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## Challenges and Opportunities in Global Mental Health: a Research-to-Practice Perspective

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### Abstract

**Purpose of Review**—Globally, the majority of those who need mental health care worldwide lack access to high-quality mental health services. Stigma, human resource shortages, fragmented service delivery models, and lack of research capacity for implementation and policy change contribute to the current mental health treatment gap. In this review, we describe how health systems in low- and middle-income countries (LMICs) are addressing the mental health gap and further identify challenges and priority areas for future research.

**Recent Findings**—Common mental disorders are responsible for the largest proportion of the global burden of disease; yet, there is sound evidence that these disorders, as well as severe mental disorders, can be successfully treated using evidence-based interventions delivered by trained lay health workers in low-resource community or primary care settings. Stigma is a barrier to service uptake. Prevention, though necessary to address the mental health gap, has not solidified as a research or programmatic focus. Research-to-practice implementation studies are required to inform policies and scale-up services.

**Summary**—Four priority areas are identified for focused attention to diminish the mental health treatment gap and to improve access to high-quality mental health services globally: diminishing pervasive stigma, building mental health system treatment and research capacity, implementing prevention programs to decrease the incidence of mental disorders, and establishing sustainable scale up of public health systems to improve access to mental health treatment using evidence-based interventions.

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#### Compliance with Ethical Standards

**Conflict of Interest** Milton L. Wainberg, Pamela Scorza, James M. Shultz, Liat Helpman, Jennifer J. Mootz, Karen A. Johnson, Yuval Neria, Jean-Marie E. Bradford, and Melissa R. Arbuckle declare that they have no conflict of interest. Maria A. Oquendo's family owns stock in Bristol Myers Squibb. Dr. Oquendo receives royalties for the commercial use of the Columbia Suicide Severity Rating Scale.

**Human and Animal Rights and Informed Consent** This article does not contain any studies with human or animal subjects performed by any of the authors.

## Keywords

Global mental health; Implementation science; Task-sharing; Low- and middle-income countries; Primary care

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## Introduction

Mental and substance use disorders are now the leading cause of disability worldwide [1]. This documented global burden of disease associated with mental disorders [2] is compounded by the widening “mental health treatment gap” where, worldwide, more than 70% of persons who need mental health services lack access to care [3]. Paradoxically, this gap exists at a time when evidence-based mental health interventions have been found to be effective in limited resource environments [4•, 5]. Trials conducted in low- and middle-income countries (LMICs) have demonstrated the efficacy and effectiveness of both psychopharmacological treatment and evidence-based psychotherapies for treating mental disorders [6–13]. Furthermore, studies on the cost-effectiveness of mental health treatments increasingly highlight the economic value of preventing and treating mental disorders in these settings [14••, 15].

To help decrease the global mental health (GMH) treatment gap, the World Health Organization (WHO) developed the Mental Health Gap Action Programme Intervention Guide (mhGAP-IG) through a systematic review of evidence followed by an international participatory consultative process. The mhGAP-IG comprises straightforward, user-friendly, diagnosis-specific clinical guidelines for providing evidence-based practices (EBPs). The guidelines are meant to be used by non-specialized health care providers after adaptation for national and local needs [16].

Despite the existence of these guidelines, dissemination and implementation of EBPs and translation of scientific findings into health policy have been lagging in LMICs [17]. Interrelated challenges that contribute to these deficiencies and also exacerbate the GMH treatment gap include shortages of mental health workers, lack of research capacity, stigmatization of mental illness, and the siloing of mental health services apart from other health services for physical health conditions.

Capacity building for mental health services and research in LMICs represents an urgent need that has so far failed to attract sufficient attention and funding [18, 19]. Implementation research is now required to understand how best to integrate and sustain mental health services within health systems and other contexts of care [20]. In this review, we outline the current state of research addressing mental health within health systems in LMICs. We then discuss four priority areas of focus for future GMH research to address the mental health gap.

## Integrating Treatment of Common Mental Disorders in Primary Care

Until recently, in most LMICs and low-resource settings within high-income countries (HICs), mental disorders have typically been diagnosed and treated in centralized psychiatric

hospitals or clinics. Services for mental health diagnosis, treatment, and referral that are based in primary care or community health centers are generally lacking [21]. In this context, people with severe mental illnesses who live far from a centralized treatment facility—the majority of the population in most LMICs—are often unable to access care, and people with common mental disorders such as major depression, generalized anxiety disorder, and substance use disorders, persons who collectively account for more than half of the total GMH burden globally, are most often left untreated [1].

In an effort to expand the coverage of mental health services, countries around the world have been moving towards community mental health care. A series of articles in *World Psychiatry* describe the successes and challenges that regions around the world have faced in integrating community mental health services in primary care [11–13, 22–24]. Many countries have made significant strides in legislating mental health reform and in moving toward de-institutionalization. However, generally, mental health services in the community have not been prepared to face the resulting mental health care needs. Challenges to integrating mental health care into primary health care within LMICs include limited infrastructure; shortages of human resources; limited community awareness of mental health; poverty and social deprivation; high rates of comorbidity with physical health problems; high levels of stigma and discrimination against people living with mental illnesses; and different explanatory models for mental health conditions, which influence the acceptability and uptake of services [21, 25, 26]. Despite these complex and interconnected challenges, research is advancing on how to best integrate mental health into primary care in LMICs [27].

In 2013, the World Health Assembly adopted the Comprehensive Mental Health Action Plan for 2013–2020 [28], which committed the United Nations (UN) member states to provide mental health care that is integrated into primary care and subsumes both common and severe mental disorders. Thus, UN member states have committed to transforming their community-based primary health care systems to include diagnosis and treatment of both severe mental illness and common mental disorders, as well as mental health promotion and prevention.

The “Programme for Improving Mental health care” (PRIME), funded by the UK government’s Department for International Development (DFID), is a consortium of research institutions and Ministries of Health in five LMICs in Asia and Africa (Ethiopia, India, Nepal, South Africa, and Uganda). PRIME provides useful examples of the design, evaluation, and cost-measurement methodologies for integrating mental health treatment for priority mental disorders into primary and maternal health care contexts [10, 29]. Several best practices have been identified, and these include customizing mental health services to the specific health system; identifying human resources available for mental health screening, referral, and treatment; and applying the principles of collaborative care and quality improvement [30].

Studies in HICs indicate that treating mental disorders and other non-communicable diseases (NCDs) together, using integrated services models (e.g., Collaborative Care), is more effective [31] and cost-effective [32] than treating co-morbid conditions separately.

However, few studies in LMICs have gone beyond efficacy testing to examine the effectiveness of integrating depression treatment into primary care [5, 6]. Moreover, almost none of these innovations has been scaled up to benefit large populations or to reach broad geographic areas in LMICs. While most efforts around integration of mental health services in LMICs have focused on general primary care, including routine screening and basic treatments provided by doctors and nurses [33, 34], mental health services also need to be integrated into specialized services for other chronic NCDs, as well as HIV/AIDS [35, 36]. Common mental disorders often co-occur with chronic illnesses, such as diabetes [37], heart disease [38], and cancer [39]. Major modifiable risk factors for NCDs, such as poor diet, physical inactivity, and tobacco use, are exacerbated by poor mental health [40], and mental illness increases the chances of poorer outcomes from chronic illnesses [41]. The rates of common mental disorders are highest among those with TB and/or HIV illness and are associated with higher morbidity and mortality, increased community transmission, drug resistance to prescribed antibiotics, and poor adherence to antiretroviral therapies [22, 24].

One notable exception is Chile's health reform policy, the Regime of Explicit Health Guarantees, which includes the National Depression Treatment Program [42]. Psychologists and general practitioners work in tandem, supplemented by specialists, to provide psychopharmacological therapy and psychosocial interventions for patients who are diagnosed with diabetes, hypertension, and depression [42]. Similar integrated NCD programs need to be developed and evaluated in other LMICs. Several initiatives have successfully integrated mental health care into maternal and child health services [43, 44], an area that has important implications for preventing mental disorders. However, as an important caveat, these promising interventions have not been disseminated or scaled up for adoption at the national health policy level, posing a significant obstacle for the long-term impact of global mental health (GMH) research.

### **Community Treatment of Severe and Persistent Mental Illness**

While common mental disorders have been the focus of recent GMH research in LMICs, due to the associated public health burden, research is also needed to determine how best to address the treatment gap for serious mental illnesses, such as psychotic disorders. More than 26 million people worldwide are diagnosed with severe mental illness, with psychotic disorders ranking fifth among men and sixth among women as a leading cause of years lived with disability [45]. On average, nearly 90% of individuals requiring treatment for schizophrenia in low-income countries do not receive treatment [45]. Untreated schizophrenia places a heavy demand on caregivers [46] and often results in severe human rights violations against individuals with schizophrenia. Inpatient mental health care, provided in general hospitals or free-standing mental hospitals, contributes only modestly to meeting the overall needs for treatment access [47]. Specialized mental health services alone, even if community based, are unable to cope with the burden of severe mental illness in LMICs; primary care services should fill this gap by delivering effective packages of care in collaboration with specialized services [45].

A robust body of evidence shows that schizophrenia can be effectively treated in LMICs with typical or atypical antipsychotic drugs and psychosocial interventions, including

assertive community treatment, supported employment, cognitive behavioral therapy, family-based services, and skills training [48]. Still, while the effectiveness of interventions for schizophrenia in LMICs is evident, implementation research is needed on how interventions can be integrated into existing services, including attention to human resource constraints and insurance coverage [49•]. For example, Asher et al. (e.g., [50]) piloted an intervention for community-based rehabilitation in Ethiopia, and a collaborative study in Brazil and Chile is now examining the implementation of the Critical Time Intervention delivered by lay health workers [51]. Additional research on early intervention for schizophrenia in LMICs is needed [52], and, similar to research addressing common mental disorders, greater efforts are necessary to link research with policy-making such that EBPs are adopted and scaled up.

## Stigma

There is strong evidence suggesting that factors that delay or prevent mental illness treatment include low levels of knowledge regarding mental illness and prejudice and discrimination against people with mental illness [53]. A systematic review of effective interventions to reduce mental-health-related stigma and discrimination found that most of the research has taken place in HICs ( $n = 69$ ), with few studies ( $n = 11$ ) conducted in middle-income countries and none in LMICs [7]. Findings were similar to another overview [54•] describing that most research has examined short-term outcomes demonstrating improvement in positive attitudes; however, these were not associated with knowledge changes or social contact (direct or indirect) with a person with mental illness [7, 54•]. Even though some group-level anti-stigma interventions show promise, there is a need for rigorous studies with larger samples and longer-term follow-up assessments. These studies should focus on service users' perspectives on stigma and discrimination as well as behavioral change around mental health stigma [7, 54•].

## Prevention of Mental Disorders

Given the magnitude of the burden of mental disorders, treatment alone will be insufficient to close the mental health gap in LMICs; yet, mental health promotion and prevention of mental illness are nascent in most LMIC health systems. One promising area of prevention includes focusing on the mental health of children. Research shows that the average age of onset of mental disorders is in childhood and adolescence. Undetected and untreated mental disorders occurring early in life lead to lifelong disability and to early, preventable death [55]. Thus, attention to child mental health should be seen as a way to prevent mental disorders in adults.

**Child Mental Health as Prevention of Mental Disorders**—A review of the prevalence of mental disorders found that 14% of children worldwide are estimated to suffer from a mental disorder [56]. In many LMICs, children constitute roughly 50% of the population; yet, most research on mental health interventions for children comes from HICs [57]. This discrepancy is especially apparent in the literature on mental health services for infants and primary-school children [58•, 59]. Klasen and Crombag [57] reviewed 54 randomized controlled trials (RCTs) of mental health treatments for youth in LMICs and found that none of the interventions targeted mood (depression, anxiety) or obsessive

compulsive disorders outside of the context of traumatic experiences. Instead, interventions focused on behavioral disorders, developmental disorders, and disorders related to exposure to interpersonal violence. More recently, several epidemiological and intervention studies have been conducted with youth exposed to various forms of interpersonal violence [60], and results underscore the efficacy of group-based trauma-focused cognitive behavioral therapy (TF-CBT) for reducing posttraumatic stress symptoms [61, 62]. School interventions to prevent or to treat mental illness are common in HICs [8] and middle-income countries [9], but these efforts are lacking in LMICs, in spite of schools being an ideal setting to intervene [63].

The United Nations Children’s Fund (UNICEF) estimates that six-in-ten children worldwide, ages 2–14 (almost 1 billion), experience regular physical punishment, and about seven-in-ten children experience psychological aggression [64]. Similar to research findings from HICs, childhood sexual abuse is under-reported in LMICs and has serious implications for mental health across the lifespan [65]. A recent study by the US Centers for Disease Control and Prevention (CDC) and UNICEF, in partnership with host country governments, communities, and academic institutions, examined violence against children in seven LMICs and found that more than 25% of girls and more than 10% of boys reported exposure to childhood sexual violence [66]. Data from HICs and LMICs [67] document that persons exposed to childhood sexual abuse have much higher rates of depression, anxiety, and suicidal behavior. Consequences of child maltreatment often persist into adulthood, including long-term changes in brain structure, mental and physical health problems, engagement in risky behaviors, problems with social functioning, and reduced life expectancy [68]. Therefore, programs aimed at mitigating childhood trauma and reducing violence against children constitute an important, under-recognized contribution to reducing the mental health gap globally. Developing integrated mental health services for children within primary care is a high priority for global mental health [69, 70].

**Women’s Mental Health as Prevention of Mental Disorders**—Focusing on women’s mental health is another under-recognized component of a strategy for preventing mental disorders. In a longitudinal study in the USA, children of women with depression were found to be five times more likely to develop depression across the course of their lives, compared to children of women without depression [71]. The relationship between maternal mental health and children’s health and development has been repeatedly demonstrated, in both HICs and LMICs, and this relationship involves both psychosocial and biological pathways [72•, 73]. Therefore, effective mental health interventions provided for mothers during the perinatal period could potentially prevent the onset of common mental disorders in these mothers and ultimately influence the mental health trajectories for their offspring into the next generation [72•, 74]. While additional research on the mechanisms of intergenerational transmission of mental problems in LMICs is needed [72•], several interventions for peri-natal mental health have shown effectiveness in LMICs [75], including a cognitive behavioral therapy-based intervention designed to be delivered by lay health workers within community-based maternal and child health services [76•]. This intervention, Thinking Healthy, has since been scaled up in Pakistan and was adopted as the

first in the WHO's series of "low intensity psychological interventions" recommended for use in member countries [77].

**Decreasing Discrimination as Prevention of Mental Disorders**—Decreasing structural inequality, stigma, and discrimination is another important form of prevention of mental disorders. Gender inequality is often more pronounced in LMICs, where women have fewer legal protections, often lack rights to land ownership, and are awarded less decision-making power in the household, reproductively and otherwise. As such, women are subjected to gender-based violence, and specifically intimate partner violence. While women overall accrue lower rates of traumatic exposure than do men, these exposures are more likely to be interpersonal, particularly sexual, in nature, heightening the risk for mental health impact. Modifying cultural norms to accomplish gender equality, albeit complex, has successfully decreased intimate partner violence and improved health outcomes, e.g., HIV incidence [64]. Similar studies addressing mental health outcomes are needed. Similarly, forced migrants (including both refugees and internally displaced persons) represent another population where trauma and inequality are the norm. Much of the research with forced migrants takes place in HICs, despite figures showing that LMICs hosted 86% of forced migrants in 2015.

Collins et al. [26] highlighted another example where prevention should be implemented to decrease mental illness among lesbian, gay, bisexual, and transgender (LGBT) persons, by modifying social risk factors, including institutional prejudice, stigma, and discrimination against LGBT individuals as a chief priority for intervention [26]. Globally, members of the LGBT community are subjected to institutionalized prejudice, social stress, social and family exclusion, anti-LGBT hatred, and violence, in addition to an internalized sense of shame about their sexuality and/or identity. Childhood abuse (sexual, physical, and emotional abuse) and sexual victimization rates during adulthood are higher among LGBT persons than among heterosexual men and women [78, 79]. Same-sex sexual behavior is illegal in 76 countries, and in at least 10 countries, it is punishable by death [80]. Institutional prejudice, stigma, discrimination, childhood abuse, and sexual victimization of LGBT individuals may account for some of their excess risk for poor adult health and mental health outcomes [78, 81]. As such, the WHO defines sexual orientation and identity as a social determinant of health and mental health [82]. Research conducted mostly in HICs shows that LGBT persons are subjected to health inequalities and thus have higher rates of mental disorders, substance misuse and dependence, suicidal ideation, and suicide attempts and deaths, compared to their heterosexual counterparts [83]. Specifically, the results of a meta-analysis of studies conducted in HICs demonstrate a two-fold excess in risk for suicide attempts in the preceding year for LGBT men and women and a fourfold excess risk for gay and bisexual men over a lifetime [83]. Similarly, depression, anxiety, and alcohol and substance misuse were at least 1.5 times more common in LGBT individuals. Lesbian and bisexual women were at particular risk of substance dependence. Data from LMICs is scarce, and it is often unethical to conduct research with LGBT persons due to societal attitudes and the punitive policies in many LMICs [84]; yet, the few available studies confirm that negative treatment by family members predicts mental and substance use disorders [85, 86].

## Priority Areas for Research

As is evident above, significant challenges remain in order to close the mental health treatment gap and to make serious strides toward improving mental health globally. We highlight four specific barriers that require particular attention:

### Capacity-Building

One of the most significant challenges in bridging the mental health treatment gap is the glaring shortage of trained mental health workers in health care systems worldwide [87, 88]. This dearth of credentialed mental health professionals, specifically those who are knowledgeable and highly skilled in the application of EBPs, is experienced globally and universally. No mechanisms exist currently to rapidly fill this void.

To address this critical deficit, “task-sharing”—transferring clinical duties to trained lay health workers—has emerged as a promising strategy to deal with the mental health personnel shortage [33, 89–92]. Initially described as “task shifting,” the current and preferred term, “task sharing,” emphasizes the need for a significant, ongoing role for psychiatrists and psychologists, including continuing supervision, quality assurance, and support for the non-specialist health workers. Several key studies have proven that lay health workers can provide effective treatment for common mental disorders in community settings in LMICs as evidenced by trials evaluating the effectiveness of interpersonal psychotherapy in Uganda and cognitive behavioral therapy in Pakistan [4•, 5, 93]. However, despite the apparent promise that task sharing holds for increasing access to mental health treatment by bolstering the personnel capacity of the health system, the ability to scale up and sustain the task-sharing model remains untested [94••]. Task-sharing models require additional evaluation and implementation research to fine-tune the training of lay health workers, perfect the supervisory process, and optimize the division of tasks [95•].

Capacity-building must focus not only on clinicians but also on researchers. The lack of trained mental health researchers who are actively conducting studies in LMICs also limits progress. Local research is needed to adapt and evaluate interventions and services for specific contexts [96]. A new generation of researchers must be recruited and trained in a variety of skills including epidemiological and implementation research methods, knowledge translation and exchange, leadership, mentorship, and advocacy [97]. One example of such a capacity-building initiative is the US National Institute of Mental Health Collaborative Hubs for International Research on Mental Health [47]. Currently, the program sponsors five geographically distributed NIMH-funded centers, each located in an LMIC. The program aims to provide the knowledge and tools to increase research capacity in LMICs. Such collaborative capacity-building initiatives should be expanded, and training in GMH research methods should focus on hybrid designs that assess both effectiveness and implementation processes, in order to advance knowledge on how effective interventions can best be carried out in diverse environments. Implementation questions include processes for adapting interventions for specific locations, division of tasks, training, supervision, fidelity of design and implementation, and participant retention and follow-up [57, 98••, 99].



## Reducing Mental Illness Stigma

Identified as one of the most significant barriers to reducing the mental health treatment gap globally, mental illness stigma feeds a negative spiral of silence and suffering that leads to successive cycles of stigma and discrimination [54]. Social exclusion, grounded on stigma, leads to poor recovery outcomes and quality of life for those suffering from mental disorders [100]. Stigma also prevents many individuals from seeking mental health services during the early stages of their disorders. Stigma-based delays in care-seeking worsen the prognosis and perpetuate the misperception that mental illnesses are beyond cure [53, 101]. Prevalent, population-wide stigma may also diminish the prestige accorded to the mental health professions, leading fewer young persons to select these specialties and thereby exacerbating the human resource shortage [33].

The literature includes few intervention studies related to stigma education in LMICs, and none are longitudinal or address behavior change around discrimination [102]. Current evidence is insufficient to determine what interventions are effective and feasible for decreasing stigma in LMICs, how best to target key groups such as health care staff, and how to adapt such interventions in specific contexts. Research around interventions to address stigma is therefore a programmatic priority.

## An Integrated Framework for Prevention of Mental Disorders

Prevention of mental disorders has received little attention thus far in the field of GMH, but increasingly, researchers are realizing that prevention is key [103]. GMH experts specifically prioritized prevention as one of the “Grand Challenges” in the field. The Grand Challenge program requests proposals for research and demonstration projects to advance knowledge for effective prevention and early intervention for mental and behavioral disorders [26]. Still, research seeking to achieve early detection of mental disorders and to better understand and interrupt the process that leads from healthy mental and psychosocial functioning to mental disorders is nascent in LMICs. Existing programs in child mental health and maternal mental health could be recognized and studied as components of a strategy for preventing mental illness. Targeting vulnerable groups such as LGBT individuals could be another component of an overall prevention strategy.

## Scale-Up, Sustainability, and Policy

LMICs are primed and ready for the implementation and scale-up of EBPs, including psychotherapeutic and psycho-pharmacologic treatments. However, most of the mental health efficacy, effectiveness, and implementation trials have focused narrowly on testing treatments for a single diagnosis (e.g., depression) or a small number of common mental disorders, regardless of whether the studies were conducted in LMICs or HICs [6, 8, 11]. Yet, most systems of care worldwide must provide treatment for every patient, across the full spectrum of mental health diagnoses. Thus, it is essential that we build research capacity [97] for rigorous dissemination, implementation, and policy research to determine the following: [1] the best delivery pathways for comprehensive community mental health care; [2] how best to bring these interventions to scale; and [3] how to leverage locally generated research to develop and test policies to sustain new, resource-effective systems of mental health care. To inform policies, research must consider the cost-effectiveness of treating

mental disorders [104], the cost of implementing and scaling up care [105], and the economic and health benefits gained by scaling up treatment [14]. Thus, the prime goal is to identify policy change needed to sustain optimal delivery strategies in order to decrease the GMH treatment gap, lessen the burden of mental illness in LMICs, and guarantee the human rights of people living with mental illness.

## Conclusion

GMH is at a turning point. To this point, mental health has received an inadequate proportion of health funding, in comparison to the burden it causes [26]. However, two significant events in 2016 signal a shift in the international development community and a commitment to address mental health globally: (1) The World Bank endorsed mental health as a global development priority and (2) unlike the Millennium Development Goals, mental health was explicitly included in the Sustainable Development Goals, the United Nation's development agenda that will guide global and national agendas for the next 15 years. These two events create a unique window of opportunity to work across sectors to increase mental health funding, research, and capacity-building programs. Capacity building for researchers, clinicians, and policy makers is needed to overcome the barriers to preventing and treating all mental disorders in low-resource settings. Research has been accelerating over the past 20 years, and, while significant challenges remain, the field is well positioned to take advantage of this unique global policy moment for mental health and to develop research to practice opportunities in order to reduce the GMH research and treatment gap. GMH research needs to consistently link with policy-making so that evidence-based mental health programs are adopted and scaled-up within existing country health, educational, and other public systems. LMICs must examine how best to implement a major transformation of their mental health services systems, which will require ministries of health to generate policy for scale-up of government-funded trans-diagnostic community mental health care using the mhGAP. GMH researchers are charged with collaborating with governments to best inform how to help with this transformation.

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