

<https://rfi.grants.nih.gov/?s=63b85f2b4159a202010a7042>

Request for Information (RFI): Gaps and Opportunities in Global Mental Health Research

Background

Mental illnesses are a global concern, presenting shared opportunities to advance science across international boundaries. To meet this challenge, NIMH aims to expand our knowledge of global mental health, elucidate new targets for better preventive and treatment interventions for mental illnesses, and develop novel approaches for addressing mental health needs worldwide. The Center for Global Mental Health Research works in collaboration with the NIMH Global Mental Health Team to coordinate NIMH's efforts to generate knowledge that will improve the lives of people living with or placed at risk for mental illnesses in low- and middle-income countries (LMICs). This focus on expanding science in LMICs is driven by the need to inform the improvement of culturally appropriate and equitable access, availability, affordability, and quality of preventive, diagnostic, therapeutic, and rehabilitative evidence-based mental health services. As a part of this effort, NIMH seeks input about existing efforts, general suggestions, and future considerations for advancing equitable, impactful, and meaningful global mental health research.

Information Requested

To identify research gaps and opportunities that will advance our understanding and role in supporting basic, translational, and services-oriented global mental health research, NIMH seeks input from a broad array of interested parties, including (but not limited to) research organizations, multilateral organizations, community organizations, academic institutions, professional societies, businesses, other government agencies, health services organizations, those employed by or receiving funding from NIH, people with lived experience and the public.

In your response, please share any organizational definitions, specific examples, suggested strategies, resources, and metrics.

We welcome your responses to any or all of, but not limited to, the prompts below:

1. Priority areas in global mental health research
2. Meaning of capacity building in research to you and/or your organization/institution
3. Resources, programs, or opportunities to help individuals in LMICs and/or high-income countries (HICs) to enter and maintain a career in global mental health research
4. NIMH and promotion of global mental health research partnerships
5. Principles and strategies needed to support the exchange of knowledge derived from research findings across countries and research groups

To ensure consideration, responses must be submitted by: 2023-05-05 11:59:59 PM ET

[responses limited to 500 words each, or can attach pdf]

Priority areas in global mental health research

In order to “generate knowledge that will improve the lives of people living with or placed at risk for mental illnesses in low- and middle-income countries (LMICs)” (<https://www.nimh.nih.gov/about/organization/cgmhr>), NIMH must prioritize research that is based in human biology and behavior and that which will accommodate diverse human populations and cultures with variable mental health symptoms, etiologies, and access to treatments. Expansion of science in LMICs should focus on research with the highest potential to generate usable results for providers and their patients. In environments with limited financial resources, there is a magnified necessity for funders to prioritize research that considers the needs of their specific communities. Funders need to make evidence-based judgements about the utility of the projects they choose to support, with increased emphasis on rigor and efficiency. In such an environment, curiosity-driven projects with limited clinical applicability are limited in value. The questions pursued and the methods used to answer these questions must be targeted at needed breakthroughs for these communities.

For these reasons, we recommend that global mental health research avoid the use of animal-based paradigms, which have historically been proven to have limited translatability to humans. Specifically, the use of animals to study human neuropsychiatric diseases, substance use, and neurodivergence has largely been a failure. Scientists in LMICs cannot waste resources pursuing untranslatable unethical animal models that may raise ethical concerns and that, after decades of use, have produced little if anything to help improve human mental health.

Animal models of neuropsychiatric disorders and neurodivergence lack construct validity, face validity, and predictive validity, making it difficult to translate findings to homogenous human populations, let alone underrepresented populations. The use of and addiction to drugs of abuse in humans is a vastly complex experience, one that has been impossible to mimic using animals in a laboratory setting. Furthermore, the pharmacokinetic actions of drugs are different among species. No single animal model is able to replicate all aspects of a particular condition, and features of human behavior representing hallmarks of these disorders cannot be produced or properly assessed in animals. Improving global mental health requires emphasis on the impact of socioeconomic status, educational opportunity, cultural stigmas, and complex environmental influences. These factors are impossible to recapitulate in animal models.

There are existing and emerging research methods that can be utilized to continue to study the etiology, mechanisms, and potential treatments for mental health conditions across diverse populations more effectively. Funds should be allocated to more relevant experimental models based in human biology, such as computational modeling using well-defined biomarkers and the use of patient-specific stem cells for personalized medicine, which—being generated from people *with* the condition in question—can better recapitulate it and can be used in drug discovery. Complex genetic diseases like schizophrenia are ideal disorders to model through these approaches. In addition, the funds used to support ineffective and wasteful substance abuse studies in animals could instead be used to aid effective and directly human-relevant drug prevention, rehabilitation, and mental health programs.

Meaning of capacity building in research to you and/or your organization/institution

[No response]

Resources, programs, or opportunities to help individuals in LMICs and/or high-income countries (HICs) to enter and maintain a career in global mental health research

NIMH should establish centers for non-animal methods in LMICs so that scientists in all countries have access to training and resources to be able to use the most modern and outcome-oriented methods. These could include centers for the development and use of microphysiological systems, three-dimensional tissue printing, *in silico* modeling, artificial intelligence, and advanced human imaging. As these human-based tools become more prevalent, it is critical that mental health researchers around the world are capable of competing. NIMH should offer funding for LMIC scientists currently using animal-based methods to transition to non-animal methods (funds would be spent on training and equipment). This would not only increase the scientific value of LMIC research, but also ensure that data emerging globally is grounded in the same methodology, allowing for easier collaborations, data merging, and advancing our understanding of cultural and environmental contributions to mental health etiology and treatment response.

NIMH and promotion of global mental health research partnerships

[no response]

Principles and strategies needed to support the exchange of knowledge derived from research findings across countries and research groups.

Improving the rigor, reproducibility, and utility of research in both LMICs and high-income countries will increase scientists' confidence in the output and therefore encourage knowledge sharing. NIMH can achieve this, in part, by forgoing support for research that has failed to generate results that meet the mental health needs of communities in both the U.S. and internationally, namely research that uses animals. Ensuring research from LMICs is conducted using the most cutting-edge and human-applicable methods will increase its value to the scientific community, laying the groundwork for future collaborations across nations and increasing the participation of historically underrepresented populations in scientific publications and conferences.

NIMH should not overlook that there are programs and interventions that are already known to help people with mental health conditions that are not laboratory-based. In an interview with NPR, former NIMH director Thomas Insel said, "This is a crisis of care. This is our failure to be able to provide the things that we already have in hand" (<https://www.npr.org/sections/health-shots/2022/03/01/1082993901/in-healing-a-doctor-calls-for-an-overhaul-of-the-mental-health-care-system>). Former members of the National Advisory Mental Health Council penned an op-ed in 2016 lamenting the NIMH's focus on basic research at the severe detriment of care and community-based efforts:

"To prioritise one area of science over others risks compromising the overall return-on-investment. Neuroscience is one road to improving mental health, but overenthusiasm for this area means losing opportunities for advancements in mental health through research in areas such as developing sustainable interventions to overcome disparities in access to effective treatment and outcomes; crafting technologies and implementation strategies to disseminate scalable, cost-efficient interventions; devising approaches to empower people to overcome barriers to engagement and retention in treatment; and deploying preventive interventions to reduce the burden of mental illness, including clarifying how to implement best practices in suicide prevention, especially given the dramatic rise in suicide.

Scalability of prevention interventions is key.”
(<https://doi.org/10.1192/bjp.bp.115.179895>).