

# Missed Opportunities in Global Health: Identifying New Strategies to Improve Mental Health in LMICs

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## Abstract

Mental illnesses are among the top causes of disability and disease in low- and middle-income countries (LMIC). Yet despite the enormous burden that mental ill-health imposes on individuals, their families, society, health systems and the economy, mental health care remains a truly neglected area of global health policy. Policy and practice in most LMIC and among development partners is either absent, outdated, or ineffective, characterized by systemic neglect and—in too many cases—outright human rights violations.

In spite of this discouraging reality, the good news is that the evidence base on low-cost, effective interventions that can significantly reduce the burden of disease and enhance economic productivity in

LMIC is increasing daily. Countries like South Africa and India are putting new mental health policies in place. There is now a clear agenda of “what to deliver” to make this deplorable reality better, and indeed a nascent advocacy community has begun to call for action and align scientific research.

This paper sets out this status quo, but also makes a unique contribution by investigating practical and immediate opportunities on “how to deliver” more effectively on this new agenda, suggesting reforms to three existing LMIC government and donor strategies to extend healthcare coverage, pay healthcare providers, and alleviate poverty using cash transfers.

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## Foreword

Mental illnesses are among the top causes of disability and disease in low- and middle-income countries (LMIC). Yet despite the enormous burden that mental ill-health imposes on individuals, their families, society, health systems and the economy, mental health care remains a truly neglected area of global health policy. Policy and practice in most LMIC and among development partners is either absent, outdated, or ineffective, characterized by systemic neglect and—in too many cases—outright human rights violations.

In spite of this discouraging reality, the good news is that the evidence base on low-cost, effective interventions that can significantly reduce the burden of disease and enhance economic productivity in LMIC is increasing daily. Countries like South Africa and India are putting new mental health policies in place. There is now a clear agenda of “what to deliver” to make this deplorable reality better, and indeed a nascent advocacy community has begun to call for action and align scientific research.

This paper sets out this status quo, but also makes a unique contribution by investigating practical and immediate opportunities on “how to deliver” more effectively on this new agenda, suggesting reforms to three existing LMIC government and donor strategies to extend healthcare coverage, pay healthcare providers, and alleviate poverty using cash transfers.

The paper was prepared as background to a Center for Global Development working group on mental health in LMIC that will issue recommendations building on the paper and working group discussions in 2015-2016.

Given our mandate to focus on global public goods and aid effectiveness in health, CGD does not typically work on specific disease control priorities, particularly when there are many other, better-qualified groups engaged on these agendas. However, the gap between rhetoric and action on mental health among development partners seemed so vast that I felt we could make a difference with some pragmatic suggestions on the “how-to” in the near term.

I hope this excellent paper—and later, our working group recommendations—can make a small contribution to improving mental health policy and practice in LMIC.

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## Glossary

CCT	Conditional cash transfer
DALY	Disability adjusted life year
DCP	Disease control priorities for health in developing countries
GFF	Global Financing Facility
HRITF	Health Results Innovation Trust Fund
LMIC	Low- and middle-income countries
MDGs	Millennium Development Goals
NGO	Non-governmental organization
RBF	Results based funding
RMNCAH	Reproductive maternal newborn child and adolescent health
SDGs	Sustainable Development Goals
UCT	Unconditional cash transfers
WHO	World Health Organization

## **Note on Terminology**

This report draws on cost-effectiveness literature, which uses the Disability Adjusted Life Year (DALY) as a measure of the effectiveness of a given intervention. The term disability in the context of DALYs is used broadly to refer to “any short-term or long-term loss of health” (Salomon, Vos et al. 2013), and can be understood as a synonym for morbidity – which is to say all ill health other than mortality. This use of the word disability is distinct from definitions espoused by the field of disability rights, such as that found in article 1 of the UN Convention, which states that “persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others” (United Nations 2007).

The report adopts several terms to refer to the scope of conditions grouped under the broad label of mental health care. The terminology is most often adopted within the field of public health is mental disorders or mental and neurological disorders, which shortens to neuropsychiatric disorders. However, human rights advocates prefer the term mental disability, which breaks into two categories of intellectual disability, for people with cognitive impairments, and psycho-social disability, for people with a psychiatric diagnosis. When discussing human rights, we try to adopt the language of human rights, but otherwise have privileged the language of public health.

## **Introduction: Why mental health matters to global health**

### **Burden of mental disorders**

Globally, 700 million people are estimated to have a mental disorder (Patel and Saxena 2014), and over a billion are likely to experience one in their lifetime (De Silva and Roland 2014), including 80% from low- and middle-income countries (LMIC). Mental health is cause for concern at the most immediate level because of the high associated levels of morbidity and mortality. Neuro-psychiatric disorders are responsible for one third (37%) of the loss of healthy life from non-communicable diseases (Bloom, Cafiero et al. 2011). Furthermore, Whiteford et al. estimate that neuro-psychiatric disorders account for an estimated 7.4% of the global burden of disease (95% confidence interval: 6.2%–8.6%). While acknowledging that data quality varies across the globe, the authors nonetheless noted that, based on existing evidence, neuropsychiatric disorders constitute one of the top five contributors to global burden of disease (Whiteford, Degenhardt et al. 2013) (figure 1).

The term neuropsychiatric disorder entails a diverse range of conditions with different approaches to treatment. Depression and anxiety disorders (known as the common mental disorders) collectively cause over half the disease burden from mental health and substance abuse disorders (*Ibid*), and can be effectively treated in primary care. Bipolar disorder and schizophrenia-spectrum disorders (labelled the “severe mental disorders”), constitute 15% of the mental health and substance abuse disease burden and may require more specialized interventions, though these can also be delivered in community settings. The remainder of psychiatric disorders is split between childhood and developmental disorders, and alcohol and drug abuse. In addition, neurological disorders, including dementia, Parkinsonism, and epilepsy, are often paired with psychiatric disorders in the measurement of global disease burden and in service delivery in low-income countries. As we will examine further below (in the introductory section on cost-effectiveness) there are effective treatments for neuro-psychiatric disorders, including both common and severe disorders, and a wide range of quality psychotropic medicines are off-patent.

Deaths from mental disorders result from both suicide and premature mortality, and could be mitigated by additional initiatives towards prevention and treatment. The World Health Organization (WHO) estimates that 800,000 people die each year from suicide (Tangcharoensathien, Mills et al. 2015) – more than two and half times the number of women dying each year in childbirth. In addition to suicide, premature mortality can result from untreated health conditions, side-effects of psychiatric medicines, and the negative effects of mental disorders on the progression of other diseases (Thornicroft 2011), including HIV. Measurement of premature mortality is most advanced in high-income countries, where people with schizophrenia have been found to have a life expectancy 15-20 years shorter than the general population (Jääskeläinen, Juola et al. 2012).

In addition to their heavy death toll, mental disorders are the leading cause of disability worldwide, as measured in Disability Adjusted Life Years (DALYs), accounting for nearly a

quarter (22%) of all days lived with disability (Whiteford, Degenhardt et al. 2013). As populations age, the burden of non-communicable diseases, such as mental disorders, is rising. At present, mental and neurological disorders account for over a third (37%) of the disability burden associated with chronic non-communicable diseases (Bloom, Cafiero et al. 2011). The DALYs due to mental illness grew by 38% in the twenty years between 1990 and 2010 (Whiteford, Degenhardt et al. 2013), and that growth is expected to continue, because mental disorders are most commonly diagnosed in the adult years, and as populations age, they become more subject to neurological disorders such as dementia and Parkinsonism.

### **Human rights abuses**

These numbers mask the depth of burden associated with a mental illness, which often becomes disabling because of the community response. The degree of neglect and abuse of people with mental disorders has come to the attention of the human rights community, who have taken pains to document the stories of otherwise invisible people in a series of scathing reports. Neglect, abuse, and inadequate treatment for the mentally ill are common in high-income countries too, and were the focus of numerous human rights and media reports in the 1970s and 80s (Rothman & Rothman, 1984) In LMIC, however, for some time there has been a discourse that mental health problems don't exist (Summerfield 2008; Summerfield 2012; Summerfield 2013), or that their prognosis is better, despite the absence of treatment, because of the added social supports of extended family. In the past decade, an emerging body of evidence has documented neglect and abuse in LMIC on par, if not worse, than some of the atrocities witnessed in the past within high-income settings.

The first series of human rights reports on mental health in LMIC documented abuses associated with guardianship and long-term institutionalization of people with mental disabilities in Eastern Europe (Mental Disability Rights International 1997; Mental Disability Rights International 1999; Mental Disability Rights International 2002; Mental Disability Advocacy Center 2003; Mental Disability Advocacy Center 2006; Mental Disability Advocacy Center 2007) and Latin America (Mental Disability Rights International 1995; Mental Disability Rights International 2000; Mental Disability Rights International and Asociación Pro Derechos Humanos 2004; Hillman de Velásquez 2007). Critiques were issued at the “warehousing” of people, including for social rather than medical or therapeutic reasons. Individuals whose families could not cope with their care were institutionalized and then abandoned with no home to return to and few-to-no options for care in the community. In Argentina, for example, one third of the population in residential psychiatric facilities in Buenos Aires had been institutionalized for ten years or more (Hillman de Velásquez 2007). Conditions within these long-term residential facilities were insalubrious and residents were subject to abuses of power by staff, including physical violence.

### **Box 1: Experiences of People with Mental Disabilities in Zambia**

Source: (Mbuen, Chungu et al. 2014)

*[My spouse] used to be chained when she was at [her parents' home] by her relatives. Whenever she ran from home and attempted to take her clothes off, they would get hold of her and chain her [...] They used strings made from tree barks [...] her hands were chained to something stationary so that she couldn't move away. [...] One of her relatives would beat her sometimes because, when she was taken ill, she would take her clothes off.*

- 40-year old spouse of a woman with mental health issues

*We first tried a traditional healer in 2007. We've been to three in total. They didn't help. So instead I just locked her in the house – for over a year. Then someone said to take her to the hospital. We saw the first healer for two months, but then he just left. I'd given him money, a blanket and a bowl. The second one wanted to take her to a graveyard, to dig a hole there, and to wash her in it, to wash the ghost out. I didn't want that. The third one was for six months. We had to sell things to pay for that one: our TV, plates. He took her clothes, all the pots, and a dish.*

- Mother of a young woman with epilepsy

*Then I started complaining that I'm seeing visual hallucinations. Then she [traditional healer] said, 'Then we'll start putting medicine in your eyes. Then we will cut your hair and put a tattoo.' And the tattoos were all over my body [...] It was painful. First, drugs were very painful, the drugs for the eyes, I would sleep the whole day not feeling well.*

- 48-year old woman with mental health issues

*"There is one lady there who ties people with mental health problems, with chains [...]; yes, that is our member unfortunately. Because of the unpredictable behavior of some of the psychiatric cases, she chains them. [...] Sometimes they run away and the healers lose a patient and the relative will question her, 'Where has our patient gone to?' So, she fears that they might run away, they might fight and beat the doctor. So she will chain them."*

– Representative of the Traditional Health Practitioners' Association of Zambia

More recent reports from Guatemala and Mexico have highlighted distressing accounts of sexual violence and forced sterilization (Rosenthal 2012; Rodriguez, Rosenthal et al. 2015). At Federico Mora hospital, the only public psychiatric hospital in Guatemala, human rights reporters assert that the 334 residents are at “immediate risk of serious physical and psychological harm, including death,” and go on to say that the institution, which is located in the middle of a center of gang violence, is “effectively operating as a prison and not a hospital” (Hillman de Velásquez 2007; Rosenthal 2012). In Mexico, the human rights advocates found that 40% of women with psycho-social disabilities attending gynecologists were forcibly sterilized (Rodriguez, Rosenthal et al. 2015)

In the last five years, a number of new investigations have been conducted into human rights abuses of people with mental disabilities in Africa. The Mental Disability Advocacy Center (MDAC), the Kenya National Commission on Human Rights, and Human Rights Watch each co-authored the first national reports on human rights conditions for people with mental disabilities in Zambia, Uganda, Kenya and Ghana (Kenya National Commission on Human Rights 2011; Human Rights Watch 2012; Mbuem, Chungu et al. 2014; Mbuem and Klein 2014; Mbuem, Maglajlic et al. 2014).

MDAC's report on conditions for people with mental disabilities in Zambia observed stark abuses of human rights at the level of the family and community, as well as traditional and faith healers, and psychiatric hospitals. At the level of the family, sometimes abuse is levied as a desperate attempt to control erratic behaviors. Such is the case in Zambia of relatives who report beating a person with a mental health condition when she tried taking off her clothes, or chaining her when she tried to wander away from home (text box 1). Sometimes

**Box 2: Conclusions of the UN Special Rapporteur on Torture, after inspecting mental health treatment facilities in Ghana**

Source: (Mendez 2014)

“In the prayer camps, shackling of any duration, denial of food and medicine, inadequate shelter and involuntary treatment constitute torture.

There is no therapeutic justification for the use of prolonged restraint (both physical and chemical methods) of persons with disabilities and any involuntary treatment of people with mental or intellectual disabilities for even a short period may constitute torture or ill-treatment (A/HRC/22/53, para. 63) if it is not required to prevent harm to the patients or others, and then only for as long as that harm is imminent.

The use of electroshock treatment at the psychiatric hospital in Accra without adequate anesthesia constitutes cruel, inhuman or degrading treatment.”

abuse from community members is less well-intentioned, as in the case of people who jeer at and throw stones at a person with mental illness, or take advantage of them sexually (Mbuem, Chungu et al. 2014). And sometimes it is rooted in ignorance, as with people who fear contagion of mental illness and refuse to share a plate of food or shake a hand with a person who is ill (Human Rights Watch 2012).

Across much of sub-Saharan Africa, human rights abuses are most rampant in the very places where people with mental disorders or psycho-social disabilities seek treatment. A report from Ghana found cases of rights abuses within psychiatric hospitals and prayer camps so

severe that it sparked a follow-up visit from the UN Special Rapporteur on Torture (text box 2). The report chronicled the case of Doris Appiah, a woman with bipolar disorder who was forcibly detained for five years at a prayer camp in Kumasi, south central Ghana, including for periods of several months when she was tied to a wall and periods of several days when she was forced to fast (Human Rights Watch 2012). They further documented cases of dozens of other individuals like Doris, including those found chained at the time of their visit. Upon visiting Ghana, the UN Special Rapporteur confirmed these accounts of

shackling and forced fasting and concluded that “shackling of any duration, denial of food and medicine, inadequate shelter and involuntary treatment constitute torture” (Mendez 2014).

Conditions in some African psychiatric hospitals have also been found non-therapeutic at best, and prison-like, or punishing at worst. A report from Kenya was commissioned following an infiltration of CNN cameramen into its leading public psychiatric hospital, where a dead body was found in an isolation cell along with a man being secluded, because of over-crowding (McKenzie and Formanek 2011) The ensuing audit of public psychiatric facilities found “systemic neglect” of mental health (Kenya National Commission on Human Rights 2011), including staff-to-patient ratios of 1:80, and occupancy rates from a low of 105% to a high of 200%. Hygiene was poor, and hospitals lacked basic resources and equipment, like a functioning ECT machine. In Ghana, the UN Special Rapporteur found ECT machines being used without appropriate muscle relaxants, causing individuals to severely convulse. The report concluded that “The use of electroshock treatment at the psychiatric hospital in Accra without adequate anesthesia constitutes cruel, inhuman or degrading treatment” (Mendez 2014). In addition, these hospitals often fail to offer adequate medical care for people with co-occurring physical conditions, which contributes to premature mortality from conditions like pneumonia or hemorrhage (Human Rights Watch 2012).

### **Box 3: Best Practice: Mental Health & Development in Ghana**

In sharp contrast to the reports by Human Rights Watch and the UN Special Rapporteur on Torture, Ghana has also been witness to some exemplary community-based mental health care. A public-private partnership between Ghana Health Services and the NGO BasicNeeds Ghana has made mental health care accessible in primary care settings in Northern Ghana since 2002, using the Mental Health and Development model. In addition to delivering medicines and counselling in the home from community health workers, the program offers economic opportunities to people and families affected by mental illness, through specially formed self-help groups. These groups are organized from the ground up into representative constituents at village, district and regional level with national representation through the Mental Health Society of Ghana. This democratic structure has given them a voice within the community and local government, enabling several groups to obtain disability allocations from district assemblies and funds from local NGOs to finance their healthcare.

In 2014, the BasicNeeds public-private partnership served 43,312 people with mental disorders and epilepsy and their caregivers in Ghana and supported 253 self-help groups (BasicNeeds Ghana 2015). The Mental Health and Development model now operates in 12 LMIC, including Kenya, where it has shown evidence of cost-effectiveness (de Menil, Knapp et al. 2015).

## Cost-effective interventions

There are better alternatives to torture for treating mental disorders. In a context where there is potentially infinite demand for services with limited resources for health, countries are forced to set priorities, or allocate resources across many diseases and conditions with the goal of maximizing health impact within a given expenditure limit. The obstacle is not a lack of knowledge about what interventions are best, but rather that too many LMIC lack the fair processes and institutions needed to bring that knowledge to bear on funding decisions. As a result, treatments funded through public systems are often not cost-effective, while highly cost-effective treatments go unfunded or at limited-scale (Center for Global Development 2012). Countries can better channel the limited resources so that they do not get wasted on ineffective mental health treatments, such as “tattooing” and “eye-medication” for hallucinations, and chaining or warehousing people with epilepsy for years behind locked wards. By contrast, the work of the NGO BasicNeeds in partnership with government health services serve as an example of best practice in Ghana, not far from the contexts dubbed as torture by the UN Special Rapporteur (text box 3).

Indeed, a significant and ever-growing body of evidence shows that effective interventions for mental disorders can be delivered at low-cost in LMIC. In 2006, the Disease Control Priorities Project published the second edition of its report *Disease Control Priorities in Developing Countries (DCP2)*, which selects the most cost-effective interventions, based on the avertable disease burden and cost of a comprehensive intervention package. For the first time, mental disorders were highlighted and allocated a chapter. The authors noted that “substantial opportunities exist to decrease the enormous burden attributable to mental disorders worldwide by closing the gap between *what we know* and *what we do*” (Hyman, Chisholm et al. 2007).

The focus of the mental health chapter of DCP2 was on four conditions, chosen on the basis of the scale of their burden and of the evidence on effective interventions. The DCP priority conditions were: 1) schizophrenia and related nonaffective psychoses, 2) bipolar affective disorder (manic-depressive illness), 3) major depressive disorder, and 4) panic disorder. The main outcome measure was cost per DALY averted (see table 1). The authors recognize that the DALY does not capture the full range of outcomes relating to a mental health intervention, but it renders the analysis comparable to other health conditions, which is invaluable for priority setting. First, they selected the most cost-effective intervention for each of the four priority mental health conditions based on existing evidence. These were: 1) for schizophrenia, older antipsychotic drugs plus psychosocial treatment; 2) for bipolar disorder, older mood-stabilizing drug plus psychosocial treatment; 3) for depression, proactive care with newer antidepressant drug (SSRI generic); and 4) for panic disorder, a newer antidepressant drug (SSRI generic). The effect size of treatment for schizophrenia was 30-31%, meaning that the associated disability weight shifted from 0.63 untreated to 0.43 appropriately treated (Hyman, Chisholm et al. 2007). For bipolar disorder, the treatment effect was close to a 50% improvement compared to an untreated population. For depression, the intervention reduced the number of sick days per episode by 25%-40% over

no treatment. For panic disorder, remission among those on treatment was 12-13% as compared with 7.4% for those untreated.

Next, the DCP2 authors modelled a package of care that would be used to provide treatment coverage at varying rates for the different conditions based on feasibility: 80% for schizophrenia and 50% for the rest. They concluded that the modelled package would avert 2,000-3,000 DALYs per 1 million people at a cost of US\$ 3-4 per capita in sub-Saharan Africa and South Asia and US\$ 7-9 in Latin America and the Caribbean. On aggregate, for every US\$ 1 million spent, the authors estimated that the return on investment would be 350-700 healthy years of life gained. The Disease Control Priorities Project is now in its third iteration and the chapter on mental disorders has been expanded into a self-contained book, which includes childhood and neurological disorders. The results of this substantial undertaking are soon to be released and will constitute a key resource in future priority setting of mental health interventions.

Four years after the publication of DCP2, the WHO built on that evidence base, to develop its first treatment guidelines for mental disorders, called the *mhGAP Intervention Guide* (World Health Organization 2010). The WHO prioritized ten rather than four conditions in its guidelines, namely: 1) moderate-to-severe depression; 2) psychosis; 3) bipolar disorder; 4) epilepsy and seizures; 5) developmental disorders; 6) behavioral disorders; 7) dementia; 8) alcohol use disorders; 9) drug use disorders; 10) self-harm and suicide. For each condition, the WHO offers a flow chart of how to diagnose the presenting symptoms and how to intervene. As explained by the authors, the guidelines are an overview rather than a comprehensive treatment manual, so they describe “*what to do* but [do] not go into descriptions of *how to do*.” The guidelines are seen as a complement to other existing WHO resources designed to shape mental health services, such as a tool to assess mental health systems, a Mental Health Policy and Services Guidance Package, and guidelines on integrating mental health into primary care (World Health Organization 2003; Saxena, Lora et al. 2007; World Health Organization and World Organization of Family Doctors 2008). The main goal of the mhGAP guidelines, as stated in its subtitle is “scaling up care.”

MhGAP interventions fall loosely into two categories – psychosocial and pharmacological, and unlike DCP2, they go into some detail about what lies behind the term “psychosocial intervention.” Not only do they spell out the psychosocial interventions advised for each condition – for example self-help groups, psycho-education, addressing stressors, reactivating social networks and ensuring structured physical activity – but they also provide an overview of what they call “advanced psychosocial interventions,” because they require more training and more time to deliver. The advanced psychosocial interventions recommended by the WHO are: behavioral activation; cognitive behavioral therapy (CBT); contingency management therapy; family counselling or therapy; interpersonal psychotherapy; motivational enhancement therapy; parent skills training for behavioral disorders; parent skills training for developmental disorders; problem solving counselling or therapy; relaxation therapy; and social skills therapy. For an overview of the mhGAP Intervention Guidelines, see table 2.

Fall 2015 will see the publication of a new Disease Control Priorities volume on mental, neurological and substance use disorders. The Volume reviews the public health burden of these disorders – including a new assessment of the excess mortality associated with them – and identifies a range of priority interventions across three service delivery “platforms”: 1) population level (such as reducing the availability of and demand for alcohol); 2) community level (such as parenting programs in infancy and life skills training in schools); and 3) the healthcare system, covering self-management as well as psychological and pharmacological treatment of common and severe disorders across general and specialist healthcare settings. A review of intervention cost-effectiveness reveals a wide range across disorders and populations; brief interventions for harmful alcohol use and treatment of epilepsy with first-line anti-epileptic medicines fall towards the lower (more favorable) end, while community-based treatment of schizophrenia with first-generation medication and psychosocial care falls towards the upper end.

### **Funding and treatment gap**

Despite the wide body of evidence and consensus in the field on what constitute effective and cost-effective interventions for mental disorders, their uptake remains strikingly poor across most LMIC. One of the reasons for this is the stark under-investment in mental health within already under-funded systems of healthcare. One third of LMIC do not have a designated budget for mental health (Saxena, Thornicroft et al. 2007), and among those that do, the average expenditure on mental health in low-income countries is 0.5% of the total health budget (World Health Organization 2011) (figure 1).

International aid has done little to fill the funding void. Indeed, the international community appears to put mental health at the same level of priority as national health ministries. Only 0.7% of international development assistance for health is devoted to promoting mental health or preventing or treating mental and substance-use disorders, even though these conditions cause 7.4% of disease burden (Gilbert, Patel et al. 2015). The low spending on mental health reflects a general trend of low spending on all non-communicable diseases (NCDs) (figure 2). In 2014, NCDs received 1.7% of all development assistance for health (Institute for Health Metrics and Evaluation 2015). The main recipients of development assistance for health were infectious diseases, particularly HIV, TB and malaria, and maternal and child health. The US, which contributed one third (32.5%) of all international health aid, allocated half (46.7%) of its funds to HIV/AIDS. Maternal and child health received one third (34.8%) of all UK funds and one fifth (19.1%) of all US funds for international health.

As a result of the absence of funding, the mental health system in most of LMIC is severely under-resourced in terms of skilled personnel and continuous medication supply. Precise treatment gap calculations are difficult to make, because they require robust epidemiological data on prevalence as well as treatment coverage. The largest undertaking in this regard is the ongoing World Mental Health Survey, which has sampled over 154,000 people across 28 countries, including two in Africa (Nigeria and South Africa). This study estimated that the treatment gap for serious mental disorders across low-income countries is 76-85%

(Demyttenaere, Bruffaerts et al. 2004). In Nigeria, they found only one in ten people with a diagnosable mental disorder was accessing treatment, making the treatment gap there 90% (Gureje and Lasebikan 2006). By contrast, in European countries, the treatment gap ranges from 32% for schizophrenia, to 56-57% for the common mental disorders, meaning that two out of three people with severe mental disorders and one out of two people with depression or anxiety receives care (Organization for Economic Cooperation and Development 2014). The proportion of people with mental disorders accessing specialist mental health services in Nigeria was only 1%.

A review in JAMA looked at the association between illness severity and treatment and found that one in five (17%-24%) of those with severe mental disorders were accessing treatment in low-income countries. Among those with moderate disorders, only one in ten accessed care (Demyttenaere, Bruffaerts et al. 2004). A WHO-commissioned review, which classified the gap by diagnosis rather than by severity, found a median treatment gap for depression, bipolar disorder, and anxiety disorders of 50% -57%. The treatment gap for epilepsy is comparable at 56% across LMIC (Mbuba and Newton 2009), though it is higher in low-income countries where the prevalence is two-to-three times higher than in high-income countries (Newton and Garcia 2012). Alcohol abuse and dependence is among the most under-treated mental health condition with a gap of 78.1% (Kohn, Saxena et al. 2004). Recently, the WHO reviewed evidence on the treatment gap for schizophrenia, drawing data from the new WHO Assessment Instrument for Mental Health Systems (WHO AIMS) and found a gap in low-income countries of 89% (Lora, Kohn et al. 2012). This data constitutes an improvement on previous estimates.

In light of existing evidence of cost-effective interventions for mental and neurological disorders in LMIC and the dearth of funding and treatment on offer, this paper sets out to examine opportunities for scale-up of interventions that are cost-effective in mental health, identifying existing financing or payment mechanisms that might be mobilized or supplemented for mental health goals. The paper looks at three policy and financing instruments: 1) health benefits plans; 2) results based funding; and 3) cash transfers.

## **Part 1: Universal health coverage**

### **What is universal health coverage?**

The last several years have seen a resurgence of interest in universal health coverage (UHC). In 2010, the WHO's annual World Health Report was titled "Financing health care: The path to universal coverage" (World Health Organization 2010). In 2012, the United Nations issued a declaration on universal coverage at the General Assembly (United Nations General Assembly 2012) and The Lancet medical journal published a special issue on universal coverage (Vega 2013). The following year, the WHO published another World Health Report titled: "Research for universal coverage" (World Health Organization 2013). The World Bank has also added its voice to the universal coverage movement, creating a Universal Health Coverage (UNICO) study series, and defining joint targets with the WHO.

The targets cover financial protection and service delivery, namely: 1) reducing by half the number of people impoverished by healthcare by 2020 and 2) doubling the proportion of people with access to health services by 2030 (World Health Organization and World Bank Group 2014). Furthermore, the UN proposes to make achieving universal coverage one of nine targets to concretize the goal of “healthy lives... for all” in the post-2015 Sustainable Development Goals (United Nations 2014). The concept of coverage is differently defined by different agencies, though most include not only access but also financial protection. One of the most operational definitions is that of the World Health Organization, which conceives of coverage as a “cube” of three dimensions: population covered; services covered, and proportion of costs covered (World Health Organization 2010).

One approach by which national policy makers have tried to ensure coverage of mental health conditions is through reforms to national health policies. In 2013, the WHO adopted a ground-breaking seven-year Mental Health Action Plan following extensive consultation with member states. It constitutes the first such action plan the WHO has produced for mental health. The WHO plan outlines four main objectives: 1) to strengthen effective leadership and governance for mental health; 2) to provide comprehensive, integrated and responsive mental health and social care services in community-based settings; 3) to implement strategies for promotion and prevention in mental health; and 4) to strengthen information systems, evidence and research for mental health (World Health Organization 2013). These objectives are operationalized with specific targets, such as a 20% increase in service coverage for severe mental disorders and a 10% reduction in suicide rates by 2020. In order to be appropriately implemented, the WHO’s international plan needs to translate into national mental health plans, which are appropriately costed.

A number of new national mental health policies have been approved in the last ten years from LMIC. This paper will highlight four policies among some of the most promising in global mental health. The focus will be on India, China, Ethiopia and South Africa, each of which is at a different stage of implementation, and each of which reflects specificities of the local context. These countries stand out as leaders in a context where fewer than half of WHO countries have up-to-date mental health policies or plans and only a third have up-to-date mental health laws (Saxena 2015). Within LMIC, the proportion with up-to-date mental health laws and policies are considerably lower.

## **Evidence of mental health coverage through policy reform**

### **India**

In October 2014, the Indian government approved the country’s first National Mental Health Policy. One of the driving concerns behind the new plan was around suicide. India records the highest number of deaths by suicide in the world, losing 258,000 citizens by their own hands in 2012 (World Health Organization 2014). The general rate of suicide in India is twice the global average, but it peaks in young people aged 15-29, where it reaches 35.5 per

100,000 – the highest rate in the world for this age group. Suicide was therefore a focal point of India’s first mental health plan. Importantly, the government decided to decriminalize the act, with the aim of improving possibilities for discussion and intervention around suicidality. In addition, the policy advocates for the creation of crisis intervention centers and training for community leaders and media in risk factors and responsible communication around suicide.

India’s mental health policy takes a life-course approach, and addresses the needs of targeted vulnerable groups, including the elderly, children, and people affected by natural disaster or other emergencies. One of the strategies for promoting child mental health is through *angamvadi* workers, child development workers that have been part of India’s public health system since the 1970s. In addition, the plan seeks to train school teachers and parents about emotional development to help create positively reinforcing environments. Children themselves will be the object of life skills training, which is to include topics such as gender equity and social exclusion.

Mental health treatment will be scaled-up in India in part through an aggressive program of training, targeting a wide cadre of workers from both health and non-health backgrounds. The mental health workforce is to include: “lay and community based counsellors, psychiatric social workers, development workers, psychologists, occupational therapists and other mental health professionals” (Government of India 2014).

India’s mental health policy reflects its cultural values by targeting families rather than individuals. One of the ways in which it does this is by recognizing that most mental health care is given in the home, and noting that “families of persons with mental illness and their caregivers should be adequately supported to help them perform their role” (Government of India 2014). The hope of one of the policy’s authors, Vikram Patel, is that this might eventually translate to subsidies for home caregivers (Vardhan 2014).

Although India’s first mental health policy is promising in rhetoric, the challenge remains whether it will be put into practice. A key step towards that end is for the policy to be translated into a mental health bill, which is pending in parliament. The policy is currently backed by a commitment of INR 5.4 billion (US\$ 88.4 million) (Seervai 2014); however in December 2014, barely two months after policy approval, Modi’s government cut the national health budget by approximately 20%, suggesting that the new funds may never be issued (New York Times Editorial Board 2014). If so, then scaling up mental health services in India would require an injection of external funds to support the roll-out of this promising new mental health policy.

## **China**

China has approached mental health policy reform very differently from India, consistent with its more centralized federal government structure. Whereas in India a concern about suicide drove the reform, in China the greater priority was preventing public violence, and the focus of the plan has been on the management of severe mental disorders. China

adopted its first National Mental Health Plan in 2002 with authorization from the Ministry of Public Security and Civil Affairs, the Ministry of Health, and China Disabled Persons' Federation. The involvement of the Ministry of Public Security and Civil Affairs speaks to a particular concern for "social harmony and stability" (Liu, Ma et al. 2011), which has driven the mental health agenda in China. In a series of health reforms undertaken in the wake of the SARS epidemic in 2004, mental health was the only one to be adopted for a non-communicable disease among 50 initiatives proposed. The initiative was dubbed "686" when the government made an initial allocation in December 2004 of CNY 6.86 million (US\$ 830,000 in 2004). The program went on to receive well in excess of that amount, obtaining a total outlay of 280 million Renminbi (US\$ 41 million in 2009) between 2005 and 2011 (Ma 2012).

Eligibility for enrolment in the Chinese program includes not only a diagnosis of psychosis (schizophrenia, bipolar disorder, delusional disorder, and schizoaffective disorder), but also an assessment of risk of violence on a scale designed by the national working group. The Chinese intervention entails free antipsychotic medication, lab tests, hospital subsidies, and monthly follow-up. Patients who do not respond well to normal medications are entitled to more expensive "second generation" antipsychotics (such as risperidone).

The 686 Program has yet to be evaluated by a third party team, so information on current outcomes rely on Chinese government data. One of the primary outcome measures evaluated by the Chinese government is the number of major and minor violent events reported by police which reportedly declined by 67%-74% respectively in a period of six months after the program's implementation (Ma 2012). Longer-term outcomes pointed to a similarly strong effect on social order with a drop in the rate of "creating disturbances" from 4.8% to 0.5% among program participants between 2006 and 2011 (Ma 2012).

The greater achievement in the eyes of the international policy community is the rate of healthcare coverage achieved for people with serious mental disorders, particularly in community-based settings. According to official statistics, by the end of 2011, the program is estimated to have been implemented across regions with 30% of the Chinese population (Ma 2012). Data from 2009 state that 161,800 patients were registered and 42,400 received regular follow-up, including approximately a third of them receiving free medication (Liu, Ma et al. 2011). These numbers require substantiation from an external evaluation of the program, which is underway.

The mental health coverage reportedly achieved by 686 in China stands out in terms of its innovative community-based approach. The 686 program distinguishes itself in offering interdisciplinary mental health teams operating within neighborhoods and focusing on recovery, rather than relying on older models of mental health services in primary care centered on symptom management. Among the nearly 40,000 people working for the 686 project, over half are specially trained village committee staff, responsible for case-finding and advocacy. Case managers make up an additional quarter of 686 staff, and police officers on crisis intervention teams constitute 7% (Liu, Ma et al. 2011). Mental health specialists

(psychiatrists and psychiatric nurses) form only 8% of the overall staff. According to one appraisal, the 686 program has succeeded in “leap-frogging’ older models” of mental health care (Good and Good 2012).

One reason for the progressiveness of China’s 686 program has been its openness to learning from other countries, specifically Australia. With funding from AusAID (Good and Good 2012), Asia Australia Mental Health, a consortium run out of the University of Melbourne, has partnered in the 686 project since 2004 with the China Centre for Disease Control, the Chinese Ministry of Health and the Peking University Institute of Mental Health. The University of Melbourne has played a key role in overseeing the project with more than 100 hospital directors and heads of mental health departments receiving onsite training in Melbourne (Liu, Ma et al. 2011).

As an indicator of the momentum around mental health in China, 2013 saw the enactment of the country’s first mental health law. The two landmark changes associated with the law are: 1) to make psychiatric hospitalization voluntary, except where there is risk of violence; and 2) to mandate that psychiatric care be offered within general hospitals and community health clinics (Phillips, Chen et al. 2013). The former reform seeks to appease some of the human rights critiques that have been levied against China, including for using psychiatric hospitals as a means of punishing political prisoners (Van Voren 2010). The latter reform, however, is the more challenging to implement, as it requires either that existing mental health specialists move out of psychiatric hospitals, or that a large number of new professionals be trained. All eyes remain on China to see how the new law will be implemented.

### **Ethiopia & South Africa**

Both Ethiopia and South Africa have also recently adopted mental health policies. One of the salient aims of both policies is better integrating mental health into primary care. As with China, which sought to learn from Australia, Ethiopia has been open to receiving guidance from a number of international sources, including from the United States and United Kingdom. They modelled their policy, which was approved in 2011, on guidance from the WHO, basing it on a five-tiered pyramid known as the Optimal Mix of Services, which places self-care and informal community care at the widest reaching base and specialist residential facilities at the top (World Health Organization 2007). The strategy does not shy away from noting the dearth of human resources nationally: “current shortage of skilled manpower, as well as the multi-faceted nature of mental disorder which requires multi-dimensional interventions, also calls for the upgrading and utilization of an array of health professionals and paraprofessionals, including traditional healers, and those from faith-based institutions and community-based organizations” (Federal Democratic Republic of Ethiopia 2012). Like India, Ethiopia has embraced task-shifting and the inclusion of “paraprofessionals” as one solution to the human resource shortage.

In addition, Ethiopia’s policy targets specific vulnerable groups, in the manner of India. One reason for this approach could be that by labelling these groups as vulnerable, they become

eligible for development funding streams that target vulnerable populations, as noted in the WHO's Mental Health and Development strategy (Funk, Drew et al. 2010). The vulnerable populations cited in Ethiopia's policy include most people eligible for mental health care namely "the severely mentally ill, those with substance abuse disorders, children and adolescents, persons living with HIV/AIDS, women, people in prisons, victims of violence and abuse, persons with epilepsy and the elderly."

Though it approaches mental health care with significantly more resources, South Africa adopted similar strategies to Ethiopia in its National Mental Health Plan and Strategic Framework. The Plan was approved in July 2013 (Republic of South Africa 2013), shortly on the heels of and covering the same time-frame as the WHO's Mental Health Action Plan (World Health Organization 2013). South Africa's Plan seeks to shift mental health care primarily into community-based settings by 2020. One key way in which it proposes to achieve that objective is by making mental health care the responsibility of districts and strengthening the district mental health system. As with India and Ethiopia, South Africa proposes to train not only health workers but also "non-specialist workers" – the cadre that Ethiopia dubbed "paraprofessionals" and India called "lay and community counsellors" – through a task-shifting approach. These trained non-specialists would become key actors in the daily supervision necessary to identify and support the recovery of a person with mental illness, including screening for mental illness during pregnancy and in primary health clinics, monitoring medication for severe mental illness, offering the entry levels of "stepped care" for depression and anxiety, and engaging with leaders from other social sectors, outside of health. The policy envisages a rigorous system of supervision to support these community based workers.

An aspect of South Africa's mental health policy that is less in evidence in some of the other mental health policies is a strong emphasis on strengthening systems of monitoring and evaluation of mental health care, through the development of nationally agreed indicators and a minimum data set. Globally, the latest data from the WHO ATLAS project note that only 33% of countries report a core set of mental health indicators, and in LMIC that proportion is considerably lower (Saxena 2015). Given South Africa's high level of research capacity, these indicators could form the basis of determining how effective this new policy is at improving coverage for mental health care and contributing to the goal of universal health coverage. At present, however, the minimum indicators have yet to be agreed on. The mental health policy was accompanied by a budget of ZAR 23.6 million (US\$ 2 million) to establish district mental health teams. However, implementation of the policy has been variable on a district by district basis, with some leadership coming from the North Western province (Lund 2015).

## Opportunities for scale-up in mental health

### *Introducing health benefits plans*

The previous case studies focus on approaching mental health coverage through new mental health policies; however –with the exception of China- a persistent challenge has been the absence of explicit financial flows to back up new policies, suggesting that new policies would work better if they were connected to existing mechanisms used to finance service coverage under new UHC schemes. One option is to include cost-effective mental health services and products as part of the set of interventions to be publicly subsidized under UHC schemes, sometimes known as health benefits plans or essential medicines lists. Health benefits plans are a policy instrument for explicit healthcare priority setting. The three defining characteristics of a health benefits plan, as described by Giedion et al, are: 1) a minimum set of explicit guarantees 2) financed with public resources; and 3) and linked to the needs or social preferences of the population to be covered (Giedion, Tristao et al. 2014). Ideally, a health benefits plan specifies not only *what* services are covered, but also *to whom*, and *in what circumstances* (Glassman and Chalkidou 2012).

With these core characteristics in mind, health benefits plans exist in a wide variety of formats. Some itemize what is covered, while others itemize what is excluded. Some are highly detailed about the nature of services guaranteed, while others provide more leeway. Some cover hundreds of conditions, while others are narrow in scope. In addition, the proportion of total health spending allocated on the basis of these benefits plans differs from country to country. A study of benefits plans in Latin America, for instance, found that they channeled a range of total health spending from 1% in Argentina to 74% in Colombia (Giedion, Tristao et al. 2014)

One of the goals underlying health benefits plans is to “make the implicit explicit” (Giedion, Tristao et al. 2014). The implication is that without priority setting instruments, rationing is determined implicitly – be it through wait-lists, high user fees, poor quality care, or denial of services. Instead, health benefits plans make rationing decisions transparent, based on a set of explicit criteria. Cost-effectiveness is one key criterion for rationing care in benefits plans, though by no means the only one. Whereas cost-effectiveness aims to maximize health for the population as a whole, other ethical considerations equally enter the debate about which conditions to treat, namely equity and fairness (Glassman and Chalkidou 2012).

Regardless of the degree to which cost-effectiveness is determinant of a benefit package, one of the purposes of a health benefits plan is to link coverage with cost and purchasing. In practice, however, benefits plans are not always appropriately costed, or at times they are costed late (e.g. Chile) or the costs far exceed the available budget (e.g. Uganda) (Glassman and Chalkidou 2012). Nonetheless, benefits plans are seen as a “means to understand and mobilize expenditure requirements associated with coverage expansions” (Glassman, Giedion et al. 2014), and as such are understood as a key tool not only for planning, but also for delivering universal health coverage.

One of the common misperceptions about health benefits plans is that they only apply to countries with third party payers. Although this was originally the case, health plans have increasingly been adopted by countries without a split between purchaser and provider. One of the motivations for adopting a defined benefits plan in this context is that by spelling out entitlements, they allow the public to hold providers accountable for service delivery (Glassman, Giedion et al. 2014). As such, they become a tool for ensuring the right to health. Because of their multiple advantages, a review of health financing by Glassman and Chalkidou found that 63 countries have adopted some form of explicit benefits plan, two-thirds of them financed through health insurance schemes and one third through tax-funded systems (Glassman and Chalkidou 2012).

### ***Best practice example: A case study of Chile***

Health benefits plans are best understood in practice and Chile is widely held as a case of best practice in this respect (Farmer 2008; Giedion, Tristao et al. 2014). Chile has a public-private system of healthcare financed through a tax-based system. Everybody employed in the formal sector or receiving a pension must contribute 7% of their income to finance public healthcare and every citizen is mandated to purchase health insurance. Two main varieties of health insurance exist: public insurance provided by the National Health Fund (FONASA), which covers 80% of the population, and private insurance provided by an ISAPRE (*Institución de Salud Provisional*), which covers most of the remainder (Government of Chile 2013). ISAPRES tend to have higher premiums than FONASA, making them more expensive. In addition, ISAPRES tend to provide minimal mental health coverage (Farmer 2008), so the majority of people with enduring mental health problems are enrolled in FONASA.

In 2003, the Chilean government instituted its first national health benefits plan, the Regime of Explicit Health Guarantees (AUGE), which guaranteed coverage for a set of priority health conditions. To determine these conditions, a group of Chilean policy makers undertook a rigorous process of priority setting. First, they ranked health conditions in relation to their burden on the health system (i.e. frequency, seriousness and cost). Next, they assessed the effectiveness and feasibility of available treatments. Finally, they took into account stated public priorities for certain conditions. The initial benefit package consisted of 56 conditions, which accounted for 70% of Chile's burden of disease (Glassman and Chalkidou 2012). In the ten years since its launch, AUGE has been regularly reviewed and updated, and now covers 256 conditions. Approximately half (46%) of the FONASA budget for public health is channeled through AUGE (Giedion, Tristao et al. 2014).

AUGE not only covers treatment, but also prevention with an emphasis on early intervention. The benefit package divides all interventions into four categories: 1) suspicion; 2) diagnosis; 3) treatment; and 4) follow-up. Furthermore, each condition is accompanied by a clinical practice guideline. For each guaranteed condition, the government commits to three sub-guarantees: 1) financial protection; 2) timeliness; and 3) quality (Giedion, Tristao et al. 2014).

Mental health receives considerable coverage under the AUGE benefit package. Five conditions have guaranteed treatment, namely: 1) depression; 2) schizophrenia; 3) bipolar disorder; 4) epilepsy; and 5) Parkinson's disease (Government of Chile 2013). Depression was among the first conditions covered by AUGE thanks to pioneering research conducted by Ricardo Araya and colleagues on a stepped-care model of intervention, first tested on low-income women (Araya, Rojas et al. 2003). The program relies on principles of task-shifting to scale-up mental health services. Individuals who screen positive for depression are initially triaged into either mild, moderate or severe symptoms. Psychosocial support from trained non-medical professionals is offered to those with mild or moderate depression, together with six sessions of group therapy. Those deemed at higher risk also receive a home visit and family intervention, and those with moderate depression are prescribed an antidepressant. Those diagnosed as severely depressed are referred directly to a specialist, and are guaranteed to be seen within 30 days (Araya, Alvarado et al. 2009). All patients in the depression program have their cases reviewed every two weeks so that necessary changes can be made to their treatment plan (Farmer 2008).

Whereas Chile approved a progressive mental health plan in 2001, it was arguably the introduction of AUGE in 2003 that brought the most substantial gains in mental health coverage by linking new treatment standards to provider reimbursement and performance tracking systems. The mental health plan created a National Depression Treatment Program to bring the treatment of common mental disorders into primary care (Farmer 2008; Araya, Alvarado et al. 2009). The program called for interdisciplinary mental health teams based in community mental health centers, each addressing the needs of a catchment of approximately 40,000 people. A lack of funding in the first instance, however, led to wait-lists and medication shortages within those clinics (Farmer 2008). Since the advent of AUGE, mental health has increased from 2.1% of the health budget to 2.8% of the health budget (World Health Organization 2011), while overall health spending in Chile has doubled (Glassman and Chalkidou 2012). Between 2004 and 2007, the number of people starting mental health treatment in the public sector increased by over three fold (Minoletti, Sepúlveda et al. 2012). As of 2009, AUGE's depression program had provided treatment for depression to over half a million Chileans, 88% of them on public insurance, the majority of whom (75%) were provided free care (Araya, Alvarado et al. 2009). AUGE applies to both public and private insurers, and therefore to private provision as well, but there is little literature on how AUGE works with the private insurers (ISAPRES). Meanwhile, the National Depression Treatment Program has also become more successful and has had 200,000 patients enrolled annually since 2006 (*Ibid*). Between the two programs, 84% of Chilean patients with depression are managed exclusively in primary care.

***What aspects of mental health should be covered by a benefits plan?***

Chile's example highlights the potential gains in health coverage that can be achieved by integrating evidence-based mental health interventions into health benefits plans. When developing mental health coverage within a national benefits plan, one question is which conditions to include. One possible way of prioritizing conditions is to build on the WHO's own prioritization of ten conditions, first outlined in the Mental Health Gap Action Program

(mhGAP), as described in the introduction. A further consideration is how to incorporate mental health within existing programs of health prevention and promotion. This includes programs from early infancy (nutrition, stimulation, parent-child bonding) through to adolescence (reproductive health, life skills) young adulthood (prevention of suicide and substance abuse), and into older age (early detection and planning).

To the extent that health benefits plans may be linked to national lists of essential medicines, these lists should ensure that they cover essential medicines for all the major mental and neurological disorders. The WHO's model list of essential medicines for adults contains twenty medicines for neuro-psychiatric disorders (World Health Organization 2013); however a quarter of low-income countries provide no antidepressants in primary care. Furthermore, most low-income countries experience regular shortages of neuro-psychiatric medicines (Saxena, Thornicroft et al. 2007). In the best case, drug shortages can render the existing course of treatment ineffective, because active ingredients do not reach therapeutic thresholds. In the worst case, shortages can be dangerous, such as with certain anticonvulsants for epilepsy, for which interrupted treatment can cause increased seizures (Radhakrishnan 2009).

Although health benefits plans are more common in middle-income than in low-income countries, there are nonetheless examples of growing service coverage through benefits plans in countries like Ghana. The National Health Insurance Scheme (NHIS) established in 2003, now covers both formal sector and informal sector workers, though the latter group must pay a premium. People with mental disorders are specifically exempt from paying Ghana's NHIS insurance premium. In addition, Ghana's National Drugs Program covers twelve neuropsychiatric drugs in its list of essential medicines: three antipsychotics (haloperidol, risperidone and sertraline); two antidepressants (amitriptyline and fluoxetine); three anti-epileptics (carbamazepine, phenobarbital and phenytoin); two anxiolytics (diazepam and lorazepam) and two mood stabilizers (sodium valproate and carbamazepine – which also serves as an anti-epileptic). Mental disorders are not explicitly listed among the services covered in inpatient or outpatient care within the NHIS Subscriber Handbook; however they are not listed among the exclusions either, and the handbook states that "NHIS covers 95% of all ailments that are presented in Ghanaian healthcare facilities." The question for a country like Ghana is whether the health system has budgeted sufficient funds to implement this generous service coverage plan and adequately supply the essential medicines on its national list.

In summary, health benefits plans that operate within effective healthcare systems offer a promising opportunity to scale up mental health coverage in LMIC as part of the march towards UHC. Including the treatment of common mental disorders within primary care, as has been achieved in Chile, is the most accessible means of achieving progress towards universal health coverage. More data is necessary, however, on the extent of mental health coverage within existing national benefits plans, and the degree of budgeting associated with these plans.

## **Part 2: Results based funding**

### **What is results based funding?**

#### **The concept**

A related financial option for scaling up mental health care is results based funding. The past decade has seen a growth of interest among development funders in how to structure incentives through payments, particularly payments for outputs, rather than for inputs. The language for this approach is varied. It is referred to as results based financing (RBF) and pay for performance by the World Bank (Bank 2014), and cash on delivery (COD) aid, by the Center for Global Development (Birdsall, Savedoff et al. 2010). DFID prefers the term payment by results, which it defines as “any programme where payments are made after the achievement of pre-agreed results, rather than being made up front to fund future activities” (UK Department for International Development 2015). Within the context of payment by results, DFID distinguishes three approaches depending on who is being paid: 1) results based aid for payments to governments; 2) results based financing for payments to service providers (including government); and 3) development impact bonds for payments to investors. For the purpose of this paper, we will adopt the term results based funding (RBF) to refer to any form of payment by result, be it to governments or to service providers.

One of the drivers of the move towards RBF has been a need to demonstrate greater effectiveness of aid money (Woolcock 2008). Among the main advantages of this new system of payment are greater accountability for program delivery, and more local ownership, thanks to a hands-off approach by funders. According to leading experts from CGD, the success of an RBF contract hinges on four essential ingredients (Birdsall, Savedoff et al. 2010): 1) a shared and clearly defined goal; 2) a unit for measuring progress; 3) payment per unit of progress; 4) a system for measuring and verifying progress. Whereas traditional aid funding comes with a series of ex-ante conditions, RBF funding allows governments and providers to determine for themselves how to go about achieving their goal, judging them only on ex-post results. Sometimes results are measured as outputs, and sometimes as outcomes, depending on the type of program and available measurements.

Skeptics of RBF have highlighted a number of potential risks, including the potential for corruption, the dangers if results are not achieved, for example in the case of external shocks; and the potential hazard of diverting funds from other untargeted activities (Birdsall, Savedoff et al. 2010). On the question of corruption, it is true that by increasing the freedom of the recipient to allocate funds, the donor forfeits the right to oversee that aid is being used legitimately. The contingency against this risk is that appropriate third-party measurement of results would pick up on situations where no progress had been made. Moreover, corruption is a challenge that cuts across many forms of aid, not just RBF, and in practice RBF has not appeared to be more subject to it than other forms of aid. To the question of how to contend with under-performers, RBF proponents are adamant that no funds be distributed. Under-performance could be due to external shocks, such as crop

failure; but RBF exists within a context of multiple types of financial flow, and other forms of funding would need to step in to fill the gaps. The distinction between paying governments and providers within RBF contracts is important. If a government underperforms and consequently does not receive the aid they expected, they have other resources, as aid is generally a small share of their overall budget. If a provider underperforms, however, they tend to be more reliant on the funder – whether it is international aid or domestic. For this reason, programs paying for delivery of specific services by an NGO or health district tend to guarantee some portion of the budget and only link a small portion to performance measures.

Barring that, the incentive structure becomes void and the payment is transformed into an entitlement. An additional concern relates to unintended consequences or “perverse incentives” (Miller and Babiarz 2013) of the results structure, such as improvements in one area leading to reduced outcomes in a related area, as resources are funneled away from unremunerated targets (Kalk, Paul et al. 2010). More complex combinations of outcomes or outputs may be one way around this challenge, though it comes at the expense of more administrative time to document and evaluate.

## **The evidence in health**

### *What works*

In its last annual report on RBF, the World Bank provided four case studies of RBF programs in health (World Bank 2014). We will focus on the case of Argentina, which used RBF to address neonatal mortality. The Argentine program, called Plan Nacer, was piloted in 2004 and rolled out across all 23 provinces starting in 2007. It targeted the country’s two million uninsured pregnant women and children from the lowest socio-economic strata. Using the four parameters of RBF described above, the plan had the following characteristics:

1. Goal: reducing neonatal mortality and improving birth outcomes
2. Unit of measurement: ten indicators, including neonatal mortality and low birth rate
3. Payment per unit: \$5 per eligible individual enrolled in the program; \$3 if their health targets were achieved
4. Verification system: an impact evaluation carried out in 7 provinces using a difference in difference analysis

The evaluation found that in-hospital neonatal mortality of babies enrolled in the plan declined by 74%, while low-birth weight declined by 19%. These positive results spilled-over onto patients not enrolled in the plan, but seeking care from a Plan Nacer clinic: the rate of in-hospital neonatal mortality in these babies declined by 22%. The cost-effectiveness of the Plan Nacer program was evaluated at \$814 per DALY, making it highly cost-effective in the Argentine context.

Other areas of implementation of RBF in healthcare include vaccines and HIV. Gavi, the Vaccine Alliance, runs an Immunization Services Support program that rewards grant

recipients with a prize of \$20 for each extra child vaccinated relative to baseline. Gavi found that the RBF initiative helped increase coverage in 62 countries from 65% to 78% (Perakis and Savedoff 2015). PEPFAR, meanwhile, has funded RBF schemes in Rwanda and the Ivory Coast so as to reward the number of people enrolled in treatment and retained after 12 months (Holmes, Blandford et al. 2012). Findings from Rwanda suggest that the RBF program helped increase clinic attendance, presence at work and respect for procedures (Rusa 2009; Kalk, Paul et al. 2010).

### *Challenges*

Both the cases of Gavi and PEPFAR highlight some of the challenges of implementing RBF. In the case of Gavi, the challenge was around the system for measuring and verifying progress. Researchers from the Institute of Health Metrics and Evaluation found, when double checking the results data, that the vaccination rates had been inflated, causing Gavi to over-pay by two-fold (Lim, Stein et al. 2008). Gavi ran its own independent evaluation, using UNICEF data, and found that the over-payment was significantly less than estimated by the IHME and only affected 6 of the 63 countries (Perakis and Savedoff 2015). A follow-up study conducted by researchers at CGD confirmed IHME findings, noting that the results data was biased, by comparing it to Demographic and Health Survey data (Sandefur and Glassman 2014). A further source of potential distortion is around the measurement of baseline data. In Kenya, government estimates of baseline immunization may have over-estimated the actual coverage, making it harder to demonstrate progress. The experience of PEPFAR has highlighted the importance of choosing the right indicator. Critics argue that the number of patients on ARVs does not reflect the actual desired outcome, which is a reduction in disease burden (Birdsall, Savedoff et al. 2010).

In summary, RBF offers an innovative approach to aid programs and to financing providers within health systems, presenting both new solutions and new challenges. It exists as an alternative and complement to other forms of financing. The question raised here is whether and, if so how, it could best be applied to scale-up mental health care? In particular, what would be the best measure of outcome?

### **Opportunities for scale-up of mental health**

Investment in mental health could come from a number of new avenues. Non-communicable disease is broadly an area that is likely to receive increasing attention and growing investment, in light of recent recognition of its neglect (Daar, Singer et al. 2007; Nugent and Feigl 2010; Beaglehole, Bonita et al. 2011; Banerjee 2012; Marrero, Bloom et al. 2012; Alleyne, Binagwaho et al. 2013). Mental health is not exclusively grouped under the NCD label, however.

A natural synergy exists between mental health and maternal and child health, which is an area that already receives approximately a quarter of international development assistance for health (figure 2). In the past decade, international funding for reproductive, maternal,

newborn, child and adolescent health (RMNCAH) in LMIC has increased markedly, growing by over 70% in the five years between 2006-2011 (World Bank 2014). Part of the reason for the growth in funds has been a push towards achieving the millennium development goal target of reducing maternal mortality by three quarters. Significant progress was made towards that target, with a decline of 45% to just under 300,000 maternal deaths per year in 2013 (United Nations 2015). The more recent trend has been towards integrating maternal and child health within the larger health system, as evidenced in a new Global Financing Facility (GFF) launched recently by the World Bank. Mental health is indissociable from many of the narrow and broader causes of maternal and child health, so the new GFF constitutes an opportunity not to be missed for financing mental health care.

### **A new World Bank Global Financing Facility**

In July 2015, the World Bank launched a new Global Financing Facility in Support of Every Woman Every Child (GFF) at a Financing for Development conference in Ethiopia. The goal of the GFF is to avert 3.8 million maternal deaths, 101 million child deaths and 21 million still births by 2030. The World Bank is currently raising a target of \$1.9 - \$2.6 billion in funds for the GFF, which it estimates is necessary to reach the 32-to-63 most heavily burdened countries. Initial funding of \$800 million was committed by the governments of Norway and Canada.

The GFF Trust Fund grew out of the pre-existing Health Results Innovation Trust Fund (HRITF), established in 2007 by the governments of Norway and the UK. The HRITF used results based funding to address the health-related millennium development goals, especially goals relating to nutrition, child mortality and maternal health (MDGs 1, 4 and 5). By the end of 2014, the HRITF had committed \$420 million in grants to 32 countries, each dollar of which was leveraged fivefold by contributions from the International Development Association (World Bank 2014).

The new GFF has five stated objectives:

1. Finance national RMNCAH scale-up plans and measure results;
2. Support countries in the transition toward sustainable domestic financing of RMNCAH;
3. Finance the strengthening of civil registration and vital statistics systems;
4. Finance the development and deployment of global public goods essential to scale up;
5. Contribute to a better coordinated and streamlined RMNCAH financing architecture.

The term “global public goods” is understood to include, “sustainable access to key commodities, technological developments that simplify delivery, innovations in the delivery of services such as task-shifting and impact assessments that inform ways of overcoming bottlenecks to implementation.” As described, mental health interventions appear to constitute a public good of the sort sought after by the World Bank’s GFF.

As announced in its business plan in May 2015, GFF grants will range in size from \$10 - \$60 million per grant cycle (World Bank 2015). Four countries have been selected as the front-runners to test the new GFF structure: the Democratic Republic of Congo; Kenya; Tanzania and Ethiopia. Further applications are eligible from any 63 priority countries, dubbed “countdown to 2015 countries”; however there is no standardized application form. Instead, eligible countries are invited to make an “Investment Case” which must demonstrate two key components: 1) a commitment to increasing domestic resources for health by developing a health financing strategy; and 2) willingness to use IDA or IBRD funds for reproductive, maternal, newborn, child and adolescent health .

### **How mental health affects RMNCAH**

The impact of mental health on RMNCAH has been amply demonstrated over the last decade. The interaction between these areas of health is bidirectional with poor mental health causing poor RMNCAH outcomes and poor RMNCAH outcomes engendering poor mental health. Inversely, improvements in mental health may positively affect RMNCAH and vice-versa. This section reviews the evidence on the relationship of mental health and RMNCAH starting with reproductive health, then maternal and newborn health, and finally child and adolescent health.

#### *Mental health in reproductive health*

Within reproductive health, mental health is closely entwined with both family planning and violence against women. On the side of family planning, unplanned pregnancy is one of the leading risk factors for maternal depression (Fisher, de Mello et al. 2012). In addition, violence against women, a key area of reproductive health, has a powerful impact mental health. The WHO’s Multi-Country Study on Women’s Health and Domestic Violence backs this claim with a rich body of evidence. The study interviewed over 24,000 women from ten countries and found violence against women to be common across all cultures studied, though the rates varied markedly from place to place (from 15%-71% for lifetime exposure). Women who were abused during pregnancy were found by one meta-analysis to have 3 times higher odds of developing postnatal depression (Howard, Oram et al. 2013). Women who had ever experienced partner violence had 3.8 times higher odds of having attempted suicide than non-abused women (Ellsberg, Jansen et al. 2008; Devries, Watts et al. 2011).

Inversely, people with mental disorders are also at higher risk of being victims of domestic violence (Howard, Oram et al. 2013). A systematic review of 41 studies found that people with depressive disorders had 2.8 times higher odds of experiencing violence than those without depression (Trevillion, Oram et al. 2012). Those with anxiety had 4.1 higher odds, and those with PTSD had 7.3 higher odds, controlling for other socio-economic variables. Not enough studies were available to pool results for people with psychosis, though individual studies reported higher prevalence of violence for this population as well.

Mental health interactions with violence are not only on the side of victims, but also of perpetrators. One of the main risk factors for committing violence is substance or alcohol

abuse. This is true both of people with severe mental illness committing violence (Swartz, Swanson et al. 1998) and others (Lipsky, Caetano et al. 2005). In high-income settings, heavy drinking has been associated with five times higher odds of perpetrating violence (*Ibid*).

What interventions exist to address this joint problem of poor mental health and domestic violence? Many of the approaches stem beyond the health system to address education and social services. That being said, most victims of domestic violence have seen a healthcare provider in the previous year. The WHO therefore recommends two health-related interventions:

1. It is necessary to improve access to non-stigmatizing mental health services for women that adequately recognize the associations between violence and mental health, in particular depression and suicide ideation. These services need to contribute to empowering women in situations of violence, and to avoid over-medicalizing the problem. (Recommendation 10)
2. Use reproductive health services as entry points for identifying and supporting women in abusive relationships, and for delivering referral or support services. ... However, unless providers are aware of and willing to address violence and coercion, they will be unable to promote women's sexual and reproductive health effectively (Recommendation 11)

Poor mental health is both a risk factor and a potential proxy for domestic violence, and therefore should be added to the screening done at reproductive health services. If screening is to be provided, then it is important that healthcare workers be trained in supportive counselling at these service points. That being said, the state of evidence on the effectiveness of counselling for domestic violence remains weak (Van Parys, Verhamme et al. 2014). There is evidence of the effectiveness of interventions at reducing partner violence (OR 0.47-0.92), but results are inconclusive about the effects of interventions on reducing miscarriages and low birth weight. Such interventions may need further adaptation and testing to ensure their cultural appropriateness in LMIC.

#### *Mental health in maternal and newborn health*

In addition to the evidence on overlap between reproductive and mental health, the WHO has promoted a new body of evidence on the relationship between mental health and maternal and child health in LMIC. The WHO sponsored three systematic reviews on this topic, one examining the burden of maternal and child health as a result of perinatal depression (Surkan, Kennedy et al. 2011), another looking at the prevalence and predictors of the same (Fisher 2013), and the third assessing the effectiveness of interventions to address perinatal mental health (Rahman, Fisher et al. 2013). The prevalence review found a mean prevalence of 15.6% depression antenatally and 19.8% postnatally, drawing on data from 17 countries (Fisher, de Mello et al. 2012). The review of the burden of perinatal depression found that children of mothers with depression were at least 1.5 times more likely to be underweight. A sub-analysis of three longitudinal studies found the odds of being

underweight to be 2.2, which matched the odds of infant stunting (2.0) (Surkan, Kennedy et al. 2011). The study concluded by calculating the population attributable factor of maternal depression, noting: “if the infant population were entirely unexposed to maternal depressive symptoms 23% to 29% fewer children would be underweight or stunted.”

The third WHO-sponsored review, which assessed intervention effectiveness, found that on average interventions decreased depression by 38% (Rahman, Fisher et al. 2013). The author notes that the findings from LMIC suggest these interventions are as effective as treatments in higher-income countries. There was not enough comparable data to pool the effects on child health or mother-child interaction in the six studies that examined those outcomes; however individual studies found better cognitive development and growth, as well as improved immunization and reduced episodes of diarrhea.

Two additional systematic reviews, not commissioned by the WHO, recently looked at the effectiveness specifically of lay-worker interventions to treat perinatal common mental disorders. A meta-analysis, which pooled data from over 18,000 participants, found that all interventions decreased symptoms of common mental disorders by a mean effect size of 36%, resulting in an odds of being depressed of 40% lower (Clarke, King et al. 2013). The effect of psychological interventions was found to be higher than that of health promotion interventions and no difference was found between individual and group modalities or the timing of the intervention. The second study looked at the content and delivery of interventions, grouping them qualitatively (Chowdhary, Sikander et al. 2014). It noted similarities of certain key features, such as delivery within the context of routine maternal and child care, starting in pregnancy, and focus on the whole family unit, as well as on the social context, but cautioned that the training and supervision of lay-workers should be better evaluated.

#### *Mental health in child and adolescent health*

The relationship between child and adolescent health and mental health is explicit, since mental health constitutes an integral part of the general health of these individuals. Most mental disorders appear during childhood, between the ages of 12 and 24, though they are often not diagnosed until much later (Patel, Araya et al. 2007). The most recent round of the global burden of disease study found that nearly half (45%) of the disability burden of children aged 10-24 globally was the result of neuropsychiatric disorders (Gore, Bloem et al. 2011), for which the two leading risk factors were alcohol and unsafe sex.

The most significant burden in terms of neurological disorders for children in LMIC is epilepsy. The prevalence of epilepsy has been found to be higher in sub-Saharan Africa than in high-income countries with estimates from 0.7 to 1% of children (Ngugi, Bottomley et al. 2013), which is thought to be the result of cerebral malaria and exposure to selected parasites. Epilepsy causes premature mortality with death rates over six times as high as those in unaffected populations (Ngugi, Bottomley et al. 2014). In addition to the sometimes disabling symptoms of seizures, children with epilepsy are frequently subject to bad burns

(Forjuoh 2006). One of the greatest burdens of epilepsy, however, is the social exclusion brought on by frequent misconceptions that the illness is contagious. Treatments for epilepsy are highly effective and cost-effective, focusing largely on pharmaceutical interventions. The WHO lists seven anti-epileptic medicines on its list of essential medicines. The main treatment challenge lies in correctly diagnosing whether seizures are partial or generalized. Effective packages of care therefore also involve a component of health worker training and community education (Mbuba and Newton 2009). Despite the existence of well-documented, inexpensive solutions, the treatment gap for epilepsy remains at 75% in low-income countries (Meyer, Dua et al. 2010).

Psychiatric disorders among children include conditions such as autism, depression, conduct disorder and attention deficit. The prevalence of childhood mental disorders globally has been found in the range of 10% to 20% (Kieling, Baker-Henningham et al. 2011) with rates closer to 10% when using diagnostic as opposed to screening tools (Cortina, Sodha et al. 2012). Despite that 35% of the population in LMIC are children, the area of child mental health remains one of the most neglected areas of research within global mental health, though evidence does exist for effective interventions (Patel, Flisher et al. 2008). Interventions for childhood mental health have focused on both prevention and treatment. Among the prevention and promotion based interventions, the greatest success has been found for school-based interventions, most of which target children age 12 and up, though some address younger children (Barry, Clarke et al. 2013). In addition, strong effects have been found for a variety of community-based promotion programs from seven LMIC, some of which targeted families and others of which were multi-component. Many health promotion interventions are non-specific, targeting universal health-promoting behaviors, such as fitness, nutrition, and talking about feelings (Kieling, Baker-Henningham et al. 2011).

In addition to prevention, a number of treatments have been tested and shown to be effective in improving the emotional and behavioral wellbeing of children. These include stimulation and carer relationship building in infancy, and structured activities and psychosocial groups for children and adolescents (*Ibid*). A number of interventions have also been developed specifically for children affected by war, which show signs of promise, though most of these lack rigorous evaluation (Jordans, Tol et al. 2009). Despite the preponderance of interventions to address child and adolescent mental health problems, the treatment rates remain very low. A recent WHO review across 44 LMIC found a median treated prevalence per year of 159 per 100,000 population of children and adolescents – less than a quarter that of adults (Morris, Belfer et al. 2011).

### *The opportunity*

Despite a substantial body of evidence pointing to strong ties between mental health and RMNCAH, mental health is mostly excluded from discussion. For example, mental health does not figure in two of the most recent sets of guidelines for RMNCAH. The third edition of the Disease Control Priorities project devotes separate volumes to RMNCAH and mental health. While the mental health volume mentions the relations to RMNCAH, the inverse is

not true. Neither the terms “mental” nor “depression” nor “mood” figures anywhere in the volume (Black, Temmerman et al. 2014). The same is true for the *WHO Essential Interventions for RMNCH* (The Partnership for Maternal 2011), which remains silent on mental health.

This being said, there are some signs that the field of maternal, child and reproductive health have started to take note of mental health. For instance, one of the lead authors of the DCP3 volume on RMNCAH, noted in a recent Lancet article that risks for maternal morbidity and mortality include perinatal depression, and that interventions to improve the health of newborns and mothers include “maternal interventions to improve psychosocial health and substance abuse, antenatal assessment and interventions for anxiety, antenatal and postnatal psychosis, and depression” (Bhutta, Das et al. 2014). In addition, a recent World Bank report on childhood development presents five packages of care, including a family support package that includes prevention and treatment of parental depression, noting “community-based interventions with paraprofessionals can reduce depressive symptoms (effect size from 0.21 to 0.62), improve maternal sensitivity and infant attachment, infant health, and time spent playing with infants” (Denboba, Sayre et al. 2014).

The relative silence but growing awareness about mental health within RMNCAH creates a prime opportunity to step in and fill this gap. One concrete way in which this could happen is if a bilateral donor were to contribute to the World Bank GFF Trust Fund with funding earmarked for mental health prevention and treatment. These funds could be distributed within existing RBF packages already funded in the target countries. In this way, mental health would be mainstreamed within existing platforms of healthcare, strengthening the overall health system. A further opportunity for scaling up global mental health could be found in the near future in development impact bonds (text box 4).

#### **Box 4: Impact Bonds for Global Mental Health?**

A form of results based funding that is receiving increasing attention are impact bonds. Social impact bonds (SIBs) are a financing mechanism that combines public and private investment by contracting between a provider, an investor with an interest in social returns and a results-based payer (usually a government) to deliver a predetermined result (Center for Global Development and Social Finance 2013). Whereas traditional results-based funding formulates an agreement between the results-based investor and the provider, the SIB introduces an intermediary investor, who absorbs the risk of a potential default, and also benefits from the potential gain of a high-impact proposition.

The first SIB was launched in 2010 in the Petersborough Prison in the UK. The provider was the prison, the impact investment of £5 million was managed by Social Finance UK and the results-based investor was the UK government. The intervention offered multi-dimensional supports to people exiting prison and outcome was reconviction rates two years post-release. Offenders reduced recidivism by 8.5% relative to a propensity matched control, which was deemed a great success (Jolliffe and Hedderman 2014).

The evidence base on SIBs is small at present. Within mental health, Social Finance UK recently designed two mental health SIBs. The Health and Employment Partnership SIB provides individual placement and support to 2,250 people with severe and enduring mental health problems in London and West Midlands with a target of putting one in three into lasting employment. In addition, Social Finance UK helped launch a SIB in May 2015 with Age UK Herefordshire & Worcestershire to address loneliness among older people. The SIB, called “Reconnections Social Impact Bond,” is financed by the county council and local clinical commissioning groups (Social Finance UK 2015). In addition to these English examples, in Canada a feasibility study was recently carried out for a potential SIB on housing for homeless people with mental health problems (Miguel and Abughannam 2014). The target outcomes involve two measures of stable housing and a composite index of community integration and are under discussion with potential government funders.

Development Impact Bonds (DIBs) function like SIBs, only within the context of developing countries, where access to reliable data is more challenging. The advantages of this form of investment include the potential to attract a new type of investor. By transferring the risk of spending money on ineffective programs away from donors and governments to investors, DIBs offer the promise of unlocking larger pools of funds. Two key challenges include insufficient evidence of effectiveness and a shortage of financially attractive opportunities in which to invest at scale (Center for Global Development and Social Finance 2013). Existing DIBs and those under discussion are valued in the range of \$2-\$5 million, so as to off-set the sometimes high cost of designing and structuring the bonds, with an investment timeline of 3-10 years. The size and extended timeline make DIBs potentially useful for scaling up an intervention.

Mental health presents a specific set of challenges for DIBs. These include the following:

- Are there internationally accepted tools for measuring improvement? If so, what should these tools measure? Symptom improvement, quality of life, social participation or another metric? Should they be subjective or objective measures?
- Are there well-established baseline levels of effectiveness against which to set results targets?
- What is the appropriate timeline for the measurement of outcomes?
- Is it possible to devise an outcome appropriate to a multi-diagnostic cohort?
- Is it possible to adequately demonstrate attribution of effectiveness? How does this compare to placebo or to the natural course of a condition?

It remains to be seen how DIBs might be adapted to work in the field of global mental health, though they present a promising opportunity for scale-up in the future.

## **Part 3: Cash Transfers**

### **What are cash transfers?**

#### **The concept**

Shifting as away from approaches such as health benefits plans and RBF, financial mechanisms exist on the demand-side to incentivize better health outcomes. One example of a demand-side incentive is cash transfers, which are “direct, regular and predictable non-contributory payments that raise and smooth incomes with the objective of reducing poverty and vulnerability” (Arnold, Conway et al. 2011). Cash transfers first emerged in the late 1990s in Latin America with the goal of reducing inter-generational transmission of poverty (Gertler, Martinez et al. 2012). Since then, they have spread to Africa, the Middle East and Asia with more than 44 such programs in operation to date (Glassman and McQueston 2014). Two varieties of cash transfers exist: conditional and unconditional, also known as social. A conditional cash transfer (CCT) distributes money to selected poor households provided they comply with a set of conditions. These conditions typically pertain to the use of preventive health services and school attendance. The amount of the transfer is selected either to complete the difference between the average household income and the poverty line, or to cover the opportunity cost of health and educational services (Gaarder, Glassman et al. 2010). Typically, cash transfers represent 10-25% of pre-transfer consumption of a household (Handa and Davis 2006).

The rationale behind the use of cash transfers is that they correct market failures in relation to health and education (Gaarder, Glassman et al. 2010). Within healthcare, the demand for services is influenced by a person’s knowledge about illness, including their detection of symptoms, and the costs – both direct and opportunity costs – of treatment. People often do not detect symptoms of illness before it is well advanced, so preventive care does not constitute a market good. Originally conditional cash transfers focused on preventive medicine. More recently, however, they have come to be used to encourage the uptake of specific curative services. Cash transfers have a number of different development goals, both within and outside of healthcare. These include: 1) human development 2) reducing poverty and vulnerability; 3) economic growth; 4) empowerment and gender equality; 5) humanitarian assistance; 6) State building and social cohesion; and 7) climate change adaptation and disaster risk reduction (UK Department for International Development 2011). This paper will focus on the human capital objectives of cash transfers, specifically in relation to health and social care.

#### **The evidence in health**

A wide body of evidence exists on the health outcomes of cash transfers, particularly in middle-income countries. In broad terms, cash transfers have been effective at increasing the demand for and quantity of health and education services provided, but less effective at improving the quality of services supplied (UK Department for International Development

2011). This section will look in some detail at two cases of cash transfers from Mexico and India to better understand what works and where the limitations lie.

One of the oldest and largest cash transfer programs called Oportunidades (originally Progresá), started in Mexico in 1997. In 2011, the program distributed \$4.5 billion to 5.8 million rural means-tested households (Gertler, Martinez et al. 2012). The minimum period of enrolment in Oportunidades is nine years, with possibilities for further extension (Gertler, Martinez et al. 2012). The cash transfers are made to female heads of household and come in two forms: 1) a fixed stipend of 90 pesos conditional on obtaining preventive medical care; and 2) a graduated stipend of 60-225 pesos per month for children attending a minimum of 85% of school, depending on the age and sex of the child (more for women and older children).

The Oportunidades program has been rigorously evaluated by several studies, which have pointed to strong health benefits and good short-term outcomes on education. In terms of health results, Oportunidades beneficiaries had lower levels of anemia, increased height-for-age (+1 cm after two years of intervention), reduced pregnancy and sexually transmitted diseases in adolescents and young adults and lower levels of adult obesity (Glassman and McQueston 2014). The education outcomes showed increased school enrolment and lower levels of repeating grades in the short-term, amounting to an overall effect of approximately one additional year of schooling (Fiszbein, Schady et al. 2009; Barrientos and Niño-Zarazúa 2010; Lichand 2010). Longer-term outcomes of achievement tests were diluted by outward migration from the community of study (*Ibid*).

Oportunidades has also been evaluated along a number of mental health outcomes for children, namely: 1) aggressive or oppositional behavior; 2) anxiety and depressive symptoms; 3) stress as measured by salivary cortisol; and 4) cognitive assessment. The findings from an RCT study showed a strong effect of the program on reducing aggressive and oppositional behaviors. The effect on cognitive assessment, however was inconclusive, and depended on whether the variable was treated as continuous or categorical (Ozer, Fernald et al. 2009). Non randomized studies found lower levels of stress among children, particularly those whose mothers showed symptoms of depression (Fernald and Gunnar 2009). They did not, however, find any effect on anxiety or depressive symptoms in children. The causal mechanism for these effects is not established (Gaarder, Glassman et al. 2010), however the authors speculate they may be the result of lower levels of economic stress perceived by the family.

While the Oportunidades program has shown signs of benefitting mental health, the same is not true for all poverty alleviation programs. There is some evidence, for instance, from sub-Saharan Africa and India that small loan programs increase symptoms of anxiety and depression among beneficiaries (De Silva, Huttly et al. 2007; Fernald, Hamad et al. 2008; Stewart, van Rooyen et al. 2010), although a study from Bangladesh found the loan program to decrease women's levels of emotional stress (Ahmed, Chowdhury et al. 2001). A systematic review of poverty and mental health interventions by Lund and colleagues

concludes that most poverty reduction interventions are too broadly targeted to demonstrate clear mental health gains. For greater effect, interventions could be tailored to vulnerable populations and focus on the mechanisms of poverty that most affect mental health (Lund, de Silva et al. 2011), namely education, food insecurity and housing, as opposed to income (Lund, Breen et al. 2010).

A second case of conditional cash transfers is that of the Janani Suraksha Yojana (JSY) program in India, which with 52 million enrollees is the largest CCT program to date (Randive, Diwan et al. 2013). JSY aimed to reduce maternal mortality within the nine most heavily affected states in India, which account for 12% of maternal deaths globally. It did so by offering cash transfers to women if they gave birth in a health facility, be it a public facility or a private accredited one. The amount of the transfer was highest for women living in the least developed states, amounting to \$21 and \$31 dollars for those living in urban and rural areas respectively. Those living in more developed states received half that amount and only for the first two child births in health facilities.

The underlying assumptions of the program were that economic barriers were the main obstacle to giving birth in a health facility, and that giving birth with a skilled birth attendant would reduce maternal mortality. A recent study, analyzing data from a newly administered Annual Health Survey, found the JSY program to be very successful at getting women to deliver in health facilities – the proportion of women doing so more than doubled, from 20% to 49% -- however delivery in a health facility had no statistical impact on maternal mortality (Randive, Diwan et al. 2013). The evaluation concluded that, while the CCT program effectively addressed demand-side barriers to healthcare, it failed to consider supply-side problems relating to the quality of care.

### **Gaps in the evidence**

The challenge in improving supply-side quality to match increases in demand is one of the continuing areas of inquiry within cash transfer programs. CCT programs in Honduras and Nicaragua incorporate supply-side strengthening, such as contracting private providers for a package of services, and providing basic equipment and training for health workers (Gaarder, Glassman et al. 2010).

A second key area of inquiry within cash transfer programs is around the importance of conditionality in achieving results. A number of unconditional cash transfers (UCTs) have emerged in the last several years and are being tested in Africa and Latin America. Studies from South Africa (Aguero, Carter et al. 2006), Ecuador (Paxson and Schady 2010) and Malawi (Miller, Tsoka et al. 2010) suggest that unconditional cash transfers are effective at improving nutritional outcomes, including height and weight of children under the age of three. These studies do not, however, compare UCT with CCT, and therefore are unable to report whether gains would have been higher in a CCT program (Gaarder, Glassman et al. 2010). Furthermore, the unconditional cash transfers have not been effective at getting beneficiaries to attend health clinics, so it may be that the effects on nutrition require less incentivization than those on healthcare attendance (Paxson and Schady 2010). A review of

UCTs in sub-Saharan Africa found that transfers were principally used to buy food in six out of the seven programs (Adato and Bassett 2009).

Mental health outcomes appear harder still to generate than healthcare attendance. A UCT in Ecuador noted no effects on children's cognitive or behavioral outcomes, nor on caregiver depression after two years (Paxson and Schady 2010). Nonetheless, a UCT in Malawi found a significant reduction in psychological distress among schoolgirls benefitting from the program. Measuring the influence of conditionality is complicated by the fact that CCT programs do not consistently enforce compliance with their conditions. Nonetheless, programs that do monitor compliance, show rates of 94% or higher, suggesting that even in the absence of close supervision, the terms of the conditionality are respected (Gaarder, Glassman et al. 2010).

A final area that warrants further exploration is the cost-effectiveness of cash transfers. One of the key questions is what the next best alternative intervention is to which cash transfers are being compared. If the alternative is a regressive subsidy, such as that for fuel in Indonesia, then cash transfers are likely to be an improvement (UK Department for International Development 2011). In addition, middle-income countries, which have better access to delivery and evaluation infrastructure and can be delivered at larger scale, may yield greater results than low-income countries, where these programs remain small-scale and where rigorous impact data are harder to come by (Arnold, Conway et al. 2011). The scale of the program is also influenced by the amount of money governments have to spend on social transfers. The average outlay of 2% of GDP amounts to a notably smaller sum in low-income countries than in middle-income countries, thereby further limiting the potential scope of these programs in low-income settings (*Ibid*).

### **Opportunities for uptake in mental health**

Despite the known limitations of cash transfers, their proven effectiveness at overcoming demand-side barriers to accessing healthcare makes them an appealing development instrument. The opportunities for their uptake in global mental health are multiple. In the first instance, it is possible to imagine a cash transfer designed specifically as a mental health intervention. Based on existing evidence, this would most likely be a conditional cash transfer and would target households with particular vulnerabilities towards poor mental health, for example as a result of low-levels of educational attainment, high levels of food insecurity, or insecure housing. One such vulnerable group is victims of humanitarian disasters. There has been a shift within the field of humanitarian aid away from in-kind support in favor of cash support. If structured with appropriate mental health prevention and promotion activities, this form of aid might lead to more beneficial mental health outcomes. A second potential way of applying cash transfers to mental health would be to incorporate community based mental health promotion within existing CCT health promotion interventions, such as health talks (*"pláticas"* in Spanish, as popularized through Oportunidades). A third potential opportunity would be to use the targeting platform of existing cash transfer programs to reach vulnerable families and communities and connect

them with mental health services. All of these ideas remain to be tested, as at present mental health is mostly absent from discussion of cash transfers.

## **Addressing the barriers, reframing the issue**

### **Why development aid is relevant to mental health**

In summary, mental and neurological disorders cause a great disease burden, are treatable at relatively low-cost, yet hardly being treated, and therefore constitute an excellent opportunity for investment by the global health community. A UK All Party Parliamentary Group met in 2014 to discuss global mental health and concluded that “progress in development will not be made without improvements in mental health” (De Silva and Roland 2014). Foreign investment in the form of development aid is relevant to mental health for a number of reasons, including because mental disorders generate poverty and are generated by poverty, and because treating them is cost-effective.

The link between neuropsychiatric disorders and poverty is reciprocal. (Patel and Kleinman 2003; Saraceno, Levav et al. 2005; Lund, Breen et al. 2010). On one side, the social causation hypothesis contends that conditions and events associated with poverty create stress and trigger mental disorders. On the other side, the social drift hypothesis asserts that people with mental disorders drift into poverty, because of the costs of healthcare and an inability to stay in work. One of the first studies bearing evidence of economic costs of mental disorders to individuals and families in LMIC was conducted in India and Pakistan. Chisholm et al. found that one month with depression was associated with costs equivalent to 7-14 days of agricultural labor in India and 20 days of agricultural labor in Pakistan (Chisholm, James et al. 2000). In South Africa, the indirect costs of depression alone have been estimated to represent a loss of income of US \$ 4,800 per individual, amounting to a yearly loss to GDP of US\$ 3.6 billion (Lund, Myer et al. 2013).

A systematic review by Crick Lund and colleagues from the Mental Health and Poverty Project tested the association between common mental disorders and poverty, measured by a number of indicators of deprivation (Lund, Breen et al. 2010). Using bivariate and multivariate analyses, they found that 73% and 79% of the 115 studies showed a positive association between poverty and common mental disorders: the poorer a person was, the more likely they were to experience a common mental disorder. Drilling down into which specific aspects of poverty created the greatest vulnerabilities, they found the strongest association with common mental disorders was lack of education. Strong associations were also found for socio-economic status, financial stress, housing, and food insecurity; however the number of studies with data on these indicators was small. Finally, low-income and unemployment were also associated with common mental disorders, though less consistently so. There were more studies analyzing these two variables, however, creating opportunities for greater variability than for the other predictors.

Because of the well demonstrated links between poverty and mental and neurological disorders, the WHO advises categorizing people with mental health conditions as a “vulnerable population,” making them eligible for targeted development aid (Funk, Drew et al. 2010). At present, they are largely excluded or marginalized within funding streams for people with disability, who constitute another major vulnerable group. The argument among those promoting the label of vulnerability is that “without targeted action, vulnerable groups are likely to be left behind as a country develops” (*Ibid*).

The body of evidence on cost-effectiveness of mental health interventions is large and growing. With the upcoming DCP3 book on mental disorders, we can now confidently assert that there is enough evidence to support scaling up mental health interventions in LMIC. Furthermore, a new tool for costing, budgeting, financing and strategic planning of mental, neurological and substance use disorders has just been developed by the WHO in conjunction with Avenir Health and is being launched this summer (<http://www.avenirhealth.org/software-onehealth>). The mental health costing tool sits alongside a series of disease- and program-based modules within the OneHealth tool for health system strategic planning (World Health Organization 2015). The OneHealth tool projects program costs for 3-to-10 years using a simple algorithm multiplying target coverage for the population in need times the cost per person of an intervention. The components of an intervention cost cover the six building blocks of a health system, as conceptualized by the WHO: 1) infrastructure; 2) human resources; 3) logistics; 4) health information; 5) governance; and 6) financing. In this way, mental health service planning can be developed in an integrated way together with overall health system financing.

A handful of funding agencies have served as financial leaders in the emergence of a movement around global mental health. DFID has currently committed £13 million to fund a multi-site research consortium that aims to improve mental health in primary care and to develop a single country’s (Ghana) mental health system (De Silva and Roland 2014). The US National Institute for Mental Health (NIMH), and the Wellcome Trust, have backed major research initiatives in global mental health for over ten years. Grand Challenges Canada has committed \$32 million to both research and service delivery projects across Africa, Asia, Latin America and the Caribbean. The Open Society Foundations have supported essential work monitoring and defending human rights in Eastern Europe and more recently Africa. While a promising start, much more must be done to mainstream mental health into national policy and coverage decisions. At present, limited funds for healthcare are being spent on ineffective mental health remedies, such as sometimes ineffective traditional or faith healing rituals, abusive physical constraints, and non-therapeutic herbal supplements. The alternative to scale- up is not to economize but rather to waste scarce resources.

### **Reframing mental health within the SDGs**

Why is it that investment in mental health has not kept pace of the evidence base? Recently, the Overseas Development Institute undertook an analysis of the barriers to

change in mental health policy. One of the recommendations, drawing on successes within HIV, was to reframe the issue. A persistent challenge in the way that the issue is currently framed is that mental health is often understood as an issue of personal responsibility rather than one of social concern (Mackenzie 2014). At present, mental health is being reframed within the context of non-communicable diseases as a key part of the newly approved sustainable development goals (SDGs), which will contribute to defining the development agenda for the next 15 years.

Whereas the millennium development goals (MDGs) allocated three of eight goals to health (child mortality, maternal health and HIV and malaria), the SDGs allocate only one of seventeen goals to health, noting instead the link between individual health and social and planetary health. The health goal is formulated under a broad umbrella of “healthy lives ... and wellbeing for all.” Beneath that goal (number 3) lie three important targets relating to mental health, namely: 1) “to reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and well being” (target 3.4); 2) “to strengthen the prevention and treatment of substance abuse” (target 3.5); and 3) “to achieve universal health coverage” (target 3.8). Mental health is not limited to these three health targets, however. In fact, mental health arguably relates to eleven of the seventeen goals, in other words mental health is a cross-cutting component of most of the SDGs (table 5).

Mental health was a necessary component of the MDGs (Miranda and Patel 2005), and a number of the SDGs build directly on the MDGs. This is particularly true of MDGs 1-3 on poverty, education and gender equality, which translates into proposed SDGs 1 and 2 on poverty and hunger, 4 on education and 5 on gender equality. We have already reviewed the reciprocal link between mental health and poverty, as well as the relationship between child malnutrition and maternal depression. Furthermore, education is closely tied to most mental health promotion activities, many of which target early childhood development (SDG target 4.2), and school based life skills (target 4.1). Finally, we have examined the evidence of strong ties between poor mental health and gender-based violence, making this goal clearly tied to mental health prevention and treatment.

In addition to these overlaps between mental health and the SDGs on poverty, hunger, education and gender, several of the SDGs make special mention of vulnerable populations, such as people with mental disorders. The goals relating to water and sanitation, economic growth, and safe cities (6, 8, and 11) in particular contain targets relating to either vulnerable populations, or persons with disabilities. Most notable of these is target 8.5 which aims to “achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities.” Economic empowerment of people with mental disorders would help break the cycle of poverty surrounding these conditions.

SDG 8 on growth merits special attention for its relationship to mental health, as it represents a new goal, not previously contained in the MDGs. A report of the World

Economic Forum on the costs of non-communicable disease found that mental illnesses costs the world US\$ 2.5 trillion per year (2010 value) (table 3) – equivalent to more than the entire overseas development aid delivered over the past twenty years (valued at US\$ 2 trillion) (Bloom, Cafiero et al. 2011). Mental health joins cardiovascular disease as the leading drivers of lost economic output (figure 4), with ensuing losses of US\$ 300 million

#### **Box 5: A failure of humanity?**

*“I have personally witnessed individuals with mental disorders in east and southeast Asian towns and villages chained to their beds; caged in small cells built behind houses; hospitalized in for-profit asylums where they are kept in isolation in concrete rooms with a hole in the floor for urine and feces; abused by traditional healers such that they become malnourished and infected with tuberculosis; scarred by burns resulting from inadequate protection from cooking fires; forced to dress in prison-like clothes in asylums with shaven heads and made to perform child-like dances and songs for gawping visitors; knocked to the ground and forcefully held down for electroconvulsive therapy when psychotic in an emergency room; laughed at by the police; bidden by families; stoned by neighborhood children; and treated without dignity, respect, or protection by medical personnel....The fundamental truth of global mental health is moral: individuals with mental illness exist under the worst of moral conditions. ...The moral failure of humanity in the past does not mean we must tolerate this failure any longer.”*

- Arthur Kleinman (Kleinman 2009)

in low-income countries and US\$ 1.9 – 5.1 trillion in lower-middle and upper-middle income countries (table 4). The report further estimates that the lost output will double by 2030, based on current demographic and epidemiological trends.

Casting aside economic goals, two additional new goals within the SDGs – reducing inequality and building peaceful inclusive societies (10 and 16) – underscore the importance of viewing mental health from a human rights perspective. The targets of these goals include

important legal reforms, such as “eliminating discriminatory laws, policies and practices” (target 10.3), and “provid[ing] legal identity for all” (target 16.9), both of which affect people with mental disorders under legal guardianship. The new SDG targets also address broader human rights goals of participation and inclusion, such as “to empower and promote the social, economic and political inclusion of all” (target 10.2) and “to ensure responsive, inclusive, participatory and representative decision-making at all levels” (target 16.7). The currently widespread use of chaining, scarifying, forced fasting, mocking, violating and broad social exclusion of people with mental illness constitutes in the eyes of some a “failure of humanity” (Kleinman 2009) (text box 5). The notion of stigma is thought too sterile to capture the strength of ostracism experienced by some people with mental illness and their family. An alternative term proposed is “social death” (*Ibid*), which matches the words of some people with mental illness, who describe feeling “like an animal going to a slaughter” (Mbuen, Maglajlic et al. 2014) or that their illness was “like a death sentence” (Human Rights Watch 2012). These violations to people with psychosocial disabilities should end at whatever cost.

## **Why now is a prime time to act**

The key questions emerging from this paper are:

1. How can mental health be fairly represented in the roll out of universal health coverage? In particular, how best can it be included within national health benefits plans?
2. Can the quality of targeted health interventions – especially for RMNCAH – be improved by including mental health within existing results-based financing initiatives?
3. Is it possible to integrate mental health into existing health promotion initiatives, for example within the context of conditional or unconditional cash transfer programs?
4. Are there other opportunities for up-take of cost-effective interventions? And how can barriers to greater investment by national or international global health funders be overcome?

A number of recent developments make now a promising time to engage with policy makers on this neglected issue, in particular 1) the finalization of the sustainable development goals in September 2015; 2) the launch of a new tool for costing mental health at a national level, and the launch in October 2015 of the first dedicated edition of the disease control priorities on mental and neurological disorders; and 3) the inclusion of mental health in the World Bank's 2016 annual general meeting (text box 6). In addition to these concrete initiatives, the global mental health community is stronger than ever, benefitting from a number of new networks. These include the Movement for Global Mental Health, which brings together over 200 institutions and 10,000 agencies in support of scaling up evidence-based and rights-based interventions, and the Mental Health Innovation Network, which draws together the latest knowledge, news and resources on a web portal, and the community of mental health agencies supported through the generous funding of Grand Challenges Canada. It also includes research consortia, such as the Programme for Improving Mental Health Care (PRIME) funded by DFID, Emerging mental health systems in LMIC (EMERALD) funded by the European Commission, INTREPID for the study of first episode psychosis funded by the Wellcome Trust, and five global mental health research hubs funded by NIMH.

Building on this momentum, health and social policy makers need to push forward practical ways to allow governments and funders to support mental health services in a way consistent with better practice and complementing existing initiatives. LMIC have a rare opportunity to get “ahead of the curve” by building mental health into service delivery platforms from the start. This includes providing mental health care starting in primary care and following through to specialized care, through a combination of community and acute care services offered over the life course. Low-income countries can thus avoid the costly and ineffective asylum-based models that have taken root in the past in upper-income countries and continue to thrive in many middle-income countries. Updating policies to enable appropriate financing of these critical mental health services has the potential to produce great strides for the health, economic and moral outcomes of our society.

**Box 6: Key current timeline for global mental health policy**

- September 25-27 2015 (NY): UN summit on sustainable development goals passed a target on reducing premature mortality from non-communicable diseases and mental disorders.
- October 9 2015 (Geneva): Launch of Disease Control Priority 3 volume on Mental Health
- October 10 2015 (Geneva): mhGAP annual forum on the topic of mental health innovations and their uptake into policy and practice
- April 2016 (DC): World Bank annual general meeting to highlight common mental disorders in a forum hosted by Jim Kim and Margaret Chan

## Tables and Figures

Table 1: Costs and Effects of a Modelled Package of Care for Four Mental Health Conditions

	World Bank region					
	Sub-Saharan Africa	Latin America and the Caribbean	Middle East and North Africa	Europe and Central Asia	South Asia	East Asia and the Pacific
<i>Total effect (DALYs averted per year per 1 million population)</i>						
Schizophrenia: older antipsychotic drug plus psychosocial treatment	254	373	364	353	300	392
Bipolar disorder: older mood-stabilizing drug plus psychosocial treatment	312	365	322	413	346	422
Depression: proactive care with newer antidepressant drug (SSRI; generic)	1,174	1,953	1,806	1,789	1,937	1,747
Panic disorder: newer antidepressant drug (SSRI; generic)	245	307	287	307	284	330
Total effect of interventions	1,985	2,998	2,779	2,862	2,867	2,891
<i>Total cost (US\$ million per year per 1 million population)</i>						
Schizophrenia: older antipsychotic drug plus psychosocial treatment	0.47	1.81	1.81	1.32	0.52	0.75
Bipolar disorder: older mood-stabilizing drug plus psychosocial treatment	0.48	1.80	1.23	1.39	0.62	0.95
Depression: proactive care with newer antidepressant drug (SSRI; generic)	1.80	4.80	3.99	3.56	2.81	2.59
Panic disorder: newer antidepressant drug (SSRI; generic)	0.15	0.27	0.21	0.23	0.16	0.20
Total cost of interventions	2.9	8.7	7.0	6.5	4.1	4.5
<i>Cost-effectiveness (DALYs averted per US\$1 million expenditure)</i>						
Schizophrenia: older antipsychotic drug plus psychosocial treatment	544	206	226	267	574	522
Bipolar disorder: older mood-stabilizing drug plus psychosocial treatment	647	203	262	298	560	446
Depression: proactive care with newer antidepressant drug (SSRI; generic)	652	407	452	502	690	675
Panic disorder: newer antidepressant drug (SSRI; generic)	1,588	1,155	1,339	1,350	1,765	1,649

Source: (Hyman, Chisholm et al. 2007) Table 31.7

**Table 2:** Overview of the mhGAP Intervention Guide

<b>Condition</b>	<b>Psychosocial Intervention</b>	<b>Pharmacological Treatment</b>
Depression	<p>Psychoeducation</p> <p>Addressing current psychosocial stressors</p> <p>Reactivate social networks</p> <p>Structured physical activity program</p> <p>Offer regular follow-up</p>	<p>Initiating antidepressant medication</p> <p>Precautions to be observed for antidepressant medication in special populations</p> <p>Monitoring people on antidepressant medication</p> <p>Terminating antidepressant medication</p> <p>Information on SSRIs and TCAs</p>
Psychosis	<p>Psychoeducation</p> <p>Facilitate rehabilitation in the community</p> <p>Follow-up</p>	<p>Pharmacological interventions</p> <p>Initiating antipsychotic medications</p> <p>Monitoring people on antipsychotic medication</p> <p>Discontinuation of antipsychotic medications</p>
Bipolar disorder	<p>Psychoeducation</p> <p>Reactivate social networks</p> <p>Rehabilitation</p> <p>Follow-up</p>	<p>Treatment of acute mania</p> <p>Lithium, valproate, carbamazepine or antipsychotics</p> <p>Benzodiazepines</p> <p>Antidepressants</p> <p>Monitoring</p> <p>Maintenance treatment</p> <p>Choosing a mood stabilizer (lithium, valproate, carbamazepine)</p> <p>Discontinuation of mood stabilizers</p>
Epilepsy	<p>Psychosocial treatment and advice</p> <p>Provide education to people with seizures / epilepsy and carers</p>	<p>Initiate Antiepileptic Drug Therapy</p> <p>Follow-up</p> <p>How and when to stop antiepileptic drugs (phenobarbital, carbamazepine, phenytoin, sodium valproate)</p> <p>Pharmacological Treatment and Advice</p>
Developmental Disorders	<p>Family psychoeducation</p> <p>Advice to teachers</p> <p>Community-based rehabilitation (CBR)</p> <p>Promoting and protecting the human rights of the child and the family</p> <p>Support for carers</p> <p>Follow-up</p>	<p>None</p>

Behavioral disorders	<p>Psychosocial treatment</p> <p>Family psychoeducation</p> <p>Advice to teachers</p> <p>Support for carers</p>	<p>Initiating methylphenidate treatment</p> <p>Dosage and administration</p> <p>Assessing response</p> <p>Side-effects</p> <p>Follow-up</p>
Dementia	<p>Conveying the results of the assessment</p> <p>Psychosocial interventions for cognitive symptoms and functioning</p> <p>Promote independence, functioning and mobility</p> <p>Managing behavioral and psychological symptoms</p> <p>Intervention for carers</p> <p>Follow-up</p>	<p>Antipsychotics</p>
Alcohol use disorders	<p>Brief interventions to reduce harmful alcohol consumption</p> <p>Self-help groups</p> <p>Address housing and employment needs</p> <p>Supporting families and carers</p> <p>Substance use in adolescence</p> <p>Women – Pregnancy and breastfeeding</p>	<p>Management of alcohol withdrawal (diazepam, thiamine, electrolytes)</p> <p>Relapse-prevention medications after withdrawal from alcohol (acamprosate, naltrexone and disulfiram)</p>
Drug use disorders	<p>Brief intervention techniques</p> <p>Self-help groups</p> <p>Address housing and employment needs</p> <p>Supporting families and carers</p> <p>Harm-reduction strategies</p> <p>Women – pregnancy and breastfeeding</p>	<p>Managing opioid withdrawal</p> <p>Managing benzodiazepine withdrawal</p> <p>Other drug withdrawal (amphetamines, cannabis, cocaine)</p> <p>Continued treatment and support after detoxification</p> <p>Opioid agonist maintenance treatment</p>
Suicide	<p>Advice &amp; Treatment</p> <p>Care for the person with self-harm</p> <p>Offer and activate psychosocial support</p> <p>Pesticide Intoxication Management</p> <p>Maintain regular contact and follow-up</p> <p>Prevention of suicide</p>	<p>None</p>

**Table 3: Cost of mental illness by country income (in billions of 2010 US\$)**

	Low- and Middle-Income Countries			High-Income Countries			World		
	Direct Costs	Indirect Costs	Total Cost of Illness	Direct Costs	Indirect Costs	Total Cost of Illness	Direct Costs	Indirect Costs	Total Cost of Illness
<b>2010</b>	287	583	870	536	1,088	1,624	823	1,671	2,493
<b>2030</b>	697	1,416	2,113	1,298	2,635	3,933	1,995	4,051	6,046

Source: (Bloom, Cafiero et al. 2011) table 13

**Table 4: Lost output from mental health and other NCDs (trillions of US\$ 2010)**

Country income group	Diabetes	Cardiovascular diseases	Chronic Respiratory diseases	Cancer	Mental Illness*	Total
High	0.9	8.5	1.6	5.4	9.0	25.5
Upper-middle	0.6	4.8	2.2	2.3	5.1	14.9
Lower-middle	0.2	2.0	0.9	0.5	1.9	5.5
Low	0.0	0.3	0.1	0.1	0.3	0.9
<b>LMIC</b>	<b>0.8</b>	<b>7.1</b>	<b>3.2</b>	<b>2.9</b>	<b>7.3</b>	<b>21.3</b>
<b>World</b>	<b>1.7</b>	<b>15.6</b>	<b>4.8</b>	<b>8.3</b>	<b>16.3</b>	<b>46.7</b>

\*The numbers for mental illness were obtained by relating the economic burden of all other diseases to their associated number of DALYs. Then the burden for mental illness was projected using the relative size of the corresponding DALY numbers to all the other conditions.

Source: (Bloom, Cafiero et al. 2011) Table 14

**Table 5: SDG Targets of Relevance to Mental Health**

**1 End poverty in all its forms everywhere**

- 1.1 Eradicate extreme poverty for all people everywhere
- 1.2 Reduce by half the proportion of men, women and children of all ages living in poverty
- 1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.
- 1.4 Ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

**2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture**

- 2.2 End all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under 5 years of age and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

**3 Ensure healthy lives and promote well-being for all at all ages**

- 3.4 Reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and well being
- 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol
- 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

#### **4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**

- 4.1 Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
- 4.2 Ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education
- 4.4 Increase by X per cent the number of youth and adults who have relevant skills, including technical and vocational skills for employment, decent jobs and entrepreneurship

#### **5 Achieve gender equality and empower all women and girls**

- 5.2 Eliminate all forms of violence against all women and girls.
- 5.4 Recognize and value unpaid care.
- 5.6 Ensure universal access to sexual and reproductive health and reproductive rights.

#### **6 Ensure availability and sustainable management of water and sanitation for all**

- Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

#### **8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**

- 8.3 Encourage the formalization and growth of micro- small and medium sized enterprises including through access to financial services
- 8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities

#### **10 Reduce inequality within and among countries**

- 10.1 Sustain income growth of the bottom 40 per cent
- 10.2 Empower and promote the social, economic and political inclusion of all
- 10.3 Reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action

#### **11 Make cities and human settlements inclusive, safe, resilient and sustainable**

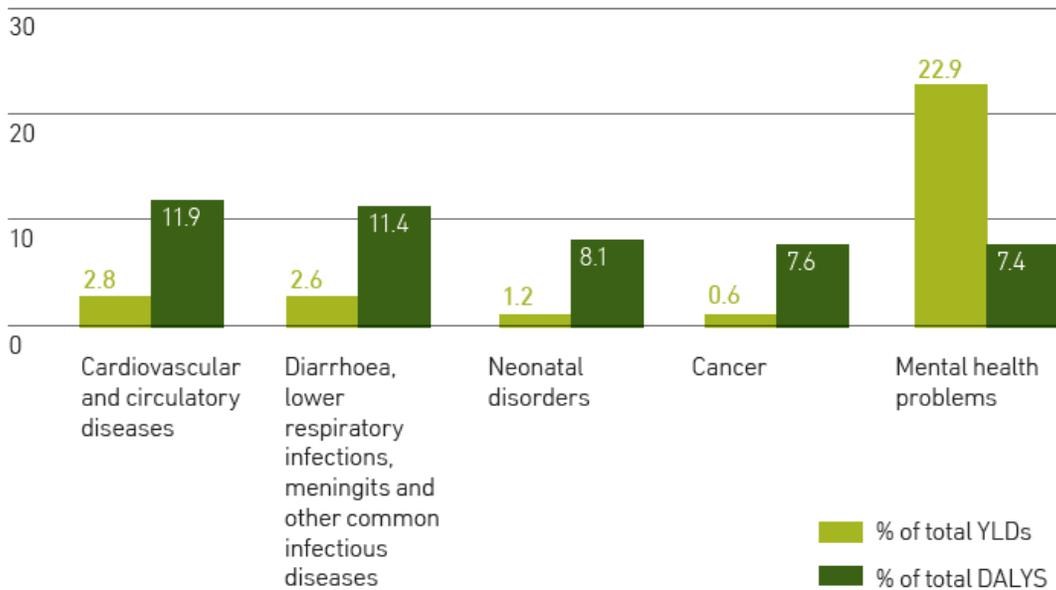
- 11.5 Reduce the number of deaths and people affected and decrease the economic losses relative to GDP caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
- 11.7 Provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

**16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**

- 16.1 Reduce all forms of violence
- 16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children
- 16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all
- 16.6 Develop effective, accountable and transparent institutions at all levels
- 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels
- 16.9 Provide legal identity for all

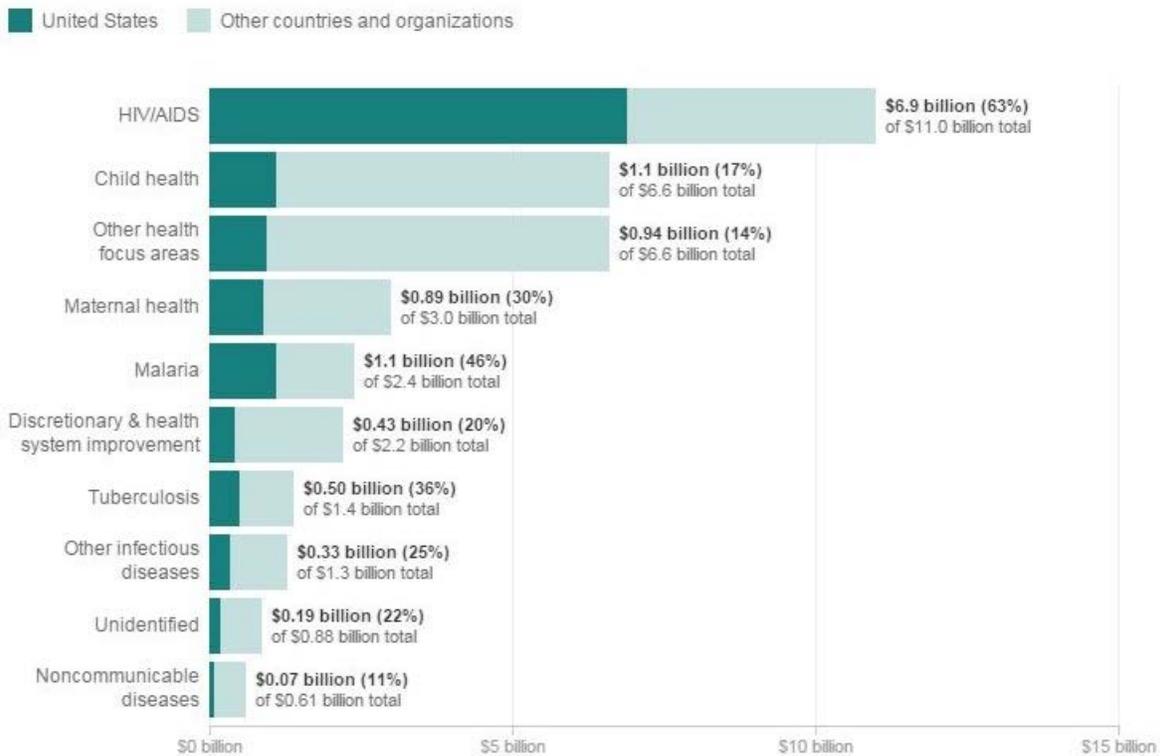
## Figures

Figure 1: Top five contributors to health burden in 2010



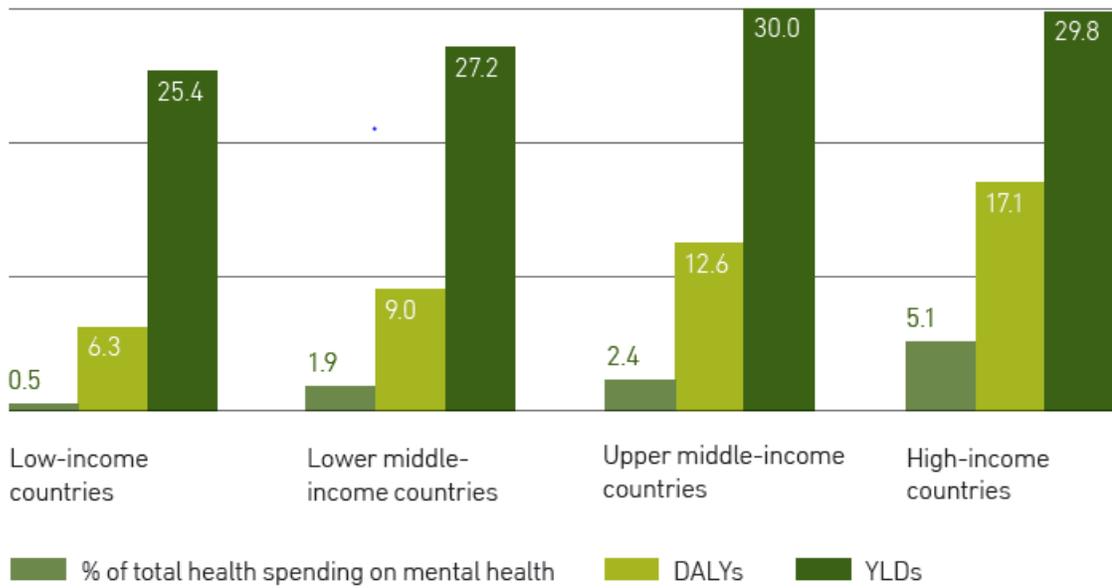
Source: (Patel, Saxena et al. 2013), Figure 1

Figure 2: Global Health Spending in LMIC by type and US Share, 2014



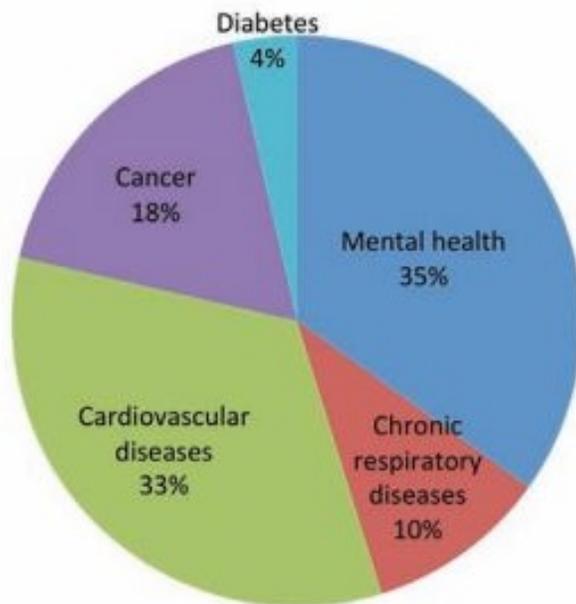
Source: Alyson Hurt, National Public Radio, adopted from Institute of Health Metrics 2015

**Figure 3: Percentage of total health spending on mental health compared to burden of disease**



Source: (Patel, Saxena et al. 2013) Figure 3

**Figure 4: Drivers of lost output from NCDs**



Source: (Bloom, Cafiero et al. 2011) Figure 3a based on EPIC model

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