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Proposed Training Areas for Global Mental Health Researchers

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Globally, mental health conditions account for a large proportion of years lost to disability, and 80% of this burden is shouldered by low- and middle-income countries (LMICs). Although not inclusive of all countries or regions, the World Health Organizations' Assessment Instrument for Mental Health Systems (WHO-AIMS) report [1, 2] and the World Mental Health Survey [3, 4] estimate that over 75% of people in LMICs with serious mental disorders never receive care [5], with the treatment gap ranging from 90% in low-income countries to 63% in upper-middle income countries [4].

Health service delivery in LMICs often requires addressing numerous challenges, such as limited access to training, supervision, and other resources for delivering evidence-based care. For mental health treatment delivery specifically, barriers often include severe underfunding, few trained mental health professionals, challenges measuring and identifying relevant mental health indicators, mental health stigma, and insufficient policy and public support [6]. To address some of these challenges, the field of global mental health (GMH) research has focused on developing, disseminating, and scaling-up effective and culturally-appropriate mental health assessments and interventions in these settings. Although 85% of the world's population lives in LMICs, only 1% of research on mental health interventions has been conducted in low-income countries, and only 10% from middle-income countries, with two-thirds of those from China [7, 8]. GMH research is a young, emerging field, with increasing numbers of trainees and young investigators entering; yet, to date, key training areas for the growing numbers of GMH researchers have not been articulated.

This commentary is not meant to be a final statement or authority about GMH competencies, but rather aims to stimulate discussion of potential key training areas for GMH researchers newly entering this growing field. The proposed training areas for GMH research are drawn from a range of sources including psychiatry, psychology, public health, global health, and cross-cultural health literature, from existing training areas proposed in other highly relevant fields, and from the authors' experiences conducting GMH research for more than ten years in over 20 LMICs in sub-Saharan Africa, Asia, Latin America and the Caribbean, and

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Eastern Europe and training junior GMH investigators. The authors are all fellows and faculty in the Massachusetts General Hospital (MGH) Global Psychiatric Clinical Research Training Program. Authors hold academic appointments in psychiatry, psychology, and public health at MGH in the United States, University of Cape Town in South Africa, Addis Ababa University in Ethiopia, and King's College London in the United Kingdom.

Established fields such as public health, global health, and cross-cultural health have developed research competencies that are highly relevant to GMH research. These competencies have included developing equitable and long-term research partnerships with researchers from different disciplines, institutions, and countries [9, 10], having awareness of historical and present-day power dynamics among researchers from different backgrounds and countries [11, 12], acting with cultural humility and competence [13], engaging and empowering community members in the research [11], advocating for policies that promote social justice and equity [11]. In addition, global health researchers are expected to promote sustainable interventions and development [10, 11], conduct research that helps strengthen national health systems [9], engage in health research capacity building [9] and mentor and be mentored across borders [11]. Finally, global health researchers seek to understand systemic, social and economic determinants of health [10], engage in implementation and operational research and program evaluation [10], and develop policy and advocacy skills [14].

Our proposed training areas for GMH research are drawn from these existing key competencies, while also addressing factors unique to GMH research in LMICs specifically. The considerations unique to conducting GMH research in LMICs specifically included mental health stigma and extreme marginalization of people with mental disorders, lack of availability of infrastructure and mental health services, few safety nets to address ethical or risk of harm concerns, limited training and supervision opportunities, non-parity in coverage and reimbursement, low priority by health ministries and policymakers [6]. We believe that some of the competencies outlined in other fields, including collaborative partnerships and two-way capacity building, contextual and cultural awareness, operational and dissemination and implementation science skills, and ethical concerns, pose unique challenges for GMH researchers. As such, we believe even these pre-existing domains warrant specific tailoring for GMH research and training. The proposed GMH research training areas are discussed in more depth in the remainder of this commentary (see Table 1).

Collaborative partnerships and two-way capacity building

In order to ensure that research is relevant, ethical, and appropriate, non-local GMH researchers must work with local collaborators who are contributing intellectually and technically to the research project. Collaborations between research groups in high-income countries, such as the US, and LMICs can improve population health in both directions. For example, while results are mixed [15-20], a few studies have found that outcomes for people with schizophrenia may be better in some LMIC settings than in some high-income countries (HICs) [21, 22]. In addition, some of the most cutting-edge research on integrating mental health treatment into primary care has come from LMICs [23, 24]. These approaches and scientific advancements could benefit people with mental illnesses in HICs, who, often

have inadequate access to care and poor mental health outcomes. Relationships between collaborators should be long-term to allow partners to develop trusting and mutually gratifying relationships, which ideally extend beyond immediate research projects [25]. However, given the young field, local collaborators with expertise in GMH research may not be readily available. Indeed, in 2004, researchers found that, on average, half of LMICs had five or fewer mental health researchers and 27% had none [26]. Therefore, GMH researchers may need to collaborate across academic disciplines, or with local non-governmental organizations (NGOs) or provide training opportunities to help develop local researchers.

GMH researchers may also benefit from collaborating with local leaders, government officials and policymakers who are often responsible for funding, implementing and scaling-up mental health services. Given the scarce funding often allocated to mental health services in resource-limited settings, collaboration with government officials may help promote policy changes to improve access and quality of mental health services. Improving the health and well-being of the community in which the research takes place also requires engagement with the community to understand the community's strengths, needs, and goals [25]. Community-based participatory research (CBPR) techniques, in which members of the target population are engaged in the entire research process, including helping to inform the research question, conducting the research project, and disseminating the results, may be particularly useful [27].

Since GMH human resources are so limited, two-way GMH research capacity building should not only enable researchers to collaborate mutually, ethically and effectively to improve the quality and quantity of the current research, but should also increase the likelihood that current and future researchers can address local mental health needs [28]. Stakeholders and research partners who have limited GMH research training, experience, or resources may benefit from capacity building to strengthen their mental health knowledge and research skills and increase their access to research and administrative infrastructure [29]. Additionally, two-way capacity building can help local researchers access formal master's, doctoral, or post-doctoral training programs and be competitive for grant funding or acceptance and employment. Moreover, many local collaborators train the next generation of scientists, and developing the local capacity is the most effective and appropriate way to generate critically needed GMH knowledge.

GMH researchers can also help with organizational capacity building. Without sufficient resources, time, or support, local mental health researchers in LMICs often face challenges conducting and publishing their research, given heavy clinical and teaching loads in addition to conducting research [29]. The risk of investing in individual researchers without strengthening institutional research capacity is that local GMH researchers may become overextended or leave to take positions in HICs or with institutions that are not providing local clinical care or teaching, thus contributing to external and internal brain drain. Collaborators should work together to understand each institution's expectations and seek to strengthen organizational capacity to conduct research and support local researchers at an individual level, as well as through advocacy and policy change at the institutional level.

Contextual and cultural awareness

Culture and context are relevant to all fields of scientific inquiry related to human behavior but even more so for mental health as they influence and reflect participants' social environments, cultural identity, as well as their emotions, thoughts, and behaviors. Cultural and contextual considerations are important during all stages of GMH research including conceptualizing the research question, recruiting participants, measuring prevalence, incidence, and severity of disorders, understanding etiology and outcome, designing and adapting appropriate intervention strategies, interpreting research findings, and generating new hypotheses [30].

Culture should be taken into account when assessing mental health, including many interacting aspects of cultural identity (e.g. gender, age, sexual orientation, socioeconomic status, religion, spirituality, country of origin and language). Moreover, researchers should seek to understand the ways in which an individual's cultural background and identity may influence his or her definition of problems, perceptions of causes and stressors, sources of support, and coping and help seeking behaviors [31, 32].

An *etic* approach to understanding culture assumes universal applicability of underlying concepts [33], which is most often used to generalize results or compare them across samples. However, even when one assumes a more *etic* approach and focuses on what may be universal disorders and constructs, one must take culture into account to avoid problems such as misclassification. For instance, local cultural beliefs and practices play a central role in determining how stress and distress are expressed. In some populations somatic symptoms may be prominent features of depression, while in others, dysphoria, anhedonia, or irritability may be most clinically relevant [34]. Thus, if an instrument designed to measure a mental health condition is developed in one population and applied to another without adaptation or validation, it may misclassify symptoms in the population of interest.

In contrast, an *emic* approach focuses on the perspective of participants and emphasizes understanding topics using their concepts, explanations, and values, and cultural differences in the expression and interpretation of language. Researchers may consider incorporating local idioms into instruments and take into account local conceptualizations in order to adequately communicate with the population and capture the syndrome or disorder of interest. Qualitative or mixed-methods studies may be used to identify local syndromes or risk and protective factors of mental health, and quantitative instruments can be developed that incorporate these results [35].

Researchers must also consider the cultural and contextual appropriateness of interventions and consider adaptations for specific settings. Given these factors which may vary across settings, researchers may need to adapt interventions to suit the cultural and practical capabilities and needs of the environment and a systems-level approach is useful for evaluating these considerations [36]. For example, adaptations may include the following: a) technology for long-distance training, communication, or intervention delivery; b) task shifting/sharing models to train non-mental health professionals to deliver evidence-based mental health interventions; c) language that is culturally-appropriate, such as “stressed”

rather than “depressed,”; and d) integrating culturally-relevant coping such as prayer or meditation [36]. To improve community buy-in and interest, the community should be involved in the intervention selection and development as early as possible. CBPR methods may be utilized to increase active community involvement at all stages of intervention selection, adaptation, and development [27].

GMH training should also facilitate self-reflection on one's own cultural background and experiences within the researcher's country of origin, and how their culture impacts their perspectives, emotions, and behaviors. Increased self-awareness of one's own cultural values, background, and worldview may be one reason why high-income countries benefit directly from investing in GMH researchers. Additionally, training should emphasize how the researcher's culture impacts his or her approach to research and social and business etiquette and expectations. Visiting, and when possible working and living in the locations of interest and with members of the population of interest, is critical to developing a nuanced understanding factors that may be relevant to the research question. Additionally, knowledge of the local language can be helpful in conducting research projects and developing collaborative relationships with staff, colleagues, communities, and participants. Often participants of interest have multiple local languages, and learning all would not be practical. However, at a minimum, the research team should share a common language, allowing for partnership and true collaboration.

Operational and dissemination and implementation science skills

In an effort to bridge the substantial gap between research and practice, expedite the translation of research findings for real-world clinical practice, and improve the effectiveness of existing mental health programs there has been an increasing focus on dissemination and implementation (D&I) and operational science methods in GMH research [37]. Operational research (OR) assesses and attempts to address the constraints and challenges of implementing programs in an effort to increase program effectiveness and performance. Often the goal of OR is to improve health service delivery and outcomes, but it could also be applied to improving research programs (e.g., how to strengthen research collaborations or how to address challenges faced by local and non-local researchers when conducting GMH research). Ideally, OR can be used to influence policy and increase service availability and quality; changes which are sorely needed to address the burden of mental health worldwide. One benefit of OR is that it can be integrated directly into health-service delivery, thus increasing the likelihood that local health care providers will be invested in the research and its outcome, while also increasing their research capacity [37].

In mental health and health services research, D&I methods aim to facilitate the integration of evidence-based health care services into routine practice [38]. There are numerous benefits of considering these skills as part of GMH training, particularly for investigators working in resource-limited settings where healthcare provider shortages (particularly for mental health) make feasibility of implementation and sustainability following a research study primary considerations. Key D&I questions in GMH research in resource-limited global settings may include assessing the feasibility and acceptability of task shifting/sharing models for screening and treatment of mental health disorders in clinical settings [39],

assessing the sustainability and cost effectiveness of a proposed integrated treatment model, or developing ways to integrate and scale-up evidence-based practices into existing health systems.

We believe that advanced D&I and OR skills are essential for a career in GMH research. These skills would include learning evaluation and measurement methods for key components of D&I and OR research (i.e., appropriateness, acceptability, feasibility, quality, effectiveness, cost-effectiveness, penetration, and sustainability) [37]. Assessing these D&I outcomes involves advanced mixed-methods assessments incorporating multiple informants and perspectives, and distinct research designs in which the questions are focused on provider-, staff- and organization-level variables. OR methods include use of case-control, retrospective and prospective cohort analysis, and strongly analytic descriptive methods [37]. If D&I and OR skills and training are included as part of GMH training, investigators may be more likely to consider implications for D&I and OR from the start of the research process, increasing the likelihood that research efforts would ultimately affect long-term change in service provision, clinical care, or policy.

Finally, although policy is not typically included in traditional scientific training programs, a key consideration will be how to understand relevant local policies and learn to interact with key stakeholders (e.g., healthcare administrators, policymakers and government officials) to ensure that the system is actually designed to affect the change implicated by research findings. For instance, researchers may consider including local policy makers/managers as consultants on projects, conducting pre-proposal workshops with key stakeholders, holding regular meetings and feedback on research progress, and presenting findings at key policy meetings. Part of this training in GMH may also include understanding what types of research questions and designs will allow for long-term sustainability and policy changes and considering what type of research is needed in order to affect this level of change.

Ethical considerations in GMH research

There are unique ethical considerations to take into account when conducting GMH research; research often takes place in settings with limited mental healthcare and social service safety nets, and with participants who are often vulnerable, marginalized, and stigmatized and who may lack decision-making capability. GMH training should include learning about international human rights standards and ethics, country specific ethics requirements and guidelines, and the formal processes and strategies for gaining ethics approvals. In GMH research, multi-institutional partnerships are common, and ethics approvals are often required from multiple institutions and at many levels (i.e., institutional, local, international) and training should also include best practices for addressing incompatible requests from research ethics committees and for developing fair and appropriate policies regarding sharing and ownership of research data and products, including authorship of scientific manuscripts [40].

Ethics training for research teams should be tailored to context. For example, GMH research protocols often include disclosure of sensitive information that may be highly stigmatizing and which may require particular considerations regarding confidentiality. For GMH

specifically, the stigma of mental health varies based on setting, and as such, it is imperative that the research protocol does not harm an individual if he/she can be identified as having a mental health condition. In some communities researchers may find that refraining from references to “mental health” or “mental illness” may make the study more acceptable and less stigmatizing [25]. Maintaining confidentiality may be particularly challenging when research team members or their acquaintances are known to participants. This situation is more likely when team members are drawn from the community of interest due to cultural, geographical, or linguistic constraints [25]. As such, a focus on unique ethical considerations and potential challenges should be a key component of GMH training.

Another example of an ethical consideration that may be more complex in GMH research is explaining and obtaining informed consent. Many communities in which GMH research is conducted, are highly stigmatized and vulnerable, may have limited familiarity with research and research protocols, and may not understand the rights they have, including the right to not participate. This may be particularly true when participants are desperate for treatment or financial support, when village or community leaders are involved in introducing the research to the community, when heads of household traditionally give approval for all family members to participate in activities, or when research studies are introduced during clinical care. Additionally, some participants with mental health needs, particularly those who are untreated prior to the research studies, may lack the cognitive capacity to consent to participate. While enrollment of impaired participants is usually regulated by mental health policies and legislation, such regulation does not exist in many LMICs. It is therefore incumbent upon the GMH researcher to obtain informed consent for every individual participant or their representatives and caregivers by making informed consent as understandable, realistic, and culturally and contextually appropriate as possible, recognizing that consent may be perceived differently by participants and caregivers than by research teams. Researchers must also be sensitive to the potential coercion of participants by real or perceived clinical or financial incentives of participating in studies. This is relevant in all research, but particularly in resource-limited settings. Identifying potential ethical concerns specific to the research project early on will allow these issues to be discussed, addressed, and planned for during ethics training.

When working in situations where access to mental health care and services is limited, researchers have a responsibility to know what they will do to protect patients and team members when confronted with situations that are beyond the resources and skills of the research project and team. For example, researchers should plan how they will address risk of harm situations, such as participants who are suicidal, homicidal, engaged in high-risk behaviors, or are being abused. Resources and services such as referrals to mental health services or law enforcement may be unavailable or inaccessible. Safety plans may require creating layers of support through informal networks of family, friends, or local government or non-government programs, and these plans must be set up prior to beginning the project. In some cases, GMH research will need to start with implementing mental health services and developing clinical human capacity to address mental health issues prior, or in addition, to collecting data [29]. It is not possible to plan for all situations, and so GMH researchers must be flexible and responsive to participants and research teams when challenging issues arise.

While ensuring the safety and comfort of research participants, GMH researchers must also consider the well-being of their research teams. Due to limited local mental health providers and researchers, in many cases GMH research team members will have little experience conducting research that often requires them to assess, and at times address, personal and difficult issues such as mental health problems, poverty, child maltreatment and domestic violence, substance abuse, trauma, and physical health concerns. Research team members may feel overwhelmed and hopeless when confronted with these issues. Team members may also encounter potentially violent or unsafe conditions without some of the safety procedures and institutional supports available in higher-resource settings.

Moreover, although local, research team members may come from different backgrounds than those they are working with. Under these circumstances, sensitive and challenging situations are likely to arise. For example, team members may find that some participants are not comfortable with the team member's gender, religion, tribe, or ethnic group or that language barriers due to dialect or regional variation may arise even when the researcher and participant speak the same language. Team members need to feel comfortable sharing these situations with their local and non-local collaborators knowing they will be supported and solutions can be developed together. Providing a safe and open environment in which these issues can be discussed respectfully and honestly is critical for the safety and well-being of the team and the scientific rigor of the project. Research teams need supportive, interactive and ongoing training and supervision, not only in implementing the research protocol but also in self-care, stress management, and dealing with challenging or dangerous situations that may arise during the project. Particularly in task shifting/sharing models that include paraprofessional providers with limited previous training or experience in mental health, considering de-briefing sessions and regular supervision is essential.

In summary, this commentary proposes an initial set of training areas for GMH researchers, including a focus on collaborative relationships with local and non-local partners, two-way capacity building, contextual/cultural awareness, operational and D&I research methods, and unique ethical considerations. The proposed competencies are not exhaustive, and are designed primarily for researchers who are new to the field or who have conducted mental health research primarily in HICs; however, we hope these training areas promote ongoing discourse on the essential skills in GMH research. Details describing each of the competencies are presented in Table 1.

We recognize that these training areas were not developed from a consensus approach, but rather were drawn from our experiences conducting GMH research in diverse settings and may not be applicable to all projects or contexts. Additionally, we recognize that training areas will shift as the field evolves and GMH local and nonlocal capacity expands. Identification and implementation of specific key competencies may be challenging as trainees will be expected to have diverse academic and clinical backgrounds and unique training needs and plans. An important future direction would be to collaborate with GMH researchers from many research teams to systematically develop a consensus of potential key GMH research competencies and behaviors. Although research skills are similar across domestic and global research, there are important and unique considerations when

conducting GMH research, particularly in resource-limited contexts, that we hope are highlighted throughout this commentary.

Implications for Academic Leaders

- As an emerging field, global mental health (GMH) should establish training areas for new researchers.
- Although many research skills are similar across domestic and global research, there are important, unique considerations when conducting GMH research, particularly in resource-limited contexts.
- Proposed training areas for GMH researchers, particularly those who have conducted research primarily in high-income countries or who are beginning their careers, include: collaborative partnerships, two-way capacity building between local and non-local researchers, cultural and contextual awareness, operational research and dissemination and implementation science skills, and an understanding of ethical considerations in GMH research.

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Table 1
Proposed Training Areas in Global Mental Health Research

Collaborative partnerships and two-way capacity building

Equitable, respectful, and long-term collaboration with local and non-local researchers
 Engagement of key stakeholders and community members
 Bidirectional capacity building
 Opportunities for formal training opportunities of all research partners
 Organizational capacity building

Contextual and cultural awareness

Consideration of cultural and contextual factors when developing and executing research
 Understanding of etic and emic concepts and cultural formulation as applied to mental disorders across cultures
 Systems approach to conceptualizing research projects and interpreting results
 Understanding and use of qualitative, mixed-methods, and CBPR methods
 Attention to systematic adaptation of instruments and interventions

Operational research (OR) and dissemination and implementation (D&I) science skills

Knowledge of OR and D&I methods
 Understanding of task sharing/shifting models and their applicability to the project
 Assessment of costing and cost-effectiveness of proposed models
 Integration of research studies into existing systems
 Understanding how provider-, staff-, and organization-level factors impact uptake of findings
 Dissemination of research findings and implications to local, institutional, and regional policy makers
 Advocating for increased attention to, and investment in GMH research and services

Ethical considerations in GMH research

Recognition of how contextual factors may influence research ethics
 Comprehensive ethics training specific to study and skills of research team
 Development and execution of risk of harm plans
 Availability of appropriate supervision
 Safe and supportive research environment
 Knowledge of, and oversight from, all appropriate ethics review committees
