A Landscape Analysis

THE SILENT BURDEN

Common Perinatal Mental Disorders in Low- and Middle-Income Countries

MOMENTUM Country and Global Leadership

USAID FROM THE AMERICAN PEOPLE

MOMENTUM A Global Partnership for Health and Resilience

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MOMENTUM works alongside governments, local and international private and civil society organizations, and other stakeholders to accelerate improvements in maternal, newborn, and child health services. Building on existing evidence and experience implementing global health programs and interventions, we help foster new ideas, partnerships, and approaches and strengthen the resiliency of health systems.

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ABBREVIATIONS

ANC	Antenatal Care
CCIH	Christian Connections for International Health
CFIR	Consolidated Framework for Implementation Research
CHW	Community Health Worker
CPMD	Common Perinatal Mental Disorder
CSDH	Commission on the Social Determinants of Health
D&A	Disrespect and Abuse
DISC	Discrimination and Stigma Scale
EPDS	Edinburgh Postnatal Depression Scale
FGD	Focus Group Discussions
FBO	Faith-based Organization
GAF	Gender Analysis Framework
GBV	Gender-Based Violence
GMH	Global Mental Health
HAT	Helping Adolescents Thrive
HCW	Health Care Worker
IDP	Internally Displaced Person
IPV	Intimate Partner Violence
KII	Key Informant Interview
KMC	Kangaroo Mother Care
LA	Landscape Analysis
LMIC	Low- and Middle-Income Country
mhGAP	Mental Health Gap Action Program
MNCAH	Maternal, Newborn, Child, and Adolescent Health
NGO	Non-Governmental Organization
PCMC	Person-Centered Maternity Care
PHC	Primary Health Care
PMH	Perinatal Mental Health
PNC	Postnatal Care
RCT	Randomized Controlled Trial
RMC	Respectful Maternal Care
SDG	Sustainable Development Goals
SSNB	Small and Sick Newborn
WHO	World Health Organization

EXECUTIVE SUMMARY

INTRODUCTION

Mental health has long fallen behind physical health in attention, funding, and action—especially in low- and middle-income countries (LMICs). It has been conspicuously absent from global maternal, newborn, child, and adolescent health (MNCAH) programming, despite increasing awareness of the intergenerational impact of common perinatal mental disorders (CPMDs). However, as COVID-19 and the universal health coverage movement have brought mental health to the forefront, the MNCAH community now looks to understand how to provide these services effectively, at scale, and sustainably. This landscape analysis sought to provide a broad understanding of the current state of CPMDs in LMICs.

METHODOLOGY

A multitiered approach was used. Reviewers chose a scoping review methodology guided by Arksey and O'Malley to search articles in PubMed, Google Scholar, PsychInfo, and Scopus. Titles and abstracts were reviewed by two reviewers, before a multidisciplinary team conducted data extraction and analysis. Sixty key informant interviews and two focus group discussions were conducted with mental health, MNCAH, faith, humanitarian, nutrition, gender-based violence, advocacy, and implementation research experts. And lastly, reviewers completed a document analysis of relevant mental health policies from 19 countries.

SUMMARY OF FINDINGS

COMMON PERINATAL MENTAL DISORDERS AND MATERNAL HEALTH

Women with CPMDs face numerous health consequences. Women with perinatal depression may struggle with attending routine care visits, having adequate nutrition and hygiene, maintaining normal activities, and/or engaging in substance abuse. Antenatal depression is a risk factor for postpartum and later depression, with lasting health effects on women and their children. And women with a history of major postnatal depression had a 25 percent risk of a recurrence in future pregnancies, and postnatal depression was a risk factor for maternal death by suicide. Anxiety was also a risk factor for both suicide and depression. Studies found that antenatal mood disorders were associated with increased risk of preterm birth and pre-eclampsia, conditions associated with increased all-cause mortality and death from cardiovascular disease later in life.

COMMON PERINATAL MENTAL DISORDERS AND NEWBORN AND CHILD HEALTH

Maternal mental health problems affect the physical, emotional, and neurological development of children. Studies from LMICs found that depressed mothers had a higher risk of preterm births and low-birthweight babies, setting the stage for higher childhood mortality. The presence of CPMDs in mothers appears to increase the risk of stunting and wasting in children. Mothers' mental health also appears to affect children's cognitive development. CPMDs may disrupt maternal-infant bonding and attachment. There also appears to be an association between CPMD and common childhood illnesses, and the extent to which mothers seek immunization services or care for ill children. Women with depression were significantly more likely to report insufficient milk and stop exclusive breastfeeding, even though depression was not associated with actual reduction of milk production.

RISK FACTORS

The landscape analysis identified several risk factors for CPMDs in LMICs. Exposure to multiple risk factors, often the case in LMIC settings, for prolonged periods puts a woman at greater risk for CPMDs. Risk factors were organized into three groups: structural determinants, intermediary determinants, and social cohesion and capital.

STRUCTURAL DETERMINANTS

- **Gender-based factors**: CPMDs were most common in settings with greater gender inequity and where women had little autonomy.
- **Risk factors specific to adolescent girls:** For pregnant adolescents, multiple studies from LMICs have found rates of perinatal mental illness as high as three times that of older women.
- **Education, age, and marital status:** Women and girls with low levels of education, either having never attended school or dropping out early, unmarried mothers, and those who become pregnant at a young age are at risk for developing CPMDs and having suicidal ideations.
- **Policies and accountability systems:** Robust mental and perinatal health policies are instrumental in shaping the public's discourse on maternal mental health.
- **Income inequality:** Poverty is one of the most significant risk factors of maternal depression and anxiety.

INTERMEDIARY DETERMINANTS

- **Food insecurity:** Food insecure women are more at risk of CPMDs, which in turn makes it difficult to break the cycle of food insecurity.
- **Experiences within the health system:** Disrespect, mistreatment, and abuse experienced by women during pregnancy and childbirth has recently been shown to affect perinatal mental health.
- **Obstetric trauma:** Experiences that can be categorized as obstetric trauma—miscarriage, stillbirth, having a small or sick newborn, and other traumatic birth experiences such as emergency cesarean sections—were risk factors for CPMDs.

SOCIAL COHESION AND CAPITAL

- **Social support:** Poor social support from family and friends and social isolation also were significant risk factors for many perinatal mental health conditions.
- **Relationship quality with intimate partner:** Spousal discord and intimate partner violence (IPV) are key risk factors of CPMDs. In inequitable spousal relationships, women were more likely to experience CPMDs.

IMPLEMENTATION

WHAT INTERVENTIONS ARE BEING IMPLEMENTED?

Guidelines, manuals, initiatives, and projects are being introduced and implemented throughout LMICs. Some initiatives work at the community level, whereas others are delivered in health facilities. Most approaches involve task shifting from specialized mental health professionals to more generalized or lay health workers, such as midwives or community health workers (CHWs). The majority involve a stepped care model, in which serious cases with more specialized needs are referred if there is more specialized care available. All aim to meet women where they seek care, given their context and entry points. Most

interventions use an adaptation of cognitive behavioral therapy (CBT); others include problem solving therapy, behavioral activation, group-based programs, family-based programs, parenting skills, mother-baby sessions, or play-based support. Providers generally need to be trained in a variety of skills, such as mental health and psychosocial support (MHPSS) and trauma informed care. Increasingly, programs are incorporating technology to address emerging challenges both at the community level and facility level.

WHAT ARE THE BARRIERS TO SUCCESSFUL PERINATAL MENTAL HEALTH PROGRAMMING?

Several clear barriers keep women from seeking and receiving needed care. The most common barrier groups include culture norms, human resources, and health and financial systems.

ON MEASUREMENT OF CPMDS

The detection and measurement of CPMDs makes use of screening tools that are often contextually adapted and are confirmed through a clinical assessment. However, the landscape analysis found that several different tools were used, with varying cut-off points, to categorize and measure CPMDs making comparison and aggregation of prevalence estimates very challenging. Key informants also described how structured screening tools that are popular in high-income settings may not be acceptable or practical in lower-income settings. Debates remain about the best ways to define and identify mental illnesses across different contexts, where distress may be expressed differently.

DISCUSSION

WHAT ARE THE CORE AND ADAPTABLE ELEMENTS OF SUCCESSFUL INTERVENTIONS IN LMICS?

This section seeks to identify some of the most significant core and adaptable components and contextual considerations in successful CPMD program implementation.

CORE ELEMENTS OF SUCCESSFUL INTERVENTIONS: COMMUNITY COMPONENTS

- **Stepped care (inclusive of a clear referral system):** An effective approach to ensure women have access to basic mental health services or more specialized treatment, per their need.
- **Detailed assessment of context:** Understanding the context of the community and the facilities where any intervention would be introduced is a crucial first step.
- **Well supervised and support task-sharing model:** Several interventions found that training **CHWs** in talk therapy and implementing cascade training and supervision improved outcomes. **Peers** may be best for women with less chronic or severe depression and a good first step in stepped care.
- **Talk therapy:** A method that has been introduced successfully and implemented with minimal training at the community level.
- **Contextualized language for CPMDs:** Using language that women and providers know and understand is crucial to any intervention.

CORE ELEMENTS OF SUCCESSFUL INTERVENTIONS: HEALTH FACILITY COMPONENTS

- **Pre-service training on mental health:** Including CPMD during pre-service provider training is essential to both improving the skills of the providers, and to start to normalize CPMDs.
- **Trained and supervised health care providers:** The training and continuing supervision of health facility staff to provide respectful mental health services is crucial.

- **Clear referral process:** A clear referral pathway needs to be established, and high-quality mental health services should be available when referred.
- **Assessment process:** Most interventions assessed a woman's mental health status upon arrival at the health facility. It was largely agreed that there must be a more systematic, standardized method to include assessments of mental health into a health facility visit.
- **Mental health support for health care providers:** COVID-19 has exposed the glaring needs and the consequences of not having support for health care workers.
- **Respectful maternity care (RMC):** CPMD interventions should incorporate elements of RMC and Person-Centered Maternity Care (PCMC) to have true impact.
- **Link with and strengthen gender-based violence (GBV) services:** Every intervention should include a gender analysis and include an intentional approach to prevent and respond to GBV.

ADAPTABLE ELEMENTS OF SUCCESSFUL INTERVENTIONS

- **Compensation** for cadres implementing mental health interventions varied by program and setting.
- **Screening, assessment, or measurement tools: How to accurately assess?** The need for tools or processes to identify women with CPMDs was mentioned in almost every study. However, there are diverse perspectives on the best ways to do this.
- **Who is a trusted delivery agent?** Who will be best suited to deliver CPMD interventions is context specific. In many studies women trusted community health workers who shared their language, culture, and social norms.

WHERE TO BEGIN INTEGRATING MATERNAL MENTAL HEALTH INTO THE HEALTH SYSTEM?

Where to intervene, and through whom, has many implications for meeting women's mental health needs during the perinatal period. The various entry points that were discussed include: community level; children and family approaches; facility level ANC and PNC; provider pre-service education; and traditional healers and faith-based organizations.

THE CALL FOR INTEGRATION

The landscape analysis highlighted three "calls" for better integration: 1) Across multiple health sectors and sectors outside of health; 2) A movement of services away from centralized institutions to the primary care and community level; and 3) Integration of mental health into health care provider education and practice.

GAPS

The landscape analysis identified gaps with clear themes: a need to expand the evidence to include different contexts and avoid inappropriate generalization; a need for more evidence for vulnerable populations; a need to expand the evidence base beyond postnatal depression; a need to center research on the expressed desires of women, and a need for integrated approaches that improve both women's and children's health.

CONCLUSION

These findings illuminate an undeniably urgent need to provide CPMD prevention and care to women in LMICs. The time is long overdue to take perinatal mental health seriously. Future efforts should strive to generate better evidence while simultaneously implementing successful approaches to help the millions of women "suffering in silence" every day.

1. INTRODUCTION

Mental health has long fallen behind physical health in attention, funding, and action. Despite the World Health Organization (WHO) including mental health as a fundamental aspect of overall health and identifying mental health and well-being as a target of Sustainable Development Goal (SDG) 3,[1] mental health remains underfunded and often ignored in the face of more visible physical health concerns. In addition, health systems have yet to respond to the burden of mental health and the effect of mental health on morbidity, and mortality has become too important to ignore. Nearly one billion people throughout the world live with some form of mental illness—most common being anxiety (300 million) and depression (280 million).[2,3] People with mental disorders experience disproportionately higher rates of disability and mortality and more than 80 percent of people living with mental health conditions reside in low- and middle-income countries (LMICs).[4,5] Despite this, most of the evidence, framing, and defining of mental health conditions are driven by high income countries—which may have contexts that are unrelatable or irrelevant in LMICs, where the need is greatest. Despite global level action plans and even implementation guidance, the translation from policy to actual services has been largely absent—the treatment gap is estimated at nearly 90 percent.[6] Further compounding the gap is the poor quality of most available treatment.[5]

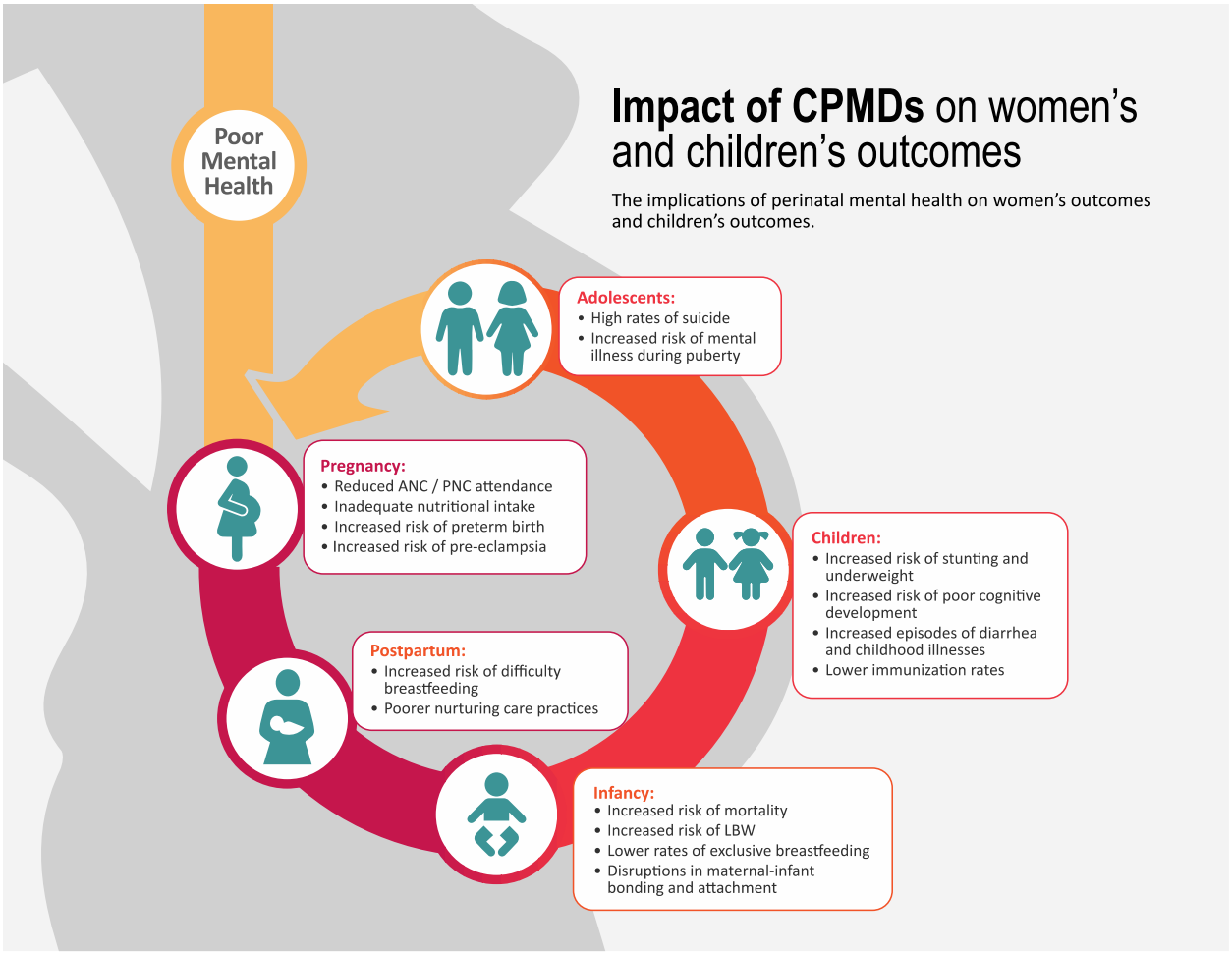
Maternal, newborn, child, and adolescent health (MNCAH) has not been spared from this struggle as mental health has been conspicuously absent from global MNCAH programs.[7] Maternal mental health, as defined by the WHO, is the "state of well-being in which a mother realizes her own abilities, can cope with the normal stressors of life, can work productively and fruitfully, and is able to make a contribution to her community."[8] Though the focus in the MNCAH community has been on the physical survival of women and children, the need to include and integrate mental health into the care women receive during the perinatal period largely has been overlooked. Further compounding these gaps are the unique needs of vulnerable groups—adolescents, women experiencing gender-based violence (GBV), women living in humanitarian settings, women experiencing obstetric trauma, or those living in poverty. The global push for universal health coverage (including mental health) and the recent COVID-19 pandemic also have helped to bring the conversation about mental health to the forefront, and the MNCAH community is positioned to better provide women with quality mental and physical health care that is their human right.

1.1. WHAT IS PERINATAL MENTAL HEALTH?

Perinatal mental health (PMH) includes mental health during the perinatal period. The literature on perinatal metal health does not use a consistent definition for the perinatal period: the period generally commences with pregnancy, but may be defined as extending up to two years after delivery.[9,10] Within PMH are a set of mental health disorders most commonly experienced—referred to as common perinatal mental disorders (CPMDs)—that typically include depression, anxiety, and somatic disorders.[11] Other forms of maternal mental illness, including perinatal psychosis and substance use disorders, are less common, but can have serious consequences.[11] One potential outcome of perinatal mental illness—suicide—accounts for a significant proportion of maternal mortality in many settings and is often included in the discussions of more extreme mental illness.[11,12]

There is good reason to separate PMH from the broader field of mental health. Perinatal cases of these disorders generally are not classified as separate disorders, but the perinatal period (seen as an acute phase) is associated with elevated incidence.[13,14] In addition, the perinatal period also presents unique challenges. There are implications to newborn health and development that have intergenerational impacts, and the safety and appropriateness of medications on child outcomes further complicate treatment (though this is much less discussed in LMIC settings).[15–17]

FIGURE 1: HOW CPMD AFFECTS HEALTH OUTCOMES



The MNCAH community is pushing to reduce maternal mortality while also elevating the importance of high-quality, respectful care as a fundamental human right. The focus has been placed traditionally on physical complications related to birth, but as these rates are reduced and countries begin to pass through an epidemiological transition, the burden of mental illness in relation to mortality and morbidity proportionately increases.[18] As such, the MNCAH community has begun to look more closely at PMH. The MOMENTUM team and USAID commissioned, in December 2020, a landscape analysis (LA) to better understand the current state of PMH, specifically CPMDs, and what was being done to address the burden in LMICs. The findings of this landscape analysis will inform the PMH strategy for both MOMENTUM and USAID.

1.2. METHODOLOGY

A multitiered approach was used for this landscape analysis to allow for a broad understanding of the current literature on PMH in LMICs and to examine the relationship between PMH and maternal, newborn, child and adolescent outcomes, including promising interventions and implementation strategies.

1.2.1. SCOPING REVIEW OF THE LITERATURE

A scoping review sought to identify the literature on PMH in LMICs and the effects on maternal, newborn, child and adolescent health outcomes. The scoping methodology allows for a continual refinement of the initial literature search in an iterative manner at each of its six stages.[19] This approach was chosen because it supports the identification of knowledge gaps by setting research agendas and implications for decision-making.[20] The study was approved by the Institutional Review Board of the Johns Hopkins Bloomberg School of Public Health.

Literature Scoping Review

- What effects do common perinatal mental disorders have on maternal wellbeing and newborn/child health and development outcomes in LMICs?
  - What are the risk and protective factors for common perinatal mental disorders?
- What interventions have been implemented in LMICs to prevent, identify, manage, and treat perinatal mental health conditions and/or improve child outcomes?
  - What are the successful mechanisms, in what context, that could be tested and scaled in other settings?
  - What gaps in knowledge and implementation remain?

A literature review was conducted using electronic databases PubMed, Google Scholar, and PsychInfo. The landscape analysis team, comprising two researchers and four technical experts, hand searched reference lists of articles to identify additional studies of relevance. Because this was an iterative search, targeted searches were added during the review to provide better context to some emerging issues identified: women in humanitarian and fragile settings, adolescents, stillbirth/perinatal loss, gender-based violence, and COVID-19. For the faith-based organizations (FBOs) and faith actors component, a literature review was conducted using the Joint Learning Initiative on Faith and Local Communities, PubMed, and Scopus electronic databases for published literature resulting in 20 relevant articles. A search of the grey literature identified 20 additional documents. Countries were identified as LMICs according to the World Bank income classifications for 2021.

A search of the grey literature was conducted simultaneously using the same search terms. The team also reviewed the websites of organizations known to work in maternal mental health for program, research, and testimonial documents relevant to the research questions. Reasons for exclusion included: published before 2005, published in a language other than English, outcomes focused on children older than 3 years, and "global" studies that did not include any LMIC representation. The searches were conducted December 2020 through June 2021.

Literature Search Terms

The following search terms were used:

- maternal mental health
- postnatal depression
- perinatal depression
- intervention studies
- child/newborn outcomes
- antenatal depression
- maternal depression
- low- and middle-income
- prenatal depression
- postpartum depression
- perinatal mental health stillbirth
- developing country

From the initial search, articles were reviewed and selected by at least two team members if the articles met the inclusion criteria. Through the iterative process, allowing for the team to go back into the literature when a gap or question emerged, there were a total of 415 articles included in the scoping. A data extraction tool was created to extract relevant information from 12 categories in the literature (see *Data Extraction Themes*, below). The two main reviewers independently reviewed four sample articles and compared their extractions of all four. Discrepancies or disagreements were discussed, and definitions for each category were further refined. The remaining members reviewed one or two sample articles with the lead reviewers, and disagreements led to further modification of the category definitions. These initial summaries were reviewed alongside the qualitative data analysis discussed below.

1.2.2. QUALITATIVE DATA

Key Informant Interviews (KIIs) were conducted with 44 experts in the fields of mental health, maternal, newborn and child health, adolescent health, humanitarian and fragile settings, nutrition, gender-based violence, stillbirth and perinatal loss, advocacy, and implementation research. Experts were identified from the literature as well as through snowball sampling. Each interview lasted roughly one hour, and participants gave consent to record. Two Focus Group Discussions (FGDs) were conducted with experts identified through the Inter-Agency Working Group on Reproductive Health in Crises to understand the status of PMH in refugee camps, conflict settings, and fragile states. Data collection took place December 2020 to June 2021. All audio files were transcribed using Otter.ai and the transcripts were uploaded into Dedoose. All transcripts were reviewed and coded according to identified themes.

Data Extraction Themes

GENERAL ARTICLE DETAILS: author, title, year published, topic, and country.

CONTEXT OF UTILITY: summary, context, prevalence, definitions, framing issues, measurement, mother's health, link to newborn/child outcome, fathers, and parenting/caregiver environment.

RISK FACTORS: poverty, obstetric, trauma, baby health or sex, social support/relationships, nutrition/food insecurity, GBV and IPV, God's will/religion/spirits, protective factors, and care seeking.

INTERVENTIONS: prevention, stepped care, outcomes, what worked, policy, traditional healers/medicine, stigma, mother-child interactions/parenting, multi-pronged approach, psychotherapeutic approaches/CBT, integration, group based/social support, nutrition, task sharing/human resource approaches, technology, barriers, what does not work, replication/scale, and COVID.

GAPS AND RECOMMENDATIONS: gaps, implementation learning, and recommendations.

An additional qualitative component was conducted by MOMENTUM partner Christian Connections for International Health (CCIH). CCIH sought to understand the role FBOs and faith actors play in providing PMH interventions/care, the drivers and barriers to linking with the formal health system, and their role in reinforcing or setting cultural norms. A literature review was conducted using the Joint Learning Initiative on Faith and Local Communities and a Scopus search of the identified grey literature.* The documents were reviewed, and the findings were used to inform the creation of the KII guides. In total 16 KIIs were conducted. Respondents were

*A survey was sent by email to 92 FBO and faith actors with whom CCIH has a relationship and are working on issues of maternal health. There were 31 responses, and 16 were willing and able to participate in a key informant interview (KII) during the data collection period.

from Christian (12), Muslim (2), and non-affiliated or secular (2) organizations and represented India, Kenya, Malawi, Ghana, Liberia, and Nigeria as well as five that worked in several LMICs. Data were analyzed by CCIH, and findings were presented through PowerPoint. The larger LA team then included the PowerPoint presentation in its overall findings, which were enhanced with the larger data analysis.

Qualitative Data Search Terms for FBO and faith actors

The following search terms were used:

RELIGION: faith, Christian, Muslim, Islam, Islamic, Hindu.

LOW-RESOURCE SETTINGS: low-income countries, LMIC, Africa, Asia, India, Liberia, Malawi, Nigeria, Kenya, Tanzania.

PERINATAL: maternal, postpartum, mental health, depression, mental disorders, anxiety.

ADOLESCENT: pregnancy, adolescent mental health, gender-based violence, GBV, violence against women, psychosis.

1.2.3. POLICY REVIEW

Given the importance of national policies that mention mental health, the team conducted a documentary analysis[21] to better understand how relevant mental health policies may shape the context for PMH programs. In the 16 countries[†] where MOMENTUM is currently implementing health programming, a purposive search was conducted to provide an initial assessment of specific policies and policy gaps in the implementation and effectiveness of PMH programs. Later, Ethiopia, South Africa, and Pakistan were added, given work being done at the policy level in these countries, based on qualitative interviews. The team searched the WHO Mind Bank, the websites of MOMENTUM country Ministries of Health, and the WHO Mental Health Atlas for pertinent polices from identified countries and contacted MOMENTUM country staff to ask about national level policies and any context important to better understand the policy creation or discussions taking place.

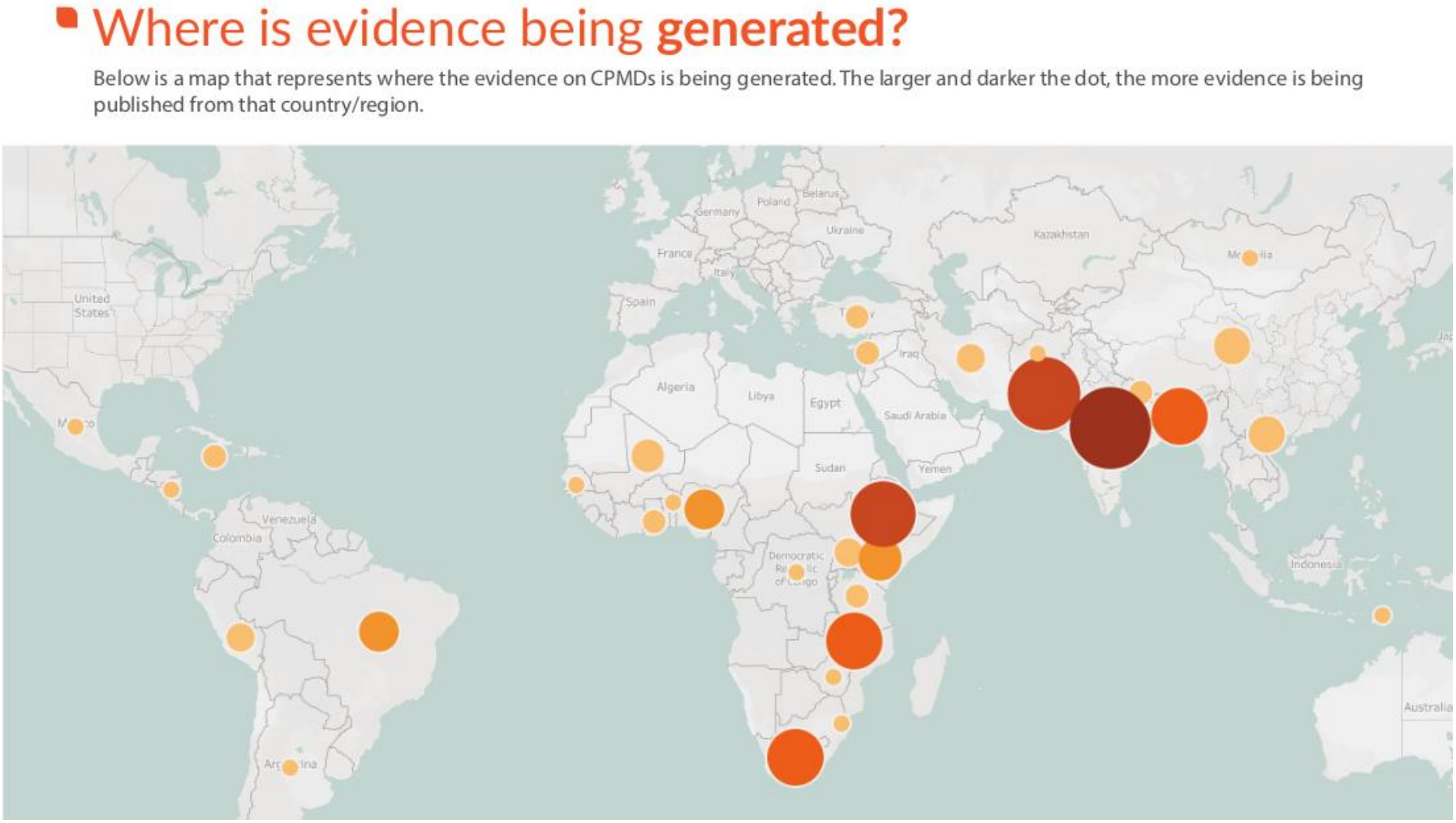
About Terminology

In the literature and among stakeholders, numerous terms were used to describe mental illness during the perinatal period. There were terms that were used interchangeably (maternal mental health and perinatal mental health, for example), or terms that were used to be specific about a disorder or group of disorders, such as Common Perinatal Mental Disorders (CPMDs). Some mentioned "mental illness" or "mental ill health," and others specified the disorder (depression, anxiety, psychosis). Many attached a period to the disorder—prenatal/antenatal or postnatal/postpartum—while others referred broadly only to the perinatal period. For this landscape analysis, the focus was on the perinatal period, specifically CPMDs. Keeping this focus targeted allowed for a deeper look at the current state of the literature of CPMDs and better identify programs and interventions. This does not include all women who enter pregnancy with a mental disorder, however, nor focus on some of the severe mental illnesses, such as psychosis and bipolar disorder. The important limitations of this approach are discussed in the *Gaps in literature, knowledge, and implementation* section.

Another important note is that this analysis favors the use of the terms "mother" and "woman"; this reflects the studies included in the analysis and a recognition that these terms are normative across the world. It is not meant to exclude transgender/gender nonbinary parents, nor to imply that the words "mother" and "woman" represent every birthing person.

[†] Bangladesh, Cameroon, Cote d'Ivoire, Ghana, India, Indonesia, Kenya, Liberia, Malawi, Nepal, Nigeria, Rwanda, Tanzania, Togo, Uganda, and Vietnam.

FIGURE 2: SOURCE OF ANALYSIS DATA WITHIN LMICS



2. FINDINGS

2.1. WHY IS PERINATAL MENTAL HEALTH IMPORTANT?

2.1.1. CPMDS AND MATERNAL HEALTH

PMH is inextricably linked with a woman's physical health during the perinatal period and has important implications for her long-term mental and physical health, functioning, and quality of life.[22] Women with CPMDs face numerous health consequences. Women with perinatal depression, for example, may face challenges related to adequate hygiene and nutrition, maintaining normal household and social activities, substance abuse, and attendance at antenatal and postnatal visits.[7] Antenatal depression is a risk factor for postpartum and later depression, which can affect the health of a woman and her infant immediately and well beyond the perinatal period.[23] It is important to note that women with a history of major postpartum depression have a 25 percent risk of a recurrence in a subsequent pregnancy.[24] Maternal anxiety is a common manifestation of maternal mental health issues and can lead to fear of childbirth itself, potentially reducing capacity to deal with labor and leading to unnecessary interventions such as a cesarean section. Anxiety disorders are distinct from, but have high comorbidity with, depressive disorders.[14,25] Anxiety is also a known risk factor for both suicide and depression, and anxiety and depression can reinforce each other when comorbid.[25,26]

Studies have demonstrated that antenatal mood disorders ("mood disorder" is a category of mental and behavioral disorders that includes manic, depressive, and bipolar disorders) are associated with increased risk of preterm birth and pre-eclampsia.[24,27] These outcomes have important implications for women's long-term health because both conditions are associated with increased all-cause mortality and death from cardiovascular disease later in life.[24] This association between maternal mental health and immediate and longer-term outcomes makes screening and treatment for mental health issues crucial as early as possible in pregnancy and into the postnatal period.[28]

Postpartum depression is a risk factor for maternal death by suicide and, in severe cases, infanticide. In a global systematic review, an estimated 20 percent of mortality in the year after childbirth occurs by suicide[29] and 1 in 10 postpartum women experience postpartum suicidal ideation, suicide attempts, and suicide mortality.[30] And the burden appears to be uneven—in Africa and Asia, the prevalence of suicide in the postnatal period is approximately 2.5 times that of Europe and the Americas.[30] A depressed mother's ability to make decisions and maintain vital social support also is affected.[7] There is strong evidence for the association between suicide and adolescence. Based on the best available estimates, suicide is the fourth leading cause of death for adolescents globally.[31] While there is little evidence examining suicide among adolescents during the perinatal period explicitly, research from São Paulo, Brazil found that adolescents have higher rates of suicidal ideation during the perinatal period than any other group.[32] Evidence from several countries points to unintended pregnancy as a particular risk factor for suicide in adolescent girls, and there is a need for more evidence to examine the hypothesis that pregnant adolescents, especially those without access to safe abortion, may consider suicide their only alternative.[33–35]

Unfortunately, women and girls experiencing PMH issues may face "branding" and stigma, which can cause hesitation to be screened and/or treated for a mental health condition.[28] A study from Brazil in which FGDs were conducted vividly illustrates women's beliefs that perinatal depression is "selfish, rubbish, fussiness, lazy people's stuff," and can be associated with being labeled a "bad mother" who risks having her child removed.[36] This delay in seeking care, because of stigma or other barriers discussed below, then further compounds the effect not only on the woman, but on the child.

Women's right to the highest attainable standard of health

The Office of the United Nations High Commissioner for Human Rights recognizes the fundamental right to the highest attainable standard of health, explicitly including mental health.[28] In emphasizing the consequences of maternal mental illness on a women's physical health and on her children's health, it is crucial that a woman's mental health is not treated as subordinate to her physical health, and that a mother's health is not treated as subordinate to that of her child. Women's right to the highest attainable standard of mental health and to not be blamed for the impact her distress may have on her children remain critical themes throughout this report.

2.1.2. NEWBORN AND CHILD HEALTH

Newborn and early childhood periods are crucial for individuals to survive and to create the ground for lifelong health, wellbeing, better learning, and earning capacities. Nurturing care creates a responsive environment and keeps children safe, healthy, nourished, and growing to their full potential. Parents and immediate caregivers are best able to provide nurturing care and only when they are emotionally secure.[37] Maternal mental health conditions hence not only affect women, but are also associated with adverse physical, emotional, and neurological development in newborns and children.[38] A key informant eloquently illustrated this:

> *"A key intervention for children with diarrhea is to teach mothers to give oral rehydration solution. Some mothers learn very quickly, while others are not as engaged. When I saw depressed women in the hospital, I immediately made a link between the two things. That became my first research—to look at the associations of maternal depression and infant growth and development disease. And lo and behold, we found very strong associations between maternal mental health and birth weight, diarrheal disease, breastfeeding duration. So maternal depression is not only bad for the mum, it's bad for the child."* **— Global MMH expert**

A systematic review and meta-analysis of studies from LMICs examining antenatal anxiety and depression and birth outcomes noted the higher risk of preterm births and low-birthweight babies being born to depressed mothers compared with those who were not depressed.[13] Another systematic review on antenatal depression and its effect on birth outcomes revealed modest risk of low birth weight and preterm birth. While this association appeared to be modest, its absolute impact would be significant in lower-income countries with a high prevalence of antenatal depression and poor access to quality mental health services.[13]

Adverse birth outcomes set the stage for higher mortality for children. A nationwide population-based study from Taiwan, which examined mortality of children up to 5 years, found that children were at 1.47 times greater risk of death if their mothers had postnatal depression.[39] Similarly, in a cohort of rural/peri-urban Ghanaian mothers, probable postnatal depression was found to be highly and significantly associated with infant mortality.[40] Collectively, these findings suggest that postnatal depression may be more critical for child survival outcomes than antenatal depression.

Effects of perinatal mental health on children go beyond birth outcomes and lowered survival rates. In rural Bangladesh, infants of mothers with depressive symptoms had 2.17 higher odds of being stunted than did infants of mothers with few symptoms.[41] Approximately 7.2 million cases of stunting in LMICs have been estimated to be attributable to psychosocial factors, which include CPMDs.[42] CPMDs in Bangladesh demonstrated significant effect on the child's nutrition. A mother of the wasting child had about 2.5 times increased odds of encountering CPMDs than the mother of a normal child. Again, a mother of the underweight child had about 2.6 times increased odds of having CPMD than the mother of child in a healthy

weight range.[43] A meta-analytic review of studies in LMICs mostly including children up to the age of 2 years found maternal depression or depressive symptoms associated with approximately a 40 percent and 50 percent higher overall estimated risk of child stunting and underweight, respectively.[44]

Children's cognitive development also has been shown to be affected by their mother's mental health state. A systematic review on the association between CPMDs and infant or toddler neurodevelopment during the first two years of life from 16 LMICs, pointed toward postnatal PMH to be negatively associated with various domains of child development, such as fine and/or gross motor, cognitive, language, behavior, and global development.[45] Children between ages 1 to 8 years, tracked in Ethiopia, Peru, Vietnam, and India showed significant associations between exposure to maternal risk of CPMDs in early childhood and increased risk of poor growth and cognitive development, which persisted to later ages (5 and 8). Associations were found between PMH in the first year of life with development and life satisfaction of the child through 8 years of age.[46]

Children of mothers affected by CPMDs have more frequent episodes of diarrhea and other childhood illnesses, and receive fewer immunizations, compared with infants of non-depressed mothers. In Bangladesh, Vietnam, and Ethiopia, maternal recall of symptoms of child illness in the two weeks before the survey revealed strong association of CPMD with diarrhea and upper acute respiratory illness in all three countries.[47] Systematic review of publications describing interventions to improve PMH outcomes showed benefits such as improved mother-infant interaction, better cognitive development and growth, reduced diarrheal episodes, and increased rates of completion of recommended immunization schedules.[48]

There appears to be an association between CPMD and exclusive breastfeeding, having a small and sick newborn (SSNB), and bonding. In rural Pakistan, a prospective cohort study found that women with perinatal depression were significantly more likely to report insufficient milk and were 1.66 times as likely as non-depressed mothers to cease exclusive breastfeeding at any point. This effect was more pronounced when depression was persistent.[48] Depression was not found to be associated with actual reduction of milk production.[48] A study conducted in Kirehe District of Rwanda revealed half of mothers of small and sick newborns had poor mental health. This is a strong indicator for integrating interventions to identify and address maternal mental health within SSNB services.[49] In some cases, CPMDs may affect the process of bonding between a mother and her child. A 2020 systematic review found an association between maternal depression and child attachment style, although that was not true for all methods of measuring depression.[50] A 2019 systematic review found an association between maternal depression and lower bonding after childbirth in four of five studies.[51] The studies in this section underscore the fact that CPMDs have negative consequences for the mother as well as the child.

Perinatal mental illness as a barrier to child development

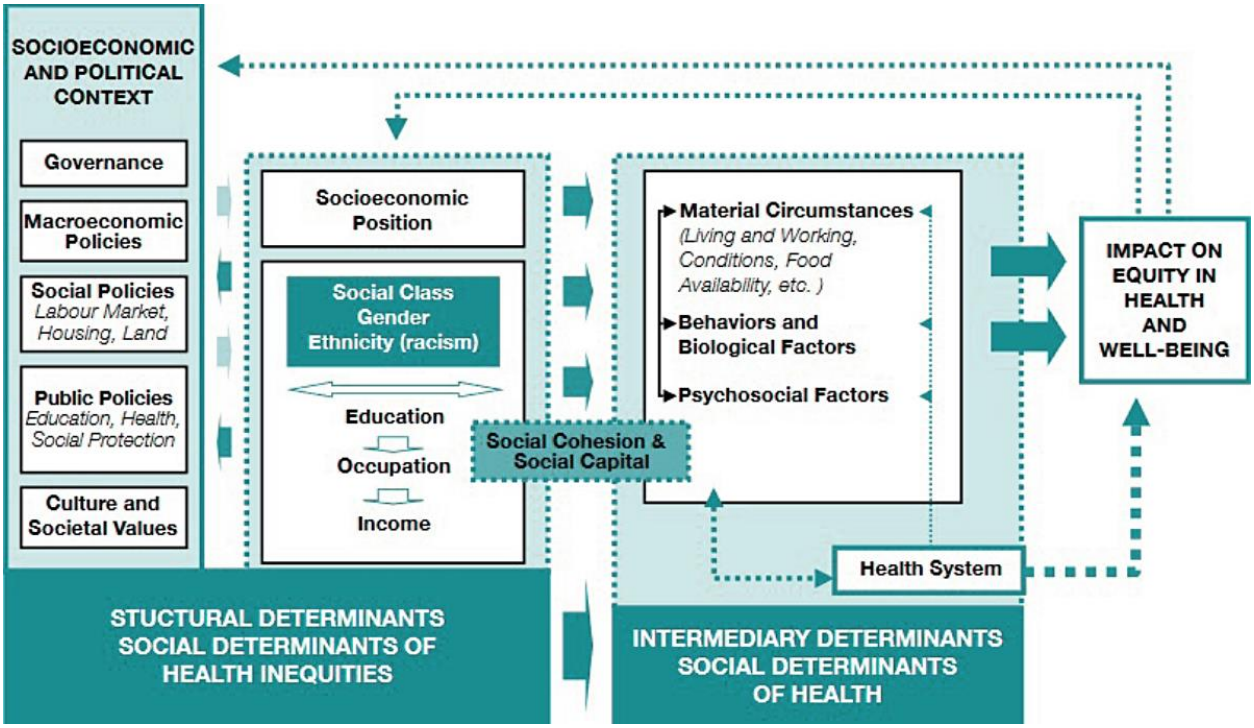
Perinatal mental illness also may be a barrier to uptake of services targeting child health. A 2019 report from the Child Health Intervention for Developmental Outcomes study reported that high rates of CPMDs found in its sample may have been a barrier to its child development intervention and called for improved mental health services for mothers.[299]

2.2. RISK FACTORS

The risk factors of maternal mental illness for women living in LMICs are well documented in the literature and range from those stemming from broader social factors, such as economic or gender inequality, to more individual experiences, such as a history of stillbirth and genetic predisposition. The likelihood and severity of the maternal mental health condition is most likely to vary depending on the cultural context and by social factors that are often beyond a woman's control.[26,28,52]

Exposure to multiple stressors or risk factors for a prolonged period—common in LMICs—puts a woman at greater risk for developing CPMDs. To capture the complexity of this issue, the World Health Organization's Commission on the Social Determinants of Health (CSDH) framework was used to guide the review of risk factors for this landscape analysis.[53] The CSDH framework focuses on the social, economic, and political mechanisms that give rise to a set of socioeconomic positions (power, social capital, etc.) and in turn shape specific determinants of health status. The CSDH framework has been used to show that women who are socially and economically disadvantaged have higher prevalence of CPMDs.[28]

FIGURE 3: CSDH FRAMEWORK



2.2.1. SOCIOECONOMIC AND POLITICAL CONTEXTS

The context in which women give birth and raise children helps to determine their chances of developing CPMDs. Women living under oppressive gender norms—where economic inequality and racial, ethnic, and religious persecution is rampant as well as for those living in humanitarian crisis—are more likely to experience poor maternal mental health outcomes.[7,13,28,52,54] As the vast majority (84 percent) of people in LMIC are religious adherents, the influence of local religious leaders in shaping these norms is a significant consideration affecting risk of CPMDs.[55] The overlap of these factors (culture, socio-political,

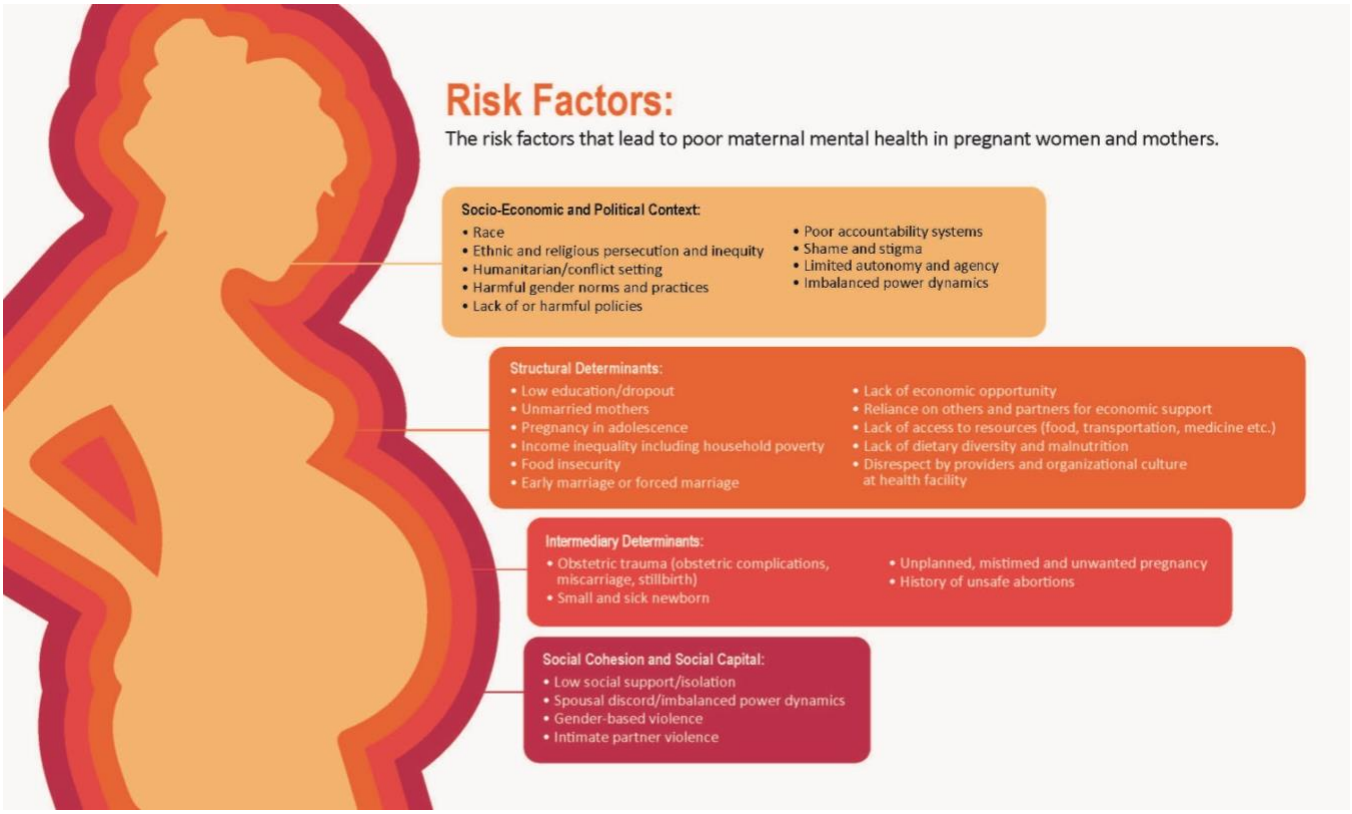
economic, environmental) exacerbate all aspects of a woman's life, such as her access to services, social support, freedom from gender-based violence, her nutritional status, and her baby's ability to grow and thrive.[13,26,52,56–58]

The language used to describe CPMDs has an impact on whether women can freely seek treatment and support. Where social norms position a woman's primary role as that of a wife and mother, CPMDs are seen as an inability to fulfill this social role, thereby stigmatizing and isolating the woman at a time when she needs the most support.[36,56,57,59,60]

> *"In terms of stigma I look at it in two perspectives. ... Most of these mothers or youth are stigmatized. ... And some families don't try to seek care for them. They keep them at home [because] they don't want people to know about them [and] about what's happening to their family members ... while others will neglect such patients without really trying to even make an effort of seeking care for them."* **— FGD 1**

While stigma and discrimination toward persons with mental health disorders was not a direct risk factor of maternal mental health conditions, it increases the likelihood of other risk factors and inhibits a woman's ability to seek both formal and informal channels of support.[61,62]

FIGURE 4: RISK FACTORS THAT LEAD TO POOR MATERNAL MENTAL HEALTH



2.2.2. STRUCTURAL DETERMINANTS

2.2.2.1. GENDER-BASED FACTORS

Literature findings and expert informant interviews emphasized the substantial role limited autonomy and imbalanced power dynamics play in predisposing women to maternal mental health conditions as well as preventing them from seeking and accessing care.[28,56,57,63] Women who live in gender inequitable settings or have less agency and autonomy over their lives are more likely to experience PMH conditions.[7,56,57] Perinatal depression was linked to self-blame when women breached social and cultural norms and were seen as "aggressive" for wanting to safe-guard their interests at the expense of having their basic needs unmet.[56] Women who bear an unequal burden of household chores and child-rearing and living in multigenerational households where daughters in-law have little autonomy are more likely to experience conditions such as postpartum depression and other related PMH conditions.[28,56,64] In several studies, women with limited reproductive autonomy (decisions to space births, use contraceptives, etc.) and who felt pressured by husbands and in-laws to have a male child were more at risk for developing CPMDs.[12,13,17,28,58,59,64]

2.2.2.2. RISK FACTORS SPECIFIC TO ADOLESCENT GIRLS

Adolescent girls[‡] are at a highly elevated risk of depression, regardless of pregnancy.[65] Evidence from high-income countries (HICs) indicates a range of biological, affective, and cognitive vulnerabilities combined with factors related to puberty to make adolescent girls particularly vulnerable to psychological stressors.[65,66] For adolescents who have become pregnant, multiple studies from LMICs have found rates of CPMDs in adolescents as high as three times that of older women.[67,68] Adolescents reported feeling stress about being unprepared to be mothers and worried about the additional burden on their families.[69] The increased risk of depression from psychological stress is well-documented.[70]

The need to better understand how gender influences adolescent health was recommended by an expert convening in 2017.[71] The consultation noted that girls and boys start off having the same risk of mental illness—until puberty, where girls' risk of depressive disorders increases substantially.[71] Perinatal adolescent girls have unique risk factors, such as early or forced marriage, breakdown of family support/structure upon sharing the pregnancy, and not being able to continue their education, to name a few. Adolescents often have reduced access to family planning (FP) services, and the association between unintended pregnancy and depression is much stronger in nulliparous mothers.[72,73] One key informant described how pregnancy for adolescents can result in a breakdown of their social support structure, *"stigmatized even by their own families, who many times would be unhappy with them. Sometimes describing things like kicking them out of the house, and they have to fend for themselves or, many times also, the partner not accepting the baby, so they were like stuck in between. They have no family support, and they have no support from their partner's family"* (Researcher, LMIC; KII 24).

Early and/or forced marriage, particularly among adolescents and women who were married in adolescence, were commonly associated with CPMDs.[74] The responsibility of marriage at a young age, marital discord, and having children at a young age or having unplanned pregnancies increased the risk of mental health disorders, including suicide, among mothers.[72,73,75] Early and forced marriage in humanitarian settings, where families will marry off daughters to reduce household burden (e.g., distributing food resources) and prevent pregnancies out of wedlock or sexual violence to protect family honor were associated with severe

[‡] For this landscape analysis, adolescents were defined as 10- to 19-year-olds, per WHO definition. However, the vast majority of the literature was focused on 15- to 19-year-olds.[297]

psychological distress for the woman.[74] According to experts, adolescents have little to no agency to refuse such marriages at the risk of facing social isolation, threats, or being killed (FGD 2).

> *"[Adolescent girls] also marry at a very early age, even if they are allowed to continue school, they are given out in marriage at a very tender age, like 15 or 14 years. A girl is already married to a man who has like three or four wives. And because the culture does not give them an opportunity to say no, because some of them are even threatened, killed, or isolated from the community, the society, the immediate family, if they declined to take up the marriage, it has made most of the adolescents undergo mental health issues or psychological issues at a very tender age that they keep to themselves."* **— FGD 2**

Women who are forced to marry as children are twice as likely to experience physical and/or sexual intimate partner violence (IPV) than those who were married after 19 years of age; IPV is itself a risk factor for CPMDs.[74] High rates of forced marriages and relatively few psychosocial services or trained staff to provide culturally appropriate counseling and support make incidences of CPMD that much higher and more difficult to manage.[76]

2.2.2.3. POLICIES AND ACCOUNTABILITY SYSTEMS

Robust mental and perinatal health policies are instrumental in shaping the public's discourse on maternal mental health.[52,61,77] The literature shows a lack of mental health policies and harmful regulation that prevent women from seeking care out of fear of being institutionalized or fear of losing their social or economic status, leading to increased and prolonged psychological distress.[36,78] Adjacent social system polices that prevent women from disclosing their pregnancy or mental health status add to the psychological burden; for example, education policies that prevent pregnant girls and young mothers from attending school has a detrimental effect on their mental health. As one informant in South Africa explained:

> *"There's a policy document, but the problem is the documentation is easily up for interpretation. ... The onus is really on the schools to be able to interpret it as they will. ... For example, you may support an adolescent's ability to go back to school, if you don't think it impacts other learners. [But] perhaps very religious schools will interpret that as it will impact other learners, [they] don't want to encourage pregnancy, so then they'll kick someone out of school."* **— Clinician, LMIC**

These gaps in policy language can expose women and girls to other CPMD risk factors such as low education and poverty. As one expert put it, to address PMH, mental health policy discourse should take an integrated approach by addressing larger risk factors (KII 34).

2.2.2.4. EDUCATION, AGE, AND MARITAL STATUS

Women and girls with low levels of education, either having never attended school or dropping out early, unmarried mothers, and those who become pregnant at a young age are at risk for developing CPMDs and having suicidal ideations.[7,10,17,37,44,52,79–82] Women who did not complete their education had a harder time finding gainful employment and navigating the health care system, which continues the cycle of mental ill health and poverty.[22]

2.2.2.5. INCOME INEQUALITY

Poverty is one of the most significant risk factors of maternal depression and anxiety.[28,57] A woman's lack of economic opportunities, either through systemic poverty or low agency to seek livable wage employment, is tied to CPMDs.[7,10,64] Women living in rural areas especially rely heavily on their husbands for financial support for buying household necessities such as medicines and food for their children—further removing any sense of agency.[12,54,83] Poverty contributes to the type and quality of care a mother seeks and receives for treatment because of birth complications and caring for her small or sick baby.[37,58] Moreover, women who struggled to pay for services experienced higher rates of maternal mental health conditions.[84] Extreme poverty when compounded with violence, low levels of social support, unplanned pregnancy, or having children in adolescence often lead to CPMDs.[85]

> *"A lot of women come [to] Joburg for a better life or a better opportunity. You know, and then it doesn't happen, then you end up living in an informal settlement, or a shack, you can't get a job. So, these women end up in these relationships with men, where the financial power that these men have over these women, [that] they have to be in these relationships. So, number one is poverty. Number two is intimate partner violence, gender-based violence."* **— Clinical Psychiatrist, LMIC**

Mothers living in poverty struggle with trying to provide adequate care and support for their children and themselves; without adequate resources, psychological distress easily ensues.[83,86,87] Women who are living in poverty had a harder time finding adequate transportation particularly to and from health care settings, gaining access to family planning services, were food insecure, and were more likely to use alcohol and drugs.[11,43,57,88–90] Moreover, households affected by mental health disorders have lower incomes than those that do not, indicating how mental health disorders can perpetuate cycles of poverty.[91]

Poverty: A likely predictor of mental health risk

Poverty may also predict risk of perinatal mental illness across countries. A 2018 meta-analysis of 291 prevalence studies for postpartum depression from 56 countries found that 73 percent of the variation in their model could be explained by economic and health disparities, although they found notable exceptions—Chile, a high-income country, had the highest prevalence in their sample.[300]

2.2.3. INTERMEDIARY DETERMINANTS

2.2.3.1. FOOD INSECURITY

Food security—one's ability to access enough food to meet daily dietary and energy requirements—is often used as a measure of poverty. Food insecure women are more at risk of common maternal mental health conditions, which in turn can make it difficult to break the cycle of food insecurity.[58,92] There is research to suggest that malnutrition and nutritional deficiencies lead to maternal mental health disorders, with some research indicating a bidirectional relationship, although few studies have used a design in LMICs that allows the directionality of the association to be assessed.[93–95] Sparling et al. found stronger evidence that vitamin D is protective against perinatal depression compared with B vitamins or minerals.[96] A 2020 meta-analysis found that anemia is associated with increased risk of perinatal depression.[97] Other research suggests that inadequate access to nutritious foods during and after pregnancy can be a source of stress.[59,98] Women are often the gatekeepers of food security, heavily involved in the production and preparation of food for their children. Mothers in food insecure settings, whether at the household- or community-level, are more likely to

experience distress.[89,98] Independent of family-level food insecurity, an underweight mother is more likely to suffer from depression, although the direction of potential causation in this relationship is not clear.[43,99] There is also evidence of a relationship between dietary diversity and CPMDs, although the evidence on the direction of the association is mixed, and the direction of potential causation is also not clear.[100,101]

2.2.3.2. EXPERIENCES WITHIN THE HEALTH SYSTEM

The long-standing anecdotal observation that maternal mental health conditions may be driven by disrespect from providers and organizational culture at health facilities that promote disrespectful care is now being supported by evidence.[102] Disrespect, mistreatment, and abuse experienced by women during pregnancy and childbirth has recently been shown to increase a woman's chance of being diagnosed with depression and reduce her acceptance of postpartum family planning and her likelihood of returning for postnatal care.[103,104] One study in Kenya measured person-centered maternity care (PCMC) and found that "higher levels of PCMC were associated with decreased maternal and newborn complications and postpartum depression and increased postpartum family planning (FP) uptake." Postpartum FP is important for maternal morbidity and mortality for many reasons, including to prevent unwanted pregnancies.[103] A 2020 systematic review demonstrated that experiencing disrespect and abuse during childbirth also was associated with "reduced utilization of maternal or neonatal PNC."[104] This is concerning for the implications on a woman's mental health generally, but also given that the likelihood of depressive episodes after childbirth can be twice as high as any period in her life.[105] Losing the opportunity for health care providers to identify a CPMD during PNC visits prevents women from being linked with care and treatment.

2.2.3.3. OBSTETRIC TRAUMA

Obstetric trauma—miscarriage, stillbirth, having a small or sick newborn, and other obstetric complications that resulted in traumatic birth experiences for women—are risk factors for CPMDs.[28,57,87,106,107] Women who thought their pregnancy and childbirth were negative experiences were more likely to experience postpartum depression.[108] Caring for a sick child or child with developmental difficulties is associated with maternal depression; this could be linked to a mother's worries about her child, but also can be tied to poverty and stigma where self-worth is tied to raising a healthy child.[60,109] This risk can increase as the woman interacts with the health system where ostracizing terms, such as "failure to thrive," can make her feel stigmatized.[60] Some evidence suggests a bidirectional relationship between maternal depression and infant low birth weight and under-nutrition.[110]

Unplanned, unwanted, and mistimed pregnancies also were seen as significant stressors and risk factors for CPMDs. Women who were unable to time, space, or limit their births, had histories of abortion, or had limited access to sexual and reproductive services, including modern contraception, were more likely to experience anxiety and depression.[12,73,111] Having multiple children and the additional stress of an unwanted pregnancy increases the risk of CPMDs.[73] Catalao et al. found that women with CPMD symptoms may be more susceptible to perceived somatic side effects of hormonal contraception and may discontinue use prematurely, putting them at risk for an unplanned pregnancy.[111]

The time of pregnancy and delivery is seen as a time of uncertainty where anxieties about surviving the birth or delivering a healthy child brought up feelings of anxiety and depression. A woman's concerns about whether her husband would be faithful and supportive, especially if the relationship was already strained, affects PMH, and these concerns were often exacerbated for mothers who had traumatizing birth histories and for first time mothers.[57]

2.2.4. SOCIAL COHESION AND CAPITAL

2.2.4.1. SOCIAL SUPPORT

Poor social support from family and friends, and social isolation also were seen as significant risk factors for many PMH conditions.[7,28,57,112,113] Several studies noted that poor relationships with in-laws, particularly mothers-in-law, and a limited social network to support the woman during and after pregnancy were associated with anxiety, depression, and suicide ideation.[7,56,64,113] Some studies show that a lack of social support especially during a difficult pregnancy and birth increased women's risk for CPMDs.[13]

2.2.4.2. RELATIONSHIP QUALITY WITH INTIMATE PARTNER

Spousal discord and intimate partner violence (IPV) are key risk factors of CPMDs. In inequitable spousal relationships, where the woman's needs and wants are overlooked and she is abandoned or neglected, women are more likely to experience CPMDs.[28,59,63,112,114] Several studies postulate that women who are dissatisfied in their marriages were more likely to experience postpartum depression than those who were happy in their marriages.[28,57,73,115] Women whose husbands/partners were not involved in taking care of the baby or refused to cover expenses related to food and children were at higher risk for CPMDs, particularly if the baby was small and sick.[7,44,54,59]

Physical violence during pregnancy or a history of IPV increased the odds of antenatal depression, and any form of violence (physical, psychological, and sexual) was associated with postpartum depression.[7,57,113,116] Women who experience physical and sexual IPV during pregnancy have been shown to be up to seven times more likely to suffer from postpartum depression.[117–119] One researcher noted:

> *"Perinatal mental health troubles … [are] associated with IPV. A lot of it is understandably about disempowerment, lack of control, and that is just reemphasized over and over again in other problems women face. So, if you have no control over your fertility, then you will feel disempowered and out of control. If you have an abusive partner, you will feel controlled by him. If you are very poor and can't decide what to spend your money on, whether your kids go to school, you'll feel disempowered, all of these would be factors for depression, and other adverse mental health [conditions]."* **— Researcher with expertise in MMH, adolescent, and gender norms**

The literature shows gender-based violence and particularly domestic violence or abuse by family members and in-laws is associated with postpartum depression and suicidal thoughts.[7,120] Younger women and women with no history of postpartum depression appear to be more likely to be affected by the IPV exposure,[118] and this effect is particularly pronounced in humanitarian settings.[74]

Women in humanitarian and fragile settings

This landscape analysis included the unique factors influencing PMH in humanitarian and fragile settings, broadly defined to include health of refugees, internally displaced populations, and those living in conflict, post-conflict settings, and fragile settings. The FGDs, KIIs, and literature review identified three key areas of importance for understanding where PMH in humanitarian settings currently rests: gaps in evidence, limited implementation, and significant barriers to the provision of mental health services. Several studies have found rates of mental illness in humanitarian settings well above global estimates and their risk factors for mental illness to be heightened.[79,309,310] Humanitarian settings typically feature increased levels of risks known to be associated with CPMDs, and sources document high rates of gender-based violence and resulting mental illness or other psychosocial outcomes.[74,234,235] The act of forced displacement itself increases risk of mental illness, and many women who have been displaced have been exposed often to extreme violence.[311,312] These stressors often compound a daily experience of uncertainty about the future.[311]

2.3. PROTECTIVE FACTORS

Just as exposure to certain factors can increase a woman's risk of CPMD, there are also protective factors that can mitigate a woman's risk. The most well-documented fall into the categories of social and economic stability, broad social support, partner and family support, and having health care providers who are knowledgeable of and make time for women's mental health.

Relative **economic prosperity** can stem from higher educational attainment, stable employment for the woman and her partner, and access to health services including family planning.[28] Even women with CPMD who have higher economic security may be at less risk of preterm birth because of improved nutrition and access to health services.[121] Data from India show that women with access to leisure pursuits during pregnancy had lower risk of CPMD, perhaps a result of their relative affluence. The data also confirm that access to education and employment was related to fewer mental health issues.[64]

The vital **contribution of social support** is frequently mentioned in the literature. In general, being a member of an ethnic majority is beneficial as it affords a strong and positive sense of self.[52] Social networks imply access to caring family and personal relationships that enable women to express their concerns, receive advice, and thus allay anxiety.[122] Even traditional practices around the perinatal period can protect PMH, including attentive postnatal care and adequate rest and nourishment.[28] In Mali, where mental health services at antenatal care (ANC) generally are unavailable, women turned to families and close friends for support, especially when partner relationships became stressful.[78] Among women who experienced a CPMD in Vietnam and did not receive structured interventions, recovery within a year was associated with family support that enabled them to rest, receive assistance with child care and domestic duties, and avoid intimate partner violence.[123]

Good partner relationships can reduce the risk of CPMD, as noted in a study from Vietnam where women who positively assessed their partners' kindness, sensitivity, trust, and affection had reduced CPMD.[28] Data from Taiwan, a high-income setting, show four times less risk of postnatal depression at 6 months postpartum when fathers helped with child care during the first month after birth. It remains to be seen, however, if the same outcomes would occur in LMICs where extended families are more common.[124] In Pakistan it was found that a high level of involvement by fathers with infants at 3 months of age led to a 41 percent decrease in depression at one year postpartum. Interestingly, prevalence of maternal depression three months postpartum was 33 percent lower when fathers were temporarily absent compared with women whose partners were present, but not involved. This may result from lower risk of intimate partner violence when a partner is absent as well as absence because of employment, thus improving economic security.[124]

Health providers' roles in identifying and managing CPMD is crucial. In Ghana, health providers were aware of CPMDs' effect on maternal and child outcomes and were willing to provide care relating to maternal mental health, but lack of training and time were barriers, as were attitudes about mental health issues belonging in the spiritual realm.[125] The presence of health providers competent in maternal mental health issues throughout the continuum of maternity care is especially important for women without access to the protective elements of economic, social, and partner safety nets and for whom this may be their only source of support.[126]

2.3.1. WOMEN'S PREFERRED SITE TO SEEK SUPPORT

> *"Mental health issues are culturally embedded issues. The DSM (Diagnostic and Statistical Manual of Mental Disorders) and other rich-world clinical approaches do not mostly meet people where they are, so you see lots of women being put on the wrong meds. This does not help, and it is poor quality care. FBOs are well placed to contextualize care, rather than copy-paste diagnostic protocols. [If asked], the women themselves would say that they want more supportive communities, pastors, family members … that the social factors would be more open and helpful, with less stigma."* **— Key informant from a faith-based organization (FBO)**

Faith based organizations and traditional healers are often the first place women and their families turn to for mental health issues—and these social institutions can be protective in many communities. In contrast to public health settings, faith-based health care often seeks to take a holistic, more-than-medical-model approach to wellness, which includes a whole-person (including spiritual) response that may have greater acceptability. As a result, women often prefer to go to traditional and nontraditional community (faith) healers, who respond in a culturally relatable way to their symptoms. A 2014 systematic review estimated that 26.2 percent of people seeking care for mental illness in Africa first access religious healers—the most of any group—although this was based on a limited number of studies.[127] Past qualitative research has also documented faith-based self-care in the form of prayer as a preferred treatment for anxiety in Pakistan.[84] One key informant reported, *"People often prefer to work with clerics and spiritualists because they are treated well by them, as contrasted with how poorly they are treated by the formal health system"* (FBO KII). Another reported, *"[It's] where people go first when they need emotional support. They go to church/mosque because that's the cultural understanding, of this being a spiritual issue. In the best cases, they can facilitate that by being thoughtful, caring in response to people's needs"* (FBO KII).

In the KIIs conducted for this landscape analysis it was noted that while FBOs in some contexts provide psychosocial support for women during the perinatal period that may help protect against mental illness, in other contexts they are known to perpetuate stigma and harmful behaviors. Informants observed that trust in FBOs throughout communities positions them well to take on a greater role in improving PMH outcomes if they are provided with appropriate training and resources; but this must be done with a recognition of the potential harm as well.

2.4. IMPLEMENTATION

2.4.1. WHAT INTERVENTIONS ARE BEING IMPLEMENTED?

There is a lot being done in the field of mental health globally, but less for CPMDs and the perinatal period explicitly. That said, there are guidelines, manuals, initiatives, and projects being introduced and implemented throughout LMICs that have been informing the maternal and mental health fields in various capacities. Some initiatives work at the community level, whereas others are delivered in health facilities. Most approaches involve some sort of task shifting from specialized mental health professionals to more generalized health workers, such as primary care physicians or community health workers. The majority involve a stepped care model, in which serious cases with more specialized needs are referred if there is more specialized care available at a referral location. All are aiming to meet women where they seek care/support, with implementation learning from each of these programs, given their context and various entry points.

Most interventions use a local adaptation of cognitive behavioral therapy, but others include problem solving therapy, behavioral activation, group-based programs, family-based programs, parenting skills, mother-baby

sessions, play-based support, etc. Providers generally need to be trained in a variety of skills, such as psychosocial and trauma-informed care. Interventions are grouped below into those that target PMH, general mental health, or MNCH interventions that may have an impact on mental health. Though this is not an exhaustive list, it does provide a wide swath of the current programs and interventions that are currently being implemented.

2.4.1.1. INTERVENTIONS TARGETING PERINATAL MENTAL HEALTH

The analysis found evaluations and descriptions of various interventions being implemented in LMICs specifically designed for and targeting women with perinatal mental illness. These programs adapt existing interventions to better meet the specific needs of women in the perinatal period and/or are integrated into existing services targeting women during this period, such as ANC or postnatal care (PNC).

2.4.1.2. THINKING HEALTHY

The most cited and robustly evaluated program is the Thinking Healthy Program. The Thinking Healthy Program uses task shifting to deliver mental health care to women in the perinatal period.[128] Thinking Healthy was first tested through the "Lady Health Workers" community health worker program in Pakistan.[128,129] The content is based primarily on cognitive behavioral therapy, but also incorporates behavioral activation, active listening, collaboration with family, guided discovery, and homework.[128] Thinking Healthy has been recommended and converted into a manual by the World Health Organization as *Thinking Healthy: A manual for psychosocial management of perinatal depression*.[130]

The literature review found references to local adaptations of Thinking Healthy implemented in Pakistan, India, Vietnam, and Mozambique.[123,129,131] Key informants described work adapting Thinking Healthy for delivery through nurses and midwives in Liberia, with other adaptations at some stage of development in China, Bangladesh, Peru, Kenya, and Malawi (KII 10, KII 26). Thinking Healthy has also been delivered using peers instead of community health workers in India and Pakistan.[129,132] Thinking Healthy is currently undergoing large scale implementation in Pakistan, where a key informant described the high level of governmental support and the size of the operation. *"[…] The ex-State Minister of Health for Pakistan was presenting this Presidential initiative to scale up the Thinking Healthy Program in Pakistan. […] The plan is that about 90,000 community health workers will be trained in the Thinking Healthy Program so that they can manage depression within the primary care settings"* (Researcher, LMIC; KII 10). A non-inferiority trial found training and supervision for Thinking Healthy can be conducted at distance through a tablet-based application without a loss of competence in community health workers: a crucial component of this scale-up (KII 10).[133]

2.4.1.3. OTHER INTERVENTIONS TARGETING PERINATAL MENTAL HEALTH

There were a range of reports of trials of PMH interventions other than the Thinking Healthy Program, many of which seemed to be customized for the trials in which they were reported. A 2018 systematic review found interventions seeking to prevent development of depression delivered during the antenatal period in China, Turkey, and Mexico. These trials focused on psychoeducation and providing women with skills for emotional regulation or problem-solving and varied between taking place at the client's home or in a health facility.[134] Another trial in India targeted perinatal depression with maternal education groups, including psychoeducation and social support.[135] Interpersonal psychotherapy has been trialed for pregnant women in China.[136,137] Cognitive behavioral therapy has been integrated into prevention of mother-to-child transmission of HIV services in South Africa.[138] A trial in Iran targeted perinatal depression outcomes with an educational intervention.[139] Another intervention focused on training midwives to deliver basic mental health care in ANC in Mali.[78]

Key informants described other work they were familiar with. Interventions in which PMH messages are embedded in traditional musical performances have been found to be both acceptable and feasible to the local population in Gambia (KII 39).[140] Another described a South African program integrating home-based nutrition and mental health services for women of reproductive age, beginning before pregnancy (KII 9). In South Africa, the Secret History method has been used to help health workers providing mental health services in maternity settings examine their behavior and adopt more empathic care (KII 12).[102] Another described a remote learning program building skills for managing PMH, primary focused on midwives, being trialed in Bangladesh, Afghanistan, Pakistan, and Papua New Guinea (KII 14). The intervention aims to establish continuity of care, so that a woman can build trust with her providers across multiple pregnancies.

Given the association between poor nutrition and perinatal depression, there have been a small number of studies piloting nutrition supplementation programs to improve PMH outcomes. A randomized controlled trial in Malawi did not find that lipid-based nutrient supplements achieved better depression outcomes compared with iron-folic acid and multiple micronutrients as controls.[82] A 2017 systematic review found several promising studies reporting improvements in perinatal depression, but inconsistent evidence overall, noting a lack of evidence from LMICs and methodological weaknesses.[23]

A key informant also described a promising new intervention: the EMPOWER programs from the GlobalMentalHealth@Harvard Initiative. EMPOWER is a set of programs building on existing global mental health programs with a substantial digital component. The EMPOWER program for PMH builds on the Thinking Healthy Program by combining its core components for delivery of PMH services in the community with enhanced digital support and best practices from early childhood development and nutrition to improve scalability, supervision and support for service providers, and child outcomes (KII 37).[141]

> *"The curriculum is now essentially a distillation of all the evidence-based practices across all the different curricula that have been used in the more than 40 randomized control trials of maternal depression and early childhood development, pulling them together with an international expert group, to really distill the common practices that are present in all these evidence-based packages."*
> **— Researcher, LMIC**

The EMPOWER program contains a modular structure in which a core curriculum is appropriate for all women, while other modules are targeted to the specific women who need them, including clear referral pathways (KII 37). Digital components include digital training, peer supervision, and decision-support. "*We've [historically] thought of digital technologies to a large extent only for monitoring frontline workers, but never for empowering them. […] But this is really positioned at a very different level. It's about empowering them with tools to learn things, and to support each other*" (Researcher, LMIC; KII 37).

2.4.1.4. INTERVENTIONS TARGETING MENTAL HEALTH

Interventions targeting mental health in general also were found to include components for PMH. Three interventions described below are mhGAP, Friendship Bench, and psychosocial programming.

The Mental Health Gap Action Programme (mhGAP) is the World Health Organization's reference guide for the incorporation of mental health, neurological, and substance use services into primary health care settings, offering decision trees to guide primary care physicians to appropriate services.[142] As of 2018, more than 90 countries had implemented mhGAP at some level.[143] While mhGAP covers a wide range of mental health components, it includes specific guidance for pregnant and breastfeeding women across the range of mental health, neurological, and substance use disorders covered—among the brief psychological treatments recommended by mhGAP, the Thinking Healthy Program is the recommended approach for perinatal

depression.[142] mhGAP has been implemented in Nigeria in routine maternal care, including for adolescents.[144,145] In Kenya and Nigeria, mhGAP has been supplemented with additional mental health training for providers to provide care for perinatal women.[68,146]

The Friendship Bench is an innovation first implemented in Zimbabwe, in which a lay health worker—a community grandmother, who has received an 8-day training—delivers six sessions of talk therapy based on a local adaptation of problem-solving therapy in community settings.[147] As of 2019, the Friendship Bench was being replicated in Malawi, Zanzibar, and Botswana.[148] No evidence was found in the review of the Friendship Bench specifically being used to target women during the perinatal period, but from key informants and grey literature, it appears to include this population.

The provision of psychosocial support was most often described in humanitarian settings. Haroz et al. described psychosocial support as, "a diverse set of activities focused, for example, on: reducing social risks to wellbeing (e.g., establishing community-based protection mechanisms); strengthening protective factors (e.g., facilitating positive family interactions); and improving social aspects of humanitarian service delivery (e.g., strengthening participation of affected populations in humanitarian response)."[149] Despite its widespread use in humanitarian settings, a lack of rigorous evidence for the effectiveness of psychosocial support has been noted, and there was a lack literature reporting PMH outcomes associated with this kind of activity.[149,150]

2.4.1.5. INTERVENTIONS NOT SPECIFICALLY TARGETING MENTAL HEALTH

Key informants pointed out certain interventions that are not specifically designed to target mental health, which may nevertheless have positive mental health outcomes for women in the perinatal period.

> *"You've got this continuum of symptoms. […] We know that pregnancy and the early postnatal period, but particularly […] for a first-time mother, for an adolescent mother, for women living in poverty is a particular stressful time, that the preventive response is not going to be necessarily one of targeting directly mental health."* **— Researcher, LMIC**

Multiple key informants raised kangaroo mother care (KMC) as an intervention that may positively affect PMH (KII 11, KII 36, FGD 2), and recent studies have shown promising results: a randomized controlled trial (RCT) in India found a 25 percent lower risk of moderate-to-severe postpartum depressive symptoms among mothers who practiced community initiated KMC.[151] KMC has been trialed for this purpose in Iran, although the trial was not powered to demonstrate an improvement.[152] Another trial in Brazil found a reduction in postpartum depression, but did not have a control group.[153]

There have been recent studies linking women's experiences of disrespectful treatment or low levels of person-centered maternity care with depression.[103] As one key informant noted, however, there were probably many RMC interventions that were being implemented without explicitly measuring if they had an impact on PMH. If being treated disrespectfully was associated with depression, being treated with respect may be a protective factor—though this remains to be measured. That said, there are a few RMC-focused interventions that were discussed in the KIIs that were attempting to improve women's experiences of care, but may be helping women's mental health as well and should be considered when mapping out what is being done for CPMDs.

A Nairobi-based organization, Still A Mum, has taken the issue of respectful bereavement care and the need to support mothers and families after a perinatal death to each level of the health system (KII 7, KII 29). Through existing platforms and diverse partnerships, Still a Mum works with mothers themselves and trains community health volunteers to identify and provide first line care to mothers (many adolescents) who have experienced loss and is providing respectful bereavement care training to hospitals. Though there are no

RCTs to demonstrate impact on PMH, there is reason to believe the work being done is making a difference in CPMDs.

Because gender-based violence is a well-described risk factor, many key informants indicated that programs that address gender-based violence are likely to have a substantial impact on PMH. *"Any intervention that addresses gender-based violence, I think, would have consequences in terms of improving maternal sort of outcomes"* (Clinician, LMIC; KII 20). Another mentioned that if you are not working in violence against women while addressing CPMDs you are not addressing the real issue. There remains a need for more evidence on the factors influencing effective interventions across different contexts and how to improve services for women experiencing GBV during the perinatal period.[154,155]

2.4.1.6. PREVENTION

The field of psychiatry has been interested in what approach to take to prevent mental illness for many years.[156] The approaches have focused largely on two frameworks: when (primary, secondary, and tertiary) and who (universal, selective, and indicated preventative interventions); the majority of interventions reported in LMICs focused on tertiary prevention, in which women showing symptoms of CPMDs are provided some form of treatment to prevent or reduce disability, morbidity, or mortality.[156] In contrast, interventions focused on early intervention or preventing CPMDs entirely are limited to a small number of individual studies with limited evidence of effectiveness.[134,157] An exception to this may be humanitarian settings, where universal psychosocial interventions are most commonly reported.[149] However, to date these interventions lack robust evidence of effectiveness.[149] A 2020 article in *Psychiatric Services* put forward a new way of thinking about prevention—grounding the approaches in the social determinants of health.[156] The suggestion is to focus on the social determinants and keep focus on reducing inequities (the "when" and "who" need to be truly equitable and accessible to all). Given the limited focus on prevention in the LMIC literature, this perspective may be a way to begin to address the gap.

2.4.2. WHAT WORKS

Table 1 below provides a summary of programs and interventions with multiple research studies providing evidence for at least one PMH outcome in comparison to a control. The table also documents evidence of child health outcomes, where the research examined and reported these. Beyond the listed research, there were many isolated pilot studies reporting PMH benefits associated with different, often highly customized interventions, and these may prove promising upon replication. There was a lack of research on interventions in humanitarian settings reporting PMH outcomes.[140,151,158–167] A 2020 systematic review of psychosocial support interventions in humanitarian settings, looking at mental health more generally, reported a lack of rigorous studies with any form of replication.[149] A 2018 systematic review of interventions for preventing postpartum depression in adolescents found evidence for effective interventions, including home visiting interventions, parenting education programs, and talk therapy, but the evidence was weak in some cases, and it found no studies from LMICs.[168]

TABLE 1: SUMMARY OF PROGRAMS WITH RIGOROUS EVIDENCE OF EFFECTIVE OUTCOMES

Program/Intervention	Context	Evidence on PMH outcomes	Evidence on child outcomes
Group psychoeducation[§]	Delivered in India by local women.[135]	Improved depression symptoms.	Improved exclusive breastfeeding rates Reduced rates of infectious illnesses.
	Delivered in China by researchers.[169]		
	Delivered in Iran by unspecified providers. [139]		
Thinking Healthy Program (adapted cognitive behavioral therapy)	Delivered in rural Pakistan by Community Health Workers (CHWs).[128]	Improved depression symptoms and care seeking.	Improved exclusive breastfeeding rates and reduced rates of child infectious illnesses.
	Delivered in India by peers.[132]	Improved depression symptoms.	
	Delivered in slums in Pakistan when delivered in groups by psychologists and combined with child development education.[170]		
Group cognitive behavioral therapy	Delivered in South Africa by mentor mothers.[138]	Improved depression symptoms.	
	Delivered in Iran by specialists.[171]	Improved anxiety symptoms.	
Interpersonal psychotherapy	Delivered in China by midwife educators.[137,172]	Improved depression symptoms.	
	In Uganda, within peer groups with trained facilitators.[173]		
Newborn care educational program	Delivered in South Africa by local women.[174]	Improved depression symptoms.	Improved child weight-for-age.
	Delivered in Jamaica by CHWs.[175]		
	Delivered in Nepal by unspecified providers.[176]	Improved anxiety symptoms.	

[§] Interventions listed under "Group psychoeducation" and "Newborn care educational program" may differ in exact content.

2.4.3. BARRIERS TO SUCCESSFUL PMH PROGRAMMING

There are several barriers for women seeking care and treatment, receiving the care they need, and the availability of high-quality services. The most discussed barriers fall into the categories of cultural norms, human resources, health and financial systems, and context.

2.4.3.1. CULTURAL NORMS

Stigmatization of mental illness

Stigmatization of mental illness is a large and complex barrier that affects multiple actors in multiple ways. Women are stigmatized, which may reduce uptake of services and reduce quality of respectful care. In addition to external stigma, stigma may be internalized and result in feelings of guilt.

> **A link between internal stigma and depression?**
>
> *"There is huge internal stigma. And that internal stigma almost mimics depression in some ways, or perhaps feeds off depression in some way. So I think we have to also target the guilt, the shame, and this very pathological internalization of experiencing mental distress or illness. And it may be that external stigma is, perhaps in many settings, not as much as the internal stigma."* **— Researcher**

Stigma is an important factor in many interventions, taking the outward focus off "mental health**"** and/or women alone and placing it on child development or family health. An RCT in the urban slums of Karachi, Pakistan focused on the child in name, while recognizing the real target of PMH: *"While the cognitive behavioral component may have been the more active ingredient to address depressive symptoms, we call the intervention Learning Through Play Plus because it was less stigmatizing to the mothers and more acceptable to the wider community. The early child development agenda provided a non-stigmatizing 'entry point' to engage the mothers and family members in the intervention."*[170] This sentiment was echoed by one key informant who explained, "*We can advertise those programs as being life skills, coping mechanisms, anything else but mental disorders. And that's important because all over the world in all strata of society, mental disorders are stigmatizing. And so it's hard to get people to come to those programs"* (Humanitarian expert; KII 41) (see *Children as a trojan horse & family approaches* section).

Another important element of stigma is the common understanding that mental health problems are the result of curses or malevolent spirits—rendering biomedical responses unnecessary or at least a secondary consideration.[78,177,178] This drives care seeking from traditional healers whose methods ranged from benign to harmful, but also furthers the stigma that women have done something to deserve the mental illness. Stigma's impact was also seen when a woman lived in a society where she needed to uphold a family's honor; the potential to bring shame or diminish the family's honor prevented women from seeking care as well as families preventing a woman from seeking care. A feasibility study in Afghanistan found that these social norms led women and families to conceal their CPMDs.[179]

Stigma can be difficult to address because it exists across society and potential agents of change often internalize or are affected by the stigma (KII 1, FGD 1). Health workers can both express and be subjected to stigmatizing attitudes. In many settings, health workers who work in mental health are stigmatized and may be reluctant to deliver mental health services (KII 8, KII 34). As health care providers often come from the same communities that women do, they are not immune to the stigma of mental illness (KII 1, FGD 1). Providers hold their own beliefs of mental illness, and these at times prevent them from even engaging in conversations with women about what they are experiencing.[125]

Adolescents experience a double stigma—that of being pregnant as a teenager and then having any kind of mental ill health. One informant who worked with adolescents noted, "*But often, it's a double stigma within the home or in school within the community of becoming pregnant and then like not coping, so addressing, and then going for an intervention"* (Researcher, LMIC; KII 12). A study looking at stigma and utilization of treatment for adolescent perinatal depression in Ibadan, Nigeria found outright discrimination by providers: "About half of the providers expressed openly disparaging views about the difficulties of managing adolescent mothers, and endorsed a justification for the low social support they received from relatives during their pregnancies."[145]

The cure shouldn't be worse than the problem

"I think that we have to think very carefully about solutions that don't make the problem worse. So mental health problems, psychiatric labeling, are highly stigmatizing in most low- and middle-income countries, they constitute enormous barriers to the likelihood that a woman would ever accept such a label, be willing to have assistance for it. So there's an important, I think, consideration around stigma and how that influences what might be the most helpful response." **— Global expert on MMH**

2.4.3.2. HUMAN RESOURCES

Provider burnout

Almost every intervention included discussion about the overburdened health system: staff shortages, limited or non-existent supplies and equipment, insufficient infrastructure, and a sense that the "system" cannot take on another "issue."[180] The specific issue of staff burnout for staff present in the health facilities was mentioned often as a primary concern—and the onset of the COVID-19 pandemic exposed this and intensified this reality.[181] A qualitative study in Ghana that sought to understand provider knowledge, attitudes, and perceptions of screening for PMH found that provider burnout and time pressures were reasons providers sought to quickly address the obstetric and general physical care of women before passing them off.[125]

> *"I'm a health worker myself. So I know burnout. And I know I've seen it in my colleagues. And I think we have to be extremely careful of burnout also, because the risk of brain drain is very high in many low middle income countries. […] So why do they work here? Of course, we pay them more, but they also have a better job situation."* **— Researcher on adolescent MMH and gender**

Lack of staff

Human resource shortages in LMICs have been well documented barriers to program implementation across many health issues. To add CPMDs to a list of services that should be provided by the health system, the recognition of these shortages is driving much of the move to task sharing. In some cases, however, task sharing may redistribute shortages among health programs rather than addressing them. In particular, the extreme shortages in the humanitarian sector require additional attention, and one FGD respondent called for being realistic as to what is feasible:

> *"If we look at the maternal services, I think also we have to be realistic. Like we have at least in rescue [humanitarian] setting we're working with limited means, meaning … one midwife on duty during the day and one during the night … running around and just trying to ensure the minimal-minimal needs for the mother to survive the delivery."* **— FGD 1**

Voltage drop & turnover

Two interrelated challenges are voltage drops and staff turnover. Many interventions experience a voltage drop: the "intervention loses some degree of its potency or fidelity when moving from efficacy to effectiveness in the real world."[182] A similar challenge was noted when moving an intervention that worked well in an urban setting to a rural one, largely because of turnover of trained implementing staff. One expert noted to move an intervention from a city to a rural district: *"It often just ends up being a different animal, which is … okay, you know, and sometimes it's not what we initially thought would be feasible. … There are other priorities, or there's a change in leadership, or for six months none of the community health workers are paid, or something happens and a watered-down version takes place, or very interesting runoffs of unexpected innovations and fabulous ideas take place"* (Researcher, LMIC; KII 12). The closer a health worker was to the community level, the more difficult this turnover became for quality and sustainability.

2.4.3.3. FINANCIAL AND HEALTH SYSTEMS

Lack of data

Data is largely unavailable on mental health services, treatment, and even intervention strategies. The PRIME Study, which worked in five countries (Ethiopia, India, Nepal, South Africa, and Uganda) to integrate mental health services into the primary health care system, found there was a significant gap in what data was collected in relation to service utilization, which prevented baseline knowledge that could be used for accurate and timely data for monitoring and evaluation purposes.[178] Key informants noted this gap as well—a base understanding of what treatment or services women use, how often they attend, fidelity of the intervention, and follow-up of women who don't attend are nearly impossible to obtain in most settings outside of research studies (KII 2, KII 34).

Along with data for purposes of monitoring and evaluation, data about prevalence and "what works" among implementations in the LMIC health systems context was largely missing. The need for more real-world, practical, and feasible evidence that can be used to inform programs or intervention implementation was a well-noted barrier for many countries.[183] The need for better and more nuanced data expands across many issues related to maternal mental health, including better data and evidence around the mechanisms' underlying associations between maternal depression and child outcomes, what works in different humanitarian settings (FGD 1, FGD 2), how to better engage adolescents, and how to meet the needs of women who experience perinatal loss (KII 7), to name a few.[90]

Financial support

Funding for integrated maternal mental health services is a well-documented barrier to almost every intervention.[61,184] Another practical financial barrier was out-of-pocket costs to women and providers. One informant explained, "*For somebody who also finds it difficult to put food on the table, if you ask that individual even to come once in a week, they will find it very difficult as some of them have to go in for credit to pay fares to come"* (Researcher; KII 39). This was also seen during the COVID-19 pandemic in South Africa—the cost of a taxi increased by nearly 100%, and women and girls stopped attending their sessions at a referral hospital because they could not afford the taxi fare (KII 8). The costs to providers also were noted as a barrier to implementation and sustainability. House visits or calls to women to check on them and learn why they did not attend were noted as important personal steps to help women get the continued support they needed, but these steps often were done by providers at their own expense: an unsustainable strategy.[62]

Lack of coordination

Key informants from the humanitarian sector frequently discussed a lack of coordination between actors, for example links between those working in maternal health to those working in mental health and psychosocial support. *"… In many ways the work can be so siloed. Things that you would think are obvious connection points, or obvious ways that people should be working together, don't always happen. And it takes a lot of work to make them happen"* (Humanitarian worker; KII 1). Whereas other sectors had been successful in merging their programs, PMH has not.

2.4.3.4. CONTEXT

Role of women in society

The lack of autonomy that can put women at greater risk for perinatal mental illness, can also be a barrier to accessing services. Women's ability to make decisions for themselves and their level of financial independence and empowerment remains a significant factor in their attendance of any program or group session. Work done in Pakistan to understand the context before implementing "Happy Mother, Healthy Baby" found that the majority of women were financially dependent on their husbands and in-laws, requiring their support to comply with doctors' suggestions or access care.[84]

Existing cultural barriers can be exacerbated in humanitarian settings. Trauma that many women enter pregnancy with, limited support systems to build or rely upon, even less autonomy to seek care, absence of partners, distrust of the health system and providers with a different culture or language, and limited knowledge of services all can be barriers to access. A study of Syrian and Lebanese women in Lebanon found the most significant barrier to women seeking services for GBV, a major risk factor for depression and PTSD, was that they simply did not know they were available.[74] According to one expert focus group participant, *"Cultural factors play a very big role. I've worked in places whereby actually a woman has no right even to her own health, she cannot even go to the hospital—maybe she's going to deliver without the permission of the husband—as much as she may want to go"* (FGD 1).

Poverty and food insecurity

The roles poverty and food insecurity play in the prevalence of CPMDs—discussed in the *Risk factors* section of this report—is hard to overstate. Many key informants described the reality that for most of the women they work with, no intervention targeting CPMDs alone will be able to overcome the impacts of poverty: not being able to feed their children, not having money to pay for rent or transportation, and a daily struggle to survive often overrides the effect of any intervention (KII 11, KII 12, KII 34, KII 38). One study that did not see the expected change noted that poverty could have been the unaddressed barrier to impact.[132] The challenge of tackling poverty is at times overwhelming and goes beyond the health sector.

Misconceptions about perinatal mental health

In 2013 an article in *PLOS Medicine* outlined misconceptions about perinatal mental health:

1. perinatal depression is rare;
2. perinatal depression is not relevant to maternal and child health (MCH) programs;
3. only specialists can treat maternal depression;
4. it is not possible to integrate mental health care into MCH Programs.[243]

These misconceptions are still relevant today, and though there is more evidence to help dispel these misconceptions, experts said there is still much work to be done.

2.5. MEASUREMENT

In PMH, measurement is primarily conducted using a variety of screening and diagnostic tools, most developed in high-income settings.[185] These are frequently used in lower-income countries, often with translation and other adaptations to the local culture. New tools are also being created to better meet local needs.[186,187] A systematic review of validated screening tools for common mental disorders in LMICs in 2016 found 25 tools for general assessment of common mental disorders, 63 tools for depressive disorders, and 11 tools for anxiety disorders.[185] Mental health lacks a "gold standard" in the form of a biological or physical test for mental illness, and mental health screening tools are typically validated against a structured clinical assessment.[188]

Which screening and diagnostic tools are used, with whom they are used, in what setting they are applied, and what action is taken depending on the result, are all factors that vary between health systems and programs. While many settings use adaptations of western screening tools, key informants reported that structured questionnaires are found to have low acceptability in some settings. One key informant in India suggested that narrative-based conversations may be less objective for measurement, but more acceptable to women.

> *"We tried to develop very, very simple methods of detection and screening, which are friendly to the person who's doing it, as well as to the person who's receiving it. So I think that's something that, you know, is a real, is a real requirement. And we've shared this with other low- and middle-income countries like South Africa and other countries in Africa, Vietnam, and all of them have sort of struggled with tools, which are very structured and very questionnaire based, and would actually like a methodology, which is simpler, which is more narrative based, which is more conversational, rather than tool-based."* **— Clinical researcher, LMIC**

Screening and diagnostic tools are also applied to population samples to estimate prevalence. This kind of measurement is used to assess need and direct resources, as well as for advocacy. These tools are also used to assess the effectiveness or efficacy of treatment, such as whether the treatment results in a greater reduction in sample prevalence of the disorder, compared with a control.[110,117] Effectiveness or efficacy are not always measured using a binary approach. Some trials will use the score of a screening or diagnostic tool as a continuous variable and measure change in that score.[110]

In selecting a specific screening or diagnostic tool, articles described various rationales. When working in LMICs, tools that have been successfully validated in lower-income settings, such as the Edinburgh Postnatal Depression Scale (EPDS), were preferred.[186,187] Tools that are quicker and easier to score and interpret are seen as more practical in lower-income settings, especially where task sharing is used.[189] Some reviews recommended against tools that may misinterpret somatic symptoms associated with pregnancy as indications of mental ill health.[190] Certain tools, such as the EPDS, were found to be adaptable in a range of settings, but not everywhere, and evidence across the literature was inconsistent with a universal recommendation.[186,191]

2.5.1. TOOL ADAPTATION

Measurement tools developed in one setting should not be applied in substantially different settings without adaptation and validation to ensure adequate local precision and relevance.[54,192] Adaptation of tools to a context does not follow a standard approach.[186] Shrestha et al. recommend six steps for culturally sensitive translation: "forward translation, backward translation, resolution of difficulties, and differences in translations by committee approach, pretesting, amendments, and test of conceptual and operational equivalence."[186] Other steps recommended are focus group discussions to ensure questions incorporate local idioms of distress that make sense to participants and do not cause discomfort, ensure appropriateness for vulnerable populations such as adolescents, and test across all settings and modalities where the tool will be used.[185,187]

2.5.2. MEASUREMENT CHALLENGES

The literature review and key informant interviews raised challenges with measurement in PMH. Where tools from higher-income settings are adapted, challenges arise from this process. Many tools make use of idiomatic language that may be difficult to translate into certain languages. There is some indication that these tools may struggle with identifying suicidal ideation in particular.[122]

> *"You have to translate them. You have to make sure they're valid. You have to make sure they're culturally [acceptable]—for example, the EPDS is used quite a lot. And there's a question about, "I carry the weight on my shoulder," or something like that. To be fair, even as an American, it's quite an English phrase to talk about sort of a feeling, a symptom of depression."* **— Researcher**

A key informant reported that this is especially challenging in settings with many languages, requiring many translations. This is consistent with a finding that local language versions of the EPDS have lower discriminant validity than the original English version.[186] Another challenge is whether the tools capture the full range of ways in which a given population expresses CPMDs. Multiple interviewees and the literature raised concern about whether tools adapted from high-income settings effectively identify women who express mental ill health through physical symptoms.[140]

> *"… Where people often express their psychological distress through somatic symptoms, right? These are not assessed in the westernized measures. So we were really thinking about that, but it doesn't exist at the moment. You know, women, men, they've got heart pain, or liver weakness, those kinds of things, which can be how they experience [mental illness]."*
> **— Global expert and clinical researcher**

Interviewees highlighted the debate around the usefulness of dichotomous results, in which a client is treated as either having or not having a mental illness (KII 9, KII 11, KII 39). There was a recognition that this is not an accurate reflection of the underlying condition and is driven instead by clinical usefulness. Interviews indicated that there is no consensus on when and how this dichotomization is useful. Given that a different cutoff point would produce a different prevalence, this brings into question how meaningful measures of prevalence are.

2.5.3. ASSESSING PREVALENCE

Research finds variation in the cut-off points used for identifying clinically significant symptoms.[186] This may reflect an appropriate tailoring of the tools for local usefulness, but compromises the ability to make comparisons or draw general conclusions. Key informants expressed a general skepticism around higher estimates of prevalence and a concern that some estimates generalize from or combine population studies inappropriately or conflate screening positive with diagnosis. Without acknowledging the different populations, contexts, or tools used, the data too often has been combined to a point of being potentially meaningless.

> *"What's happened in South Africa is two studies. [One with] 34.5 percent [prevalence of depression]. And then a study […] at the Africa center in Northern KwaZulu Natal with extremely poor, HIV positive women where she found a prevalence rate of 46 percent or something. Those two studies get cited to say, 'Well, honestly, then the prevalence is somewhere between 34 and 46.' Now, what rubbish, the one was done 25 years ago, whatever the other is only with HIV positive women at that time with no treatment, no ARV's or anything."* **— Researcher, LMIC**

In contrast to suspected overestimates of depression prevalence, there is evidence that death by suicide is often misclassified because of stigma and grossly undercounted.[193] Interviewees expressed concern that deaths by suicide are being missed and result in underestimated incidence.

> *"I'm not sure I know about maternal suicide. I think it's more hidden. What, what is being done is this auditing for any maternal death? And if a woman hasn't been to antenatal care, and hasn't come to the hospital for the delivery, or doesn't come when she has symptoms, it's usually ticked off as delay in seeking help [or] delay and coming."* **— Clinical psychologist, LMIC**

2.5.4. CLINICAL SETTINGS

In clinical settings, key informants raised the concern that most settings where screening or diagnosis takes place, including humanitarian settings, lack adequate privacy to ask sensitive questions, which may erode the effectiveness of screening efforts.

> *"We also identified that there are several risk factors for maternal anxiety and depression, which is one of the major ones [and] includes domestic violence. And so how do we add a history of mental health problem? So how do people sensitively asked about these questions in a crowded antenatal set up? … How does she even start discussing some of these things? What kind of privacy does she have?"* **— Researcher, LMIC**

Furthermore, where literacy is low or self-administered questionnaires have poor acceptability, administering the tool imposes a human resource burden, which may exacerbate the broader challenge of overburdening the health workforce, potentially compromising scalability and fidelity.[108]

2.6. TECHNOLOGY

Recent interventions have made use of mobile technology to address emerging challenges at both the community and facility levels. Though many were started before the COVID-19 pandemic, COVID-19 has elevated the potential and the critical need for technology to reach those in need of services and/or supervision.

At the community level, technology is being used in human resources management, provision of interventions, and communicating with fathers directly. The use of digital technology to train and supervise CHWs to deliver a psychological intervention has been demonstrated to be feasible and acceptable in India and yielded no reduction in service quality in Pakistan (KII 10).[133,194] Examples of technology use include:

- Using Lady Health Workers in Pakistan, Thinking Healthy Peer piloted a multimedia Android-based training application—The Technology Assisted Cascaded Training and Supervision System (TACTS).[129] "Culturally appropriate" real-life characters (avatars) representing the trainers, trainees, clients, and their family members were used to demonstrate skills such as effective use of counseling, collaboration with the mothers' families, and setting health-related tasks. The software was designed to be interactive, prompting trainees to enact role-plays, reflect on their learning, and share relevant experiences within the group. A randomized controlled trial in Pakistan demonstrated no difference in competence of health workers trained and supervised from distance versus those trained and supervised by a specialist face-to-face."[129,133]
- In India, GlobalMentalHealth@Harvard's EMPOWER program seeks to combine a fully digitized curriculum with a digitized quality assurance mechanism for its intervention (KII 37). This will allow for faster and more expansive scale-up at a lower cost, and many are interested in learning from these approaches.

- In Kenya, the Inuka app has been piloted to deliver the Friendship Bench directly to clients.[195] A pilot program in India took learning from smoking reduction campaigns and is using mobile technology to better reach fathers with a behavior-change interventions sent to their smartphones. The messages focus on the specific role of the father and why mental health is important for overall psychosocial wellbeing (KII 22).
- In Brazil, multimedia has been used to reduce stigma and prejudice as it relates to mental health, using websites, social media, YouTube, and more traditional methods of radio and TV.36 Work still remains, though, to manage or "reverse the state of disinformation" that exists and paints women at fault for their mental ill health.[36]

Technology has also been used within facilities to train nurses, midwives, and doctors on PMH. UNFPA piloted blended learning training for midwives on mental health to several countries during COVID-19 (data pending), and UNICEF is working to translate the theoretical elements of the Caring for the Caregiver trainings to online platforms to cut down on training time and focus on areas where in-person is essential (KII 5, KII 15, KII 35).

2.7. COVID-19

The COVID-19 pandemic has had a significant impact on maternal health and nutrition, in general, and PMH, specifically. A study conducted in 18 high-, middle- and low-income countries demonstrated that pregnant women diagnosed with COVID-19 were 22 times more likely to die, and their neonates twice as likely to die than those without COVID-19. The relative risks of morbidities, such as pregnancy-induced hypertension and infection, were elevated, as were the risks of severe neonatal morbidities.[196]

Many common risk factors for maternal mental health issues may be aggravated by the pandemic as pregnant and postpartum women deal with altered financial situations, fears of falling ill, and worries about disease transmission to their newborns. Food insecurity is an important concern as unemployment increases and supply chains are interrupted. The usual networks of social support have been disrupted, which may lead to fewer alternatives for childcare and resulting unemployment, factors related to increased depression, and decreased financial self-efficacy. Women have borne the brunt of policies regarding lockdowns, with the resulting lack of transport and access to crucial maternal health and nutrition services, including antenatal care, labor and birth services, and postpartum and family planning care.[197–199] This risk of CPMDs posed by poverty increased where women were almost twice as likely to lose their jobs than men.[198] The economic destitution, particularly in humanitarian settings, has led to an increase in child and forced marriages, thereby increasing the exposure to CPMDs (FGD 2).[200]

In response to reports that women were being denied the ability to practice skin-to-skin with their newborns, and birth alone without any companion because of COVID-19 precautions, in 2021 WHO recommended that "mother and infant should be enabled to remain together while rooming-in throughout the day and night and practice skin-to-skin contact, including kangaroo mother care, especially immediately after birth and during establishment of breastfeeding, whether they or their infants have suspected or confirmed COVID-19 virus infection." They also reiterated the importance of the presence of a birth companion of the woman's choice during labor and birth (with adequate screening mechanisms in place) as a component of women's rights to respectful maternity care.[201] Nevertheless, many settings in high-, low- and middle-income countries have been reluctant to follow these guidelines, placing women in stressful isolation at the very time they need support, thus increasing their risk for depression and anxiety.[198]

Compounding this uncertainty and stress were extensive interruptions of critical mental health services. A 2020 WHO survey conducted among 130 countries found more than 60% reported disruptions of mental health services for vulnerable people, including adolescents and women requiring ANC and PNC services.[202] Even if women could access these services, they often hesitate, fearing exposure to COVID-19 in health

facilities that are not able to provide quality care because infrastructure and resources have been prioritized toward the pandemic. Thus many women forgo routine facility-based care, potentially placing themselves and their newborns at risk for complications in the perinatal period:[198,203]

> *"I think COVID had a big, not so positive impact on the mental health of maternity. In the beginning, I think we can say that, just for disruption of services. Even [with] us internationally pushing for less ANC visits, but that's less opportunities for us to recognize if something is wrong with the mother. You know, like, if she was clinically okay, we said, 'Instead of every month, you come every two months, because we don't need to see you every month,' just because we didn't want that many women at the services, which I think also reduced our opportunities to see the mothers."* **— FGD 1**

A study in China demonstrated an increase in pregnant women's depressive symptoms from 26 percent pre-pandemic to 34.2 percent during the pandemic. In addition, symptoms of anxiety increased significantly.[204] In another global study, there was an increase in mean EPDS scores in LMICs when subdivided according to country income status. Of the 11 studies reporting on maternal mental health, seven reported a statistically significant increase in postnatal depression, maternal anxiety, or both.[203] In addition to increases in CPMDs, countries have noted an increase of 25 percent to 35 percent in gender-based violence as women and their partners have lost employment, observed lockdown orders and maintained distance from family and support networks.[198] One study in Bangladesh showed increased episodes of emotional (68.4 percent), physical (56 percent) and sexual violence (50.8 percent) between pre- and post-COVID-19 lockdowns.[199] One FGD attendee noted:

> *"And once livelihood is impacted [by COVID-19], you see more despair at the household level, you see domestic abuse going up because … the husband is at home, you see substance abuse. I think if you come back to that—the substance abuse among the men—may be more prevalent, but that does impact the mental health of the mother when he comes home drunk."* **— FGD 1**

And a southern African mental health researcher noted:

> *"Yeah, obviously, [COVID-19 is] exacerbating mental health issues. It's exacerbating the social determinants of mental health with respect to poverty, food insecurity, social isolation, escalation of gender-based violence, with people being placed in a workforce more at home, straining relationships because of, you know, interpersonal conflict because of the strain. So all of that exacerbated."* **— Clinical Researcher, LMIC**

Another population at risk of developing mental health issues during pregnancy is female health workers who are already or may become pregnant while working in stressful situations and who are at risk of contracting COVID-19: both linked to poorer maternal, newborn, and mental health outcomes.[181] Health systems and those caring for pregnant and postpartum women thus should consider the implications of the COVID-19 pandemic on maternal mental health, screen women routinely during pregnancy and the postpartum period for mental health issues, and provide resources to address them.[199,204] At the same time, health systems and providers must also ensure that women's rights to a safe and satisfying experience are respected throughout the perinatal period.

2.8. POLICY ANALYSIS

The first objective of WHO's *Mental Health Action Plan* (2013–2020) was to "strengthen effective leadership and governance for mental health," and developing and updating national mental health policies was a cornerstone of this plan.[5] WHO defines a mental health policy as "an official statement by a government or health authority that provides the overall direction for mental health by defining a vision, values, principles and objectives, and by establishing a broad model for action to achieve that vision."[205]

All 19 countries reviewed reported to the WHO *Mental Health Atlas* that they have stand-alone policies or plans for mental health that were developed to "provide up-to-date information on the availability of mental health services and resources across the world, including financial allocations, human resources, and specialized facilities for mental health."[206] Only 10 mental health policy documents were able to be retrieved. Of these, only half included a plan for childhood or adolescent mental health, and only half discussed PMH in particular—typically very briefly (see Table 2). No standalone policies for PMH were found.

TABLE 2: DISCUSSION OF PERINATAL MENTAL HEALTH WITHIN NATIONAL MENTAL HEALTH POLICIES

Country	Discussion of perinatal mental health
Ghana	"Develop specific programmes for improving mental health service delivery across the life span (infants, children, adolescents, adults, and the aged) and other sub-groups, such as the poor, the vulnerable, persons with substance related disorders, persons with mental health conditions roaming the streets, persons with mental health conditions in the criminal justice system, and persons with Ensuring A Mentally Healthy Population Mental Health Policy 2019–2030 mental health conditions who have physical disabilities and to integrate maternal mental health care into maternal care and emergency mental health services into general emergency care." "Maternal mental health care integrated into maternal care and emergency mental health services into general emergency care."[207]
India	"The large numbers of Auxiliary Nursing Midwives should be offered an opportunity for skill upgradation in mental health. This work force caters to mothers and children hence their involvement in child and adolescent mental health and mental health services for the mothers will be useful."[208]
Liberia	"Other factors such as conflict, exposure to sexual violence, poverty, overcrowded and poor housing, low levels of education, lack of employment, and meaningful occupation all contribute to significantly higher rates of mental disorder. Moreover, maternal depression contributes to poor child health and developmental outcomes."[209]
Nigeria	"Improve detection and treatment of postnatal depression by collaboration with reproductive health programme and with Traditional Birth Attendants."[210**]
South Africa	"Specified micro and community level mental health promotion and prevention intervention packages will be included in the core services provided across a range of sectors to address the particular psychosocial challenges and vulnerabilities associated with the different lifespan developmental stages. These will include: a. Motherhood: Treatment programmes for maternal mental health as part of the routine antenatal and postnatal care package."[211]

Key informants stressed the importance of implementation once a policy is developed: *"What are policies after all? […] They are tools. They can be left in a shelf and nothing happens. Until somebody decides that this tool is useful and I want to use this tool to do something—you see, policies alone are useless"* (Researcher, LMIC; KII 10). Even where a mental health policy exists, implementation is often weak because of barriers including inadequate financial and human resources, lack of dissemination, lack of prioritization, and unclear roles and authority.[212,213]

** As of 2020, the Nigeria mental health policy had not been enacted into law.[298]

3. DISCUSSION/REFLECTIONS

3.1. IMPLEMENTATION

Using a modified version of the consolidated framework for implementation research (CFIR), this section draws upon the literature and the qualitative data to identify significant core and adaptable components and contextual considerations in successful CPMD program implementation.[214]

3.1.1. CORE COMPONENTS

The following implementation components were seen to be essential—or core—in any program addressing CPMDs. The section is organized by the point of entry—community or health system level—including links between the two through referral systems.

3.1.1.1. COMMUNITY LEVEL CORE COMPONENTS

> *"Until now, when people have referred to community-based mental health care, the intention has been that care should be provided in the community where it can be more easily accessed as people get on with their lives. However, what is also essential is that care and support is personalized, inclusive, comprehensive and rights-based, and actively contributes to independent living and community inclusion."* **— World Health Organization**[215]

Well supervised and supported task-sharing model

The current treatment gap across LMICs is unquestionable. A practical approach of collaborating with the cadres that exist has been used by task sharing to existing non-specialist cadres, a strategy endorsed by the global health community.[148] The importance of supervision over time while ensuring methods to oversee and evaluate fidelity, however, are also key to knowing whether the interventions are being implemented as intended.[216] Two main delivery mechanisms have shown success in expanding good quality, effective PMH services in LMICs: the use of existing community health workers and peers. Though task sharing is not without critics (see *Barriers to successful PMH programming* section), these two models are discussed below.

Community health worker

Several well documented interventions, including the Thinking Healthy Program, have found that a cascade model to train and supervise existing community health workers in some form of talk therapy resulted in improvement of both mother and baby outcomes: women had less disability, improved functioning, and were more likely to use contraception.[217] Infants of treated women had fewer episodes of diarrhea and were more likely to be immunized.[217] Several countries have adapted the Thinking Healthy curriculum to their context and relied on existing CHW cadres with similar results. Similarly, a "lay health worker" cadre has shown successful results in Zimbabwe with the Friendship Bench.[148] Training grandmothers in the community in problem solving therapy, knowing they will likely stay in the community and remain committed has been an important aspect for sustainability. In South Africa, community health workers using cognitive-behavioral approaches to help women establish healthy routines and apply problem solving were able to improve growth outcomes for children, but did not affect maternal depression.[218]

Peer to peer

Another delivery mechanism that has been studied extensively has been the use of peer women to facilitate sessions or share messages about PMH. Thinking Healthy has found that peers may be better than community health workers for women with less chronic and less severe depression and thus a good first step in the stepped care approach.[219] It is also by far the least expensive, increasing the ease of introduction, implementation and scale. The use of peers is important as women appreciate being able to speak to women who know their culture, speak their language, and understand the community stigma.[220] However, volunteerism may be more acceptable in rural settings than in urban settings.[220]

Stepped care (inclusive of a clear referral system)

Stepped care, or the process of providing gradually progressive mental health services and expertise, based on individual need, is an effective and crucial approach to ensuring as many women as possible in the perinatal period receive psychosocial support and have access to basic mental health services, and those who need more specialized treatment have access to that care.[221] This recognizes that CHWs or other frontline workers will not be able to solve all CPMDs: "*The frontline worker has to work in a scaffold system, there's no question about that. […] Having clear cut referral pathways with red flags is an integral part of the training, because we can't expect the frontline worker to be doing everything"* (Researcher, LMIC; KII 37). The initial "step" is also the least resource intensive treatment and will prevent an overflow of referrals to the health system if appropriately implemented at the community level.[148,179] One essential element of stepped care with ethical implications is the existence of services for more complicated cases with clear referral protocols and pathways.[179] Some key informants, who work in mental health and know the reality of what services are "available" beyond the community or PHC level, question this: *"So even when you implement* mhGAP*, you're still in the same situation that the person is largely being referred to services that don't exist"* (Humanitarian expert; KII 41).

Talk therapy: Cognitive behavioral therapy, behavioral activation, problem-solving therapy

As one expert explained, using a training that is appropriate for the women who will be facilitating the sessions (CHWs, community grandmothers, or peers) is crucial in the successful implementation (KII 39). Women must be comfortable with the material, believe it will resonate within their community, and have a supervision strategy that will ensure quality over time. The Friendship Bench model chose a locally adapted problem-solving therapy that would be provided to all mental health patients, and it has been successful and well received.[148]

What is talk therapy?

Talk therapy, or psychotherapy, describes a wide range of dialogue-based treatment options for mental illness in which the recipient works with a trained provider to examine their thoughts and behavior to identify changes to alleviate symptoms.[222] There are many forms of talk therapy, which may incorporate elements from multiple theoretical schools and be delivered in groups or individually, but they tend to include factors in common such as agreed goals between the provider and recipient, creation of clear expectations for the therapeutic process, and demonstration of empathy.[222,223] In LMICs, talk therapy has focused on approaches with evidence that they can be delivered by non-specialist health workers, such as cognitive behavioral therapy.[224]

Contextualized language for CPMDs (local language words or phrases that can be used to explain CPMD and help to de-stigmatize)

The cultural relevance of mental illness and how it is discussed, and the distinct idioms used are a core part of a successful PMH intervention. As explained by Honikman et al., the factors that contributed to successful outcomes in three sentinel examples of PMH interventions were their strategies to ensure cultural coherence: a) formative research; b) qualitative enquiry with stakeholder groups; c) pilot testing of trainings and psychosocial interventions; d) adapting detection methods and screening tools to include emic concepts; and e) use of community-based providers to deliver elements of the interventions.[58] This was also found in Mali: approaches that are sensitive to idioms of distress and local context provide more nuanced explanations of what women are experiencing that can inform contextually appropriate interventions.[54] Using language that women and providers know and understand is crucial to any intervention and it is critical to use local context when translating screening tools; studies struggle to explain their findings when tools are not piloted and tested in the context in which they are going to be used.[106]

Pathways to negative effects

"Neglecting culture and social context in GMH [Global Mental Health] therefore may have negative effects at the level of individual health care as well as the design of mental health policy, systems, and services. At the level of individuals and families in clinical care, negative effects may occur in several ways: through assessment that uses diagnostic systems that are not appropriate for local cultural contexts, resulting in misdiagnosis; by failing to recognize relevant personal and social problems that demand solutions other than mental health treatment; by applying treatments of uncertain value; by undermining local modes of understanding, explaining, and effectively coping with affliction; and by stigmatizing individuals through associations with psychiatric illness."

— Kirmayer and Pedersen[301]

Strengthen GBV services

The role of GBV in mental health broadly is well known, and the specific threat it brings to the health and survival of the mother and baby during the perinatal period warrant an inclusion in the core element list.[116,225] The initial assessment of every program should include a gender analysis to contextualize the local gender and power norms and understand how best to identify and support women currently experiencing or have experienced GBV. After analyzing and learning from the specific context of women's roles, autonomy, and societal expectations, an intentional approach to providing GBV prevention and response should be included. Gender transformative programming is discussed earlier and has been suggested as a new and more impactful way of working, given the high prevalence of GBV globally (FGD 11). However, the risk of unintended consequences when coming from the outside of a community/culture and attempting to shift norms should be carefully assessed before any programs begin.

Anti-stigma initiative/advocacy/campaign

Given the role stigma plays in preventing women and their families from seeking care and providers from providing care, any attempt to address CPMDs should work simultaneously with communities to co-create anti-stigma activities or campaigns. The INDIGO Network pointed to a clear research gap in proven active ingredients to reduce mental illness related stigma and discrimination. There are tools, such as the Discrimination and Stigma Scale (DISC) for initial assessment, networks of researchers, and a newly created *Lancet Commission on stigma and discrimination in mental health* that is expected to publish a report in 2022. This report will include a global literature review on the effectiveness and cost-effectiveness of interventions to reduce stigma and discrimination from which to draw guidance.[226,227]

3.1.1.2. HEALTH SYSTEM CORE COMPONENTS

Pre-service training/modules on mental health

The inclusion of PMH or CPMD specific modules or any institutionalized education during pre-service training of health care providers is an essential, but largely missing piece of a well-functioning, responsive health system. Several key informants working in this area noted the glaring need to train incoming Health Care Workers (HCWs) about mental health, de-stigmatize it, and give the HCWs the skills they need to help women—no health system can respond to the mental health needs of their mothers if the training does not start during pre-service education (KII 13, KII 14).

Trained and supervised health care providers

Within the health care system, there were numerous examples of cadres that were trained and supervised to provide women with mental health services. Often the first consistent interface with the health system for women in LMICs is during ANC, thus ANC is seen as a good place to ensure PMH services are available. Depending on country context, junior public health nurses, midwives, or psychosocial workers have been trained and supervised to provide women coming in for ANC or PNC with a CPMD intervention (KII 12, KII 22).[228] Interventions were conducted one-on-one or in groups according to women's preferences. In one setting in South Africa women said they preferred individual sessions, whereas in many other settings women prefer group settings connected with ANC or PNC to minimize facility visits (KII 8, KII 12). Whatever cadre facilitates these CPMD interventions must have a clear referral pathway for mental illnesses beyond their level of training and have the skills to deal with imminent risk of self-harm or suicide.[142]

Screening and assessment process

Several interventions used a form of screening tool at the facility level. As noted in the section on *Measurement challenges*, the right tool must be chosen and adapted to the local community. As Lasater et al. noted in the 2017 commentary, "Common perinatal mental disorders may look different, or may be experienced and communicated differently, depending on local cultural contexts," and warned against presuming that what works in one context will be relevant in another.[22] In an analysis of their three case studies, Honikman et al. found that one of the key successes in the interventions was the adaptations of detection methods and screening tools to include emic concepts.[58] Aside from contextualizing the tools, there should be a way to integrate the screening tool into the existing system, rather than a new system, to avoid further burdens on health care providers.[7]

As noted earlier, experts warn against only screening, stressing the importance of confirmation by clinical assessment before offering a diagnosis or initiating treatment. In addition, many experts promote universal approaches that could benefit the mental health and well-being of all women—not only those who meet diagnostic criteria. (KII 2, KII 11). A single use of a screening tool may not accurately reflect the mental health continuum of a perinatal woman. Further discussion of tools and their adaptations is warranted and is a crucial element of the discussion surrounding measurement.

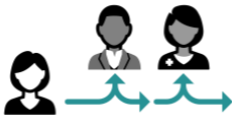
Mental health support for health care providers

Several key informants described an area that has long been ignored: addressing the mental health of HCWs themselves (KII 13, KII 14). The onset of COVID-19 has exposed the glaring needs and the consequences of not supporting HCWs during a pandemic: burnout, absenteeism, leaving the profession entirely, depression, and increasingly, death by suicide. The push for self-care has been important in recognizing the problem, but systems to help manage the mental health of HCWs

in even the most resource-deprived settings will be crucial. Some interventions are attempting to address provider mental health: one key informant described debriefing sessions and external counselors for group and individual counseling (KII 23). Though much was slowed during COVID-19, they found that several providers have followed up with the counselor outside of the group intervention to talk about their mental health needs.

One informant warned that very few sectors have developed mechanisms to talk about and manage mental health of their staff, so she urged against pressuring providers to know what to do:

> *"I think there are double standards around mental health in general across the board in our society. I don't see leaders educated on mental health. I don't see that proper messaging in their language. I don't see educators, whether they are medical specialists or not. I don't see that happening in schools, by teachers, and in general in … fields like fashion and … other kinds of industries we are not seeing proper messaging. So I would not … put the burden of it on providers. Providers are part of a larger system, and they are merely mirroring to us what is being mirrored to them and what they are internalizing."* **— Researcher, LMIC**



Clear referral process

As noted previously in the community level section, a clear referral pathway that neither relies on personal cellular data to call ahead or provider funds to escort a woman, nor sends a woman in circles to many different desks/floors/departments, is essential. Three doctors noted in KIIs that one of the hardest parts of the referral system is that they know many women get "lost" in it and leave health facilities without getting the care they need (KII 8, KII 9, KII 20). If a woman is being referred for CPMDs, she may not be fully functional or able to follow a multi-step process to get to the right place for the next "step" in care.

Respectful maternity care

Women's experiences of disrespect and abuse during pregnancy and childbirth have a significant impact on their mental health. In addition, those who experienced such treatment following a stillbirth or perinatal loss noted the lasting impact this had on their mental health and was a risk factor for future mental health conditions (KII 7, KII 29).[103] Women who experienced a previous loss were more likely to experience a CPMD than those who did not. Yet, the need to promote respectful maternity care as part of integrated maternity care to help improve PMH has been lacking. CPMD interventions should incorporate elements of RMC and Person-Centered Maternity Care (PCMC) to have true impact on some of the more vulnerable women and continue to protect their rights.

Link with and strengthen GBV services

GBV services should be strengthened and linked to the gender norms relevant to the context in which women exist. GBV services have found links with other health sectors and those outside of health (education, protection, legal), therefore the ability to link with services/screening processes that have many parallels with CPMD needs could further strengthen the support system available to women.[229,230]

3.1.1.3. WHAT ARE THE ADAPTABLE ELEMENTS?

Many core components are complex and require assessments of the local context to ensure they are culturally relevant, acceptable, and feasible. Below are some of adaptable components of PMH programs identified in the literature, and debates on certain approaches:

Compensation

The compensation of the cadre implementing a mental health intervention varied by program and setting. Some interventions relied on the altruistic nature of community health workers or peers, and others provided compensation or linked with existing CHW compensation structure. One example of different compensation packages according to setting was in the implementation of Thinking Healthy in India and Pakistan: in rural Pakistan, altruism was enough for peers, whereas in urban India payment was seen as necessary.[132,231] But this may not be a rural/urban difference only. One key informant from Malawi said the success of the Friendship Bench model in Zimbabwe with their grandmother model would never work in Malawi, where CHWs are accustomed to being paid for additional roles (KII 40). In the humanitarian context, one key informant noted the push for "localization" and that adding more work or larger scope to outreach workers or CHWs will create an expectation of more funding—something organizations may not have—and may affect the current debate of equity of pay across international non-governmental organizations (iNGOs) (KII 1). As noted previously, this is not a new issue and as professionalization of CHWs is discussed through Human Resources for Health 2030, adding responsibilities and skills to an existing cadre raises questions in any community-based intervention.[232]

Screening or measurement tools

As noted under the *Measurement* section, the use and usefulness of measurement tools has varied widely. A practical challenge to having a screening tool at the facility level has been the view that it is one more "job" for HCWs to take on, and one that will not be done if facilities are overwhelmed. For studies and evaluations, tools are used to show change in women's CPMDs and to show any intervention impact. The need for the tool and the purpose of the data should be grounded in what is feasible and acceptable at the facility level (KII 22). One KII pointed out the harm of diagnosing a woman with a mental illness when there are no treatment or referral options available (KII 42).

Who is a trusted delivery agent?

Many studies that looked at the feasibility and acceptability of a PMH intervention examined what qualities the women wanted in their service provider and who women would feel most comfortable talking to and trusting with information about their condition. Many studies found that women preferred that their provider or CHW was a woman from their community—understanding the language, culture, and social norms.[86,216] Depending on who would be attending the intervention, a male may be useful, particularly in interacting with a woman's partner. One key informant said programs seeking to influence the behavior of women's partners may require male health workers. "*And for a woman […] health worker to engage with the partner directly is a big challenge. […] So we are now thinking that maybe … the men may be more willing to listen to the male community health workers"* (Researcher, LMIC; KII 22).

3.1.2. CONTEXT

Understanding the local context where any intervention is introduced is a crucial first step highlighted in many studies and interventions.[58,233] Below are important components for problem identifications and understanding the barriers and assets of the communities.

3.1.2.1. ASSESSMENT

The literature and KIIs both made clear that any intervention or program must have a thorough assessment of the context of the community/facilities.[58] Conducting qualitative interviews and FGDs with various community actors to learn about existing stigmas, how the community describes and defines CPMDs in their language, and identifying existing health programs/platforms are all important to know before any decisions are made for programming and implementation. In-depth discussions and qualitative data are discussed often for screening tool development, but less so for pre-intervention assessments.

3.1.2.2. WHAT EXISTING PLATFORMS COULD "ABSORB" CPMD PROGRAMMING

An overwhelming sentiment has been that rather than creating new, siloed, or parallel systems to address CPMDs, promotion, detection, and treatment should be integrated into systems that are already known and trusted.[134] Whether existing nutrition programs, early childhood development initiatives, mother's support groups, collaboration with well-integrated CHW cadres at the community level, or integrating mental health services into the existing PHC services, finding the right platform to work through was noted as a fundamental aspect of good practice.[7]

3.1.2.3. ADDRESSING MOST PRESSING SOCIAL DETERMINANTS

To sustain a long-term impact on CPMDs, those social determinants most influential in communities of interest must be addressed.[63,134] Programs that don't seek to address social determinants identified during an initial assessment have not seen the anticipated results. The 2018 Lancet Commission, in a report on non-health interventions, noted:

> *"The limited evidence of the effect of interventions targeting social determinants of mental disorders shows that interventions for poverty reduction, especially in LMICs, including conditional and unconditional cash transfers, microcredit (lending small amounts of money at low interest rates to new businesses or to tide over acute debts), and asset promotion programmes have positive effects on mental health."* [75]

Though not all poverty reduction studies showed positive outcomes for mental health, there is much to be learned about how to link poverty-reduction interventions with CPMD prevention, care, and treatment.

3.1.2.4. ADOLESCENTS' UNIQUE NEEDS

Adolescents are at heightened risk of mental illness overall.[67,68] The challenges adolescent girls face in the perinatal phase, for example, differ from those of adults and must be taken into consideration. A psychiatrist working with adolescent moms in South Africa explained that adolescents face numerous additional challenges when they become pregnant—they may be ostracized, kicked out of their homes, expelled from school and told they cannot return after birth, left by their partner, and have very limited social support systems (KII 20). Several informants worked with adolescents in research and programmatic settings. From their perspectives, pregnant adolescents want or need control over something in their lives and should be included more in the design of interventions that target them as a vulnerable group. One informant reported hearing from an adolescent, *"We just want to feel a sense of control over life. We have no sense of control about anything"* (KII 34). Key informants reported specific requests from qualitative work with adolescents in LMICs: being treated with more respect and less stigma by HCWs, being consulted in program design, and support for their parents to help them regulate their emotions (the response of parents to adolescent pregnancies ranged from violent to accepting).

Experts reported that assumptions on what adolescents wanted in the future: *"It was somewhat a surprising finding that pregnant girls did not anticipate going back to school anytime soon. And what they preferred was getting life skills and kind of vocational skills"* (Researcher, LMIC; KII 34). This poses a challenge as much of the evidence for adolescent mental health interventions (albeit not specific to pregnancy) is based in school settings.[71] If pregnant adolescents are not planning to return to school and have a heightened risk of CPMD, the need to reach this vulnerable population grows even stronger. These realities, combined with the global crisis of suicide in adolescents, have resulted in a more focused look at how to support this population. One expert noted she heard from adolescents in FGDs that few programs consult them on what they want, what they need, and how to best support them. Much work remains to understand the unique needs of adolescents, but it is clear that they are crucial to include and specifically target in any CPMD program.[85]

3.1.2.5. CRISIS-AFFECTED AND DISPLACED POPULATIONS

Crisis-affected and displaced populations face elevated levels of many of the risk factors for CPMDs, including food insecurity, poverty, early and forced marriage, and exposure to violence including IPV.[74,234–238] The *Inter-Agency Field Manual on Reproductive Health in Humanitarian Settings* highlights the importance of mental health for these populations, but does not provide guidance on addressing this need.[239] Important resources regarding the delivery of psychosocial support or mental health services in humanitarian and fragile settings, such as the *mhGAP Humanitarian Intervention Guide* and *Inter-Agency Standing Committee (IASC) Guidelines on Mental Health and Psychosocial Support in Emergency Settings* do not address CPMDs.[240,241]

The recent WHO *Quality of Care in Fragile, Conflict-Affected and Vulnerable Settings: Taking Action* guidance provides key principles for implementing quality care in a variety of humanitarian settings, including flexibility and adaptation, pragmatism, urgency of responsiveness, and building on existing foundations.[242] Although PMH was not mentioned on its own, the process of taking context into consideration (e.g., acute crisis vs. protracted), considering existing systems and services, and providing care that is culturally relevant, are all relevant to non-humanitarian contexts as well. Additional considerations must be taken when working in these settings, per FGDs: the trauma that many women enter pregnancy with, limited support systems to build or rely upon, undiagnosed and prevalent PTSD, even less autonomy of women to seek care, absence of partners, distrust of the health system and providers who may not be from same culture or speak the same language, and at times limited knowledge of services overall (FGD 1, FGD 2).

3.1.3. WHERE TO INTERVENE: ENTRY POINTS

Where to intervene, and through whom, has many implications for meeting women's mental health needs during the perinatal period. Though the literature and expert interviews promote a stepped-care model, often organizations, interventions or research initiatives were only able to intervene in one level of the health system, given time, expertise, and funding. The various entry points that were discussed are presented below:

3.1.3.1. COMMUNITY LEVEL

Every program must ensure services for women at the community level. Most work being done to expand access to CPMD services is being done at the community level through CHWs, peers, grandmothers, or the introduction of new mental health cadres. These strategies aim to address the need to meet women where they are, with people they trust and who can follow up with them, which has been important in many other health outreach strategies as well. Work at the community level allows greater accessibility than work at the primary facilities through better contact and use of trusted local providers and family involvement.[148] Primary care facilities are important to have for referral purposes, but, as Chibanda noted, for a large proportion of the community the facilities are not accessible, and family involvement is restricted.[148]

The challenge lies in identifying the right "agent" to deliver the interventions. The models described in this section use various agents, but experts have cautioned against the reliance on the community level to "solve" the problem. One key informant cautioned, "*We continue to want to integrate and overlap. And we understand community level initiatives are really powerful. But that essentially means that you've got a cadre of workers that are overworked. And ... we're asking them to do a lot, and what does that look like*" (International NGO staff; KII 21). Another likened the reliance on CHWs to "slave labor" and warned of transferring responsibility from government to volunteers or minimally compensated community members (KII 12). Another expert from the humanitarian sector noted that accommodations must be made—tasks or responsibilities removed from the CHW to make room for the new roles in addressing CPMDs (FGD 2). These questions are not new in the discussion around the use of CHWs, but have implications when thinking about what works and whether and how to intervene at the community level.

3.1.3.2. CHILDREN AS A TROJAN HORSE & FAMILY APPROACHES

To reduce stigma around mental health and avoid alienating the mother, many approaches have used the child as a "trojan horse" for entry to an intervention. As one expert described, *"So we get all the family together and say, look, we are going to make your new ... baby, the brightest and the strongest in the whole village. And guess what, we got to work as a team? And let's see who the team players are"* (Researcher, LMIC; KII 10). This approach takes the pressure from the mother and focuses the family's attention on the health and development of the child, which has less stigma, engages the father and in-laws (KII 11), and has been part of the strategy of many interventions including Thinking Healthy, adapted throughout the world.[243]

Engaging men and understanding their role as partners and stakeholders are vital components to addressing PMH.[244] Gendered social norms and contextual concepts of masculinity retract from men's ability to address their own needs and provide a supportive and nurturing environment for their partners and families.[116,243] Poverty and the expectation to be providers can add psychological stress to men, which they may displace as aggression toward women:

> *"I mean, men and women partners, they're under stress, they're under stress from poverty, they're under stress from chronic situations. … And unfortunately, for many men, the only coping mechanism they've seen, that they're aware of, is substance abuse and violence. Right? The classic examples of two things that you can do, that may temporarily make you feel better, but in the end just make things so much worse."* **— Humanitarian mental health researcher**

In a review of CPMD interventions, Rahman et al. recommended engaging men and families in CPMD programs to improve household social cohesion and address gender roles that reduce the power from women.[116,243] Gender analyses and gender transformative approaches help identify and address health worker and stakeholder biases:

> *"So, I've been working with some colleagues in the UK, who've been doing clinical trials in India and in Pakistan. And so what they [focus on is] how to engage the father, because, you know, we've got some traditional rules. But they're saying that with newer generations, fathers do want to be engaged. It's us that are sort of excluding them. Because we have these standard stereotypes. But through globalization and technology, people [have] been fertilized from a multitude of sources of information. It's our understanding that there is a growing movement of fathers to become a bit more engaged in childcare activities."* **— Global PMH researcher**

Children are also the focus of WHO's *Nurturing Care Guidelines 2018*. The guidelines strongly recommend psychosocial interventions that support PMH be integrated into early childhood health and development

services.[37] WHO reiterated this recommendation in its 2020 *Improving early childhood development* guidelines.[245] With MNCAH communities renewing their efforts to reach the SDGs, two specific initiatives offer the opportunity to blend CPMDs as an essential element of care: (1) postnatal care, where pre-discharge facility care of mothers and newborns and follow up care at homes/facilities can be built on to include emotional and mental health support to mothers (and fathers); and (2) the effort to improve the quality of care for inpatient small and sick newborns. There is growing evidence that it is imperative to partner with parents in the provision of inpatient care for hospitalized small and sick newborns. This family centered approach ensures the survival of babies and builds a platform for them to thrive. Mothers (and fathers) of SSNBs need services that identify and provide care and support for any early signs of PMH issues. This is most important for them to partner with health providers and engage in the care of their SSNBs. One challenge is using children as the focus or entry point—easier and more practical in many LMIC settings—without inadvertently reinforcing the notion of women's mental health as secondary.

3.1.3.3. FACILITY LEVEL: ANC/PNC

Training HCWs in CPMDs was a core component of most interventions engaged in health system strengthening. A wide range of countries, including Liberia, Mali, South Africa, Afghanistan, and India, are training HCWs to provide services to women at the primary health care level through various methods (KII 3, KII 12, KII 22).[78] Liberia has formal programs to train mental health specialists through the Carter Center, and other countries had in-service trainings at the facility for primary care doctors. India, for example, used infographics about PMH and, *"how to identify and treat anxiety, depression, psychosis, mother infant bonding problems with … details of how to use medication, when to use counseling, so that people feel a bit more confident around these areas"* (Researcher, LMIC; KII 22). In Mali, where a woman's first and often only touchpoint with the health system was ANC, this time was crucial for screening and PMH support.[73] It is also a critical opportunity to identify any condition that can lead to a more severe condition—for example, anxiety, which can lead to depression (KII 33).[12,59]

How to address this at ANC remains an open question. Some informants suggested screening all women and referring those who screen positive for CPMD services (KII 12). Others suggested a universal psychosocial intervention for all women, referring those who need more support to a PMH program (KII 11). Still others suggested midwives note potential conditions while taking history because these conversations reveal more than any checklist or survey (KII 2). Ultimately, how to intervene during ANC depends on context and who can take on the task. One expert noted that a process may be well-received initially by providers, but any intervention requires a practical, time-sensitive design to be sustainable.

3.1.3.4. MEDICAL EDUCATION/PRE-SERVICE

Awareness of CPMDs and having the skills to provide women the care they need (or recognizing when a woman needs help and knowing what to do) were acknowledged gaps in HCW skillsets (KII 2, KII 13). Midwives from the Latin American and Caribbean region noted that they had a module or two during their medical training, but PMH was covered minimally (KII 2). In Malawi, an expert said midwives were not confident or conversant in PMH and thus were not addressing women's needs (KII 6). A qualitative study in Ghana found that providers wanted to know what to do and felt powerless in the face of the need:

> *"However, health care providers do not currently screen women for maternal mental health problems during and after pregnancy due to a lack of training and/or time and because mental health is often considered a spiritual issue within the cultural setting. Further education and training of health care providers (undergraduate and postgraduate) would be useful to develop their confidence to approach this potentially culturally sensitive topic and to enable routine screening and management of maternal mental health disorders during and after pregnancy."* [125]

A comprehensive response to CPMDs will require training incoming generations of HCWs to diagnose and treat women experiencing CPMD, while also provide better training on how to promote good mental health. Though various modules are being tested, there was less discussion about actual integration of CPMDs into the medical education curricula (KII 3).

3.1.3.5. FAITH BASED ACTORS, RELIGIOUS INSTITUTIONS, AND TRADITIONAL HEALERS

In addition to providers lacking confidence and skill to address CPMDs and women's needs, the roles and importance of culture, spirituality, and religion often blur when women rely on faith or medicine. Several informants noted the link between mental health and spirituality/faith and need to work with traditional healers and faith leaders for any true change in PMH. Many respondents noted FBOs and faith actors are seen as credible and trustworthy through their continuous presence at the grassroots level, particularly in conflict-ridden or hard-to-reach communities where other actors appear only intermittently.

Key informants also noted the large influence FBOs and faith actors wield. FBOs and faith actors are already positioned in communities and seen as respected moral leaders. If they are engaged as partners and equipped with the right information and resources, they are well-positioned to effect change.

> *"Their presence in local communities, coupled with their capacity to deliver critical services, allow them to mobilize grassroots support, earn the trust of vulnerable groups, and influence cultural norms—all of which make them vital stakeholders in development."* **— FBO KII**

> *"With their involvement in local communities and their standing as moral leaders, many FBOs and RLs [religious leaders] command the respect of local and national authorities, which can make them valuable."* **— FBO KII**

3.1.3.6. FBOs AND FAITH ACTORS BOTH HELP AND HARM WOMEN'S MENTAL HEALTH

Interviewees reported that FBOs provide few services designed specifically for PMH, but provide psychosocial support for women who are struggling with mental illness. FBOs and faith actors provide informal emotional support, such as pastors accompanying women to health care/delivery to provide comfort through prayer, peer support, counseling, group therapy, and referrals to specialists. However, there is less rigorous research and evidence regarding the effectiveness of the mental health services provided by FBOs and faith actors. A 2018 systematic review of qualitative research found that this treatment is often perceived as effective by its recipients and provided isolated examples of evidence that certain faith-based programs can improve outcomes.[246] The unique contributions of FBOs and faith actors may be difficult to understand with existing evidence, where definitions of faith-based healing may be unclear or inconsistent and faith-based healers are often combined with other types of traditional healers.[246] Faith-based methods have sometimes been indicated to have a "placebo effect"—a beneficial health outcome resulting from a person's anticipation that an intervention will help them—this placebo effect itself has been argued to be underutilized in health care with the potential to be maximized.[246–248]

All that said, there was a clear warning as well. Interviewees reported that faith actors sometimes undertake activities that can be harmful to women during the perinatal period. Respondents noted that faith actors sometimes perpetuate harmful power dynamics within the family, with controlling elders and male dominance that can harm women's mental health and can prevent women from seeking care. Some faith actors promote the belief that mental illness is caused by supernatural forces, demonic possession, or punishment by God—and can be solved by prayer alone. Certain kinds of faith-based "care" involve chaining, caning, and beating and cause physical harm.[249,250] These are some of the ways that FBOs perpetuate stigma and abuse within communities.

"It is not possible to deal with the aspect of mental health that comes from stigma and discrimination without [working with] faith, because faith communities are the source of a lot of that stigma and discrimination." **— FBO KII**

FBOs and faith actors are well-positioned to help improve PMH outcomes, but require funding and training for that purpose. Future research should study how to meaningfully engage FBOs and faith actors to provide PMH services and help to improve community attitudes and response to mental health issues using a rights-based approach.[148]

3.2. INTEGRATION

The concept of integration was addressed in three distinct, interrelated ways. The first way was the integration of mental health as a priority across health sectors (MNCAH, nutrition, HIV, etc.) and sectors outside of health, such as education, WASH, and protection, in which vertical funding and programming structures have long siloed the issues. The second was integration of mental health services into primary health care, from centralized institutions to the primary care and the community. The third was the integration of mental health into medicine more globally. These three "calls" are discussed below.

3.2.1. INTEGRATION WITHIN HEALTH AND ACROSS COMPLEMENTARY SECTORS

One of the most profound themes from the qualitative research, echoed by the literature, was the imperative to integrate mental health across and beyond health and nutrition to other sectors such as early childhood development and education. Key informants discussed the need for integrated programming, funding, communities of practice, and research (all KIIs).

Initiatives such as *Caring for the Caregiver*, which promotes intersectoral coordination to provide holistic care to children, or *Helping Adolescents Thrive Toolkit* (HAT), which aims to integrate prevention and promotion into existing programs to target adolescents, are two examples of the move away from vertical programming.[85,251] The *MAMI Care Pathway Package* is an integrated health and nutrition program targeting moderate-risk and high-risk infants, which includes PMH screening using the PHQ-2 and PHQ-9 to identify potential cases, which are addressed using many of the same mental health programs described in this landscape analysis, including mhGAP, Thinking Healthy, and the Friendship Bench.[252] A recent Group ANC trial in Afghanistan included mental health screening based on mhGAP and referred potential cases to a psychosocial counselor for confirmation and treatment.[253]

The literature contains clear recommendations for moving forward with integration. Pitchik et al. recommend that integrated programs include components of PMH, caregiving, and child development and that all components be included in evaluations.[254] An evaluation of Thinking Healthy Program Peer-delivered PLUS (THPP+) found that "… interventions need to be attuned to the social context and, ideally, implemented as part of a suite of health-promoting policies that address social determinants of maternal and child health."[255]

Another potential platform for integration mentioned by several key informants is nutrition programs (KII 9, KII 35). The integration of cognitive behavioral therapy with a nutrition program has been successfully piloted in Pakistan,[170] and there is evidence that links nutritional deficiencies to maternal depression. But in many countries the entry point of the nutrition platform may be most feasible because nutrition is seen as an issue that lacks stigma. A 2020 Alive and Thrive report noted, "While overall inconclusive [literature linking nutrition status and maternal depression], the potential for appropriate nutrition to prevent maternal depression warrants further research as nutritional interventions are stigma-free, address a potentially modifiable risk factor, and may offer a cost-effective approach with added benefits to various health outcomes."[95]

Considering social determinants of health, there is a clear need to look beyond health programming to economic empowerment, food security, education, and gender transformation. One key informant, a practicing psychologist, said that education policies that allow pregnant girls back to school after delivery would dramatically benefit her clients (KII 20). Another said that economic empowerment alone—giving women the means to pay for food and rent—would have the most impact on CPMDs (KII 12). Linking to larger-than-health initiatives may have a more sustainable impact. These recommendations were often presented with the caveat that these goals, while important, may be lofty goals, but important nonetheless.

Integration may be especially critical to child outcomes, which are not improved by all programs that show improved outcomes for mothers.[60,256] According to one key informant, "*The mechanistic pathway between maternal mental ill health and the child outcome is not solely explained by the symptoms of depression, which is why I'm talking about the integrated approach,"* elaborating the need for *"an integrated package that brings together the salient elements of a clinical or psychological intervention for the mother, with the nurturing environment framework for the child. […] And we actually have very good evidence of what those ingredients are. Again, that's another parallel field, early child development, and the real future of the field must be in bringing these two together"* (Researcher, LMIC; KII 37). There is a growing evidence base of maternal and newborn health programs that successfully engage and involve women's male partners.[257] As described in the *Children as a trojan horse & family approaches* section, the integration of content targeting PMH into these programs may improve acceptability to male partners and benefit those women who have them (KII 10).

The disconnect between the various sectors that could and should be working together was clear in humanitarian settings: reproductive and maternal health, mental health and psychosocial support (MHPSS), and GBV. As one informant noted, *"Some of them are only really learning to talk to each other now, and they still don't all talk to each other consistently"* (Humanitarian worker; KII 1). Several participants in the FGDs explained that often there was no time or incentive to strategically integrate—short funding cycles (one year), no time to link with other sectors, donor driven priorities, pressure on "life or death" services (food, shelter, and water), and a lack of awareness of what others are doing (FGD 1, FGD 2). Collaboration and integration were happening informally in camps and in IDP settings, when an iNGO has programming in each of the areas of interest (GBV, MHPSS, and MNCAH services) (KII 1), but this was very local and learning was not disseminated.

3.2.2. GENDER INTEGRATION

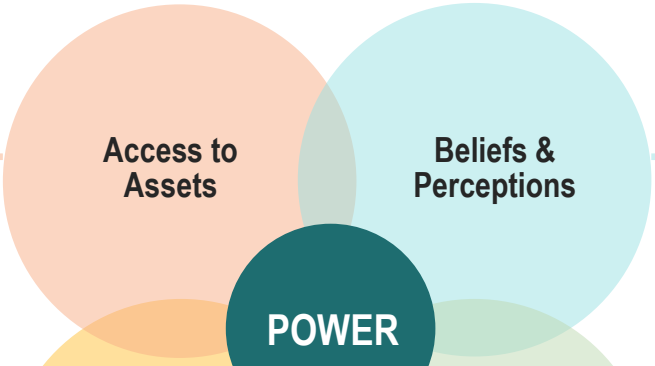
Gender integration within PMH programs and investments is fundamental to improving CPMDs. Several studies have emphasized the importance of understanding the role of gender, particularly gender inequality and how imbalanced power dynamics shape women's experiences with mental health disorders, their access to quality of care, and social support systems.[17,28,54,57,64,114] To date, there are only a few interventions that include gender-transformative approaches for CPMDs.[114] In a review conducted by the Bill and Melinda Gates Foundation, three interventions, one in South Africa and two in China, addressed CPMDs by improving women's social support needs and elevating their self-efficacy.[114]

GBV and maternal health intervention were found to work in parallel but seldom did they overlap or collaborate.[225,258] While gender transformative GBV interventions address many of the associated risk factors of CPMDs, they do not explicitly measure CPMD outcomes, nor do they integrate mental health therapies.[114]

FIGURE 5: GENDER ANALYSIS FRAMEWORK

Gender analysis, as defined by USAID, is an analytic, social science tool that is used to identify, understand, and explain existing gaps between males and females in households, communities, and countries, and the relevance of gender norms and power relations in a specific context.

- Women and girls are unable to attend school or not given the opportunity to complete their education.
- Women are unable to access employment opportunities.
- Women lack the knowledge on where to find services.
- Women lack access to information about contraception and to family planning services.
- Women may lack access to transportation to clinics.



- Acceptability of violence against women.
- Mental illness is seen as a weakness and failure of a woman/mother.
- Mistrust of maternal health providers.
- A woman's primary role is to be a wife and mother.
- Men are financially responsible for their families.
- A woman must be chaste, timid, shy, and not come across as aggressive.
- Discriminatory attitude toward a women's abilities as health workers.
- Violence against women in and outside facilities.

- Division of labor within household is imbalanced.
- Inequitable power dynamics in the household where women cannot make decisions whether to seek care without husband's approval and consent.
- Women lack voice and empowerment.
- Men are seen as gatekeepers for women's ability to seek mental health services.
- Father less involved in parenting.

- Lack of specific maternal mental health policies.
- Lack of gender-sensitive and rights-based policies.
- Age of marriage policies that allow forced marriages.
- Lack of policies against GBV.
- Low funding and political commitment for maternal health, family planning, and mental health.
- Men not socialized to discuss feelings and support their partners emotionally.

Power: Women's power over when and how many children to have. Power over whom to marry and when. Power to earn wages and to decide how household resources are used. Power over decisions about rearing children. Power within the community to reduce stigma around mental illness.

KEY TERMS:

Gender categorizes people based on socially constructed behaviors, norms, and roles. These social differences are associated with being woman, man, girl, or boy (WHO).

Access to Assets includes information on gender factors that affect access to resources and that are necessary for a person to contribute to and participate in communities.

Beliefs & Perceptions refers to the social norms and cultural beliefs that define each gender role and gender identity.

Power pervades all domains and informs who has, can acquire, and can expend the authority to acquire and expend assets.

Practices & Participation reflects the norms that influence behaviors of men and women, the activities they may engage in, and their roles and responsibilities.

Institution, Laws & Policies is the information and access to formal and informal rights and how they are affected by laws, policies, and institutions.

Intersectionality is the interconnected nature of social categories such as race, class, and gender that apply to an individual or group, thereby creating overlapping and interdependent systems of discrimination or disadvantage (Crenshaw, 1994).

Sources: *Crenshaw, K. "Mapping the Margins: Intersectionality, Identity Politics and Violence Against Women of Color"*
WHO. Gender and Health. https://www.who.int/health-topics/gender#tab=tab_1
Jhpiego. Gender Analysis Framework. https://gender.jhpiego.org/analysistoolkit/gender-analysis-framework/

3.2.3. INTEGRATION WITHIN THE PHC SETTING

> *"… Integrating mental health services into primary care is the most viable way of ensuring that people have access to the mental health care they need. People can access mental health services closer to their homes, thus keeping their families together and maintaining their daily activities. In addition, they avoid indirect costs associated with seeking specialist care in distant locations. Mental health services delivered in primary care minimize stigma and discrimination and remove the risk of human rights violations that occur in psychiatric hospitals."* [259]

The need to integrate mental health services into the existing primary health care system has long been clear and promoted as an essential strategy by WHO, Lancet Commissions, and International mental health societies.[75,259,260] The collaborative care model promoted by the 2018 Lancet Commission urged against a disease-specific, vertical approach, instead toward a person-centered approach that provides continuity of care for those who need it, for as long as necessary.[75] The Commission laid out "active ingredients" for this integration: "screening to identify cases; promotion of self-care; provision of psychosocial interventions and adherence management; support of visiting mental health professionals; and active patient monitoring and follow up, including [for people with severe mental disorders] rehabilitation, referral to community agencies, and health promotion."[75] Despite these well laid plans and models, many LMICs remain unprepared to provide basic care for CPMDs in primary care.[62] Key informants noted that services to address CPMDs, locally relevant evidence, and funding for sustainable programs are rarely available. Many acknowledged that links between these interventions would be difficult because they were largely unaware of what was being done in other settings because of siloed funding and evaluation schemes (KII 18, KII 41).

3.2.4. INTEGRATION OF MENTAL HEALTH INTO HEALTH CARE PROVIDER EDUCATION AND PRACTICE

Advances on psychosocial perinatal care lag behind

"Women's experiences of pregnancy, birth, and postpartum adjustment are often characterized by feelings of disempowerment, trauma, and emotional pain. Psychosocial perinatal care has not kept up with medical advances in perinatal care. Access to psychosocial care appears to be inadequate because of the following: (a) perinatal health care providers are insufficiently prepared to address emotional aspects of maternal care, and (b) traditional, compartmentalized psychological services benefit only a subsection of perinatal women, often in an untimely manner. Practical and innovative psychosocial services, integrated into routine perinatal care, can provide widespread access to psychosocial resources for mothers and supports providers in delivering optimal care."[302]

The integration of psychiatry into health care provider education and practice was brought up less often, but is important. One informant referred to psychiatry as the "stepchild of medicine" (KII 8). Another said she was seen as second class in medical school because she focused on psychiatry (KII 20). The limited, if any, training medical students receive on mental health during their medical education supports these sentiments. Key informants who provide trainings on the basics of CPMDs and how to support perinatal women to medical students and other health care providers reported a gap in exposure and training in mental health, which can result in many health providers thinking mental health ranks low in the priorities of medical institutions (KII 13, KII 14). Another informant, who worked with providers to promote better practices in supporting women who have experienced stillbirths and other perinatal loss, said she was surprised how eager providers were for guidance on what to say to support women—they simply had not

been trained in trauma, loss, and the mental health implications of these experiences (KII 29). One informant described the disconnected nature and lack of respect provided to mental health services and practitioners:

> *"And I think for maternal mental health point of view, that's what just needs to happen is to stop neglecting mental health, just bring it back, just like we screen for diabetes, or HIV, or TB, we should also be screening for mental disorders, and not wait until the woman has given birth. And then she's trying to jump from the room, and then everyone is like up in arms. 'Where is psych? Where is psych?' By then, it's too late."* **— Psychiatrist, LMIC**

To address this, one key informant called for a greater focus on pre-service training: *"If we incorporate the information into pre-service, it is going to assist us [because] future graduates that come out will be properly prepared, having the knowledge skills, which they have to apply in the actual practical setting"* (MOH staff, LMIC; KII 31).

3.3. GAPS IN LITERATURE, KNOWLEDGE, AND IMPLEMENTATION

The landscape analysis identified a range of calls for more evidence: a need to expand the range of contexts with evidence and avoid inappropriate generalization, a need for more evidence for certain vulnerable populations, a need to expand the evidence base beyond postnatal depression, a need to center research and practice on the expressed desires of women, and a need for integrated approaches that improve both women's and children's health.

3.3.1. RANGE OF CONTEXTS AND INAPPROPRIATE GENERALIZATIONS

Key informants expressed concern over a tendency for ideas with limited evidence to proliferate and isolated findings to be generalized inappropriately. An example is prevalence rates being used as general statements that stem from isolated, often small studies in specific populations (see *Measurement*). The burden of CPMDs is often described in general terms, but this may be inappropriate (i.e., unresponsive to the needs of specific populations) and that the evidence base may not be robust enough for such general statements.

> *"[It is] really important that you do not base policy of maternal mental health on screening tools that are finding a prevalence of 40 percent or 50 percent."* **— Research psychiatrist, LMIC**

Key informants pointed to a need for better, more accurate data from a wider variety of settings. A recent review of evidence on mental health and psychosocial interventions in LMICs found substantial regional disparities in the available evidence.[261] The evidence on PMH is largely derived from an even smaller number of countries. At the regional level, there was less evidence from Latin America, the Caribbean, and West and North Africa. Even within regions like South Asia, East Africa, sub-Saharan Africa, evidence may capture only a subset of contexts between and within countries.

3.3.2. VULNERABLE POPULATIONS

There were widespread calls for more evidence on the needs of and what interventions work for certain populations that are particularly vulnerable to CPMDs: women in humanitarian settings, adolescents, women experiencing IPV, and women experiencing perinatal loss or other obstetric trauma.

3.3.2.1. HUMANITARIAN SETTINGS

There are global documents and toolkits to address mental health broadly in humanitarian settings. The recent WHO *Quality of Care in Fragile, Conflict-Affected and Vulnerable Settings: Taking Action* guidance provides key principles for implementing good quality care in a variety of humanitarian settings. These principles include flexibility and adaptation, pragmatism, urgency of responsiveness, and building on existing foundations.[242] Several recent resources also provide information to improve services for women and their children in humanitarian settings, including WHO's *Nurturing Care Advocacy Toolkit* and UNICEF's *Communities Care Program*.[262,263] Despite these, the review revealed substantial evidence gaps across humanitarian settings in PMH specific programming. Most programs being implemented use universal approaches that target mental health at the population level. As one FGD participant said most programming in these settings takes the form of general psychosocial programming: *"… we have some psychosocial support programming. […] But I think linking to the maternal mental health, that's something that we still really need to work on"* (FGD 1).

Rigorous research has focused on more individualized treatment approaches, however, and the evidence on when and where universal approaches may be effective is limited.[150] Evidence for these populations also focused on maternal depression. A 2016 systematic review reported little evidence on mental disorders other than depression in refugee and asylum-seeking women in LMICs, with no studies on psychosis or bipolar disorders.[79] Respondents described an awareness of the need and nascent attempts to improve, but little prioritization.

> *"I think what you see is that different NGO players might come in with ideas for programs to help make that linkage more deliberately, but I don't think maternal health services are necessarily set up to have any sort of mental health slant. But we do know that these things are extremely important. And I know that from my screening work, screening for intimate partner violence in various clinics within refugee settings, including maternal health clinics, we know that … there is a big need there. And what that work has tried to do is make the linkages [that] don't already exist."* **— FGD 1**

A FGD participant said suicide attempts were becoming more common in camp settings. In Uganda, there were more suicide attempts by women, and the country is starting to track them and understand why women were feeling the need to resort to suicide (FGD1). One key informant said, *"Family disagreements, stigma, domestic abuse, but also to despair for the future, you know, like living in a camp or in a settlement, like, what is your future perspective for your family is very uncertain. And this uncertainty, I think, also really impacts the mental health of the families"* (FGD 1). The increase in suicide globally and among adolescent girls particularly makes this an increasingly important issue. The current evidence, however, is inadequate and rigorous evidence is needed, which could be combined with more intensive study of adolescent suicide as well as suicide within different humanitarian settings.

On top of the limited evidence—which was referred to as a "black hole" (FGD 1) in understanding—several respondents described the pervasive misconception that mental health is not life-and-death and thus is prioritized below other considerations. *"Maternal mental health takes a back burner, because you're struggling with lifesaving initiatives and intervention"* (FGD 2).

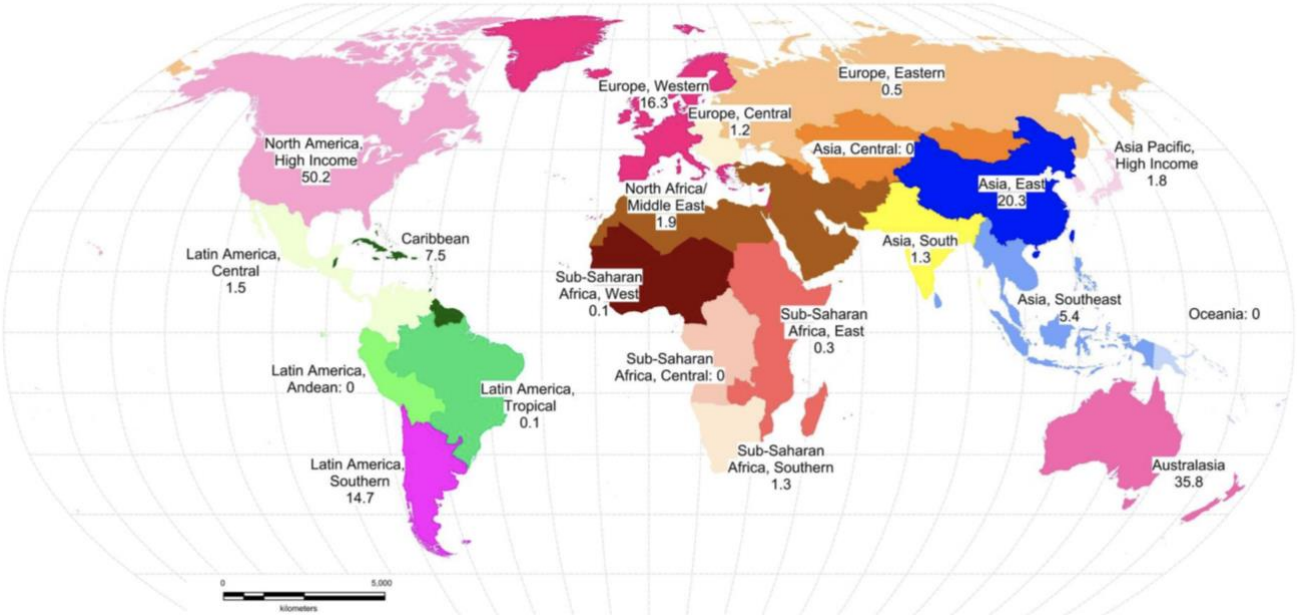
3.3.2.2. ADOLESCENT GIRLS

Though adolescents are known to have particularly high risk of certain mental disorders in the perinatal period, the existing evidence focuses primarily on adults. Data on adolescent mental health prevalence is nearly non-existent in many regions in the world,[264] and more evidence is needed especially regarding effective interventions and risk factors.[35,69,265] Reviews conducted for the Global Burden of Disease Study found that "two-thirds of countries have no data for any mental disorder, and that data for mental disorders in those aged 5 to 17 years are available for only 6.7 percent of these countries."[264] The map below shows the coverage of prevalence data per region.[264] Without data available from policy level to facility and community level, it is hard to identify needs: what disorders adolescents, in general, and specifically pregnant adolescents, may be facing, and where to focus resources. This sentiment was echoed in an interview with midwives in the Latin America and Caribbean region, where they noted they had very little idea of what pregnant adolescents really needed and had to function based on their daily interactions (KII 2).[264]

Intervention evidence

"Findings from our review highlight that the existing evidence on mental health interventions for adolescents comes mainly from HICs. There is lack of standardized interventions and outcomes due to which meta-analysis could not be conducted in most of the included systematic reviews. Long-term follow-up data were not available since most of the studies reported outcomes at short-term follow-up, and hence the extent to which the effects of programs were maintained over longer periods of time could not be evaluated. There is a dire need for rigorous, high-quality evidence especially from LMICs on effective interventions to prevent and manage mental health disorders among adolescents." **— Das et al.**[303]

FIGURE 6. MAP OF THE COVERAGE OF PREVALENCE DATA[264]



The support available to adolescents when there are programs or interventions may rely too much on tools and learning from adult women. Tools used to screen for mental illness in perinatal women may not necessarily be tested for validity with adolescents.[185] A better inclusion of adolescents in the program/intervention inception has also been raised as an imperative for any work to be done with pregnant and parenting adolescents (KII 36).

Too many interventions apparently have not engaged the youth and have often missed some of their most fundamental concerns. There is evidence for promising practices, though most are for adolescent mental health more broadly, with fewer practices focused on the explicit perinatal period. One key informant described success with WhatsApp-based support groups for adolescent girls. Others pointed to new global guidance and resources produced by international bodies: the *Helping Adolescents Thrive Toolkit* from WHO and UNICEF and the *Measurement of Mental Health Among Adolescents at the Population Level* methodology from UNICEF.[85,266] Translating guidance and "best practices" into actual services for adolescents in a scalable fashion, however, will be a challenge for the future of adolescent CPMD. Linking with other sectors outside of health, such as microfinance and education, have been suggested as ideas of partnerships to have a real impact on what the adolescent health sector is hearing from youth themselves.

3.3.2.3. WOMEN EXPERIENCING IPV

Data on how many women experience IPV are astounding, and in certain contexts (humanitarian settings, COVID-19) the rates are even higher.[267] The link between CPMD and IPV has been made largely through a 2019 Cochrane Review on Psychological therapies for women who experience intimate partner violence. The report called for more research and understanding of what psychological therapies can do beyond reducing depression and potentially anxiety—calling for better data on how much these therapies can affect women's mental health.[258] Given the increase in IPV during the perinatal period, the need to know much more concretely about how to work with women, and with men, remains a gap in understanding and evidence.

> *"There is evidence that for women who experience IPV, psychological therapies probably reduce depression and may reduce anxiety. However, we are uncertain whether psychological therapies improve other outcomes (self-efficacy, post-traumatic stress disorder, re-exposure to IPV, safety planning), and there are limited data on harm. Thus, while psychological therapies probably improve emotional health, it is unclear if women's ongoing needs for safety, support, and holistic healing from complex trauma are addressed by this approach. There is a need for more interventions focused on trauma approaches and more rigorous trials (with consistent outcomes at similar follow-up time points), as we were unable to synthesize much of the research."* **— Hameed et al.**[258]

3.3.2.4. WOMEN LIVING WITH HIV

There is evidence from several LMICs of an association between HIV and depression and that mental illness may result in reduced likelihood to adhere to antiretroviral therapy (ART).[268,269] Evidence from high-income countries extends this evidence to CPMDs, but there is limited evidence examining the relationship between HIV and CPMDs in lower-income settings, and existing evidence is not consistent.[113,270–274] Further evidence to better understand the relationship between CPMDs and HIV in lower-income settings is likely to improve targeting of treatment for CPMDs and may also improve rates of ART adherence in many settings.

3.3.2.5. WOMEN WHO EXPERIENCE A PERINATAL LOSS OR STILLBIRTH

Key informants frequently mentioned the additional vulnerability of women who experience a perinatal loss or stillbirth. Training during either pre-service or in-service education rarely provides approaches to allow providers to support women experiencing loss in the hours immediately after birth, postpartum, and before another pregnancy occurs (KII 2, KII 29). Most informants noted little being done to support these mothers and that the best strategies are not known. In fact, they may be treated even more poorly in facilities, as providers lack the physical space to separate them from mothers with live babies, fear legal action from the families, or are managing their own mental health in dealing with the death. These women are also at risk of CPMD in any subsequent pregnancy, making them an important group to learn more about and include in research and learning.[73]

3.3.3. GOING BEYOND POSTNATAL DEPRESSION

Research on the perinatal period has focused on postnatal depression, with less research for other disorders and other parts of the perinatal period.[275] There is limited evidence from LMICs on severe mental illness during pregnancy or perinatal psychosis in particular.[16,276] The need to better understand the prevalence and strategies to help women manage anxiety was also called for, especially as anxiety often predicts depression (KII 37). This limited focus in the data is further complicated because few women present with just one issue:

> *"But our biggest challenge, and this really comes from me being on clinical calls […] I have spent hours and hours each week on calls with local providers that we train, for all the treatments we did—we did interpersonal psychotherapy for depression, we've done CPT, cognitive processing, we've done behavioral activation, we've done kids programs—if you ever talk to a provider, a real clinician, people don't come in with one thing. […] It's just silly to say, oh, we're going to introduce a depression program for maternal and child health, which tends to be the most frequent. And that's probably because depression is higher up on the global disabilities scale. But that's not how people present really, if you're boots on the ground. And so, the frustration is, you can only be so effective. It's like you have a pie and you're treating one corner of it, or there's a bunch of other things, you know, piling into it."* **— Clinical psychiatrist and researcher**

Because of challenges in obtaining high-quality data and challenges with definitions, the overall understanding of the contribution of suicide to maternal mortality in LMICs remains poorly understood.[277]

The literature review and key informant interviews also found evidence of substance abuse disorders in the perinatal period, but substance abuse is often treated as a risk factor for or outcome of other mental health disorders, with little research targeting substance abuse disorders as a primary outcome.[88] One key informant recalled that 42 percent of pregnant adolescent girls used alcohol in one of their sites (KII 36), and another noted that this is an issue in the refugee camps in Thailand within the Rohingya population, though formal data does not yet exist (KII 27).

Several key informants criticized an overemphasis on perinatal depression in existing programs and raised the concern that many of these same women had other mental health needs, such as anxiety disorders, bipolar disorders, substance use disorders, or psychosis that were going unmet, sometimes with serious consequences (KII 18, KII 19, KII 30).

> *"I'm very struck that so little effort, attention, etc., is being directed at those disorders because, as much as they're less common than mild to moderate depression, they also have huge morbidity. You would hypothesize that there would be some quite quick wins in identifying, supporting, and treating women with severe mental disorders who are getting no support whatsoever and may be at much higher risk, they face suicide, and a suicide of one mother would of course have catastrophic implications for an entire family and generation."* **— Clinical researcher, global**

3.3.4. PERSON-CENTERED CARE

Both the literature and key informant interviews highlighted a substantial gap in the evidence on what women want during the perinatal period, both in terms of outcomes and preferences for kinds and modalities of services, to set direction for research and program priorities within the field of PMH. More qualitative research and greater involvement of affected populations in the development of guidelines are called for.[134,278] True person-centered care requires that women are involved in the creation of interventions.

Several expert key informants described their perception that relatively little of what is being done in the global PMH movement is based on needs and priorities expressed by recipients of programs.

> *"No, the agenda is always set up by the Global North. And I think there are some really good reasons for that. Obviously […] that's the context where much more has been achieved, in terms of development progress. And also there is a sense of moral responsibility. All of that is great. But we do not give valence to understanding perspective of these emerging country context, what researchers, what program leaders might say, just as we don't pay enough attention to women themselves, or to adolescents, what they're asking, because we decide the agenda for them. And these processes have not being responsive to their needs."* **— Clinical researcher, LMIC**

Some interviewees discussed work in which they had engaged with women to ask them what they want, but few had examples of co-creation or longer-term input and inclusion beyond initial qualitative research. When women were engaged, KIIs noted the women expressed a wide range of requests. Some of these were specific to mental health services, such as being treated with more respect and less stigma, accessing services through traditional healers or spiritual leaders, being consulted by stakeholders in program development, service providers who are older rather than peers, and the opportunity to offer services themselves (KII 34, KII 36, FGD 1, FGD 2). Other requests were more general and related to social determinants of mental health, such as help meeting basic needs, vocational skills, better support from reporting services for gender-based violence, and the ability to demonstrate virtues according to the social expectations they were experiencing (KII 12, KII 34, KII 36, KII 38).

Key informants also discussed what health workers have said they want. There were some mentions of excessive work burden, but respondents also expressed a sense of powerlessness to help the women they're serving who are expressing mental distress. To these health workers, having tools to provide some level of mental health care may be empowering and lift, rather than provide, a burden.

> *"We have seen overwhelming positive results from the three health facilities in terms of they really appreciated [...] you know, being helped to deal with the stressors, and the main issues that came up some had personal issues. But the main issue that came up from this is work-related stress and COVID and not having time to […] do what they are supposed to do, knowing that parents have very sick babies, that they are not able to counsel them, and there is nothing they can do."*
> **— RMC advocate and researcher**

Engaging civil society and service user organizations

Civil society is recognized as a valuable resource in the design and implementation of responsive mental health services.[281] One group of civil society with particular value in helping to ensure services are driven by demand is networks representing the recipients of services, with the UN Convention on the Rights of Persons with Disabilities recognizing their participation in its implementation as a right.[304,305] In different countries, these may take the form of organizations of people with psychosocial disabilities, general organizations of people with disabilities, organizations representing the carers and families of people with mental health conditions, and networks of users and survivors of psychiatry.[306–308]

Not all women who are targeted with the services described in this report will identify as having a disability or use a medical model for understanding their distress, and as such these formal civil society organizations are not fully representative of potential recipients and should not be seen as a substitute for other approaches to gathering their perspectives, such as feedback mechanisms within services or qualitative research.[307] These organizations, however, have been recognized for the value of their client-side expertise for improving services, recognizing potentially harmful practices, and contributing to education and stigma reduction.[306]

3.3.5. INTEGRATED APPROACHES THAT IMPROVE OUTCOMES OF WOMEN AND CHILDREN

There are gaps in evidence for interventions that work for both women and children and limited understanding of certain outcomes and pathways. Despite strong evidence of a relationship between PMH and outcomes for children in many settings, this evidence is not universal.[44] There is preliminary evidence of regional variation, and some researchers have proposed a difference between Asia compared with Africa and South America, although generalizing the small number of studies in each continent is likely inappropriate.[44,60] Furthermore, interventions that demonstrate improved outcomes for PMH do not always demonstrate improved outcomes for children.[60,256]

Both the literature and expert key informants discussed several possible reasons for inconsistent evidence around this relationship. The relationship may be causal, but mediated by other factors. For example, maternal mental health affects child outcomes by affecting caregiving behavior, the existence of alternative caregivers may be protective. This may help to explain regional differences, where caregiving responsibilities may be structured differently within families.

> *"And so the impact of caregiver depression, whether it's grandmother caregiver, whether it's biological mother caregiver, or whether it's father caregiver, the impact of that on infants and children is established, [and] we know it's not good. But again, it's not in a linear causal way. Because if there's another caregiver in the house, who's responsive […] for example, the impact is quite minimal."* **— Clinical researcher, LMIC**

It is possible that the relationship is non-causal and both are a response to the same risk factors that were not captured and controlled for in the studies examining the relationship, such as physical ill health.[60] Another possibility is that the relationship between PMH and child outcomes is part of a more complex causal pathway, an idea further supported by the literature.[45] In this case, improving maternal mental health may be necessary, but insufficient on its own to improve outcomes for children and vice versa.

> *"Actually, we think that mental health of the mother interacts with a number of other behaviors that are essential for the growth and wellbeing of the child. And so, to actually split the mental health from those other behaviors actually interrupts the mechanistic pathway between mental health of the mother and the outcome."* **— PMH expert, global**

There may be temporal dimensions. There is evidence of biological pathways through which mental ill health in the prenatal environment can affect children.[279,280] As such, if a woman recovers late in pregnancy or after giving birth, this may not ameliorate impacts that CPMDs have already had on the child.

> *"…We find a mother that's depressed or anxious in pregnancy and exposing that fetus, then by the time we find her, the first semester's done, she's now in the second trimester. By the time we get her into treatment, if she actually uptakes it—lots of women don't uptake it because of the stigma associated—but if she actually uptakes, we actually get treatment initiated, we don't have symptom resolution until the third trimester. So basically, the fetus has been exposed to a mentally unwell mother throughout the whole pregnancy. And so we still have that as a risk factor for the child long term."* **— PMH expert, global**

There is a lack of evidence on mental health before conception, and though Catalao et al. have suggested that integration of mental health services into family planning services may be a strategy to achieve earlier impacts, this approach currently lacks evidence.[111]

Though there is well-established evidence of various risk factors, discussed in the *Risk factors* section of this report, some authors express the need for more in-depth understanding of the pathways through which these associations operate to better design interventions targeting social determinants of health. For example, researchers have suggested that the directionality and pathways of various relationships among intimate partner violence, HIV, maternal mental illness, and their underlying risk factors are not well understood.[116,274] There is now evidence that paternal involvement may affect maternal mental health, but there is less understanding of the factors that affect paternal involvement.[124] Tol et al. expressed the need for more ethnographic and social epidemiological research to understand how sociocultural dynamics contribute to CPMDs.[59]

Where CPMDs result in disability, reduced access to health care services is a well-known outcome.[281] There is less evidence, however, on the effects of CPMDs in particular on the uptake of services other than maternal health and nutrition services, such as family planning. Given that unwanted pregnancies are a risk factor, this research would benefit the field significantly.

3.3.6. IMPLEMENTATION LEARNING IS LIMITED

Learning from programs being implemented and allowed to adapt according to the needs of the community in a non-study environment is limited (KII 12). Despite good data available on specific interventions, Nillni et al. have noted that translating the learning from these studies into scalable and sustainable programs has been problematic in LMICs:

> *"Despite efficacious psychological treatments (such as interpersonal therapy and cognitive behavioral therapy) for perinatal depression, effective implementation of treatments in low-income and middle-income countries is challenging and contributes to the profound treatment gap. Translating evidence-based treatments to the real world is challenging, and this difficulty increases exponentially in low-resource settings for several reasons. For example, many evidence-based treatments were developed and tested in tightly controlled designs among study populations with simplified diagnostic profiles and high mental health literacy. Additionally, these studies typically use highly qualified mental health professionals. The identification of interventions that are effective and easily administered for perinatal depression is crucial to close the treatment gap in low-income and middle-income countries."* [219]

An additional challenge noted was the need to make everything contextually specific, recognizing that at times this prevented some of the implementation learning deemed too unique to the context for larger generalizability. There remains room for more learning about regional differences as well—and if/how they affect CPMD. As a recent systematic review on Depression and Domestic Violence Experiences Among Asian Women noted:

> *"Postpartum depression [PPD] is a complex issue in Asia because while in the Western culture women overtly express their changes in mood and depressive symptoms, in Asian cultures new mothers tend to manifest their emotional problems through somatic complaints. Studies have shown that many Asian cultures have an avoidance tendency toward accepting postpartum mental illness with an absence of reference to the disease entirely. For example, in countries such as India, Philippines, and Jordan, PPD is something people do not know and/or talk about. Cultural postpartum practices differ in Asia and other parts of the world."* **— Koirala and Chuemchit**[282]

Much room exists in the field of implementation research to better understand and document what is working, for whom, and why based in global, regional, national, and community level nuances.

3.4. LEARNING FROM OTHER MATERNAL HEALTH MOVEMENTS: PARALLELS WITH THE RMC MOVEMENT

3.4.1. RESPECTFUL MATERNITY CARE

The respectful maternity care movement and the growing PMH movement have similarities in their pathways to becoming better understood and valued in their role to ensure a positive childbirth experience. The RMC movement, which has been growing in scope during the past decade since the Center for Reproductive Rights published its groundbreaking report, *Failure to Deliver: Violations of Women's Human Rights in Kenyan Health Facilities,* struggled with many of the same challenges as PMH: 1) limited data; 2) proliferation of measurement tools without standardization; 3) difficulty comparing across settings, but also contextualizing the definitions of issues; 4) seen as a secondary issue or luxury—in the face of "survival"; 5) the impacts of mistreatment on care seeking and mental health; and 6) limited evidence for what interventions, in what context, are most effective.[283] Though there are several fundamental differences, much remains to be learned from the work of the RMC movement when thinking about how to "move the needle" on global PMH.

3.4.1.1. LIMITED DATA

Initially there was no data collected for how women were treated in facilities. Researchers worldwide worked on various tools to define and measure disrespect and abuse, or mistreatment, per WHO language.[284] Methods were used in prevalence studies of disrespect and abuse during facility based childbirth. Even in the United States, tools are still being validated to understand how women of color are being treated because this information simply is not collected.[285] The situation of CPMDs appears to be the same—key informants in Jamaica stated, *"There is absolutely no data being collected."* Others have echoed the sentiment (FGD 1, FGD 2). The lack of data for CPMD could lead to a similar challenge of each setting, country, and region using diverse measurement tools that do not align—if a goal is understanding prevalence more broadly. This links to the issue of what tools are being used currently.

3.4.1.2. TOO MANY TOOLS

Sando et al. cautioned in a 2017 paper assessing the various tools and methodologies to measure prevalence of disrespect and abuse (D&A):

> *"Our review underscores the need for caution in interpreting or comparing previously reported prevalence estimates of D&A during facility-based childbirth. The lack of standardized definitions, instruments, and study methods used to date in studies designed to quantify D&A in childbirth facilities introduced the potential for systematic error in reported prevalence estimates and affected their generalizability and comparability. Chief among the lessons to emerge from comparing methods for measuring the prevalence of D&A is recognition of the tension between seeking prevalence measures that are reliable and generalizable and attempting to avoid loss of validity in the context where the issue is being studied."* **— Sando et al.**[284]

This sentiment was echoed in the PMH KIIs and noted in the literature review—many key informants cautioned against comparing any prevalence of CPMD measures given the diversity of tools, methods, populations, and definitions (KII 12). As noted in the *Measurement* section, even using the same tools, cut off scores varied, rendering comparison essentially meaningless. Though there is a need to understand the prevalence of CPMDs to help define the problem, comparing data that is not comparable runs the risk of the same issues that arose in understanding global D&A.

3.4.1.3. COMPARING AND CONTEXTUALIZING

WHO and other stakeholders have pushed to standardize approaches to promoting RMC in global guidance, implementation guides, and even a charter.[286–290] The need to make universal aspects of the RMC language, tools, and interventions have been met with a warning to allow for contextualization and to be driven by local understanding/perceptions.[291] The manner in which mistreatment occurs and is perceived varies according to individual preferences and experiences and according to contextual factors, such as cultural norms, expectations, and behaviors. These discussions are mirrored in PMH. Though WHO has put forth mhGAP and implementation guidance for countries and guidance tailored for humanitarian contexts, key informants and the literature warn of the need to define and measure perinatal health in contextually specific ways (KII 12, KII 19, KII 38).[142,241] Qualitative tools allow for the exploration of cultural norms that may influence local perceptions of respectful care and mistreatment (and non-respectful behaviors that may be normalized in the local context). One often discussed challenge in the literature and in KIIs was the way women present with CPMDs. Few women use the terms "depression" or "anxiety"—rather, "there are words in the mother tongue" that resonate, or women may present with somatic complaints not captured by some screening tools for CPMDs, which often exclude somatic components that may have other explanations during pregnancy (KII 30). This tension must be explored wherever PMH initiatives will be introduced.

3.4.1.4. SEEN AS A SECONDARY ISSUE TO SURVIVAL

In the face of so many physical threats to maternal survival (e.g., pre-eclampsia, hemorrhage, hypertension), the role of how women are treated has often been seen as secondary to survival. De Kok explained:

> *"Generally, nurse-midwives were focused on actions and bodies, especially the lower part of the body, rather than the woman's face. This may reflect lack of experience or skill in being able to do two things simultaneously, but also suggests that nurse-midwives see their job as being about clinical care and achieving good clinical outcomes, rather than caring for women's emotional needs."* **— de Kok**[290]

The WHO *Standards for Improving Quality of Maternal and Newborn Care in Health Facilities* and subsequent WHO recommendations of ANC and Intrapartum care, however, elevated the importance of women's care as a foundation of good quality care.[286,288,292] Key informants expressed similar challenges when addressing PMH—that it was difficult to gain attention in light of the other pressing physical health issues; further exacerbated by stigma associated with mental illness (FGD 1). Humanitarian experts talked about the very practical challenge of competing resources, workload, and time—and the acute needs of food, shelter, and water often taking precedent (FGD 1, FGD 2).

4. RECOMMENDED DISCUSSIONS TO MOVE THE AGENDA FORWARD

"A fundamental shift within the mental health field is required, in order to end this current situation. This means rethinking policies, laws, systems, services, and practices across the different sectors [that] negatively affect people with mental health conditions and psychosocial disabilities, ensuring that human rights underpin all actions in the field of mental health. In the mental health service context specifically, this means a move toward more balanced, person-centered, holistic, and recovery-oriented practices that consider people in the context of their whole lives, respecting their will and preferences in treatment, implementing alternatives to coercion, and promoting people's right to participation and community inclusion." **— World Health Organization**[215]

Key informants made clear that the time is long overdue to take the issue of PMH seriously—and there was appreciation for the increase in attention to the needs, though one expert warned that as an increasingly "sexy new topic," the focus must remain on women (KII 18). Many of the crucial questions to reducing the burden of CPMDs on women are nearly the same as those asked in global public health communities for years. That doesn't make the questions less important, but it does beg the question: How will the global health community meet the needs of women and families by tackling these essential questions that have remained unanswered in other health sectors? This may be yet another sector that will grapple with the questions that have challenged the MNCAH community (and others) for decades, and now is the time to tackle these together. Below are questions that emerged and need to be addressed, in some degree, as the field moves forward.

4.1. NATIONAL LEVEL POLICY

How can research and implementation communities better link with policy level actors to advocate strategically for mental health policies that result in actionable changes?

The 2018 Lancet Commission made explicit the need to better link MCH and mental health researchers and practitioners through the creation of joint programming.[75] Honikman further suggested that scalable and sustainable programs require these communities to work closely with Ministry of Health stakeholders to foster mutually beneficial relationships linked with national level financial commitments.[58] How to do this remains a question. Countries like Zimbabwe are now in the process (KII 30) of integrating mental health cadres into the national organogram and should be written as case studies, but more remains to be understood to have a real impact on women and children.

4.2. HEALTH SYSTEMS

How should PMH be integrated into the existing health systems and initiatives—and where are the best entry points?

Integration was the most discussed topic in the KIIs. The need to integrate CPMD detection, care, and treatment into existing platforms was said to be foundational to global impact. The challenges of funding and prioritization in overburdened community level health systems remain. Whether to start in existing SSNB or nutrition programs, or if including limited CPMD services in ANC/PNC initially would be most strategic remains up for discussion. No definitive approach has emerged. Engaging at each level of existing systems in a way that promotes person-centered care and retains fidelity over a scale-up phase may be impossible until funding mechanisms in development and humanitarian sectors adapt.

How can PMH be its own important issue, but not become a vertical program because of funding and implementing practicalities?

Despite significant investment toward advancing universal health coverage (UHC) and health-related SDGs, some have argued health systems have been even further verticalized—specifically in African countries.[293] The interviews and the literature made clear that addressing PMH is a complex challenge requiring linkages across the continuum of care, throughout the health systems, working from community level to policy level, and expanding where possible to non-health sectors that significantly affect PMH (education, poverty reduction, human rights, etc.). Any intervention or program to address PMH, however, must have accountability mechanisms embedded within the health system and well documented monitoring and evaluation (M&E) strategies to assess what is and is not working and suggested adaptations. This poses a real challenge of having PMH, as one expert said, *"being everywhere, but being nowhere"* (UN staff; KII 36).

4.3. PERSON-CENTERED, GENDER TRANSFORMATIVE, RIGHTS-BASED CARE

How can any initiative to integrate CPMD into an existing health system ensure that women are centered in the conversation, women primarily drive what interventions and services look like, and are treated with the dignity and respect they deserve?

PMH is at the intersection of initiatives that seek to address the reality that women's rights are violated in the health system, many are victims of discrimination, prejudice, and bias, and they are not the ones driving the services they need and want. The lack of discussion of what women truly wanted and needed in relation to PMH was a gap in the findings. With more co-creation activities, there is an opportunity for deeper understanding of how to address this need in a more holistic manner.

How can family and community assets be more central in the framing of the challenge and solutions?

The statistics are overwhelming at times—the risk factors affecting women in LMICs compound one another to create a near insurmountable challenge. Women and communities, however, have assets that can be better identified and relied upon. There are strategies to help shift from deficit models to asset-based approaches that can be included in thinking about how to promote good health and create care and treatment programs. A program in Scotland provides the opportunity to learn from this approach:

> *"Deficit models are deeply rooted in social services with an emphasis on assessment of need and diagnosis of various conditions. Nowhere is this more apparent than in mental health services for adults with severe and enduring mental health issues. Strengths based perspectives, such as asset-based approaches, provide a useful antidote to this prevailing approach."* [294]

How to use a gender transformative lens during program design and implementation?

Gender integration within PMH programs and investments is vital to reducing the prevalence of CPMDs and strengthening the health care system for women. There is a need to better understand the role of gender, particularly gender inequality and how imbalanced power dynamics shape women's experiences with mental health disorders, their access to quality of care, and social support systems; yet few interventions have done this from inception to implementation. The links with GBV programs should be included, but not seen as the only approach to shift gender norms throughout implementation as there have been limits to the integration thus far. Maternal health interventions often work in silos from gender programming using a symptom-driven approach rather than a holistic approach to address the risk factors and root causes of CPMDs.

4.4. FACILITY LEVEL STRENGTHENING

How can the mental health needs of health care workers be addressed within the context of their reality? What additional support can be provided to those working in high mortality settings, in humanitarian settings, and working with communities suffering from deeply inequitable access?

The COVID-19 pandemic has made critical and obvious a dire mental health situation among frontline providers globally. This need existed before COVID-19 and the pandemic helped to elevate the urgency of the issue. What can realistically be done in underfunded, understaffed facilities? Self-care offers many benefits, but concerns noted by several experts in KIIs were how much impact such strategies can have in the face of what the HCWs manage day in and day out?

HCWs are from the same communities as women they serve. What can be done to break down stigma and discrimination from the facility level to provide respectful and empathetic care?

HCWs are not immune from the same beliefs and stigma that prevent communities from coming forward and seeking care for CPMDs. Abortion, fistula, HIV, and other infectious disease sectors could provide learnings on how to truly break down the stigma to create a welcoming environment for women.

Where and how should CPMD lessons or modules in pre-service and in-service training for all HCWs be conducted, to provide the skills and baseline knowledge to future and existing staff?

Most providers had some mental health modules or sections in their education, but none mentioned a thorough and specific module on CPMDs and how to support women who present with these disorders (KII 2). The literature makes clear a real desire from HCWs for skills and knowledge to provide care. How to introduce trainings and education across LMICs will remain an obstacle; with COVID-19 and travel restrictions, new approaches using technology will be even more important.

4.5. COMMUNITY LEVEL

How to engage community health workers without contributing to the overreliance on their labor?

Most of the models to address PMH rely on community health workers. This strategy makes sense because it: a) uses existing infrastructure that communities know and trust and b) makes services available at the community level, which may improve access. Many KIIs, though, warned of romanticizing the role of CHWs in "solving" the problem (KII 12). Others noted the challenges of sustaining good quality of care and supervision. These challenges are not new to the CHW community, but need to be considered and linked with continuing discussions about professionalization of CHWs and institutionalizing community health within primary health care more broadly.[232]

Referrals to where? How to ensure simultaneous strengthening of community level mental health programs/support/interventions with facilities that are prepared to provide person-centered, rights-based services to those who need further support? What are the ethical implications of strengthening? Can the community level be strengthened ethically if there is nowhere to refer women?

Similar to questions in the Emergency Obstetric and Newborn Care (EmONC) community regarding ethics of referring when you know no services exist, many questions were raised about what is right and ethical to do without a referral facility. When working in communities that are so remote, of what benefit is screening a woman for CPMDs when there is no care or place to refer her?

5. CONCLUSIONS

The need to provide CPMD prevention, care, and treatment programs to women in LMICs is evident. The question of how to integrate these services in a person-centered, respectful manner that is feasible, sustainable, and scalable remains largely unanswered. Substantial evidence generated in trials and in a specific set of countries—most in South Asia and Southern Africa—has not yet translated into evidence that these programs remain feasible and effective when implemented at scale, resulting in a field that appears nascent. Global MNCAH and global mental health actors and decision-makers have not yet come together, along with local communities, to grapple with how this issue affects and is interrelated with almost all global initiatives, country projects, and specific interventions they lead. None of the 19 countries we reviewed—including the 16 MOMENTUM Country and Global Leadership countries that are implementing programs—had substantial national level policy that specifically address the need for PMH programs. Without written policy and designated funding at the national level, there is no sense of urgency and priority, and only small-scale specific interventions can exist. Without support and funding from the national level, the already overburdened health systems in LMICs often are unable to take on more "work" at the facility level to provide the mental health screening and care women clearly need. Compounding this is the nature of mental health suffering; given that it is less obvious or physically visible than postpartum hemorrhage, for example, the deeply entrenched stigma and biases of mental health have aided in keeping women and their families silent. But something must be done. The growing burden of mental health cannot be ignored for women themselves, their children, and their families. CPMDs directly contribute to disability and mortality.[7,22] CPMDs put women at risk for preterm birth, pre-eclampsia, and all-cause mortality later in life.[24,27] CPMDs are associated with adverse physical, emotional, and neurological outcomes for children.[38] As Howard, Piot, and Stein said in 2014, "There is no time in the lifespan that the statement 'there is no health without mental health' rings truer than in the perinatal period."[295]

Despite good evidence-based interventions that have been tested in trials and promising low-resource interventions that start from the community, qualitative interviews revealed a glaring gap in how to intervene in a low-cost, highly scalable manner that improves outcomes for both the woman and her child across real world settings. More work, specifically more integrated research and programming, is needed to gain evidence of how to improve what has been implemented to date. The WHO-recommended Thinking Healthy Program, which is being implemented in at least nine countries across three continents, is being brought to scale in Pakistan through digital technology. By combining the Thinking Healthy Program with early childhood development programs, the EMPOWER program seeks to extend its benefits from mothers to their children. The successes and challenges of these initiatives provide an important opportunity to start closing that gap in understanding.

The contextually nuanced nature of mental health, as opposed to clinical standards that can be largely universally shared, pose challenges to scaling. However, with core components identified, thoughtful adaptations can take place with stakeholders being included in and driving the discussion. A fine balance is required to move forward with generating better evidence while implementing programs and approaches to help the millions of women "suffering in silence" every day. Cost-effective and feasible interventions for mental illness, with demonstrated effectiveness for CPMDs, exist and can be implemented today.[91,110] Through implementation research the delivery of these interventions in real-world settings can be improved.[296] The merging of the MNCAH communities with the mental health communities provides a seminal opportunity to accelerate the research, learning, and action.

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