GLOBAL MENTAL HEALTH

The Unconscionable Gap Between What We Know and What We Do

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Mental disorders have high aggregate prevalence, are responsible globally for nearly a quarter of all years lived with disability, and represent the largest cause of lost economic output among all classes of noncommunicable disease worldwide. Cost-effective treatments, including both generic drugs and brief, manualized cognitive therapies are available to address this burden. Nonetheless, treatment of mental disorders remains a low priority worldwide—disproportionately so in low- and middle-income countries. Here, I focus on possible reasons for the failure of policy-makers to respond effectively, and I suggest corrective approaches.

Despite the persistent myth that psychiatric disorders predominantly affect high-income countries, they are highly prevalent in all regions of the world (*1*, *2*) and disproportionately contribute to disease burden in low- and middle-income countries (LMICs) (*3–5*). Like other types of noncommunicable diseases (NCDs), the prevalence of mental disorders is on the rise in LMICs, but development of resources for their prevention and treatment lag relative to many other NCDs, such as diabetes and heart disease (*5–7*).

Population growth, rapid urbanization, protracted armed conflicts, large-scale population displacements, and an epidemiological transition from infectious to chronic diseases all drive the increase in prevalence of mental disorders in LMICs. The effects of conflict and refugee status on incidence and severity of disabling conditions such as post-traumatic stress disorder, depression, alcoholism, and childhood-onset mental disorders remain understudied (*4*); in many LMICs, disorders produced by such circumstances receive little attention. In addition, high birth rates and poor access to quality perinatal care in resource-poor settings contribute to a substantial incidence of serious but often overlooked cases of postpartum depression and psychosis (*8*), which visit lasting damage upon both mothers and children.

According to the Global Burden of Disease (GBD) study 2010, mental disorders are responsible for 7.4% of disability-adjusted life years (DALYs) worldwide (*2*). DALYs represent an integrated measure of disease burden that is widely used in public
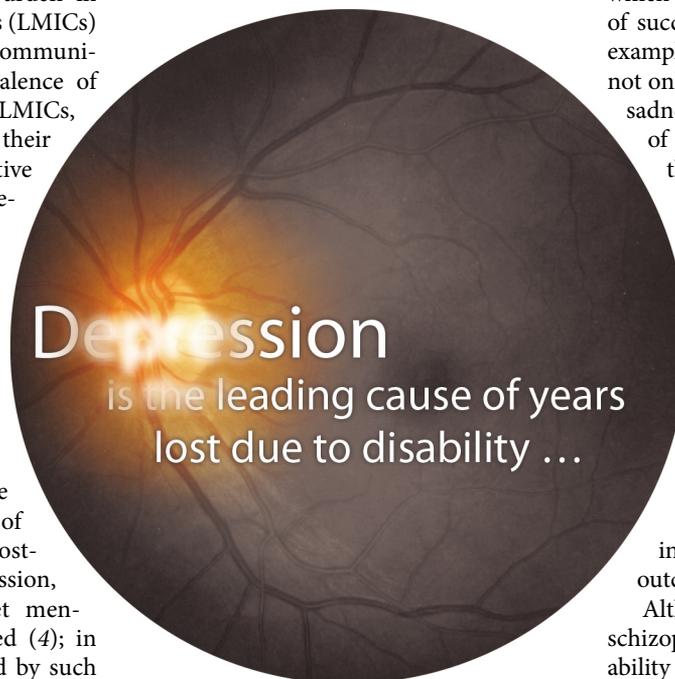
Blind spot. Despite cost-effective treatments and economic, mortality, and disability data, mental illness remains in our blind spot. Bias likely underlies this lesion in the vision of global health policy-makers. [www.who.int/mediacentre/news/notes/2008/np11/en]

health analyses and in formulating health policy. DALYs are calculated as the present value of future years of disability-free life lost to premature mortality and years lived with disability (YLDs). Although mental disorders can be lethal, they contribute most to

DALYs by their profound effects on disability; indeed, they represent the leading causes of YLDs worldwide (22.9%), with depressive disorders being the single largest contributor (*2*, *9*, *10*). Consistent with these findings, a study by the Harvard School of Public Health and the World Economic Forum (*11*) found that mental disorders are the most substantial contributor to lost economic output among classes of noncommunicable diseases (35%). Cardiovascular disease (the leading cause of death worldwide) had a slightly smaller impact on economic output (33%), whereas other disease classes, including cancer (18%) and diabetes (4%), exerted substantially smaller negative effects.

WHY SO DISABLING?

Mental disorders are disproportionately disabling because they impair cognition, emotion, motivation, and executive function, which are the fundamental underpinnings of success in school or the workplace. For example, individuals with depression suffer not only from mood disturbance—typically sadness—but also from painful feelings of hopelessness and worthlessness and thoughts of suicide. They also suffer from disturbances in sleep and appetite, disabling decrements in energy and in the ability to engage in motivated behaviors (including study or work), and impairments of attention and memory. By some measures, depression alone produces greater decrements in health status than do angina, diabetes, asthma, or other chronic diseases; however, it often co-occurs with such NCDs, thus resulting in substantially worsened health outcomes and disability (*12*).

Although less common than depression, schizophrenia is also a leading cause of disability worldwide. The still untreatable deficit symptoms (blunted emotional reactions, decreased motivation, and impoverishment of thought and speech) and cognitive symptoms (decreased attention, memory, and ability to exert cognitive control over behavior) render affected individuals severely disabled even when antipsychotic drugs successfully suppress other symptoms, such as hallucinations and delusions.

Mental disorders tend to begin early in life. Compared with other medical conditions, mental disorders cause the greatest fraction of YLDs during the crucial 15 to 44 years age range when individuals are expected to com-

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plete their educations, find life partners, have young children, and embark on their adult vocations (9). Compounding their early onsets, the course of many mental disorders contributes to their disabling effects, often running a chronic or remitting-relapsing course over the life span. For example, autism spectrum disorders (ASDs) have onsets in early childhood and rarely remit. At the severe end of the autism spectrum, impairing deficits in social interaction are accompanied by intellectual disability. Schizophrenia typically manifests in teen years or the early 20s—a time of life at which families and societies are completing their investments in a young person's education. The disease undercuts much of this investment, most often producing a lifetime of disability and need for societal intervention to house, feed, and protect affected people. Mood and anxiety disorders most often begin in adolescence or young adulthood and often exhibit new constellations of symptoms over the life course. For example, anxiety disorders that begin in childhood or adolescence are often complicated by depression in early adulthood (13). Such co-occurring disorders might be prevented with effective early intervention, but when untreated, the emergence of additional symptoms exacerbates distress and disability and decreases subsequent treatment responsiveness.

Although the greatest impact of mental disorders on DALYs is mediated by disability, they also contribute to mortality. There are ~1 million suicides per year worldwide, and it is estimated that 90% of people who commit suicide have a mental disorder, most commonly depression (14). Mental disorders also contribute to decrements in life span in ways that are less well recognized, such as the impeding of healthy lifestyles (for example, the high rates of smoking among individuals with psychotic disorders), access to medical care, and adherence to prescribed treatments. High rates of comorbidity suggest that the pathophysiological manifestations of mood and anxiety disorders (perhaps related to stress physiology or inflammation) might exacerbate diabetes and cardiovascular disease. Premature mortality of this latter sort is not attributed to mental disorders in health statistics but to the immediate cause of death.

MENTAL DISORDERS CAN BE TREATED

Given severe resource limitations in LMICs, even major causes of disease burden might be relegated to low priority if effective treatments are costly or require rarified technol-ogy or specialist treatment settings. Such is fortunately not the case for mental disorders (15). Although currently available therapies have limitations—as is commonly the case in treating NCDs—many cost-effective treatments for mental disorders are available, including generic versions of a large number of antipsychotic, antidepressant, anxiolytic, and mood-stabilizing drugs. Moreover, several brief cognitive and behavioral therapeutic regimens have been research-tested and adapted for use in primary care settings around the world.

It is important, given constrained health care budgets, to integrate cost-effective treatments for mental disorders into primary care and to use existing supply chains to distribute medicines. Moreover, given the shortage of psychiatrists and psychiatric nurses in LMICs—nearly half of the world's population lives in countries that have less than one psychiatrist per 200,000 people (5)—both diagnostic methods and treatment protocols must be designed to be implementable by primary care physicians, nurses, and health workers. Because we lack objective diagnostic tests for most mental disorders, the World Health Organization (WHO) has adapted symptoms-based diagnoses for primary care settings; in addition, conceptual frameworks exist to facilitate the integration of mental health care in primary care settings (16), including those focused on maternal and child health (17). Packages of cost-effective care for people with depression (17), schizophrenia (18), and other mental disorders have been developed specifically for LMICs. In parallel, at least some progress is being made in de-emphasizing large and often antiquated centralized institutional settings (5) that gobble up scarce resources and leave many individuals who live outside of population centers without access to treatment.

STILL A LOW HEALTH PRIORITY

Despite efforts by the WHO and others to disseminate templates for cost-effective care (15–19), much evidence attests to the dire state of mental health care in many LMICs (5). It should be noted that severe deficiencies in the care of people with mental illnesses characterize many high-income countries as well. In the United States, for example, the federal Mental Health Parity and Addiction Equity Act, which banned much of the previously existing health insurance discrimination against people with mental illness, was passed only as recently as 2008. However, the regulations needed to implement the law lan-guished for five years, issuing only in 2013. Such late but laudable reforms notwithstanding, in the United States and other high-income countries, many individuals with chronic mental illness become homeless or are imprisoned, often for offenses that stem from their disorders (20).

The low priority of mental illness in the health care systems of many LMICs is attested to by health budget allocations that generally lie in the range of 1 to 2% of health expenditure. As a result, health care spending on mental disorders is often less than US$0.25 per capita in low-income countries and averages less than US$2.00 per capita globally (5). The WHO estimates that 80% of individuals with mental illnesses in LMICs do not receive meaningful treatment. And when treatments are available, they are often in the form of medications dating from the 1950s that should have been long superseded by more modern medicines. For example, amitriptyline is still widely used as an antidepressant in sub-Saharan Africa and remains on the WHO essential medications list (7). Although efficacious for depression, the side effects of this drug are so severe that patients rarely tolerate a therapeutic dose (~150 mg), and the drug is so toxic that it is possible to commit suicide with a 2-week supply.

An additional set of policy failures symbolize the low status of mental illness even among global policy-makers, who have at their fingertips current information about disease burden and treatment. In September 2011, the United Nations (UN) General Assembly, with guiding input from the WHO leadership, held a rare high-level meeting to address NCD prevention and control; such a high-level meeting to discuss a health matter had occurred only once before, to address the problem of AIDS. The meeting focused on cardiovascular disease, diabetes, cancer, and respiratory diseases—important and growing health threats, to be sure—but excluded all brain and mental disorders with the exception of stroke, which was included as a cardiovascular disease. Similarly, mental health issues are excluded from the UN Millennium Development Goals and Global Sustainability Goals.

A striking conclusion follows: The WHO leadership, its UN parent, and many other global health-policy experts appear not to take seriously the GBD study and updates (for which WHO is a key sponsor and contributor). In short, some of the most influential leaders in the development of global health policy have generally excluded from

discussion and planning the class of NCDs that is both most disabling and that exerts the greatest drag on economic output. If an important goal in global health is to reduce DALYs in LMICs in a cost-effective manner, improved treatment policies for mental illness could have a large positive effect—even in the absence of new scientific developments. Such policies could (i) make modern generic medicines more widely available, partly by updating WHO's essential medicines lists and partly by capitalizing on existing supply chains; (ii) support the training of primary care physicians, nurses, and health workers to treat the mentally ill; (iii) disseminate protocols for brief cognitive and behavioral therapies to health workers; and (iv) hasten the transfer of resources from large central mental hospitals to primary care settings (*14–17, 19*). In the short term, the research needed to benefit people with mental illness in LMICs does not involve basic science but rather, studies that are focused on clinical effectiveness and adaptation of existing treatments to specific local contexts (*21*).

PUBLIC HEALTH BLIND SPOT

Stigmatization is the "top of the mind" explanation for why people with mental illness so often go untreated, are widely excluded from social and vocational opportunities, and are so frequently found among the homeless or imprisoned. The term "stigma" has taken on diverse (and often diffuse) meanings; nonetheless, a broad scholarly literature documents negative attitudes across countries and cultures that contribute to marginalization of the mentally ill, their families, and even the practitioners who treat them. These attitudes include fear of the severely mentally ill, superstitions about the causes of mental illness, attribution of imagined moral flaws or weaknesses to sufferers or their families, a sense that those affected are irreparably "broken," and a belief that mental health professionals must be similarly troubled—or else they would have chosen a different profession.

One reason for the fertile ground in which ignorance and stigma have grown is the slow rate of scientific progress concerning mental illness, lagging behind many other areas of biology and medicine. The human brain has given up its secrets grudgingly because of its structural and functional complexities, its inaccessibility to direct examination in life, and the limitations of animal models. Human genetic and genomic studies are beginning to provide clues to the pathogenesis of mental illnesses, such as the well-advanced identification of genome-wide risk loci for schizophrenia. However, there is a long latency between such new discoveries and the development of clinically useful diagnostics and therapeutics.

Scientific insight into the causes of brain disorders and objective diagnostic tools can help destigmatize mental illness, but only up to a point. Even with the growing recognition that autism, schizophrenia, and bipolar disorder are genetically influenced brain diseases, much of the public still views severely affected individuals as strange, frightening, and beyond hope. The recent remarkable success in decreasing the stigma attached to HIV/AIDS illustrates the important role for highly efficacious treatments. It was not the identification of HIV as the cause of AIDS that decreased the fear and marginalization of infected people; almost certainly, the scientific progress that contributed most to stigma reduction was the development of effective treatments that turned HIV infection from a death sentence into a manageable chronic illness. Effective (and more tolerable) therapies for severe mental disorders will almost certainly diminish stigmatization, but those currently suffering cannot wait.

Despite its importance, I do not believe that stigma fully explains the dismissive attitudes of policy-makers and many health professionals toward mental illness, attitudes revealed by the choices they have made. If one assumes that policy-makers are adequately educated about the data on mental disease prevalence, burden, and treatment to suppress attitudes driven by stigma, then one must conclude that other factors contribute to the deprioritization of mental illnesses.

Policy-makers, especially if they are elected to their positions, have strong incentives to consider seriously the positions of powerful advocacy groups. For example, strong and effective advocacy by parents of children with ASDs led to substantial policy changes in the United States and other high-income countries, ranging from the provision of services (often paid for by school systems) to markedly increased government funding for research. However, the advocates for autism care and research were largely parents who were able to throw off decades of stigmatization during which they were often blamed by badly misguided mental health professionals as the psychological causes of their children's autism. For mental disorders such as schizophrenia and mood disorders, however, for which symptoms begin in teen years or adulthood, the illnesses themselves often rob those affected of the ability to advocate effectively. In addition, the pharmaceutical industry has largely abandoned new research on mental disorders as being scientifically too challenging (*22*), thus sidelining advocacy based on commercial interests. The relative absence of voices advocating for individuals with mental illness puts an even greater onus on policy-makers to attend to the implications of public health data. The question then follows as to whether most policy-makers take data about mental disorders seriously. On the basis of their actions, I have come to believe that they do not.

In the original GBD study of 1996 and follow-up analyses, the World Bank, WHO, and academic collaborators documented the important role of disability in hampering economic development (*9*). In so doing, they moved beyond prior views that had focused almost entirely on mortality. With the original GBD publication (*9*), mental disorders emerged analytically as a very large factor in economic underperformance in developing and established market economies alike. With hindsight, given the relatively modest impact of the GBD study findings on the prioritization of mental health, it would seem that the age-old human focus on forestalling death devalues the putatively rational assignment of expenditure and effort when it comes to diseases that are more disabling than lethal.

I believe that a seemingly more arcane but powerful cognitive distortion also plays a role in the deprioritization of mental illness: the belief that mental disorders should somehow be controllable, if only the affected person tried hard enough or adhered to a better set of beliefs. Given powerful and ubiquitous human intuitions seemingly (albeit falsely) confirmed by introspection, we generally believe that we have transparent insight into the reasons behind our choices and actions. In fact, nearly the entire weight of modern cognitive neuroscience argues that this belief is illusory and that the underlying mechanisms of thought, emotion, and behavior are largely, if not entirely, opaque to us. I have too often seen policy-makers from LMICs and high-income countries alike verbally attest to the importance of mental disorders on the basis of public health data, but then behave as if other disorders are more deserving of attention. My inference, perhaps flawed, is that many do not really believe that mental disorders are bona fide illnesses like any other or that the associated disability, with its invisible causes, is fully credible.

What is to be done? Cognitive psychology and behavioral economics–based studies of policy-making in this domain would be revealing and might prove useful for improving decision-making. Policy-makers who influence health care priorities—whether in government or nongovernmental organizations—should ask themselves (or better yet, be queried in a sophisticated scientific manner) whether they accept formulations of disease burden that are inclusive of disability (small methodological quibbles aside), and if so, how they defend the exclusion of mental disorders from so many important efforts aimed at improving life and economic development in LMICs. Of course, laws and policies do not simply follow from scientific data; they must take into account the present state of affairs (and its history), the interests of stakeholders, local culture, morality, and other factors. That said, if extensive data sets and analyses supported by such institutions as WHO, the World Bank, and many leading academics have such little effect on the priority of mental health, then it might prove salutary for makers to recognize and explain their logic, including the role of biases in shaping their actions.

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