-type: none"> Ongoing M&E of postnatal follow-up assessment shows range of positive outcomes for counselled women. 	<ul style="list-style-type: none"> Use of existing health resources, supplemented with additional personnel. Additional support via referral to existing community health centre or NGO providers. Counselling co-incides with routine maternity visits. Provider capacity building embedded within existing training programmes. 	<ul style="list-style-type: none"> Formal permissions and oversight from district and facility-level Department of Health (DoH). University ethics permissions and annual review required. Previous PMHP service user is a board member. 	<ul style="list-style-type: none"> Service embedded within existing maternity care or community service environments. PMHP funds a large proportion of service costs, including salary of counsellor, through donor grants. 	<ul style="list-style-type: none"> Stepped care model⁶ adapted and taken up in other South African maternity services (ad hoc) and community-based organisations. Screening tool developed and validated by PMHP used nationally in antenatal care. Open-access online resources available. Empathic care training module developed for the National DoH (NDoH). 	<ul style="list-style-type: none"> Facility-level, collaborative care relationships.⁶ Referral to local community organisations for additional client support. Member of several advisory and policy task teams. 	<ul style="list-style-type: none"> Stakeholder engagement meetings and workshops prior to service set-up. On-going community liaison. Formal research conducted with service users to establish needs, preferences, and interpretations. 	<ul style="list-style-type: none"> Policy and guideline changes for maternal mental health affected at provincial and national level. High-level policy and budget commitment to maternal health.

- b Stepped care is a model of delivering and monitoring treatment so that the least resource-intensive treatment is delivered first, with clients progressing to more intensive or specialist services as clinically required.
- c Collaborative care involves the integration of primary care providers treating clients in collaboration with more specialist providers, as required.

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Thinking Healthy Programme (Pakistan) ^{3415,36,37}	<ul style="list-style-type: none"> • RCTs conducted in several settings. • Follow up showed improved financial empowerment. 	<ul style="list-style-type: none"> • Peer-delivered intervention cost 1 USD per recipient. • Manualised intervention, brief training of lady health workers (LHWs). • Cascade model of supervision. 	<ul style="list-style-type: none"> • Stakeholder engagement – key principle of service development. 	<ul style="list-style-type: none"> • Cognitive behaviour therapy (CBT) elements incorporated into LHWs' routine work. • Programme included in Pakistan President's Programme for Mental Health. 	<ul style="list-style-type: none"> • Systematic scale up through the President's Programme for Mental Health. • THP manualised and available for download on WHO website. • THP flexible for different cultural contexts; adapted in five other LMIC countries. 	<ul style="list-style-type: none"> • Partnered with state-operated community health services. • Training provided to partner organisations in establishing THP in global settings. 	<ul style="list-style-type: none"> • Acceptance established from community through formative work. • Buy-in from District Health office. 	<ul style="list-style-type: none"> • Pakistan President's Programme for Mental Health. • Endorsed and advocated by WHO as part of mhGAP.^d

d The Mental Health Gap Action Programme (mhGAP) is a mental health programme developed by the WHO that aims to scale up services for mental, neurological and substance-use disorders in LMICs.

The three cases are described below with reference to the ways in which they strengthen the pillars of the health system.

Maternal Mental Health Project, Uganda

The service was located in post-conflict areas in Northern and Eastern Uganda where for decades, ethnic-based atrocities were committed against civilians by a dominant military group, causing displacement and trauma. The healthcare system has limited resources, including limited capacity to provide primary health care, due in part to high levels of violence and corruption.³⁸

HealthRight International, in partnership with the Ministry of Health, Makerere University, and Johns Hopkins University, USA, identified maternal mental health as a priority problem for post-conflict regions. The collaborators drew on local evidence (a RCT) on group interpersonal psychotherapy (IPT) for a rural population,³⁰ and conducted extensive formative research with mothers in service settings, including a pilot project.²⁸ This led to the development of a comprehensive, stepped-care model of maternal mental health services. The service operated during 2016-2019, after which donor funding ceased.

The design of the MMHP service served to strengthen service delivery and the workforce by reducing the burden on primary health care workers and mental health specialists, through task-shifting to village health teams and community members or community psychosocial assistants (CPAs). Midwives at primary care facilities provided initial screening for depression, using an ultra-brief screening tool. Women who screened positive were referred to trained community members for further screening and psychoeducation. Those who screened positive on the Patient Health Questionnaire-9³⁹ were referred for individual or low-intensity group IPT.

The health workforce was further strengthened through building the capacity of CPAs to provide a range of mental health-related activities, such as community sensitisation, to provide mental health information talks to perinatal women and their partners. This also served to address the problem of community stigma around mental health and to engender support for women by their partners.

Community psychosocial assistants were also trained to provide IPT to depressed perinatal women whose symptoms did not resolve with psychoeducation only, and to refer severely symptomatic women to primary care clinicians for further care. In addition, although they provided follow up in homes for non-attendees, tracking and tracing were challenging. Training included a certification process that involved assessment of observed health education, screening, and in-session care during therapy. Trainers made use of the ENACT (Enhancing Assessment of Common Therapeutic Factors) tool⁴⁰ to assess competency.

IPT manuals were used as a training guide. Further, clinical supervision and an apprenticeship model were provided by a clinical psychologist. These substantive training and supervision elements assisted in overcoming the challenges of ensuring client follow-up, retaining CPAs in service, and building a motivated team.

By developing referral pathways to primary care facilities, CPAs and midwives were able to refer women with severe symptoms for assessment by a psychiatric clinical officer for antidepressant prescription, thereby increasing access to medication.

Leadership and governance elements were supported through collaboration with the Ministry of Health technical working groups involved with mental health and psychosocial support, the inter-agency Health and Nutrition Forum, and the Refugee Forum.

Perinatal Mental Health Project,^e South Africa

A multi-disciplinary group of health workers and development practitioners within the public health service and the University of Cape Town Alan J. Flisher Centre for Public Mental Health have been involved in testing and refining models of mental health service delivery for mothers since 2002.^{31,34}

In South Africa, over 90% of the uninsured population who require outpatient mental health care, do not receive this care. This has been linked to low levels of human resource availability and limited infrastructure, among other factors.⁴¹ However, given the very high uptake of antenatal care services nationally, the PMHP favoured a model that embeds primary mental health care within maternity care settings in order to maximise coverage and acceptability for this vulnerable population.

Since 2012, the project has strengthened service delivery by providing a collaborative, stepped-care maternal mental health service which has been integrated within a Cape Town-based public Midwife Obstetric Unit (MOU). The MOU is located within a socio-economically disadvantaged setting characterised by high levels of gang violence, domestic violence and food insecurity.

Pregnant women are routinely screened for depression, anxiety and suicidality at their first antenatal visit. Originally, this was performed using the widely adopted Edinburgh Postnatal Depression Scale.⁴² However, the 10-item, Likert scale proved time-consuming and difficult to score for staff, and was poorly understood by the women. With the inclusion of the PMHP-developed and validated short mental health screening tool into the Maternity Case Record,³⁵ the screening is designed to be conducted by nursing or midwifery staff as part of the initial antenatal visit. Those experiencing symptoms, and those at risk for common mental conditions due to a socio-economic risk assessment,

e Disclaimer: Three of the authors of this chapter are PMHP staff.

are referred for free, on-site psychosocial counselling with the PMHP counsellor who has a bachelor's qualification and professional counsellor's registration. The counsellor receives ongoing, professional development opportunities and regular clinical supervision. In turn, she works closely to support MOU staff to identify and refer vulnerable clients, providing training and support, as required.

The counsellor mainly provides individual psychotherapy, with a mean of three sessions per client. These sessions include a diverse mix of supportive counselling, cognitive behavioural interventions, problem solving, relationship counselling, and psychoeducation. Most components have a 'medium' effect size based on a systematic review and meta-analysis of psychological treatments for common mental disorders in LMICs.⁴³ The intervention is not manualised as the counsellor has adequate training and skills to tailor her interventions to clients' needs. She also provides case management and refers those who need additional psychiatric or social services support to the community health centre or local NGOs. A telephonic assessment is conducted with clients 6-10 weeks after the birth to establish whether further counselling or referral is needed. Follow up is provided, for as many sessions as needed, for up to one year postpartum.^{31,34}

Regular monitoring and evaluation reports are disseminated to local stakeholders who inform improvements in service design. The process indicators used for this are not incorporated into the NDoH's health information system.

The service is partially funded by the Department of Social Development and partially funded through donor grants. The NDoH supplies on-site amenities and infrastructure. Funding is the greatest challenge to the sustainability of the project.

Several NGOs and public health facilities have incorporated PMHP service and staff support elements into their routine operations. These examples of scale up have mostly resulted from capacity building partnerships between PMHP and the organisation or unit adapting and adopting the service. The full-service model is not available at scale throughout the public maternity care environment.

The NDoH has utilised PMHP health-promotion contributions to inform a range of information, education and communication channels, including client leaflets, MomConnect, NurseConnect, the National COVID-19 WhatsApp line, and First 1 000 Days materials produced by the NDoH.

Further, the PMHP strengthens the country's greater workforce, including rural health workers, and those workers allied to the health system (social workers, NGO-workers) through training and capacity-building initiatives. Open-access multimedia resources and cascade training programmes have been developed for maternal mental health, and empathic engagement skills. Many have been

embedded within existing undergraduate, postgraduate and in-service training programmes. Further strengthening has occurred as a result of embedding capacity-building initiatives that pay attention to provider mental health and to addressing the widespread problem of obstetric violence.⁴⁴

In terms of leadership and governance, PMHP provides several important contributions. The project undertakes research, advocacy, policy and guideline development. This has included a chapter on maternal mental health for the National Maternity Care Guidelines⁴⁵, contributing to the national Adult Primary Care Guidelines⁴⁶, the new National Maternal and Neonatal Health Policy and the Standard Treatment Guidelines.⁴⁷ For the latter, predominantly used by doctors on a mobile application, the chapter on Obstetrics and Gynaecology was amended and the Mental Health Conditions chapter was revised to include mention of management and prescribing for perinatal women for all mental health conditions, and included an antidepressant-prescribing algorithm, thereby strengthening access to essential medicines.

Thinking Healthy Programme, Pakistan

Pakistan has experienced international war and civil conflict over many decades. This has resulted in poor health indicators, food insecurity, displacement, and limited infrastructure and development, especially in rural areas. The health system, both in the government and private sectors, offers limited access to care.⁴⁸ Patriarchal cultural norms, low educational opportunities for women and girls, and high levels of gender-based violence are associated with poor physical and mental health status of women.⁴⁹

The Thinking Healthy Programme is a cognitive behaviour therapy (CBT)-based intervention designed to address perinatal depression that can be delivered by non-specialist providers such as community health workers and peers in primary and secondary care settings.^{14,25} It has a strong behavioural activation component as well as active listening, collaboration with the family, guided discovery, and homework. The design was led by Professor Atif Rahman as part of a collaboration between two British and one Pakistani university. Positive outcomes and lessons learnt from two formative RCTs and lessons from the field have been described in the published literature, including the need to keep costs low and ensure that core content and techniques were culturally transferable. Manuals were translated and adapted through cognitive interviewing and field testing with end users.^{14,15,50}

The Programme strengthens health service delivery through a manualised CBT-based intervention for maternal depression integrated into the country's primary health care structure for maternal and child health (MCH), the Basic Health Unit (BHU). This consists of doctors, midwives and lady health workers (LHWs). LHWs provide home visits and deliver the intervention to mothers assessed to be experiencing depressive symptoms. THP is embedded within the MCH package of care. Thus, whenever the

community health worker delivers a session for child nutrition or development, she can use THP principles at the same time to strengthen the key message as well as provide the psychosocial intervention. This allows for seamless integration into and further strengthening of existing MCH services.⁵¹ If required, referrals are made for those needing more specialised mental health care within the BHU.

The health workforce is strengthened through multiple approaches. The use of non-specialist providers, LHWs or peers, has been shown to be effective and assists efforts in scale-up through task-shifting.^{14,16} A cascade model for training and supervision has been adopted to address the challenge of providing supervision to providers in remote areas. A master trainer (mental health expert) trains and supervises the local THP trainers (non-specialist university graduates in health or social sciences). These trainers then train and supervise peer volunteers in their rural settings.²⁵ Competencies are assessed through observation and scored on a Quality and Competency checklist. A supervision guide, job aides and a reference manual have been developed.²⁵ In a qualitative evaluation of the training, the key factors contributing to peer competency were use of interactive training and supervision techniques, the trainer-peer relationship, and their cultural similarity. The partnership with CHWs and use of primary health care facilities for training and supervision provided credibility for the peers in the community.²⁵

A cost-effectiveness study on the peer-delivered version of THP estimated the cost at 1 USD per recipient.¹⁶ Low cost has been an important feature in influencing leadership and governance and allocating health systems financing for the programme. THP has been included in the WHO's Eastern Mediterranean Region's Framework for Mental Health as a 'Best Buy',⁵² ratified by Ministers of Health of all 22 member countries in the region. The 'Best-Buys' serve as a guide to policymakers for investments in mental health. In Pakistan, THP was made a part of the National Programme for Non-Communicable Diseases and Mental Health and was included in the Universal Health Coverage package for Primary Health Care. Further, in 2019, THP was included in the President's Plan to Promote Mental Health to scale-up selected interventions nationally.⁵⁰

In influencing mental health scale-up in the global arena, THP has been incorporated into the mhGAP programme as the first completely manualised evidence-based intervention, with step-by-step instructions for implementation by non-specialists.³⁶

Key findings

In LMICs, the high burden of depression and anxiety disorders is felt not only by mothers, their children and communities, but also by the health systems that they

use for MCH. There are few examples of programmatic interventions for CPMHCs in LMICs that provide services in the real-world setting, demonstrate good practice, and that act to strengthen the health systems in which they are located.

The cases selected in this chapter used stepped-care, multi-component care, and collaborative care models that drew on evidence-based intervention components (including task sharing and adaptation of psychological therapies), and that thereby strengthened the service-delivery platform. Secondly, the cases acted to strengthen the health workforce through training and supervision processes and attention being paid to staff retention. Thirdly, the cases developed within existing MCH services and managed to achieve differing levels of support from strategic leadership and governance stakeholders through working partnerships and co-creation of system elements. In Pakistan, where cost-effectiveness data were available, this lent further impetus to policy change and high-level financial commitment. In South Africa, health economics data may, in future, assist in securing targeted financing for maternal mental health service delivery so that there may be realisation of the National Mental Health Policy Framework and Strategic Plan (2013-2020),⁵³ which includes provision of maternal mental health services integrated into primary care services.

None of the cases selected supported the countries' health information systems (HIS), although they developed their own project-related HIS. Work with Ministry of Health partners should include advocacy for the inclusion of relevant health-indicator targets into existing HIS. Targets could include screening positive rates, screening coverage rates, intervention uptake rates, and health worker training coverage.

In line with good practice, the sentinel cases incorporated several approaches to ensure cultural coherence of the intervention, which seemed to enhance uptake and sustainability. Approaches included formative research, qualitative enquiry with stakeholder groups; pilot testing of trainings and psychosocial interventions; adapting detection methods and screening tools to include emic concepts; and use of community-based providers to deliver elements of the interventions.

The case studies incorporated elements that address social determinants, including gender-based violence, through behavioural activation, problem solving, and partner involvement. However, none appeared to have substantively addressed poverty or food insecurity through cash transfers or income-generating schemes, despite the high-quality evidence for these.¹⁰ This would require considerable advocacy and intersectoral collaboration. However, services that combine to provide both psychological care and social support are likely to yield better outcomes for mothers and their children than either type of service provided separately.¹¹

Conclusion

Health systems strengthening is a strategic and evidence-based approach that supports the sustainability and coverage of services, and is crucial for closing the treatment gap for mental health conditions, including CPMHCs.⁵⁴ Mental health interventions integrated into MHC programmes may serve to strengthen the health system.

Analysis of the case studies in this chapter shows that effective and efficient implementation may be facilitated by interventions that draw on culturally adapted, evidence-based modalities and strong training, supervision and support systems for the health workforce. For services to be provided at scale, additional system elements need to be addressed, such as programme leads developing mutually supportive relationships with Ministry of Health stakeholders, and obtaining high-level financial commitment.

Lessons learned for South Africa

- Perinatal mental health services can be integrated into MCH services in resource-constrained settings and may function to strengthen the health system.
- To ensure the quality and effectiveness of these services, the following must be addressed:
 - Health workforce strengthening through a range of capacity-building and supportive approaches.
 - The design of interventions that simultaneously address both social determinants and psychological distress.
- For scale up of these services, the following must be addressed:
 - The availability of targeted health financing.
 - The development of relevant mental health targets and indicators integrated within the HIS.
 - The development of mechanisms to support leadership and governance of the health system.

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