The London School of Economics and Political Science

Sustainable financing for global mental health:

The role of external funding for mental health in low- and middle-income countries

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A thesis submitted to the Department of Social Policy of the London School of Economics and Political Science for the degree of Doctor of Philosophy
London, November 2020

Declaration of Authorship

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

I declare that my thesis consists of 55,442 words including footnotes, excluding references and appendices.

Valentina Iemmi

Statement of use of third party for editorial help

I can confirm that parts of my thesis were proofread for conventions of language, spelling and grammar by Alexia Fitz.

Acknowledgments

I am sincerely grateful to many people for their guidance and support during this research. First and foremost, I feel extremely privileged for the exceptional supervision of Professor Martin Knapp, Professor Ernestina Coast and Dr Clare Wenham. This thesis has benefitted from their invaluable guidance, support, and encouragement (above and beyond duty).

The London School of Economics and Political Science (LSE) provided the most brilliant politically minded playground for this research. I am grateful to Professor Anne West and Dr Bercay Ozcan for directions in navigating the PhD programme, Dr Joan Costa-i-Font for his inputs during the major review process, and friends and colleagues for advice and support. In particular, Dr Francesco D'Amico, Dr Matteo Galizzi, Dr David Hendry, Dr Mathias Koenig-Archibugi, Dr Tiziana Leone, Dr Joanna Marczak, Dr Philipa Mladovsky, Professor Eric Neumayer, members of the LSE Global Health Initiative Peer Reading Group, Professor Rita Astuti, Dr Colleen McKenna, Stefanie Hackney and Sebastiaan Eldritch-Böersen. I am also indebted to Professor Ernestina Coast, Dr Matteo Galizzi, Dr Tiziana Leone and Professor Eric Neumayer who at different times warmly encouraged me to apply for a PhD programme. Thanks for believing in me.

Thank you to LSE PhD students who shared this journey with me. In particular, Alexis Palfreyman, Rishita Nandagiri, Laura Sochas, Jessica Ng, Diego Alburez-Gutierrez, Valentina Contreras Silva, Eileen Alexander, Antonella Bancalari, Rafael Carranza, Cristian Crespo, Victoria Donnaloja, Ginevra Floridi, Rana Khazbak, Liz Mann, Samuel Mohun Himmelweit, Philippa Mullins, Marco Palillo, Jaehyoung Park, Joaquín Prieto-Suarez, Michaela Šedovič, Alexander Söderholm, Joseph Strong, Ellie Suh, Filippo Temporin, Gemma Williams, Anna-Maria Fontrier, Mario Gyori, SangJune Kim, Maximilian Salcher-Konrad and many more with whom I had the chance to cross paths with in rooms OLD1.20, OLD 1.19, and the PhD Academy.

I am incredibly thankful to friends and colleagues outside the LSE for discussions that have enriched this research. In particular, Dr Florence Baingana, Dr Niall Boyce, Dr Daniel

Chisholm, Professor Crick Lund, Professor Vikram Patel, Professor Graham Thornicroft, Chris Underhill, Elisha London, Sarah Kline and Christie Kesner.

For access to and advice on quantitative data, I am indebted to Dr Joseph Dieleman, Dr Angela Micah and the Development Assistance for Health research team at the Institute for Health Metrics and Evaluation, the Global Burden of Disease Health Financing Collaborator Network, the Global Burden of Disease 2017 Causes of Death Collaborators; the Global Burden of Disease 2017 DALYs and HALE Collaborators, the Global Burden of Disease 2017 Population and Fertility Collaborators, and the World Development Indicators team and the Worldwide Governance Indicators team at the World Bank. I am sincerely thankful to all interview participants for their willingness to take part in this study and share their insights. This would not have been possible without networking opportunities offered by members of the Movement for Global Mental Health, International Alliance for Mental Health Research Funders, United for Global Mental Health and World Health Organization Mental Health Gap Action Programme Forum. For Chapters 3, 4 and 6, I am grateful to anonymous peer-reviewers at *BMJ Global Health*, *Global Mental Health* and *Lancet Psychiatry*, respectively.

This thesis was made possible through generous funding from the Care Policy and Evaluation Centre at the LSE, the LSE Postgraduate Travel Fund, the International Alliance for Mental Health Research Funders and the National Institute for Health Research. It was pursued while working part-time alongside other research and teaching; I am extremely thankful to Professor Martin Knapp for the opportunity to collaborate on interesting projects over the past ten years – through which I acquired knowledge and skills fundamental for this study – and to Professor Mauricio Avendano Pabon, Dr Arjan Gjonça, Dr Michelle Pentecost and Dr Athena Madan for the chance to teach global health from a social science perspective.

Thank you to friends who made the last four years so much more enjoyable. In particular, Leonardo, Lina, Susana and Manuela Arragocés; Stéphanie, Anaël and Andéol Le Bail; Federico-Barriga Salazar; Alix Benoist d'Anthénay; Jacqueline del Castillo; Ariane Chauffert-Yvart; Erminia Colucci; Valeria Dalissier Sinapi; Lucia, Maria, Anna and Susina Dardani;

Mariam Faruqi; Laetitia Golenvaux; Léonie and Gary Hénaut; Siama and Darcy Latif; Athena Madan; Sara Rahimi; Nasreen Rehman; Marie-Ange and William Simpson; Liv Solvår Nymark. And to friends who welcomed me into their homes while travelling during field work: Marie-Gabrielle, Benoist, Côme and Théodore de Vimal in New York City; Anne de Hauss-Boncza in Geneva; Harald Langer Sy-Quia in Vienna.

I am grateful to friendly family members for their moral support, in particular Livia and Matteo. Thank you to Katarína for unleashing the colours and to Christiane for her invaluable support.

My last and warmest thanks are for Sylvie, Salomé, Luz Valentina and Faz, and Alexia, for your patience, encouragement and optimism, always.

Abstract

Over 1 billion people live with mental disorders globally. Three out of four of these live in low- and middle-income countries (LMICs) where mental disorders fail to attract enough resources to mitigate against the effects on opportunity, social inclusion and quality of life. In the context of increasing economic pressure brought by COVID-19 response and future recovery, external actors could unlock additional funds. This thesis therefore aims to identify who those external actors are in global mental health and to understand their roles so as to inform policy planning and sustainable financing. I use a multimethod research design. The first empirical chapter presents a new typology of external actors in global health, which is used to structure a systematic mapping of the evidence on external actors investing in mental health in LMICs. Findings reveal the existence of a large ecosystem of external organisations and individuals. Cognisant of the increased influence of philanthropy in global health, the second empirical chapter analyses trends in philanthropic development assistance for mental health (DAMH) in 156 countries between 2000 and 2015. Results suggest philanthropy plays a critical role, but my findings also highlight substantial inequalities. The third empirical chapter analyses factors at recipient country-level potentially associated with DAMH allocation, using a two-part regression model applied to a time series cross-sectional dataset for 142 LMICs between 2000 and 2015. The analyses show that external actors' disbursements are not well aligned with mental health needs of recipient countries, and contextual factors might be playing more prominent roles in resource allocation. Finally, the fourth empirical chapter uses 35 elite interviews and documentary analyses to explore how and why external organisations have invested in mental health in LMICs over the last three decades and changes over time. Findings uncover numerous activities supported by external organisations, and factors shaping their decisions at four levels (organisations, source and recipient countries, global landscape). Overall, this thesis underscores the important roles of external actors in sustainable mental health financing in LMICs.

Note on thesis structure

This thesis conforms to the requirements of a PhD thesis from the Department of Social Policy of the London School of Economics and Political Science. It follows the format of a paper-based thesis, including at least three thematically linked papers of publishable standards, along with an introduction, a methodology and a conclusion. At least two papers should be single authored, and the remaining papers first authored by the PhD candidate.

This thesis is constituted by four empirical chapters (Chapters 3 to 6): two published, one in press and one to be submitted as a single-author journal paper. The published papers are reported in Appendices 3.1 and 4.1.

Chapter 3

Iemmi, V. (2019). Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries. *BMJ Global Health*, 4: e001826.

Chapter 4

Iemmi, V. (2020). Philanthropy for global mental health 2000–2015. *Global Mental Health,* 7: e9.

Chapter 6

Iemmi, V. (In press). How and why external organisations invest in mental health in low- and middle-income countries: a qualitative analysis. *Lancet Psychiatry*.

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List of Abbreviations

ADL	Autoregressive distributed lag
AFR	African region
AMR	Region of the Americas
BMGF	Bill & Melinda Gates Foundation
CBM	Christian Blind Mission
COVID-19	Coronavirus disease
CRS	Creditor Reporting System
CSME	Corporations and small and medium enterprises
CSR	Corporate social responsibility
DAC	Development Assistance Committee
DAH	Development assistance for health
DALYs	Disability-adjusted life years
DAMH	Development assistance for mental health
DFID	Department for International Development
DFIs	Development financial institutions
DL	Distributed lag
EMR	Eastern Mediterranean region
EUR	European region
FDIs	Foreign direct investments
FPIs	Foreign portfolio investments
FTS	Financial Tracking Service database
GDP	Gross domestic product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GHE	Government health expenditure
GHIs	Global health initiatives
GMM	Generalized method of moments
GOs	Governmental organisations
HIV/AIDS	Human immunodeficiency virus infection and acquired immune deficiency syndrome
IASC	Inter-Agency Standing Committee

IHME	Institute for Health Metrics and Evaluation
LIC	Low-income countries
LMC	Lower middle-income countries
LMICs	Low- and middle-income countries
LSE	London School of Economics and Political Science
MHPSS	Mental health and psychosocial support
MICE	Multiple imputation by chained equations
NCDs	Non-communicable disorders
NGOs	Nongovernmental organisations
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-Operation and Development
OLS	Ordinary least squared
PPP	Purchasing-power-parity
PRISMA-ScR	Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews
SDGs	Sustainable development goals
SEAR	South-East Asia region
SMEs	Small and medium enterprises
SRQR	Standards for Reporting Qualitative Research
UK	United Kingdom
UMC	Upper middle-income countries
UN	United Nations
UNICEF	United Nations Children's Fund
US	United States
USAID	United States Agency for International Development
WHO	World Health Organization
WPR	Western Pacific region

To Rosaconfetto, for her wisdom[1]

[1] Turin, A. and N. Bosnia (1980). *[Candy Pink].* Milano, Italy: Edizioni Dalla parte delle bambine. [In Italian].

Preface

Since the beginning of this thesis, the outbreak of the COVID-19 pandemic has intensified the urgent need for investments in mental health in low- and middle-income countries (LMICs). Mental health needs are increasing and are likely to be exacerbated by the effects of lockdown and its socio-economic consequences (Nicola et al., 2020). While this touches the entire population, immediate risks are highest for people living with mental disorders, carers, and health professionals (Campion et al., 2020). Evidence suggests that mental health services have already been disrupted by the COVID-19 response, and few countries have included additional funding for mental health into their national COVID-19 response plans (WHO, 2020a). In a recent policy brief, the United Nations emphasises the need to integrate mental health actions within the national response to COVID-19, in particular including mental health and social care for people with severe mental health conditions and psychosocial disabilities amongst essential services (UN, 2020). With LMICs often already under economic pressure, which will likely be worsened by COVID-19 response and recovery, external resources are urgently needed, now more than ever. This thesis provides insights on external investments in mental health in LMICs and recommendations for unlocking additional resources, which could inform the COVID-19 crisis response and recovery. I hope my pages will contribute to build back a more sustainable and resilient, a better, new world.

Chapter 1

Introduction

1.1. Background

Mental disorders (including substance use disorders, self-harm and dementia) account for a substantial proportion of the overall impact of ill-health (Patel et al., 2018) and generate high economic costs in low- and middle-income countries (LMICs) (Bloom et al., 2011). Their impact is expected to increase over time due to demographic and epidemiological transitions and growth in adverse social determinants of mental health such as inequalities (Patel et al., 2018), which will likely be exacerbated by the downstream effects of COVID-19 and policy responses to it, and their social and economic consequences (Nicola et al., 2020). However, mental disorders attract only limited resources: as little as 1.6% of government health budgets in LMICs (WHO, 2018b) and 0.4% of external development assistance for health (Charlson et al., 2017). The United Nations (UN) (UNHRC, 2019) and mental health experts (Patel et al., 2018) have called for augmentation of resources, both domestically and externally. With LMICs often under severe economic pressures, which will likely be worsened by COVID-19 response and recovery, external resources are urgently needed – now, more than ever.

In this thesis, I examine external actors that invest in mental health in LMICs, analysing and reflecting on their past, current and future roles to inform discussion on sustainable mental health financing. I differentiate between domestic and external actors, which encompass a wide variety of organisations (e.g. bilateral and multilateral governmental organisations) and individuals (e.g. high-net-worth individuals). External investments in mental health are defined to include all financial and non-financial (e.g. drugs and services in kind) contributions disbursed from external organisations or individuals directly or through channel organisations into recipient countries with the aim of preserving or improving mental health (adapted from Charlson et al., 2017). While the term investment is often used to refer to profitable financial ventures, I use it in a

broader sense to comprehend both profitable and non-profitable pursuits, and both financial and in-kind contributions.

In line with the principles of local ownership and sustainability (UN, 2015a), in this thesis I intentionally position recipient countries at the centre of the ecosystem of external actors and their investments (Han et al., 2018), to reinstate and strengthen their centrality in policy planning and financing. Also, in line with the UN Sustainable Development Goals (UN, 2015b) and to reflect changes in the development finance landscape (Micah et al., 2019), I recognise the role *all* countries can play as external actors for sustainable mental health financing, moving away from the obsolete North-South dichotomy between high-income donors and low- and middle-income recipients.

In this chapter I set the scene for this thesis. I define mental disorders (section 1.2), describe the mental health burden (section 1.3) and mental health financing in LMICs (section 1.4), and provide an historical overview of external actors investing in mental health in LMICs (section 1.5). Subsequently, I introduce my research motivations (section 1.6), aim and questions (section 1.7), and outline the structure of this thesis (section 1.8).

1.2. Mental disorders

Mental disorders are a heterogeneous group of disorders including so-called common disorders (e.g. depression, anxiety disorders), severe disorders (e.g. schizophrenia, bipolar disorder), mental disorders in children (e.g. child behavioural disorders), neurodevelopmental (e.g. intellectual disability) and neurodegenerative (e.g. dementias) disorders, self-harm and suicide, epilepsy, alcohol and drug use problems (see Table 1.1) (WHO, 2008b).

	Description
(Neuro)developmental Disorders	A group of conditions characterised by impairments in intellectual, movement, sensory, social, or communication abilities (e.g. autism, intellectual disability and cerebral palsy).
Child Behavioural Disorders	A group of conditions characterised by impairments of attention and disruptive behaviour (e.g. attention deficit hyperactivity disorder and conduct disorder).

	Description
Anxiety Disorders	A group of conditions featuring excessive worrying, tension and fear, and physical symptoms such as palpitations, headaches and sleep disturbances.
Depression	A condition characterised by low mood, loss of interest and enjoyment, fatigue and reduced energy, and sleep and appetite disturbances.
Schizophrenia	A condition characterised by distortions of thinking and perception (e.g. hallucinations and delusions), behavioural abnormalities and emotional disturbance.
Bipolar Disorder	A condition characterised by episodes of elevated or lowered mood and activity levels, often with complete recovery between episodes.
Dementia	A condition characterised by a progressive deterioration in mental functions, such as memory and orientation, leading to behavioural problems and loss of the ability to care for oneself and, ultimately death.
Self-Harm and Suicide	Intentional self-inflicted poisoning or injury which may lead to death.
Alcohol Use Problems	A group of conditions characterised by the consumption of alcoholic drinks to the level of causing harm to the person's health and social/personal relationships.
Drug Use Problems	A group of conditions characterised by regular use of substances such as opioids, sedatives or cocaine causing harm to the person's health and social/personal relationships.

Table 1.1. Mental disorders. Adapted from Patel et al. (2013, p.40).

Mental disorders impact multiple dimensions of the lives of people with mental disorders, their families (and carers), and society as a whole (Knapp & Iemmi, 2016). People with mental disorders often need additional support from health and social care services (e.g. community-based psychosocial support, hospital care in times of crisis, placements in residential facilities), amplified and complicated further by higher prevalence of physical comorbidities (Firth et al., 2019). Children with mental disorders often require additional support at school (e.g. educational assistants in mainstream schools, specialist school placements). Adults with mental disorders are more likely than similar people *without* mental disorders to be unemployed and, when employed, to have higher rates of absenteeism (i.e. not being at work while unwell) and presenteeism (i.e. being at work while unwell), with important implications for lost productivity and earnings. In the most severe cases, they might struggle to live independently and may require placements in supported accommodation or residential facilities. People with mental disorders are more likely to be victims of violence and to commit criminal offences (the latter being less likely

than the former), with consequences for criminal justice systems. In addition, people with mental disorders are often the victims of human rights abuses, such as long-term institutionalisation within psychiatric hospitals and prayer camps, sexual violence and forced sterilisation (UNHRC, 2017). For instance, physical and emotional neglect and abuse have been reported against children with mental disabilities living in institutions (Mathews et al., 2013; P. Rodriguez et al., 2015).

Mental disorders often lead to long-term adverse personal consequences for both individuals and their families (including any carers), such as worsened health, quality of life and employment status, requiring differentiated support across the life course (Koenen et al., 2013). For example, while people with developmental disorders (e.g. intellectual disabilities) are usually diagnosed during childhood, they often need support over their entire lifetime. Similarly, while people with schizophrenia are more likely to experience the first symptoms during late adolescence, symptoms generally recur many times over their lifetime and individuals are likely to require support in many dimensions of life. The complexity of mental disorders is increased by the substantial stigma affecting not only individuals with mental disorders and their families and carers, but also often the professionals working with them (Thornicroft, 2006; Thornicroft et al., 2007).

The risk of developing mental disorders and their adverse outcomes is influenced by multiple social determinants. These include demographic characteristics (e.g. age, gender, ethnicity), economic circumstances (e.g. income, employment status, income inequality), neighbourhood (e.g. safety and security, housing), environmental events (e.g. war or conflict, natural disasters, climate change) and social and cultural factors (e.g. education, social support) (Lund et al., 2018). Social determinants of mental health often operate in a vicious circle: poor social, economic, and neighbourhood characteristics increase the risk of developing or worsening mental disorders (*social causation*) and people with mental disorders are more likely to drift into poor social, economic, and neighbourhood adversities (*social drift*) (Iemmi et al., 2016; Lund et al., 2011).

1.3. The size of the burden of mental disorders

High prevalence, premature mortality, and considerable disability characterise mental disorders. They affect one in four individuals over their lifetime (Kessler et al., 2009), with broad variability across disorders and age groups: from about 1% for autism, 2–3% for severe mental disorders, 6% for common mental disorders in children (increasing to 15–20% in adults) and 22–30% for dementia in people aged 90 and over (Knapp & Iemmi, 2016). Prevalence rates also differ across gender – e.g. depression is more common for females at 5.1% versus 3.6% and suicide rates are higher for males (15 versus 8 per 100,000 population for females) (WHO, 2014, 2017a) – and settings (e.g. prevalence of mental disorders is as high as 22.1% in conflict-affected population) (Charlson et al., 2019).

Mental disorders account for 2.3% of premature mortality (Whiteford et al., 2015). Premature mortality particularly affects people with severe mental disorders, with a resulting life expectancy 10 to 20 years shorter than the general population (WHO, 2015a). People with mental disorders are at higher risk of physical ill-health, including higher risks of obesity, diabetes, and cardiovascular diseases (Firth et al., 2019) and are more likely to die due to unnatural causes, including suicide, homicides and accidents: suicide accounts for about 1.5% of deaths worldwide (WHO, 2017a).

Collectively, mental disorders represent the most important cause of years lived with disability worldwide (28.5%) and the third leading cause of global burden of disease (10.4%) after cardiovascular and circulatory diseases (11.9%) (Whiteford et al., 2013; Whiteford et al., 2015). Figures increase to 32.4% and 13% respectively when a broader definition of mental disorders is adopted to include chronic pain syndromes without musculoskeletal disorders (Vigo et al., 2016). Rapidly growing since 1990 (Whiteford et al., 2015), these figures are expected to increase further due to rapid demographic and epidemiological changes and growing adverse social determinants of mental health (Patel et al., 2018), aggravated by COVID-19 and its policy responses such as stay-at-home orders leading to social isolation and restricted access to treatment (Hamadani et al., 2020).

The burden of mental disorders is disproportionally borne by LMICs where over three-quarters of people with mental disorders live (Global Burden of Disease Collaborative Network, 2018d). The human toll in LMICs is also associated with a substantial economic cost, estimated at US$0.9 trillion in 2010 and expected to raise to US$2.1 trillion in 2030, about two-thirds of which attributable to productivity losses (Bloom et al., 2011). Those figures increase to US$3 trillion and US$8.9 trillion respectively when the intrinsic value of suffering and life are included using the value of statistical life approach (Bloom et al., 2011).

Effective interventions are available (Patel et al., 2016a), yet fewer than 10% of people with mental disorders in LMICs receive support (WHO, 2018b). Not only are effective interventions available (Patel et al., 2016a), but their cost can be as low as US$3–4 per individual and their return on investment measured as benefit to cost ratios as high as 4 (i.e. each US$1 invested yields a return of US$4) (Chisholm & Saxena, 2012; Chisholm et al., 2016). However, resources allocated to mental disorders are extremely limited.

1.4. Mental health financing in low- and middle-income countries

Financing responses to mental disorders in LMICs is complex and relies on a mix of domestic and external resources (Knapp & Iemmi, 2016). Domestic resources for a LMIC originate from organisations and individuals legally registered/resident within the country. Domestic mental health financing comprises as little as 1.6% of the total health budget on average (WHO, 2018b) and it mainly comes from two sources: pooled funding and out-of-pocket payments (see Table 1.2) (Dixon et al., 2006). Pooled funding allows financial resources to be combined so that financial risks are spread across the population, perhaps in a redistributive way, so as to protect individuals from financial hardships and impoverishment due to (sometimes catastrophic) health care expenses (WHO, 2010c). Pooled funding may be collected through three main mechanisms: taxation-based financing, social health insurance, and private health insurance. With taxation-based financing, resources are collected through compulsory taxes (on income, wealth, or products) which can be earmarked for specific services or sectors such as health care (e.g. in Azerbaijan, Kenya, Kyrgyz Republic, Zambia). This is the most common method of mental health financing: it is found in 72% of lower middle-income countries,

63.6% of upper middle-income countries, and 50% of low-income countries (WHO, 2005a).

In countries relying on social health insurance, resources are collected through compulsory wage-related contributions, usually paid by both employees and employers (e.g. in Mozambique) (Dixon et al., 2006). This method of financing is found in 30.3% of upper middle-income countries and 8% of lower middle-income countries, but not in any low-income country (WHO, 2005a). Countries using private health insurance collect contributions through voluntary enrolment, yet often exclude coverage of mental disorders (e.g. in Malaysia) (Dixon et al., 2006). This is the least used method of mental health financing: it is found in only 3.6% of low-income countries and in no middle-income country (WHO, 2005a).

Out-of-pocket payments are often the only source of funding in countries with low availability of and difficult geographical access to services (e.g. Nepal, Pakistan) (Dixon et al., 2006). This method of mental health financing is found in 42.9% of low-income countries, 16% of lower middle-income countries, and no upper middle-income country (WHO, 2005a). Recently, innovative mechanisms of domestic health financing have supplemented resources raised through more traditional methods (WHO, 2010b). The Taskforce on Innovative International Financing for Health Systems produced an extensive list of these mechanisms, such as public-private partnerships and results-based financing (e.g. conditional cash transfers), yet their use for mental health is limited (Taskforce on Innovative International Financing for Health Systems, 2009).

	LICs	**LMCs**	**UMCs**
Pooled Funding			
Taxation-Based Financing	50	72	63.6
Social Health Insurance	0	8	30.3
Private Health Insurance	3.6	0	0
Non-Pooled Funding			
Out-of-Pocket Payments	42.9	16	0

Table 1.2: Domestic mental health financing, by country income group. LICs=low-income countries (%). LMCs=lower middle-income countries (%). UMCs=upper middle-income countries (%).

External resources for a LMIC originate from organisations and individuals legally registered/resident outside the country, including both high-income countries and other LMICs. External mental health financing in LMICs relies on multiple sources, including both organisations and individuals (e.g. high-net-worth individuals). External organisations encompass a broad variety of entities, such as development agencies (e.g. United States Agency for International Development), development banks (e.g. World Bank), foundations (e.g. Wellcome Trust) and nongovernmental organisations (e.g. BasicNeeds) (Mackenzie & Kesner, 2016). While the types of external actors are numerous, their contributions are limited. For instance, development assistance for mental health (i.e. financial and in-kind contributions disbursed from donors through channel organisations into LMICs with the aim of preserving or improving mental health) accounts for as little as 0.4% of overall development assistance for health (Charlson et al., 2017). Yet, their role and influence are growing.

1.5. External actors investing in mental health in low- and middle-income countries

Over the last two decades, external actors have paid increasing attention to mental health in LMICs. Since the publication of its 2001 World Health Report, which focused on mental health, the World Health Organization's focus on the issue has expanded (WHO, 2001b). The World Health Organization (WHO) mental health atlases have for many years mapped mental health systems, including policies, service provision, and funding (WHO, 2001a, 2005a, 2007, 2011a, 2015b; WHO et al., 2005), facilitated by the WHO Assessment Instrument for Mental Health Systems (WHO, 2005b, 2006, 2009, 2011b). Since 2003, WHO has offered a package of 13 guidelines for mental health policy, planning and service development (WHO, 2020b), and since 2008 has produced guidelines for treatment of mental disorders in low-resource settings through the Mental Health Gap Action Programme (WHO, 2008b, 2010a, 2015c, d, 2016). In 2013, WHO launched its Mental Health Action Plan 2013-2020, setting objectives, targets and proposed actions for mental disorders at global and country levels, and calling for coordinated action from all stakeholders (WHO, 2013c).

Mental health has gained even greater prominence in global health fora and international organisations over the last few years. While mental disorders were originally omitted

from the Millennium Development Goals (Miranda & Patel, 2005; UN, 2000; UNDESA & WHO, 2010), in 2015 they gained a place (though small) within the new Sustainable Development Goals under the health goal (goal 3) through non-communicable diseases (target 3.4), substance abuse (target 3.5), and universal health coverage (target 3.8) (UN, 2015b). Other Sustainable Development Goals make explicit reference to the inclusion of people with disabilities (including disabilities associated with mental disorders), while the principle of 'no one left behind' is emphasised across the entire Sustainable Development Goals agenda (UN, 2018a). Moreover, UN agencies have recently strengthened their mental health response. In 2018 the UN Secretary-General António Guterres launched a UN system-wide strategy on mental health and wellbeing for the UN workforce aiming to improve not only staff mental health but also knowledge, skills and behaviours (UN, 2018b). More recently, the WHO Director-General Dr Tedros Adhanom Ghebreyesus launched the WHO Special Initiative for Mental Health to accelerate implementation of mental health support in 12 priority countries (WHO, 2019).

Yet, while gaining attention and importance in the development discourse, mental health has attracted only limited resources from external actors. The World Bank made the case for increased investment in health in 1993 (World Bank, 1993), but its funding has mostly targeted physical ill-health (Dieleman et al., 2015). While development assistance for mental health has increased six-fold over the last two decades, it still accounts for the lowest share of development assistance for health across health conditions (Charlson et al., 2017). Global investments in mental health were galvanised by the Grand Challenges in Global Mental Health Initiative, launched in 2010 by the United States (US) National Institute of Mental Health and the Global Alliance for Chronic Disease in partnership with Wellcome Trust, McLaughlin-Rotman Centre for Global Health, and London School of Hygiene and Tropical Medicine (NIMH, 2020). The initiative laid out research priorities for improving mental health globally (Collins et al., 2011), which informed Grand Challenges Canada's strategy for investments in mental health innovations across the globe (GCC, 2011, 2016).

Policy interest in mental health has grown further in recent years, but its translation into financial commitment has been modest. In April 2016, the World Bank and WHO held a

joint high-level meeting on global mental health to make the case for increased investments in mental disorders worldwide (Mnookin et al., 2016). Soon after, the United Kingdom (UK) Department for International Development commissioned a technical report to review its mental health portfolio (G. Ryan et al., 2017). In 2018, the UK co-hosted two high-level events: the first Global Disability Summit with Kenya and the International Disability Alliance (DFID, 2020), and the first Global Ministerial Mental Health Summit in partnership with WHO and with the support of the Organisation for Economic Co-Operation and Development (OECD) (Department of Health and Social Care, 2020). The Bill & Melinda Gates Foundation (2020) launched a mental health accelerator in 2019, aiming to build and strengthen a "multi-sectoral response, catalysing government action, calling on corporations to make a commitment to mental health in the workplace, and tracking quality data to understand (our) progress in this area and hold (our) leaders accountable". However, resources remain scarce and, building on previous demands (Chisholm et al., 2007), both the UN (UNHRC, 2019) and mental health experts (Patel et al., 2018) have recently called for increases in resources for mental health, both domestically and externally.

1.6. Research motivation

With LMIC governments already under economic pressure, external investments in mental health are urgently needed. This is in line with the Addis Ababa Action Agenda (UN, 2015a) and the UN Sustainable Development Goals (UN, 2015b), which recommend the mobilisation of additional external funding while assuring sustainability through a gradual increase in domestic resources. There is, however, very little research on external actors investing in mental health in LMICs.

In this thesis, I focus on three major gaps in the evidence base: ecosystem, allocation, and prioritisation.

A first gap concerns the limited evidence on the ecosystem of external actors investing in mental health in LMICs, currently offering a partial picture. An Overseas Development Institute report based on a desk-review and key informant interviews provides an overview of key groups of donors for mental health in LMICs, emphasising the

prominence of state actors and the growing importance of some non-state actors, such as philanthropists, private sector foundations and organisations using innovative financing mechanisms (Mackenzie & Kesner, 2016). A RAND Europe report maps mental health research funders globally, including some organisations disbursing to LMICs, such as the Wellcome Trust and Grand Challenges Canada (Pollitt et al., 2016).

Similarly, the allocation of external funding to mental health in LMICs has received limited attention. I have found five studies that highlight the low size of development assistance for mental health (Charlson et al., 2017; B. Gilbert et al., 2015; Liese et al., 2019), especially the poor targeting of mental health in children and adolescents (Lu et al., 2018; Turner et al., 2017). Only one study reveals the small proportion of disbursements relative to needs, with less than US$1 of development assistance for health per disability-adjusted life year (DALY, i.e. year of healthy life lost) targeting mental disorders, compared to US$144 for HIV/AIDS, for example (Charlson et al., 2017). Building on a previous study (Saraceno et al., 2007), Mackenzie and Kesner (2016) identify four main reasons for underinvestment: lack of understanding of mental disorders, difficulties in measuring return on investment, stigma associated with the conditions and competing priorities (e.g. communicable diseases). While factors associated with disbursements of development assistance have been studied extensively (Peiffer & Boussalis, 2015), evidence on disbursements to mental disorders is lacking.

Finally, evidence on the prioritisation of external investments in mental health in LMICs is scarce. An earlier policy analysis explains the failure of mental disorders in attracting the attention of policy makers and funders globally (Tomlinson & Lund, 2012). Two linked papers describe the scarcity of humanitarian assistance for mental health (Persaud et al., 2018a) and propose an index to facilitate its allocation based on compassion, assertive action, pragmatism, and evidence (Persaud et al., 2018b). More recently, a multimethod study analysing mental health financing challenges and opportunities in four LMICs highlights strategies for increasing external resources, such as expanding commitments from existing actors and exploring interests of potential new ones (Chisholm et al., 2019). Another study uses situation analysis supplemented by key informant interviews to report on the positive impact of external contributions for mental health in Uganda, while

cautioning about their volatility, as they are often linked to donor interests and diplomatic relationships (Ssebunnya et al., 2018). To my knowledge, no study has yet explored prioritisation of mental health in external organisations' investments in LMICs.

1.7. Research aim and questions

In light of the policy relevance of and the literature gaps on external actors investing in mental health in LMICs, the central question addressed by this research is:

To what extent do external actors invest in mental health in low- and middle-income countries?

The study aims to address this question by answering four subsidiary research questions:

1. *Who are the external actors investing in mental health in low- and middle-income countries and what are their roles?*
2. *What is the role of philanthropic external actors investing in mental health in low- and middle-income countries?*
3. *What factors are driving allocation of development assistance for mental health?*
4. *How and why have external organisations invested in mental health in low- and middle-income countries?*

1.8. Thesis outline

I structure this paper-based thesis into seven chapters. Table 1.3 provides an overview of the key contributions of this research. In **Chapter 2**, I detail the research methodology: a description of the research paradigm; the use of multimethod to address central and subsidiary research questions; preliminary work informing the study design; ethics, safety, and data security issues; and critical reflections on my positionality and reflexivity. In Chapters 3 to 6, I report four empirical studies addressing the four subsidiary research questions. Chapters 3 and 4 have been published in *BMJ Global Health* (Iemmi, 2019a) and *Global Mental Health* (Iemmi, 2020a) respectively, and Chapter 6 is currently in press with *Lancet Psychiatry*. Each empirical chapter follows a similar structure: a short abstract; an introduction contextualising the topic within the literature; a methods section detailing methodological choices; a results section reporting findings from the

analyses; a discussion of the results in the context of previous research, including study limitations and policy and research recommendations; and concluding remarks. Supplementary material at the end of each empirical chapter – generally not included in the published versions of these pieces of work – adds methodological depth and further details to substantiate findings.

Chapter 3 has been published in *BMJ Global Health* (Iemmi, 2019a). In this chapter, I describe how I developed a new typology of external actors in global health and used it to organise and interpret the evidence on external actors investing in mental health in LMICs. Chapter 3 addresses the first gap (ecosystem) and the first subsidiary research question: *Who are the external actors investing in mental health in low- and middle-income countries and what are their roles?*

Chapter 4 has been published in *Global Mental Health* (Iemmi, 2020a). Cognisant of the increasing importance of philanthropy in global health, in this chapter I seek to understand the role of philanthropy in mental health in LMICs analysing trends in philanthropic development assistance for mental health in 156 countries between 2000 and 2015. The chapter is guided by the first gap (ecosystem) but addresses the second subsidiary research question: *What is the role of philanthropic external actors investing in mental health in low- and middle-income countries?*

In **Chapter 5**, I aim to advance the literature on resource allocation for sustainable mental health financing in LMICs, identifying factors driving allocation of development assistance for mental health. The chapter addresses the second gap (allocation) and third subsidiary research question: *What factors are driving allocation of development assistance for mental health?* In this chapter I empirically analyse factors at recipient country level (needs, interests, policy environment) associated with allocation of development assistance for mental health using a two-part regression model applied to a time series cross-sectional dataset of 142 LMICs between 2000 and 2015.

Chapter 6 is currently in press with *Lancet Psychiatry*. The purpose of this chapter is to explore prioritisation of mental health in external organisations' investments in LMICs.

This chapter addresses the third gap (prioritisation) and the fourth subsidiary research question: *How and why have external organisations invested in mental health in low- and middle-income countries?* In this chapter I use 35 elite interviews and documentary analyses to examine how and why external organisations have invested in mental health in LMICs over the last three decades and how this has changed over time.

Finally, in **Chapter 7** I bring together the findings and contributions of the research described in this thesis. After a summary of the objectives and findings of this study, the chapter provides me with an opportunity to discuss the contributions of the work to the evidence base, and to reflect on the policy implications. Finally, I examine the strengths and limitations of my study and outline future research directions.

Research Question	Research Gap	Contributions	Chapter
Who are the external actors investing in mental health in LMICs and what are their roles?	Ecosystem	*Substantive*: A large ecosystem of external actors investing in mental disorders in LMICs already exists; they present opportunities for unlocking additional resources. *Methodological*: New typology of external actors in global (mental) health.	3*
What is the role of philanthropic external actors investing in mental health in LMICs?	Ecosystem	*Substantive*: Philanthropy plays a crucial role in global mental health, yet it represents a small share of philanthropy for global health.	4*
What factors are driving allocation of development assistance for mental health?	Allocation	*Substantive*: International donors' disbursements are not well aligned with mental health needs of recipient countries, and contextual factors (e.g. gross domestic product per capita, disease outbreaks) might be playing more prominent roles in resource allocation. *Methodological*: Example of the application of methods commonly used in the development assistance literature to development assistance for mental health.	5
How and why have external organisations invested in mental health in LMICs?	Prioritisation	*Substantive*: External organisations invest in mental health in LMICs through numerous internal and external activities and two investment strategies (stand-alone and integration in existing programmes); actors play a prominent role in shaping organisational decisions. *Methodological*: Analytical framework to study prioritisation amongst external organisations investing in global (mental) health in LMICs.	6*

Table 1.3: Key contributions of this research.
LMICs=low- and middle-income countries. *Chapters 3 and 4 have been published in *BMJ Global Health* (Iemmi, 2019a) and in *Global Mental Health* (Iemmi, 2020a) respectively. Chapter 6 is currently in press with *Lancet Psychiatry*.

Chapter 2

Methodology

To understand the role of external actors investing in mental health in LMICs, I use a pragmatic paradigm and a multimethod research design with qualitative and quantitative components. As this thesis is a collection of papers, my research methods are described in detail in each empirical chapter, within the methods section and the supplementary material. In this chapter, I describe and critically reflect on the overarching research paradigm (section 2.1), the use of a multimethod approach to address the central research question (section 2.2), preliminary work informing the research design (section 2.3), ethical considerations (section 2.4), safety and data security issues (sections 2.5–2.6), and my positionality and reflexivity (section 2.7).

2.1. Pragmatic research paradigm

I adopt a pragmatic research paradigm, allowing me to choose the most suitable methods for each research question considering data availability and other research issues (e.g. ethics, time, resources) (Weaver, 2018b). Hence, my understanding of reality (ontological position) was constantly negotiated through this study and my reason of belief (epistemological stand) supported by the most suitable research methods (Weaver, 2018a).

2.2. Multimethod research design

I use a multimethod research design with qualitative and quantitative components (see Table 2.1). The qualitative component comprises typology-generation and systematic mapping (Chapter 3), and in-depth interviews and documentary analyses (Chapter 6). The quantitative component includes trend (Chapter 4) and regression analyses (Chapter 5) of time series cross-sectional datasets. In the literature the terms multimethod and mixed methods are often used interchangeably, yet they differ (Plano Clark & Ivankova, 2016). Mixed methods is a third research paradigm *integrating* qualitative and quantitative methods to reach a deeper and more robust understanding of often complex social

problems by combing different viewpoints (Johnson et al., 2007). Multimethod studies are using *complementary* methods to address a common research goal (Anguera et al., 2018).

	Research Question	Research Gap	Method	Data	Chapter
Qualitative Component	Who are the external actors investing in mental health in LMICs and what are their roles?	Ecosystem	Typology Generation & Systematic Mapping	Secondary (Literature)	3
	How and why have external organisations invested in mental health in LMICs?	Prioritisation	In-depth Interviews & Documentary Analyses	Primary (In-depth interviews) Secondary (Documents)	6
Quantitative Component	What is the role of philanthropic external actors investing in mental health in LMICs?	Ecosystem	Trend Analyses	Secondary (Time Series Cross-Sectional Dataset)	4
	What factors are driving allocation of development assistance for mental health?	Allocation	Regression Analyses	Secondary (Time Series Cross-Sectional Dataset)	5

Table 2.1: Multimethod research design.
LMICs=low- and middle-income countries.

The cumulative and iterative research process means that components inform each other (see Figure 2.1) (Anguera et al., 2018). The new typology and the mapping of the evidence of external actors in global mental health inform research design and interpretation of results of the remaining empirical chapters (Chapters 4 to 6). In-depth interviews and documentary analyses inform methodological choices and interpretation of results of the quantitative component (Chapters 4 and 5). The quantitative analyses inform the content and interpretation of findings from the in-depth interviews and documentary analyses (Chapter 6). Cross-pollination across chapters is possible because of the common research goal, not a mixed methods research design that would have required integration of methods at three levels: study design, methods, and interpretation and reporting (Fetters et al., 2013).

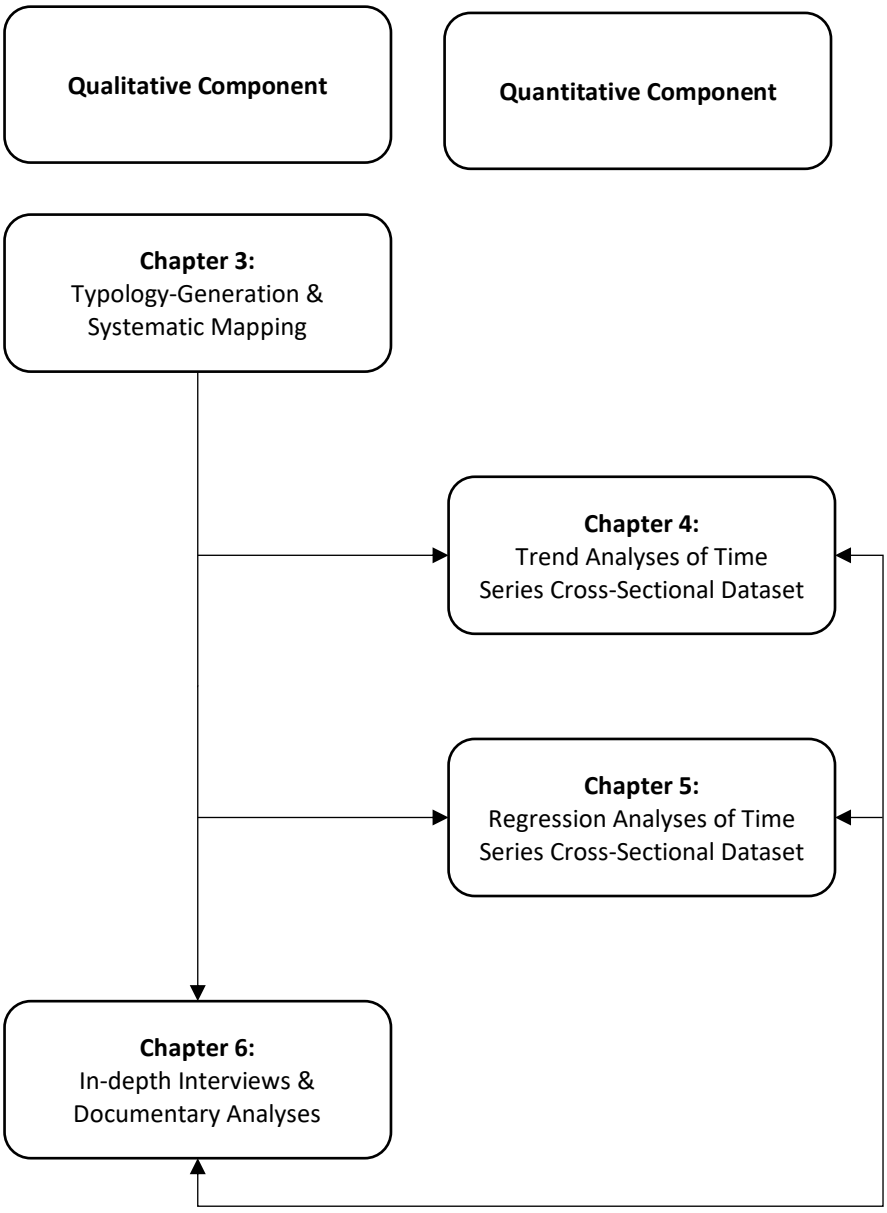

Figure 2.1: Cumulative and iterative research process.

In addition, I draw on 'accidental ethnography', a method consisting in "paying systematic attention to the unplanned or 'accidental' moments in the field" to gain a better insight into the research context and the researcher's positionality (L.A. Fujii, 2014, p.526). This has allowed me to pay systematic attention to 'accidental' moments outside my

structured methods: expert meetings,[2] concomitant work opportunities,[3] and numerous conferences and public events on global mental health, sustainable financing, and philanthropy.[4]

Finally, I consulted regularly with multiple experts in global mental health over the whole period of my study to inform my methodological choices, to identify participants for in-depth interviews, and more generally to help in the interpretation of my results. This engagement has contributed to ensure not only theoretical and methodological validity, but also relevance and robust ethical standards. To situate my work within a larger and fast-moving context, I have been monitoring current discussions and innovations in development finance through relevant mailing lists and newsletters, in particular in climate finance, a field attracting increased attention and funding.

2.3. Preliminary work

To inform my research design, I conducted some preliminary work. First, I mapped current and potential external actors in global mental health using scientific and grey literature, and websites of key international organisations and fora. I searched both scientific and grey literature, starting from two scientific papers (Charlson et al., 2017; B. Gilbert et al., 2015) and one report (Mackenzie & Kesner, 2016), then snowballing their reference lists and tracking citations using Google Scholar. I conducted additional searches in purposefully selected websites.[5]

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[2] Amongst meetings: International Alliance for Mental Health Research Funders annual meeting (Vienna, Austria, 15–16 February 2018), United for Global Mental Health and Lion's Head Global Partners consultative meetings on financing global mental health (London, UK, May–June 2018), UN and United for Global Mental Health consultative meeting on financing global mental health (New York City, US, 24 July 2018), WHO Mental Health Gap Action Programme Forum (Geneva, Switzerland, 11–12 October 2018), Global Mental Health Action Network (formerly Blue Print Group for Global Mental Health) bi-annual meeting (London, UK, 9 September 2020) and monthly telephone meetings (May 2018–present).

[3] Amongst work opportunities: co-authoring a report on entry points for investments in mental health in LMICs for the UK Department for International Development (G. Ryan et al., 2017) and technical advice to the Global Innovation Fund.

[4] Amongst conferences: invited presentations at the World Health Summit (Berlin, Germany, 9–10 October 2016) and the 5th Global Mental Health Summit (Johannesburg, South Africa, 8–9 February 2018).

[5] Websites of UN agencies, Organisation for Economic Co-Operation and Development (OECD, 2020a, b, c), Development Finance International (DFI, 2020), European Development Finance Institutions (EDFI, 2020), SDGsfunders (Candid, 2020b), Candid (former Foundation Center) (Candid, 2020a), and Mental Health Innovation Network (MHIN, 2020).

Second, I mapped 'key events' in global mental health and relevant ones in global health, development and development finance. I defined events to include global resolutions (e.g. 2006 Convention on the Rights of Persons with Disabilities) (UN, 2006), policy plans and guidelines (e.g. Comprehensive Mental Health Action Plan 2013–2020) (WHO, 2013c), high-level meetings (e.g. 2016 WHO and World Bank meeting on Global Mental Health) (World Bank, 2020b), and changes in the organisational landscape (e.g. 2011 launch of Grand Challenges Canada's Global Mental Health Program) (GCC, 2011). Searches were conducted in the grey literature, such as reports and government documents (e.g. Tsutsumi et al., 2015; WHO, 2013c), and websites (e.g. UN agencies).

Third, to inform the quantitative component (Chapters 4 and 5), I mapped time series cross-sectional datasets used in global health and development, searching scientific and grey literature, and websites of key international organisations (e.g. WHO, World Bank) and research centres (e.g. Institute for Health Metrics and Evaluation, IHME). To identify relevant variables and assess their theoretical and methodological strengths and limitations, I sought dataset manuals and illustrative examples of their use in the scientific literature, ran descriptive statistics to gauge data form and completeness, and approached dataset owners for additional information and data. For instance, I obtained from IHME two sets of supplementary data for the dataset on development assistance for health: a detailed version including values omitted in the publicly available dataset (i.e. values greater than US$0 but less than US$500, or less than US$0 and greater than -US$500), and disaggregated data for US foundations (see Chapters 4 and 5). Similarly, I obtained supplementary data on philanthropy for global mental health from OECD, which provided me with an aggregated dataset of philanthropic disbursements for activities including the key words mental h*, psycholog*, and psychiatr*. Due to strict confidentiality agreement with data providers, it was not possible to secure activity-level data and the IHME dataset was preferred for the analyses (see Chapter 4). Appendix 2.1 provides further details regarding the selection of the dataset on development assistance for mental health.

2.4. Ethics

Before initiating data collection, I obtained ethical approval from the London School of Economics and Political Science (LSE) Research Ethics Committee (see Appendix 2.2). This aimed to ensure high ethical standards and adherence to received principles for research: respect for people, beneficence, nonmaleficence, justice, fidelity, and academic freedom (Farrimond, 2013). The quantitative component did not raise any ethical or legal issue because I used publicly available country-level data. The main ethical concerns regarded the qualitative component, in particular data collection and use of in-depth interviews.

I obtained informed consent from participants in writing or orally ahead of each interview. The informed consent form, shared with them by email and/or in person, included two sections: an information sheet describing the research study and a consent form (see Appendix 2.3) (WHO, 2017b). At the beginning of the interview, participants were reminded about data anonymity and confidentiality, the possibility to contact me and the LSE Research Ethics Committee with any queries, and that no adverse consequences would followed from a decision not to participate, not to answer some questions, or to withdraw after the interview.

Anonymity of interview data was preserved at three points. When allowed by participants, I collected data using two digital recorders when interviews were conducted face-to-face or via telephone, and a digital recorder and QuickTime Player when via Skype, along with interview and field notes. During data analyses, I transcribed digital recordings *verbatim* along with notes and allocated them an identifier. Participant names and identifiers were saved in a file kept in a separate folder. During writing, I omitted names of participants and their organisations and anonymised interview quotations. While some participants agreed to be identified, I decided to disclose only organisation groups and countries to protect anonymity, as few people (and sometimes only one person) within each organisation were eligible for interview.

2.5. Safety

The fieldwork for this thesis was conducted in London (UK) where I was based, Geneva (Switzerland), Johannesburg (South Africa), New York City (US), and Vienna (Austria).

After consultation with the LSE Health and Safety team, risk assessment forms and emergency plans were submitted to the LSE PhD Academy and approval for travels outside the UK obtained. Ahead of each travel, emergency plans were also shared with the LSE Department of Social Policy, my supervisors, and my next of kin. Due to the low- and moderate-risk environments where this thesis was conducted and the use of non-sensitive research design and data, I only encountered customary safety issues such as personal and research equipment safety, vaccinations, and health insurance coverage.

2.6. Data security and confidentiality

Before initiating data collection and after consultation with the LSE data protection officer and Information Management Technology team, I outlined a detailed Data Management Plan which was submitted to and approved by the LSE Research Ethics Committee (see Appendix 2.2). For the quantitative component, I stored the datasets and analyses in a password-protected computer. For the qualitative component, I scanned notes and informed consent forms soon after their collection, and transferred them along with the digital recordings in Microsoft OneDrive. Transcriptions of digital recordings and notes were similarly saved in separate folders in Microsoft OneDrive. Digital recorders, original notes, and informed consent forms were kept in a locked cabinet in my office at the LSE. During the thesis, I regularly backed-up all data from both quantitative and qualitative components in an encrypted external drive. I was the sole person with access to the raw data: I conducted the interviews, transcribed them *verbatim* (when recording was allowed by participants) along with the interview and field notes, analysed them, and wrote the final paper (Chapter 6). While the copyright and intellectual property ownership of the original datasets used for the quantitative component stay with the original providers, those of data collected through in-depth interviews lie with me.

2.7. Positionality and reflexivity

Positionality "refers to the stance or positioning of the researcher in relation to the social and political context of the study – the community, the organization or the participant group" which impacts the whole research process from the finalisation of research questions to dissemination of results (Coghlan & Brydon-Miller, 2014, p.628). Both qualitative and quantitative components were influenced by my positionality as a

woman, Caucasian, European, non-native English speaker (speaking four languages), trained in clinical psychology and health policy, with over 10 years of experience in mental health policy and practice research, and affiliated to a university in the Global North (Jafar, 2018).

Influenced by my positionality, reflexivity sheds a light on the process of knowledge production (Maton, 2003). My training in clinical psychology and health policy situated this study at the intersection of social science disciplines and fields, including global health, public policy, economics, international development and psychology. This was an important asset especially during in-depth interviews as it allowed me to adapt content and form to participant characteristics. Having over 10 years of previous experience in mental health policy and practice research, my knowledge and skills along with my established professional network put me in a privileged position to approach the central research question of this study through its multiple facets and to interpret results from a position of experience. For instance, being an 'insider' favoured access to interview participants and experts consulted to inform methodological choices and interpretation of results (Mikecz, 2012).

My affiliation to a prestigious university in the Global North provided me with the necessary credibility to approach institutions owning datasets used in the quantitative component and elite individuals for in-depth interviews. As a woman, power imbalances during elite interviews might have been increased especially vis-à-vis men (Boucher, 2017). To minimise power asymmetry, ahead of the interviews, I collected information on participants and their organisations by searching scientific and grey literature, as well as institutional websites (e.g. scientific papers, charters, strategic plans, policy and financial reports, public statements). While being a non-native English speaker contributed to an increase in power asymmetries, positioning myself as an 'outsider' vis-à-vis native English speakers, it also positioned me as an 'insider' vis-à-vis non-native English speakers favouring trust and rapport. My knowledge of four languages (English, French, Italian, Spanish) allowed me direct access to non-English literature and the use and understanding of different cultural codes and references during in-depth interviews. Being Caucasian and European might have influenced in-depth interviews by positioning

myself as an ‘insider’ vis-à-vis the majority of participants who, given my research focus, were from the Global North.

Finally, the ascent of mental health on the agenda globally during the period of this study meant that keeping up to date with developments in the field was crucial. Throughout this study, I followed current developments using different media: scientific and grey literature, relevant mailing lists, social media and continuous engagement with the global mental health community (see section 2.2).

Chapter 3

Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries[6]

Abstract

Mental disorders account for a substantial burden of disease and costs in low-income and middle-income countries (LMICs), but attract few resources. With LMIC governments often under economic pressure, an understanding of the external funding landscape is urgently needed. This study develops a new typology of external actors in global health adapted for the sustainable development goals (SDGs) era and uses it to systematically map available evidence on external actors in global mental health. The new typology was developed in line with conceptualisation in the literature and the SDGs to include 11 types of external actors for health in LMICs. Five databases (EconLit, Embase, Global Health, MEDLINE, PsycINFO) were searched for manuscripts published in peer-reviewed journals in English, French, Italian, Portuguese or Spanish between 1 January 2000 and 31 July 2018 and reporting information on external actors for mental disorders in LMICs. Records were screened by abstract, then full-text against inclusion criteria. Data were extracted and synthesised using narrative analysis. 79 studies were included in the final review. Five were quantitative studies analysing the resource flow of development assistance for mental health globally over the last two decades. The remainder were qualitative studies providing a description of external actors: the majority of them were published in the last decade, focused on Africa, and on public sector (bilateral and multilateral governmental organisations) and third sector organisations (nongovernmental organisations). Evidence was particularly scarce for for-profit organisations and individual households. This study reveals opportunities for unlocking additional funding for global mental health in the SDG-era from an ecosystem of external

[6] A version of this chapter was published with the following reference: Iemmi, V. (2019). Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries. *BMJ Global Health,* 4: e001826.

actors, and highlights the need to coordinate efforts and to use sustainable, ethical approaches to disbursements. Further research is needed to understand *all* external actors and the allocation of their contributions in different settings.

3.1. Introduction

More than 1 billion people live with mental disorders (including substance use disorders, self-harm and dementia) (Global Burden of Disease Collaborative Network, 2018d), over three-quarters of whom live in low-income and middle-income countries (LMICs) and their number is projected to increase (Patel et al., 2018). Although effective and low-cost interventions are available (Patel et al., 2016b), fewer than 10% receive support (WHO, 2018b). Resources are scarce: mental disorders receive as little as 1.6% of LMIC government health budgets (WHO, 2018b) and 0.4% of development assistance for health (Charlson et al., 2017). The Lancet Commission on Global Mental Health and Sustainable Development recently called for an increase in resources to address mental disorders, both domestically and externally (Patel et al., 2018).

With most LMIC governments already under considerable economic pressure, external funding is urgently needed. In line with the Addis Ababa Action Agenda (UN, 2015a), the United Nations SDGs recommend the mobilisation of additional external funding from a wide range of sources (e.g. development assistance, foreign direct investments (FDIs), remittances) while assuring sustainability through local ownership and a gradual increase in domestic resources (UN, 2015b). It is therefore important to identify who those key external actors are in global mental health.

However, evidence is extremely limited. A rapid review on actors in global mental health, emphasises the prominence of donor states and identifies some non-state donors, such as philanthropists, private-sector foundations, and organisations using innovative financing mechanisms (Mackenzie & Kesner, 2016). Another study mapping the ecosystem of global mental health research funders includes some actors disbursing to LMICs, such as Wellcome Trust and Grand Challenges Canada (Pollitt et al., 2016).

This study has two aims: first to develop a typology of external actors in global health adapted for the SDG-era; second to use this typology to systematically map the evidence on external actors in global mental health in order to identify available evidence and opportunities for unlocking additional resources.

3.2. Methods

3.4.1. Typology of external actors in global health

To date the ecosystem of potential actors in global health has been explored either from a health governance or from a health financing perspective. The global health governance literature explores power relationships of a growing plurality of external development actors and the emergence of non-state actors (e.g. philanthropic organisations, private industry, civil society organisations, global health initiatives) alongside state actors (e.g. donor country governments, United Nations organisations, multilateral development banks) (Frenk & Moon, 2013). By contrast, the global health financing literature focuses mainly on donors, using a simplified path of resource flows from donor organisations representing the primary source of funding (e.g. states, private industry, philanthropic organisations, individuals), through channel organisations disbursing funding to implementing institutions providing support in recipient countries (e.g. development aid agencies, nongovernmental organisations) (McCoy et al., 2009). The combination of the two perspectives, however, is yet to be done.

I propose a new typology of actors in global health adapted for the SDG-era which includes a wide range of external actors (see Figure 3.1). The new typology brings together the two aforementioned approaches: global health governance and global health financing. On the one hand, the plurality of actors from the global health governance literature allows an understanding of each actor not only as its own entity, but also as operating within a group of organisations sharing common characteristics, and part of a larger ecosystem. On the other hand, expanding the definition of channel organisations from the global health financing literature, in the new typology external actors include organisations and individuals not only channelling development assistance but also investments to institutions providing goods and services in LMICs.

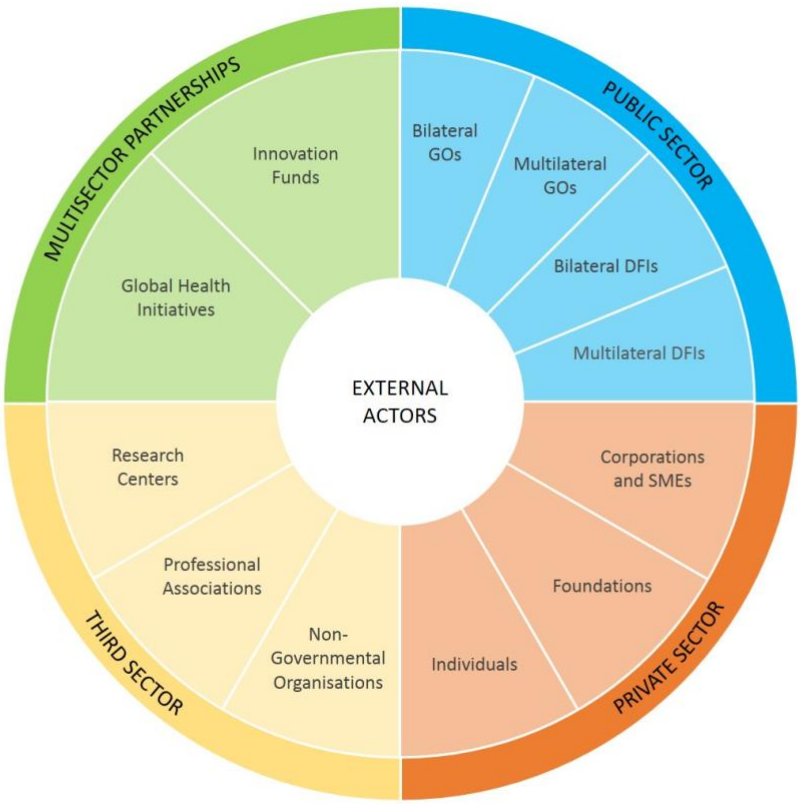


Figure 3.3: Typology of external actors in global health: four overarching groups and their types of actors.
DFIs=development financial institutions. GOs=governmental organisations. SMEs=small and medium enterprises.

First, I identified 11 types of organisations and individuals from the literature in global health governance and global health financing (see Box 3.1). Second, I selected four overarching groups of financial actors in line with conceptualisations in the literature and in the SDGs (UN, 2015b): public sector, private sector, third sector and multisector partnerships. Those groups were introduced to facilitate both the understanding of commonalities (e.g. legal status and *modus operandi*) across actors and comparison with corresponding domestic actors. Finally, organisations were ordered by group.

Box 3.1: External actors

Public sector

Governmental organisations in high-income and middle-income countries provide goods and services in LMICs, in agreement with recipient country governments. Bilateral governmental organisations in agreement with recipient countries are funded by just one state and include aid agencies (e.g. United States Agency for International Development) and other governmental agencies investing in development (e.g. ministries of foreign affairs or their equivalents, research councils). Multilateral governmental organisations are funded and composed by multiple states at the regional (e.g. European Commission), international (e.g. Colombo Plan), or global level (e.g. World Health Organization).

Development finance institutions (DFIs) are organisations offering financial products (e.g. loans) in contexts where commercial banks would not usually invest, due to what might be perceived to be high political, socioeconomic or environmental risks. Bilateral DFIs are funded by just one state and provide financial products usually at a commercial rate (e.g. United States Overseas Private Investment Corporation). Multilateral DFIs provide financial products usually at facilitated rates and are funded by multiple states, at the regional (e.g. African Development Bank), international (e.g. Islamic Development Bank) or global level (e.g. World Bank).

Private sector

Corporations and small and medium enterprises are for-profit organisations providing goods and services through foreign investments and corporate social responsibility (CSR) initiatives. Foreign investments include foreign direct investments (FDIs), foreign portfolio investments (FPIs) and commercial loans. FDIs are substantial physical investments and purchases usually made by corporations in another country. FPIs are foreign indirect investments made by corporations, financial institutions and private investors using both equity (e.g. stocks) and debt instruments (e.g. bonds). CSR includes financial and in-kind contributions, in both products and human resources.

Foundations include non-profit organisations either created and mainly funded by private-sector companies (e.g. Microsoft Philanthropies) or created by wealthy individuals

and their families and funded through gifts of shares or endowments (e.g. Bill & Melinda Gates Foundation) (Stuckler et al., 2011). They are often grant-making entities.

Individual households contribute through donations, including financial and in kind-contributions in goods or services, and private foreign investments. A small number of individuals are described as 'high-net-worth': individuals with financial assets greater than US$1 million. A different and larger group of individuals are diaspora movements, including almost three-quarters (186 million) of international migrants coming from LMICs (UNDESA, 2017).

Third sector

Third sector organisations constitute the most heterogeneous group of non-profit organisations providing goods and services in LMICs. Among others, this group includes nongovernmental organisations (e.g. BasicNeeds), professional associations (e.g. World Psychiatric Association) and research centres (e.g. universities).

Multisector partnerships

Multisector partnerships are a similarly heterogeneous group of organisations arising from arrangements between actors from two or more sectors aimed to leverage additional funding for global health, usually for specific conditions. Amongst others, this group include global health initiatives (e.g. Global Fund to Fight AIDS, Tuberculosis and Malaria) and innovation funds (e.g. Dementia Discovery Fund).

3.4.2. Systematic evidence mapping

I used systematic evidence mapping instead of systematic review and meta-analyses because this was more appropriate for identifying actors given the extent of available evidence, not the strengths and directions of relationships or tracking funding (Miake-Lye et al., 2016). The only quality criterion was publication in scientific journals.

I followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) (see Supplement 3.1). I systematically searched five medical and social sciences databases (EconLit, Embase, Global Health,

MEDLINE, PsycINFO) for manuscripts published in peer-reviewed journals in English, French, Italian, Portuguese or Spanish between 1 January 2000 and 31 July 2018. Searches were run in August 2018. The search strategy was designed for MEDLINE combining MeSH terms with keywords for mental disorders, external actors, and LMICs, and then adapted for each database (see Supplement 3.2 for full search strategy). Mental disorders were defined according to the World Health Organization (WHO) definition to include common and severe mental disorders, mental disorders in children, substance use disorders, self-harm and suicide, and some neurological conditions (dementia, epilepsy) (WHO, 2008b). External actors included all actors external to recipient countries as described in the new typology. LMICs were defined according to the World Bank classification (World Bank, 2018).

To be included, manuscripts had to report information on external organisations or individuals providing financial or in-kind contributions to mental disorders in LMICs (e.g. actor description, contributions, activities funded). Contributions had to target either people living with mental disorders, their families and other carers, or populations at risk (e.g. people living with human immunodeficiency virus infection and acquired immune deficiency syndrome, HIV/AIDS). Manuscripts had to be original articles using any study design or other scientific publications (personal communications, commentaries, letters and editorials). Grey literature was excluded. Supplementary searches included snowballing citations from the reference lists and tracking citations using Google Scholar.

The database searches identified 2300 records (see Figure 3.2). After removing duplicates, the title and abstract of 2011 records were screened against the inclusion criteria using EndNote X8 (Thomson Reuters, 2016). Out of the 163 full-text articles assessed for eligibility, 50 were included in the review. The supplementary searches led to the inclusion of 29 additional records. I extracted data from the eligible manuscripts, including: publication characteristics (author, year), study characteristics (mental disorder, population, country, study type), and contributions from external actors (type of organisation, activities and revenues mobilisation). For quantitative studies only, additional study characteristics (dataset, years covered, type of analysis) were extracted.

Data were extracted in Excel (Microsoft Corporation, 2013). Narrative analysis was used to synthesise findings.

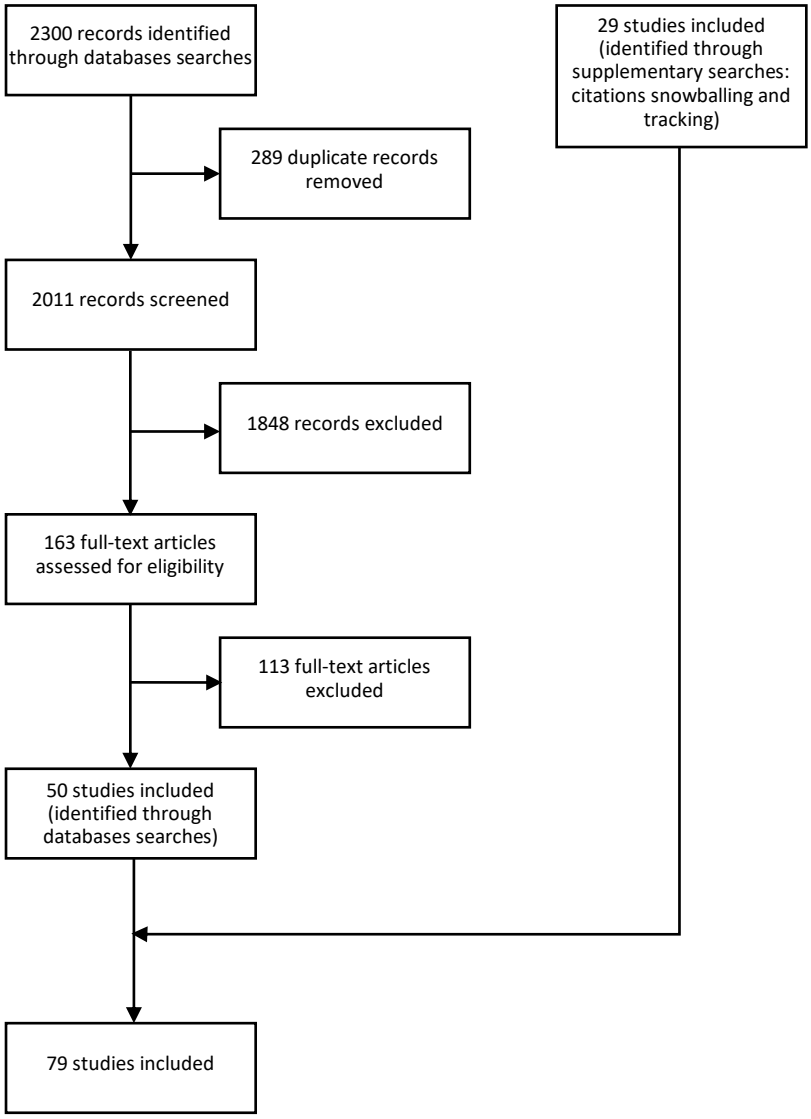


Figure 3.4: Preferred Reporting Items for Systematic Reviews and Meta-Analyses flowchart.

3.3. Results

Five (Charlson et al., 2017; B. Gilbert et al., 2015; Lu et al., 2018; Tol et al., 2011; Turner et al., 2017) of the 79 studies analysed the resource flows for development assistance for mental health (DAMH) only, defined as financial and in-kind contributions disbursed from donors through channel organisations into LMICs with the aim of preserving or improving

mental health (see Table 3.1). They were published over the last decade, had a global geographical focus, and included data on organisations from the public sector (bilateral and multilateral governmental organisations, multilateral development institutions), private sector (foundations), third sector (nongovernmental organisations) and multisector partnerships (global health initiatives). They focused on disbursements for health activities only (Charlson et al., 2017), humanitarian activities only (Tol et al., 2011), or activities in multiple areas (e.g. health, humanitarian, education, government and civil services) (B. Gilbert et al., 2015; Lu et al., 2018; Turner et al., 2017) (see Supplement 3.3 for data extraction table of quantitative studies).

The remaining 74 studies provided a description of the external actors and funded activities. Over three quarters of them were published in the last decade. The majority of them focused on the African region (n=17) or globally (n=15). Public and third sector organisations were the most studied, in particular through bilateral and multilateral governmental organisations and nongovernmental organisations respectively. Studies focused mostly on contributions to activities of capacity-building, service provision, and research and research capacity-building (see Supplement 3.4 for data extraction table of qualitative and other studies). The next sections describe in details evidence on global trends in external contributions for mental disorders in LMICs from quantitative studies and on each group of external actors from all studies.

	Number of studies	
	Quantitative (n=5)	**Qualitative and other (n=74)**
Study type		
Quantitative	5	—
Qualitative	—	52
Other[a]	—	22
Year of publication		
2000–2004	0	7
2005–2009	0	10
2010–2014	1	35
2015–2018	4	22
WHO regions		
AFR	0	17

	Number of studies	
	Quantitative (n=5)	**Qualitative and other (n=74)**
AMR	0	11
EMR	0	5
EUR	0	5
SEAR	0	10
WPR	0	6
Multi-regional	0	5
Global	5	15
Organisations[b]		
Public sector		
Bilateral GOs	5	31
Multilateral GOs	5	24
Bilateral DFIs	0	0
Multilateral DFIs	5	4
Private sector		
Corporations and SMEs	0	6
Foundations	5	14
Individuals	0	0
Third sector		
Nongovernmental Organisations	5	33
Professional Associations	0	2
Research Centres	0	5
Multisector partnerships		
Global Health Initiatives	5	8

Table 3.1: Study characteristics (n=79).
[a]Personal communications, commentaries, letters and editorials. [b]Studies include one or more organisations. AFR=African region. AMR=region of the Americas. DFIs=development financial institutions. EMR=Eastern Mediterranean region. EUR=European region. GOs=governmental organisations. SEAR=South-East Asia region. SMEs=small and medium enterprises. WPR=Western Pacific region.

3.4.1. Global trends

Despite the sixfold increase in DAMH over the last two decades, in 2015 mental disorders still received a small proportion of development assistance for health (0.4%, US$132 million), accounting for less than US$1 of development assistance for health per disability-adjusted life year (i.e. year of 'healthy' life lost) compared with, for example, US$144 for HIV/AIDS (Charlson et al., 2017). A study that also included disbursements to non-health sectors found a similar mean annual estimate (0.7%, US$134 million), of which 48% was directed to humanitarian assistance, education and governments (B. Gilbert et al., 2015). Among populations at higher risk of mental disorders, as little as 13% (US$190

million) of DAMH disbursed between 2007 and 2015 targeted children and adolescents, mainly in humanitarian contexts (Lu et al., 2018). Similar estimates (17%, US$88 million) were found in another study (Turner et al., 2017). Among humanitarian assistance disbursed between 2007 and 2009, only a tiny proportion (0.1%, US$226 million) targeted programmes including mental health and psychosocial support (MHPSS) (Tol et al., 2011).

3.4.2. Public sector

Bilateral governmental organisations accounted for 18% (US$222 million) of DAMH disbursed by channel organisations between 2000 and 2015 (Charlson et al., 2017). They supported global mental health through programmes targeting their priority countries and areas, and including activities spanning mental health system capacity, mental health service provisions, humanitarian response, advocacy and research.

For instance, the United Kingdom's Department for International Development (DFID) funded numerous activities including mental health policy development in Kenya (Kiima & Jenkins, 2010), community-based mental health services in Nepal (Raja et al., 2012) and research into primary mental health care across Africa and South Asia (Lund et al., 2012). The United States Agency for International Development (USAID) supported the integration of mental health into primary care after the 2003 conflict in Iraq (Sharma & Piachaud, 2011) and capacity-building and research in Zimbabwe through the US President's Emergency Plan for AIDS Relief in collaboration with the US National Institute of Health (Hakim et al., 2018). The Swedish International Development Cooperation Agency (SIDA) contributed to mental health reform after the war in Bosnia and Herzegovina (1992–1995), funding capacity-building and research capacity-building in mental health (Lagerkvist & Jacobsson, 2001).

Multilateral governmental organisations accounted for 18% (US$228 million) of DAMH disbursed by channel organisations between 2000 and 2015, over two-thirds of which was by United Nations agencies (Charlson et al., 2017; Global Burden of Disease Collaborative Network, 2018d). They supported global mental health through normative and programmatic work, with activities linked to their missions and priorities.

For instance, WHO developed the Mental Health Action Plan 2013–2020 and clinical guidelines for mental health treatment in non-specialised settings (Saxena et al., 2014). United Nations Children's Fund (UNICEF) was the biggest contributor to DAMH for children and adolescents in the health sector between 2007 and 2014, principally through psychosocial support in child friendly spaces (Turner et al., 2017). The International Organization for Migration provided MHPSS and capacity-building activities in humanitarian and emergencies settings, such as conflicts in Nigeria and South Sudan (Schinina et al., 2016) and the 2010 earthquake in Haiti (Schinina et al., 2010). At the regional level, the Pan American Health Organization promoted deinstitutionalisation in Latin America and the Caribbean (J. J. Rodriguez, 2010), and the European Commission research and research capacity-building in Africa and South Asia (Thornicroft & Semrau, 2018).

No evidence was found on contributions of bilateral development finance institutions (DFIs) to global mental health. Multilateral DFIs accounted for 1% (US$14 million) of DAMH disbursed by channel organisations between 2000 and 2015 (Charlson et al., 2017), contributing to global mental health through technical advice and programmatic work linked to their priority countries and areas. For instance, the World Bank supported the reconstruction of better mental health services after the conflict in Bosnia and Herzegovina (1992–1995) (Lagerkvist & Jacobsson, 2001) and research in Sri Lanka (Siriwardhana et al., 2011). At the regional level, the Inter-American Development Bank supported the evaluation of mental health services reforms in Latin America and the Caribbean along with other stakeholders (Caldas de Almeida, 2005).

3.4.3. Private sector

Limited evidence was found on corporations and small and medium enterprises. Among transnational and multinational companies investing in health care in LMICs, pharmaceutical industries were the most profitable, with the top three also active in the market of psychotropic drugs: Pfizer (USA), Johnson & Johnson (USA), GlaxoSmithKline (UK) (Outreville, 2007). United States' companies were the major player in the hospital sector in LMICs (Outreville, 2007). No evidence was found on FDIs for health insurance or

health technologies (e.g. Apps) except for drugs. Similarly, no evidence was found on foreign portfolio investments (FPIs) or commercial bank loans for global mental health.

Corporate social responsibility (CSR)-supported activities in global mental health were aligned to areas of expertise of the businesses or the interests of their employees. For instance, multinational alcohol corporations are increasing presence in LMICs, such as Diageo in India (Esser & Jernigan, 2015) and SABMiller in South Africa (Babor et al., 2015). SABMiller partnered with the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) to provide HIV education and counselling to heavy drinkers in South Africa (Babor et al., 2015). Other companies supported humanitarian response and reconstruction, such as Nestlé, Holcim and Sika with psychosocial support in schools after the 2008 earthquake in Sichuan, China (Sim, 2011).

Foundations created and predominantly funded by private sector companies invested in global mental health through activities linked to the parent company or the interests of their employees, while foundations created by wealthy individuals and families were more aligned to the interests of their founders. In 2015, foundations disbursed less than US$10 million to DAMH directly to implementing organisations in LMICs, and potentially a much larger amount through other channels (Charlson et al., 2017). For instance, between 2000 and 2015 Bill & Melinda Gates Foundation (BMGF) disbursed 85% (US$11 million) of DAMH through nongovernmental organisations and United Nations agencies (Charlson et al., 2017).

Among foundations created by private sector companies, Lilly Foundation supported a global collaboration on diabetes and depression aiming to raise awareness and improving diagnosis and treatment (Sartorius & Cimino, 2012). Among foundations created by wealthy individuals, BMGF funded psychosocial support for children affected by the 2010 earthquake in Haiti (B. Gilbert et al., 2015), MacArthur Foundation activities of a civil society in global mental health in collaboration with other partners (The Lancet, 2009) and Wellcome Trust research and research capacity-building in LMICs (Prince et al., 2004).

No evidence was available on individual households, both for donations and foreign investments to global mental health, including private FDIs and FPIs. Similarly, no evidence was available on contributions from the diaspora through remittances allocated to mental health or from the smaller group of high-net-worth individuals.

3.4.4. Third sector

Third sector organisations supported and often delivered activities covering many aspects of global mental health, from advocacy to service provision, humanitarian response and research. In 2015, international nongovernmental organisations disbursed US$54 million to DAMH as channel organisations (Charlson et al., 2017).

Among the numerous nongovernmental organisations, BasicNeeds (now part of Christian Blind Mission, CBM) received funding from DFID to deliver community-based mental health services in Nepal (Raja et al., 2012), and CBM partnered with the local government to scale-up community-based mental health services in Niger (Hwong et al., 2015). Carter Center (Gwaikolo et al., 2017) and International Medical Corps (Jones et al., 2007) provided psychosocial support and collaborated with local governments to 'build back better' mental health systems after the 2014–2015 Ebola outbreak in Liberia and the 2004 tsunami in Aceh (Indonesia), respectively. A large number of nongovernmental organisations, including CBM, Doctors of the World, Doctors without Borders, Handicap International (now Humanity and Inclusion), members of the International Red Cross and Red Crescent Movement, and Partners in Health, delivered MHPSS activities after the 2010 earthquake in Haiti (Raviola et al., 2013). Grand Challenges Canada, a non-for-profit organisation primarily funded by the government of Canada, committed US$19 million for innovations in global mental health (Gulland, 2012).

3.4.5. Multisector partnerships

Limited evidence was found on global health initiatives. Between 2007 and 2015, GFATM disbursed as channel organisation US$551 million to DAMH for children and adolescents, focusing on psychological support for individuals living with or at risk of contracting AIDS/HIV (Tol et al., 2011). For instance, GFATM supported services for illicit drug users in Thailand (Kerr et al., 2005) and physical and psychosocial support for individuals living

with HIV/AIDS in sub-Saharan Africa and East Asia (Raguin, 2016), the Global Alliance for Chronic Diseases research in global mental health (Baingana et al., 2015).

3.4. Discussion

This new typology illuminates the ecosystem of external actors in global mental health. This is crucial in the new landscape of the SDG-era: the plurality of actors requires good understanding of each of them, not only as single entities but also as part of a larger ecosystem. The majority of the evidence focused on the public and third sector, with almost two-thirds of DAMH disbursed to LMICs through the third sector. Evidence on the private sector and multisector partnerships is scarce or inexistent. Overall, evidence remains very limited for a number or reasons.

First, across sectors, studies have focused primarily on donors. However, many investors are already active in global health. In the public sector, DFIs' annual commitments grew from US$10 billion in 2002 to US$70 billion in 2014 (Savoy et al., 2016), though health care attracted a small (2%–3%) share of investments (Kenny et al., 2018), which could have included investments in mental health care. For instance, United States Overseas Private Investment Corporation invested in private health care businesses in sub-Saharan Africa and South Asia through health care funds (OPIC, 2019). In the private sector, FDIs represent the largest (39%, US$671 billion) external source of finance in LMICs, more than three times the contributions from official development assistance and other official flows (11%) (UNCTAD, 2018), though the amount directed to health care is small (Smith et al., 2009) and to mental health is unknown.

Second, none of the studies explored the role of individual households. The wealth of high-net-worth individuals amounts to over US$70 trillion and is expected to reach US$100 trillion by 2025 (Capgemini, 2018). Among the members of the Giving Pledge, a group of wealthy individuals committed to donate more than a half of their wealth, Bill Gates committed US$100 million of personal investments to fight dementia (Kelland, 2017). Moreover, over the last decade contributions from a larger group of individuals, diaspora movements, through remittances increased to US$429 billion in 2016 and are expected to grow further (Ratha et al., 2018). They represent the second most important

source of external financing in LMICs (24%) and are responsible for more than twice the amount of official development assistance and other official flows (UNCTAD, 2018). While remittances could unlock additional resources in global mental health, examples are difficult to find.

Third, studies have focused on external actors from high-income countries. External actors from other LMICs are gaining power in global health, in particular middle-income countries. For instance, official development assistance for health from China was estimated at US$1.6 billion between 2000 and 2013, focusing predominately on health infrastructures, supplies and drugs in Africa and Asia (Tang et al., 2017), though evidence on mental health is lacking.

Fourth, comparison of financial estimates across studies requires consideration of limitations due to the use of different datasets and methodologies. Studies in this review used three datasets: the development assistance for health database (Institute for Health Metrics and Evaluation) (Charlson et al., 2017), the aid activities dataset from the Creditor Reporting System (Organisation for Economic Co-operation and Development) (B. Gilbert et al., 2015; Lu et al., 2018; Tol et al., 2011; Turner et al., 2017), and the Financial Tracking Service (United Nations Office for the Coordination of Humanitarian Affairs) (Tol et al., 2011). Estimates may vary as different datasets capture different information (e.g. actors, sector of activities) (Grepin et al., 2012) and may employ different methodologies to identify and compute estimates from the same source (Pitt et al., 2018). In particular, different methodologies influence financial estimates for programmes that tackle multiple health conditions.

Fifth, a limited number of funding instruments were used in the studies included in this review (grants, technical assistance, in-kind contributions). However, the use of both financial instruments from the private sectors and innovative financial instruments is growing in global health (Atun et al., 2017). For instance, the World Bank is currently considering issuing social purpose bonds for global mental health (World Bank Group, 2018). The venture capital fund Acumen is facilitating investments in health in LMICs, such as affordable health insurance in Kenya and hospitals and emergency medical care

for the lower income groups in India (Acumen, 2019), though not yet in mental health. Investment-based crowdfunding platforms are facilitating investments in health (potentially including mental health) (Renwick & Mossialos, 2017), although with very limited presence in LMICs.

Sixth, allocations of funding to global mental health were often limited to geographical allocation. Only one study reported misalignment of disbursement relative to needs, measured as burden of mental disorders (Charlson et al., 2017). Similarly, development assistance for health has been found to be misaligned with disease burden (Dieleman et al., 2014), with some conditions such as HIV/AIDS displacing other health funding priorities (Lordan et al., 2011) and more aid targeting conditions with more cost-effective interventions (Bendavid et al., 2015).

Seventh, funded activities focused primarily on treatment in health care and humanitarian or post-conflict settings. One study (Raja et al., 2012) reported on support for people with mental disorders in income-generating activities and another (Sim, 2011) on psychosocial support in schools. However, multiple dimensions of the lives of people with mental disorders, their families and other carers are affected and effective interventions are available. Those include support for children with intellectual disabilities in schools, stress-reduction programmes in the workplace, and support for carers of people with dementia (Patel et al., 2016b).

Eighth, partnerships with domestic actors were numerous but often restricted only to external actors in the public and third sectors. For instance, Doctors of the World collaborated with the local government to provide and 'build back better' mental health services after the 2007 earthquake in Peru (Kohan et al., 2011), and the Organisation of American States with the University of São Paulo to build research capacity on drugs in Latin America (Luis et al., 2004). This reflects historical tensions in the field between biomedical and social explanations of and responses to mental disorders (Clark, 2014). However, partnerships in global health are increasing in number and types of actors, allowing for pooling of a variety of resources and skills (Youde, 2014), though posing new challenges such as in relation to accountability and sustainability.

Finally, few studies uncovered by this review addressed ethical concerns, such as accountability, equity, and conflict of interests. Three studies analysed conflict of interests between corporations' investments and CSR initiatives (Babor et al., 2015), accountability of partnerships (Matzopoulos et al., 2012), and human rights abuses in funded programmes (Amon et al., 2014). The financialisation of global health (i.e. the increase in size and influence of financial institutions and markets) introduces new ethical challenges spurred by financial motives (Stein & Sridhar, 2018), such as conflicts of interest between global health foundations and food and pharmaceutical corporations (Sharma & Piachaud, 2011), 'responsible banking' of the financial sector investing in global health (Krech et al., 2018), and equitable access to private health care (Eren Vural, 2017). Ethical concerns in global mental health are often limited to conflict of interests in practitioners (Fava, 2007), while a systemic approach to ethical financing is lacking.

3.4.1. Limitations

This study has limitations. Systematic searches in electronic databases were only run in English between 2000 and 2018 and included only manuscripts published in peer-reviewed journals in English, French, Italian, Portuguese and Spanish. Given that the purpose of the study was to review external actors, those searches captured the main languages used for publications in high-income countries and many LMICs. The exclusion of grey literature made possible the introduction of a quality criterion in the systematic mapping. Mental health was defined to include mental disorders only, excluding positive aspects and social determinants of mental health. Finally, the exclusion of external actors not providing financial or in-kind contributions, such as political leaderships and consultative fora, might have discarded an important influencer of disbursements.

3.4.2. Recommendations

Mental disorders in LMICs require urgent political attention. Mental disorders account for a substantial proportion of the overall burden of poor health and high economic cost (US$0.9 trillion in 2010) (Bloom et al., 2011), and their impact is expected to increase further due to projected demographic and epidemiological changes and an increase in (adverse) social determinants, such as economic inequalities and natural disasters

associated with climate change (Patel et al., 2016b). The SDGs (UN, 2015b) and WHO Mental Health Action Plan 2013–2020 (WHO, 2013c) provide an unprecedented framework for global action. Tools are available to decision makers for designing better mental health system and services, such as the Mental Health Atlas (WHO, 2018b), as well as guidelines for mental health policy, planning and service development (WHO, 2020b), and for interventions in non-specialised settings (WHO, 2016).

However, the low resources allocated to mental disorders both domestically and externally hinder progress. With LMIC governments often at full capacity, external funding needs to be unlocked. The results of this review suggest a large ecosystem of external financial actors are already disbursing to global mental health, and untapped resources could be mobilised. However, drawing on this review, I suggest that the pluralism of actors requires five adaptations in order to achieve a sustainable impact.

First, a global coordination mechanism that involves all actors in global mental health should coordinate and monitor financial efforts over time, favouring partnerships and accountability. A global partnership for mental health (Vigo et al., 2019) has been recommended by experts for coordinating efforts, and the recently launched Countdown Global Mental Health 2030 is expected to monitor progress towards decreased disparities in mental health across countries (Saxena et al., 2019). Second, collaborations across actors should be preferred to the establishment of new organisations. For instance, while a multi-donor fund for non-communicable diseases and mental health has been proposed by the WHO Independent High-Level Commission on non-communicable diseases (Nishtar et al., 2018), its establishment could contribute to the fragmentation of efforts in global health. Third, local ownership and sustainability should be at the centre of funding decisions: mental disorders should be included in LMIC government priorities (Docrat et al., 2019) with an incremental approach for increasing domestic spending and coverage (Caddick et al., 2016), external funding should be aligned with those priorities, and humanitarian and development funding coordinated (WHO, 2013a). Fourth, it is paramount to collect better data that include contributions from all external actors in global mental health to favour planning and accountability. Finally, ethical considerations should be integrated into decision-making and monitoring processes in external financing

for global mental health. This could favour the establishment of partnerships across sectors while preserving core values in global mental health.

Further research is needed to understand the role of external actors in global mental health, especially outside the public sector. Qualitative studies should map external actors for mental disorders in different settings, using the grey literature and this new typology to support consistency and inform comparisons. Studies tracking external resource flows should take a comprehensive approach and go beyond DAMH to include disbursements from other external actors. Quantitative studies should assess whether external funding for global mental health are allocated effectively, efficiently and equitably. Quantitative and qualitative studies should explore what financial instruments work in global mental health, including feasibility and acceptability in different local contexts, effectiveness, cost-effectiveness, equitability, scalability and sustainability. Finally, studies that examine ethical issues related to external funding in global mental health are needed, in particular studies of the financialisation of global mental health.

3.5. Conclusion

Addressing mental disorders in the SDG-era requires mobilisation of additional external funding from multiple sources, along with an incremental increase in domestic funding. Unlocking external funding is possible, but coordination of efforts across actors is crucial, and the use of a sustainable and ethical approach is a moral imperative. This study presents opportunities to engage with a multitude of external actors in global mental health. In addition, it suggests a new typology of external actors that could provide a helpful framework for future policy planning and research on sustainable development in global mental health and global health.

Supplementary material

Supplement 3.1: PRISMA-ScR checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	40
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	40
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	41
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g. population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	42
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g. a Web address); and if available, provide registration information, including the registration number.	N/A
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g. years considered, language, and publication status), and provide a rationale.	42–45; Figure 3.1; Box 3.1
Information sources*	7	Describe all information sources in the search (e.g. databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	45–46
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Supplement 3.2
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e. screening and eligibility) included in the scoping review.	46
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g.,calibrated forms or forms that have been tested by the	46

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	46
Critical appraisal of individual sources of evidence[§]	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	47
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	46–47; Figure 3.2
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	47–49; Table 3.1; Supplement 3.3–3.4
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Supplement 3.3–3.4
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	48–54; Table 3.1
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	54–57
Limitations	20	Discuss the limitations of the scoping review process.	57
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	57–59
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of	Acknowledgments

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		funding for the scoping review. Describe the role of the funders of the scoping review.	

PRISMA-ScR checklist (Tricco et al., 2018). N/A: Not applicable. *Where sources of evidence (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites. †A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g. quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with information sources (see first footnote). ‡The frameworks by Arksey and O'Malley (2005) and Levac and colleagues (2010) and the Joanna Briggs Institute guidance (Peters et al., 2015; Peters et al., 2017) refer to the process of data extraction in a scoping review as data charting. §The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g. quantitative and/or qualitative research, expert opinion, and policy document).

Supplement 3.2: Search strategy

MEDLINE (Ovid)

1. exp Mental Disorders/ or exp Mental Health/ or exp SUICIDE/ or exp EPILEPSY/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depression" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental disorder" or "common mental disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or "developmental disorder" or "developmental disorders" or "intellectual disability" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
3. exp "fees and charges"/ or financial support/ or exp financing, organized/ or exp financing, personal/ or exp health care sector/ or exp investments/ or exp taxes/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or financing or finance*).mp. [mp=title, abstract, original title, name of substance word, subject

heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

5. exp Developing Countries/ or exp AFRICA/ or exp ASIA, NORTHERN/ or exp ASIA, CENTRAL/ or exp ASIA, SOUTHEASTERN/ or exp central america/ or exp Caribbean Region/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-

Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
10. 1 or 2
11. 3 or 4
12. 5 or 6 or 7 or 8 or 9
13. 10 and 11
14. 12 and 13
15. limit 14 to humans
16. limit 15 to yr="2000 - Current"

Global Health (Ovid)

1. exp Mental Disorders/ or exp Mental Health/ or exp SUICIDE/ or exp EPILEPSY/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depression" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental disorder" or "common mental

disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or "developmental disorder" or "developmental disorders" or "intellectual disability" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]

3. exp fees/ or financial institutions/ or exp insurance/ or exp funding/ or exp finance/ or exp investment/ or exp taxes/ or exp charitable contributions/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or financing or finance*).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
5. exp developing countries/ or exp Africa/ or exp South Asia/ or exp Central Asia/ or exp South East Asia/ or exp Latin America/ or exp Caribbean/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]

7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
10. 1 or 2
11. 3 or 4
12. 5 or 6 or 7 or 8 or 9

13. 10 and 11
14. 12 and 13
15. limit 14 to yr="2000 - Current"

EconLit (EBSCO)

S1. "mental illness" OR "mental health" OR "mental disorder" OR "mental disorders" OR "depressive" OR "mood disorder" OR "mood disorders" OR "anxiety disorder" OR "anxiety disorders" OR "affective disorder" OR "affective disorders" OR "bipolar disorder" OR "schizophrenia" OR psychos* OR "common mental disorder" OR "common mental disorders" OR "severe mental disorder" OR "severe mental disorders" OR "substance abuse" OR "alcoholism" OR "drug abuse" OR dementia* OR Alzheimer* OR "developmental disorder" OR "developmental disorders" OR "behavioural disorder" OR "behavioural disorders" OR "behavioral disorder" OR "behavioral disorders" OR "autism" OR "intellectual disability" OR suicid* OR epilep*

S2. insurance* or investment* or tax* or fee* or fund*

S3. "bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or foundation* or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* OR financ*

S4. "developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South

Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean"

S5. Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe

S6. Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia

S7. Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela

S8. S2 or S3

S9. S4 or S5 or S6 or S7

S10. S1 and S8

S11. S10 and S9

S12. Limiters - Published Date: 20000101-20180731

EMBASE (Ovid)

1. exp mental disease/ or exp mental health/ or exp epilepsy/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depression" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental disorder" or "common mental disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or "developmental disorder" or "developmental disorders" or "intellectual disability" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
3. exp funding/ or exp investment/ or exp tax/ or exp finance/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or "health financing").mp. [mp=title, abstract, heading word, drug trade name, original title, device

manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]

5. exp developing country/ or exp low income country/ or exp middle income country/ or exp Africa/ or exp south asia/ or exp Southeast Asia/ or exp Central America/ or exp caribbean/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp. [mp=title, abstract,

heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]

9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
10. 1 or 2
11. 3 or 4
12. 5 or 6 or 7 or 8 or 9
13. 10 and 11
14. 12 and 13
15. limit 14 to humans
16. limit 15 to yr="2000 - Current"

PsycINFO (Ovid)

1. exp mental disorders/ or suicide/ or exp attempted suicide/ or exp suicidal ideation/ or EPILEPSY/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depressive" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental disorder" or "common mental disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or

"developmental disorder" or "developmental disorders" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

3. exp health insurance/ or exp funding/ or exp business investments/ or exp taxation/ or exp finance/ or exp charitable behavior/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or financing or finance*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
5. exp developing countries/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or

Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
10. 1 or 2
11. 3 or 4
12. 5 or 6 or 7 or 8 or 9
13. 10 and 11
14. 12 and 13

15. limit 14 to humans
16. limit 15 to yr="2000 - Current"

Supplement 3.3: Quantitative studies

	Mental disorders (population)	Country	Dataset	Years	Analysis	Organisations	Sector of activity funded
Charlson et al. (2017)	Mental disorders	LMICs	IHME-DAH	1995–2015	Descriptive	*Bilateral governmental organisations* *Multilateral governmental organisations* *Multilateral development finance institutions* *Private foundations* *Nongovernmental organisations* *Global health initiatives*	Health
B. Gilbert et al. (2015)	Mental disorders	LMICs	OECD-CRS	2007–2013	Descriptive	*Bilateral governmental organisations* *Multilateral governmental organisations* *Multilateral development finance institutions* *Private foundations* *Nongovernmental organisations* *Global health initiatives*	Education Health Humanitarian Government and civil services
Lu et al. (2018)	Mental disorders (children and adolescents)	LMICs	OECD-CRS	2007–2015	Descriptive	See B. Gilbert et al. (2015)	Education Health Humanitarian Government and civil services
Tol et al. (2011)	Mental disorders	LMICs	OECD-CRS; OCHA-FTS	2007–2009	Descriptive	See B. Gilbert et al. (2015)	Humanitarian
Turner et al. (2017)	Mental disorders (children and adolescents)	LMICs	OECD-CRS	2007–2014	Descriptive	See B. Gilbert et al. (2015)	Education Health Government and civil services Other social infrastructure and services Humanitarian

LMICs=low- and middle-income countries. IHME-DAH=development assistance for health (DAH) database of the Institute for Health Metrics and Evaluation (IHME). OCHA-FTS=Financial Tracking Service (FTS) database of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). OECD-CRS=aid activities dataset from the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD).

Supplement 3.4: Qualitative studies and other publications

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
AFR								
Abdulmalik et al. (2014)	Mental disorders	The Gambia; Ghana; Liberia; Nigeria; Sierra Leone	*Bilateral GOs*: Australian Aid		*NGOs*: Christian Blind Mission International		Capacity-building (NA)	Article
Adaku et al. (2016)	Mental disorders and psychosocial problems	Uganda			*NGOs*: Uganda Red Cross Society; Medical Teams International; Peter C. Alderman Foundation		Service provision, refugees (NA)	Article
Amuyunzu-Nyamongo et al. (2013)	NCDs and mental health	Ghana; Gambia; Nigeria; Kenya; Uganda; Tanzania	*Bilateral GOs*: US Centres for Disease Control and Prevention, Atlanta		*NGOs*: International Union for Health Promotion and Education		Civil societies establishment (NA)	Other
Babor et al. (2015)	Alcohol abuse (HIV/AIDS)	Sub-Saharan Africa				*Global Health Initiatives*: The Global Fund	Service provision (NA)	Article
Bampoe et al. (2012)	Alcohol abuse (HIV/AIDS)	South Africa		*CSR:* SABMiller		*Global Health Initiatives*: The Global Fund	Service provision (NA)	Other (communication)
Gwaikolo et al. (2017)	Mental disorders	Liberia			*NGOs*: The Carter Center; Grand Challenges Canada		Service provision and research (NA)	Article
Hakim et al. (2018)	Mental disorders	Zimbabwe	*Bilateral GOs:* US President's Emergency Plan for AIDS Relief, USAID; US National Institutes of Health				Capacity-building and research capacity-building (NA)	Article
Hwong et al. (2015)	Mental disorders	Niger			*NGOs*: Christian Blind Mission International		Service provision (NA)	Article
Jenkins et al. (2010b)	Mental disorders	Kenya	*Bilateral GOs:* UK Department for International Development	*Foundations:* Nuffield International Foundation			Mental health system, capacity-	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
							building and research (NA)	
Jenkins et al. (2010a)	Mental disorders	Kenya		*Foundations:* Nuffield International Foundation			Capacity-building (NA)	Article
Jenkins et al. (2013)	Mental disorders	Kenya	*Bilateral GOs:* UK Department for International Development	*Foundations:* Nuffield International Foundation			Mental health system, capacity-building and research (NA)	Article
Kirby (2014)	Mental disorders	Zimbabwe	*Bilateral GOs*: US National Institute of Health's Fogarty International Center				Capacity-building (NA)	Other (brief report)
Kleintjes et al. (2013)	Mental disorders	Ghana; South Africa			*NGOs*: World Network of Users and Survivors of Psychiatry		Civil societies establishment (NA)	Article
Kiima and Jenkins (2010)	Mental disorders	Kenya	*Bilateral GOs:* UK Department for International Development	*Foundations:* Nuffield International Foundation			Mental health system, capacity-building and research (NA)	Article
Matzopoulos et al. (2012)	Alcohol abuse	South Africa		*CSR:* SABMiller		*Global Health Initiatives*: The Global Fund	Service provision (NA)	Other (brief report)
Moron-Nozaleda et al. (2011)	Mental disorders	Equatorial Guinea	*Bilateral GOs*: Spanish Agency for International Development Cooperation		*NGOs*: Sanitary Religious Federation		Service provision (NA)	Article
Schinina et al. (2016)	Mental disorders and psychosocial problems	Nigeria; South Sudan	*Multilateral GOs*: International Organization for Migration				Service provision and capacity-building, conflict (NA)	Article
AMR								
Bonini et al. (2017)	Mental disorders	Brasil; Peru	*Bilateral GOs*: US National Institute of Mental Health				Research and research capacity-building (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
Caldas de Almeida (2005)	Mental disorders	Latin America and the Caribbean	*Bilateral GOs*: US National Institute of Mental Health; Institute of Neurosciences, Mental Health and Addiction (Canada) *Multilateral GOs*: Pan American Health Organization *Multilateral DFIs*: Inter-American Development Bank				Technical assistance; Research and research capacity-building (NA)	Article
Gallo and Tohen (2010)	Mental disorders	Latin America	*Multilateral GOs*: World Health Organization				Research (NA)	Article
Kohan et al. (2011)	Mental disorders	Peru			*NGOs*: Médecins du Monde, Spain		Build Back Better: service provision, earthquake (NA)	Article
Luis et al. (2004)	Drug abuse	Latin America	*Bilateral GOs*: American, Canadian, Japanese governments *Multilateral GOs*: Interamerican drugs abuse control commission of the Organization of American States				Research capacity-building (NA)	Article
Raviola et al. (2013)	Mental disorders and psychosocial problems	Haiti	*Multilateral GOs*: International Organization for Migration; United Nations Educational, Scientific and Cultural Organization; United Nations Children's Fund		*NGOs*: Action Contre la Faim France; Lutheran World Federation-ACT; Adventist Development and Relief Agency; Ananda Marga Universal Relief Team; Association of Volunteers in International Service; Christian Blind Mission; Comité de la Cour des Enfants de Quettstar; Concern Worldwide; Christian Relief Fund; Food for the Hungry; Haitian Red Cross/Red Crescent Movement; Handicap International; International Medical Corps; Médecins du Monde Canada/France/Spain; Médecins Sans Frontières Belgium/Holland/Spain/Suisse; Mercy Corps; Partners In Health/Zanmi		Service provision, earthquake (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
					Lasante; People in Need; Plan International; Pharmaciens Sans Frontières, Comité International; Red Cross France/Holland; Save the Children; Start International; Terres des Hommes; Viva Rio; World Vision			
Razzouk et al. (2006)	Mental disorders	Brasil	*Multilateral GOs*: World Health Organization				Research (NA)	Article
J. J. Rodriguez (2010)	Mental disorders	Latin America	*Multilateral GOs*: Pan American Health Organization				Mental health system reform (NA)	Article
Schinina et al. (2010)	Mental disorders and psychosocial problems	Haiti	*Multilateral GOs*: International Organization for Migration				Service provision and capacity-building, earthquake (NA)	Article
Wright et al. (2004)	Drug abuse	Latin America	*Multilateral GOs*: Interamerican drugs abuse control commission of the Organization of American States				Research capacity-building (NA)	Article
Yang et al. (2017)	Mental disorders	Colombia; Brazil	*Bilateral GOs*: US National Institute of Mental Health				Research capacity-building (NA)	Other (brief report)
EMR								
Fitzgerald et al. (2012)	Mental disorders and psychosocial problems	Libya	*Multilateral GOs*: International Organisation for Migration; World Health Organization		*NGOs*: Danish Church Aid; International Medical Corps; Hilfswerk Austria International; Mercy Corps; Medecins Sans Frontieres, Belgium; Acts of Mercy; Save The Children		Service provision, conflict (NA)	Article
Kienzler and Amro (2015)	Mental disorders and psychosocial problems	Palestine	*Bilateral GOs*: French Cooperation; Italian Cooperation *Multilateral GOs*: European Union; World Health Organization		*NGOs*: Médecins du Monde		Mental health system reform (NA)	Article
Kunz (2009)	Mental disorders and	Iran	*Bilateral GOs*: Swiss Agency for Development and Cooperation	*CSR:* Nestle´ Iran; Holcim; Sika	*NGOs*: Swiss Academy for Development; Federation 'Ready to Move'		Service provision, earthquake (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
	psychosocial problems			*Foundations*: Degen foundation				
Regan et al. (2015)	Mental disorders	Eastern Mediterranean Region	*Bilateral GOs*: US National Institute of Mental Health	*Foundations:* Wellcome Trust	*NGOs:* Grand Challenges Canada		Research and research capacity (NA)	Article
Sharma and Piachaud (2011)	Mental disorders	Iraq	*Bilateral GOs*: US Agency for International Development; Japan		*Professional associations:* UK Royal College of Psychiatry		Service provision and capacity-building, conflict (NA; volunteer)	Article
EUR								
Harmer et al. (2013)	Drug abuse (HIV/AIDS)	Georgia; Kyrgyzstan; Ukraine				*Global Health Initiatives*: The Global Fund	Civil societies (Georgia US$ 507000; Kyrgyzstan US$ 716580; Ukraine US$ 630000)	Article
Lagerkvist and Jacobsson (2001)	Mental disorders	Bosnia Herzegovina	*Bilateral GOs*: Swedish International Development Cooperation Agency *Multilateral GOs*: United Nations International Children's Emergency Fund *Multilateral DFIs*: The World Bank		*NGOs*: SweBiH		Build Back Better: service provision, capacity-building and research capacity-building, conflict (NA)	Article
Lagerkvist et al. (2013)	Mental disorders	Bosnia Herzegovina	*Bilateral GOs*: Swedish International Development Cooperation Agency		*NGOs*: SweBiH		Build Back Better: capacity-building and research capacity-building, conflict (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
Mackey and Strathdee (2015)	Drug abuse	Ukraine		*Foundations*: Elton John Foundation	*NGOs*: International HIV/AIDS Alliance		Service provision, conflict (NA)	Other (commentary)
Revel (2001)	Mental disorders and psychosocial problems	Belarus			*NGOs*: International Federation of Red Cross Societies		Capacity-building, civilian nuclear disaster (NA)	Other (brief report)
SEAR								
Acharya et al. (2017)	Mental disorders	Nepal			*Research centres*: Harvard Medical School; University of California, San Francisco; University of Washington		Capacity-building and research capacity-building (NA)	Other (commentary)
Blignault et al. (2012)	Mental disorders	Sri Lanka			*Research centres*: Black Dog Institute		Capacity-building (NA)	Article
Esser and Jernigan (2015)	Alcohol abuse	India		*Corporations and SMEs:* Diageo			Foreign Direct Investments (NA)	Article
Fink (2005)	Drug abuse	Thailand			*NGOs*: International Gay and Lesbian Human Rights Commission		Research ($5,000)	Article
Jones et al. (2007)	Mental disorders and psychosocial problems	Indonesia			*NGOs*: International Medical Corps		Build Back Better: service provision, Tsunami (NA)	Article
Keats and Sharma (2014)	Mental disorders and psychosocial problems	Nepal			*NGOs*: Nepal House Society (Canada)		Capacity-building (volunteer)	Article
Kerr et al. (2005)	Drug abuse	Thailand				*Global Health Initiatives*: The Global Fund	Service provision (US$1.3 million by approved application)	Article
Raja et al. (2012)	Mental disorders	Nepal	*Bilateral GOs*: UK Department for International Development		*NGOs*: BasicNeeds		Service provision (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
Ray et al. (2013)	Drug abuse	India	*Bilateral GOs*: US National Institutes of Health; US National Institute of Drug Abuse		*Research centres*: University of California Los Angeles		Research and research capacity-building (NA)	Article
Siriwardhana et al. (2011)	Mental disorders	Sri Lanka	*Bilateral GOs*: US Centres for Disease Control and Prevention, Atlanta *Multilateral GOs*: World Health Organization *Multilateral DFIs*: The World Bank	*Foundations*: The Wellcome Trust	*NGOs*: Social Psychiatry Research Trust		Research and research capacity-building (NA)	Article
WPR								
Amon et al. (2014)	Drug abuse	Cambodia	*Multilateral GOs*: United Nations International Children's Emergency Fund				Service provision (NA)	Other (commentary)
		Lao PDR	*Bilateral GOs*: German Development Agency; US State Department's International Narcotics and Law Enforcement office; Singaporean Embassy *Multilateral GOs*: United Nations Office on Drugs and Crime		*NGOs*: Singapore International Foundation		Service provision (NA)	
		Vietnam	*Bilateral GOs*: Japan *Multilateral DFIs*: The World Bank			*Global health initiatives*: The Global Fund	Service provision (Japan: US$86,197 and US $77,380. World Bank: US$1.5 million)	
		Vietnam	*Bilateral GOs*: Australia; Luxembourg; Sweden; US State Department's International Narcotics and Law Enforcement office; US President's Emergency Plan for AIDS Relief, USAID; US Centers for Disease Control and Prevention				Capacity-building (UNODC: with more than US$1 million provided by Australia, Luxembourg and Sweden)	

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
			Multilateral GOs: United Nations Office on Drugs and Crime					
MacLaren et al. (2015)	Mental disorders	Solomon Islands			*Research centres*: James Cook University (Australia)		Research capacity-building (volunteer)	Other (brief report)
Parry (2011)	Drug abuse	Lao	*Multilateral GOs*: United Nations Office on Drugs and Crime				Service provision (NA)	Other (brief report)
B. Ryan et al. (2015)	Mental disorders	Solomon Islands	*Bilateral GOs*: Australian Aid				Mental health system reform and capacity-building (NA)	Article
Sim (2011)	Mental disorders (children and adolescents)	China		*CSR:* MINDSET[a] *Foundations*: Hong Kong College of Paediatricians Foundation	*NGOs*: Cultural Regeneration Research Society; New SoHo New Life Association *Research centres*: Hong Kong Polytechnic University		Building Back Better: service provision, earthquake (US$ 500,000 + volunteer)	Other (brief report)
Tan et al. (2018)	Mental disorders	China			*NGOs*: Clubhouse International, Clubhouses from Hong Kong and Australia		Capacity-building (NA)	Other (commentary)
Multi-regional								
Eisenbruch et al. (2004)	Mental disorders and psychosocial problems	Uganda; Cambodia			*NGOs*: Transcultural Psychosocial Organization		Service provision and capacity-building, refugees (NA)	Article
Lund et al. (2012)	Mental disorders	Ethiopia; India; Nepal; South Africa; Uganda	*Bilateral GOs*: UK Department for International Development				Research and research capacity-building (NA)	Article
Patel et al. (2006a)	Mental disorders	Zimbabwe; Uganda; Pakistan; Balkans; Kosovo		*Foundations*: The Wellcome Trust	*NGOs*: Tropical Health Education Trust		Capacity-building (NA + volunteer)	Other (brief report)
Raguin (2016)	Mental health (HIV/AIDS)	Sub-Saharan Africa; East Asia	*Bilateral GOs*: French Development Agency; French			*Global Health Initiatives*:	Service provision and	Other (commentary)

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
			government; city council of Paris; French public hospitals			Unitaid; The Global Fund	capacity-building (NA)	
Thornicroft and Semrau (2018)	Mental disorders	Ethiopia; India; Nepal; Nigeria; South Africa; Uganda	*Multilateral GOs*: European Union				Research and research capacity-building (NA)	Other (editorial)
Global								
Aggarwal and Kohrt (2013)	Mental disorders	Global	*Bilateral GOs*: UK Department for International Development; US National Institute of Mental Health *Multilateral GOs*: South Asian Association for Regional Co-Operation				Research and research capacity-building (NA)	Article
Baingana et al. (2015)	Mental disorders	Global	*Bilateral GOs*: US National Institute of Mental Health			*Global Health Initiatives*: Global Alliance for Chronic Diseases	Research (NA)	Article
Chisholm et al. (2007)	Mental disorders	Global	*Bilateral GOs*: UK Department for International Development; US Agency for International Development; Australian Agency for International Development; US National Institute of Mental Health *Multilateral GOs*: World Health Organization; European Commission	*Foundations*: The Wellcome Trust; Bill & Melinda Gates Foundation			Research (The Bill & Melinda Gates Foundation: US$ 0. The Wellcome Trust: US$55 600 604. US National Institute for Mental Health: US$57 300 188)	Article
Gulland (2012)	Mental disorders	Global			*NGOs*: Grand Challenges Canada		Innovation (more than $19 millions)	Other (brief report)
Iwami (2016)	Mental disorders and psychosocial problems	Global	*Bilateral GOs*: Japan Foundation; Japan International Cooperation Agency; Japan Ministry of Foreign Affairs				Service provision, conflict (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multisector partnerships	Activity funded (amount)	Type of publication
Howell et al. (2017)	Mental disorders	Global	*Bilateral GOs*: UK Department for International Development				Research (NA)	Article
Ndetei (2012)	Mental disorders	Global			*NGOs*: Grand Challenges Canada		Research capacity-building (NA)	Other (brief report)
Outreville (2007)	Heath (incl. mental health)	Global		*Corporations and SMEs:* Pfizer; Johnson and Johnson; GlaxoSmith-Kline			Drugs (NA)	Article
Prince et al. (2004)	Dementia	Global	*Multilateral GOs*: World Health Organization	*Foundations*: The Wellcome Trust	*NGOs*: Alzheimer's Disease International		Research and research capacity-building (NA)	Article
Razzouk et al. (2010)	Mental disorders	Global	*Multilateral GOs*: World Health Organization				Research (NA)	Article
Sartorius and Cimino (2012)	Mental disorders	Global		*Foundations*: Lilly Foundation			Advocacy and research (NA)	Article
Saxena et al. (2014)	Mental disorders	Global	*Multilateral GOs*: World Health Organization				Normative (NA)	Other (brief report)
Sawin (2003)	Mental disorders	Global	*Multilateral GOs*: World Health Organization		*Professional associations:* Science, technology and medicine publishers		Research information system (NA)	Other (brief report)
The Lancet (2009)	Mental disorders	Global		*Foundations*: The Wellcome Trust; MacArthur Foundation	*NGOs:* Global Initiative on Psychiatry		Civil societies (NA)	Other (editorial)
Wainberg et al. (2016)	Mental disorders	Global	*Bilateral GOs*: US National Institute of Mental Health; US National Institute of Health Fogarty International Center		*NGOs*: Tropical Health Education Trust		Capacity-building, research and research capacity-building (NA)	Other (editorial)

[a] Philanthropic arm of Jardine Matheson Group, Hong Kong. AFR=African region. AMR=region of the Americas. EMR=Eastern Mediterranean region. EUR=European region. SEAR=South-East Asia region. WPR=Western Pacific region. CSR=corporate social responsibility. DFIs=development finance institutions. GOs=governmental organisations. NCDs=non-communicable disorders. NGOs=nongovernmental organisations. SMEs=small and medium enterprises. NA=not available. UK=United Kingdom. US=United States.

Chapter 4

Philanthropy for global mental health 2000–2015[7]

Abstract

Mental disorders are the leading cause of years lived with disability worldwide. While over three-quarters of people with mental disorders live in low- and middle-income countries (LMICs) and effective low-cost interventions are available, resource commitments are extremely limited. This paper seeks to understand the role of philanthropy in this area and to inform discussions about how to increase investments. Novel analyses of a dataset on development assistance for health were conducted to study philanthropic development assistance for mental health (DAMH) in 156 countries between 2000 and 2015. Philanthropic contributions more than doubled over 16 years, accounting for one-third (US$364.1 million) of total DAMH 2000–2015. However, across health conditions, mental disorders received the lowest amount of philanthropic development assistance for health (0.5%). Thirty-seven of 156 LMICs received no philanthropic DAMH between 2000 and 2015 and just three LMICs (Antigua and Barbuda, Grenada, Saint Vincent and the Grenadines) received more than US$1 philanthropic DAMH per capita over the entire period. Eighty-one percent of philanthropic DAMH was disbursed to unspecified locations. Philanthropic donors are potentially playing a critical role in DAMH, and the paper identifies challenges and opportunities for increasing their impact in sustainable financing for mental health.

4.1. Introduction

Mental disorders (including substance use disorders, dementia and self-harm) are the leading cause of years lived with disability worldwide (19%) (Global Burden of Disease Collaborative Network, 2018e). While over three-quarters of people with mental disorders live in LMICs fewer than 10% receive treatment (WHO, 2018b). Investments in mental disorders in LMICs are extremely limited: only 1.6% of LMIC government health

[7] A version of this chapter was published with the following reference: Iemmi, V. (2020). Philanthropy for global mental health 2000–2015. *Global Mental Health,* 7: e9.

budgets (WHO, 2018b) and 0.4% of development assistance for health (DAH, i.e. financial and in-kind contributions for health disbursed by donors to LMICs) (Charlson et al., 2017). With LMIC government budgets often at capacity, it is paramount to mobilise additional external resources (Patel et al., 2018).

United Nations Sustainable Development Goals recommend external resources for development from a wide range of sources, including philanthropy (UN, 2015b). Philanthropy includes contributions from non-state actors such as foundations, corporations and individuals (Youde, 2018). Over the last two decades their role and influence in global health has increased, bringing additional resources and innovative ideas along with concerns about legitimacy (Youde, 2018) and conflicts of interest (Stuckler et al., 2011). While philanthropic contributions account for 17% of DAH (Dieleman et al., 2016), they represent over one-third of DAMH (Charlson et al., 2017; IHME, 2018a). This paper analyses philanthropic DAMH in 156 countries between 2000 and 2015 to understand the role of philanthropy in this area and inform discussions about how to increase investments to address mental disorders.

4.2. Methods

I merged the Institute for Health Metrics and Evaluation (IHME) dataset on DAH 1990–2017 (IHME, 2018a) with three variables: country classification per region (WHO, 2018a), per country income-level (World Bank, 2018) and country population size (Global Burden of Disease Collaborative Network, 2018c). The IHME DAH dataset reports estimates on primary sources of funding for 172 countries (1990–2017), 24 governments and philanthropic donors (corporations, foundations, individuals) (IHME, 2018b). Estimates are also provided on channels, defined as intermediary organisations disbursing funding to implementing institutions providing support in LMICs. These channels include bilateral governmental organisations (e.g. United Kingdom Department for International Development), multilateral governmental organisations (e.g. World Health Organization, WHO), multilateral development finance institutions (e.g. World Bank), nongovernmental organisations, United States (US) foundations and global health initiatives (e.g. Global Fund to Fight AIDS, Tuberculosis and Malaria). US foundations can be either primary

sources or channels. Recipient countries are classified as unspecified by IHME when information is not available.

I conducted descriptive analyses of philanthropic DAMH by year in absolute and relative terms, and compared with philanthropic DAH to other health conditions (HIV/AIDS, tuberculosis, malaria, other infectious diseases, maternal health, newborn and child health, non-communicable diseases excluding mental health), by channel organisation, and by recipient country. I limited analyses to 2000–2015, due to poor data quality pre-2000, preliminary estimates post-2015 and focus on the Millennium Development Goals era to inform the Sustainable Development Goals era, leaving 168 countries. I excluded 12 small overseas territories or dependencies due to the lack of World Bank country classification. Among excluded countries, only two received non-philanthropic DAMH during the period, Anguilla (2005) and the Cook Islands (2005–2006 and 2008–2012). Values are reported in 2017 United States dollars (US$) adjusted by purchasing-power parity. Analyses were conducted in Stata 14 (StataCorp, 2015). Supplement 4.1 provides further details.

4.3. Results

4.3.1. Annual trends

Between 2000 and 2015, philanthropic DAMH amounted to US$364.1 million, representing one-third of total DAMH (see Supplement 4.2). Philanthropic contributions within DAMH increased substantially, both in absolute terms (more than doubling from US$20 million to US$51.7 million) and in relative terms (30% to 45% of total DAMH; see Figure 4.1). By contrast, over the same period, philanthropic DAH represented a smaller (17%) and constant share of DAH (see Supplement 4.2).

Over 16 years, mental disorders received the lowest amount (0.5%) of philanthropic DAH across health conditions (see Supplement 4.3). Newborn and child health (28%) and HIV/AIDS (17%) received the largest amounts. Over 16 years, philanthropic DAMH increased 2.6-fold (US$20 million to US$52 million), slightly lower than the 3.3-fold increase in philanthropic DAH (see Supplement 4.3). While philanthropic DAH experienced substantial changes over the period for some health conditions (e.g.

newborn and child health, HIV/AIDS), the increase was less sizeable for mental disorders (see Figure 4.2).

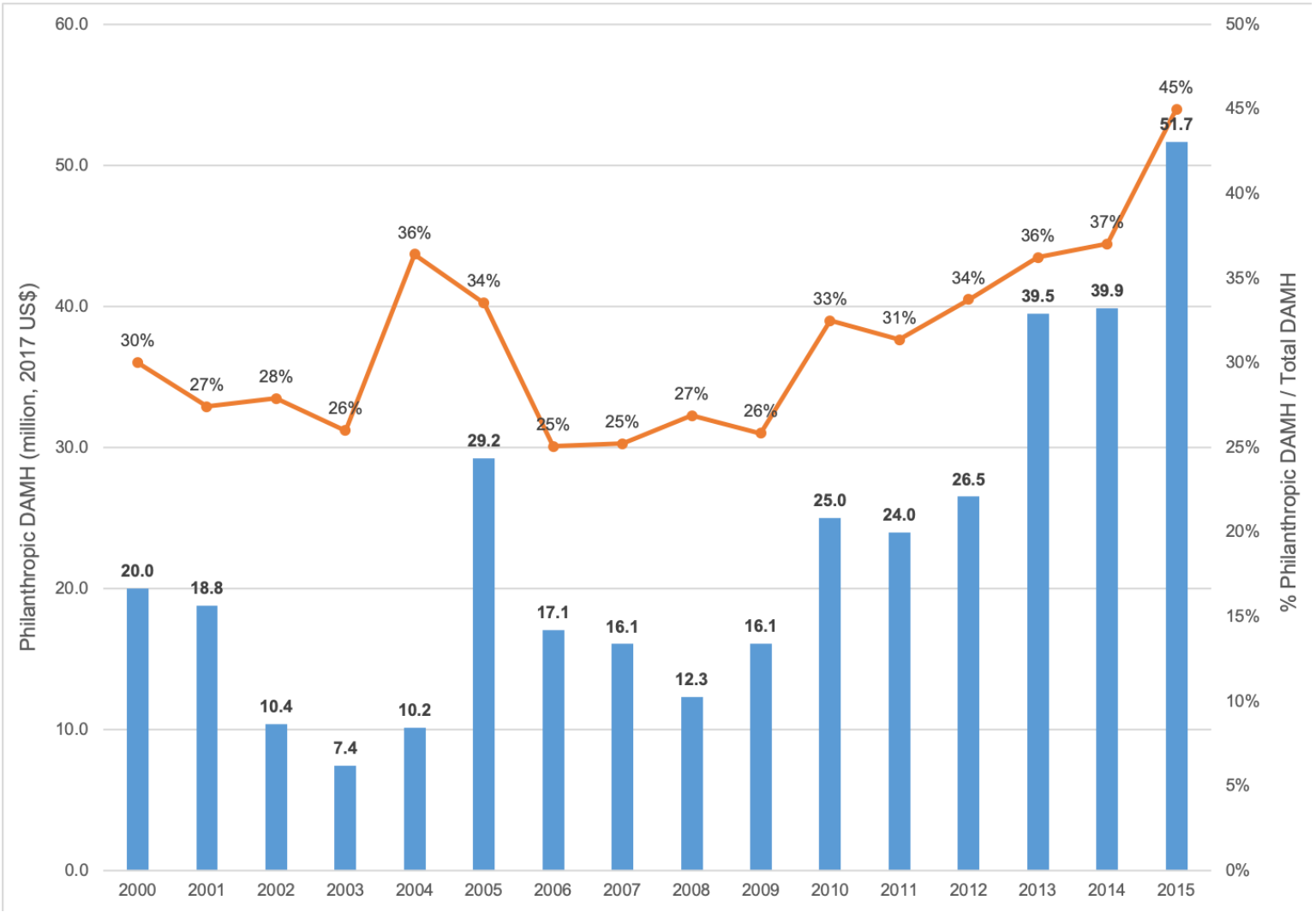


Figure 4.1: Annual philanthropic DAMH as a percentage of total DAMH between 2000 and 2015 (million, 2017 US$). DAMH=development assistance for mental health.

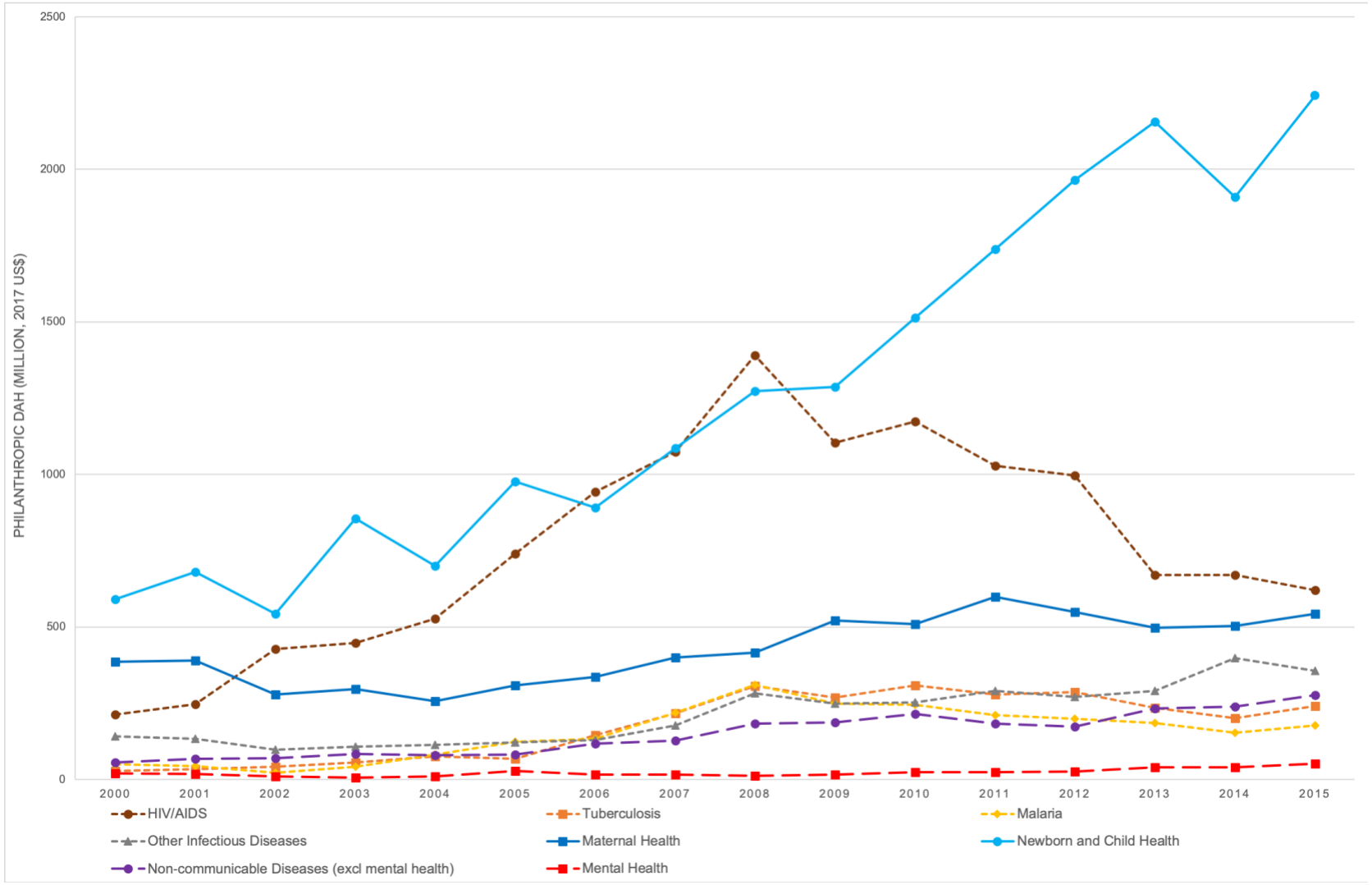


Figure 4.2: Annual philanthropic DAH across health conditions between 2000 and 2015 (million, 2017 US$). DAH=development assistance for health.

4.3.2. Channel organisations

Between 2000 and 2015, nongovernmental organisations were the main channels of philanthropic DAMH (US$254 million), followed by US foundations (US$79 million) and multilateral governmental organisations (US$31 million) (see Supplement 4.4). Over 16 years, the proportion of philanthropic DAMH doubled for nongovernmental organisations (38% to 77%) but more than halved for foundations (32% to 14%) and reduced even more noticeably for multilateral governmental organisations (30% to 9%). Nongovernmental organisations were the main channels of philanthropic DAH (US$39,334 million) followed by US foundations (US$20,357 million), multilateral governmental organisations (US$8,901 million) and global health initiatives (US$3,847 million). Relative shares remained stable over the period.

Among US foundations, Ford Foundation (US$11 million) was the largest channel for philanthropic DAMH over the period, followed by Simons Foundation (US$7 million) and Open Society Fund and Oak Foundation (US$6 million each) (see Figure 4.3). There were variations in the most generous US foundations channelling funding across regions and country-income groups (see Supplement 4.5). Across regions, Ford Foundation was the largest contributor in four regions (Africa, Eastern Mediterranean, South-East Asia and Western Pacific), Open Society Fund in Europe and James S. McDonnel Foundation in the Americas. Similarly, Ford Foundation was the largest contributor in low-income (US$1.7 million) and lower middle-income countries (US$5.2 million), while James S. McDonnel Foundation was the largest in upper middle-income countries (US$2.9 million).

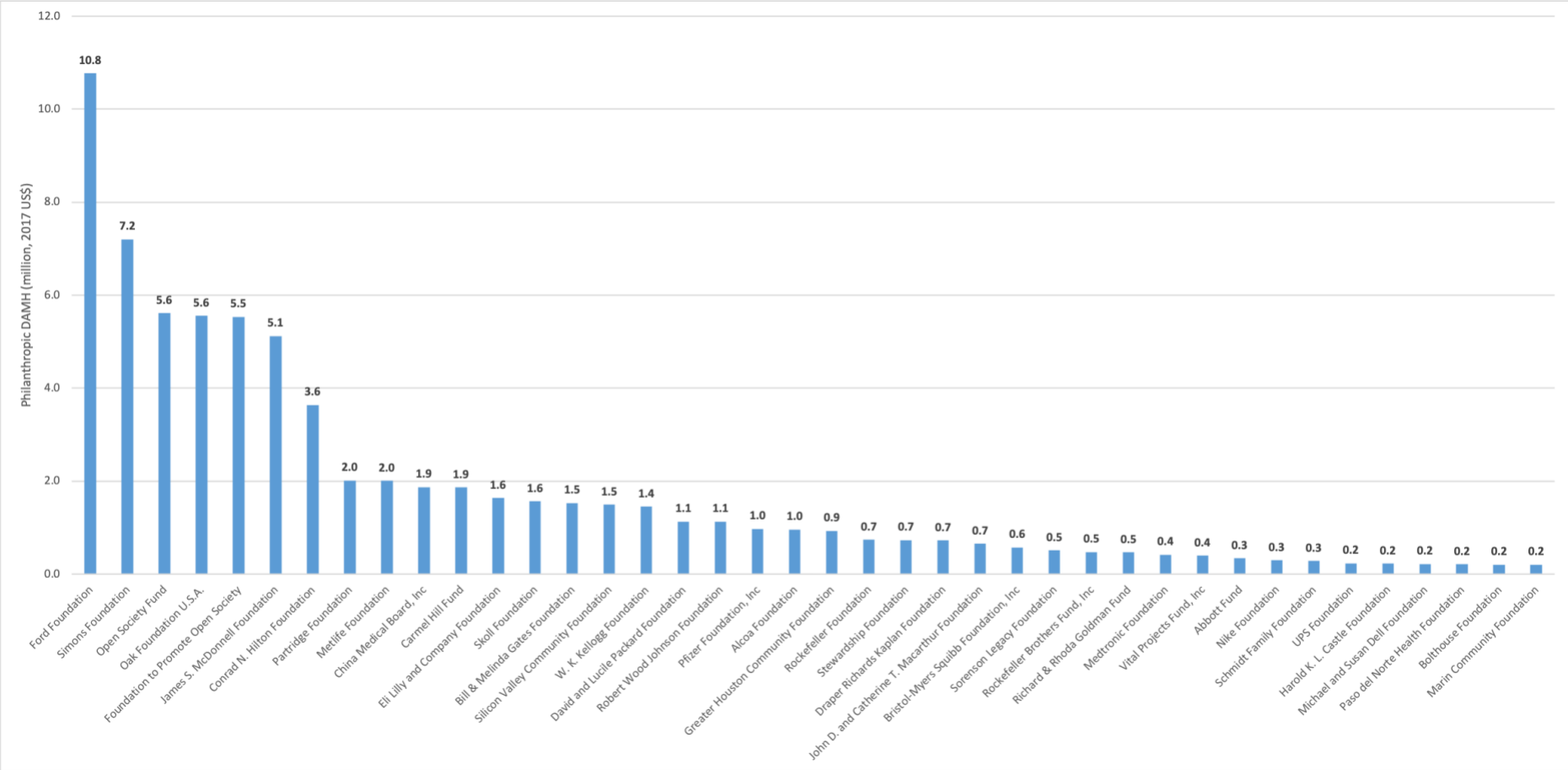


Figure 4.3**:** Cumulative philanthropic DAMH by the top 40 US foundations as channels between 2000 and 2015 (million, 2017 US$). DAMH=development assistance for mental health.

4.3.3. Recipient countries

The majority of philanthropic DAMH between 2000 and 2015 was disbursed to unspecified locations (81%) or multiple regions (10%) (see Supplement 4.6). Amongst known recipient countries, philanthropic DAMH varied across regions and country-income groups. It accounted for more than one-third of DAMH to both Western Pacific (US$11 million) and the Americas (US$12 million) unlike less than 5% to Eastern Mediterranean (US$3 million) and Africa (US$4 million). It represented over one-quarter of DAMH to upper middle-income countries (US$14 million) but 5% to low-income countries (US$6 million). Across known recipient countries, philanthropic DAMH varied broadly. Over 16 years, China was the largest recipient (US$6 million), followed by the Philippines (US$4 million), Mexico (US$3 million) and Brazil (US$2 million). However, considering per capita estimates, only three out of 156 LMICs received more than US$1 per capita over the entire period (Antigua and Barbuda, Grenada, Saint Vincent and the Grenadines) (see Figure 4.4). Thirty-seven countries received no philanthropic DAMH: nine African, four American, two Eastern Mediterranean, seven Eastern European, one South-East Asian and 11 Western Pacific countries (see Supplement 4.6).

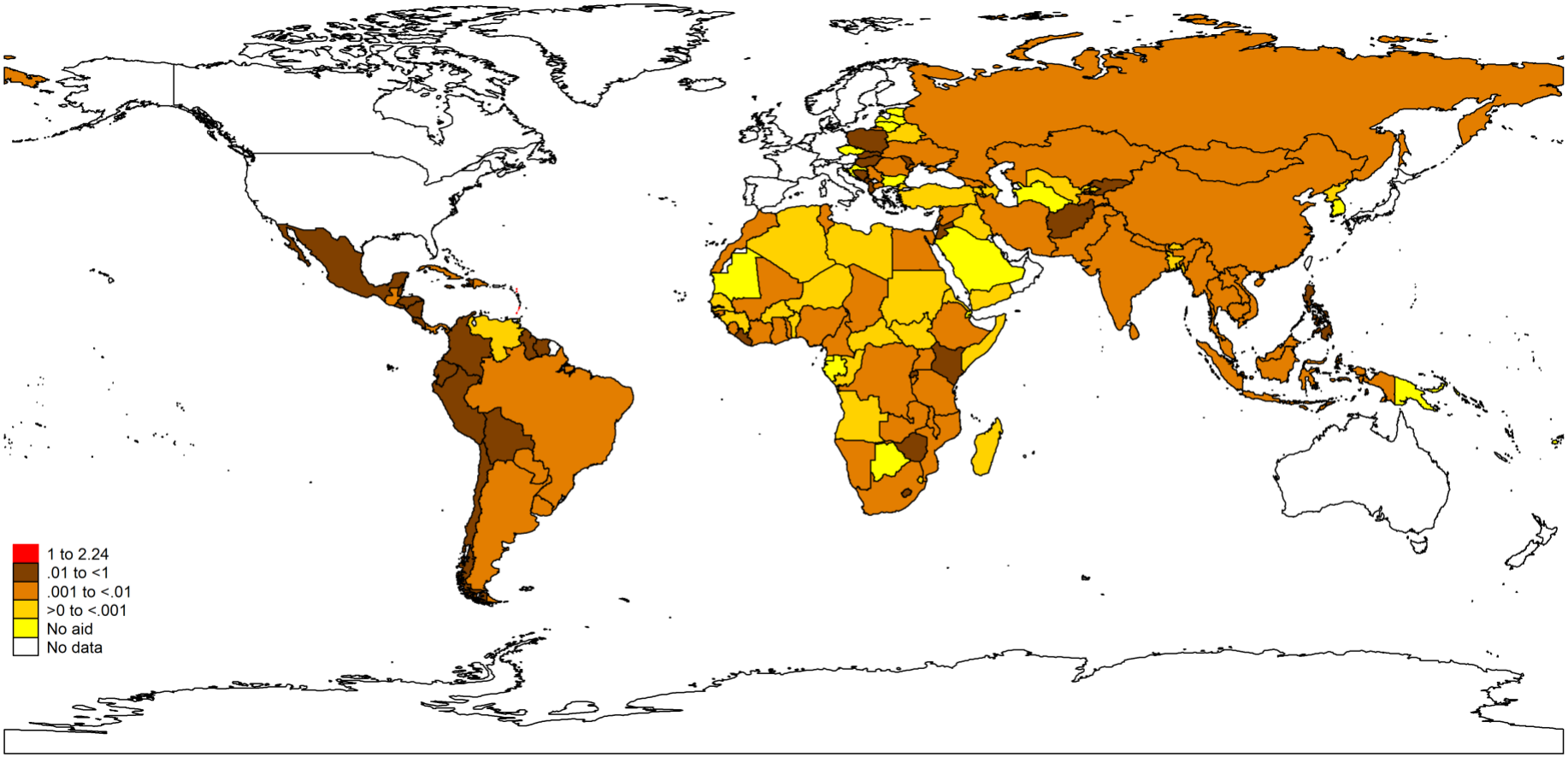


Figure 4.4: Cumulative philanthropic DAMH per capita in recipient countries between 2000 and 2015 (2017 US$).
DAMH=development assistance for mental health.

4.4. Discussion

The paper offers a detailed account of trends in philanthropic DAMH in 156 countries between 2000 and 2015. Philanthropic contributions represented one-third (US$364.1) of total DAMH, more than doubling over 16 years. However, across health conditions, mental disorders received the lowest amount of philanthropic DAH (0.5%). Philanthropic DAMH was mainly channelled through nongovernmental organisations (US$254 million). More than one-third of DAMH to Western Pacific and the Americas was philanthropic. The analyses suggest philanthropic contributions to mental disorders represented a small share of philanthropic DAH but had a substantial and increasing role in DAMH.

These results highlight four main challenges for philanthropic DAMH: scarcity, sustainability, allocation and data. Philanthropic contributions to mental disorders were limited, accounting for a relatively small share of philanthropic DAH when compared to other health conditions, reflecting similar trends in high-income countries (Brousseau et al., 2003). The substantial share of DAMH disbursed by philanthropy raises concerns regarding its sustainability, especially vis-à-vis volatility and fungibility (i.e. partial displacement of domestic health budgets). While volatility concerns reflect broader challenges in DAH (Moon & Omole, 2017), philanthropy accounted for a lower share (less than 10%) of DAH across regions and country-income groups. Fungibility of philanthropic DAMH is partly mitigated by large disbursements through nongovernmental organisations, which have been shown to have positive impacts on domestic government health spending (Lu et al., 2010).

The uneven allocation of philanthropic DAMH means that the region where the majority of people with mental disorders live, South East Asia (26%) (Global Burden of Disease Collaborative Network, 2018e), received only 17% of philanthropic DAMH, raising concerns about equitable allocation. A similar misalignment occurs with total DAMH (Charlson et al., 2017; B. Gilbert et al., 2015) and DAH (Dieleman et al., 2014). While allocation of development assistance is determined by a variety of factors beyond needs, including policy environment and donor interests (Hoeffler & Outram, 2011), stakeholders recognise health needs as of primary concern (Ottersen et al., 2018). Similarly, factors beyond needs drive philanthropic giving, including solicitation, cost-

benefit, altruism, reputation, psychological benefits, values and efficacy (Bekkers & Wiepking, 2011).

Finally, data on philanthropic DAMH are extremely poor in coverage and quality. They focus predominantly on US foundations and they are often insufficiently disaggregated. For instance, organisation names at the source and channel level are available only for Bill & Melinda Gates Foundation (BMGF) and US foundations, respectively. BMGF disbursing 15% of DAMH only as a channel (Charlson et al., 2017) suggests other US foundations could disburse potentially a much larger amount through other channels. This reflects the lack of transparency of philanthropic donors in development (OECD, 2018).

This analysis has limitations due to data constraints. First, data are limited in breadth, focusing predominantly on US foundations. While this may have excluded some key players, almost three-quarters of philanthropic contributions in development originate from the US (OECD, 2018). Second, data are limited in depth, so that estimates are conservative for some organisations. For instance, IHME classifies DAH channelled through global health initiatives and some multilateral governmental organisations (United Nations Children's Fund, Joint United Nations Programme on HIV and AIDS) to health conditions constituting the organisations' focus, although programmes may include mental health components (IHME, 2018b).

Third, data are limited in scope, focusing on health only. This may have excluded sectors directly or indirectly relevant to mental health (e.g. education, employment) (Lund et al., 2018). Fourth, data are limited in granularity. For instance, the majority of contributions are disbursed to unspecified countries and no information is reported on activities funded and populations targeted, limiting interpretations. Finally, inclusion of some neurological conditions (epilepsy, headache disorders, Parkinson's disease) reflects prior conceptualisation of mental disorders (WHO, 2008b) and may have increased estimates.

The analyses in this paper show that, among external actors (Iemmi, 2019a), philanthropic donors are already playing critical, albeit limited and imperfect, roles in DAMH. I suggest four opportunities for maximising their impact. First, philanthropic

donors could initiate or increase contributions to mental disorders to reflect their growing relative importance as part of the epidemiological transition in LMICs (GBD 2017 DALYs and HALE Collaborators, 2018). They could scale-up their efforts through their priorities and competitive advantages, as illustrated for 15 large international foundations by the Lancet Commission on Global Mental Health and Sustainable Development (Patel et al., 2018, online Supplementary Table S5).

Second, in line with Sustainable Development Goals (UN, 2015b) and Addis Ababa Action Agenda (UN, 2015a), they could adopt a sustainable approach to disbursements in order to assure local ownership and impact beyond funded activities. They could systematically encourage partnerships between implementing organisations and local actors to facilitate an incremental transition to domestic delivery and funding (WHO, 2013a). Third, philanthropic DAMH could be allocated within organisations' strategic roles and priorities, but more equitably across countries, reflecting local needs (e.g. burden of mental disorders) (Global Burden of Disease Collaborative Network, 2018e), capacity (e.g. mental health system) (WHO, 2018b) and recommended interventions and approaches (Patel et al., 2016a). Finally, philanthropic donors could increase transparency, collecting and sharing better and more disaggregated data. This could inform the work of organisations tracking resources (IHME, 2018a; OECD, 2017) and monitoring global efforts in mental health (Saxena et al., 2019), paramount for informing funding decision and ultimately for sustainable financing for global mental health. Additional external resources for global mental health are urgently needed: philanthropy is a crucial actor and could amplify its impact embracing greater sustainability, better allocation and transparency.

Supplementary material

Supplement 4.1: Data sources and analyses

Data sources

I merged the Institute for Health Metrics and Evaluation (IHME) dataset on development assistance for health (DAH) 1990–2017 (IHME, 2018a) with three variables: country classification per region (WHO, 2018a), per country income-level (World Bank, 2018), and country population size (Global Burden of Disease Collaborative Network, 2018c). DAH includes "in-kind and financial resources transferred from primary development channels to low-income and middle-income countries for the purpose of maintaining or improving health" (Dieleman et al., 2016, p. 2537).

The IHME DAH dataset reports semi-aggregated data on DAH in 172 countries between 1990 and 2017 (IHME, 2018a). It reports estimates on resource flows from funding sources (see Supplementary Table 4.1.1), through *channel* organisations, defined as intermediary organisations disbursing funding to implementing institutions providing support in low- and middle-income countries (see Supplementary Table 4.1.2). The dataset is built by IHME using different sources: Development Assistance Committee and Creditor Reporting System databases (Organisation for Economic Co-operation and Development), financial reports, audited financial statements, United States Agency for International Development Report of Voluntary Agencies, Foundation Center's grant database, Bill & Melinda Gates Foundation online grant database, Internal Revenue Service 990 tax forms, and personal correspondences (Global Burden of Disease Health Financing Collaborator Network, 2018b).

These data, in an aggregated form, exists publicly on the Global Health Data Exchange (IHME, 2018a). A detailed dataset was obtained from IHME in September 2018, including values omitted in the publicly available dataset (i.e. values greater than US$0 but less than US$500, or less than US$0 and greater than -US$500). In addition, disaggregated data for United States foundations (variable *channel*, category *Other US Foundations* in Table 2) were obtained in June 2018.

It is worth noting that development assistance for mental health in the IHME DAH dataset captures not only mental disorders (including substance use disorders, dementia, and self-harm) but also some neurological conditions (epilepsy, headache disorders, Parkinson's disease). This reflects previous conceptualisations of mental disorders (WHO, 2008b). At the time of the analyses for this paper it was not possible to access data on development assistance for mental health excluding those neurological conditions.

Donors	Description
Governments (OECD DAC members)	Australia; Austria; Belgium; Canada; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Japan; Korea; Luxembourg; Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; United Kingdom; United States
Governments (non OECD DAC members)	United Arab Emirates
Bill & Melinda Gates Foundation	Contribution from the Bill & Melinda Gates Foundation to NGOs
Corporate donations	Private sector in-kind contributions to NGOs
Private (other)	Private sector financial contributions, including corporations, foundations (within and outside the United States), individuals, etc.
Debt repayments	Debt repayments (World Bank; regional development banks)
Other	Interest, transfer of funds, refunds, miscellaneous income earned by channel
Unallocable	Unspecified donor sector

Supplementary Table 4.1.1: Funding sources.
Adapted from the dataset user guide (IHME, 2018a). NGOs=nongovernmental organisations; OECD-DAC=Organisation for Economic Co-operation and Development's Development Assistance Committee. Bold=philanthropic donors included in the analyses.

Channel type	Organisations
Bilateral governmental organisations	Australia; Austria; Belgium; Canada; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Japan; Korea; Luxembourg; Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; United Arab Emirates; United Kingdom; United States
Multilateral organisations	European Commission; Pan-American Health Organization; Joint United Nations Programme on HIV/AIDS; United

Channel type	Organisations
	Nations Population Fund; United Nations Children's Fund; World Health Organization
Multilateral Development Finance Institutions	African Development Bank; Asian Development Bank; Inter-American Development Bank; World Bank, International Bank for Reconstruction and Development; World Bank, International Development Association
Foundations	Bill & Melinda Gates Foundation; Other United States Foundations
Nongovernmental Organisations	Sample of United States-based and internationally based nongovernmental organisations receiving support from the United States government
Global Health Initiatives	Gavi, the Vaccine Alliance; Global Fund to Fight AIDS, Tuberculosis, and Malaria; Unitaid

Supplementary Table 4.1.2: Channel organisations.
Adapted from the dataset user guide (IHME, 2018a). Bold=philanthropic donors included in the additional disaggregated dataset.

Analyses

I conducted descriptive analyses of annual philanthropic development assistance for mental health (DAMH) in absolute and relative terms, by channel organisation, by recipient country, and compared with philanthropic DAH to other health conditions (HIV/AIDS, tuberculosis, malaria, other infectious diseases, maternal health, newborn and child health, non-communicable diseases excluding mental health). Philanthropic donors included in the analyses are corporations, foundations, individuals (see Supplementary Tables 4.1.1 and 4.1.2). Analyses were limited to 2000–2015, due to poor data quality pre-2000, preliminary estimates post-2015 and to focus on the Millennium Development Goals era to inform the Sustainable Development Goals era, leaving 168 countries.

I excluded 12 small overseas territories or dependencies due to lack of World Bank country classification: Anguilla, Cook Islands, Mayotte, Montserrat, Nauru, Niue, Saint Helena, Saint Martin, Tokelau, Turks and Caicos Islands, Tuvalu, Wallis and Futuna Islands. None of them received philanthropic DAMH. Only two countries received non-philanthropic DAMH during the period, Anguilla (2005) and the Cook Islands (2005–2006 and 2008–2012). To reflect disbursements to recipient countries dissolved or created during the period of study (Kosovo, Serbia, South Sudan), the World Bank country

classification was imputed using the first observation carried backward and the last observation carried forward.

Transfers between channels captured elsewhere in the database were excluded to avoid double-counting. Values are reported in 2017 United States dollars (US$) adjusted by purchasing-power parity. Analyses were conducted in Stata 14 (StataCorp, 2015).

Supplement 4.2: Annual philanthropic DAMH and annual philanthropic DAH between 2000 and 2015 (million, 2017 US$) and as proportion of annual total DAMH and DAH

	Philanthropic DAMH		Philanthropic DAH	
	US$ (million)	% Total DAMH	US$ (million)	% Total DAH
2000	20.0	29.5%	2,053.6	17.1%
2001	18.8	27.4%	2,232.9	17.8%
2002	10.4	27.9%	2,148.7	15.1%
2003	7.4	26.0%	2,588.3	15.7%
2004	10.2	36.4%	2,617.6	14.0%
2005	29.2	33.5%	3,481.5	16.6%
2006	17.1	25.1%	3,859.7	16.9%
2007	16.1	25.2%	4,373.3	16.7%
2008	12.3	26.9%	5,715.2	18.6%
2009	16.1	25.8%	5,417.6	17.4%
2010	25.0	32.5%	5,810.9	16.7%
2011	24.0	31.4%	6,192.6	17.0%
2012	26.5	33.7%	6,274.0	17.0%
2013	39.5	36.2%	6,757.7	16.8%
2014	39.9	37.0%	6,233.9	16.9%
2015	51.7	45.0%	6,681.9	18.5%
Total	364.1	32.5%	72,439.5	17.0%

DAH=development assistance for health. DAMH=development assistance for mental health.

Supplement 4.3. Annual philanthropic DAH for mental health and other health conditions between 2000 and 2015 (million, 2017 US$)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Mental Health	20.0	18.8	10.4	7.4	10.2	29.2	17.1	16.1	12.3	16.1	25.0	24.0	26.5	39.5	39.9	51.7	364.1
HIV/AIDS	213.7	246.4	427.9	447.7	528.3	741.1	942.5	1,074.8	1,389.5	1,104.0	1,174.6	1,027.8	996.1	671.4	671.3	621.8	12,278.9
Tuberculosis	28.8	34.8	42.4	56.6	75.6	68.4	145.0	216.5	306.1	268.0	307.9	279.7	287.6	236.0	201.0	240.4	2,794.8
Malaria	51.1	44.0	22.8	43.2	82.5	124.6	132.8	219.8	310.4	249.3	245.2	210.3	199.4	185.3	153.0	178.2	2,451.9
Other Infectious Diseases	141.8	134.5	97.5	108.0	113.0	122.7	128.8	176.5	283.7	249.7	252.8	291.1	271.5	289.9	398.3	356.9	3,416.8
Maternal Health	386.7	390.0	278.7	296.8	256.6	309.5	336.5	399.6	415.3	520.8	509.6	599.9	549.4	497.2	503.9	543.2	6,793.8
Newborn and Child Health	591.9	680.3	543.3	856.4	700.6	976.0	890.4	1,086.7	1,272.8	1,287.5	1,513.4	1,739.1	1,964.6	2,156.3	1,909.1	2,241.5	20,409.9
Non-communicable Diseases (excl. mental health)	56.8	67.8	70.3	83.7	80.1	82.7	118.3	128.7	183.6	186.9	214.9	183.5	173.8	233.9	240.0	276.7	2,381.6
Health Sector Programme Support	186.8	205.4	176.6	214.1	212.1	254.9	232.8	231.1	441.4	484.3	557.4	544.6	541.9	752.0	676.0	735.1	6,446.5
Other Health Focus Areas	376.0	410.9	478.8	474.5	558.7	772.3	915.5	823.6	1,100.1	1,050.9	1,010.1	1,292.6	1,263.3	1,696.2	1,441.3	1,436.3	15,101.1
Total	2,053.6	2,232.9	2,148.7	2,588.3	2,617.6	3,481.5	3,859.7	4,373.3	5,715.2	5,417.6	5,810.9	6,192.6	6,274.0	6,757.7	6,233.9	6,681.9	72,439.5

DAH=development assistance for health. DAMH=development assistance for mental health. HIV/AIDS=human immunodeficiency virus infection and acquired immune deficiency syndrome.

Supplement 4.4. Annual philanthropic DAMH and annual philanthropic DAH between 2000 and 2015, by channel organisation (million, 2017 US$)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Philanthropic DAMH																	
Bilateral GOs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Multilateral GOs	5.9	5.8	1.1	1.1	0.8	0.7	0.9	0.9	0.0	0.0	0.0	0.0	3.0	3.3	3.0	4.5	30.9
Multilateral DFIs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US Foundations	6.5	4.8	5.8	3.3	4.9	2.6	2.1	1.9	3.0	4.0	3.8	3.0	9.0	6.1	11.2	7.2	79.3
NGOs	7.6	8.2	3.5	3.0	4.5	25.9	14.1	13.2	9.3	12.1	21.2	21.0	14.5	30.1	25.8	40.0	254.0
GHIs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub-Total	20.0	18.8	10.4	7.4	10.2	29.2	17.1	16.1	12.3	16.1	25.0	24.0	26.5	39.5	39.9	51.7	364.1
Philanthropic DAH																	
Bilateral GOs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Multilateral GOs	317.6	364.9	272.8	269.0	339.8	413.1	423.4	477.8	624.3	628.9	847.8	920.8	675.4	729.6	675.3	920.9	8,901.3
Multilateral DFIs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US Foundations	624.7	541.0	589.6	847.0	563.5	734.1	1,008.9	1,257.7	1,743.8	1,679.9	1,521.7	1,698.8	1,771.9	1,826.4	1,888.2	2,059.6	20,356.8
NGOs	1,107.9	1,182.4	1,284.9	1,449.1	1,678.7	2,200.1	2,341.5	2,401.8	3,099.5	2,887.1	3,201.4	3,147.0	3,381.0	3,666.2	3,240.5	3,065.2	39,334.2
GHIs	3.4	144.6	1.4	23.2	35.7	134.1	86.0	236.0	247.6	221.6	239.9	426.0	445.8	535.6	429.9	636.2	3,847.2
Sub-Total	2,053.6	2,232.9	2,148.7	2,588.3	2,617.6	3,481.5	3,859.7	4,373.3	5,715.2	5,417.6	5,810.9	6,192.6	6,274.0	6,757.7	6,233.9	6,681.9	72,439.5

DAH=development assistance for health. DAMH=development assistance for mental health. DFIs=development finance institutions. GHIs=global health initiatives. GOs=governmental organisations. NGOs=nongovernmental organisations. US=United States.

Supplement 4.5. Cumulative philanthropic DAMH by the top 10 United States foundations as channels between 2000 and 2015, by region and country income group (thousand, 2017 US$)

	Philanthropic DAMH (US$, thousand)
Income Group	
LICs	
Ford Foundation	1,736
David and Lucile Packard Foundation	727
Rockefeller Foundation	447
Open Society Fund	425
Foundation to Promote Open Society	257
Draper Richards Kaplan Foundation	236
Michael and Susan Dell Foundation	165
Bristol-Myers Squibb Foundation, Inc	143
Mulago Foundation	123
James S. McDonnell Foundation	115
LMCs	
Ford Foundation	5,243
Partridge Foundation	2,011
Open Society Fund	1,418
W. K. Kellogg Foundation	1,243
Foundation to Promote Open Society	1,063
China Medical Board, Inc	948
James S. McDonnell Foundation	385
Eli Lilly and Company Foundation	344
Sorenson Legacy Foundation	310
Abbott Fund	292
UMCs	
James S. McDonnell Foundation	2,913
Foundation to Promote Open Society	2,100
Open Society Fund	1,834
Ford Foundation	990
Greater Houston Community Foundation	927
China Medical Board, Inc	921
MetLife Foundation	920
Alcoa Foundation	470
Harold K. L. Castle Foundation	223
Paso del Norte Health Foundation	207
WHO Region	
AFR	
Ford Foundation	1,325
Rockefeller Foundation	371

	Philanthropic DAMH (US$, thousand)
David and Lucile Packard Foundation	350
Draper Richards Kaplan Foundation	306
Michael and Susan Dell Foundation	201
Open Society Fund	193
Mulago Foundation	161
Oprah Winfrey Foundation	134
Bristol-Myers Squibb Foundation, Inc	124
William and Flora Hewlett Foundation	115
AMR	
James S. McDonnell Foundation	2,978
Foundation to Promote Open Society	2,452
Open Society Fund	2,020
W. K. Kellogg Foundation	1,435
MetLife Foundation	920
Alcoa Foundation	482
Harold K. L. Castle Foundation	223
Paso del Norte Health Foundation	207
Ford Foundation	195
Dalio Foundation, Inc	180
EMR	
Ford Foundation	666
Foundation to Promote Open Society	573
Sorenson Legacy Foundation	506
David and Lucile Packard Foundation	416
Open Society Fund	269
Eli Lilly and Company Foundation	241
Robert Wood Johnson Foundation	112
Alphawood Foundation	104
Draper Richards Kaplan Foundation	83
Johnson & Johnson Family of Companies Foundation	74
EUR	
Open Society Fund	862
James S. McDonnell Foundation	449
Pfizer Foundation, Inc	360
Bristol-Myers Squibb Foundation, Inc	347
Foundation to Promote Open Society	211
Medtronic Foundation	189
Ford Foundation	156
John D. and Catherine T. Macarthur Foundation	120
Eli Lilly and Company Foundation	112
Charles Stewart Mott Foundation	110
SEAR	
Ford Foundation	671
Open Society Fund	291

	Philanthropic DAMH (US$, thousand)
Abbott Fund	249
Nike Foundation	235
Robert Wood Johnson Foundation	160
David and Lucile Packard Foundation	156
Foundation to Promote Open Society	144
Annie E. Casey Foundation	116
Rockefeller Foundation	79
Alphawood Foundation	42
WPR	
Ford Foundation	4,956
Partridge Foundation	2,011
China Medical Board, Inc	1,869
Greater Houston Community Foundation	927
Bloomberg Philanthropies	173
UPS Foundation	157
Starr Foundation	141
Timken Foundation of Canton	84
Johnson & Johnson Family of Companies Foundation	68
Rockefeller Foundation	63
Multiple Regions	
Simons Foundation	7,087
Oak Foundation U.S.A.	5,554
Conrad N. Hilton Foundation	3,560
Foundation to Promote Open Society	2,088
Open Society Fund	1,929
Carmel Hill Fund	1,864
Skoll Foundation	1,532
Silicon Valley Community Foundation	1,481
Eli Lilly and Company Foundation	1,216
MetLife Foundation	1,088
Robert Wood Johnson Foundation	826
Stewardship Foundation	715
Unallocated/Unspecified	
Ford Foundation	2,525
James S. McDonnell Foundation	1,697
Bill & Melinda Gates Foundation	1,513
Rockefeller Brothers Fund, Inc	468
Alcoa Foundation	407
John D. and Catherine T. Macarthur Foundation	391
Draper Richards Kaplan Foundation	334
Schmidt Family Foundation	279
Pfizer Foundation, Inc	224
Sall Family Foundation, Inc	128
Helen Bader Foundation, Inc	112

	Philanthropic DAMH (US$, thousand)
State Street Foundation	105

The table reports philanthropic DAMH disbursed by United States foundations as channels (i.e. intermediary organisations disbursing funding to implementing institutions providing support in low- and middle-income countries). It is worth noting that a much larger amount could have been disbursed by United States foundations through other channels (e.g. nongovernmental organisations and United Nations agencies). DAMH=development assistance for mental health. AFR=African region. AMR=region of the Americas. EMR=Eastern Mediterranean region. EUR=European Region. SEAR=South-East Asia region. WPR=Western Pacific region. LICs=low-income countries. LMCs=lower middle-income countries. UMCs=upper middle-income countries.

Supplement 4.6. Cumulative philanthropic DAMH and philanthropic DAH between 2000 and 2015, by region, income group, country (thousand, 2017 US$)

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Total	364,134.6	32.5%	72,439,528.0	17.0%
Income Group				
LICs	5,485.4	5.0%	5,132,183.0	4.4%
LMCs	15,659.7	12.3%	4,498,688.5	5.6%
UMCs	13,998.3	25.8%	1,318,289.9	3.7%
HICs	38.4	78.5%	1,768.2	17.6%
WHO Region				
AFR	3,867.3	4.7%	5,718,036.5	4.6%
AMR	11,807.0	33.7%	1,023,675.8	3.4%
EMR	3,226.9	3.7%	927,386.6	4.5%
EUR	3,095.4	7.7%	311,805.8	2.9%
SEAR	2,305.0	11.6%	2,118,801.3	7.5%
WPR	10,880.3	42.5%	851,223.3	4.7%
Country				
Afghanistan	408.7	1.7%	94,195.7	2.7%
Albania	189.1	4.9%	11,487.3	3.2%
Algeria	6.7	1.1%	1,086.4	1.8%
Angola	4.5	1.0%	66,392.0	4.5%
Antigua and Barbuda	188.1	98.5%	313.0	6.6%
Argentina	348.4	68.1%	34,063.2	0.9%
Armenia	1.3	0.2%	6,993.8	1.8%
Azerbaijan	1.1	0.2%	10,192.5	3.3%
Bahrain	0.0	–	0.0	0.0%
Bangladesh	14.6	1.0%	317,378.9	6.9%
Barbados	0.0	–	5.8	0.0%
Belarus	2.7	3.6%	8,260.7	5.3%
Belize	99.2	74.2%	3,681.8	6.0%
Benin	2.0	0.9%	53,032.8	3.9%
Bhutan	0.1	0.9%	3,699.9	4.8%
Bolivia	408.8	10.3%	45,243.5	3.5%
Bosnia and Herzegovina	813.1	5.6%	10,098.0	2.2%
Botswana	0.0	–	92,161.1	5.5%
Brazil	1,854.1	34.5%	108,092.7	3.2%
Bulgaria	0.0	–	4,838.5	1.1%
Burkina Faso	2.6	1.4%	99,125.9	5.4%

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Burundi	38.5	1.0%	48,216.0	4.3%
Cambodia	46.1	0.9%	97,067.5	4.1%
Cameroon	177.7	26.2%	89,223.5	6.5%
Cape Verde	0.0	–	930.7	0.5%
Central African Republic	3.6	0.9%	18,448.4	5.5%
Chad	13.7	2.9%	34,505.7	4.9%
Chile	1,573.5	87.6%	9,716.1	8.6%
China	6,329.3	80.1%	411,860.8	9.6%
Colombia	664.8	47.2%	82,663.2	2.3%
Comoros	0.0	–	2,908.3	3.0%
Congo (Brazzaville)	0.6	10.5%	13,023.5	5.4%
Costa Rica	113.0	62.7%	4,269.2	3.2%
Cote d'Ivoire	28.1	1.5%	71,733.1	3.7%
Croatia	0.0	0.0%	268.0	0.3%
Cuba	41.1	5.3%	10,840.0	4.7%
Czech Republic	0.0	–	320.1	100.0%
Democratic Republic of the Congo	221.5	1.6%	290,804.2	5.2%
Djibouti	0.0	–	5,482.3	3.0%
Dominica	0.0	–	327.9	4.1%
Dominican Republic	59.7	8.2%	29,296.5	2.0%
Ecuador	197.8	29.6%	38,981.8	5.9%
Egypt	354.1	9.6%	44,569.3	3.0%
El Salvador	877.3	95.5%	19,484.9	3.0%
Equatorial Guinea	0.0	–	3,085.5	5.3%
Eritrea	2.1	0.9%	22,054.6	4.1%
Estonia	0.0	–	202.6	2.7%
Ethiopia	287.3	14.5%	617,481.4	6.1%
Federated States of Micronesia	0.0	–	1,600.8	0.6%
Fiji	0.0	0.0%	2,554.7	1.5%
Gabon	0.0	–	7,727.8	6.0%
Georgia	7.1	0.2%	10,760.8	1.9%
Ghana	53.5	2.3%	224,224.5	5.6%
Grenada	232.9	98.6%	832.9	8.2%
Guatemala	127.2	78.0%	48,866.5	3.2%
Guinea	0.0	10.5%	48,181.0	4.9%
Guinea-Bissau	2.5	0.9%	11,619.4	3.7%
Guyana	11.3	4.9%	9,187.1	2.4%
Haiti	256.9	29.4%	106,615.6	3.5%
Honduras	448.3	12.7%	38,122.2	3.5%
Hungary	243.4	100.0%	4,296.7	56.0%
India	1,257.0	24.4%	1,368,016.4	10.2%
Indonesia	485.6	27.4%	163,044.1	3.3%

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Iran	212.3	86.2%	8,573.0	3.4%
Iraq	6.1	0.8%	8,440.9	0.5%
Jamaica	51.9	74.2%	12,333.0	3.2%
Jordan	284.3	13.2%	10,883.1	1.2%
Kazakhstan	30.9	11.5%	9,494.2	2.0%
Kenya	1,300.6	34.9%	434,123.8	4.2%
Kiribati	0.0	0.0%	659.7	0.9%
Kosovo	54.0	1.7%	3,725.1	3.0%
Kyrgyzstan	62.9	28.3%	13,873.4	2.1%
Laos	30.1	9.8%	25,829.2	3.1%
Latvia	0.0	–	114.0	0.1%
Lebanon	31.7	0.7%	5,489.2	2.4%
Lesotho	21.3	92.3%	26,566.8	2.9%
Liberia	137.5	7.4%	92,861.2	6.9%
Libya	4.9	0.7%	667.9	0.7%
Lithuania	0.0	–	78.9	0.3%
Macedonia	2.8	1.3%	3,989.3	2.4%
Madagascar	17.6	0.9%	74,886.7	4.6%
Malawi	125.2	1.3%	199,058.0	4.3%
Malaysia	80.6	43.2%	5,975.8	9.3%
Maldives	0.0	–	406.9	2.4%
Mali	51.8	8.5%	108,199.0	4.7%
Marshall Islands	0.0	–	1,627.5	1.3%
Mauritania	0.0	–	10,708.2	4.0%
Mauritius	0.0	–	986.7	5.7%
Mexico	3,361.6	90.0%	214,112.6	6.3%
Moldova	668.8	8.9%	20,095.9	4.0%
Mongolia	5.2	0.4%	6,861.6	1.8%
Montenegro	8.6	2.8%	1,235.0	2.0%
Morocco	315.3	35.6%	22,383.1	1.4%
Mozambique	55.8	1.3%	171,316.4	2.3%
Myanmar	224.1	87.4%	89,266.4	6.8%
Namibia	18.8	11.3%	28,034.6	1.8%
Nepal	31.6	1.0%	67,265.7	3.6%
Nicaragua	115.8	15.6%	40,251.0	3.0%
Niger	10.1	1.1%	62,211.8	5.5%
Nigeria	312.2	17.8%	892,400.7	7.2%
North Korea	0.3	0.4%	14,018.2	8.3%
Oman	0.0	–	0.0	0.0%
Pakistan	632.4	48.4%	501,260.1	8.7%
Palau	0.0	–	199.8	1.1%
Palestine	813.0	2.0%	12,146.5	1.2%
Panama	10.2	29.8%	5,176.1	2.1%

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Papua New Guinea	0.0	–	34,662.1	2.0%
Paraguay	16.1	3.7%	10,540.4	3.4%
Peru	513.6	11.7%	139,581.8	7.5%
Philippines	3,744.5	84.6%	68,001.1	2.5%
Poland	228.4	100.0%	4,045.4	8.7%
Romania	202.8	100.0%	11,421.2	1.2%
Russia	336.6	100.0%	38,840.5	4.9%
Rwanda	103.7	1.0%	165,849.8	4.3%
Saint Kitts and Nevis	0.0	–	141.7	2.0%
Saint Lucia	22.0	4.3%	1,009.2	1.7%
Saint Vincent and the Grenadines	164.8	6.0%	593.9	3.2%
Samoa	0.0	–	349.6	0.3%
Sao Tome and Principe	0.0	–	3,480.1	3.2%
Saudi Arabia	0.0	–	1.1	0.2%
Senegal	6.6	1.0%	91,509.5	4.1%
Serbia	73.4	4.3%	9,314.6	2.3%
Seychelles	0.0	–	363.2	3.4%
Sierra Leone	25.4	0.9%	70,217.8	6.6%
Slovakia	43.3	100.0%	161.4	0.4%
Solomon Islands	0.0	0.0%	3,756.6	1.1%
Somalia	4.6	1.0%	27,953.5	4.8%
South Africa	373.4	6.3%	344,333.3	3.9%
South Korea	0.0	–	51.7	100.0%
South Sudan	0.1	10.5%	39,223.6	3.0%
Sri Lanka	81.9	1.2%	16,421.1	2.8%
Sudan	30.1	4.0%	113,264.6	8.3%
Suriname	25.4	99.2%	4,924.3	2.8%
Swaziland	0.1	0.9%	30,218.2	4.5%
Syria	69.5	1.0%	11,679.8	6.8%
Tajikistan	19.9	35.2%	17,941.1	3.0%
Tanzania	221.3	5.4%	364,214.2	3.5%
Thailand	190.9	27.6%	72,798.2	6.8%
The Gambia	0.1	2.5%	40,551.2	10.4%
Timor Leste	18.9	3.9%	6,485.4	2.4%
Togo	8.8	0.9%	27,858.2	6.3%
Tonga	0.0	–	347.6	0.3%
Trinidad and Tobago	0.0	–	20.3	0.0%
Tunisia	59.8	16.3%	4,091.6	1.7%
Turkey	47.7	3.9%	28,336.9	2.6%
Turkmenistan	0.0	–	2,528.5	1.8%
Uganda	68.1	3.0%	275,958.9	3.4%
Ukraine	57.2	14.3%	53,426.4	5.0%

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Uruguay	17.4	3.9%	1,029.4	0.5%
Uzbekistan	0.2	0.2%	25,464.9	3.4%
Vanuatu	0.0	0.0%	3,254.7	1.8%
Venezuela	6.0	3.5%	3,358.5	2.8%
Vietnam	644.3	20.4%	186,562.1	4.5%
Yemen	0.1	8.2%	56,305.0	4.9%
Zambia	26.0	1.2%	215,219.6	3.4%
Zimbabwe	137.8	16.1%	131,719.4	4.0%
Multiple Regions	35,010.1	66.4%	4,700,082.5	8.0%
Unallocated/ Unspecified	293,942.7	37.8%	56,788,516.0	41.6%

DAH=development assistance for health. DAMH=development assistance for mental health. AFR=African region. AMR=region of the Americas. EMR=Eastern Mediterranean region. EUR=European region. SEAR=South-East Asia region. WPR=Western Pacific region. LICs=low-income countries. LMCs=lower middle-income countries. UMCs=upper middle-income countries.

Chapter 5

Global collective action in mental health financing: allocation of development assistance for mental health in 142 countries, 2000–2015

Abstract

Collective action between international donors is central to global solidarity in global health. This is especially important in mental health where resources remain extremely limited. In this paper I investigate global collective action in mental health financing, looking at the responsiveness of international donors to mental health needs in low- and middle-income countries (LMICs). I analyse factors at the level of recipient countries (needs, interests, policy environment) associated with allocation of development assistance for mental health (DAMH) using a two-part regression model applied to a time series cross-sectional dataset of 142 LMICs between 2000 and 2015. Findings reveal that international donors' disbursements are not well aligned with mental health needs of recipient countries, and, moreover, contextual factors might be playing more prominent roles in resource allocation. Countries are more likely to receive DAMH if they experience significant outbreaks of infectious diseases or have lower gross domestic product (GDP) per capita and market openness. Selected recipient countries are more likely to receive higher DAMH amounts per capita if they have lower competing health needs and lower GDP per capita, or higher government health expenditure. Past DAMH recipients are more likely to be selected and, when selected, to receive higher DAMH amounts per capita. My results demonstrate that more holistic collective action amongst international donors is urgently required to address mental health needs in LMICs. Investments should better reflect needs, particularly during and after emergencies such as COVID-19, and could be amplified by leveraging synergies across other health conditions and sectors.

5.1. Introduction

Collective action between international donors is central to global solidarity in global health (Frenk & Moon, 2013), especially in mental health where resources are particularly scarce. Mental disorders (including substance use disorders, dementia, and self-harm) in

LMICs are on the rise and will likely be amplified by COVID-19 and policy response to it (Vigo et al., 2020), while resources remain extremely limited (Patel et al., 2018). A large network of international donors is contributing to address mental disorders in LMICs through DAMH, which includes both financial and in-kind contributions (see Chapter 3). The limited amount and inequitable distribution of DAMH (Charlson et al., 2017) threaten international donors' collective action. It is therefore important to understand factors driving resource allocation.

Available evidence on factors driving DAMH allocation is extremely limited and suggests that international donors are not adequately responding to mental health needs in LMICs. While DAMH per disability-adjusted life year (DALY, i.e. lost 'healthy' life year) has increased almost fourfold between 1995 and 2015, mental disorders receive the lowest amount per DALY (US$0.85) across all health conditions, albeit with variation across regions and income groups (Charlson et al., 2017). DAMH per capita varies widely across regions (from US$0.02 in Asia to US$0.07 in Africa) and country groups (US$0.05 in low-income, US$0.02 in lower middle-income, and US$0.03 in upper middle-income countries) in 2011 (B. Gilbert et al., 2015). Similar variation is observed for DAMH for children and adolescents (Lu et al., 2018; Turner et al., 2017). Previous research describes the scarcity of humanitarian assistance for mental health (Persaud et al., 2018a) and an index has been proposed to facilitate its allocation based on compassion, assertive action, pragmatism, and evidence (Persaud et al., 2018b). A policy report identifies four main reasons for underinvestment in mental disorders in LMICs: lack of understanding of mental disorders, difficulties in measuring return on investment, stigma, and competing priorities (e.g. communicable diseases) (Mackenzie & Kesner, 2016).

Development assistance for health (DAH) provides relevant insights on potential factors likely to be associated with DAMH allocation. The evidence on DAH and health needs reveals a mixed picture: DAH is misaligned with some health indicators (e.g. burden of disease, although with much unexplained variation across countries) (Dieleman et al., 2014), but positively associated with others such as infant and child mortality (Lee & Lim, 2014), and HIV prevalence (Boussalis & Peiffer, 2011). Contextual factors have been found to influence DAH allocation. Competing health needs and limited resources mean

that funding is often displaced: for example, HIV/AIDS has diverted resources away from malaria and health sector funding (but not from tuberculosis due to its links with HIV/AIDS) (Lordan et al., 2011). Countries with higher economic needs, measured as gross domestic product (GDP) per capita, receive higher development assistance for HIV (Sterck, 2018). Trade interests influence allocation of development assistance by donor nations (Younas, 2008), while multilateral donors favour disbursements to countries with stronger institutional capacity (Dollar & Levin, 2006).

In this study, I empirically analyse factors in recipient countries associated with DAMH allocation using time series cross-sectional data on 142 LMICs between 2000 and 2015. I test whether international donors' disbursements are aligned with mental health needs of recipient countries, and the role of contextual factors in resource allocation. I focus on international donors as a group to illuminate their collective action and shared responsibilities.

5.2. Methods

After selecting recipient-country factors likely to be associated with DAMH allocation, I created a new time series cross-sectional dataset by merging data from different sources. I then analysed the two stages of the DAMH allocation process using a two-part regression model, supported by sensitivity analyses and robustness checks. Finally, I reported descriptive statistics to chart trends over time in DAMH disbursements and mental health needs of recipient countries, and findings from the regression analyses.

5.2.1. Factors selection

I selected factors representing recipient country characteristics likely to be associated with DAMH allocation and data sources through a review of the literature. Selection was complemented by 35 in-depth interviews with key informants working in international organisations that are prominent players in global health and experts in global mental health (see Supplement 5.1 and Chapter 6). Identified factors were included in the final model according to data availability, quality, and suitability for analyses. In line with previous conceptualisations of factors influencing development assistance (e.g. Peiffer & Boussalis, 2010), I classified them into three groups: *needs*, *interests*, and *policy*

environment. DALYs for mental health per capita was used to measure mental health needs, percentage of DALY for other health conditions to measure competing health needs, and GDP per capita economic needs. For *interests*, trade as a share of GDP was used to measure market openness and donors' commercial interests. For *policy environment*, government effectiveness was used to measure institutional capacity, and government health expenditure as a percentage of GDP government commitment to health as proxy for mental health. In recognition of their links with mental disorders (Charlson et al., 2019), variables capturing humanitarian shocks (conflicts, natural disasters, disease outbreaks) were included. Hypotheses for each variable are reported in Table 5.1. Ethical approval was obtained from the London School of Economics and Political Science Research Ethics Committee (Ref. 000589) and informed consent from interview participants.

5.2.2. Data sources

I developed a new time series cross-sectional (2000–2015) dataset merging sources commonly used in the development aid literature (see Table 5.1). Data for DAMH came from the DAH 1990–2017 dataset published by the Institute for Health Metrics and Evaluation (IHME) (IHME, 2018a). The IHME DAH dataset reports semi-aggregated data in 172 countries between 1990 and 2017. The dataset includes resources flows from funding sources (governments and philanthropy) through *channel* organisations (e.g. bilateral and multilateral organisations) to recipients (i.e. LMICs) (Global Burden of Disease Health Financing Collaborator Network, 2018b). It includes disbursements to the health sector only and excludes humanitarian assistance. Further details are provided in Appendix 2.1. The variable DAMH represents the amount of development assistance for mental disorders disbursed to a country in a particular year. According to the IHME definition of DAMH, mental health includes mental disorders, substance use disorders, dementia, self-harm, some neurological conditions (epilepsy, headache disorders, Parkinson's disease). DAMH per capita estimates (hereafter labelled as DAMH pc) were derived using population data published by IHME (GBDCN 2018c). To identify countries selected to receive DAMH, I created a dummy variable per DAMH selection (value 0 if DAMH was bigger than zero; value 0 otherwise).

DALYs were extracted from IHME Global Burden of Disease Study 2017 dataset (GBDCN 2018a). To reflect the IHME definition of DAMH, DALYs for mental health included not only mental disorders but also substance use disorders, dementia, self-harm, and some neurological conditions. Population data published by IHME (GBDCN 2018c) were used to derive per capita estimates (DALY for Mental Health pc). Percentage of DALYs for other health conditions (DALY for Other Health, %) represented the share of DALYs for all health conditions except mental disorders, substance use disorders, dementia, self-harm, and some neurological conditions. GDP and trade as a share of GDP were sourced from the World Development Indicators dataset (World Bank, 2019a). GDP represents the "sum of gross value added by all resident producers in the country plus any product taxes and minus any subsidies not included in the value of the products" (World Bank, 2020a). For consistency, GDP per capita figures (GDP pc) were estimated using population data published by IHME (GBDCN 2018c). Trade as a share of GDP (Trade, %GDP) is defined as the "sum of exports and imports of goods and services measured as a share of gross domestic product" (World Bank, 2020c).

The government effectiveness index came from the World Governance Indicators dataset (World Bank, 2019b). The index captures "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (Kaufmann et al., 2011, p. 223). Scores range from -2.5 (weak) to +2.5 (strong) governance performance. Government health expenditure was sourced from IHME Global Health Spending dataset (Global Burden of Disease Health Financing Collaborator Network, 2018a) and includes health care good and services, but not capital expenditure (e.g. buildings). Government health expenditure as a percentage of GDP (GHE, %GDP) was derived using GDP estimates sourced from the World Development Indicators dataset (World Bank, 2019a).

Variables identifying humanitarian shocks came from the IHME Global Burden of Disease Study 2017 Cause-Specific Mortality dataset (GBDCN 2018b). Number of deaths attributable to conflicts (Conflicts, deaths) and number of deaths attributable to natural disasters (Natural Disasters, deaths) were extracted from the dataset. In line with

previous research (GBD 2017 Causes of Death Collaborators, 2018), I created a variable measuring deaths due to disease outbreaks (Disease Outbreaks, deaths) merging deaths by key infectious disorders: dengue, diarrheal diseases, Ebola, malaria, measles, meningococcal meningitis, Zika virus, and other unspecified infectious diseases. To identify major humanitarian shocks, I created a dummy variable per shock (value 0 if the annual number of deaths per country was less than 1000; value 1 otherwise) (Conflicts; Natural Disasters; Disease Outbreaks). The threshold was chosen in line with the Correlates of War project dataset, where 1000 battle-related deaths differentiates between war and minor conflicts (Gleditsch et al., 2002).

Logarithmic values of three variables were used to normalise their distribution (DAMH pc) or to facilitate interpretation (DALYs for Mental Health pc, GDP pc). Values were rebased to 2017 United States dollars (US$) adjusted by purchasing-power-parity (PPP) using the GDP deflator series published by the World Bank (2019a). Supplement 5.2 reports descriptive statistics: summary statistics reveal few countries experiencing conflicts and natural disasters during 2000–2015, and Pearson coefficients show statistically significant associations between independent and dependent variables.

Data were missing for four variables: GDP per capita (1.5% of country-year data points), trade as a share of GDP (4.3%), government effectiveness (7.1%), and government health expenditure as a percentage of GDP (1.5%). Missing data were treated using multiple imputation (White et al., 2011), the preferred method where values are assumed to be not missing at random (Lall, 2016) (see Supplement 5.3).

Table 5.1: Variables.

Variable	Definition	Unit	Source	Hypothesis
DAMH pc (2017 US$)	Amount of development assistance for mental health per capita	2017 PPP-adjusted US$	Development Assistance for Health dataset, 1990–2017 (IHME, 2018a)[a,b]	Not applicable
DAMH selection	Receipt of development assistance for mental health	1: DAMH>0 0: DAMH=0	Development Assistance for Health dataset, 1990–2017 (IHME, 2018a)[a]	Positive association (Karlan & List, 2020)
DALYs for Mental Health pc	Disability-adjusted life years attributable to	Numerical	Global Burden of Disease Study 2017	No association (Charlson et al., 2017)

Variable	Definition	Unit	Source	Hypothesis
	mental disorders per capita		dataset, 1990–2017 (GBDCN 2018a)[b]	
DALYs for Other Health (%)	Percentage of disability-adjusted life years attributable to all other health conditions (outside mental disorders)	Percentage	Global Burden of Disease Study 2017 dataset, 1990–2017 (GBDCN 2018a)	Negative association (Mackenzie & Kesner, 2016; Interviews)
GDP pc	Gross domestic product per capita	2017 PPP-adjusted US$	World Development Indicators dataset, 1960–2018 (World Bank, 2019a)[b]	Negative association (Peiffer & Boussalis, 2015)
Trade (%GDP)	Trade as a share of gross domestic product	Percentage	World Development Indicators dataset, 1960–2018 (World Bank, 2019a)	Positive association (Peiffer & Boussalis, 2015)
Government Effectiveness	Government effectiveness	-2.5 (weak) to +2.5 (strong)	World Governance Indicators dataset, 1996–2017 (World Bank, 2019b)	Positive association (Peiffer & Boussalis, 2015)
GHE (%GDP)	Government health expenditure as a percentage of gross domestic product	Percentage	Global Health Spending dataset, 1995–2015 (Global Burden of Disease Health Financing Collaborator Network, 2018a)[c]	Positive association (Dollar & Levin, 2006; Interviews)
Conflicts (Deaths, 000s)	Numbers of deaths attributable to conflicts	Numerical, 000s	Global Burden of Disease Study 2017 Cause-Specific Mortality dataset, 1980–2017 (GBDCN 2018b)	Positive association (Charlson et al., 2019; Interviews)
Natural Disasters (Deaths, 000s)	Numbers of deaths attributable to natural disasters	Numerical, 000s	Idem	Idem
Disease Outbreaks (Deaths, 000s)	Numbers of deaths attributable to outbreaks of infectious diseases	Numerical, 000s	Idem	Idem
Conflicts	Conflicts	1: Conflicts (Deaths)≥1000 0: Conflicts (Deaths)<1000	Idem	Idem
Natural Disasters	Natural disasters	1: Natural Disasters (Deaths)≥1000 0: Natural Disasters (Deaths)<1000	Idem	Idem
Disease Outbreaks	Outbreaks of infectious diseases	1: Disease Outbreaks (Deaths)≥1000 0: Disease Outbreaks (Deaths)<1000	Idem	Idem

[a]A detailed version was obtained from the Institute for Health Metrics and Evaluation in September 2018, including values omitted in the publicly available dataset: values greater than US$0 but less than US$500, or less than US$0 and greater than -US$500. [b]Per capita estimates were derived using population estimates sourced from the Global Burden of Disease Study 2017 Population Estimates 1950–2017 dataset (Global Burden of Disease Collaborative Network, 2018c). [c]Shares of GDP estimates were derived using GDP figures sourced from the World Development Indicators dataset (World Bank, 2019a). DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. pc=per capita. PPP=purchasing-power-parity. US$=United States dollars.

5.2.3. Model specification

I used a two-part model (Cragg, 1971) to reflect the two stages of the resource allocation process (Stubbs et al., 2016). For the first part, I used a pooled probit estimator to determine factors associated with the probability that a country received DAMH (selection equation). For the second part, I used a pooled Ordinary Least Squared (OLS) estimator on selected recipients to determine factors associated with the amount of DAMH received (allocation equation). The unit of analysis was recipient country-year.

I used the following base specification of the two-part model, for the selection (1) and allocation (2) equations:

$$Pr(DAMH\ selection_{it} = 1\ ) = F\ (\ \alpha_0 + \phi_1 DAMH\ selection_{it-2} + \ \alpha_1 X_{it-2}\ + \ \alpha_2 W_{it-s} + \ \tau_t) \quad (1)$$

$$Ln\ DAMH\ pc_{it} = \beta_0\ + \ \beta_1 X_{it-2}\ + \ \beta_2 Z_{it-s} + \beta_3 DAMH\ selection_{it-2} + \ \tau_t + u_{it} \quad (2)$$

where *i* is recipient country; *t* year; *s* lags; *F* cumulative distribution function; α_0 and β_0 intercepts; α and β regression coefficients for each independent variable; ϕ regression coefficient for the autoregressive term; *X* vector of independent variables representing needs, interests, and policy environment of the recipient country; *W* and *Z* vectors of independent variables representing humanitarian shocks in the recipient country as dummy and continuous variables respectively; τ year fixed effects; *u* error term. Supplement 5.4 reports the full equations.

The selection equation (1) is an autoregressive distributed lag (ADL) model using a pooled probit estimator. The dependent variable is a dummy variable for DAMH receipt by country per year, taking value one when the country receives DAMH and zero otherwise. A two-year lag is used for the autoregressive term and independent variables representing needs, interests, and policy environment of recipient countries. Independent variables capturing humanitarian shocks use both one-year and two-year lags (conflicts, natural disasters) or one-year lag only (disease outbreaks) due to high multicollinearity with the two-year lag (Marquaridt, 1970). I assumed a two-year lag to reflect information available to decision-makers at the time of selection and allocation of DAMH (i.e. year preceding disbursements) (Neumayer, 2005). I assumed an additional one-year lag for humanitarian shocks to account for the faster availability of information on emergencies and disbursement of emergency funds. In order to reflect the non-linear relationships between the dependent variable and DALY for other health conditions, a square term was added.

The allocation equation (2) is a distributed lag (DL) model using a pooled OLS estimator. The dependent variable is logarithm of DAMH per capita. The only differences with the selection equation (1) are lack of autoregressive term (which absorbed all variation), use of a dummy variable for DAMH selection with a two-year lag to capture new and old recipients, and use of continuous instead of dummy variables for humanitarian shocks. The clustered standard errors estimator was used in both equations to correct for serial correlation within recipient countries. Supplement 5.5 explains the choice of the estimation approach.

5.2.4. Data analyses

I first compared trends for DAMH and DALYs for mental health for 2000–2015, and then carried out regression analyses for the two-part model. I estimated average marginal effects of coefficients in the first stage to facilitate interpretation (Williams, 2012). Next, I conducted analyses to test sensitivity of results to changes in model specification generally aiming for parsimony, and robustness checks: using different lags; excluding outliers using trimming (i.e. excluding the first and 99th percentiles) or winsorising (i.e.

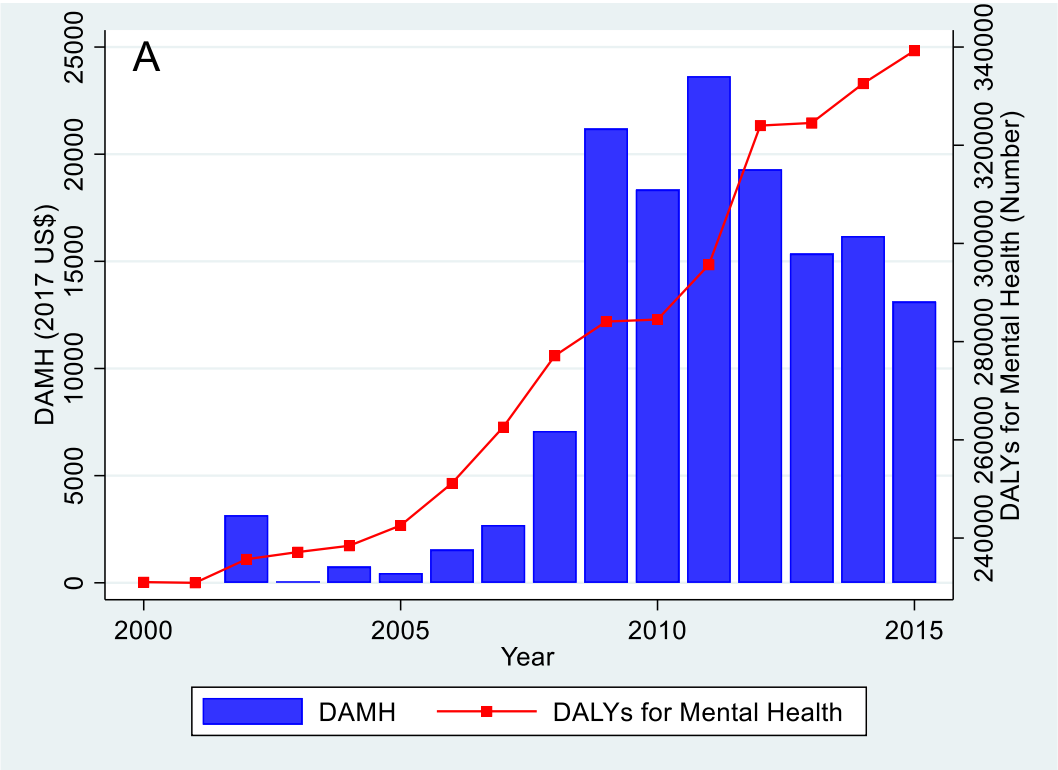
replacing extreme values with extreme percentiles); and using the original dataset with full data or complete cases.

I limited analyses to the period 2000 to 2015 due to lack of accurate reporting for DAH before 2000 and availability of preliminary estimates only for DAH post-2015, leaving 166 countries. I discarded 26 countries and territories due to lack of data on variables of interest, leaving 142 LMICs in the analyses (full list in Supplement 5.6). Values are reported in 2017 PPP-adjusted US$. Analyses were conducted in Stata 15 (StataCorp, 2017).

5.3. Results

5.3.1. Trends

Findings reveal that DAMH began to decrease in 2013 after a first phase of increase in (low) disbursements, although DALYs for mental health continued to rise between 2000 and 2015 (see Supplementary Table 5.7.1). The total level of annual DAMH increased five-fold between 2000 and 2015 for the 142 LMICs in the sample, with broad variations across years and countries. The median level of annual DAMH increased from zero to US$23,639 between 2000 and 2011, decreasing to US$13,117 in 2015, while median level of DALYs for mental health increased steadily over the same period (see Figure 5.1, Panel A) (see Supplementary Table 5.7.2). Similarly, the median level of annual DAMH per capita increased slightly from zero to US$0.001 between 2000 and 2012, and started decreasing soon after, while DALYs for mental health per capita increased steadily (see Figure 5.1, Panel B) (see Supplementary Table 5.7.3). All estimates are characterised by broad uncertainty (see Supplementary Tables 5.7.2 and 5.7.3), a feature of analyses of this kind of data. Of course, there are potentially many other factors influencing disbursements as I will explore.


A
DAMH (2017 US$)
0
5000
10000
15000
20000
25000
240000 260000 280000 300000 320000 340000
DALYs for Mental Health (Number)
2000
2005
2010
2015
Year
DAMH
DALYs for Mental Health

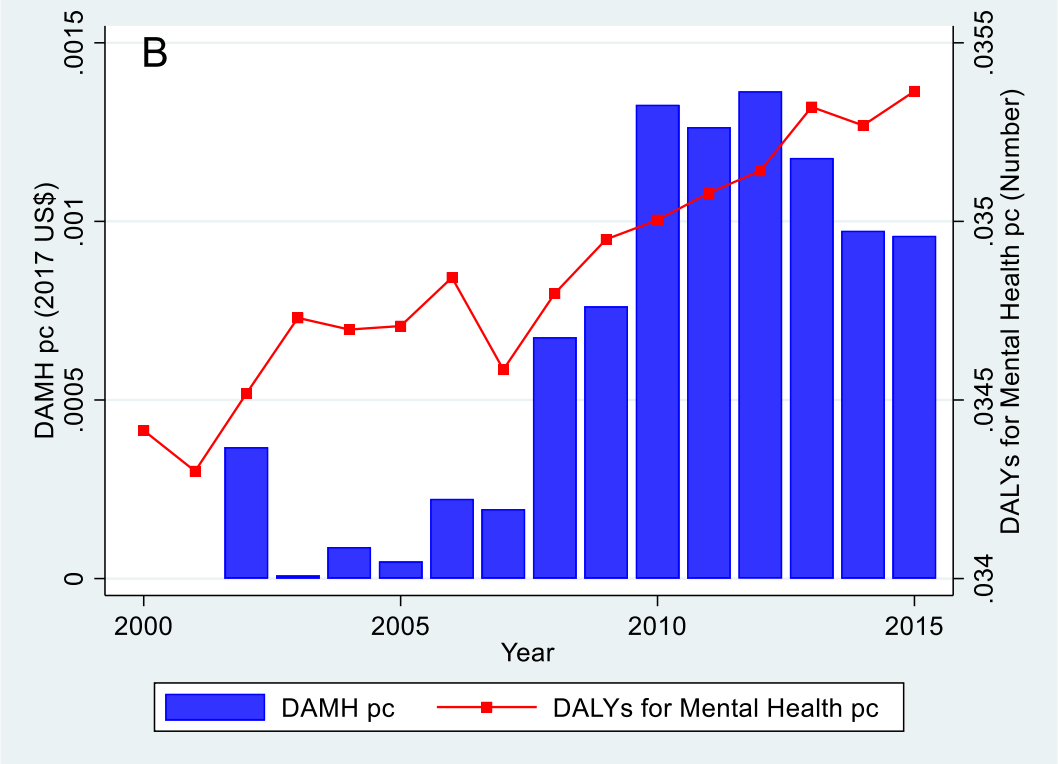

B
DAMH pc (2017 US$)
0
.0005
.001
.0015
.034
.0345
.035
.0355
DALYs for Mental Health pc (Number)
2000
2005
2010
2015
Year
DAMH pc
DALYs for Mental Health pc

Figure 5. 1**:** DAMH and DALYs for mental health between 2000 and 2015, median (Panel A) and median per capita (Panel B).
DALYs=disability-adjusted life years. DAMH=development assistance for mental health. pc=per capita.

5.3.2. Two-part model

Results show that disbursements are not well aligned with total mental health needs of recipient countries, and contextual factors might be playing more important roles in resource allocation. Table 5.2 reports results from the main selection model (i.e. the first part), including 1818 observations for 140 countries between 2000 and 2015. DALYs for mental health per capita were not associated with the probability of the country being a DAMH recipient *ceteris paribus*. The probability that a LMIC received DAMH was positively associated with two variables (disease outbreak, and past DAMH receipt) and negatively associated with two others (GDP per capita, and trade as a share of GDP). In particular, past DAMH receipt and disease outbreaks were associated with higher probability of receiving DAMH. A 1% increase in GDP per capita was associated with a 6% decrease in probability of DAMH receipt. An increase in trade equivalent to 1% of GDP was associated with 0.1% decrease in probability of DAMH receipt. A 1% increase in share of DALYs for other health conditions was associated with a 1% decrease in probability of DAMH receipt, close to 10% statistical significance (p=0.106). The remaining variables were not associated with the probability of DAMH receipt.

	Pooled Probit					
	Main specification	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
DAMH selection						
L2 Ln DALYs for Mental Health pc	-0.0068	0.0001	-0.00350	-0.0043	-0.0076	-0.0152
	(0.0708)	(0.0659)	(0.0692)	(0.0687)	(0.0699)	(0.0719)
L2 DALYs for Other Health (%)[a]	-0.009	-0.003	-0.009	-0.009	-0.009	**-0.010***
	0.006	0.005	0.006	0.006	0.006	0.006
L2 Ln GDP pc	**-0.060*****	**-0.056*****	**-0.061*****	**-0.060*****	**-0.060*****	**-0.063*****
	(0.019)	(0.019)	(0.019)	(0.018)	(0.018)	(0.020)
L2 Trade (%GDP)	**-0.0005****	**-0.0007****	**-0.0005****	**-0.0005***	**-0.0005****	
	(-0.0002)	(-0.0003)	(-0.0003)	(-0.0003)	(-0.0002)	

	Pooled Probit					
	Main specification	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
L2 Government Effectiveness	0.002	-0.002	0.002			-0.001
	(0.018)	(0.019)	(0.018)			(0.018)
L2 GHE (%GDP)	0.0015	-0.0066			0.0016	0.0002
	(0.0071)	(0.0063)			(0.0070)	(0.0074)
L1 Conflicts	-0.034		-0.034	-0.034	-0.034	-0.033
	(0.058)		(0.058)	(0.058)	(0.058)	(0.057)
L2 Conflicts	0.058		0.058	0.058	0.057	0.067
	(0.055)		(0.055)	(0.055)	(0.055)	(0.053)
L1 Natural Disasters	0.049		0.048	0.048	0.049	0.055
	(0.101)		(0.102)	(0.101)	(0.101)	(0.099)
L2 Natural Disasters	.		.	.	.	.
	.		.	.	.	.
L1 Disease Outbreaks	**0.097*** **		**0.095*** **	**0.095*** **	**0.097*** **	**0.100*** **
	(0.033)		(0.031)	(0.031)	(0.033)	(0.032)
L2 DAMH selection	**0.533*** **	**0.570*** **	**0.534*** **	**0.534*** **	**0.533*** **	**0.544*** **
	(0.047)	(0.049)	(0.048)	(0.048)	(0.047)	(0.049)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	166.71***	203.10***	165.76***	166.02***	166.95***	176.85***
	(54.25)	(56.83)	(54.23)	(53.96)	(54.07)	(53.48)
F statistic	51.07	73.61	52.94	55.16	53.12	49.67
p-value	8.23e-254	0	2.24e-253	7.05e-254	2.55e-254	1.18e-236
N observations	1818	1857	1818	1818	1818	1818
N countries	140	140	140	140	140	140

Table 5.2**:** Factors associated with selection of DAMH recipients between 2000 and 2015. Main specification and sensitivity analyses (models 2–6). Average marginal effects with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. (.) Omitted due to collinearity. [a]Combined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita.

Table 5.3 reports results from the main allocation model (i.e. the second part). Mental health-related DALYs per capita were not associated with DAMH per capita *ceteris paribus*. DAMH per capita was positively associated with four variables (past DAMH receipt, government health expenditure, conflicts and natural disasters) and negatively

with two others (DALYs for other health conditions, GDP per capita). Past DAMH recipients received 1.5-fold greater DAMH per capita. An increase in government health expenditure of 1% of GDP was associated with 48% increase in DAMH per capita. Deaths from conflicts (one year prior) were more important in driving DAMH per capita than deaths from natural disasters (two years prior). A 1% increase in share of DALYs for other health conditions was associated with a 24% decrease in DAMH per capita. A 1% increase in GDP per capita was associated with 124% decrease in DAMH per capita. The remaining variables were not associated with DAMH per capita.

	Pooled OLS					
	Main specification	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Ln DAMH pc (2017 US$)						
L2 Ln DALYs for Mental Health pc	-1.671	-1.739	-0.333	-1.137	**-2.085***	-1.571
	(1.282)	(1.280)	(1.259)	(1.209)	(1.130)	(1.270)
L2 DALYs for Other Health (%)[a]	**-0.242*****	**-0.249*****	**-0.259*****	**-0.314*****	**-0.272*****	**-0.242*****
	0.097	0.095	0.096	0.100	0.094	0.095
L2 Ln GDP pc	**-1.242*****	**-1.200*****	**-1.283*****	**-1.055*****	**-1.095*****	**-1.238*****
	(0.338)	(0.337)	(0.360)	(0.367)	(0.328)	(0.335)
L2 Trade (%GDP)	0.003	0.004		0.005		
	(0.005)	(0.005)		(0.005)		
L2 Government Effectiveness	0.588	0.448	**0.941****			0.593
	(0.449)	(0.434)	(0.407)			(0.447)
L2 GHE (%GDP)	**0.476*****	**0.478*****			**0.544*****	**0.485*****
	(0.156)	(0.152)			(0.136)	(0.155)
L1 Conflicts (Deaths, 000s)	**0.089***		0.071	0.040	0.071	**0.088***
	(0.051)		(0.046)	(0.051)	(0.054)	(0.051)
L2 Conflicts (Deaths, 000s)	0.026		0.020	0.014	0.017	0.023
	(0.028)		(0.025)	(0.026)	(0.027)	(0.027)
L1 Natural Disasters (Deaths, 000s)	-0.003		-0.007	-0.008	-0.005	-0.004
	(0.007)		(0.008)	(0.007)	(0.007)	(0.008)

	Pooled OLS					
	Main specification	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
L2 Natural Disasters (Deaths, 000s)	**0.014*** **		**0.010** **	**0.010** **	**0.013*** **	**0.013*** **
	(0.005)		(0.005)	(0.004)	(0.005)	(0.005)
L1 Disease Outbreaks (Deaths, 000s)	-0.001		**-0.003*** **	**-0.002** **	-0.001	-0.002
	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
L2 DAMH selection	**1.496*** **	**1.463*** **	**1.521*** **	**1.556*** **	**1.482*** **	**1.481*** **
	(0.317)	(0.314)	(0.368)	(0.366)	(0.311)	(0.316)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-262.26*	-254.12*	-304.98**	-306.05**	-280.11**	-272.73**
	(136.06)	(136.11)	(147.00)	(141.92)	(132.48)	(135.67)
F statistic	11.99	15.02	11.49	11.39	13.06	12.47
p-value	1.08e-21	1.69e-23	2.46e-20	3.40e-20	2.08e-22	5.30e-22
N observations	1426	1426	1426	1426	1426	1426
N countries	114	114	114	114	114	114

Table 5.3**:** Factors associated with DAMH allocation between 2000 and 2015. Main specification and sensitivity analyses (models 2–6). Regression coefficients with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. [a]Combined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita.

5.3.3. Sensitivity analyses and robustness checks

Statistically significant results remained essentially unchanged across models examined during sensitivity analyses for the selection model (see Table 5.2, models 2 to 6). Results for three independent variables (DALYs for mental health per capita, government effectiveness, and government health expenditure) appeared to be inconsistent in direction across models but none were statistically significant. DALYs for other health conditions were statistically significant when trade (model 6) was excluded from the model specification.

Results continued to be valid across models examined in sensitivity analyses for the allocation model (see Table 5.3, models 2 to 6). The only variable with less stable results across models was conflict-related deaths one year prior, which was not statistically

significant in three models (models 3 to 5). Three independent variables became statistically significant in some models. DALYs for mental health per capita were statistically significant when trade and government effectiveness were excluded from the model specification (model 5), with a 1% increase associated with a halving of DAMH per capita. Similarly, government effectiveness became statistically significant when trade and government health expenditure were excluded from the model specification (model 3), with a one-point increase in this indicator associated with a 94% increase in DAMH per capita. Disease outbreaks were statistically significant when trade and government health expenditure (model 3) or government effectiveness and government health expenditure (model 4) were excluded from the model specification.

Across robustness checks, results were similar to the main specifications for both selection and allocation models, with some exceptions (see Supplement 5.8). When analyses were performed on the original dataset, conflicts two years prior became statistically significant in the selection model: the probability of receiving DAMH increased by 10% in countries experiencing conflict two years prior. In the allocation model, deaths from conflict one year prior lost while deaths from disease outbreaks gained significance: an increase in deaths from disease outbreaks by 1000 individuals was associated with a 0.2% decrease in DAMH per capita.

5.4. Discussion

Findings reveals that international donors' disbursements are not very well aligned with mental health needs of recipient countries, and, moreover, contextual factors might be playing more prominent roles in resource allocation. Countries were more likely to receive DAMH if they had experienced significant outbreaks of infectious diseases, and they had lower GDP per capita and market openness. Once selected as recipients, countries were more likely to receive higher DAMH amounts per capita if they had lower competing health needs and lower GDP per capita, higher government health expenditure, and bigger conflicts or natural disasters. Past DAMH recipients were more likely to be selected and, when selected, to receive higher DAMH amounts per capita.

Between 2000 and 2015, DAMH did not follow mental health needs of recipient countries. The misalignment between DAMH and mental health needs concurs with evidence of DAH allocation pertaining to other health conditions (Charlson et al., 2017; Dieleman et al., 2014; Shiffman, 2006). This misalignment could be attributed to the lack of understanding of mental disorders within the donor community, their definition and available solutions (Mackenzie & Kesner, 2016). It could also be ascribed to donor prioritisation of worst-off population groups (e.g. young people who are at high risk of experiencing mental disorders) not fully captured by total mental health needs, or different donor priorities (Voigt & King, 2017). This could also reflect reticence to using DALYs for resource allocation due to lack of transparency in their estimation (Shiffman & Shawar, 2020) and equity concerns (Anand & Hanson, 1997). However, the higher likelihood of receiving DAMH for countries experiencing significant outbreaks of infectious diseases suggests donors might understand and respond to increased mental health needs following humanitarian emergencies (Charlson et al., 2019). This reflects humanitarian donors' growing attention to mental health *during* and *after* emergencies (WHO, 2013a) since the 2005 Tsunami in Banda Aceh and the subsequent publication of the Inter-Agency Standing Committee guidelines on mental health and psychosocial support in emergency settings (IASC, 2007). The lack of positive association at the allocation stage suggests that response may *not* be adequate yet, and that resources might be disproportionally directed towards physical health. This concurs with the evidence on the disruption of non-outbreak-related health services during pandemics (Wilhelm & Helleringer, 2019) and a possible donor preference to fund mental health and psychosocial support integrated into sectors outside health as part of the humanitarian response (Tol et al., 2011). While positive associations were found for conflict and natural disaster at the allocation stage only, these findings should be interpreted with caution due to the smaller sample size for the analyses that included those variables.

Competing health needs had a negative impact on whether a country received any DAMH (close to 10% statistical significance) and on the *size* of that assistance among those countries who received any support. The negative impact corroborates results from a rapid review (Mackenzie & Kesner, 2016) identifying competing priorities as one of the reasons for underinvestment in mental disorders in LMICs. The same review highlights

the difficulties in measuring return on investment in mental health as a barrier to investment: resources may have been diverted to other health conditions with more cost-effective interventions (Bendavid et al., 2015). This aligns with the literature on aid displacement demonstrating diversion of funding by donors' high priorities such as HIV/AIDS (Lordan et al., 2011). This result could also be linked to the integration of mental health components into investments in other health conditions (e.g. HIV/AIDS, Chuah et al., 2017) and sectors beyond health (e.g. education, Fazel et al., 2014), not entirely captured by the IHME DAH dataset (IHME, 2018b). Integration has been growing over the last decade along with the expanding evidence base on social determinants and impacts of mental health (Lund et al., 2018).

GDP per capita negatively impacted DAMH, meaning that countries with lower standards of living were more likely not only to be selected for assistance but also to receive higher amounts. This is in line with the broader literature on development assistance that suggests 'poverty selectivity' in resource allocation (Peiffer & Boussalis, 2015). In addition, the alignment between DAMH and economic needs suggests that donors understand the vicious circle between poverty and mental disorders (i.e. people living with mental disorders are at higher risk of falling into poverty, and poor people are at higher risk of mental illness) (Lund et al., 2011). Economic interests had a negative impact on the decision to provide assistance, but not on the amount of funding received. The lower impact of trade openness compared to GDP may be explained by the fact that, while trade openness is commonly used in the development aid literature, cross-country variation is determined more by GDP than by trade (E. Fujii, 2019).

Government health expenditure had a positive impact on the amount of DAMH (but not on whether any assistance was received), implying that selected countries that spend more government resources on health are being rewarded for their commitment. This is in line with the Monterrey Consensus (UN, 2003), contending that development assistance is more effective when disbursed to countries with good policies and institutions, and with the literature on development assistance that suggests 'policy selectivity' in resource allocation (Peiffer & Boussalis, 2015). Government effectiveness was not associated with DAMH, which contrasts with the evidence of 'institutional

selectivity' in the allocation of development assistance (Dollar & Levin, 2006). However, sensitivity analyses suggest that the impact of government effectiveness may have been partly absorbed in the regression analyses by another variable (i.e. government health expenditure).

Past receipts of DAMH had a positive impact on both the selection of DAMH recipients and the amount of assistance received. This means that donors are more likely to disburse to countries with existing mental health programmes. While the biggest and most generous donor countries in the health field have not been found to influence other donors' behaviours (Beech et al., 2015), quality signal mechanisms have been identified in philanthropic giving (Karlan & List, 2020): the presence of mental health programmes could have encouraged disbursements by signalling not only mental health needs but also the feasibility of investment. Nevertheless this result also questions donors' path-dependency in prioritising specific recipient countries, and the risk of recipients' dependency on more volatile external funding and displacement of more sustainable domestic resources (Lu et al., 2010).

Data limitations meant that DAMH estimates did not include development assistance from other LMICs which are gaining importance in global health (Micah et al., 2019) and the representation of philanthropic donors was limited (see Chapter 4). Some DAMH figures may be underestimates because of the IHME methodological approach: for example disbursements from global health initiatives and some multilateral governmental organisations (United Nations Children's Fund, Joint United Nations Programme on HIV and AIDS) are classified under health conditions constituting the organisation's focus, though their programmes may include mental health components (IHME, 2018b). The majority of DAMH was excluded, as not allocated to single countries. This limits the generalisability of results to funding to specific countries, which may have been qualitatively different from funding to unspecified recipients. However, the IHME DAH dataset is currently the best source of data for this type of analyses (see Chapter 3).

Second, the analyses did not include all the variables for all possible drivers of DAMH. For instance, a lack of panel data on government mental health expenditure meant that

government health expenditure was used as a proxy, and indicators for countries' mental health capacity (e.g. number of mental health workers) were not included. In addition, quantitative indicators do not capture less quantifiable factors that have been shown to play a crucial role in shaping organisational decisions to invest in mental health in LMICs, such as support of leaders and champions within donor organisations, political support in both source and recipient countries, and advocacy efforts at the global level (see Chapter 6).

Third, both DAMH and DALYs for mental health included some neurological disorders: these are identified as mental disorders by WHO (2008) because their service provision is often combined in LMICs. Fourth, I only examined the period between 2000 and 2015: this made it possible to use more robust DAMH data, and facilitated meaningful interpretation. Fifth, a few countries and territories had to be discarded because of a lack of data, including Palestine (an important recipient) (B. Gilbert et al., 2015) and some countries with conflicts and natural disasters. Finally, the disbursement processes are inherently complex (McCoy et al., 2009) and my models are necessarily simplifications.

5.5. Conclusion

The analyses in this chapter suggest that better collective action amongst international donors is urgently required to address mental health needs in LMICs. Needs are on the rise due to epidemiological and demographic changes and an increase in adverse social determinants of mental health (Patel et al., 2018). Despite being the leading cause of years lived with disability in LMICs (18%), mental disorders attract as little as 1.6% of LMIC government health budgets (WHO, 2018b) and 0.4% of DAH (Charlson et al., 2017). The impact of COVID-19 and the following policy responses are likely to amplify those needs (Brooks et al., 2020) and put additional pressure on LMIC government finances. In line with the Addis Ababa Action Agenda (UN, 2015a), the Sustainable Development Goals (UN, 2015b) recommend harnessing resources from a wide range of sources including development assistance, while gradually increasing domestic financing to ensure sustainability. They also emphasize the importance of collective efforts across countries to achieve sustainable development.

Global collective action to finance non-communicable disorders is limited. WHO Independent High-Level Commission on non-communicable diseases has proposed a multi-donor fund for non-communicable disorders and mental health (Nishtar et al., 2018), yet the establishment of a new organisation in an already large ecosystem of actors could contribute to additional fragmentation of efforts. Similarly, experts have posited the creation of a partnership for global mental health to mobilise funding and provide stewardship for their effective use (Vigo et al., 2019). While further research on global collective action in mental health financing is required, particularly on its challenges such as free-riding and social norms (Siegal et al., 2009) and on social networks (Han et al., 2018), this paper points to opportunities to improve the collective response of international donors to address mental health in LMICs.

The mental health needs of recipient countries need to be better reflected in DAMH allocation. While ranking recipient countries to inform DAH allocation requires a careful choice of multiple indicators (Ottersen et al., 2018), health needs have come to the foreground in more recent discussions (Haakenstad et al., 2018) especially vis-à-vis low-income countries (Ottersen et al., 2017). Recipient countries have been shown to value burden of disease more than income per capita (Grepin et al., 2018), the predominance of which in allocation decisions has been already challenged (Sterck et al., 2018). To ensure local ownership and sustainability of programmes beyond funded activities (Kiendrebeogo & Meessen, 2019), donors should position recipient countries at the centre of funding decisions: *systematically* including countries' preferences and priorities (Grepin et al., 2018) at the allocation stage and adopting a long-term approach (K. Gilbert et al., 2019). In particular, DAMH allocation should better target humanitarian emergencies, where mental health needs increase (Charlson et al., 2019). Resources should target response during both the emergency (IASC, 2007) and the recovery period, providing opportunities to build better mental health systems (WHO, 2013a). This approach is pertinent to the current COVID-19 response and the future recovery phase.

International donors could strengthen their responses to mental health needs in LMICs by integrating mental health components into investments in other priorities, in particular different health conditions and sectors beyond health. Mental disorders often co-occur

with communicable (Remien et al., 2019) and other non-communicable disorders (Mendenhall et al., 2017), playing a key role in both treatment and recovery. With a substantial population of people living with communicable disorders (GBD 2017 HIV Collaborators, 2019) and an increasing burden of non-communicable disorders worldwide (GBD 2017 DALYs and HALE Collaborators, 2018), LMICs face an unprecedented challenge: a synergetic approach to DAMH could improve health systems response. Similarly, mental disorders affect and are affected by multiple dimensions of people's lives (Patel et al., 2018) and the social determinants of mental disorders go beyond the health sector (Lund et al., 2018), thus calling for wide-ranging investments. In particular, the well-established link between poverty and mental disorders offers opportunities for catalysing the impact of development programmes through inclusion of both aspects (Lund et al., 2011).

Supplementary material

Supplement 5.1: Factor selection: in-depth interviews

I selected factors and data source through a review of the literature on factors associated with development assistance for mental health and health, complemented by 35 in-depth interviews with key informants working in international organisations that are prominent players in global health and experts in global mental health who provided meaning and context. Participants were sampled using purposeful sampling and snowballing. To account for heterogeneity of the population, they were stratified by their organisation group (see Chapter 3). In-depth semi-structured interviews were conducted face-to-face or via telephone/Skype between February and December 2018. Informed consent was obtained from participants in writing or orally ahead of the interview. Interviews focused on the role of external actors investing in mental health in low- and middle-income countries and comprehended a set of questions on factors in recipient countries driving allocation of resources, including development assistance for mental health. Interviews were digitally recorded (when permitted) and notes taken. Recordings were transcribed *verbatim* and relevant factors identified. Ethical approval was obtained from the London School of Economics and Political Science Research Ethics Committee (Ref. 000589). Further details are available upon request from the author.

Supplement 5.2: Descriptive statistics

	All observations						Nonzero DAMH					
	Mean	**SD**	**Min**	**Median**	**Max**	**N**	**Mean**	**SD**	**Min**	**Median**	**Max**	**N**
DAMH selection	0.71	0.46	0.00	1.00	1.00	2143	1.00	0.00	1.00	1.00	1.00	1512
DAMH pc (2017 US$)	0.03	0.39	0.00	0.0003	13.77	2143	0.05	0.46	0.00	0.00	13.77	1512
DALYs for Mental Health pc	0.04	0.01	0.03	0.03	0.09	2143	0.04	0.01	0.03	0.03	0.09	1512
DALYs for Other Health (%)	92.60	3.60	83.16	92.30	98.71	2143	92.70	3.78	83.16	92.46	98.71	1512
GDP pc (2017 US$)	8604.21	7412.66	644.73	6520.07	50461.07	2110	7720.20	6305.38	644.73	6139.41	32496.34	1498
Trade (%GDP)	82.26	36.50	0.17	77.53	311.35	2050	77.80	35.11	0.17	71.68	311.35	1475
Government Effectiveness	-0.45	0.64	-2.27	-0.50	1.41	1990	-0.51	0.59	-2.16	-0.54	1.27	1444
GHE (%GDP)	2.54	1.69	0.19	2.22	13.19	2110	2.43	1.50	0.19	2.14	10.01	1498
Conflicts	0.07	0.26	0.00	0.00	1.00	2143	0.09	0.28	0.00	0.00	1.00	1512
Natural Disasters	0.02	0.14	0.00	0.00	1.00	2143	0.02	0.15	0.00	0.00	1.00	1512
Disease Outbreaks	0.53	0.50	0.00	1.00	1.00	2143	0.62	0.49	0.00	1.00	1.00	1512
Conflicts (Deaths, 000s)	0.44	2.41	0.00	0.001	51.18	2143	0.52	2.47	0.00	0.004	47.81	1512
Natural Disasters (Deaths, 000s)	0.45	7.25	0.00	0.001	222.66	2143	0.50	7.81	0.00	0.004	222.66	1512
Disease Outbreaks (Deaths, 000s)	21.56	94.99	0.00	1.26	1125.63	2143	26.97	106.98	0.00	2.01	1125.63	1512
Year	2007.35	4.61	2000.00	2007.00	2015.00	2143	2008.22	4.28	2000.00	2008.00	2015.00	1512

Supplementary Table 5.2.1: Summary statistics.

Original dataset, variables before transformation. N=number of country-year observations. SD=standard deviation. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. pc=per capita. US$=United States dollars.

	DAMH	Ln DAMH pc (2017 US$)
L2 Ln DALYs for Mental Health pc	-0.030**	-0.021**
L2 DALYs for Other Health (%)	0.044**	-0.063**
L2 DALYs for Other Health (%) Squared	0.047**	-0.066**
L2 Ln GDP pc	-0.230***	-0.035**
L2 Trade (%GDP)	-0.228***	0.097***
L2 Government Effectiveness	-0.148***	0.063**
L2 GHE (%GDP)	-0.141***	0.222***
L1 Conflicts	0.076***	
L2 Conflicts	0.092***	
L1 Natural Disasters	0.069***	
L2 Natural Disasters	0.051**	
L1 Disease Outbreaks	0.273***	
L2 Disease Outbreaks	0.276***	
L1 Conflicts (Deaths, 000s)		0.013
L2 Conflicts (Deaths, 000s)		0.009
L1 Natural Disasters (Deaths, 000s)		-0.029**
L2 Natural Disasters (Deaths, 000s)		0.003
L1 Disease Outbreaks (Deaths, 000s)		-0.099***
L2 Disease Outbreaks (Deaths, 000s)		-0.099***
L2 DAMH	0.640***	0.166***
Year	0.291***	0.161***
N	2143	1512

Supplementary Table 5.2.2: Correlation coefficients.

Original dataset, variables after transformation. Significance: *P<0.10, **P<0.05, ***P<0.01. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita.

Supplement 5.3: Multiple imputation

Data were missing for four variables: GDP per capita (1.5% of country-year data points), trade as a share of GDP (4.3%), government effectiveness (7.1%), and government health expenditure as a percentage of GDP (1.5%) (see Supplementary Table 5.3.1).

	All observations (N=2143)		Nonzero DAMH (N=1512)	
Variable	**N**	**%**	**N**	**%**
DAMH selection	0	0.0	0	0.0
DAMH pc (2017 US$)	0	0.0	0	0.0
DALYs for Mental Health pc	0	0.0	0	0.0
DALYs for Other Health (%)	0	0.0	0	0.0
GDP pc (2017 US$)	33	1.5	14	0.9
Trade (%GDP)	93	4.3	37	2.5
Government Effectiveness	153	7.1	68	4.5
GHE (%GDP)	33	1.5	14	0.9
Conflicts	0	0.0	0	0.0
Natural Disasters	0	0.0	0	0.0
Disease Outbreaks	0	0.0	0	0.0
Conflicts (Deaths, 000s)	0	0.0	0	0.0
Natural Disasters (Deaths, 000s)	0	0.0	0	0.0
Disease Outbreaks (Deaths, 000s)	0	0.0	0	0.0
Year	0	0.0	0	0.0
Recipient country	0	0.0	0	0.0
World Bank income group	23	1.1	21	1.4
Population	0	0.0	0	0.0
Population under 30 (Proportion)	0	0.0	0	0.0
GHE (thousand, 2017 US$)	0	0.0	0	0.0
TOTAL	335	15.6	154	10.2

Supplementary Table 5.3.1: Missing data, 2000–2015.
Original dataset. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. pc=per capita. US$=United States dollars.

Seventeen regressors were used in the imputation model:

$$
\begin{aligned}
&y_{it} \\
&= \alpha_0 + \beta_1 Year_t + \beta_2 Recipient\ Country_i + \beta_3 DAMH_{it} \\
&+ \beta_4 Ln\ DALYs\ for\ Mental\ Health\ per\ capita_{it} + \beta_5 Percentage\ of\ DALYs\ for\ Other\ Health_{it} \\
&+ + \beta_6 (Percentage\ of\ DALYs\ for\ Other\ Health_{it} \\
&* Percentage\ of\ DALYs\ for\ Other\ Health_{it}) \\
&+ \beta_7 Ln\ GDP\ per\ capita_{it} + \beta_8 Trade\ (\%GDP)_{it} \\
&+ \beta_9 Government\ Effectiveness_{it} + \beta_{10} Government\ Health\ Spending\ (\%GDP)_{it} \\
&+ \beta_{11} Conflicts_t + \beta_{12}\ Natural\ Disasters_{it} + \beta_{13}\ Disease\ Outbreaks_{it} \\
&+ \beta_{14}\ World\ Bank\ Income\ Group_{it} + \beta_{15} Ln\ Population_{it} \\
&+ \beta_{16} Proportion\ of\ Population\ Under\ 30_{it} + \beta_{17} Government\ Health\ Spending_{it} + u_{it}
\end{aligned}
$$

where y represents the four imputed variables; *i* recipient country; *t* year; *α* intercept; *β* regression coefficients for each independent variable; *u* error term. The imputation model includes all variables from the final analytical model, two variables reflecting time series cross-sectional data structure (year, recipient country), and four auxiliary variables highly correlated with imputed variables (World Bank income group, population, proportion of the population under 30, government health spending). World Bank income groups came from the World Bank country classification using the World Bank Atlas Method (World Bank, 2018). The variable representing the proportion of the population under 30 years old was sourced from the Global Burden of Disease Study 2017 Population Estimates 1950–2017 dataset published by the Institute for Health Metrics and Evaluation (Global Burden of Disease Collaborative Network, 2018c). Logarithmic values of three variables were used to normalise their distribution (Population) or to facilitate interpretation (DALYs for mental health per capita, GDP per capita). No additional variables predicting missingness were added. Logarithmic values were used during the imputation process.

Missing data were treated using multiple imputation by chained equations (MICE) with predictive mean matching, 20 imputations and kernel 1 (White et al., 2011). The number of imputations (20) was chosen to reflect the percentage of missing data (16%), in line with the rule of thumb proposed by White et al. (2011), which builds on Bodner (2008). The number of closest observations (nearest neighbours) to draw from was reduced to 1

in order to increase the probability of using during the imputation process values resulting in valid statistical inference. Post imputation diagnostics were performed on both imputation and analytical models (Nguyen et al., 2017).

One auxiliary variable (World Bank income group) had missed data (1.1%). For this variable only, missing data were imputed using the 'first observation carried backward' before performing multiple imputation. This method was chosen as data were not missing at random but reflected disbursements to recipient countries created during the period of study (i.e. Montenegro, Serbia, South Sudan). Extreme changes in income group country classification were unlikely due to the relatively short time period (i.e. 16 years).

Supplement 5.4: Model specification

I used the following base specification of the two-part model:

Selection equation:

$$
\begin{aligned}
&\Pr(DAMH\ selection_{it} = 1)_{\mathrm{it}} \\
&= \mathrm{F}\ (\alpha_0 + \phi_1 DAMH\ Selection_{it-2} \\
&+ \alpha_1 Ln\ DALYs\ for\ Mental\ Health\ per\ capita_{it-2} + \alpha_2 Percentage\ of\ DALYs\ for\ Other\ Health_{it-2} \\
&+ \alpha_3 (Percentage\ of\ DALYs\ for\ Other\ Health_{it-2} \\
&* Percentage\ of\ DALYs\ for\ Other\ Health_{it-2}) \\
&+ \alpha_4 Ln\ of\ GDP\ per\ capita_{it-2} + \alpha_5 Trade\ (\%GDP)_{it-2} \\
&+ \alpha_6 Government\ Effectiveness_{it-2} + \alpha_7 Government\ Health\ Spending\ (\%GDP)_{it-2} \\
&+ \alpha_8\ Conflicts_{it-1} + \alpha_9\ Conflicts_{it-2} + \alpha_{10}\ Natural\ Disasters_{it-1} \\
&+ \alpha_{11}\ Natural\ Disasters_{it-2} + \alpha_{12}\ Disease\ Outbreaks_{it-1} + \alpha_{13}\ Year_t)
\end{aligned}
$$

Allocation equation:

$$
\begin{aligned}
&\text{Ln of DAMH per capita}_{\mathrm{it}} \\
&= \beta_0 \\
&+ \beta_1 Ln\ DALYs\ for\ Mental\ Health\ per\ capita_{it-2} + \beta_2 Percentage\ of\ DALYs\ for\ Other\ Health_{it-2} \\
&+ \beta_3 (Percentage\ of\ DALYs\ for\ Other\ Health_{it-2} \\
&* Percentage\ of\ DALYs\ for\ Other\ Health_{it-2}) \\
&+ \beta_4 Ln\ of\ GDP\ per\ capita_{it-2} + \beta_5 Trade\ (\%GDP)_{it-2} \\
&+ \beta_6 Government\ Effectiveness_{it-2} + \beta_7 Government\ Health\ Spending\ (\%GDP)_{it-2} \\
&+ \beta_8\ Conflicts\ (Deaths)_{it-1} + \beta_9\ Conflicts\ (Deaths)_{it-2} \\
&+ \beta_{10}\ Natural\ Disasters\ (Deaths)_{it-1} + \beta_{11}\ Natural\ Disasters\ (Deaths)_{it-2} \\
&+ \beta_{12}\ Disease\ Outbreaks\ (Deaths)_{it-1} + \beta_{13}\ DAMH\ Selection_{it-2} + \beta_{14}\ Year_t + u_{it}
\end{aligned}
$$

where *i* is the recipient country; *t* year; *s* lags; *F* cumulative distribution function; α_0 and β_0 intercepts; ϕ regression coefficient for the autoregressive term; α and β regression coefficients for each independent variable; *u* error term.

Supplement 5.5: Estimation approach

I used a two-part model (Cragg, 1971) to reflect the two stages of the resource allocation process (Stubbs et al., 2016). This model has the advantage of relaxing assumptions in single-step estimation techniques (e.g. Tobit) that the drivers of any DAMH receipt are the same as the drivers of the *amount* of such assistance (Clist, 2011). However, a potential problem with two-part models is the assumption that error terms are uncorrelated between the two parts, implying that the two decisions are taken independently. While Heckman's two-step estimator allows for error terms to be correlated (Heckman, 1979), it works better with an exclusionary variable which determines the first but not the second stage. Without this exclusionary variable, which is the case here, estimates depend on stricter distributional assumptions and are more sensitive to non-normality and heteroskedasticity (Harrigan & Wang, 2011). Previous studies find little correlation between error terms in both equations, suggesting the two decisions are made independently (Hoeffler & Outram, 2011).

In accordance with Stubbs et al. (2016), I did not use the system Generalized Method of Moments (GMM) estimator. For the selection model, the presence of a limited dependent variable did not allow for the use of the system GMM estimator. For the allocation model, while GMM techniques for panel data are increasingly used to study allocation of development assistance, caution is called when used with panel datasets with different characteristics from the one they were originally designed for (i.e. few time periods and thousands of panels) (Wilson, 2011). This is due to loss of precision in standard errors and unreliable inferences in the presence of instrument proliferation (Roodman, 2009).

Informed by Neumayer (2003), I used pooled estimators instead of fixed effects models because the focus of this study was on factors associated with DAMH disbursement *between* countries (not within countries) and there was little within-country variation. Gravity models were not used in order to include *all* DAMH independently from the source. Analyses would have required three different two-part models to explore three different sources (bilateral governmental organisations, multilateral governmental

organisations, and foundations) while the focus of this study was on *collective* action across donors.

Random effects models were not used due to misspecification revealed by the Hausman specification test, meaning that recipient country effects were not adequately modelled in random effects models when compared with fixed effects models (Hausman, 1978). The clustered standard errors estimator was used to correct for serial correlation within recipient countries. Adjusted standard errors using the cluster sandwich estimator allow relaxation of the assumption that observations are independent, i.e. allow for possible correlation of observations within recipient country.

A potential concern was endogeneity leading to under- or over-estimation of true associations. I addressed endogeneity due to omitted variables, simultaneity, and measurement errors. I used pre-estimation diagnostics (link test) to test for model misspecifications and possible variable omissions, and post-estimation diagnostics to test the validity of models both visually (residual plots) and numerically (Wald test). Lagging independent variables mitigated potential concerns of simultaneity with dependent variables. Major systematic measurement errors in the variables were not found in the literature.

Supplement 5.6: Country included in the analyses, by WHO region (N=142)

AFR (N=45)	Algeria	Ethiopia	Niger
	Angola	Gabon§	Nigeria
	Benin	Ghana	Rwanda
	Botswana§	Guinea	Senegal
	Burkina Faso	Guinea-Bissau	Seychelles§
	Burundi	Kenya	Sierra Leone
	Cameroon	Lesotho	South Africa
	Cape Verde§	Liberia	South Sudan
	Central African Republic	Madagascar	Swaziland
	Chad	Malawi	Tanzania
	Comoros§	Mali	The Gambia
	Congo (Brazzaville)	Mauritania§	Togo
	Cote d'Ivoire	Mauritius§	Uganda
	Equatorial Guinea§	Mozambique	Zambia
	Eritrea	Namibia	Zimbabwe
AMR (N=29)	Antigua and Barbuda	Dominican Republic	Nicaragua
	Argentina	Ecuador	Panama
	Barbados§	El Salvador	Paraguay
	Belize	Grenada	Peru
	Bolivia	Guatemala	Saint Lucia
	Brazil	Guyana	Saint Vincent and the Grenadines
	Chile	Haiti	Suriname
	Colombia	Honduras	Uruguay
	Costa Rica	Jamaica	Venezuela
	Dominica§	Mexico	
EMR (N=15)	Afghanistan	Iraq	Oman§
	Bahrain* §	Jordan	Pakistan
	Djibouti§	Lebanon	Saudi Arabia§
	Egypt	Libya	Sudan
	Iran	Morocco	Tunisia
EUR (N=27)	Albania	Georgia	Poland
	Armenia	Hungary	Russia
	Azerbaijan	Kazakhstan	Serbia
	Belarus	Kyrgyzstan	Slovakia
	Bosnia and Herzegovina	Latvia§	Tajikistan
	Bulgaria§	Lithuania§	Turkey
	Croatia	Macedonia	Turkmenistan§
	Czech Republic§	Moldova	Ukraine
	Estonia§	Montenegro	Uzbekistan
SEAR (N=9)	Bangladesh	Indonesia	Nepal
	Bhutan	Maldives§	Sri Lanka
	India	Myanmar	Thailand
WPR (N=17)	Cambodia	Laos	Samoa§
	China	Malaysia	Solomon Islands
	Federated States of	Marshall Islands§	South Korea* §
	Micronesia§	Mongolia	Tonga§
	Fiji	Papua New Guinea§	Vanuatu§
	Kiribati	Philippines	Vietnam

Twenty-six countries and territories were discarded due to lack of data on variables of interest: Anguilla, Cook Islands, Cuba, Democratic Republic of the Congo, Kosovo, Mayotte, Montserrat, Nauru, Niue, North Korea, Palau, Palestine, Romania, Saint Helena, Saint Martin, Sao Tome and Principe, Somalia, St Kitts and Nevis, Syria, Timor Leste,

Tokelau, Trinidad and Tobago, Turks and Caicos Islands, Tuvalu, Wallis and Futuna Islands, Yemen. *Countries excluded from analyses of selection model. §Countries excluded from analyses of allocation model. AFR=African region. AMR=region of the Americas. EMR=Eastern Mediterranean region. EUR=European region. SEAR=South-East Asia region. WPR=Western Pacific region.

Supplement 5.7: Trends

Year	N	DAMH (2017 US$)	DALYs for Mental Health
2000	140	3,970,000	196,000,000
2001	139	3,940,000	195,000,000
2002	139	7,400,000	197,000,000
2003	140	6,100,000	199,000,000
2004	139	6,150,000	201,000,000
2005	138	4,940,000	204,000,000
2006	136	9,460,000	205,000,000
2007	133	11,600,000	206,000,000
2008	132	14,300,000	209,000,000
2009	130	22,100,000	209,000,000
2010	131	22,100,000	213,000,000
2011	131	21,800,000	215,000,000
2012	129	22,400,000	208,000,000
2013	129	25,200,000	210,000,000
2014	128	21,200,000	213,000,000
2015	129	21,700,000	226,000,000

Supplementary Table 5.7.1: Total DAMH and DALYs for mental health across all countries within a single year between 2000 and 2015.
Totals were computed by adding up values across all countries within a single year. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. N=number of country-year observations. US$=United States dollars.

		DAMH (2017 US$)					DALYs for Mental Health				
Year	N	Median	Q1	Q3	Min	Max	Median	Q1	Q3	Min	Max
2000	140	0	0	0	0	1,959,538	231,027	82,066	761,010	1,934	47,765,807
2001	139	0	0	8,844	0	630,536	230,882	81,496	759,027	1,955	46,632,868
2002	139	3,154	0	42,442	0	1,067,199	235,687	87,971	784,501	1,990	46,002,571
2003	140	67	0	21,437	0	774,800	237,145	87,633	806,054	2,013	45,815,662
2004	139	752	0	20,224	0	1,378,600	238,428	85,106	831,390	2,031	46,148,249
2005	138	455	8	14,120	0	480,205	242,575	84,848	848,616	2,047	46,575,801
2006	136	1,544	54	73,435	0	819,117	251,161	89,883	862,122	2,065	47,225,320
2007	133	2,698	0	56,793	0	988,490	262,628	92,129	879,621	2,072	47,665,213
2008	132	7,083	1	105,071	0	1,598,248	277,115	90,626	908,943	2,079	48,375,335
2009	130	21,190	135	199,003	0	1,992,076	284,083	90,627	915,083	2,084	49,240,346
2010	131	18,343	972	158,538	0	2,099,651	284,506	92,747	917,328	2,089	50,287,219
2011	131	23,639	246	195,327	0	3,364,339	295,664	92,863	929,748	2,093	51,337,648
2012	129	19,290	1,205	157,132	0	4,682,742	324,007	93,394	923,038	2,098	51,726,906
2013	129	15,355	873	136,317	0	7,034,151	324,541	93,927	941,519	2,103	52,177,691
2014	128	16,180	129	194,913	0	2,179,048	332,550	86,792	980,590	2,109	52,817,848
2015	129	13,117	6	154,614	0	2,086,069	339,245	94,422	1,010,253	2,118	53,150,061

Supplementary Table 5.7.2: DAMH and DALYs for mental health across all countries within a single year between 2000 and 2015, medians and interquartile ranges.

Values were computed on estimates across all countries within a single year. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. Min=minimum. Max=maximum. N=number of country-year observations. Q1=first quartile. Q3=third quartile. US$=United States dollars.

		DAMH per capita (2017 US$)					DALYs for Mental Health per capita				
Year	N	Median	Q1	Q3	Min	Max	Median	Q1	Q3	Min	Max
2000	140	0.000000	0.000000	0.000000	0.000000	0.479631	0.0344	0.0308	0.0399	0.0261	0.0830
2001	139	0.000000	0.000000	0.000781	0.000000	0.224290	0.0343	0.0305	0.0399	0.0260	0.0835
2002	139	0.000368	0.000000	0.003161	0.000000	0.257912	0.0345	0.0304	0.0402	0.0261	0.0841
2003	140	0.000008	0.000000	0.001810	0.000000	0.250830	0.0347	0.0306	0.0402	0.0259	0.0850
2004	139	0.000088	0.000000	0.001452	0.000000	0.141189	0.0347	0.0304	0.0403	0.0257	0.0848
2005	138	0.000048	0.000001	0.000922	0.000000	4.288752	0.0347	0.0305	0.0405	0.0256	0.0872
2006	136	0.000223	0.000014	0.001981	0.000000	2.862584	0.0348	0.0304	0.0405	0.0256	0.0824
2007	133	0.000195	0.000000	0.001439	0.000000	0.223280	0.0346	0.0303	0.0401	0.0256	0.0791
2008	132	0.000676	0.000000	0.007565	0.000000	5.693367	0.0348	0.0304	0.0400	0.0255	0.0781
2009	130	0.000762	0.000018	0.008798	0.000000	1.796879	0.0349	0.0304	0.0400	0.0254	0.0749
2010	131	0.001327	0.000118	0.010693	0.000000	0.359730	0.0350	0.0305	0.0402	0.0253	0.0743
2011	131	0.001264	0.000121	0.008920	0.000000	1.368440	0.0351	0.0305	0.0404	0.0253	0.0726
2012	129	0.001364	0.000136	0.009695	0.000000	2.431110	0.0351	0.0306	0.0403	0.0252	0.0684
2013	129	0.001178	0.000046	0.009092	0.000000	2.084676	0.0353	0.0306	0.0400	0.0253	0.0676
2014	128	0.000974	0.000046	0.011250	0.000000	7.094241	0.0353	0.0305	0.0403	0.0253	0.0666
2015	129	0.000960	0.000001	0.007255	0.000000	13.767438	0.0354	0.0307	0.0406	0.0254	0.0713

Supplementary Table 5.7.3: DAMH and DALYs for mental health per capita across all countries within a single year between 2000 and 2015, medians and interquartile ranges.

Values were computed on estimates across all countries within a single year. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. Min=minimum. Max=maximum. N=number of country-year observations. Q1=first quartile. Q3=third quartile. US$=United States dollars.

Supplement 5.8: Robustness checks

Robustness checks using different lags

	Pooled Probit		
	Lag 1	**Lag 2**	**Lag 3**
DAMH selection			
Ln DALYs for Mental Health pc			
L1	-0.003		
	(0.060)		
L2		-0.008	
		(0.071)	
L3			-0.007
			(0.077)
DALYs for Other Health (%)[a]			
L1	**-0.011****		
	0.005		
L2		**-0.010***	
		0.005	
L3			**-0.013****
			0.006
Ln GDP pc			
L1	**-0.043****		
	(0.017)		
L2		**-0.062*****	
		(0.019)	
L3			**-0.079*****
			(0.021)
Trade (%GDP)			
L1	**-0.0006*****		
	(0.0002)		
L2		**-0.0005****	
		(0.0002)	
L3			**-0.0005***
			(0.0003)
Government Effectiveness			
L1	0.003		
	(0.015)		
L2		0.002	
		(0.018)	
L3			0.012
			(0.019)
GHE (%GDP)			
L1	0.005		
	(0.007)		
L2		0.002	
		(0.007)	
L3			-0.001
			(0.008)

	Pooled Probit		
	Lag 1	**Lag 2**	**Lag 3**
Conflicts			
L1	-0.011		
	(0.028)		
L2		0.032	
		(0.045)	
L3			0.059
			(0.042)
Natural Disasters			
L1	0.029		
	(0.074)		
L2		.	
		.	
L3			0.039
			(0.080)
Disease Outbreaks			
L1	**0.110*****		
	(0.029)		
L2		**0.104*****	
		(0.031)	
L3			**0.115*****
			(0.034)
DAMH selection			
L1	**0.578*****		
	(0.046)		
L2		**0.532*****	
		-0.047	
L3			**0.476*****
			(0.048)
Year Fixed Effects	Yes	Yes	Yes
Constant	91.23***	164.73***	160.96***
	(32.85)	(53.61)	(53.99)
F statistic	127.62	52.41	26.59
p-value	0	2.42e-240	1.73e-114
N observations	1997	1820	1718
N countries	140	140	139

Supplementary Table 5.8.1: Factors associated with selection of DAMH recipients between 2000 and 2015, lags 1–3.

Average marginal effects with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. (.) Omitted due to collinearity. [a]Combined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita.

	Pooled OLS		
	Lag 1	**Lag 2**	**Lag 3**
Ln DAMH pc (2017 US$)			
Ln DALYs for Mental Health pc			
L1	-1.802		
	(1.279)		
L2		-1.682	
		(1.290)	
L3			-1.625
			(1.293)
DALYs for Other Health (%)[a]			
L1	**-0.237****		
	0.098		
L2		**-0.244*****	
		0.097	
L3			**-0.244****
			0.100
Ln GDP pc			
L1	**-1.240*****		
	(0.340)		
L2		**-1.220*****	
		(0.339)	
L3			**-1.221*****
			(0.352)
Trade (%GDP)			
L1	0.005		
	(0.005)		
L2		0.003	
		(0.005)	
L3			0.004
			(0.005)
Government Effectiveness			
L1	0.588		
	(0.441)		
L2		0.536	
		(0.449)	
L3			0.512
			(0.463)
GHE (%GDP)			
L1	**0.469*****		
	(0.151)		
L2		**0.468*****	
		(0.157)	
L3			**0.462*****
			(0.153)
Conflicts (Deaths, 000s)			
L1	**0.095***		
	(0.057)		
L2		0.064	
		(0.046)	
L3			0.071
			(0.047)

	Pooled OLS		
	Lag 1	**Lag 2**	**Lag 3**
Natural Disasters (Deaths, 000s)			
L1	0.003		
	(0.009)		
L2		**0.013*** **	
		(0.004)	
L3			**0.008***
			(0.004)
Disease Outbreaks (Deaths, 000s)			
L1	-0.001		
	(0.001)		
L2		-0.001	
		(0.001)	
L3			-0.001
			(0.001)
DAMH selection			
L1	**0.834*** **		
	(0.309)		
L2		**1.497*** **	
		(0.317)	
L3			**0.940*** **
			(0.293)
Year Fixed Effects	Yes	Yes	Yes
Constant	-256.72*	-256.09*	-242.82*
	(136.24)	(138.11)	(140.18)
F statistic	12.52	12.58	11.97
p-value	4.55e-22	8.74e-22	1.97e-20
N observations	1481	1426	1334
N countries	114	114	112

Supplementary Table 5.8.2: Factors associated with DAMH allocation between 2000 and 2015, lags 1–3.

Regression coefficients with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. [a]Combined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita. US$=United States dollars.

Robustness checks excluding outliers

	Pooled Probit	
	Trimmed[b]	**Winsorised[c]**
DAMH selection		
L2 Ln DALYs for Mental Health pc	-0.012	-0.007
	(0.070)	(0.071)
L2 DALYs for Other Health (%)[a]	**-0.009***	-0.009
	0.006	0.006
L2 Ln GDP pc	**-0.057*****	**-0.060*****
	(0.020)	(0.019)
L2 Trade (%GDP)	**-0.0005****	**-0.0005****
	(0.0002)	(0.0002)
L2 Government Effectiveness	0.0007	0.0016
	(0.0181)	(0.0181)
L2 GHE (%GDP)	-0.001	0.002
	(0.008)	(0.007)
L1 Conflicts	-0.035	-0.034
	(0.058)	(0.058)
L2 Conflicts	0.059	0.058
	(0.055)	(0.055)
L1 Natural Disasters	0.048	0.049
	(0.101)	(0.101)
L2 Natural Disasters	.	.
	.	.
L1 Disease Outbreaks	**0.097*****	**0.097*****
	(0.033)	(0.033)
L2 DAMH selection	**0.535*****	**0.533*****
	(0.047)	(0.047)
Year Fixed Effects	Yes	Yes
Constant	170.42***	166.71***
	(54.25)	(54.25)
F statistic	48.56	51.07
p-value	1.73e-240	8.23e-254
N observations	1798	1818
N countries	140	140

Supplementary Table 5.8.3: Factors associated with selection of DAMH recipients between 2000 and 2015, excluding outliers. Average marginal effects with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05,

***P<0.01. (.) Omitted due to collinearity. [a]Combined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. [b]First and 99th percentiles of the variable DAMH per capita were excluded. [c]Extreme values were replaced with extreme percentiles of the variable DAMH per capita, meaning values smaller than the first percentile were replaced with the first percentile value and values bigger than the 99th percentile with the 99th percentile value. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita.

	Pooled OLS	
	Trimmed[b]	**Winsorised[c]**
Ln DAMH pc (2017 US$)		
L2 Ln DALYs for Mental Health pc	-1.757	-1.671
	(1.223)	(1.282)
L2 DALYs for Other Health (%)[a]	**-0.234*** **	**-0.242*** **
	0.092	0.097
L2 Ln GDP pc	**-1.112*** **	**-1.242*** **
	(0.326)	(0.338)
L2 Trade (%GDP)	0.003	0.003
	(0.004)	(0.005)
L2 Government Effectiveness	0.369	0.588
	(0.416)	(0.449)
L2 GHE (%GDP)	**0.381*** **	**0.476*** **
	(0.136)	(0.156)
L1 Conflicts (Deaths)	0.072	**0.089***
	(0.049)	(0.051)
L2 Conflicts (Deaths)	0.023	0.026
	(0.026)	(0.028)
L1 Natural Disasters (Deaths, 000s)	-0.005	-0.003
	(0.007)	(0.007)
L2 Natural Disasters (Deaths, 000s)	**0.012*** **	**0.014*** **
	(0.004)	(0.005)
L1 Disease Outbreaks (Deaths, 000s)	**-0.002***	-0.001
	(0.001)	(0.001)
L2 DAMH selection	**1.548*** **	**1.496*** **
	(0.311)	(0.317)
Year Fixed Effects	Yes	Yes
Constant	-219.48*	-262.26*
	(123.46)	(136.06)
F statistic	10.85	11.99
p-value	4.37e-20	1.08e-21
N observations	1396	1426
N countries	114	114

Supplementary Table 5.8.4: Factors associated with DAMH allocation between 2000 and 2015, excluding outliers.

Regression coefficients with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. [a]Combined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. [b]First and 99th

percentiles of the variable DAMH per capita were excluded. [c]Extreme values were replaced with extreme percentiles of the variable DAMH per capita, meaning values smaller than the first percentile were replaced with the first percentile value and values bigger than the 99th percentile with the 99th percentile value. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita. US$=United States dollars.

Robustness checks using original data

	Pooled Probit	
	Full data	**Complete cases**
DAMH selection		
L2 Ln DALYs for Mental Health pc	-0.014	-0.012
	(0.063)	(0.063)
L2 DALYs for Other Health (%)[a]	**-0.014*** **	**-0.014*** **
	0.005	0.005
L2 Ln GDP pc	**-0.050*** **	**-0.052*** **
	(0.017)	(0.017)
L2 Trade (%GDP)	**-0.0004***	**-0.0004***
	(0.0002)	(0.0002)
L2 Government Effectiveness	-0.014	-0.013
	(0.016)	(0.017)
L2 GHE (%GDP)	0.002	0.002
	(0.006)	(0.006)
L1 Conflicts	-0.066	-0.067
	(0.059)	(0.059)
L2 Conflicts	**0.103** **	**0.103** **
	-0.047	-0.047
L1 Natural Disasters	0.017	0.016
	(0.098)	(0.098)
L2 Natural Disasters	.	.
	.	.
L1 Disease Outbreaks	**0.101*** **	**0.103*** **
	(0.029)	(0.028)
L2 DAMH selection	**0.540*** **	**0.537*** **
	-0.051	(0.051)
Year Fixed Effects	Yes	Yes
Constant	132.61***	130.74***
	(49.57)	(49.35)
Chi-Squared statistic	1104.74	1071.61
p-value	4.80e-218	5.36e-211
Pseudo R-Squared	0.525	0.525
N observations	1603	1595
N countries	139	139

Supplementary Table 5.8.5: Factors associated with selection of DAMH recipients between 2000 and 2015, original dataset.

Average marginal effects with clustered standard errors in parentheses, original dataset. Significance: *P<0.10, **P<0.05, ***P<0.01. (.) Omitted due to collinearity. [a]Combined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita.

	Pooled OLS	
	Full data	**Complete cases**
Ln DAMH pc (2017 US$)		
L2 Ln DALYs for Mental Health pc	-1.553	-1.563
	(1.171)	(1.172)
L2 DALYs for Other Health (%)[a]	**-0.182***	**-0.183***
	0.096	0.096
L2 Ln GDP pc	**-1.222*****	**-1.199*****
	(0.330)	(0.327)
L2 Trade (%GDP)	0.004	0.004
	(0.004)	(0.004)
L2 Government Effectiveness	0.516	0.481
	(0.423)	(0.419)
L2 GHE (%GDP)	**0.496*****	**0.491*****
	(0.154)	(0.155)
L1 Conflicts (Deaths, 000s)	0.0791	0.077
	(0.0491)	(0.049)
L2 Conflicts (Deaths, 000s)	0.052	0.051
	(0.034)	(0.034)
L1 Natural Disasters (Deaths, 000s)	-0.003	-0.003
	(0.007)	(0.007)
L2 Natural Disasters (Deaths, 000s)	**0.012*****	**0.011*****
	(0.004)	(0.004)
L1 Disease Outbreaks (Deaths, 000s)	**-0.002***	**-0.002***
	(0.001)	(0.001)
L2 DAMH selection	**0.921*****	**0.900****
	(0.349)	(0.351)
Year Fixed Effects	Yes	Yes
Constant	-188.27	-191.71
	(134.64)	(134.25)
F statistic	11.52	11.48
p-value	8.35e-21	9.52e-21
Adjusted R-Squared	0.197	0.197
N observations	1305	1300
N countries	113	113

Supplementary Table 5.8.6: Factors associated with DAMH allocation between 2000 and 2015, original dataset.

Regression coefficients with clustered standard errors in parentheses, original dataset. Significance: *P<0.10, **P<0.05, ***P<0.01. [a]Combined marginal effect for L2 DALYs for

Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs=disability-adjusted life years. DAMH=development assistance for mental health. GDP=gross domestic product. GHE=government health expenditure. Ln=logarithm. pc=per capita. US$=United States dollars.

Chapter 6

How and why external organisations invest in mental health in low- and middle-income countries: a qualitative analysis[8]

Abstract

Mental disorders (including substance use disorders, dementia and self-harm) account for a substantial burden of disease and economic costs in low- and middle-income countries (LMICs), yet they attract little funding. External resources are urgently needed but evidence on investments is limited. This study uses 35 elite interviews and documentary analyses to examine *how* and *why* external organisations have invested in mental health in LMICs over the past three decades and how this has changed over time. Four levels are examined: organisations, source countries, recipient countries, global landscape. Organisations invested in numerous internal and external activities. Amongst the various factors shaping organisational decisions, actors were the most salient at all four levels. To increase external organisation investments in mental health in LMICs, organisational leadership and understanding are critical, along with increased political support in source and recipient countries, and a stronger governance structure at the global level.

6.1. Introduction

Around the world 1.2 billion people live with mental disorders (including substance use disorders, dementia and self-harm), 81% of whom live in LMICs (Global Burden of Disease Collaborative Network, 2018d). Although mental disorders are the leading cause of disability in LMICs (IHME, 2018c) and account for high economic costs (Bloom et al., 2011), they attract little funding: an average of 1.6% of government health budgets across LMICs (WHO, 2013b) and 0.4% of development assistance for health (Charlson et al., 2017). The *Lancet Commission on Global Mental Health and Sustainable Development*

[8] A version of this chapter is currently in press with *Lancet Psychiatry* with the following reference: Iemmi, V. (In press). How and why external organisations invest in mental health in low- and middle-income countries: a qualitative analysis. *Lancet Psychiatry*.

recently called for more domestic and external resources for mental health to address this shortfall (Patel et al., 2018).

Having been long neglected globally (Tomlinson & Lund, 2012), mental health is now gaining prominence in the global discourse (Kleinman et al., 2016), albeit without concomitant funding. The Addis Ababa Action Agenda (UN, 2015a) and the United Nations Sustainable Development Goals (SDGs) (UN, 2015b) recommend mobilisation of external resources from various sources (e.g. development assistance, foreign direct investments), along with a gradual increase of domestic resources to ensure sustainability. External resources are especially key in LMICs where governments face considerable economic pressures. It is therefore critical to understand how external organisations invest in mental health in LMICs and what influences their decision-making.

A large and complex ecosystem of external organisations for mental health in LMICs exists across the public, private, and third sectors, yet their contributions are limited (see Chapter 3). For instance, while development assistance for mental health has increased six-fold over two decades, it still accounts for the lowest amount of development assistance for health per disability-adjusted life year (i.e. year of 'healthy' life loss) across health conditions (Charlson et al., 2017). Philanthropy plays a crucial role, representing one third of development assistance for mental health compared to one sixth of development assistance for health (see Chapter 4).

Diverse arguments have been advanced to increase investments in mental health in LMICs, from public health to economic welfare, economic growth and productivity, equity, sociocultural influence, and political influence (WHO, 2013b). However, commitments have been hampered by poor understanding of mental disorders, lack of strong metrics, stigma, and competing priorities (Mackenzie & Kesner, 2016; Saraceno et al., 2007). To the author's knowledge, no study has yet explored prioritisation of mental health in LMICs by external organisations. A broad literature explores the generation of priorities in health at global levels (Shiffman, 2010) and resource allocation formulae (Ottersen et al., 2018), but little attention is given to factors affecting prioritisation within external organisations (Berthélemy, 2006).

This paper examines *how* and *why* external organisations have invested in mental health in LMICs over the past three decades, and identifies challenges and opportunities to inform discussion on sustainable financing for mental health in LMICs.

6.2. Methods

6.2.1. Data collection

The author conducted 35 elite interviews (February–December 2018) lasting on average 1h (0·5–1·5h), with decision-makers working in international organisations in global health and experts in global mental health, selected for their strategic position and influence (Harvey, 2011). Participants were selected using purposeful sampling and snowballing until saturation (i.e. point at which additional interviews were unlikely to reveal new information) (Robson, 2011). Purposeful sampling was informed by a systematic review of external organisations active in mental health in LMICs (see Chapter 3) and by documentary searches in websites of key international organisations working in global health and development.

To capture the heterogeneity of the population, participants were sampled for diversity according to their organisation group (see Chapter 3): public sector (bilateral and multilateral governmental organisations, bilateral and multilateral development finance institutions), private sector (corporations and small and medium enterprises, foundations), third sector (nongovernmental organisations) and multisector partnerships (global health initiatives, innovation funds) (see Box 6.1). Twenty-eight organisations from 12 countries in three regions (Africa, Americas, Europe) were represented. See Supplement 6.2 for participant characteristics.

The author conducted in-depth semi-structured interviews face-to-face and via telephone or Skype, in English and Italian. The interview guide was individually adapted to elicit knowledge of each participant (see Supplement 6.3). Informed consent was obtained from participants in writing or orally before interview. Interviews were digitally recorded when permitted (N=29) and notes taken. Recordings were transcribed *verbatim*, along with interview and field notes. To triangulate information across different sources and

minimise bias during data analysis (Padgett, 2012), the author supplemented interviews with documentary analyses of peer-reviewed and grey literature, and institutional websites of included organisations (e.g. scientific papers, charters, strategic plans, policy and financial reports, public statements).

6.2.2. Data analysis

Thematic analysis was used, organising data into two themes (activities and motivations) and allowing for emergence of new categories (Braun & Clarke, 2006). The first theme explored funded activities through three sub-themes: typology, arguments, strategies. The second theme explored endogenous and exogenous factors shaping organisations' decisions through four sub-themes: organisations, source countries where organisations were legally registered (not applicable for multilateral actors), recipient countries, global landscape. To facilitate interpretation within each sub-theme, the author grouped results in the four main categories proposed by Shiffman and Smith (Shiffman & Smith, 2007): actors, ideas shaping the issue understanding and portrayal, contexts in which actors operate, and issue characteristics (credible indicators, severity, interventions). Full analytical framework in Supplement 6.4.

The unit of analysis was the organisation. To maximise the robustness of data and minimise bias, the author triangulated across data sources. Analyses were conducted in NVivo 12 (QSR International Pty Ltd, 2018). To ensure confidentiality, interview quotations were anonymised. See Supplement 6.5 for illustrative quotations. The author followed the Standards for Reporting Qualitative Research (SRQR) (see Supplement 6.1) (O'Brien et al., 2014). Ethical approval was obtained from the London School of Economics and Political Science Research Ethics Committee (Ref. 000589).

Box 6.1: External organisations (see Chapter 3)

Public sector

Includes governmental organisations (GOs) providing goods and services to LMICs in agreement with recipient country governments, and development finance institutions (DFIs) offering financial products (e.g. loans) in contexts perceived too risky for

commercial banks. Bilateral GOs are funded by a single state through aid agencies and other governmental agencies investing in development (e.g. US Agency for International Development, ministries of foreign affairs or their equivalents), while multilateral GOs are funded by diverse states at the regional, international, and global level (e.g. European Commission, World Health Organization). Similarly, bilateral DFIs are funded by a single state offering financial products usually at commercial rates (e.g. US Overseas Private Investment Corporation), while multilateral DFIs offer financial products usually at facilitated rates and are funded by diverse states at regional, international, and global level (e.g. African Development Bank, World Bank).

Private sector

Encompasses corporations and small and medium enterprises (CSME), and foundations. CSME are for-profit organisations providing goods and services to/in LMICs through foreign investments (e.g. foreign direct investments) and corporate social responsibility (e.g. financial and in-kind contributions). Foundations are non-profit organisations often grant-making and mostly funded either by for-profit companies (e.g. Microsoft Philanthropies) or gift of shares and endowments from wealthy individuals and their families (e.g. Bill & Melinda Gates Foundation).

Third sector

Comprises the most heterogenous group of non-profit organisations providing goods and services in LMICs, spanning nongovernmental organisations (e.g. BasicNeeds), professional associations (e.g. World Psychiatric Association) and research centres.

Multisector partnerships

Similarly diverse, this group includes multi-stakeholder partnerships initiated by organisations from two or more sectors to increase visibility and resources for global health issues, such as global health initiatives (e.g. Global Fund to Fight AIDS, Tuberculosis and Malaria) and innovation funds (e.g. Dementia Discovery Fund).

6.3. Results

Over the past three decades, external organisations have invested in mental health in LMICs through a broad range of internal and external activities (see Table 6.1). Some organisations have invested in the mental health of their employees through improvement of mental health standards in the workplace, especially amongst corporations. Other organisations have strengthened their mental health capacity, especially in the public and third sectors, through the establishment of mental health advisors, communities of practice, training, guidelines, and monitoring and evaluation of funded mental health activities. Finally, some organisations have supported external activities, including mental health requirements into funded projects, stand-alone programmes, integration into existing priorities, new priority areas, and using their convening power to advance the global mental health agenda. The following sections identify factors that shaped organisational decisions to commit to mental health in LMICs (for illustrative quotations see Supplement 6.5).

	Action	Description
Within organisations		
Organisations' mental health	Wellbeing activities	Wellbeing programmes and activities for all employees aiming to promote mentally healthy environments (interview 5).
	Mental health awareness training	Mental health awareness training aiming to strengthen mental health literacy. For instance, Mental Health First Aid courses to provide employees with knowledge and skills needed to recognise mental health symptoms and support colleagues in recovery (interview 5).
	Mental health peer support groups	Peer support groups for individuals living with or caring for people with mental disorders aiming to create a support network and an advocacy entity within the organisation (interview 21). Easier to introduce in organisations having already established other employee groups (e.g. for minorities or women).
	Mental health support	Support programmes for employees living with mental disorders aiming to improve their work experience and recovery (interview 21).
Organisations' mental health capacity	Mental health advisor	Creation of the new role of mental health advisor aiming to establish a focal person with the purpose to advise on, coordinate and amplify the organisation activities in mental health (interview 21, 29). In larger organisations, this role may be assisted by regional and sometimes country advisors (interview 19).
	Mental health community of practice	Network of employees working in or interested in mental health, aiming to share useful resources and lessons learnt through funded activities, and to offer employees a reference group to turn to for concerted advice (interview 34).
	Mental health training	Mental health training across different departments with two purposes. On the one side, initial learning journeys not only to strengthen mental health capacity but also to identify possible entry points for the organisation (interview 31). On the other side, more regular mental health training, especially recommended in organisations with high staff turn-over.
	Mental health guidelines	Production of guidelines describing the organisation specific approach to mental health aiming to harmonise contributions across the organisation (interview 30, 34).
	Mental health activities monitoring and evaluation	Monitoring of mental health activities funded outside the organisation to ensure transparency and accountability (interview 20). Evaluation to inform future investments and to strengthen mental health capacity through knowledge building and sharing, especially when included in mental health guidelines.
Outside organisations	Requirement for all projects	Mental health considerations across all projects, with broad variation in scope: from recommending integration of mental health components to recipients (though with difficult uptake) (interview 4), to ensuring all recipients meet relevant development requirements (e.g. non-discriminatory practices

		toward people with mental disorders) (interview 27), and requiring the inclusion of mental health components within funded activities (interview 20).
	Stand-alone programme	Stand-alone mental health programme or initiative, often with a health focus (interview 32) (see Box 6.3).
	Integration in existing programmes	Integration of mental health into organisations' existing priority areas, and across different health conditions, sectors and themes (interview 31) (see Box 6.3).
	Priority area	Mental health as a priority area.
	Convening power	Use of the organisation's convening power to advance the global mental health agenda and increase contributions (interview 18, 22, 34).

Table 6.1**:** Organisation activities.

6.3.1. Organisations

Individuals within organisations were pivotal in prioritising mental health in LMICs. First and foremost, leaders were central in shaping priorities from the *top down* (interview 22, 28) linked to personal expertise and interests, and a desire for personal legacy (interview 32). Along with leaders, champions within the organisation were instrumental in pushing the agenda from the *bottom up* (interview 5, 23) using diverse arguments to make the case for investments (see Box 6.2), yet their actions were insufficient, and other factors often acted as catalysts (e.g. natural disasters, interview 19).

Improved understanding and destigmatisation of mental health within an organisation favoured investments. In the past, poor understanding led to *missed* opportunities (e.g. exclusion of mental disorders from non-communicable disease packages) (interview 8) or *misplaced* contributions (e.g. to institutions instead of community-based services for people living with mental disorders) (interview 1). Over the past decade, better cognisance of mental health as a health issue with multiple impacts across sectors and dimensions of life revealed entry points across organisations (interview 5, 21) (see Box 6.3). In addition, the global scale of the issue meant that it resonated amongst most employees as individuals with lived experience or carers (interview 4, 5).

Organisation contexts shaped commitments in five ways. First, the relevance of mental health for organisations' strategic roles and priorities influenced the type of investments more than its prioritisation (interview 19, 21, 28). In particular, the large number of existing priorities and unfinished work in established areas meant that organisations were less likely to take on new challenges, unless integrated into existing programmes and activities (interview 13) (see Box 6.3). Second, financial capacity and the principle of impact-maximisation affected decisions. Organisations often prioritised mental health as a neglected area where (often small) contributions could have a bigger social or financial return on investment (interview 1, 5, 12, 14, 19). Third, in the past, a lack of internal capacity hindered commitments (interview 5, 18), often exacerbated by lack of coordination and high staff turnover (interview 29). However, the establishment of activities to strengthen mental health internal capacity (e.g. mental health advisors,

communities of practice) (see Table 6.1) facilitated uptake over the past decade (interview 21, 29).

Fourth, an increased interest among individuals and entities to whom organisations were accountable (e.g. citizens, member states, shareholders) benefited favourable decisions (interview 11, 18, 32). Often a reflection of accountability, risk-aversion and bureaucracy influenced the rapidity of change: less bureaucratic and risk-averse organisations (e.g. nongovernmental organisations, foundations) were quicker to commit than more bureaucratic and risk-averse ones (e.g. bilateral and multilateral governmental organisations) (interview 9, 16, 18). Finally, organisation commitments were guided by vested interests, such as economic, social, political, reputational or personal gain. While more obvious in the case of commercial arms of corporations and third sector organisations, vested interests were less apparent in other organisations or organisation arms (e.g. corporate social responsibility initiatives) where different types of interests may have coexisted. For instance, in the past, some foundations attached to for-profit companies invested in mental health in LMICs to create new markets (interview 32).

The characteristics of mental health as an issue hampered organisation investments for three reasons. The lack of clear and strong outcome indicators compared to other health conditions was a barrier, especially in organisations strongly driven by social or financial return on investments (e.g. corporations, innovation funds) (interview 11, 16, 17). While the burden of mental disorders in LMICs was substantial and has grown over the past two decades, low availability and poor quality of epidemiological and financial data meant that arguments for contributions were difficult to make (interview 22). Finally, the scarcity of simple cost-effective solutions in mental health and the paucity of evidence on their scalability was a major obstacle, especially in for-profit organisations (e.g. corporations) (interview 3, 12, 14, 16, 21).

Box 6 2: Arguments

Over the past three decades, six different arguments have been used by organisations to make the case for investment in mental health, often simultaneously, and organisations have responded to different arguments aligned with their values and priorities (interview 4, 26).

Public Health

Focuses on the scale of the problem and availability of solutions (Patel et al., 2018). The size of the problem is described in terms of number of persons affected (e.g. prevalence), disability attached to the condition (e.g. disability-adjusted life years) (interview 7, 21) and unmet needs (e.g. treatment gap, which is the gap between need for and provision of services). Available effective solutions are recommended to address needs. This argument has been widely used across all organisations. Public health framing has been unsuccessful in the past when benefits of interventions were advanced without adequate evidence (interview 26).

Human Rights

Focuses on human right abuses (e.g. chaining, torture, sterilisation) (UNHRC, 2019) and inequities (e.g. lack of parity between physical and mental health care). Often deploys illustrative before-and-after stories highlighting the effectiveness of available solutions to seize people's imaginations (interview 10) and to create an emotional connection (interview 7). This argument has been most successful among rights-based organisations and where personal relationships play more prominent roles (e.g. small foundations) (interview 10).

Economic

Highlights productivity losses and societal costs of mental disorders, with economic impacts at individual (e.g. income loss) and societal levels (e.g. gross domestic product loss),[3] and the potential return on investment in interventions (Chisholm et al., 2016). It has gained prominence across organisations over the past decade due to growing availability of economic data, yet often is an insufficient argument in its own (interview

4). This argument has been especially relevant in for-profit organisations (e.g. corporations).

Country priorities

Emphasises requests for support from source and recipient countries. While the former highlight the importance of donor-driven priorities, the latter align with the principles of ownership (i.e. recipient-driven priorities) and sustainability of impact beyond funded activities. This argument has been used especially within public sector organisations (interview 4).

Moral

Frames contributions to global mental health as the 'right thing to do' (Patel et al., 2006b). Less often used, this argument has been justified as aligned with organisational values (interview 5). For instance, in some organisations, ethical considerations led to the integration of mental health components within funded activities (interview 20).

Happiness

Portrays mental health as the major cause of unhappiness (Layard et al., 2013). It transcends the public health argument (interview 15). This argument has emerged more recently, concomitantly with the happiness and wellbeing agenda globally.

Box 6.3: Strategies

Stand-alone

Pushes mental health as a stand-alone issue, often limited to the health sector (interview 32). Traditionally, it has been the prominent strategy. However, organisations have realised that mental health is 'a different challenge' that cannot be addressed with the same strategies used for other health conditions (interview 13).

Integrated

Pulls together mental health programmes and activities within organisations' existing priorities: different health conditions (e.g. HIV/AIDS) (Remien et al., 2019), sectors (e.g. education, employment, criminal justice) (Patel et al., 2016a), and themes (e.g. gender, disability, youth) (Lund et al., 2018) (interview 6, 12, 15). It is beneficial not only for addressing mental disorders but also for amplifying the impact of investments in existing priority areas (interview 29). Stronger evidence and better articulation of those links have facilitated the identification of entry points within organisations' existing priorities (interview 15). This strategy is now gaining prominence and success.

The emergence of an integrated strategy has benefitted from traction gained by the multisectoral and life-course approaches in mental health. The *multisectoral* approach advocates for a whole-society response, coordinated across sectors and areas of life (interview 28, 34). The *life-course* approach frames the impact of investments over the lifetime from childhood to adulthood and across generations (e.g. from individuals to their children and vice versa) (interview 6). This approach has benefitted from an increased focus on non-communicable disorders already adopting it, and the inclusion of mental health within non-communicable disorders (interview 28). Those approaches have been gaining traction especially among organisations in the public sector, possibly due to more sizeable investments and opportunities to adopt a systemic approach, often in partnership with LMIC governments.

6.3.2. Source countries

Political leaders' commitment to mental health in the source country directly or indirectly influenced organisation contributions to mental health in LMICs, especially in public sector organisations. Neglected for many years, the recent ascent of mental health on domestic agendas is slowly percolating into development and foreign policy agendas (interview 8, 13, 19). This reflects a growing public appetite for the issue (interview 5), facilitated by its destigmatisation and more positive coverage in the media (interview 26). In addition, the tax systems in source countries shaped commitment size and characteristics, through tax incentives (interview 10) and disbursement requirements

(e.g. through channel organisations in the source country) (interview 9) for private and third sector organisations.

6.3.3. Recipient countries

While mental health needs in recipient countries motivated organisation commitments to mental health in LMICs (interview 28, 34), political support facilitated them (interview 7, 26) and its absence posed a major obstacle (interview 1, 11), especially in the public sector. Political willingness of recipient countries meant governments were more open to both requesting and receiving external funding (interview 19, 28, 32, 34) and to ensuring sustainability of impact beyond funded activities (interview 19). Often linked to pervading stigma, lack of public support in recipient countries equally hindered commitments (interview 4). The 'readiness' of recipient countries influenced investments (interview 4), especially in the private sector. In particular, while a lack of absorptive capacity (e.g. low numbers of mental health workers) constituted a major barrier across sectors, lack of fiscal (e.g. government mental health budget) and regulatory (e.g. mental health acts and policies) spaces deterred the creation of markets, discouraging especially for-profit organisations (e.g. corporations) (interview 32).

6.3.4. Global landscape

While the lack of a momentum was historically a barrier for investments (interview 8), over the past decade global mental health moved from exceptionalism to an emerging 'new market' (interview 10, 35), gaining prominence in the development discourse (interview 5) amongst external actors in health and beyond (interview 8, 19). However, organisation relationships were fraught with historical tensions, especially vis-à-vis pharmaceutical companies (interview 1) and the larger for-profit sector (interview 17). A 'permanent system of influence' (interview 10), a group of charismatic individuals, was crucial in propelling mental health higher in the agenda and fuelling excitement across organisations (interview 10, 16, 18), yet its strong research focus is starting to show its limitations in influencing non-research organisations (interview 11, 19). Insufficient in the past, the growing advocacy movement of strong grassroot organisations led to increased visibility of mental health and provided the external pressure which was instrumental in spurring organisation investments (interview 19, 21, 28).

The fragmentation of the mental health community led to the coexistence of a multiplicity of different understandings and portrayals of the issue, which increased confusion and hampered organisation investments (interview 5, 16, 32). The *Lancet Commission on Global Mental Health and Sustainable Development* (Patel et al., 2018) recently provided a clearer description of the issue to the mental health community, combining different approaches and attempting to unite the field, although it is not without critics (Cosgrove et al., 2019). Conversely, while stigma was a barrier in the past, the recent destigmatisation of mental health and deinstitutionalisation contributed to illuminate the size of the burden and available solutions, facilitating investments (interview 1, 26).

Some events created policy windows that galvanised action (e.g. 2004 tsunamis in Banda Ache and Sri Lanka) (interview 19, 22), while others were considered as missed opportunities (e.g. 2014–2016 Ebola outbreak in West Africa) (interview 25). Most of them constituted 'stepping stones', gradually influencing investments (interview 19, 26). For instance, the inclusion of mental health in the SDGs (UN, 2015b), in global conventions (e.g. Convention on the Rights of Persons with Disabilities) (UN, 2006) and plans (e.g. Mental Health Action Plan 2013-2020) (WHO, 2013c) helped elevate the issue in the development discourse (interview 29) and provided frameworks for action (interview 12, 14) but was rarely followed by financial commitments (interview 3, 11, 19). Similarly, high-level meetings focusing on mental health were instrumental in energising the mental health community and increasing political attention (interview 4, 10, 16, 17), yet 'successful' in influencing commitments only when some actors were already willing to invest (e.g. G8 Dementia Summit convened by UK Prime Minister David Cameron in 2013) (DHSC, 2013) (interview 21). Less formal roundtables and meetings organised by non-state actors played important roles in stoking leaders' interest and prompting commitments from key external actors, highlighting the importance of informal networks and relationships (interview 4, 5, 6, 10, 25).

Finally, while the absence of a global governance structure may have hampered investments, the creation of coordination groups helped to spur interests amongst and

collaborations across organisations. These included the Inter-Agency Standing Committee reference group on mental health and psychosocial support in emergency settings established in 2007 (interview 24), the International Alliance for Mental Health Research Funders in 2010, and the first permanent donor group on psychosocial support in humanitarian settings in 2018 (interview 18).

6.4. Discussion

Over the past three decades, external organisations invested in mental health in LMICs through a panoply of internal and external activities, including activities strengthening employees' mental health, organisations' capacity, and investments. Among the numerous factors that shaped their decisions, actors were the most salient ones across all levels: from leaders and champions within organisations, to political leaders supporting the issue in both source and recipient countries, and a group of charismatic individuals and grassroot organisations advocating at the global level.

6.4.1. Challenges and opportunities

Several challenges to external organisation investments in mental health in LMICs can be identified across the four levels of analysis (see Table 6.2). The main barriers for organisations were lack of individual support especially at the leadership level, poor understanding of the issue (worsened by stigma), and unfavourable contexts, such as lack of relevance for the organisation's strategic role and priorities, competing priorities, and lack of internal capacity. This confirms previous studies (Mackenzie & Kesner, 2016; Saraceno et al., 2007) identifying poor understanding of mental health, stigma and competing priorities as barriers to investments in mental health in LMICs. The prominent role of committed individuals spurring change within organisations aligns with the large literature on norm entrepreneurs in global health (Kamradt-Scott, 2010).

Additional barriers were posed by the characteristics of mental health as an issue: lack of clear outcome indicators, low availability and poor quality of data, and lack of simple cost-effective interventions. While poor metrics hampering investments in mental health in LMICs aligns with previous studies (Mackenzie & Kesner, 2016; Saraceno et al., 2007), this finding calls for caution. Having addressed similar measurement issues, the

experience of the Safe Motherhood Initiative sheds light on potential problems mental health metrics could face, including distorting priorities (Storeng & Béhague, 2017) and narrowing the policy agenda (Storeng & Béhague, 2014).

With respect to source and recipient countries, the main obstacles were lack of political and public support and unfavourable contexts, such as low tax incentives in source countries and lack of absorptive capacity and fiscal and regulatory spaces in recipient countries. Political will is a major barrier for scaling-up mental health services in LMICs (Saraceno et al., 2007), though new political interest is emerging (Chisholm et al., 2019). Common concerns of absorptive capacity in global health question the effectiveness of and diminishing return on investments in LMICs, yet low-income countries and less developed health systems are more likely to use received contributions, especially those with political stability (Lu et al., 2006).

Globally, the main deterrents were lack of grassroot organisations, tensions across organisations especially vis-à-vis for-profit, and unfavourable contexts, such as missed policy windows and lack of a global governance structure. Those results confirm previous findings (Tomlinson & Lund, 2012). The generation of political attention for global health issues, such as maternal mortality and newborn survival have been hampered by similar issues of incohesive community, unexploited windows of opportunities, and fragmented global governance (Shiffman, 2010; Shiffman & Smith, 2007). Tensions with for-profit organisations and conflicts of interest have increased in global health due to its financialization (Krech et al., 2018) and the rise of philanthropy (Stuckler et al., 2011).

However, opportunities are emerging (see Table 6.2). New, strong leaders and champions within organisations and better understanding of mental health along with its destigmatisation are unlocking opportunities for commitments across organisations. In addition, an expanding evidence base on the growing burden of mental disorders and cost-effective interventions is offering a clearer depiction of the problem and available solutions. Increased public and political support for mental health in source countries is slowly trickling down from domestic to development and foreign policy agendas. Political support and creation of fiscal and regulatory spaces in some recipient countries present

favourable conditions for investments. Proliferation of organisations, a nascent global governance structure and a growing number of high-level and other meetings on mental health are building momentum at global level, spurring awareness and interest.

Those barriers and opportunities operate across organisations, though with broad variation depending on organisation type. For instance, clear outcome indicators affect especially organisation driven by social or financial return on investments, simple cost-effective interventions and absorptive capacity in recipient countries for-profit organisations, and political and public support in source and recipient countries public organisations.

	Challenges	Opportunities
Organisations	• Lack of individual support, especially at the leadership level • Poor understanding of mental health, worsened by stigma • Lack of relevance for the organisation's strategic role and priorities • Large number of competing priorities • Lack of internal capacity • Unfavourable characteristics of mental health as an issue	• New, strong leaders and champions • Better understanding of mental health, along with its destigmatisation • Expanding evidence base on mental health burden and interventions
Source Countries	• Lack of political and public support • Lack of tax incentives	• Increased public and political support
Recipient Countries	• Lack of political and public support • Lack of absorptive capacity and fiscal and regulatory spaces	• Political support in some recipient countries • Fiscal and regulatory spaces in some recipient countries
Global Landscape	• Lack of grassroot organisations • Tensions across organisations, especially vis-à-vis for-profit • Missed policy windows • Lack of governance structure	• Proliferation of organisations • Growing number of high-level and other meetings on mental health • Emerging global governance structure

Table 6.2: Challenges and opportunities for increasing external organisations' investments to mental health in low- and middle-income countries.

6.4.2. Limitations

This study has some limitations. Qualitative methods raise issues regarding robustness: triangulation across different sources of data aimed to minimise bias. Purposeful sampling may have led to selection bias, especially concerning geographies, though possibly partly mitigated by sampling for diversity according to organisation group. The position of the author (woman, non-native English speaker, trained in clinical psychology and health policy, with over 10 years of experience in mental health policy and practice research, affiliated to a university in the Global North) informed and influenced data collection and analysis (Mikecz, 2012). It was not possible to record some interviews due to participant preferences. While this meant it was not possible to provide illustrative quotations from them, detailed notes were made and data quality was comparable to recorded interviews (Rutakumwa et al., 2019).

6.4.3. Recommendations

External organisations play crucial roles in addressing mental health needs in LMICs (Collins et al., 2011), and are expected to be increasingly important due to demographic and epidemiological transitions and growth in social determinants of mental health such as inequalities (Patel et al., 2018), which will likely be exacerbated by COVID-19, the effects of lockdown and its socio-economic consequences (Nicola et al., 2020). This study points to five strategic actions to increase and amplify external organisations' investments in mental health in LMICs. First, *all* external organisations (see Chapter 3) could invest in global mental health through different activities aligned with their missions and priorities to unlock additional resources (see Table 6.1). Growing evidence is available to organisations for contributing to mental health through numerous entry points, not only within mental health systems and services (e.g. Mental Health Atlas) (WHO, 2018b), but also across other health conditions (Remien et al., 2019), sectors (Patel et al., 2016a) and social determinants of mental health (Lund et al., 2018). Measuring and evaluating funded activities should be encouraged using available tools (IASC Reference Group for Mental Health and Psychosocial Support in Emergency Settings, 2017) and frameworks (UN, 2015b; WHO, 2013c) to ensure transparency, accountability and learning. People with lived experience should be part of the process, as citizens, users and consumers (GMHPN, 2020).

Second, source countries could catalyse external organisation investments by increasing political support, through financial commitments to organisations in the public sector and incentives for the private and third sectors. Co-funded by Australia, Canada, and the United Kingdom in 2018, the Alliance of Champions for Mental Health and Wellbeing aims to catalyse action to address mental health (Public Health Agency of Canada, 2018): country members could amplify their impact, prioritising mental health not only in their domestic but also their development and foreign policy agendas, in particular integrating mental health to COVID-19 responses.

Third, recipient countries could favour external organisation investments by increasing political support and creating fiscal and regulatory spaces. More than 70 LMICs across six regions had prioritised mental health (WHO, 2019). The World Health Organization Special Initiative for Mental Health (2019–2023) is expected to accelerate universal health coverage for mental health in 12 countries and to improve their absorptive capacity (WHO, 2019). Available tools could be used for mental health policy planning and service development, such as the Mental Health Atlas (WHO, 2018b) and guidance packages (WHO, 2020b).

Fourth, a global coordination mechanism involving *all* actors in global mental health could coordinate and monitor efforts over time, favouring partnerships and improving impact of investments. A global partnership for mental health has been recommended (Vigo et al., 2019) and some smaller coordination groups (e.g. donor group on psychosocial support in humanitarian settings) are emerging, while the recently launched Countdown Global Mental Health 2030 will monitor progresses in mental health across countries globally (Saxena et al., 2019).

Finally, ethical considerations could be integrated into decision-making to ensure sustainable and ethical financing of mental health in LMICs. In particular, sustainability of impact beyond funded activities should be ensured through partnerships with local actors, exploring the issues associated with the financialisation of global mental health (Stein & Sridhar, 2018), such as equitable access to health care (Eren Vural, 2017) and

conflicts of interest (Fava, 2007). This is especially critical for organisations in the private sector, as it could help in addressing existing tensions in the global mental health community.

The research agenda to understand external organisations' contributions to global mental health continues to expand. Qualitative studies could explore contributions of external organisations in different settings and for different mental disorders (e.g. common versus severe mental disorders) using this study's analytical framework to ensure consistency and comparability. Case studies could investigate contributions of single organisations, including the World Health Organization and the World Bank. Finally, studies could examine ethical issues related to external organisations' commitments, especially across different organisation groups and across for-profit and not-for-profit arms of the same organisation.

6.5. Conclusion

Mental health is ascending on the global agenda: existing external organisations are scaling up commitments and new ones are joining. This paper presents an analysis of their investments and motivations for investing in mental health in LMICs over the past three decades. It provides an analytical framework for future policy planning and research in sustainable financing for global mental health and global health. It is time to invest: 'the stars are aligning, and we need to act now' (interview 5).

Supplementary material

Supplement 6.1: Standards for Reporting Qualitative Research (SRQR)

SECTION	No.	SRQR ITEM	REPORTED ON PAGE #
Title and abstract			
Title	S1	Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	162
Abstract	S2	Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	162
Introduction			
Problem formulation	S3	Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	162–163
Purpose or research question	S4	Purpose of the study and specific objectives or questions	164
Methods			
Qualitative approach and research paradigm	S5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist/ interpretivist) is also recommended; rationale[a]	164
Researcher characteristics and reflexivity	S6	Researchers' characteristics that may influence the research, including personal attributes, qualifications/ experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	181
Context	S7	Setting/site and salient contextual factors; rationale[a]	164
Sampling strategy	S8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale[a]	164–166; Box 6.1
Ethical issues pertaining to human subjects	S9	Documentation of approval by an appropriate ethics review board and participant consent, or	164–165

SECTION	No.	SRQR ITEM	REPORTED ON PAGE #
		explanation for lack thereof; other confidentiality and data security issues	
Data collection methods	S10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale[a]	164–165
Data collection instruments and technologies	S11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	164–166; Supplement 6.3
Units of study	S12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	165; Supplement 6.2
Data processing	S13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/deidentification of excerpts	165
Data analysis	S14	Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale[a]	165; Supplement 6.4
Techniques to enhance trustworthiness	S15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale[a]	165
Results/findings			
Synthesis and interpretation	S16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	167–177; Table 6.1; Boxes 6.2 and 6.3
Links to empirical data	S17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Supplement 6.5
Discussion			
Integration with prior work, implications, transferability, and contribution(s) to the field	S18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	177–183; Table 6.2
Limitations	S19	Trustworthiness and limitations of findings	181
Other			

SECTION	No.	SRQR ITEM	REPORTED ON PAGE #
Conflicts of interest	S20	Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Acknowledgments
Funding	S21	Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Acknowledgments

Adapted from O'Brien et al. (2014). The authors created the Standards for Reporting Qualitative Research (SRQR) by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research. [a]The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Supplement 6.2: Participant characteristics

	Number of participants (%)	Interviews
Sex		
Female	18 (51%)	1,2,3,5,7,9,12,17,18,25,27,28,29,30,31,33,34,35
Male	17 (49%)	4,6,8,10,11,13,14,15,16,19,20,21,22,23,24,26,32
WHO Region[a]		
African Region	2 (6%)	7,16
Region of the Americas	11 (31%)	6,15,17, 21,25,27,28,29,32,34,35
European Region	22 (63%)	1,2,3,4,5,8,9,10,11,12,13,14,18,19,20,22,23, 24,26,30,31,33
Organisation group		
Public sector		
Bilateral GOs	6 (17%)	6,13,18,29,31,33
Multilateral GOs	6 (17%)	5,11,24,26,28,34
Bilateral DFIs	1 (3%)	27
Multilateral DFIs	1 (3%)	15
Private sector		
Corporations and SMEs	3 (9%)	21,23,32
Foundations	4 (11%)	1,2,5,9
Third sector		
Nongovernmental organisations	6 (17%)	3,12,17,19,30,35
Multisector partnerships		
Global Health Initiatives	1 (3%)	20
Innovation Funds	1 (3%)	14
Others		
Experts	6 (17%)	7,8,10,16,22,25

DFIs=development financial institutions. GOs=governmental organisations. SMEs=small and medium enterprises. [a]Twelve countries were represented: two in the African region, two in the region of the Americas, and eight in the European region.

Supplement 6.3: Interview guide

Introduction

Interviewer background

Study description

Interview details

Warm up

Participant current role

Participant relevant previous positions

Decision-making (experience)

Organisation activities in mental health

Organisation decision-making process

Factors influencing decisions (experience)

Factors within the organisation (e.g. organisation strategic role)

Factors at the donor country level [*if relevant*]

Factors at the recipient country level

Landscape (e.g. other external actors, development discourse, development finance 'discourse', events, meetings)

Issue characteristics (e.g. indicators, burden, solutions)

Future investments (opinion)

Challenges for future investments

Facilitators of future investments

Cooling down questions

Summation (checking)

Supplement 6.4: Analytical framework

Theme 1

	T1: ACTIVITIES
S1: Typology	
S2: Arguments	
S3: Strategies	

S=sub-theme. T=theme.

Theme 2

	T2: MOTIVATIONS			
	Actors	Ideas	Context	Issue
S4: Organisations				
S5: Source countries				
S6: Recipient countries				
S7: Global landscape				

S=sub-theme. T=theme.

Supplement 6.5: Illustrative quotations for themes and subthemes

THEME	SUB-THEME	EXAMPLE QUOTATIONS
Activities	**Typologies**	**Within organisations: organisations' mental health** 'Our organisation is really good at internal wellbeing support, so we have regular Mental Health First Aid trainings for staff, we have mental health first aiders around the place…' (interview 5) 'We have employee groups for minorities, for women, for LGBTQ employees, and these employee groups support each other, and they advocate for their interests within the company… and they also engage in philanthropy *on behalf* of the organisation for their community. So, we decided to start an employee group for our employees who live with mental illnesses either themselves or as caregivers... So, we really started to *destigmatise* (mental health) and make (it) part of our culture' (interview 21) **Within organisations: organisations' mental health capacity** 'I'm the mental health advisor for my organisation. This is a new role... and the role is to bring all the organisation into the effort to transform mental health care worldwide… My role is to… try to *amplify* the overall impact of what we're doing… and to… make sure that we're really taking advantage of all our strengths.' (interview 21) 'And I think that that (=gap in human capacity within the organisation) had actually led me to this need for establishing a community of practice… establishing this model of learning from each other programmes, what works, what doesn't… and establishing that important level of exchange.' (interview 34) **Outside organisations** '…we would not do any testing for HIV unless we added a basic counselling service. But it was not under mental health…it was almost an ethical issue, that if you get to test people and tell them they're (HIV) positive, what is the implication that you have next?' (interview 20) 'I think that was similarly a very important high-level meeting that brought together key agencies, where

THEME	SUB-THEME	EXAMPLE QUOTATIONS
		also one organisation was very clear about its dedication to invest in mental health, as long as agencies that were coming around the table were also kind of putting forth their own commitment within their own agencies.' (interview 34)
	Arguments	**Public Health** 'When we saw the numbers and the need, it became a bit clear to our Chief Executive Officer and others that this is something that we needed to really pick and act more deeply on.' (interview 21) **Human Rights** '…the use of the human rights (argument): people being in an institution, people tortured, people being in chains. Those stories touch people, so they do react, and they do want to do something about it.' (interview 3) **Economic** 'Economic arguments are being paid more attention in the last few years…To use the economic argument is helpful, (but) it is not sufficient.' (interview 4) **Country priorities** 'In many cases the political argument is not that people need help, it's that people want help. And that's the political argument, that if people want something, it must be provided.' (interview 4) **Moral** '…we should ethically do those things because it would be unethically not to (do them).' (interview 5) **Happiness** '…the main factor associated with *misery* (is) not poverty *per se* but mental illness. So, that kind of argument in which you transcend the public health narrative and try to bring the solid understanding of programmes such as mental illness or substance abuse and their impact on society.' (interview 15)
	Strategies	**Stand-alone** '…we pushed for so many years, we tried to *push* mental health onto the agenda by telling people how important it was.' (interview 32)

THEME	SUB-THEME	EXAMPLE QUOTATIONS
		Integrated '…more and more we need to think about broader issues, how they connect rather than only thinking about freestanding problems…It's not just to focus on one simple problem but *how* the investment, let's say, in health have a positive spill-over effect on education attainment and labour productivity in terms of having more social capital, more safe societies, or less crime, more opportunities, more integration…' (interview 15) **Multisectoral** '…we are very aware that mental health *needs* a multi-sectoral approach and that it is not only a health issue and (that) the response needs to be like a 'whole society' response.' (interview 28) **Life-course** '…when we talk about aging, aging starts when you're born and it goes up to when you die and aging is always happening, then… I think it (=mental health) *should* be there all the time.' (interview 6)
Motivations	**Organisations**	**Actors** '…(since the) first of January we had a new executive director, who has increased the focus on adolescents as an age group… mental health is such a big part of the morbidity and also mortality of this age group.' (interview 28) 'There were some champions within the organisation, who felt very strongly about this. And they were petitioning and pushing and calling meetings and wanting the organisation to do (more in mental health). And for a few years we thought they shifted. And interestingly the main *catalyst* for actually moving forward in a concrete way was the Tsunami (in Banda Aceh in 2004).' (interview 19) **Ideas** '…because it (=mental health) is such a diverse issue and there are so many angles you can come and see it from. That's one of the reasons why it's so heavily bought into from across my organisation.' (interview 5)

THEME	SUB-THEME	EXAMPLE QUOTATIONS
		'I found that everybody had a personal story in their own family and often times even in their own lives…. What I think is different about *this time* is that we're not just trying to help others. We understand that this is something very personal that affects every family and that we haven't talked about it openly because of the *stigma* and some of the misconceptions about mental health.' (interview 21) **Context** 'Because *some* issues are just too big, some issues have already a lot of funding… but maybe *proportionally* our inputs, although small, may be bigger in mental health, we'd be more impactful.' (interview 12) 'We're part of the government and that means that we also have to respond to the country political priorities… we have to make sure that whatever funding choices we're making line up with the government policy. And, I think, at the moment that's a very positive thing, because there are policies about trying to make sure we reach the most vulnerable in society, and policies around improving the lives of disabled people' (interview 18) 'Which was one of my objectives in globalising and aligning our philanthropy with the business, that it was important to be able to solve those kinds of issues in the environment, and if the foundation was the mechanism that we could do it, we couldn't do it through the company what the foundation could… when I say shape the environment, I don't mean sell our product. I mean, create an environment where products like the ones that we are investing in can be used, can be recognised as being valuable and useful for treating patients… we call it 'enlightened self-interest'… if by helping others to understand, you may be able to help yourself…' (interview 32) **Issue** '…that's a much harder set of metrics when you got… the ability for someone to get better in mental health for a period of time and then do worst again, and then get better… It's hard to understand… at what point out from an intervention would you say: 'This person is definitely better, definitely not better.'' (interview 17)

THEME	SUB-THEME	EXAMPLE QUOTATIONS
		'So, then there were many international studies… If you look at the data of these international studies, I'm still extremely surprised by the enormous difference you see between countries… which I don't think there is any good reason to explain that apart of some epidemiological or statistical problems. I think the situation now of the epidemiological data is much better than at the end of 1990s (and) at the beginning of the 2000s.' (interview 22) 'We don't have some knock-out intervention, like 'Give us the money and we'll vaccinate kids and they won't get the disease for the rest of their life.' It's not as simple as that.' (interview 11)
	Source countries	**Actors** '…the general popular consensus around mental health has, very fortunately for us, come through as a priority issue in the domestic agenda. And that *inevitably* has gone across… to the development sector.' (interview 19) 'Another thing is *media*. So, the more the CNN focuses on the plight of the people, the more likely there would be interest.' (interview 26) **Ideas** Not available. **Context** 'And these tax rules and these tax benefits are in our country, so we feel a loyalty to it.' (interview 9)
	Recipient countries	**Actors** '…the need of countries is what is steering us and… we need to have a partnership and an interest and an *ownership* from the country, from the country government.' (interview 28) **Ideas** 'And, of course, there is the stigma against mental health, which is all pervading. And that prevents many funders from doing what they should be doing.' (interview 4)

THEME	SUB-THEME	EXAMPLE QUOTATIONS
		Context 'And in many cases the need is high but the readiness is low, in which case we have limited resources and we may decide not to (invest).' (interview 4)
	Global landscape	**Actors** 'You've got a steady drip drip drip of more donors coming on board… you're getting more agencies that want to *do* the work on one hand, and you're getting more agencies that want to *fund* the work on the other hand. So, you're beginning to get, in classic market-place terms, a market.' (interview 10) '… charismatic public figures do have a big influence…. (They) kind of catch the imagination of people through TED talks and really innovative approaches. So, I think those things also count for quite a lot and just sort of getting people excited about this very neglected area.' (interview 16) '… we see it as a very fragmented field (=mental health field), with different disciplines, quite silos, sometimes fighting, pulling into different directions.' (interview 5) **Ideas** 'I think it's coming out of the shadows. People are talking about their suffering and people start realising that the problem (=mental health) is much bigger than previously thought.' (interview 26) 'One of the things that gets it (=mental health) heard is getting people out of institutions and into the community where they start to have real lives, and valued roles, and they have jobs, and they have friends and neighbours. And I think that's the best antidote to stigma really, physical proximity…' (interview 1) **Context** 'In 2004, the Tsunami (in Banda Aceh) was another big event that made clear that mental health was an important component in complex emergency settings… maybe not in the first days of the emergency, but probably more in the reconstruction phase.' (interview 22)

THEME	SUB-THEME	EXAMPLE QUOTATIONS
		'We often really kind of reference those (=Sustainable Development Goals) whenever we are discussing or talking to donors and governments, but a lot of times decision to fund mental health or even specific emergencies… is very politically driven…' (interview 34)

Ellipses indicate removed text to shorten quotes, while preserving meaning. Parentheses contain text added by the author to facilitate comprehension. *Italics* reproduce participants' emphases.

Chapter 7

Conclusion

The overarching objective of the research described in this thesis is to improve understanding of the role of external actors investing in mental health in LMICs. In the four empirical chapters (Chapters 3 to 6) I address research questions regarding the extent to which external actors invest in mental health in LMICs. In this final chapter I bring together the findings from the four empirical chapters (section 7.1), set out their substantive and methodological contributions to the literature (section 7.2) and their policy implications (section 7.3), present overarching research limitations (section 7.4), and outline future research directions (section 7.5).

7.1. Summary of objectives and findings

The aim of this thesis is to improve understanding of the role of external actors investing in mental health in LMICs. The central research question is: *To what extent do external actors invest in mental health in low- and middle-income countries?* I address this overarching research question by answering four subsidiary research questions, each corresponding to identified gaps in the literature. I use a multimethod research design with qualitative and quantitative components informing each other through a cumulative and iterative process, as detailed in Chapter 2.

In Chapter 3 I seek to address the first identified literature gap, namely the partial evidence on the ecosystem of external actors investing in mental health in LMICs. Two policy reports provide an overview of key groups of donors (Mackenzie & Kesner, 2016) and some research funders (Pollitt et al., 2016) for mental health in LMICs, but to my knowledge no typology has been suggested and no systematic mapping has yet been conducted for all external actors. Chapter 3 is guide by the first subsidiary research question: *Who are the external actors investing in mental health in low- and middle-income countries and what are their roles?* In Chapter 3 I present a new typology of external actors in global health, building on previous research, and I use it to structure a

systematic mapping of the evidence on external actors investing in mental health in LMICs to identify opportunities for unlocking additional resources. Findings reveal a large ecosystem of external actors in global mental health including organisations and individuals across four groups: public sector, private sector, third sector, and multi-sector partnerships. Yet, evidence is limited in breadth and depth: amongst the 79 studies identified, the majority have been published in the last decade, focus on Africa, and on public sector (bilateral and multilateral governmental organisations) and third sector organisations (nongovernmental organisations). Evidence is particularly scarce for for-profit organisations and individual households. In Chapter 3 I also highlight the need for coordinated efforts and for the use of sustainable and ethical approaches to disbursement. This first empirical chapter lays the foundation for the whole study, informing research design and interpretation of results of the subsequent empirical chapters (Chapters 4 to 6).

In Chapter 4 I continue to address the first literature gap (i.e. ecosystem), but I focus on a specific group of external actors: philanthropy. One study (Charlson et al., 2017) highlights the substantial contributions of philanthropy to development assistance for mental health and two policy reports (Mackenzie & Kesner, 2016; Pollitt et al., 2016) provide some examples. Yet, to my knowledge, no study has yet scrutinised the role of philanthropy for mental health in LMICs. In Chapter 4 I address this gap by answering the second subsidiary research question: *What is the role of philanthropic external actors investing in mental health in low- and middle-income countries?* I analyse trends in philanthropic development assistance for mental health in 156 countries between 2000 and 2015. Findings illuminate its critical role, but also highlight substantial inequalities. While philanthropic contributions more than doubled over 16 years, accounting for one-third of total development assistance for mental between 2000 and 2015, mental disorders received the lowest (0.5%) amount of philanthropic development assistance for health across health conditions. Allocation of philanthropic development assistance for mental health varied broadly, with 37 countries receiving none and only three countries receiving more than US$1 per capita over the entire period. In Chapter 4 I also point to challenges and opportunities for increasing the impact of philanthropy in sustainable mental health financing.

In Chapter 5 I address the second literature gap: the scarcity of evidence on allocation of external funding for mental health in LMICs. While the scientific literature stresses the low size of development assistance for mental health (Charlson et al., 2017; B. Gilbert et al., 2015; Liese et al., 2019; Lu et al., 2018; Turner et al., 2017), in particular relative to recipient country needs (Charlson et al., 2017), the grey literature identifies some reasons for underinvestment in mental health (Mackenzie & Kesner, 2016). I am not aware that any previous study has explored factors driving allocation of development assistance for mental health. Chapter 5 is guided by the third subsidiary research question: *What factors are driving allocation of development assistance for mental health?* In this chapter I use a two-part regression model applied to a time series cross-sectional dataset of 142 LMICs between 2000 and 2015 to empirically analyse factors at recipient country-level (needs, interests, policy environment) potentially associated with allocation of development assistance for mental health. I focus on donors as a group to illuminate their aggregated action and shared responsibilities. Findings show that international donors' disbursements are not well aligned with mental health needs of recipient countries, and contextual factors (e.g. gross domestic product per capita, disease outbreaks) might be playing more prominent roles in resource allocation. Selection of recipient countries by donors is associated with past receipt, experience of disease outbreaks, and lower gross domestic product per capita and market openness. Allocation of higher amounts of development assistance for mental health per capita is associated with past receipt, lower competing health needs and lower gross domestic product per capita, and higher government health expenditure. In Chapter 5 I also reveal opportunities to improve allocation of development assistance for mental health, by better reflecting mental health needs of recipient countries and leveraging synergies across other health conditions and across sectors.

Finally, in Chapter 6 I address the third literature gap pertaining to the poor evidence on prioritisation of external investments in mental health in LMICs. A policy analysis draws attention to the failure of mental disorders to rise in the global agenda (Tomlinson & Lund, 2012). While one study (Chisholm et al., 2019) suggests strategies for increasing external funding, another (Ssebunnya et al., 2018) cautions on their volatility. To my

knowledge, no study has yet explored prioritisation of mental health in external organisations' investments in LMICs. In Chapter 6 I address this gap answering the fourth subsidiary research question: *How and why have external organisations invested in mental health in low- and middle-income?* Using 35 elite interviews and documentary analyses, I examine to what extent external organisations have invested in mental health in LMICs over the last three decades and changes over time. After reporting organisations' activities, I analyse factors shaping organisational decisions at four levels: organisations, source countries, recipient countries, and global landscape. Findings reveals that external organisations have invested in mental health in LMICs through numerous internal and external activities, and that actors have been the most important factor shaping organisational decisions at all four levels: leaders and champions within organisations, political leaders in both source and recipient countries, and a group of charismatic individuals and grassroots organisations at the global level. In addition, in Chapter 6 I point to challenges and opportunities for increasing external organisations' investments in mental health in LMICs for sustainable mental health financing.

7.2. Contributions to the literature

I believe that I have made four substantive and three methodological contributions to the literature on sustainable (mental) health financing in LMICs, in particular on the literature on external actors. While detailed discussions of findings are provided within each empirical chapter (Chapters 3 to 6), in this section I offer a critical overview of the key contributions of this thesis as a whole.

7.2.1. Substantive contributions

In this thesis I reveal the existence of a large ecosystem of external actors investing in mental health in LMICs, including organisations and individuals across the public, private and third sectors, and multi-sector partnerships. In line with conceptualisations in development finance (Rao, 2003), I also move beyond the existing literature predominantly focused on donations (Charlson et al., 2017; B. Gilbert et al., 2015; Lu et al., 2018; Turner et al., 2017) to define investments in terms of both financial and non-financial (e.g. drugs and services) contributions and both profitable and non-profitable pursuits. In Chapter 3 I point to the existence of various for-profit organisations and

individuals already active in global health which could unlock additional resources for mental health in LMICs. For instance, amongst organisations, commitments of development finance institutions in the public sector grew from US$10 billion in 2002 to US$70 billion in 2014 (Savoy et al., 2016), of which a small (2–3%) proportion went to health care (Kenny et al., 2018), possibly including investments in mental health care.

Foreign direct investments in the private sector constitute the largest (39%, US$671 billion) external source of finance in LMICs, though the amount attracted by health care is small (Smith et al., 2009) and by mental health is unknown. Amongst individuals, the wealth of high-net-worth individuals amounts to over US$70 trillion and is expected to reach US$100 trillion by 2025 (Capgemini, 2018), some of which could go to mental health (e.g. US$100 million of personal investments committed by Bill Gates to fight dementia) (Kelland, 2017). In addition, the growth in contributions from a larger group of individuals, diaspora movements, through remittances (US$429 billion in 2016) is expected to continue (Ratha et al., 2018). They represent the second most important source of external financing in LMICs (24%) (UNCTAD, 2018), but their contribution to mental health is unknown.

While a previous study (Charlson et al., 2017) highlights the increasing importance of philanthropy for mental health in LMICs, in my research I offer a closer look at its growing and prominent role in development assistance for mental health. In Chapter 4 I report a surge in philanthropy for global mental health, which has doubled between 2000 and 2015, in line with a similar growth in philanthropy for global health (Youde, 2018). Philanthropy plays a crucial role in mental health: its contributions represent a considerable share (one-third) of development assistance for mental health compared to a smaller percentage (12%) in development assistance for health (Dieleman et al., 2016). However, it represents a small (0.5%) share of philanthropic development assistance for health, in line with a similar modest share of philanthropy attracted by mental health in high-income countries (Brousseau et al., 2003). In addition, reflecting similar trends in total development assistance for mental health (Charlson et al., 2017; B. Gilbert et al., 2015) and development assistance for health (Dieleman et al., 2014), philanthropic development assistance for mental health is unevenly allocated. For example, the region

where the majority of people with mental disorders live, South East Asia (26%) (Global Burden of Disease Collaborative Network, 2018e), received only 17% of philanthropic development assistance for mental health.

With this thesis I believe that I advance the literature on allocation of external resources for sustainable mental health financing, analysing factors driving the allocation of development assistance for mental health. In Chapter 5 I reveal that development assistance for mental health is not well aligned with mental health needs, in line with similar evidence across health conditions (Charlson et al., 2017; Dieleman et al., 2014). This misalignment could partly be attributed to the lack of understanding of mental disorders within the donor community (Mackenzie & Kesner, 2016). I also highlight the importance of contextual factors at the recipient country-level in the allocation of development assistance for mental health, such as competing health needs, gross domestic product per capita, and disease outbreaks. The negative impact of competing health needs on allocation of development assistance for mental health corroborates results from a policy report (Mackenzie & Kesner, 2016) exploring the reasons for underinvestment in mental disorders in LMICs, and literature on aid displacement (Lordan et al., 2011). In line with the broader literature that suggests 'poverty selectivity' in allocation of development assistance (Peiffer & Boussalis, 2015), findings show a negative impact of gross dometic product per capita on disbursements, meaning that countries with lower standards of living are more likely to receive resources. This also suggests that donors may understand the vicious circle between poverty and mental disorders (i.e. people living with mental disorders are at higher risk of falling into poverty, and poor people are at higher risk of mental illness) (Lund et al., 2011). Similarly, the positive impact of disease outbreaks on allocation of development assistance for mental health suggests that donors may understand the higher prevalence of mental disorders during humanitarian emergencies (Charlson et al., 2019).

Finally, with this thesis I hope that I contribute to the literature on prioritisation of mental health in external investments in LMICs. In Chapter 6, I analyse external organisations' investments in mental health in LMICs taking a broader view across organisations and over time. I reveal numerous internal and external activities, six arguments used to make

the case for investment, and two investment strategies. WHO describes similar arguments to advocate for resources in mental health, such as public health, economic welfare, economic growth and productivity, equity, sociocultural influence, and political influence (WHO, 2013b). In addition, in this chapter I shed light on factors shaping external organisations' decisions, identifying barriers and opportunities for increasing their investments in mental health in LMICs at four levels: organisations, source and recipient countries, and global landscape. Findings emphasise the prominent role of actors in shaping organisational decisions and spurring investment, in line with the vast literature on norm entrepreneurs, which sets actors as catalysts for change in global health organisations (Kamradt-Scott, 2010). Amongst barriers to external organisations' investments in mental health at the organisation level, I identify lack of individual support especially among leaders, poor understanding of the issue (worsened by stigma), unfavourable contexts, such as lack of relevance for the organisation's strategic role and priorities, competing priorities, and lack of internal capacity. Three of those barriers concur with previous studies: poor understanding of mental health, stigma, and competing priorities (Mackenzie & Kesner, 2016; Saraceno et al., 2007). Another obstacle is the set of characteristics of mental health as an issue: lack of clear outcome indicators, low availability and poor quality of data, and lack of simple cost-effective interventions. While previous studies (Mackenzie & Kesner, 2016; Saraceno et al., 2007) corroborate the role of poor metrics in hampering investments in mental health in LMICs, it is worth cautioning on potential problems mental health metrics could face, including distorting priorities (Storeng & Béhague, 2017) and narrowing the policy agenda (Storeng & Béhague, 2014).

In Chapter 6, I identify two main obstacles at the source and recipient country-level: lack of political and public support and unfavourable contexts in source (e.g. low tax incentives) and recipient (e.g. lack of absorptive capacity, lack of fiscal and regulatory spaces) countries. However, political interest in mental health is emerging in LMICs (Chisholm et al., 2019) and, contrary to common perceptions, low-income countries and less developed health systems have been shown to be more likely to use received contributions, especially when politically stable (Lu et al., 2006). Lastly and in line with a previous study (Tomlinson & Lund, 2012), I identify three main challenges at the global

level: lack of grassroots organisations, tensions across organisations especially vis-à-vis for-profit organisations, and unfavourable context (e.g. missed policy windows, lack of global governance structure). In particular, the financialisation of global health (i.e. the increase in size and influence of financial institutions and markets) (Krech et al., 2018) and the rise of philanthropy (Stuckler et al., 2011) in global health has led to an increase in tensions with for-profit organisations and conflicts of interest. Similar issues such as incohesive communities, unexploited windows of opportunities, and fragmented global governance have hindered the generation of political attention for other global health issues (Shiffman, 2010; Shiffman & Smith, 2007).

7.2.2. Methodological contributions

I believe that I have made three methodological contributions: two analytical tools and applications of existing methodologies to mental health financing.

In Chapter 1 I offer a new typology of external actors for global health (including global mental health), bringing together and expanding previous categorisations used in the global health governance (Frenk & Moon, 2013) and global health financing (McCoy et al., 2009) literature. In the new typology I identify different types of actors that I organise across four groups: public sector (bilateral and multilateral governmental organisations, bilateral and multilateral development finance institutions), private sector (corporations and small and medium enterprises, foundations, individuals), third sector (nongovernmental organisations, professional associations, research centres) and multi-sector partnerships (global health initiatives, innovation funds). The classification of external actors across those four groups (public sector, private sector, third sector, multi-sector partnership) allows me to highlight not only commonalities across external actors (e.g. legal status and *modus operandi*), but also parallels with corresponding domestic actors. In this chapter I also offer a visual depiction of the typology accompanied by its detailed description in a separate box to facilitate future use. While in Chapter 1 I offer an example of its use in mental health, the new typology could be applied to other health issues.

In Chapter 6 I provide an analytical framework to study prioritisation amongst external organisations investing in global health in LMICs. Partly informed by Shiffman and Smith (2007) framework, the analytical framework consists of two themes and seven sub-themes. The first theme allows for a critical exploration of funded activities, including a detailed description of their typology, arguments used to make the case for investment, and investment strategies. The second theme permits to analyse factors shaping organisational decisions at four levels: organisations, source countries where organisations are legally registered (not applicable to multilateral actors), recipient countries, and global landscape. To facilitate future use, I accompany the description of the analytical framework in the main text by its visual representation in the supplementary material. The versatility of the analytical framework means that it can be used to better the understanding not only across external organisations, but also over time. Similar to the new typology, the framework could be applied to other health issues beyond mental health.

Finally, I provide a working example of the application of methods commonly used in the development assistance literature to development assistance for mental health (Peiffer & Boussalis, 2015). In Chapter 5 I use a two-part regression model applied to a time series cross-sectional dataset of 142 LMICs between 2000 and 2015 to empirically explore factors driving allocation of development assistance for mental health, distinguishing between two related decisions: selection and allocation of contributions across recipient countries. Identified country-level indicators available in time series cross-sectional datasets, reporting data across countries and over time, could be used in future research at the macro level. The empirical model and analytical strategy could be adapted to study disbursements amongst sub-groups of donors and regions, ensuring the centrality of recipient countries and focusing on donors as a group to illuminate their collective action and shared responsibilities. My approach offers an alternative to the study of allocation of development assistance through gravity models, which are often used to look at donor and recipient countries as dyads requiring different model specifications for different donor groups (e.g. bilateral governmental organisations, multilateral governmental organisations, philanthropy).

7.3. Policy implications

With this thesis I try to advance policy discussion on sustainable mental health financing in LMICs countries, highlighting the role played by external actors. This is even more crucial considering the expected increase in mental health needs in LMICs spurred by demographic and epidemiological changes and an increase in adverse social determinants of mental health (Patel et al., 2018), which will likely be aggravated by COVID-19 and policy responses to it such as quarantine (Brooks et al., 2020). While detailed policy recommendations are provided within each empirical chapter (Chapters 3 to 6), in this section I outline five key policy implications for the whole thesis.

7.3.1. A large ecosystem of external actors

In this thesis I reveal a large ecosystem of external actors already investing in mental health in LMICs, and opportunities for unlocking additional resources. In line with the Addis Ababa Action Agenda (UN, 2015a) and the UN Sustainable Development Goals (UN, 2015b) which recommend the mobilisation of additional external funding from a wide range of sources (e.g. development assistance, foreign direct investments, remittances) along with a gradual increase in domestic resources to assure sustainability, I move beyond donors. I define investments to include both profitable and non-profitable pursuits and both financial and in-kind contributions. In Chapter 3 I illuminate a large ecosystem of external actors. Their variety and multitude suggest untapped resources could be mobilised and collaborations should be preferred to the establishment of new organisations. For instance, while the WHO Independent High-Level Commission on non-communicable diseases proposes a multi-donor fund for non-communicable diseases and mental health (Nishtar et al., 2018), its establishment could further fragment and possibly duplicate efforts.

I position recipient countries at the centre of the ecosystem of external actors to reinstate their centrality in policy planning and financing. The new typology presented in Chapter 3 not only places recipient countries at its centre but also organises external actors in four groups (public sector, private sector, third sector, multi-sector partnerships) commonly used for domestic actors to facilitate comparisons. Similarly, recipient countries are at the centre of the empirical model used in Chapter 5 and amongst factors

shaping organisational decisions in the analytical framework presented in Chapter 6. This reflects two main development principles: the principle of local ownership stressed by the aid effectiveness agenda from the Rome Declaration on Harmonisation (OECD, 2003) to the Busan Partnership Agreement (OECD, 2011), and the principle of sustainability emphasised by the agenda on financing for development from the Monterrey Consensus (UN, 2003) to the Addis Ababa Action Agenda (UN, 2015a).

In addition, in line with the UN Sustainable Development Goals (UN, 2015b), I frame the debate in terms of *partnerships* across countries. Hence, I recognise the role of LMICs as both recipients and sources of investments in global health. As evidenced by the Bogota Statement (Stearing Committee, 2010) and the Busan Partnership Agreement (OECD, 2011), the importance of South-South cooperation has grown in development and global health, in particular vis-à-vis upper middle-income countries (Micah et al., 2019).

To facilitate its use amongst non-academic audiences, the new typology of external actors is available as a separate research and policy tool (Iemmi, 2019c) (see Appendix 7.1) and Chapters 3 and 4 as infographics (Iemmi, 2019b, 2020b) (see Appendices 7.2 and 7.3).[9]

7.3.2. Better allocation of external investments

In this thesis I raise concerns about equity in the allocation of external investments in mental health in LMICs, and recognise the need for improvement, especially vis-à-vis development assistance for mental health. Since the 2000s, better allocation of development assistance has driven numerous high-level forums on aid effectiveness and agreements, including the Rome Declaration on Harmonisation (OECD, 2003), Paris Declaration on Aid Effectiveness (OECD, 2005), Accra Agenda for Action (OECD, 2008), and Busan Partnership for Effective Development Co-operation Agreement (OECD, 2011). While evidence on allocation of development assistance for health across scientific publications (Bump, 2018) and policy reports (Equitable Access Initiative, 2016; Ottersen et al., 2014) has informed policy-making, little is known on allocation of development

[9] Chapter 3 infographic was awarded the Highly Commended Festival Prize at the LSE Festival Research Competition 2020 (see Appendix 7.4).

assistance for mental health (Charlson et al., 2017; Persaud et al., 2018b). In Chapter 5 I demonstrate that international donors investing in mental health in LMICs are not adequately responding to mental health needs of recipient countries, and contextual factors (e.g. gross domestic product per capita, disease outbreaks) might be playing more prominent roles in resource allocation. I also highlight opportunities for improvement.

Allocation of development assistance for mental health should better reflect the mental health needs of recipient countries. While resource allocation requires a careful choice of multiple indicators (Ottersen et al., 2018), health needs have been foregrounded in more recent discussions (Haakenstad et al., 2018) and valued more than income per capita by recipient countries (Grepin et al., 2018). In line with the Addis Ababa Action Agenda (UN, 2015a) and the UN Sustainable Development Goals (UN, 2015b), donors could *systematically* include countries' preferences and priorities (Grepin et al., 2018) at the allocation stage and adopt a long-term approach (K. Gilbert et al., 2019) to favour local ownerships and sustainability of programmes beyond funded activities (Kiendrebeogo & Meessen, 2019). In this view, disbursements could better target recipients where mental health needs are increased, such as fragile contexts (Charlson et al., 2019) requiring targeted responses during the crisis (IASC, 2007) and the recovery period (WHO, 2013a). In particular, cognisant of the effect of COVID-19 and the policy responses to it (Vigo et al., 2020), increased disbursements for mental health could be integrated in the COVID-19 crisis response and recovery funds.

To reflect the high comorbidity of mental with communicable and non-communicable disorders (Mendenhall et al., 2017; Remien et al., 2019) and their key role in both their treatment and recovery, disbursements could be increased by including mental health components in activities targeting other health conditions. This synergetic approach could strengthen health system response in LMICs, currently facing an unprecedented double challenge of a growing population of people living with communicable disorders (GBD 2017 HIV Collaborators, 2019) and an increasing burden of non-communicable disorders (GBD 2017 DALYs and HALE Collaborators, 2018). In addition, disbursements could be expanded beyond health and across sectors, recognising both the impact of mental disorders in multiple dimensions of people's lives (Patel et al., 2018) and the multiplicity

of social determinants of mental health (Lund et al., 2018). In particular, the well-established link between poverty and mental disorders could constitute a privileged entry point to scale up investments through inclusion of both aspects (Lund et al., 2011).

7.3.3. Amplification of external organisations' investments

In this thesis I demonstrate that *all* external actors could contribute to mental health in LMICs through different activities aligned with their missions and priorities. In Chapter 6 I offer an extended account of external organisations' investments in mental health in LMICs. In particular, I summarise a broad range of activities: internally, including investments in employees' mental health and mental health capacity; and externally, from incorporation of mental health requirements into funded projects, to stand-alone programmes, integration into existing priorities, new priority areas, and use of organisations' convening power to advance the global mental health agenda. I also highlight six different arguments used by external organisations to make the case for investment in mental health (public health, human rights, economic, country priorities, moral, and happiness) and two main investment strategies: pushing mental health as a stand-alone issue, and integrating mental health programmes and activities within existing priorities. The integration strategy has emerged and gained prominence along with the growing evidence supporting investments in mental health through numerous entry points, not only within mental health systems and services (e.g. Mental Health Atlas) (WHO, 2018b), but also across other health conditions (e.g. HIV/AIDS) (Remien et al., 2019), sectors (e.g. education, employment, criminal justice) (Patel et al., 2016a), and social determinants of mental health (Lund et al., 2018). In this view, in Chapter 4 I suggest that philanthropic organisations could scale-up their efforts integrating mental health into their priorities, as illustrated for 15 large international foundations by the *Lancet Commission on Global Mental Health and Sustainable Development* (Patel et al., 2018, online Supplementary Table S5). However, unleashing funding through separate actions at the service of external actors' interests and priorities could amplifying currently co-existing divergent understanding of mental disorders (e.g. biomedical versus human rights) and required actions (e.g. drugs versus social inclusion) (Maj et al., 2002; Puras & Gooding, 2019). For instance, external actors might prefer to channel new funding through vertical programmes with short-term impact, possibly displacing them from

other competing issues (e.g. Shiffman, 2008), instead of adopting a sustainable horizontal approach targeting health system and society as a whole.

In addition, in this thesis I points to opportunities for increasing and amplifying external organisations' investments in mental health in LMICs. In particular, in Chapter 6 I point to strategic actions at three levels: source countries, recipient countries, and global landscape. Source countries could spur external organisations' investments by increasing political support, through financial commitments to organisations in the public sector and incentives for the private and third sectors. For instance, members of the Alliance of Champions for Mental Health and Wellbeing (Public Health Agency of Canada, 2018), which was co-funded by Australia, Canada, and the UK in 2018, could expand their impact, prioritising mental health not only in their domestic but also their development and foreign policy agendas (e.g. integrating mental health into COVID-19 responses). However, caution is called on imposing source countries' understanding of mental disorders and their solutions on recipient countries (Summerfield, 2008). There is no one-size-fits-all solution in mental health. Source countries could be guided by evidence from anthropological studies exploring cultural presentations and understanding of mental disorders (e.g. Kleinman, 1987) and anthropological and public health studies on context-specific solution (e.g. Chibanda et al., 2015).

Recipient countries could facilitate external organisations' commitments by increasing political support and creating fiscal and regulatory spaces. This is especially relevant for more than 70 LMICs across six regions which had already prioritised mental health, and for the 12 amongst them expected to accelerate universal health coverage for mental health and to improve their absorptive capacity through the WHO Special Initiative for Mental Health (2019–2023) (WHO, 2019). Mental health policy planning and service development in LMICs could benefit from the use of available policy tools, such as the Mental Health Atlas (WHO, 2018b) and guidance packages (WHO, 2020b). However, caution is warranted as this could lead to distortion of recipient country priorities (Ollila, 2005) and dependency on external investments (Khan et al., 2018). In line with the principles of local ownership and sustainability (UN, 2015a), recipient country priorities should be *always* at the forefront, informing funding decisions in both source and

recipient countries in order to reflect local needs and wants, and to favour long-term sustainability of investments beyond funded activities. This is crucial to avoid dependency on external investments, often volatile and fungible (i.e. partially displacing government mental health budgets) (Moon & Omole, 2017).

Finally, a global coordination mechanism involving *all* actors in global mental health could enable coordination and monitoring of efforts over time. While experts have recommended a global partnership for mental health (Vigo et al., 2019), some smaller coordination groups are emerging, such as the Inter-Agency Standing Committee reference group on mental health and psychosocial support in emergency settings established in 2007, the International Alliance for Mental Health Research Funders in 2010, and the first permanent donor group on psychosocial support in humanitarian settings in 2018. However, the establishment of such mechanism might face problems commons to other multi-stakeholder governance mechanisms, such as possible distortions of recipient country priorities (Biesma et al., 2009), disruption of health systems (e.g. human resources) and equity issues (e.g. focus on easily-accessible high-density areas) (Hanefeld, 2010), and dependency on external resources (Chima & Homedes, 2015).

7.3.4. Data

In this thesis I emphasise the need for better and more disaggregated data from *all* external actors to improve both planning and accountability. Data are critical to support the work of organisations tracking development assistance (IHME, OECD, UN Office for the Coordination of Humanitarian Affairs) and monitoring global progress in mental health (Countdown Global Mental Health 2030) (Saxena et al., 2019), which is required to inform policy planning and funding decisions, and ultimately for sustainable financing for global mental health. While all empirical chapters (Chapters 3 to 6) call attention to it, in Chapters 3 and 4 I shed a light on the dearth of and need for data from organisations and individuals in the private sector.

7.3.5. Ethical issues

In this thesis I stress the importance of integrating ethical considerations into decision-making and monitoring processes to ensure sustainable and ethical mental health financing in LMICs. In particular, issues related to the financialisation of global health (Stein & Sridhar, 2018), including equitable access to health care (Eren Vural, 2017) and conflicts of interest (Fava, 2007). In Chapter 3 I recommend the integration of ethical considerations during the establishment of partnerships across external actors from different sectors, in order to preserve core values in global mental health while unlocking untapped resources. Similarly, in Chapter 6 I propose careful consideration of possible ethical issues during the establishment of partnerships between external and domestic actors, in particular pertaining sustainability of impact beyond funded activities. The integration of ethical considerations into decision-making and monitoring processes could be especially critical for organisations in the private sector, as it could help in addressing existing tensions in the global mental health community.

7.4. Limitations

While details are provided within each empirical chapter (Chapters 3 to 6), in this section I summarise three types of limitations applying to the whole thesis across the qualitative and quantitative components: data, methods, and focus.

7.4.1. Data

The first set of limitations concerns data used in this study. Amongst data used in the quantitative component (Chapters 4 and 5), limitations apply to both data on development assistance for mental health and data on factors associated with its allocation. While the dataset on development assistance for mental health produced by IHME was the best source of information available at the time of the analyses, it is limited in breadth, depth, scope, granularity, robustness, and heterogeneity. Data are limited in breadth: estimates do not include development assistance from other LMICs which are gaining importance in global health (Micah et al., 2019) and philanthropic estimates focus predominantly on US foundations. However, the latter represent almost three-quarters of philanthropy for development (OECD, 2018). Data are limited in depth: estimates are conservative for some organisations. For instance, development assistance for health

channelled through global health initiatives and some multilateral governmental organisations (United Nations Children's Fund, Joint United Nations Programme on HIV and AIDS) is classified by IHME under health conditions constituting organisations' focus, although programmes may also include mental health components (IHME, 2018b).

Data are limited in scope: they focus on health only, potentially excluding sectors directly or indirectly relevant to mental health (e.g. education, employment) (Lund et al., 2018). Data are limited in granularity: they lack information on recipient countries for the majority of contributions, and on activities funded and population targeted. This restricted the analyses in Chapter 5 to disbursements into known recipients. While other datasets (e.g. aid activities dataset from OECD Creditor Reporting System, OECD-CRS) offer some of this information, mental health data would have needed to be extracted manually requiring time and resources beyond the scope of this study. Data are limited in robustness: they lack accurate reporting before 2000 and report preliminary estimates post-2015. This circumscribed analyses to the period between 2000 and 2015, yet facilitated meaningful interpretation with a focus on the Millennium Development Goals era to inform the Sustainable Development Goals era. Finally, data include some neurological conditions (epilepsy, headache disorders, Parkinson's disease) which may inflate estimates: this reflects prior conceptualisation of mental disorders due to the fact that their service provision is often combined in LMICs (WHO, 2008b). DAMH data limitations reflect customary challenges and trade-offs in the collection of secondary financial data across different organisations and over time: availability of human and financial resources required to collect better data, possible inaccuracies due to the use of different classifications and measurements across sources, confidentiality issues especially regarding organisations and individuals in the private sector. In Box 7.1 I critically reflect on methodological limitations of the dataset on development assistance for mental health produced by IHME, suggesting opportunities for improvement.

Box 7.1: IHME dataset on development assistance for mental health

Currently the most comprehensive source on development assistance for mental health, the IHME dataset has some methodological limitations in data collection, mental health activity identification, estimations, and reporting.

Data collection

The first set of limitations concerns data collection, in particular the breadth of sources. While external actors investing in mental health in LMICs are numerous (see Chapter 3) and their contributions to sustainable financing encouraged (UN, 2015b), many of them are not represented in the IHME dataset. For instance, LMIC donors are gaining in importance in global health, yet only China is currently included (Micah et al., 2019). They might lack accurate and regular reporting needed for time series cross-sectional datasets, but better data are becoming available in repositories (e.g. AidData) (AidData, 2020) and institutional websites of bilateral and multilateral organisations, especially for upper middle-income countries (e.g. Brazilian Development Bank, New Development Bank) (BNDES, 2020; NDB, 2020).

Similarly, the role of philanthropy in global health is growing (Youde, 2018), yet philanthropic estimates in the IHME dataset focus predominantly on US foundations. Although those represent almost three-quarters of philanthropy for development (OECD, 2018), contributions from philanthropic organisations outside the US could differ. The OECD dataset on private philanthropy for development constitutes a promising source of data (OECD, 2018). However, philanthropic disbursements for mental health are not currently estimated and their identification is hampered by the lack of access to activity-level data due to strict confidentiality agreement with data providers. Even though ad hoc searches can be requested, their accuracy depends on availability and skills of OECD staff (see Section 2.3).

In addition, mental health is gaining traction amongst private research funders outside the US, such as the Wellcome Trust which in 2020 made mental health a priority area (Wellcome Trust, 2021). Data on their contributions could be harnessed from the Dimensions database (Digital Science, 2021). A commercial product, it contains information at activity level on about 4.6 million grants disbursed by over 340 research funders worldwide (Bode et al., 2019). Its mental health research data have been recently improved as a result of a collaboration with the International Alliance of Mental Health Research Funders (Woelbert et al., 2020).

Mental health activity identification

The second set of limitations concerns the identification of mental health activities: breadth of key words, scope, and depth. The IHME search strategy currently may inflate estimates including key words not only on mental health and mental disorders (including substance use disorders, dementia, self-harm) but also on some neurological conditions (epilepsy, headache disorders, Parkinson's disease). This approach reflects prior conceptualisation of mental disorders due to the fact that their service provision is often combined in LMICs (WHO, 2008b). The exclusion of neurological conditions could better align with more recent approaches as shown by separate estimates of the global burden of disease for neurological disorders (GBD 2015 Neurological Disorders Collaborator Group, 2017). In addition, the increased prominence of mental health in the global discourse (Kleinman et al., 2016) could increase the risk of donor gaming for reputational purposes, with a looser use of mental health-related key words in project descriptions. The systematic audit of a random sample of projects and adaptation of search strategies could help reduce the problem.

The IHME dataset is limited in scope, focusing on the health sector only. This is at odds with the integrated strategy, which has gained prominence and success over the last decade, and has led to the integration of mental health programmes and activities within different sectors (e.g. education, employment, criminal justice) (Patel et al., 2016a) and themes (e.g. gender, disability, youth) (Lund et al., 2018) (see Chapter 6). The exclusion of sectors beyond health risks to provide an inaccurate picture of total investments in mental health. Data on development assistance in sectors beyond health are available in databases already used by IHME (e.g. aid activities database from the Creditor Reporting System of the Organisation for Economic Co-operation and Development, CRS) (OECD, 2019) and other publicly available databases (e.g. Financial Tracking Service database of the United Nations Office for the Coordination of Humanitarian Affairs) (UN OCHA, 2017). In particular, the inclusion of humanitarian assistance could improve the understanding of external investments in humanitarian settings, where mental health needs increase (Charlson et al., 2019) and are addressed through mental health programmes and activities supported by both humanitarian and development assistance (WHO, 2013a).

The IHME dataset is limited in depth: estimates are conservative for some organisations and activities. Development assistance for health channelled through global health initiatives and some multilateral governmental organisations (United Nations Children's Fund, Joint United Nations Programme on HIV and AIDS) is classified by IHME under health conditions constituting organisations' focus, although programmes may also include mental health components (IHME, 2018b). Disbursements at the health system level which are not exclusively earmarked but that may benefit mental health are not included in DAMH. This is equally at odds with the integrated strategy, which has promoted the integration of mental health programmes and activities within different health conditions (e.g. HIV/AIDS) (Remien et al., 2019) and levels of care (e.g. primary care) (WHO, 2008a).

Estimations

The third set of limitations concerns IHME estimation approaches vis-à-vis poor data quality. To address under-reporting and reporting lags for earlier years IHME adjusts disbursements using CRS commitments and disbursement data from the Development Assistance Committee database of the Organisation for Economic Co-operation and Development (IHME, 2018b). For the most recent two years, IHME estimates disbursements using regression models. This approach differs from other datasets where unadjusted figures are preferred (Gilbert et al., 2015; Pitt et al., 2018).

IHME deals with projects with more than one focus area dividing contributions across health focus areas proportionally to the number of key words present in the project's title and description. Other datasets adopt different approaches. For instance, the Harvard dataset on development assistance for mental health estimates DAMH as upper bounds, including the full amount of funding to projects including at least one mental health-related key word in the project title (Gilbert et al., 2015) (see Appendix 2.1).

Data reporting

The final set of limitations relate to the granularity of data reported, in terms of mental health activities, recipient countries, and philanthropic funding. The IHME dataset does

not provide data disaggregated at the activity level, which could permit more granular analyses and understanding of the quality of disbursements, in particular across different mental disorders (e.g. common and severe mental disorders) and population groups (e.g. by age, gender, ethnicity). While detailed project descriptions may not be available for all disbursements due to poor quality of reporting in collected data or could not be shared due to confidentiality agreements with data providers, some of the sources used by IHME already provide data disaggregated at the activity level (e.g. CRS database) (OECD, 2019).

The lack of information on recipient countries for the majority of contributions limits the interpretation of data and their use (see Chapter 5). To address the poor quality of reporting in collected data, IHME reallocates regional DAMH equally to each country in the specified region, yet excluding global and unspecified funding from country estimates (IHME, 2018b) (see Appendix 2.1). Different approaches have been used to deal with this problem. For instance, the Harvard dataset on development assistance for mental health includes regional, global and unspecified DAMH estimates for each recipient country, reallocating them based on the country's share in total DAMH during the year (Gilbert et al., 2015) (see Appendix 2.1). A similar approach is used in datasets tracking development assistance for other health conditions (e.g. Pitt et al., 2018). Reallocation of global and unspecified funding to recipient countries could enhance estimates at country level.

The dearth of information on philanthropic funding means that philanthropic organisation name is provided for the Bill & Melinda Gates Foundation (BMGF) only (see Chapter 4). The poor quality of data reflects the lack of transparency of philanthropic donors in development (OECD, 2018). Additional philanthropic organisation names can be accessed by request, yet only at the channel level and only for US foundations. Their interpretation calls for caution: for instance, between 2000 and 2015 BMGF disbursed the majority of DAMH (85%) through nongovernmental organisations and United Nations agencies (Charlson et al., 2017), suggesting that other US foundations could disburse the majority of their funding through other channels. The OECD dataset on private philanthropy for development constitutes a potentially promising source of data at the source level (OECD, 2018). Reporting at source level could provide a better understanding

of the role of philanthropic organisations, which are crucial actors in global mental health (see Chapter 4).

These four sets of data limitations reflect customary challenges and trade-offs in the collection of secondary financial data across different organisations and over time: availability of human and financial resources required to collect better data, possible inaccuracies due to the use of different classifications and measurements across sources, and confidentiality issues especially regarding organisations and individuals in the private sector. Continuous reassessment and improvement of the methodology used to create the IHME dataset is crucial not only as a technical pursuit, but also to facilitate its political and normative use (Shiffman and Shawar, 2020).

Beyond data on development assistance for mental health, data on factors associated with its allocation used in Chapter 5 present limitation due to poor quality or lack of available panel datasets. Poor quality of available data meant that government health expenditure was used as a proxy for government mental health expenditure and indicators for country mental health capacity (e.g. number of mental health workers) were not included. Lack of available data meant that some countries and territories were excluded from the analyses.[10] Some of them could have represented important recipients of development assistance for mental health, such as those experiencing conflicts and natural disasters (e.g. Palestine).

Looking at the qualitative component of this thesis, four main limitations apply to data collected through in-depth interviews in Chapter 6: sampling, interview medium, recordings, and completeness. Purposeful sampling could have introduced selection bias especially regarding participant geographies: this bias was possibly mitigated by sampling

[10] Twelve countries and territories were excluded from Chapter 4 analyses: Anguilla, Cook Islands, Mayotte, Montserrat, Nauru, Niue, Saint Helena, Saint Martin, Tokelau, Turks and Caicos Islands, Tuvalu, Wallis and Futuna Islands. Twenty-six countries and territories were discarded from Chapter 5 analyses: Anguilla, Cook Islands, Cuba, Democratic Republic of the Congo, Kosovo, Mayotte, Montserrat, Nauru, Niue, North Korea, Palau, Palestine, Romania, Saint Helena, Saint Martin, Sao Tome and Principe, Somalia, St Kitts and Nevis, Syria, Timor Leste, Tokelau, Trinidad and Tobago, Turks and Caicos Islands, Tuvalu, Wallis and Futuna Islands, Yemen.

for diversity according to organisation groups. Different geographies meant that some interviews were conducted via telephone or Skype (instead of face-to-face) to increase the variety of the sample (Lo Iacono et al., 2016). While the amount of participant talks in telephone and Skype interviews is sometimes reduced (Irvine, 2011) especially when both trust and rapport need to be established, the use of gatekeepers favoured their depth and quality. Participant preferences did not allow for recording some interviews, yet the use of detailed notes ensured comparable data quality (Rutakumwa et al., 2019). Finally, the ascent of mental health on the agenda globally during this study meant that some participants represented organisations which were undergoing internal strategical discussions vis-à-vis investments in mental health in LMICs at the time of the data collection, hence interviews may have only partially captured the content of those (often confidential and ongoing) exchanges.

7.4.2. Methods

The second set of limitations regards the methods used to analyse data in this study. Three limitations can be identified in relation to the quantitative component in Chapter 5: model choice, causality, and simplification of reality. First, the empirical model and analytical strategy present limitations, yet their choice was informed by multiple theoretical and empirical considerations described in detail in Chapter 5. I used a two-part model (Cragg, 1971) to reflect the two stages of the resource allocation process: country selection and resource allocation (Stubbs et al., 2016). I included in the model year fixed effects to account for annual shocks and adopted the clustered standard errors estimator to correct for serial correlation within recipient countries. During the process, I explored and discarded three alternative models (fixed-effects models, random-effects models, gravity models) and three estimation techniques (single-step estimation techniques such as Tobit, Heckman's two-step estimator, Generalised Method of Moments or GMM estimator) (see Chapter 5).

Second, analysing causality is beyond the scope of this study. However, the use of distributed lag models with times series cross-sectional datasets introduced a temporal dimension that allowed replication of the temporality of the decision-making process. I assumed a two-year lag to reflect information available to decision-makers at the time of

allocation of development assistance for mental health (i.e. year preceding disbursements) (Neumayer, 2005) and an additional one-year lag for humanitarian shocks to reflect the faster availability of information on emergencies and disbursement of emergency funds. Different lags were tested during robustness checks. Finally, it is worth remembering that models used are necessarily simplifications of the more complex disbursement process (McCoy et al., 2009).

Two limitations can be highlighted in relation to the qualitative analyses in Chapter 6: causality and robustness. While causality is beyond the scope of this study, I added a temporal dimension analysing factors shaping the decision-making process of external organisations and their changes over three decades. While robustness is a common critique faced by qualitative methods, triangulation across different sources of data (in-depth interviews and documents) can help to reduce bias. Triangulation is commonly used in social science, especially in qualitative methods, as a powerful tool to further the understanding of complex and multi-faceted social issues through different angles (Fusch et al., 2018).

7.4.3. Focus

This third and final set of limitations relates to the research focus. First, not all types of external actors are considered in this study: those not providing financial or in-kind contributions, such as political leaderships and consultative fora, are excluded. Yet, they may have influenced disbursements, as suggested by findings from Chapter 6. Second, I define mental health to include mental disorders only to reflect definition of development assistance for mental health used by IHME (Chapters 4 and 5) and to ensure feasibility within the time and resource available for this research. While positive aspects and social determinants of mental health are excluded, I discuss their relevance in the empirical chapters (Chapters 3 to 6). Finally, I focus on the role of external actors in sustainable mental health financing, excluding domestic actors and their contributions. However, I recognise the importance of partnerships with domestic actors to ensure impact beyond funded activities (Chapters 3 to 6) and the centrality of recipient countries for sustainable mental health financing by positioning them at the centre of this thesis: they are at the centre of the new typology presented in Chapter 3 and the analytical

model used in Chapter 5, and amongst factors shaping organisational decisions in the analytical framework outlined in Chapter 6.

7.5. Future research directions

Building on this thesis, in this section I outline three main research directions for studying external actors investing in mental health in LMICs. Empirical chapters (Chapters 3 to 6) present detailed research recommendations.

First, further research is needed to understand the role of external actors investing in mental health in LMICs, especially outside the public sector. The new typology presented in Chapter 3 could be used to map external actors for different regions, settings (e.g. development versus humanitarian), and mental disorders (e.g. common versus severe mental disorders). In particular, it could be interesting to explore external actors investing in mental health in *single* LMICs in order to reveal and compare country-specific ecosystems. Similarly, the analytical framework proposed in Chapter 6 could guide comprehensive and systematic assessment of external organisations' investments in mental health in LMICs through qualitative studies for different regions, settings, and mental disorders. The two research tools (new typology and analytical framework) could be used in both cross-sectional and longitudinal qualitative studies, allowing comparisons across organisations and over time. They could ensure consistency and comparability across studies, hence facilitating recognition of overall trends through qualitative meta-analyses (Levitt, 2018). Within this research stream, it could be worth exploring relationships across external actors (Han et al., 2018) and between external and domestic actors more closely, in order to inform discussion on partnerships for development and sustainability of investments. In addition, while the study of political leaderships and consultative fora is beyond the scope of this research, their analysis through case studies could shed a light on their influence on investments in mental health in LMICs.

A second avenue for research could seek to strengthen evidence on allocation of external actors' investments in mental health in LMICs. To support policy planning and financing, quantitative studies could build on existing literature in health (Ottersen et al., 2018) to explore allocation formulae, especially for development assistance for mental health. To

ensure sustainability of investments beyond funded activities, domestic mental health capacity and financing should be integrated in allocation formulae or in considerations to their implementation. Qualitative studies could investigate the process used by external actors to allocate resources to mental health in LMICs, focusing on single external organisations or organisation types (e.g. bilateral versus multilateral governmental organisations), different settings, and diverse mental disorders. Comparative studies could shed a light on overall trends, and successful and unsuccessful strategies. To identify successful financing mechanisms and strategies, qualitative and quantitative studies could evaluate the impact of external actors' investments for mental health in LMICs, in terms of acceptability, effectiveness, cost-effectiveness, affordability and potential harm.

A third and final stream of research could scrutinise ethical issues related to external investments in mental health in LMICs. Quantitative studies could illuminate equity and sustainability of external investments, in particular vis-à-vis their volatility and fungibility (Lu et al., 2010). Qualitative studies could investigate ethical issues across different organisation groups and across for-profit and not-for-profit arms of the same organisation, in particular regarding the financialisation of global mental health. This could advance knowledge on ethical investments for mental health in LMICs, potentially contributing to address existing tensions and to unlock resources from *all* external actors.

Methods used and tools developed during this research could be used to study domestic actors investing in mental health in LMICs. For instance, domestic actors could be mapped adapting the new typology presented in Chapter 3, their investments assessed using the analytical framework proposed in Chapter 6, and resource allocation investigated using econometric methods as in Chapter 5. The synergistic development of evidence on both external and domestic actors is crucial to advance sustainable mental health financing in LMICs.

7.6. Final reflections

This research has been a considerable learning journey. I started with a training in clinical psychology and health policy, and 10 years of experience in the field of global mental

health policy and practice. Over the last four years I had the opportunity to deepen my knowledge and skills in both quantitative and qualitative research. I strengthened my knowledge in econometrics and Stata coding skills, especially in macro-economic: the understanding of country-level variables, the creation of ad-hoc time series cross-sectional datasets, trend analyses and visualisation, regression analyses using different econometric models and estimation techniques. Extensive training in qualitative research allowed me to enhance my knowledge in qualitative data and methods (e.g. thematic analysis, process tracing, social network analysis), and NVivo skills. In addition, training in research ethics, safety, and data management permitted me to design and conduct research at the highest possible standards. Looking ahead, my research has generated more questions and more data (especially from the interviews) that I plan to explore and analyse in the future.

References

Abdulmalik, J., Fadahunsi, W., Kola, L., Nwefoh, E., Minas, H., Eaton, J. and O. Gureje (2014). The Mental Health Leadership and Advocacy Program (mhLAP): a pioneering response to the neglect of mental health in Anglophone West Africa. *International Journal of Mental Health Systems,* 8: 5.

Acharya, B., Maru, D., Schwarz, R., Citrin, D., Tenpa, J., Hirachan, S., Basnet, M., Thapa, P., Swar, S., Halliday, S., Kohrt, B., Luitel, N. P., Hung, E., Gauchan, B., Pokharel, R., and M. Ekstrand (2017). Partnerships in mental healthcare service delivery in low-resource settings: developing an innovative network in rural Nepal. *Global Health,* 13: 2.

Acumen (2019). *Investment sector: health.* New York City, NY, United States: Acumen. Available at: https://acumen.org/companies/sectors/health (accessed February 15, 2019).

Adaku, A., Okello, J., Lowry, B., Kane, J.C., Alderman, S., Musisi, S. and W.A. Tol (2016). Mental health and psychosocial support for South Sudanese refugees in northern Uganda: a needs and resource assessment. *Conflict and Health,* 10: 18.

Aggarwal, N.K. and B.A. Kohrt (2013). Medical diplomacy and global mental health: from community and national institutions to regional centers of excellence. *Community Mental Health Journal,* 49: 805–814.

AidData (2020). *Data.* Williamsburg, VA, United States: AidData. Available at: https://www.aiddata.org/datasets (accessed December 18, 2020).

Amon, J.J., Pearshouse, R., Cohen, J.E. and R. Schleifer (2014). Compulsory drug detention in East and Southeast Asia: evolving government, UN and donor responses. *International Journal of Drug Policy,* 25(1): 13–20.

Amuyunzu-Nyamongo, M., Owuor, J.O. and C. Blanchard (2013). The Consortium for NCD Prevention and Control in Sub-Saharan Africa (CNCD-Africa): from concept to practice. *Global Health Promotion,* 20(Suppl 4): 97–103.

Anand, S. and K. Hanson (1997). Disability-adjusted life years: a critical review. *Journal of Health Economics,* 16(6): 685–702.

Anguera, M.T., Blanco-Villaseñor, A., Losada, J.L., Sánchez-Algarra, P. and A.J. Onwuegbuzie (2018). Revisiting the difference between mixed methods and multimethods: is it all in the name? *Quality & Quantity,* 52: 2757–2770.

Arksey, H. and L. O'Malley (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology,* 8(1): 19–32.

Atun, R., Silva, S. and F.M. Knaul (2017). Innovative financing instruments for global health 2002–15: a systematic analysis. *Lancet Global Health,* 5(7): e720–e726.

Babor, T.F., Robaina, K. and D. Jernigan (2015). The influence of industry actions on the availability of alcoholic beverages in the African region. *Addiction,* 110: 561–571.

Baingana, F., al'Absi, M., Becker, A.E. and B. Pringle (2015). Global research challenges and opportunities for mental health and substance-use disorders. *Nature,* 527(7578): S172–S177.

Bampoe, V., Clancy, A., Sugarman, M., Liden, J. and M.A. Lansang (2012). Response from the Global Fund. *Bulletin of the World Health Organization,* 90: 70.

Beech, A., Kwak, D.W. and K.K. Tang (2015). Leading by example: do the biggest and most generous donors influence others to give more health aid? *International Journal of Social Economics,* 42(1): 19–32.

Bekkers, R. and P. Wiepking (2011). A literature review of empirical studies of philanthropy: eight mechanisms that drive charitable giving. *Nonprofit and Voluntary Sector Quarterly,* 40(5): 924–973.

Bendavid, E., Duong, A., Sagan, C. and G. Raikes (2015). Health aid is allocated efficiently, but not optimally: insights from a review of cost-effectiveness studies. *Health Affairs,* 34(7): 1188–1195.

Berthélemy, J.C. (2006). Bilateral donors' interest vs. recipients' development motives in aid allocation: do all donors behave the same? *Review of Development Economics,* 10(2): 179–194.

Biesma, R.G., Brugha, R., Harmer, A., Walsh, A., Spicer, N. and G. Walt (2009). The effects of global health initiatives on country health systems: a review of the evidence from HIV/AIDS control. *Health Policy and Planning,* 24(4): 239–252.

Bill & Melinda Gates Foundation (2020). *Mental health for all.* Seattle, WA, United States: Bill & Melinda Gates Foundation. Available at:

https://www.gatesfoundation.org/goalkeepers/accelerators/mental-health/ (accessed July 16, 2020).

Blignault, I., Manicavasagar, V., Parker, G., Wijeratne, C. and A. Sumathipala (2012). Building capacity in identification and management of mood disorders: an Australia-Sri Lanka collaboration. *Australasian Psychiatry,* 20(1): 53–56.

Bloom, D.E., Cafiero, E.T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L.R., Fathima, S., Feigl, A.B., Gaziano, T., Mowafi, M., Pandya, A., Prettner, K., Rosenberg, L., Seligman, B., Stein, A.Z. and C. Weinstein (2011). *The global economic burden of noncommunicable diseases.* Geneva, Switzerland: World Economic Forum.

BNDES (2020). *Brazilian Development Bank*. Rio de Janeiro, Brazil: Brazilian Development Bank. Available at: https://www.bndes.gov.br/SiteBNDES/bndes/bndes_en (accessed December 18, 2020).

Bode, C., Herzog, C., Hook, D. and R. McGrath (2019). *Dimensions report: a guide to the dimensions data approach.* London, United Kingdom: Digital Science.

Bodner, T.E. (2008). What improves with increased missing data imputations? *Structural Equation Modeling: A Multidisciplinary Journal,* 15(4): 651–675.

Bonini, B.B., Araya, R., Quayle, J., Silva Evangelista, M., Price, L.N. and P.R. Menezes (2017). LATIN-MH: a model for building research capacity within Latin America. *Global Mental Health,* 4: e2.

Boucher, A. (2017). Power in elite interviewing: lessons from feminist studies for political science. *Women's Studies International Forum,* 62: 99–106.

Boussalis, C. and C. Peiffer (2011). Health, need and politics: the determinants of bilateral HIV/AIDS assistance. *Journal of Development Studies:* 47(12), 1798–1825.

Braun, V. and V. Clarke (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology,* 3(2): 77–101.

Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N. and G.J. Rubin (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet,* 395(10227): 912–920.

Brousseau, R.T., Langill, D. and C.M. Pechura (2003). Are foundations overlooking mental health? *Health Affairs,* 22(5): 222–229.

Bump, J.B. (2018). Global health aid allocation in the 21st century. *Health Policy and Planning,* 33(Suppl 1): i1–i3.

Caddick, H., Horne, B., Mackenzie, J. and H. Tilley (2016). *Investing in mental health in low-income countries.* London, United Kingdom: Overseas Development Institute.

Caldas de Almeida, J.M. (2005). [Technical cooperation strategies of the Pan American Health Organization in the new phase of mental health services reform in Latin America and the Caribbean]. *Revista Panamericana de Salud Pública,* 18(4–5): 314–326. [in Spanish].

Campion, J., Javed, A., Sartorius, N. and M. Marmot (2020). Addressing the public mental health challenge of COVID-19. *Lancet Psychiatry,* 7(8): 657–659.

Candid (2020a). *Candid.* New York City, NY, United States: Candid. Available at: https://candid.org/ (accessed July 10, 2020)

Candid (2020b). *SDGfunders.* New York City, NY, United States: Candid. Available at: https://sdgfunders.org/home/lang/en/ (accessed July 10, 2020)

Capgemini (2018). *World Wealth Report 2018.* New York City, NY, United States: Capgemini.

Charlson, F., Dieleman, J., Singh, L. and H.A. Whiteford (2017). Donor financing of global mental health, 1995–2015: an assessment of trends, channels, and alignment with the disease burden. *PLoS One,* 12(1): e0169384.

Charlson, F., van Ommeren, M., Flaxman, A., Cornett, J., Whiteford, H. and S. Saxena (2019). New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis. *Lancet,* 394(10194): 240–248.

Chibanda, D., Bowers, T., Verhey, R., Rusakaniko, S., Abas, M., Weiss, H.A. and R. Araya (2015). The Friendship Bench programme: a cluster randomised controlled trial of a brief psychological intervention for common mental disorders delivered by lay health workers in Zimbabwe. *International Journal of Mental Health Systems,* 9: 21.

Chima, C.C. and N. Homedes (2015). Impact of global health governance on country health systems: the case of HIV initiatives in Nigeria. *Journal of Global Health,* 5(1): 010407.

Chisholm, D., Docrat, S., Abdulmalik, J., Alem, A., Gureje, O., Gurung, D., Hanlon, C., Jordans, M.J.D., Kangere, S., Kigozi, F., Mugisha, J., Muke, S., Olayiwola, S., Shidhaye, R., Thornicroft, G., and C. Lund (2019). Mental health financing

challenges, opportunities and strategies in low- and middle-income countries: findings from the Emerald project. *BJPsych Open,* 5(5): e68.

Chisholm, D., Flisher, A.J., Lund, C., Patel, V., Saxena, S., Thornicroft, G. and M. Tomlinson (2007). Scale up services for mental disorders: a call for action. *Lancet,* 370(9594): 1241–1252.

Chisholm, D. and S. Saxena (2012). Cost effectiveness of strategies to combat neuropsychiatric conditions in sub-Saharan Africa and South East Asia: mathematical modelling study. *British Medical Journal,* 344: e609.

Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P. and S. Saxena (2016). Scaling-up treatment of depression and anxiety: a global return on investment analysis. *Lancet Psychiatry,* 3(5): 415–424.

Chuah, F.L.H., Haldane, V.E., Cervero-Liceras, F., Ong, S.E., Sigfrid, L.A., Murphy, G., Watt, N., Balabanova, D., Hogarth, S., Maimaris, W., Otero, L., Buse, K., McKee, M., Piot, P., Perel, P. and H. Legido-Quigley (2017). Interventions and approaches to integrating HIV and mental health services: a systematic review. *Health Policy and Planning,* 32(Suppl 4): iv27–iv47.

Clark, J. (2014). Medicalization of global health 2: The medicalization of global mental health. *Global Health Action,* 7: 24000.

Clist, P. (2011). 25 years of aid allocation practice: whither selectivity? *World Development,* 39(10): 1724–1734.

Coghlan, D. and M. Brydon-Miller (2014). Positionality. In: Coghlan, D. and M. Brydon-Miller (eds.), *The SAGE encyclopedia of action research*. London, United Kingdom: SAGE Publications Ltd, p. 628.

Collins, P.Y., Patel, V., Joestl, S.S., March, D., Insel, T.R., Daar, A.S., Anderson, W., Dhansay, M.A., Phillips, A., Shurin, S., Walport, M., Ewart, W., Savill, S.J., Bordin, I.A., Costello, E.J., Durkin, M., Fairburn, C., Glass, R.I., Hall, W., Huang, Y., Hyman, S.E., Jamison, K., Kaaya, S., Kapur, S., Kleinman, A., Ogunniyi, A., Otero-Ojeda, A., Poo, M.M., Ravindranath, V., Sahakian, B.J., Saxena, S., Singer, P.A. and D.J. Stein (2011). Grand challenges in global mental health. *Nature,* 475: 27–30.

Cosgrove, L., Mills, C., Karter, J.M., Mehta, A. and J. Kalathil (2019). A critical review of the Lancet Commission on global mental health and sustainable development: time for a paradigm change. *Critical Public Health*, 1–8.

Cragg, J.G. (1971). Some statistical models for limited dependent variables with application to the demand for durable goods. *Econometrica,* 39(5): 829–844.

DFI (2020). *Development Finance International.* London, United Kingdom: Development Finance International. Available at: https://www.development-finance.org/ (accessed July 10, 2020).

DFID (2020). *Global Disability Summit.* London, United Kingdom: Department for International Development. Available at: https://www.gov.uk/government/topical-events/global-disability-summit-2018 (accessed July 16, 2020).

DHSC (2013). *G8 dementia summit declaration.* London, United Kingdom: Department of Health. Available at: https://www.gov.uk/government/publications/g8-dementia-summit-agreements/g8-dementia-summit-declaration (accessed May 28, 2020).

DHSC (2020). *Global Ministerial Mental Health Summit 2018.* London, United Kingdom: Department of Health and Social Care. Available at: https://www.gov.uk/government/collections/global-ministerial-mental-health-summit-2018 (accessed July 16, 2020).

Digital Science. (2021). *Dimensions database.* London, United Kingdom: Digital Science. Available at: https://www.dimensions.ai (accessed February 2, 2021).

Dieleman, J.L., Graves, C., Johnson, E., Templin, T., Birger, M., Hamavid, H., Freeman, M., Leach-Kemon, K., Singh, L., Haakenstad, A. and C.J. Murray (2015). Sources and Focus of Health Development Assistance, 1990–2014. *Journal of the American Medical Association,* 313(23): 2359–2368.

Dieleman, J.L., Graves, C.M., Templin, T., Johnson, E., Baral, R., Keach-Lemon, K., Haakenstad, A.M. and C.J. Murray (2014). Global health development assistance remained steady in 2013 but did not align with recipients' disease burden. *Health Affairs,* 34(5): 878–886.

Dieleman, J.L., Schneider, M.T., Haakenstad, A., Singh, L., Sadat, N., Birger, M., Reynolds, A., Templin, T., Hamavid, H., Chapin, A. and Murray, C.J. (2016). Development assistance for health: past trends, associations, and the future of international financial flows for health. *Lancet,* 387(10037): 2536–2544.

Dixon, A., McDaid, D., Knapp, M. and C. Curran (2006). Financing mental health services in low- and middle-income countries. *Health Policy and Planning,* 21(3): 171–182.

Docrat, S., Lund, C. and D. Chisholm (2019). Sustainable financing options for mental health care in South Africa: findings from a situation analysis and key informant interviews. *International Journal of Mental Health Systems,* 13: 4.

Dollar, D. and V. Levin (2006). The increasing selectivity of foreign aid, 1984–2003. *World Development,* 34(12): 2034–2046.

EDFI (2020). *European Development Finance Institutions.* Brussels, Belgium: European Development Finance Institutions. Available at: https://www.edfi.eu/ (accessed July 10, 2020).

Eisenbruch, M., de Jong, J.T. and W. van de Put (2004). Bringing order out of chaos: a culturally competent approach to managing the problems of refugees and victims of organized violence. *Journal of Traumatic Stress,* 17: 123–131.

Equitable Access Initiative (2016). *The Equitable Access Initiative report.* Available at: https://www.theglobalfund.org/media/1322/eai_equitableaccessinitiative_report_en.pdf?u=637319006148000000 (accessed August 20, 2020).

Eren Vural, I. (2017). Financialisation in health care: an analysis of private equity fund investments in Turkey. *Social Science & Medicine,* 187: 276–286.

Esser, M.B. and D.H. Jernigan (2015). Multinational alcohol market development and public health: Diageo in India. *American Journal of Public Health,* 105(11): 2220–2227.

Farrimond, H. (2013). *Doing ethical research*. Basingstoke, United Kingdom: Palgrave Macmillan.

Fava, G.A. (2007). Financial conflicts of interest in psychiatry. *World Psychiatry,* 6(1): 19–24.

Fazel, M., Patel, V., Thomas, S. and W. Tol (2014). Mental health interventions in schools in low-income and middle-income countries. *Lancet Psychiatry,* 1(5): 388–398.

Fetters, M.D., Curry, L.A. and J.W. Creswell (2013). Achieving integration in mixed methods designs – principles and practices. *Health Services Research,* 48(6 Pt2): 2134–2156.

Fink, S. (2005). East-West fusion: cross-border human rights activism and the Thai Drug Users' Network. *Health and Human Rights Journal,* 8(2): 188–202.

Firth, J., Siddiqi, N., Koyanagi, A., Siskind, D., Rosenbaum, S., Galletly, C., Allan, S., Caneo, C., Carney, R., Carvalho, A.F., Chatterton, M.L., Correll, C.U., Curtis, J., Gaughran,

F., Heald, A., Hoare, E., Jackson, S.E., Kisely, S., Lovell, K., Maj, M., McGorry, P.D., Mihalopoulos, C., Myles, H., O'Donoghue, B., Pillinger, T., Sarris, J., Schuch, F.B., Shiers, D., Smith, L., Solmi, M., Suetani, S., Taylor, J., Teasdale, S.B., Thornicroft, G., Torous, J., Usherwood, T., Vancampfort, D., Veronese, N., Ward, P.B., Yung, A.R., Killackey, E. and B. Stubbs (2019). The Lancet Psychiatry Commission: a blueprint for protecting physical health in people with mental illness. *Lancet Psychiatry,* 6(8): 675–712.

Fitzgerald, C., Elkaied, A. and I. Weissbecker (2012). Mapping of mental health and psychosocial support in post conflict Libya. *Intervention,* 10(2): 188–200.

Frenk, J. and S. Moon (2013). Governance challenges in global health. *New England Journal of Medicine,* 368: 936-942.

Frey, B.B. (ed.) (2018). *The SAGE encyclopedia of educational research, measurement, and evaluation*. Thousand Oaks, California: SAGE Publications Inc.

Fujii, E. (2019). What does trade openness measure? *Oxford Bulletin of Economics and Statistics,* 81(4): 868–888.

Fujii, L.A. (2014). Five stories of accidental ethnography: turning unplanned moments in the field into data. *Qualitative Research,* 15(4): 525–539.

Fusch, P., Fusch, G. and L. Ness (2018). Denzin's paradigm shift: revisiting triangulation in qualitative research. *Journal of Social Change,* 10(1): 19–32.

Gallo, C. and M. Tohen (2010). Current status and future perspectives for psychiatry/mental health research in Latin America. *International Review of Psychiatry,* 22(4): 382–393.

GBD 2015 Neurological Disorders Collaborator Group (2017). Global, regional, and national burden of neurological disorders during 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet Neurology*, 16(11): 877–897.

GBD 2017 Causes of Death Collaborators (2018). Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet,* 392(10159): 1736–1788.

GBD 2017 DALYs and HALE Collaborators (2018). Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2017: a systematic

analysis for the Global Burden of Disease Study 2017. *Lancet,* 392(10159): 1859–1922.

GBD 2017 HIV Collaborators (2019). Global, regional, and national incidence, prevalence, and mortality of HIV, 1980–2017, and forecasts to 2030, for 195 countries and territories: a systematic analysis for the Global Burden of Diseases, Injuries, and Risk Factors Study 2017. *Lancet HIV,* 6(12): e831–e859.

GCC (2011). *Integrated innovations in global mental health: improve treatments and expand access to care in low- and middle-income countries.* Toronto, Canada: Grand Challenges Canada. Available at: http://www.grandchallenges.ca/wp-content/uploads/globalmentalhealth_requestforproposals_2011Jul21_EN.pdf (accessed April 18, 2017).

GCC (2016). *Projects in Africa, Asia, Haiti demonstrate effective, affordable mental health treatment, earn next step scale-up funding.* Toronto, Canada: Grand Challenges Canada. Available at: http://www.grandchallenges.ca/wp-content/uploads/NewsRelease-GlobalMentalHealth-2016Jan27-EN.pdf (accessed April 18, 2017).

Gilbert, B., Patel, V., Farmer, P.E. and C. Lu (2015). Assessing development assistance for mental health in developing countries: 2007–2013. *PLoS Medicine,* 12(6): e1001834.

Gilbert, K., Tenni, B. and G. Le (2019). Sustainable transition from donor grant financing: what could it look like? *Asia Pacific Journal of Public Health,* 31(6): 485–498.

Gleditsch, N.P., Wallensteen, P., Eriksson, M., Sollenberg, M. and H. Strand (2002). Armed conflict 1946–2001: a new dataset. *Journal of Peace Research,* 39(5): 615–637.

Global Burden of Disease Collaborative Network (2018a). *Global Burden of Disease Study 2017 (GBD 2017) disability-adjusted life years and healthy life expectancy 1990–2017.* Seattle, WA, United States: Institute for Health Metrics and Evaluation. Available at: http://ghdx.healthdata.org/record/ihme-data/gbd-2017-dalys-and-hale-1990-2017 (accessed May 9, 2019).

Global Burden of Disease Collaborative Network (2018b). *Global Burden of Disease Study 2017 (GBD 2017) cause-specific mortality 1980–2017.* Seattle, WA, United States: Institute for Health Metrics and Evaluation. Available at:

http://ghdx.healthdata.org/record/ihme-data/gbd-2017-cause-specific-mortality-1980-2017 (accessed May 8, 2019).

Global Burden of Disease Collaborative Network (2018c). *Global Burden of Disease Study 2017 (GBD 2017) population estimates 1950–2017.* Seattle, WA, United States: Institute for Health Metrics and Evaluation. Available at: http://ghdx.healthdata.org/record/global-burden-disease-study-2017-gbd-2017-population-estimates-1950-2017 (accessed April 18, 2019).

Global Burden of Disease Collaborative Network (2018d). *Global Burden of Disease Study 2017 (GBD 2017) results tool.* Seattle, WA, United States: Institute for Health Metrics and Evaluation. Available at: http://ghdx.healthdata.org/gbd-results-tool (accessed May 24, 2020).

Global Burden of Disease Collaborative Network (2018e). *Global Burden of Disease Study 2017 (GBD 2017) results tool.* Seattle, WA, United States: Institute for Health Metrics and Evaluation. Available at: http://ghdx.healthdata.org/gbd-results-tool (accessed December 7, 2019).

Global Burden of Disease Health Financing Collaborator Network (2018a). *Global health spending 1995–2015.* Seattle, WA, United States: Institute for Health Metrics and Evaluation. Available at: http://ghdx.healthdata.org/record/ihme-data/global-health-spending-1995-2015 (accessed May 10, 2018).

Global Burden of Disease Health Financing Collaborator Network (2018b). Spending on health and HIV/AIDS: domestic health spending and development assistance in 188 countries, 1995–2015. *Lancet,* 391(10132): 1799-1829.

GMHPN (2020). *Global Mental Health Peer Network.* Available at: https://www.gmhpn.org/ (accessed May 31, 2020).

Grepin, K.A., Leach-Kemon, K., Schneider, M. and D. Sridhar (2012). How to do (or not to do) ... Tracking data on development assistance for health. *Health Policy and Planning,* 27(6): 527–534.

Grepin, K.A., Pinkstaff, C.B., Hole, A.R., Henderson, K., Norheim, O.F., Rottingen, J.A. and T. Ottersen (2018). Allocating external financing for health: a discrete choice experiment of stakeholder preferences. *Health Policy and Planning,* 33(Suppl 1): i24–i30.

Gulland, A. (2012). Mental health projects in developing countries share $19m investment. *British Medical Journal,* 345: e6812.

Gwaikolo, W.S., Kohrt, B.A. and J.L. Cooper (2017). Health system preparedness for integration of mental health services in rural Liberia. *BMC Health Services Research,* 17: 508.

Haakenstad, A., Templin, T., Lim, S., Bump, J.B. and J.L. Dieleman (2018). The financing gaps framework: using need, potential spending and expected spending to allocate development assistance for health. *Health Policy and Planning,* 33(Suppl 1): i47–i55.

Hakim, J.G., Chidzonga, M.M., Borok, M.Z., Nathoo, K.J., Matenga, J., Havranek, E., Cowan, F., Abas, M., Aagaard, E., Connors, S., Nkomani, S., Ndhlovu, C.E., Matsika, A., Barry, M. and T.B. Campbell (2018). Medical Education Partnership Initiative (MEPI) in Zimbabwe: outcomes and challenges. *Global Health: Science and Practice,* 6(1): 82–92.

Hamadani, J.D., Hasan, M.I., Baldi, A.J., Hossain, S.J., Shiraji, S., Bhuiyan, M.S.A., Mehrin, S.F., Fisher, J., Tofail, F., Tipu, S.M.M.U., Grantham-McGregor, S., Biggs, B.A., Braat, S. and S.R. Pasricha (2020). Immediate impact of stay-at-home orders to control COVID-19 transmission on socioeconomic conditions, food insecurity, mental health, and intimate partner violence in Bangladeshi women and their families: an interrupted time series. *Lancet Global Health*, 8(11): e1380–e1389.

Han, L., Koenig-Archibugi, M. and T. Opsahl (2018). The social network of international health aid. *Social Science & Medicine,* 206: 67–74.

Hanefeld, J. (2010). The impact of Global Health Initiatives at national and sub-national level – a policy analysis of their role in implementation processes of antiretroviral treatment (ART) roll-out in Zambia and South Africa. *AIDS Care,* 22(Suppl 1): 93–102.

Harmer, A., Spicer, N., Aleshkina, J., Bogdan, D., Chkhatarashvili, K., Murzalieva, G., Rukhadze, N., Samiev, A. and G. Walt (2013). Has Global Fund support for civil society advocacy in the Former Soviet Union established meaningful engagement or 'a lot of jabber about nothing'? *Health Policy and Planning,* 28(3): 299–308.

Harrigan, J. and C. Wang (2011). A new approach to the allocation of aid among developing countries: is the USA different from the rest? *World Development,* 39(8): 1281–1293.

Harvey, W.S. (2011). Strategies for conducting elite interviews. *Qualitative Research,* 11(4): 431–441.

Hausman, J.A. (1978). Specification tests in econometrics. *Econometrica,* 46(6): 1251–1271.

Heckman, J.J. (1979). Sample selection bias as a specification error. *Econometrica*, 47(1): 153–161.

Hoeffler, A. and V. Outram (2011). Need, merit, or self-interest – what determines the allocation of aid? *Review of Development Economics,* 15: 237–250.

Howell, A., Mills, C. and S. Rushton (2017). The (mis)appropriation of HIV/AIDS advocacy strategies in Global Mental Health: towards a more nuanced approach. *Global Health,* 13: 44.

Hwong, A., Douma, D.M., Zamo, S. and J. Eaton (2015). Scaling up mental healthcare in the Republic of Niger: priorities for and barriers to service improvement. *BJPsych International,* 12(Suppl 1): S6–S9.

IASC (2007). *IASC guidelines on mental health and psychosocial support in emergency settings*. Geneva, Switzerland: Inter-Agency Standing Committee.

IASC Reference Group for Mental Health and Psychosocial Support in Emergency Settings. (2017). *A common monitoring and evaluation framework for mental health and psychosocial support in emergency settings.* Geneva, Switzerland: Inter-Agency Standing Committee.

Iemmi, V. (2019a). Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries. *BMJ Global Health,* 4: e001826.

Iemmi, V. (2019b). *Sustainable development for global mental health: a typology of external actors in low- and middle-income countries. Infographic.* Available at: http://eprints.lse.ac.uk/102572/ (accessed October 27, 2020).

Iemmi, V. (2019c). *Sustainable development for global mental health: a typology of external actors in low- and middle-income countries. Research and policy tool.* Available at: http://eprints.lse.ac.uk/102572/ (accessed October 27, 2020).

Iemmi, V. (2020a). Philanthropy for global mental health 2000–2015. *Global Mental Health,* 7: e9.

Iemmi, V. (2020b). *Philanthropy for global mental health. Infographic.* Available at: http://eprints.lse.ac.uk/103700/ (accessed October 27, 2020).

Iemmi, V. (In press). How and why external organisations invest in mental health in low- and middle-income countries: a qualitative analysis. *Lancet Psychiatry*.

Iemmi, V., Bantjes, J., Coast, E., Channer, K., Leone, T., McDaid, D., Palfreyman, A., Stephens, B. and C. Lund (2016). Suicide and poverty in low-income and middle-income countries: a systematic review. *Lancet Psychiatry,* 3(8): 774–783.

IHME (2018a). *Development assistance for health database 1990–2017.* Seattle, WA, United States: Institute for Health Metrics and Evaluation. Available at: http://ghdx.healthdata.org/record/development-assistance-health-database-1990-2017 (accessed August 27, 2019).

IHME (2018b). *Financing global health 2017: funding universal health coverage and the unfinished HIV/AIDS agenda. Supplementary methods annex.* Seattle, WA, United States: Institute for Health Metrics and Evaluation.

IHME (2018c). *GBD compare.* Seattle, WA, United States: Institute for Health Metrics and Evaluation, University of Washington. Available at: https://vizhub.healthdata.org/gbd-compare (accessed May 21, 2020).

Irvine, A. (2011). Duration, dominance and depth in telephone and face-to-face interviews: a comparative exploration. *International Journal of Qualitative Methods,* 10(3): 202–220.

Iwami, T. (2016). Constructing peace in the minds of people?: roles of Japan in psychosocial reconstruction. *Asian Journal of Peacebuilding,* 4(2): 217–239.

Jafar, A.J.N. (2018). What is positionality and should it be expressed in quantitative studies? *Emergency Medicine Journal,* 35: 323–324.

Jenkins, R., Kiima, D., Njenga, F., Okonji, M., Kingora, J., Kathuku, D. and S. Lock (2010a). Integration of mental health into primary care in Kenya. *World Psychiatry,* 9(2): 118–120.

Jenkins, R., Kiima, D., Okonji, M., Njenga, F., Kingora, J. and S. Lock (2010b). Integration of mental health into primary care and community health working in Kenya: context,

rationale, coverage and sustainability. *Mental Health in Family Medicine,* 7(1): 37–47.

Jenkins, R., Othieno, C., Okeyo, S., Aruwa, J., Kingora, J. and B. Jenkins (2013). Health system challenges to integration of mental health delivery in primary care in Kenya – perspectives of primary care health workers. *BMC Health Services Research,* 13: 368.

Johnson, R.B., Onwuegbuzie, A.J. and L.A. Turner (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research,* 1(2): 112–133.

Jones, L.M., Ghani, H.A., Mohanraj, A., Morrison, S., Smith, P., Stube, D. and J. Asare (2007). Crisis into opportunity: setting up community mental health services in post-tsunami Aceh. *Asia Pacific Journal of Public Health,* 19: 60–68.

Kamradt-Scott, A. (2010). The WHO Secretariat, norm entrepreneurship, and global disease outbreak control. *Journal of International Organizations Studies,* 1(1): 72–89.

Karlan, D. and J.A. List (2020). How can Bill and Melinda Gates increase other people's donations to fund public goods? *Journal of Public Economics,* 191: 104296.

Kaufmann, D., Kraay, A. and M. Mastruzzi (2011). The worldwide governance indicators: methodology and analytical issues. *Hague Journal on the Rule of Law,* 3: 220–246.

Keats, P.A. and A. Sharma (2014). Canadian and Nepali counsellors: in collaboration for social justice in Nepal. *Canadian Journal of Counselling and Psychotherapy,* 48(3): 284–299.

Kelland, K. (2017). *Bill Gates makes $100 million personal investment to fight Alzheimer's*. New York City, NY, United States: Reuters. Available at: https://www.reuters.com/article/us-health-dementia-gates/bill-gates-makes-100-million-personal-investment-to-fight-alzheimers-idUSKBN1DD0S3 (accessed February 14, 2019).

Kenny, C., Kalow, J., Leo, B. and V. Ramachandran (2018). *Comparing five bilateral development finance institutions and the IFC.* Washington DC, United States: Center for Global Development.

Kerr, T., Kaplan, K., Suwannawong, P. and E. Wood (2005). Getting global funds to those most in need: the Thai Drug Users' Network. *Health and Human Rights Journal,* 8(2): 170–186.

Kessler, R.C., Aguilar-Gaxiola, S., Alonso, J., Chatterji, S., Lee, S., Ormel, J., Ustun, T.B. and P.S. Wang (2009). The global burden of mental disorders: an update from the WHO World Mental Health (WMH) surveys. *Epidemiologia e Psichiatria Sociale,* 18(1): 23–33.

Khan, M.S., Meghani, A., Liverani, M., Roychowdhury, I. and J. Parkhurst (2018). How do external donors influence national health policy processes? Experiences of domestic policy actors in Cambodia and Pakistan. *Health Policy and Planning,* 33(2): 215–223.

Kiendrebeogo, J.A. and B. Meessen (2019). Ownership of health financing policies in low-income countries: a journey with more than one pathway. *BMJ Global Health,* 4: e001762.

Kienzler, H. and Z. Amro (2015). 'Unknowing' and mental health system reform in Palestine. *Medicine Anthropology Theory,* 2(3): 113–127.

Kiima, D. and R. Jenkins (2010). Mental health policy in Kenya – an integrated approach to scaling up equitable care for poor populations. *International Journal of Mental Health Systems,* 4: 19.

Kirby, T. (2014). Profile: NIH's Fogarty International Center. *Lancet,* 384(9938): 121.

Kleinman, A. (1987). Anthropology and psychiatry. The role of culture in cross-cultural research on illness. *British Journal of Psychiatry,* 151: 447–454.

Kleinman, A., Estrin, G.L., Usmani, S., Chisholm, D., Marquez, P.V., Evans, T.G. and S. Saxena (2016). Time for mental health to come out of the shadows. *Lancet,* 387(10035): 2274–2275.

Kleintjes, S., Lund, C. and L. Swartz (2013). Organising for self-advocacy in mental health: experiences from seven African countries. *African Journal of Psychiatry,* 16(3): 187–195.

Knapp, M. and V. Iemmi (2016). Mental health. In: Scheffler, R.M. (ed.) *World scientific handbook of global health economics and public policy: health determinants and outcomes*. Singapore: World Scientific.

Koenen, K.C., Rudenstine, S., Susser, E. and S. Galea (2013). *A life course approach to mental disorders*. Oxford, United Kingdom: Oxford University Press.

Kohan, I., Pérez-Sales, P., Cisneros, M.H., Chirinos, R., Pérez-Langa, R., Holguín, M.R., Cid, B. and A. Silva (2011). Emergencies and disasters as opportunities to improve

mental health systems: Peruvian experience in Huancavelica. *Intervention,* 9(3): 237–248.

Krech, R., Kickbusch, I., Franz, C. and N. Wells (2018). Banking for health: the role of financial sector actors in investing in global health. *BMJ Global Health,* 3: e000597.

Kunz, V. (2009). Sport as a post-disaster psychosocial intervention in Bam, Iran. *Sport in Society,* 12(9): 1147–1157.

Lagerkvist, B. and L. Jacobsson (2001). Development of community psychiatry in Bosnia-Herzegovina with focus on support from Sweden. *Medical Archives,* 55(1): 33–35.

Lagerkvist, B., Mehic-Basara, N., Ceric, I. and L. Jacobsson (2013). The Swedish support to Bosnia Herzegovina: rebuilding mental health services after the war. *Intervention,* 11(3): 249–260.

Lall, R. (2016). How multiple imputation makes a difference. *Political Analysis,* 24(4): 414–433.

Layard, R., Chisholm, D., Patel, V. and S. Saxena (2013). Mental illness and unhappiness. In: Helliwell, J., Layard R. and J. Sachs (eds.), *World Happiness Report 2013*. New York City, NY, United States: Sustainable Development Solutions Network, pp. 38–53.

Lee, S.A. and J.Y. Lim (2014). Does international health aid follow recipients' needs? Extensive and intensive margins of health aid allocation. *World Development,* 64: 104–120.

Levac, D., Colquhoun, H. and K.K. O'Brien (2010). Scoping studies: advancing the methodology. *Implementation Science,* 5: 69.

Levitt, H.M. (2018). How to conduct a qualitative meta-analysis: Tailoring methods to enhance methodological integrity. *Psychotherapy Research,* 28(3): 367–378.

Liese, B.H., Gribble, R.S.F. and M.N. Wickremsinhe (2019). International funding for mental health: a review of the last decade. *International Health,* 11(5): 361–369.

Lo Iacono, V., Symonds, P. and D.H.K. Brown (2016). Skype as a tool for qualitative research interviews. *Sociological Research Online,* 21(2): 103–117.

Lordan, G., Tang, K.K. and F. Carmignani (2011). Has HIV/AIDS displaced other health funding priorities? Evidence from a new dataset of development aid for health. *Social Science & Medicine,* 73(3): 351–355; discussion 356–358.

Lu, C., Li, Z. and V. Patel (2018). Global child and adolescent mental health: the orphan of development assistance for health. *PLoS Medicine,* 15(3): e1002524.

Lu, C., Michaud, C.M., Khan, K. and C.J. Murray (2006). Absorptive capacity and disbursements by the Global Fund to Fight AIDS, Tuberculosis and Malaria: analysis of grant implementation. *Lancet,* 368(9534): 483–488.

Lu, C., Schneider, M.T., Gubbins, P., Leach-Kemon, K., Jamison, D. and C.J. Murray (2010). Public financing of health in developing countries: a cross-national systematic analysis. *Lancet,* 375(9723): 1375–1387.

Luis, M.A., Mendes, I.A., Carvalho, E.C., Mamede, M.V., Wright Mda, G. and A.M. Chisman (2004). Partnership between a university and an international organization with a view to drugs research training for Latin American nursing teachers. *Revista Latino-Americana de Enfermagem,* 12: 307–315.

Lund, C., Brooke-Sumner, C., Baingana, F., Baron, E.C., Breuer, E., Chandra, P., Haushofer, J., Herrman, H., Jordans, M., Kieling, C., Medina-Mora, M. E., Morgan, E., Omigbodun, O., Tol, W., Patel, V. and S. Saxena (2018). Social determinants of mental disorders and the Sustainable Development Goals: a systematic review of reviews. *Lancet Psychiatry,* 5(4): 357–369.

Lund, C., De Silva, M., Plagerson, S., Cooper, S., Chisholm, D., Das, J., Knapp, M. and V. Patel (2011). Poverty and mental disorders: breaking the cycle in low-income and middle-income countries. *Lancet,* 378(9801): 1502–1514.

Lund, C., Tomlinson, M., De Silva, M., Fekadu, A., Shidhaye, R., Jordans, M., Petersen, I., Bhana, A., Kigozi, F., Prince, M., Thornicroft, G., Hanlon, C., Kakuma, R., McDaid, D., Saxena, S., Chisholm, D., Raja, S., Kippen-Wood, S., Honikman, S., Fairall, L. and V. Patel (2012). PRIME: a programme to reduce the treatment gap for mental disorders in five low- and middle-income countries. *PLoS Medicine,* 9(12): e1001359.

Mackenzie, J. and C. Kesner (2016). *Mental health funding and the SDGs. What now and who pays?* London, United Kingdom: Overseas Development Institute.

Mackey, T.K. and S.A. Strathdee (2015). Responding to the public health consequences of the Ukraine crisis: an opportunity for global health diplomacy. *Journal of the International AIDS Society,* 18(1): 19410.

MacLaren, D., Asugeni, J. and M. Redman-MacLaren (2015). Strengthening research capacity in the Pacific: an example from the Atoifi Health Research Group, Solomon Islands. *Australasian Psychiatry,* 23(Suppl 6): 42–44.

Maj, M., Gaebel, W., López-Ibor, J.J. and N. Sartorius (eds.) (2002). *Psychiatric Diagnosis and Classification*. Chichester, United Kingdom: John Wiley & Sons Ltd.

Marquaridt, D.W. (1970). Generalized inverses, ridge regression, biased linear estimation, and nonlinear estimation. *Technometrics,* 12(3): 591–612.

Mathews, E., Ahern, L., Rosenthal, E., Conroy, J., Kaplan, L.C., Levy, R.M. and K. Green McGowan (2013). *Left Behind. The exclusion of children and adults with disabilities from reform and rights protection in the Republic of Georgia.* Washington DC, United States: Disability Rights International.

Maton, K. (2003). Reflexivity, relationism, & research: Pierre Bourdieu and the epistemic conditions of social scientific knowledge. *Space and Culture,* 6(1): 52–65.

Matzopoulos, R., Parry, C.D., Corrigall, J., Myers, J., Goldstein, S. and L. London (2012). Global Fund collusion with liquor giant is a clear conflict of interest. *Bulletin of the World Health Organization,* 90: 67–69; discussion 70.

McCoy, D., Chand, S. and D. Sridhar (2009). Global health funding: how much, where it comes from and where it goes. *Health Policy and Planning,* 24(6): 407–417.

Mendenhall, E., Kohrt, B.A., Norris, S.A., Ndetei, D. and D. Prabhakaran (2017). Non-communicable disease syndemics: poverty, depression, and diabetes among low-income populations. *Lancet,* 389(10072): 951–963.

MHIN (2020). *Mental Health Innovation Network.* London, United Kingdom: Mental Health Innovation Network. Available at: https://www.mhinnovation.net/ (accessed July 20, 2020).

Miake-Lye, I.M., Hempel, S., Shanman, R. and P.G. Shekelle (2016). What is an evidence map? A systematic review of published evidence maps and their definitions, methods, and products. *Systematic Reviews,* 5: 28.

Micah, A.E., Zhao, Y., Chen, C.S., Zlavog, B.S., Tsakalos, G., Chapin, A., Gloyd, S., Jonas, J., Lee, P.H., Liu, S., Ng, M.T.A., Phillips, M.R., Rubagotti, E., Tang, K., Tang, S., Younis, M., Zhang, Y., Murray, C.J. and J.L. Dieleman (2019). Tracking development assistance for health from China, 2007–2017. *BMJ Global Health,* 4: e001513.

Microsoft Corporation (2013). *Excel 2013.*

Mikecz, R. (2012). Interviewing elites: addressing methodological issues. *Qualitative Inquiry,* 18(6): 482–493.

Miranda, J.J. and V. Patel (2005). Achieving the Millennium Development Goals: does mental health play a role? *PLoS Medicine,* 2(10): e291.

Mnookin, S., Kleinman, A., Evans, T., Marquez, P., Saxena, S., Chisholm, D., Becker, A., Collins, P.Y., de Silva, M., Farias, P., Iunes, R., Ito, A., Jamison, D.T., Kim, Y., Klein, J., Patel, V. and B. Saraceno (2016). *Out of the shadows: making mental health a global development priority.* Washington DC, United States: The World Bank Group/World Health Organization.

Moon, S. and O. Omole (2017). Development assistance for health: critiques, proposals and prospects for change. *Health Economics, Policy and Law,* 12(2): 207–221.

Moron-Nozaleda, M.G., Gomez de Tojeiro, J., Cobos-Munoz, D. and A. Fernandez-Liria (2011). Integrating mental health into primary care in Africa: the case of Equatorial Guinea. *Intervention,* 9(3): 304–314.

NDB (2020). *New Development Bank.* Shanghai, China: New Development Bank. Available at: https://www.ndb.int/ (accessed December 18, 2020).

Ndetei, D.M. (2012). Emerging opportunities for mental health research in Africa. *African Journal of Psychiatry,* 15(3): 158.

Neumayer, E. (2003). Do human rights matter in bilateral aid allocation? A quantitative analysis of 21 donor countries. *Social Science Quarterly,* 84: 650–666.

Neumayer, E. (2005). Do international human rights treaties improve respect for human rights? *Journal of Conflict Resolution,* 49(6): 925–953.

Nguyen, C.D., Carlin, J.B. and K.J. Lee (2017). Model checking in multiple imputation: an overview and case study. *Emerging Themes in Epidemiology,* 14: 8.

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M. and R. Agha (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): a review. *International Journal of Surgery,* 78: 185–193.

NIMH. (2020). *Grand Challenges in Global Mental Health.* Rockville, MD, United States: National Institute of Mental Health. Available at: https://www.nimh.nih.gov/about/organization/cgmhr/grandchallenges/index.shtml (accessed July 16, 2020).

Nishtar, S., Niinistö, S., Sirisena, M., Vázquez, T., Skvortsova, V., Rubinstein, A., Mogae, F.G., Mattila, P., Ghazizadeh Hashemi, S.H., Kariuki, S., Narro Robles, J., Adewole, I.F., Sarr, A.D., Gan, K.Y., Piukala, S.M., Al Owais, A.R.B.M., Hargan, E., Alleyne, G., Alwan, A., Bernaert, A., Bloomberg, M., Dain, K., Frieden, T., Patel, V., Kennedy, A. and I. Kickbusch (2018). Time to deliver: report of the WHO Independent High-Level Commission on NCDs. *Lancet*, 392(10143): 245–252.

O'Brien, B.C., Harris, I.B., Beckman, T.J., Reed, D.A. and D.A. Cook (2014). Standards for reporting qualitative research: a synthesis of recommendations. *Academic Medicine,* 89(9): 1245–1251.

OECD (2003). *Rome Declaration on Harmonisation.* Paris, France: Organisation for Economic Co-operation and Development.

OECD (2005). *Paris Declaration on Aid Effectiveness.* Paris, France: Organisation for Economic Co-operation and Development.

OECD (2008). *Accra Agenda for Action.* Paris, France: Organisation for Economic Co-operation and Development.

OECD (2011). *Busan Partnership for Effective Development Co-operation.* Paris, France: Organisation for Economic Co-operation and Development.

OECD (2017). *TOSSD: a new statistical measure for the SDG era.* Paris, France: Organisation for Economic Co-operation and Development.

OECD (2018). *Private philanthropy for development.* Paris, France: OECD Publishing.

OECD (2019). *Creditor Reporting System (CRS).* Paris, France: Organisation for Economic Co-operation and Development. Available at: https://stats.oecd.org/Index.aspx?DataSetCode=CRS1 (accessed December 18, 2020)

OECD (2020a). *Annex 2 List of ODA-eligible international organisations.* Paris, France: Organisation for Economic Co-Operation and Development. Available at: http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/annex2.htm (accessed July 10, 2020).

OECD (2020b). *Development finance institutions and private sector development.* Paris, France: Organisation for Economic Co-Operation and Development. Available at: http://www.oecd.org/dac/stats/development-finance-institutions-private-sector-development.htm (accessed April 18, 2017).

OECD (2020c). *OECD Centre on Philanthropy.* Paris, France: Organisation for Economic Co-operation and Development. Available at: https://www.oecd.org/development/philanthropy-centre/ (accessed July 10, 2020).

Ollila, E. (2005). Global health priorities – priorities of the wealthy? *Globalization and Health,* 1: 6.

OPIC (2019). *OPIC in action: all project descriptions.* Washington DC, United States: Overseas Private Investment Corporation. Available at: https://www.opic.gov/opic-action/all-project-descriptions (accessed February 14, 2019).

Ottersen, T., Grepin, K.A., Henderson, K., Pinkstaff, C.B., Norheim, O.F. and J.A. Rottingen, (2018). New approaches to ranking countries for the allocation of development assistance for health: choices, indicators and implications. *Health Policy and Planning,* 33(Suppl 1): i31–i46.

Ottersen, T., Kamath, A., Moon, S. and J.A. Røttingen (2014). *Development assistance for health: quantitative allocation criteria and contribution norms.* London, United Kingdom: Chatham House.

Ottersen, T., Moon, S. and J.A. Rottingen (2017). Distributing development assistance for health: simulating the implications of 11 criteria. *Health Economics, Policy and Law,* 12(2): 245–263.

Outreville, J.F. (2007). Foreign direct investment in the health care sector and most-favoured locations in developing countries. *European Journal of Health Economics,* 8(4): 305–312.

Padgett, D.K. (2012). *Qualitative and mixed methods in public health*. Thousand Oaks, CA, United States: Sage Publications.

Parry, J. (2011). Foreign donors are criticised for funding inhumane drug detention centre in Laos. *British Medical Journal,* 343: d6534.

Patel, V., Boardman, J., Prince, M. and D. Bhugra (2006a). Returning the debt: how rich countries can invest in mental health capacity in developing countries. *World Psychiatry,* 5(2): 67–70.

Patel, V., Chisholm, D., Dua, T., Laxminarayan, R. and M.E. Medina-Mora (eds.) (2016a). *Mental, neurological, and substance use disorders: Disease Control Priorities,*

(Volume 4). Washington DC, United States: The International Bank for Reconstruction and Development/The World Bank.

Patel, V., Chisholm, D., Parikh, R., Charlson, F.J., Degenhardt, L., Dua, T., Ferrari, A.J., Hyman, S., Laxminarayan, R., Levin, C., Lund, C., Medina Mora, M.E., Petersen, I., Scott, J., Shidhaye, R., Vijayakumar, L., Thornicroft, G. and H. Whiteford (2016b). Addressing the burden of mental, neurological, and substance use disorders: key messages from Disease Control Priorities, 3rd edition. *Lancet,* 387(10028): 1672–1685.

Patel, V., Saraceno, B. and A. Kleinman (2006b). Beyond evidence: the moral case for international mental health. *American Journal of Psychiatry,* 163(8): 1312–1315.

Patel, V., Saxena, S., De Silva, M. and C. Samele (2013). *Transforming lives, enhancing communities: innovations in global mental health.* London, United Kingdom: London School of Hygiene and Tropical Medicine.

Patel, V., Saxena, S., Lund, C., Thornicroft, G., Baingana, F., Bolton, P., Chisholm, D., Collins, P.Y., Cooper, J.L., Eaton, J., Herrman, H., Herzallah, M.M., Huang, Y., Jordans, M.J.D., Kleinman, A., Medina-Mora, M.E., Morgan, E., Niaz, U., Omigbodun, O., Prince, M., Rahman, A., Saraceno, B., Sarkar, B.K., De Silva, M., Singh, I., Stein, D.J., Sunkel, C. and J. Unützer (2018). The Lancet Commission on global mental health and sustainable development. *Lancet,* 392(10157): 1553–1598.

Peiffer, C. and C. Boussalis (2010). Foreign assistance and the struggle against HIV/AIDS in the developing world. *Journal of Development Studies,* 46(3): 556–573.

Peiffer, C. and C. Boussalis (2015). Determining aid allocation decision-making: towards a comparative sectored approach. In: Arvin, M. and B. Lew (eds.), *Handbook on the Economics of Foreign Aid*. Cheltenham, United Kingdom: Edward Elgar Publishing Ltd, pp. 45–63.

Persaud, A., Day, G., Gupta, S., Ventriglio, A., Ruiz, R., Chumakov, E., Desai, G., Castaldelli-Maia, J., Torales, J., Tolentino, E.J., Bhui, K. and D. Bhugra (2018a). Geopolitical factors and mental health I. *International Journal of Social Psychiatry,* 64(8): 778–785.

Persaud, A., Day, G., Ventriglio, A., Gupta, S., Ramachandran, P., Ruiz, R., Chumakov, E., Desai, G., Castaldelli-Maia, J., Torales, J., Tolentino, E.J., Bhui, K. and D. Bhugra

(2018b). Geopolitical factors, foreign aid and mental health II: value for money. *International Journal of Social Psychiatry,* 64(8): 786–798.

Peters, M.D.J., Godfrey, C.M., McInerney, P., Soares, C.B., Khaili, H. and D. Parker (2017). Scoping reviews. In: Aromataris, E. and Z. Munn (eds.), *Joanna Briggs Institute Reviewer's Manual*. Adelaide, Australia: Joanna Briggs Institute. Available at: https://wiki.jbi.global/display/MANUAL/Chapter+11%3A+Scoping+reviews (accessed October 27, 2020).

Peters, M.D.J., Godfrey, C.M., Khalil, H., McInerney, P., Parker, D. and C.B. Soares (2015). Guidance for conducting systematic scoping reviews. *JBI Evidence Implementation,* 13(3): 141–146.

Pitt, C., Grollman, C., Martinez-Alvarez, M., Arregoces, L. and J. Borghi (2018). Tracking aid for global health goals: a systematic comparison of four approaches applied to reproductive, maternal, newborn, and child health. *Lancet Global Health,* 6(8): e859–e874.

Plano Clark, V. and N. Ivankova (2016). *Mixed methods research: a guide to the field.* Thousand Oaks, California: SAGE Publications Inc.

Pollitt, A., Cochrane, G., Kirtley, A., Krapels, J., Lariviere, V., Lichten, C.A., Parks, S. and S. Wooding. (2016). *Mapping the global mental health research funding system.* Cambridge, United Kingdom: RAND Europe.

Prince, M., Graham, N., Brodaty, H., Rimmer, E., Varghese, M., Chiu, H., Acosta, D. and M. Scazufca (2004). Alzheimer Disease International's 10/66 dementia research group - one model for action research in developing countries. *International Journal of Geriatric Psychiatry,* 19(2): 178–181.

Public Health Agency of Canada (2018). *Government of Canada co-founds Alliance of Champions for Mental Health and Wellbeing.* Ottawa, Canada: Public Health Agency of Canada and Health Canada. Available at https://www.canada.ca/en/public-health/news/2018/05/government-of-canada-co-founds-alliance-of-champions-for-mental-health-and-wellbeing.html (accessed May 26, 2020).

Puras, D. and P. Gooding (2019). Mental health and human rights in the 21st century. *World Psychiatry,* 18(1): 42–43.

QSR International Pty Ltd (2018). *NVivo qualitative data analysis software, Version 12*.

Raguin, G. (2016). The ESTHER hospital partnership initiative: a powerful levy for building capacities to combat the HIV pandemic in low-resource countries. *Global Health,* 12: 12.

Raja, S., Underhill, C., Shrestha, P., Sunder, U., Mannarath, S., Wood, S.K. and V. Patel (2012). Integrating mental health and development: a case study of the BasicNeeds model in Nepal. *PLoS Medicine,* 9(7): e1001261.

Rao, P.K. (2003). *Development Finance*. Berlin, Germany: Springer-Verlag.

Ratha, D., De, S., Kim, E.J., Plaza, S., Schuettler, K., Seshan, G. and N.D. Yameogo (2018). *Migration and remittances: recent developments and outlook – transit migration. Migration and development brief No. 29.* Washington DC, United States: World Bank.

Raviola, G., Severe, J., Therosme, T., Oswald, C., Belkin, G. and E. Eustache (2013). The 2010 Haiti earthquake response. *Psychiatric Clinics of North America,* 36(3): 431–450.

Ray, R., Dhawan, A. and A. Chopra (2013). Addiction research centres and the nurturing of creativity: national drug dependence treatment centre, India – a profile. *Addiction,* 108(10): 1705–1710.

Razzouk, D., Sharan, P., Gallo, C., Gureje, O., Lamberte, E.E., de Jesus Mari, J., Mazzotti, G., Patel, V., Swartz, L., Olifson, S., Levav, I., de Francisco, A. and S. Saxena (2010). Scarcity and inequity of mental health research resources in low-and-middle income countries: a global survey. *Health Policy,* 94(3): 211–220.

Razzouk, D., Zorzetto, R., Dubugras, M.T., Gerolin, J. and J. de Jesus Mari (2006). Mental health and psychiatry research in Brazil: scientific production from 1999 to 2003. *Revista de Saúde Pública,* 40: 93–100.

Regan, M., Gater, R., Rahman, A. and V. Patel (2015). Mental health research: developing priorities and promoting its utilization to inform policies and services. *Eastern Mediterranean Health Journal,* 21(7): 517–521.

Remien, R.H., Stirratt, M.J., Nguyen, N., Robbins, R.N., Pala, A.N. and C.A. Mellins (2019). Mental health and HIV/AIDS: the need for an integrated response. *AIDS,* 33(9): 1411–1420.

Renwick, M.J. and E. Mossialos (2017). Crowdfunding our health: economic risks and benefits. *Social Science & Medicine,* 191: 48–56.

Revel, J.P. (2001). Meeting psychological needs after Chernobyl: the Red Cross experience. *Military Medicine,* 166(Suppl 2): 19–20.

Robson, C. (2011). *Real World Research (3rd Edition)*. Chichester, United Kingdom: Wiley.

Rodriguez, J.J. (2010). Mental health care systems in Latin America and the Caribbean. *International Review of Psychiatry,* 22(4): 317–324.

Rodriguez, P., Rosenthal, E., Guerrero, H., Abbott, M., Boychuk, C. and L. Ahern (2015). *No justice: torture, trafficking and segregation in Mexico.* Mexico City, Mexico: Disability Rights International.

Roodman, D. (2009). A note on the theme of too many instruments*. *Oxford Bulletin of Economics and Statistics,* 71: 135–158.

Rutakumwa, R., Mugisha, J.O., Bernays, S., Kabunga, E., Tumwekwase, G., Mbonye, M. and J. Seeley (2019). Conducting in-depth interviews with and without voice recorders: a comparative analysis. *Qualitative Research*, 20(5): 565–581.

Ryan, B., Orotaloa, P., Araitewa, S., Gaoifa, D., Moreen, J., Kiloe, E., Same, W., Goding, M. and C. Ng (2015). Mental health in the Solomon Islands: developing reforms and partnerships. *Australasian Psychiatry,* 23(6): 662–666.

Ryan, G., Iemmi, V., Hanna, F., Loryman, H., Baxter, S. and J. Eaton (2017). *Mental health for Sustainable Development: how can we do more? A report on entry points and opportunities for the United Kingdom's Department for International Development.* London, United Kingdom: Department for International Development.

Saraceno, B., van Ommeren, M., Batniji, R., Cohen, A., Gureje, O., Mahoney, J., Sridhar, D., and C. Underhill (2007). Barriers to improvement of mental health services in low-income and middle-income countries. *Lancet,* 370(9593): 1164–1174.

Sartorius, N. and L. Cimino (2012). The Dialogue on Diabetes and Depression (DDD): origins and achievements. *Journal of Affective Disorders,* 142(Suppl): S4–S7.

Savoy, C.M., Carter, P. and A. Lemma (2016). *Development finance institutions come of age: development finance institutions come of age policy engagement, impact, and new directions.* Washington DC, United States: Center for Strategic and International Studies.

Sawin, G. (2003). Public institutions in many developing countries gain on-line access to the Administration and Policy in Mental Health journal. *Administration and Policy in Mental Health,* 31(2): 181–182.

Saxena, S., Funk, M. and D. Chisholm (2014). WHO's Mental Health Action Plan 2013-2020: what can psychiatrists do to facilitate its implementation? *World Psychiatry,* 13(2): 107–109.

Saxena, S., Kestel, D., Sunkel, C., London, E., Horton, R., Patel, V. and S. Swaminathan (2019). Countdown Global Mental Health 2030. *Lancet*, 393(10174): 858–859.

Schinina, G., Hosn, M.A., Ataya, A., Dieuveut, K. and M.A. Salem (2010). Psychosocial response to the Haiti earthquake: the experiences of International Organization for Migration. *Intervention,* 8(2): 158–164.

Schinina, G., Nunes, N., Birot, P., Giardinelli, L. and G. Kios (2016). Mainstreaming mental health and psychosocial support in camp coordination and camp management. The experience of the International Organization for Migration in the north east of Nigeria and South Sudan. *Intervention,* 14(3): 232–244.

Sharma, S. and J. Piachaud (2011). Iraq and mental health policy: a post invasion analysis. *Intervention.* 9(3): 332–344.

Shiffman, J. (2006). Donor funding priorities for communicable disease control in the developing world. *Health Policy and Planning,* 21(6): 411–420.

Shiffman, J. (2008). Has donor prioritization of HIV/AIDS displaced aid for other health issues? *Health Policy and Planning,* 23(2): 95–100.

Shiffman, J. (2010). Issue attention in global health: the case of newborn survival. *Lancet,* 375(9730): 2045–2049.

Shiffman, J. and Y.R. Shawar (2020). Strengthening accountability of the global health metrics enterprise. *Lancet,* 395(10234): 1452–1456.

Shiffman, J. and S. Smith (2007). Generation of political priority for global health initiatives: a framework and case study of maternal mortality. *Lancet,* 370(9595): 1370–1379.

Siegal, G., Siegal, N. and R.J. Bonnie (2009). An account of collective actions in public health. *American Journal of Public Health,* 99(9): 1583–1587.

Sim, T. (2011). Mapping changing territories: developing an expanded school mental health network in a post-earthquake Chinese context. *Journal of Social Work,* 11(3): 326–330.

Siriwardhana, C., Sumathipala, A., Siribaddana, S., Samaraweera, S., Abeysinghe, N., Prince, M. and M. Hotopf (2011). Reducing the scarcity in mental health research from low and middle income countries: a success story from Sri Lanka. *International Review of Psychiatry,* 23(1): 77–83.

Smith, R.D., Chanda, R. and V. Tangcharoensathien (2009). Trade in health-related services. *Lancet,* 373(9663): 593–601.

Ssebunnya, J., Kangere, S., Mugisha, J., Docrat, S., Chisholm, D., Lund, C. and F. Kigozi (2018). Potential strategies for sustainably financing mental health care in Uganda. *International Journal of Mental Health Systems,* 12: 74.

StataCorp (2015). Stata Statistical Software: Release 14. College Station, TX: StataCorp LP.

StataCorp (2017). Stata Statistical Software: Release 15. College Station, TX: StataCorp LLC.

Stearing Committee (2010). *Bogota Statement.* Bogota, Colombia: Bogota High Level Event on South-South Cooperation and Capacity Development.

Stein, F. and D. Sridhar (2018). The financialisation of global health. *Wellcome Open Research,* 3: 17.

Sterck, O. (2018). What goes wrong with the allocation of domestic and international resources for HIV? *Health Economics,* 27: 320–332.

Sterck, O., Roser, M., Ncube, M. and S. Thewissen (2018). Allocation of development assistance for health: is the predominance of national income justified? *Health Policy and Planning,* 33(Suppl 1): i14–i23.

Storeng, K.T. and D.P. Béhague (2014). "Playing the numbers game": evidence-based advocacy and the technocratic narrowing of the Safe Motherhood Initiative. *Medical Anthropology Quarterly,* 28(2): 260–279.

Storeng, K.T. and D.P. Béhague (2017). "Guilty until proven innocent": the contested use of maternal mortality indicators in global health. *Critical Public Health,* 27(2): 163–176.

Stubbs, T.H., Kentikelenis, A.E. and L.P. King (2016). Catalyzing aid? The IMF and donor behavior in aid allocation. *World Development,* 78: 511–528.

Stuckler, D., Basu, S. and M. McKee (2011). Global health philanthropy and institutional relationships: how should conflicts of interest be addressed? *PLoS Medicine,* 8(4): e1001020.

Summerfield, D. (2008). How scientifically valid is the knowledge base of global mental health? *British Medical Journal,* 336: 992–994.

Tan, Y.X., Yan, H., Luo, Y.H., Tang, H., Wu, H.S. and J.D. Chen (2018). Mental rehabilitation in China: the clubhouse model. *Lancet Psychiatry,* 5(5): 386–387.

Tang, K., Li, Z., Li, W. and L. Chen (2017). China's Silk Road and global health. *Lancet,* 390(10112): 2595–2601.

Taskforce on Innovative International Financing for Health Systems (2009). *Raising and channeling funds. Working group 2 report.* Geneva, Switzerland: International Health Partnership.

The Lancet (2009). Movement for global mental health gains momentum. *Lancet,* 374(9690): 587.

Thomson Reuters (2016). EndNote X8.

Thornicroft, G. (2006). *Shunned: discrimination against people with mental illness*. Oxford, United Kingdom: Oxford University Press.

Thornicroft, G., Rose, D., Kassam, A. and N. Sartorius (2007). Stigma: ignorance, prejudice or discrimination? *British Journal of Psychiatry,* 190(3): 192–193.

Thornicroft, G. and M. Semrau (2018). Mental health capacity building in low and middle income countries: the Emerald Programme. *Epidemiology and Psychiatric Sciences,* 27(1): 1–2.

Tol, W.A., Barbui, C., Galappatti, A., Silove, D., Betancourt, T.S., Souza, R., Golaz, A., and M. van Ommeren (2011). Mental health and psychosocial support in humanitarian settings: linking practice and research. *Lancet,* 378(9802): 1581–1591.

Tomlinson, M. and C. Lund (2012). Why does mental health not get the attention it deserves? An application of the Shiffman and Smith framework. *PLoS Medicine,* 9(2): e1001178.

Tricco, A.C., Lillie, E., Zarin, W., O'Brien, K.K., Colquhoun, H., Levac, D., Moher, D., Peters, M.D.J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M.G., Garritty, C., Lewin, S., Godfrey, C.M., Macdonald, M.T., Langlois, E.V., Soares-Weiser, K., Moriarty, J., Clifford, T.,

Tuncalp, O. and S.E. Straus (2018). PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annual of Internal Medicine,* 169(7): 467–473.

Tsutsumi, A., Izutsu, T. and A. Ito (2015). *Mental health, well-being and disability: a new global priority. Key United Nations resolutions and documents.* Tokyo, Japan: The University of Tokyo Komaba Organization for Educational Excellence (KOMEX).

Turner, J., Pigott, H., Tomlinson, M. and M.J. Jordans (2017). Developmental assistance for child and adolescent mental health in low- and middle-income countries (2007–2014): annual trends and allocation by sector, project type, donors and recipients. *Journal of Global Health,* 7(2): 020901.

UN (2000). *United Nations Millennium Declaration.* New York City, NY, United States: United Nations.

UN (2003). *Monterrey Consensus of the International Conference on Financing for Development.* New York City, NY, United States: United Nations.

UN (2006). *Convention on the Rights of Persons with Disabilities.* New York City, NY, United States: United Nations.

UN (2015a). *Addis Ababa Action Agenda of the Third International Conference on Financing for Development.* New York City, NY, United States: United Nations.

UN (2015b). *Transforming our world: the 2030 agenda for sustainable development.* New York City, NY, United States: United Nations.

UN (2018a). *Disability and development report: realizing the Sustainable Development Goals by, for and with persons with disabilities.* New York City, NY, United States: United Nations.

UN (2018b). *A healthy workforce for a better world: United Nations system mental health and well-being strategy.* New York City, NY, United States: United Nations.

UN (2020). *Policy brief: COVID-19 and the need for action on mental health.* New York City, NY, United States: United Nations.

UNCTAD (2018). *World Investment Report 2018: investment and new industrial policies.* Geneva, Switzerland: United Nations Conference on Trade and Development.

UNDESA (2017). *International Migration Report 2017.* New York City, NY, United States: United Nations Department of Economic and Social Affairs.

UNDESA and WHO (2010). *Mental health and development: integrating mental health into all development efforts including MDGs.* Geneva, Switzerland: World Health Organization.

UNHRC (2017). *Annual report of the United Nations High Commissioner for Human Rights and reports of the Office of the High Commissioner and the Secretary-General. Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development.* Geneva, Switzerland: United Nations Human Rights Council.

UNHRC (2019). *Right of everyone to the enjoyment of the highest attainable standard of physical and mental health. Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development.* Geneva, Switzerland: United Nations Human Rights Council.

UN OCHA (2017). *Financial Tracking System (FTS).* Geneva, Switzerland: United Nations Office for the Coordination of Humanitarian Affairs. Available at: https://fts.unocha.org/ (accessed December 18, 2020).

Vigo, D., Patel, V., Becker, A., Bloom, D., Yip, W., Raviola, G., Saxena, S. and A. Kleinman (2019). A partnership for transforming mental health globally. *Lancet Psychiatry,* 6(4): 350–356.

Vigo, D., Patten, S., Pajer, K., Krausz, M., Taylor, S., Rush, B., Raviola, G., Saxena, S., Thornicroft, G. and L.N. Yatham (2020). Mental health of communities during the COVID-19 pandemic. *The Canadian Journal of Psychiatry,* 65(10): 681–687.

Vigo, D., Thornicroft, G. and R. Atun (2016). Estimating the true global burden of mental illness. *Lancet Psychiatry,* 3(2): 171–178.

Voigt, K. and N.B. King (2017). Out of alignment? Limitations of the global burden of disease in assessing the allocation of global health aid. *Public Health Ethics,* 10(3): 244–256.

Wainberg, M.L., Lu, F.G. and M.B. Riba (2016). Global mental health. *Academic Psychiatry,* 40: 647–649.

Weaver, K. (2018). Pragmatic paradigm. In: Frey, B.B. (ed.), *The SAGE encyclopedia of educational research, measurement, and evaluation*. Thousand Oaks, California: SAGE Publications Inc., pp. 1287–1288.

Wellcome Trust (2021). *Mental health: transforming research and treatments.* London, United Kingdom: Wellcome Trust. Available at: https://wellcome.org/what-we-do/our-work/mental-health-transforming-research-and-treatments (accessed February 2, 2021).

White, I.R., Royston, P. and A.M. Wood (2011). Multiple imputation using chained equations: Issues and guidance for practice. *Statistics in Medicine,* 30: 377–399.

Whiteford, H., Degenhardt, L., Rehm, J., Baxter, A.J., Ferrari, A.J., Erskine, H.E., Charlson, F.J., Norman, R.E., Flaxman, A.D., Johns, N., Burstein, R., Murray, C.J. and T. Vos (2013). Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. *Lancet,* 382(9904): 1575–1586.

Whiteford, H., Ferrari, A.J., Degenhardt, L., Feigin, V. and T. Vos (2015). The global burden of mental, neurological and substance use disorders: an analysis from the Global Burden of Disease Study 2010. *PLoS One,* 10(2): e0116820.

WHO (2001a). *Atlas: mental health resources in the world 2001.* Geneva, Switzerland: World Health Organization.

WHO (2001b). *World Health Report 2001. Mental health: new understanding, new hope.* Geneva, Switzerland: World Health Organization.

WHO (2005a). *Mental health atlas 2005.* Geneva, Switzerland: World Health Organization.

WHO (2005b). *WHO-AIMS version 2.2: World Health Organization assessment instrument for mental health systems.* Geneva, Switzerland: World Health Organization.

WHO (2006*). WHO-AIMS report on mental health system in Nepal.* Geneva, Switzerland: World Health Organization.

WHO (2007). *Atlas: global resources for persons with intellectual disabilities 2007.* Geneva, Switzerland: World Health Organization.

WHO (2008a). *Integrating mental health into primary care: a global perspective*. Geneva, Switzerland: World Health Organization.

WHO (2008b). *mhGAP mental health Gap Action Programme: scaling up care for mental, neurological, and substance use disorders.* Geneva, Switzerland: World Health Organization.

WHO (2009). *Mental health systems in selected low- and middle-income countries: a WHO-AIMS cross-national analysis.* Geneva, Switzerland: World Health Organization.

WHO (2010a). *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings.* Geneva, Switzerland: World Health Organization.

WHO (2010b). More money for health. In: *World Health Report 2010. Health systems financing: the path to universal coverage.* Geneva, Switzerland: World Health Organization.

WHO (2010c). *World Health Report 2010. Health systems financing: the path to universal coverage.* Geneva, Switzerland: World Health Organization.

WHO (2011a). *Mental health atlas 2011.* Geneva, Switzerland: World Health Organization.

WHO (2011b). *WHO-AIMS report on mental health system in Ghana.* Geneva, Switzerland: World Health Organization.

WHO (2013a). *Building back better: sustainable mental health care after emergencies.* Geneva, Switzerland: World Health Organization.

WHO (2013b). *Investing in mental health: evidence for action.* Geneva, Switzerland: World Health Organization.

WHO (2013c). *Mental health action plan 2013–2020.* Geneva, Switzerland: World Health Organization.

WHO (2014). *Preventing suicide: a global imperative.* Geneva, Switzerland: World Health Organization.

WHO (2015a). *Meeting report on excess mortality in persons with severe mental disorders.* Geneva, Switzerland: World Health Organization.

WHO (2015b). *Mental health atlas 2014.* Geneva, Switzerland: World Health Organization.

WHO (2015c). *mhGAP humanitarian intervention guide (mhGAP-HIG).* Geneva, Switzerland: World Health Organization.

WHO (2015d). *Update of the mental health Gap Action Programme (mhGAP) guidelines for mental, neurological and substance use disorders, 2015.* Geneva, Switzerland: World Health Organization.

WHO (2016). *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings – version 2.0.* Geneva, Switzerland: World Health Organization.

WHO (2017a). *Depression and other common mental disorders: global health estimates.* Geneva, Switzerland: World Health Organization.

WHO (2017b). *Informed consent form templates.* Geneva, Switzerland: World Health Organization.

WHO (2018a). *Global Health Observatory (GHO) data.* Geneva, Switzerland: World Health Organization. Available at: https://www.who.int/gho/database/en/ (accessed August 27, 2019).

WHO (2018b). *Mental health atlas 2017.* Geneva, Switzerland: World Health Organization.

WHO (2019). *The WHO Special Initiative for Mental Health (2019–2023): universal health coverage for mental health.* Geneva, Switzerland: World Health Organization.

WHO (2020a). *The impact of COVID-19 on mental, neurological and substance use services: results of a rapid assessment.* Geneva, Switzerland: World Health Organization.

WHO (2020b). *The WHO mental health policy and service guidance package.* Geneva, Switzerland: World Health Organization. Available at: http://www.who.int/mental_health/policy/essentialpackage1/en/ (accessed May 31, 2020).

WHO, World Psychiatric Association and International Association for Child and Adolescent Psychiatry and Allied Professions (2005). *Atlas: child and adolescent mental health resources: global concerns: implications for the future.* Geneva, Switzerland: World Health Organization.

Wilhelm, J.A. and S. Helleringer (2019). Utilization of non-Ebola health care services during Ebola outbreaks: a systematic review and meta-analysis. *Journal of Global Health,* 9(1): 010406.

Williams, R. (2012). Using the margins command to estimate and interpret adjusted predictions and marginal effects. *Stata Journal,* 12(2): 308–331.

Wilson, S.E. (2011). Chasing success: health sector aid and mortality. *World Development,* 39(11): 2032–2043.

Woelbert, E., Lundell-Smith, K., White, R. and D. Kemmer (2020). Accounting for mental health research funding: developing a quantitative baseline of global investments. *Lancet Psychiatry*. doi: 10.1016/S2215-0366(20)30469-7

World Bank (1993). *World Development Report 1993: investing in health*. New York: Oxford University Press.

World Bank (2018). *World Bank country and lending groups.* Washington DC, United States: The World Bank. Available at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups (accessed September 6, 2018).

World Bank (2019a). *World Development Indicators 1960–2018.* Washington DC, United States: The World Bank. Available at: https://datacatalog.worldbank.org/dataset/world-development-indicators (accessed May 7, 2019).

World Bank (2019b). *Worldwide Governance Indicators 1996–2017.* Washington DC, United States: World Bank. Available at: http://info.worldbank.org/governance/wgi (accessed October 23, 2018).

World Bank (2020a). *GDP, PPP (current international $).* Washington DC, United States: World Bank. Available at: https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD (accessed October 20, 2020).

World Bank (2020b). *Out of the shadows: making mental health a global priority.* Washington DC, United States: World Bank.

World Bank (2020c). *Trade (% of GDP).* Washington DC, United States: World Bank. Available at: https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS (accessed October 20, 2020).

World Bank Group (2018). *Moving the needle: mental health stories from around the world.* Washington DC, United States: World Bank Group.

Wright, M.d.G.M., Chisman, A.M., Mendes, I.A., Luis, M.A., Carvalho, E.C. and M.V. Mamede (2004). The role of technical & financial cooperation to advance nursing profession in the area of demand reduction in Latin America: challenges and perspectives. *Revista Latino-Americana de Enfermagem,* 12: 301–306.

Yang, L., Pratt, C., Valencia, E., Conover, S., Fernandez, R., Burrone, M.S., Cavalcanti, M.T., Lovisi, G., Rojas, G., Alvarado, R., Galea, S., Price, L.N. and E. Susser (2017). RedeAmericas: building research capacity in young leaders for sustainable growth in community mental health services in Latin America. *Global Mental Health,* 4: e3.

Youde, J. (2014). Global health partnerships: the emerging agenda. In: Brown, G.W., Yamey, G. and S. Wamala (eds.), *The Handbook of Global Health Policy*. Chichester, United Kingdom: Wiley Blackwell, pp. 505–518.

Youde, J. (2018). Philanthropy and Global Health. In: McInnes, C., Lee, K. and J. Youde (eds.), *The Oxford Handbook of Global Health Politics*: Oxford University Press, pp. 505–518.

Younas, J. (2008). Motivation for bilateral aid allocation: altruism or trade benefits. *European Journal of Political Economy,* 24(3): 661–674.

Appendices

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Appendix 2.1: Datasets for development assistance for mental health

My preliminary mapping of time series cross-sectional datasets (see Section 2.3) allowed the identification of four available datasets for tracking development assistance for mental health (DAMH): the development assistance for health dataset produced by the Institute for Health Metrics and Evaluation (IHME), the Harvard dataset on DAMH, aid activities database from the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD), and the Financial Tracking Service (FTS) database of the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA).

The FTS database reports humanitarian contributions (commitments and disbursements) by over 100 government donors, United Nations (UN) agencies, UN-administered funds, civil society organisations, and private donors (UN OCHA, 2017). Open-access data are available from 1980 and updated regularly. One study (Tol et al., 2011) identifies mental health activities in humanitarian settings between 2007 and 2009, searching the FTS and CRS databases using key words (mental health, psychosocial, psychological) in the project name or description. I discarded the FTS database due to its narrow focus on humanitarian assistance.

The CRS database provides development and humanitarian contributions (commitments and disbursements) by 50 government donors, multilateral organisations, and private foundations (OECD, 2019). Publicly available, data are available from 1973 and updated or revised every three months. The CRS database includes multiple sectors: health, education, government and civil services, other social infrastructures and services, and humanitarian aid. Over the last decade, it has been used to create ad hoc datasets tracking development assistance for mental health through searches with mental health-related key words in project names or descriptions (Charlson et al., 2017; Gilbert et al., 2015; Liese et al., 2019; Lu et al., 2018; Tol et al., 2011; Turner et al., 2017). I discarded this database due to feasibility considerations: the process of identification of mental health activities would have required substantial time and human and financial resources.

The Harvard dataset uses the CRS database to identify DAMH disbursed between 2007 and 2013 (Gilbert et al., 2015). It reports disaggregated data on DAMH funded by 55 donors in 157 countries between 2007 and 2013. Donors include bilateral organisations, multilateral organisations, private organisations, and global health initiatives. DAMH is defined to include contributions to projects whose primary purpose is to promote mental health or to prevent and/or treat mental disorders, substance use disorders, dementia, and self-harm. The Harvard dataset includes all sectors represented in the CRS database. Mental health activities are identified searching for mental health-related key words in 11 languages (English, French, German, Spanish, Danish, Finnish, Italian, Dutch, Norwegian, Portuguese, and Swedish) in project titles. Final DAMH estimates are upper bound values, including the full amount disbursed to identified projects, even when these projects involve other activities not related to mental health. Regional, global and unspecified funding are reallocated to each country based on the country's share in total DAMH during the year. The Harvard dataset is not regularly updated and permission from Harvard University needs to be obtained prior to use.

The IHME dataset offers semi-aggregated data on development assistance for health (including mental health) disbursed in 172 countries between 1990 and 2017 (IHME, 2018a). It reports resource flows from funding sources (governments, Bill & Melinda Gates Foundation, corporate donations, other private sector contributions, debt repayment, other), through *channel* organisations, defined as intermediary organisations disbursing funding to implementing institutions providing support in low- and middle-income countries (bilateral organisations, multilateral organisations, multilateral development finance institutions, foundations, nongovernmental organisations, global health initiatives) (see Supplement 4.1). The IHME dataset combines data from numerous sources: CRS database, financial reports, audited financial statements, United States Agency for International Development (USAID) Report of Voluntary Agencies, Foundation Center's grant database, Bill & Melinda Gates Foundation online grant database, Internal Revenue Service (IRS) 990 tax forms, and personal correspondences (IHME, 2018b).

DAMH is defined as contributions primarily intended for mental health, including mental disorders, substance use disorders, dementia, self-harm, and some neurological

conditions (epilepsy, headache disorders, Parkinson's disease). Mental health activities are identified in project titles and descriptions using mental health-related key words in nine languages (English, Spanish, French, Portuguese, Italian, Dutch, German, Norwegian, Swedish). DAMH values for projects with more than one focus area are estimated by dividing the total amount across health focus areas proportionately to the number of key words present in the project's title and description. While regional DAMH is reallocated equally to each country in the specified regions, global and unspecified funding are excluded from country estimates. Annually updated, the publicly available dataset omits some values (i.e. values greater than US$0 but less than US$500, or less than US$0 and greater than -US$500), yet the complete dataset is available under request.

After comparing the characteristics of the Harvard and IHME datasets (see Appendix Table 2.1.1) and obtaining further details from Harvard University and IHME, I considered their advantages and disadvantages vis-à-vis this study (see Appendix Table 2.1.2). Finally, I selected the IHME dataset due to accessibility, feasibility, suitability for analyses, and sustainability (see Appendix Table 2.1.2). The IHME dataset is easily accessible as publicly available. The availability of pre-identified DAMH allows the completion of my study within time and resources constraints. The dataset characteristics (structure, breadth, scope, time coverage) make it suitable for the regression analyses planned in this study. Finally, annual updates ensure the sustainability of the IHME dataset: analyses can be replicated in the future, favouring potential comparisons and learning.

	Harvard dataset	**IHME dataset**
Time period	2007–2013	1990–2017
Flow types	Development & Humanitarian	Development
Data sources	CRS database	CRS database, financial reports, audited financial statements, USAID Report of Voluntary Agencies, Foundation Center's grant database, BMGF online grant database, IRS 990 tax forms, and personal correspondences

	Harvard dataset	IHME dataset
Sectors	Health, education, government and civil services, other social infrastructures and services, humanitarian aid	Health
Donors	Bilateral organisations, multilateral organisations, private organisations, global health initiatives	Funding sources (governments, Bill & Melinda Gates Foundation, corporate donations, other private sector contributions, debt repayment, other), and channel organisations (bilateral organisations, multilateral organisations, multilateral development finance institutions, foundations, nongovernmental organisations, global health initiatives)
Definition of mental health activities	Mental disorders, substance use disorders, dementia, self-harm	Mental disorders, substance use disorders, dementia, self-harm, some neurological conditions (epilepsy, headache disorders, Parkinson's disease)
Identification of mental health activities	Mental health activities are identified searching for mental health-related key words in 11 languages in the project titles	Mental health activities are identified searching for mental health-related key words in 9 languages in the project titles and descriptions
Multi-component programmes	Full amount	For projects with more than one focus area, contributions are divided across health focus areas proportionally to the number of key words present in the project's title and description
Unspecified recipients	Regional, global and unspecified DAMH is reallocated to each country based on the country's share in total DAMH during the year	Regional DAMH is reallocated equally to each country in the specified regions; global and unspecified funding are excluded from country estimates

	Harvard dataset	IHME dataset
Adjustment for underreporting and reporting lags	Not adjusted	For earlier years, disbursements are adjusted using CRS commitments and disbursement data from the OECD DAC database; for the most recent two years, disbursements are estimated using regression models
Owner	Harvard University	IHME
Access	Not open	Open
Publications	Gilbert et al., 2015; Lu et al., 2018[a]	Charlson et al., 2017

Appendix Table 2.1.1: Datasets for development assistance for mental health.
[a] Only one study (Gilbert et al., 2015) was available at the time of my decision making.
BMGF=Bill & Melinda Gates Foundation. CRS=Creditor Reporting System.
DAC=Development Assistance Committee. DAMH=development assistance for mental health. IHME=Institute for Health Metrics and Evaluation. IRS=Internal Revenue Service.
OECD=Organisation for Economic Co-operation and Development. USAID=United States Agency for International Development.

	Harvard dataset	IHME dataset
Advantages		
Accessibility		Open access
Feasibility	Already coded	Already coded
Suitability	Breadth: data on disbursements from the public sector, private sector, third sector, and multisector partnerships Completeness: regional, global and unspecified DAMH reallocated to each country Granularity: disaggregated data (at the activity level)	Bredath: data on disbursements from the public sector, private sector, third sectors, and multisector partnerships; broader data sources, especially for the private and third sectors Completeness: Regional DAMH reallocated to each country Scope: development assistance for mental health and other health conditions

	Harvard dataset	IHME dataset
	Mental health definition: excludes neurological disorders Scope: health and other sectors	Structure: easily mergeable to pertinent time series cross-sectional datasets, in particular other IHME datasets (e.g. global burden of disease) Time coverage: extended (1990–2017)
Sustainability		Annually updated
Disadvantages		
Accessibility	Not open access	
Feasibility	Needing coding for time periods before 2007 and after 2013	
Suitability	Breadth: data source limited to CRS database only; LMICs donors not included Scope: development assistance for mental health only Time coverage: limited (2007–2013)	Breadth: Philanthropic estimates focusing predominantly on US foundations; LMICs donors not included Completeness: global and unspecified funding excluded from country estimates Depth: conservative estimates for some organisations[a] Granularity: semi-aggregated data (at the source, channel and country level) Mental health definition: includes some neurological disorders Robustness: lacking accurate reporting before 2000; reporting preliminary estimates for the most recent two years Scope: health sector only

	Harvard dataset	IHME dataset
Sustainability	No updates planned	

Appendix Table 2.1.1: Advantages and disadvantages of Harvard and IHME datasets. [a] Development assistance for health channelled through global health initiatives and some multilateral governmental organisations (United Nations Children's Fund, Joint United Nations Programme on HIV and AIDS) is classified by IHME under health conditions constituting organisations' focus, although programmes may also include mental health components (IHME, 2018b). DAMH=development assistance for mental health. IHME=Institute for Health Metrics and Evaluation. LMICs=low- and middle-income countries. US=United States.

Appendix 2.2: Ethical approval

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Ms Valentina Iemmi
Department of Social Policy
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19th May 2017

Dear Ms Iemmi

Re: 'Mental, neurological and substance use disorders in development assistance: The role of international donors' [ref. 000589]

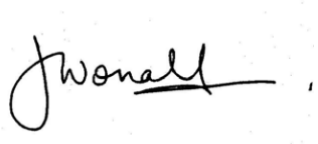
I refer to the above research proposal which you recently submitted for review by the Research Ethics Committee.

Having considered your ethics review application and supporting documents, I am satisfied that you have properly addressed the ethical issues raised by your proposed research. I am thus able in my capacity as Chair of the Committee to approve the application.

Please note that any significant changes to the research design must be reported to the Research Ethics Committee. Amendments to the research design that may affect participants and/or that may have ethical implications must be reviewed and approved by the Research Ethics Committee before commencement (or recommencement) of the project. The Research Ethics Committee may periodically conduct a selective audit of current research projects.

I would like to take this opportunity to wish you well with your research project.
If you have any further queries, please feel free to contact Lyn Grove, Research Division.

Yours sincerely,



Professor John Worrall
Chair of the Research Ethics Committee

cc. Lyn Grove, Research Division

Appendix 2.3: Informed consent form

London School of Economics and Political Science
Department of Social Policy

INFORMED CONSENT FORM
The role of donors investing in mental, neurological and substance use disorders in low and middle income countries

The principal investigator (Ms Valentina Iemmi) and you should sign two copies of this form before the interview takes place. One copy of the signed form will be kept by the principal investigator and one will be given to you.

This form has two parts:
- Information Sheet
- Consent Form

PART I: INFORMATION SHEET

I am Valentina Iemmi, PhD candidate in the Department of Social Policy at the London School of Economics and Political Science. My PhD aims to explore the role of donors investing in mental, neurological and substance use disorders in low and middle income countries. In the context of my PhD research, I am interviewing international organisations and civil societies playing a crucial role in the global health arena, and key individuals in global mental health.

Interview
The interview will be a discussion on the role of the organisation. It will last approximately 30-60 minutes and it will be conducted face-to-face, or via Skype or telephone, according to preferences. You will be interviewed in your capacity as representative of your organisation.

If you do not wish to answer any of the questions during the interview, you may say so and I will move on to the next question. No one else will be present unless you would like someone else to be there. The information will be recorded using a digital audio recorder. If you are not happy to be recorded, then I will take notes during the interview.

Participation
Your participation in this research is entirely voluntary. It is your choice whether to participate or not and no adverse consequences will follow your decision. Moreover, you may change your mind later and stop participating even if you agreed earlier.

Confidentiality
All information will be treated with respect and confidentiality. The interviews will be duly anonymized in order to remove any identifiable information and treated sensitively.

The recordings will be transcribed (/translated) by transcribers (/translators), who will sign a non-disclosure agreement. No one else except myself and my PhD supervisors (Professor Martin Knapp, Dr Ernestina Coast and Dr Clare Wenham) will access them.

Outputs
The results of this research study will be published in a scientific journal, my thesis, presented at conferences and seminars. In addition, each participant will receive a summary of the results.

Ethics
This research proposal has been reviewed and approved by the LSE Research Ethics Committee (Ref. 000589). If you wish to find more about the LSE Research Ethics Committee, you can contact Lyn Grove (LSE Research Division) by telephone (+44 (0)20 7852 3629) or email (research.ethics@lse.ac.uk).

Further questions
If you have any questions or queries, you can contact me now or after the interview by email (v.iemmi@lse.ac.uk).

PART II: CONSENT FORM

Statement by the participant
I give consent for my participation in the PhD research '*The role of donors investing in mental, neurological and substance use disorders in low and middle income countries'*.

1. I have read the foregoing information sheet. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.
2. I understand that my participation in this research is completely voluntary.
3. I understand I can withdraw from the research at any time, with no adverse consequences.
4. I understand I can stop the interview at any time and the recording and notes will be erased, unless I specify otherwise (see points 6.b,c).
5. I understand the information collected can be used in future studies, unless I specify otherwise (see point 6.f).
6. I consent to:

Interview

a.	I agree to be interviewed	□ Yes □ No
b.	I agree for the interview to be recorded	□ Yes □ No
c.	I agree for notes to be taken	□ Yes □ No

Responses

d.	I agree for my responses to be named, identified, and attributed	□ Yes □ No
e.	I agree for my responses to be quoted anonymously	□ Yes □ No
f.	I agree for my anonymised responses to be used in future studies	□ Yes □ No

Follow-up

g.	I agree to be contacted for a follow-up, if needed	□ Yes □ No
h.	I would like to receive feedback from the researcher	□ Yes □ No

Print Name of Participant ……

Signature of Participant ……

Date (Day/month/year) ……

Statement by the researcher

I have explained clearly to the participant the research and his/her role. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability.

I confirm that the consent has been given freely and voluntarily.

A copy of this informed consent form has been provided to the participant.

Print Name of Researcher ……

Signature of Researcher ……..

Date (Day/month/year) ……

Appendix 3.1: Published paper (Chapter 3)

BMJ Global Health

Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries

Valentina Iemmi [1,2]

To cite: Iemmi V. Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries. *BMJ Global Health* 2019;**4**:e001826. doi:10.1136/bmjgh-2019-001826

Handling editor Soumyadeep Bhaumik

► Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/bmjgh-2019-001826).

Received 6 July 2019
Revised 1 November 2019
Accepted 10 November 2019

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ABSTRACT

Introduction Mental disorders account for a substantial burden of disease and costs in low-income and middle-income countries (LMICs), but attract few resources. With LMIC governments often under economic pressure, an understanding of the external funding landscape is urgently needed. This study develops a new typology of external actors in global health adapted for the sustainable development goals (SDGs) era and uses it to systematically map available evidence on external actors in global mental health.

Methods The new typology was developed in line with conceptualisation in the literature and the SDGs to include 11 types of external actors for health in LMICs. Five databases (EconLit, Embase, Global Health, MEDLINE, PsycINFO) were searched for manuscripts published in peer-reviewed journals in English, French, Italian, Portuguese or Spanish between 1 January 2000 and 31 July 2018 and reporting information on external actors for mental disorders in LMICs. Records were screened by abstract, then full-text against inclusion criteria. Data were extracted and synthesised using narrative analysis.

Results 79 studies were included in the final review. Five were quantitative studies analysing the resource flow of development assistance for mental health globally over the last two decades. The remainder were qualitative studies providing a description of external actors: the majority of them were published in the last decade, focused on Africa, and on public sector (bilateral and multilateral governmental organisations) and third sector organisations (non-governmental organisations). Evidence was particularly scarce for for-profit organisations and individual households.

Conclusion This study reveals opportunities for unlocking additional funding for global mental health in the SDG-era from an ecosystem of external actors, and highlights the need to coordinate efforts and to use sustainable, ethical approaches to disbursements. Further research is needed to understand *all* external actors and the allocation of their contributions in different settings.

Key questions

What is already known?
- Governments lack the funding to address mental disorders in low-income and middle-income countries: identifying key external actors is therefore crucial.

What are the new findings?
- In line with the United Nations sustainable development goals, the new typology of external actors in global health includes a wide range of actors.
- 79 scientific publications were found, highlighting the prominence of third sector organisations in global mental health and the lack of evidence on for-profit organisations and individual households.

What do the new findings imply?
- A large ecosystem of external actors for mental disorders already exists presenting opportunities for unlocking additional resources, though coordination of efforts is crucial, and the use of a sustainable and ethical approach is a moral imperative.
- Further research is needed to understand all external actors and the allocation of their contributions in different settings.

INTRODUCTION

More than 1 billion people live with mental disorders (including substance use disorders, self-harm and dementia),[1] over three-quarters of whom live in low-income and middle-income countries (LMICs) and their number is projected to increase.[2] Although effective and low-cost interventions are available,[3] fewer than 10% receive support.[4] Resources are scarce: mental disorders receive as little as 1.6% of LMIC government health budgets[4] and 0.4% of development assistance for health.[5] The *Lancet Commission on Global Mental Health and Sustainable Development* recently called for an increase in resources to address mental disorders, both domestically and externally.[2]

Figure 1 Typology of external actors in global health: four overarching groups and their types of actors. DFIs, development financial institutions; GOs, governmental organisations; SME, small and medium enterprises.

With most LMIC governments already under considerable economic pressure, external funding is urgently needed. In line with the Addis Ababa Action Agenda,[6] the United Nations sustainable development goals (SDGs) recommend the mobilisation of additional external funding from a wide range of sources (eg, development assistance, foreign direct investments (FDIs), remittances) while assuring sustainability through local ownership and a gradual increase in domestic resources.[7] It is therefore important to identify who those key external actors are in global mental health.

However, evidence is extremely limited. A rapid review[8] on actors in global mental health, emphasises the prominence of donor states and identifies some non-state donors, such as philanthropists, private-sector foundations, and organisations using innovative financing mechanisms. Another study[9] mapping the ecosystem of global mental health research funders includes some actors disbursing to LMICs, such as Wellcome Trust and Grand Challenges Canada.

This study has two aims: first to develop a typology of external actors in global health adapted for the SDG-era; second to use this typology to systematically map the evidence on external actors in global mental health in order to identify available evidence and opportunities for unlocking additional resources.

METHODS

Typology of external actors in global health

To date the ecosystem of potential actors in global health has been explored either from a health governance or from a health financing perspective. The global health governance literature explores power relationships of a growing plurality of external development actors and the emergence of non-state actors (eg, philanthropic organisations, private industry, civil society organisations, global health initiatives) alongside state actors (eg, donor country governments, United Nations organisations, multilateral development banks).[10] By contrast, the global health financing literature focuses mainly on donors, using a simplified path of resource flows from donor organisations representing the primary source of funding (eg, states, private industry, philanthropic organisations, individuals), through *channel* organisations disbursing funding to implementing institutions providing support in recipient countries (eg, development aid agencies, non-governmental organisations).[11] The combination of the two perspectives, however, is yet to be done.

I propose a new typology of actors in global health adapted for the SDG-era which includes a wide range of *external* actors (figure 1). The new typology brings together the two aforementioned approaches: global health governance and global health financing. On the one hand, the plurality of actors from the global health governance literature allows an understanding of each actor not only as its own entity, but also as operating within a group of organisations sharing common characteristics, and part of a larger ecosystem. On the other hand, expanding the definition of channel organisations from the global health financing literature, in the new typology external actors include organisations and individuals not only channelling development assistance but also *investments* to institutions providing goods and services in LMICs.

First, I identified 11 types of organisations and individuals from the literature in global health governance and global health financing (Box 1). Second, I selected four overarching groups of financial actors in line with conceptualisations in the literature and in the SDGs[7]: public sector, private sector, third sector and multisector partnerships. Those groups were introduced to facilitate both the understanding of commonalities (eg, legal status and *modus operandi*) across actors and comparison with corresponding domestic actors. Finally, organisations were ordered by group.

Systematic evidence mapping

I used systematic evidence mapping instead of systematic review and meta-analyses because this was more appropriate for identifying actors given the extent of available evidence, not the strengths and directions of relationships or tracking funding.[12] The only quality criterion was publication in scientific journals.

I followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) (see supplementary appendix 1). I systematically searched five medical and social sciences databases (EconLit, Embase, Global Health, MEDLINE, PsycINFO) for manuscripts published in peer-reviewed

Box 1 External actors

Public sector

- Governmental organisations in high-income and middle-income countries provide goods and services in low-income and middle-income countries (LMICs), in agreement with recipient country governments. Bilateral governmental organisations in agreement with recipient countries are funded by just one state and include aid agencies (eg, US Agency for International Development) and other governmental agencies investing in development (eg, ministries of foreign affairs or their equivalents, research councils). Multilateral governmental organisations are funded and composed by multiple states at the regional (eg, European Commission), international (eg, Colombo Plan), or global level (eg, WHO).
- Development finance institutions (DFIs) are organisations offering financial products (eg, loans) in contexts where commercial banks would not usually invest, due to what might be perceived to be high political, socioeconomic or environmental risks. Bilateral DFIs are funded by just one state and provide financial products usually at a commercial rate (eg, US Overseas Private Investment Corporation). Multilateral DFIs provide financial products usually at facilitated rates and are funded by multiple states, at the regional (eg, African Development Bank), international (eg, Islamic Development Bank) or global level (eg, World Bank).

Private sector

- Corporations and small and medium enterprises are for-profit organisations providing goods and services through foreign investments and corporate social responsibility (CSR) initiatives. Foreign investments include foreign direct investments (FDIs), foreign portfolio investments (FPIs) and commercial loans. FDIs are substantial physical invetsments and purchases usually made by corporations in another country. FPIs are foreign indirect investments made by corporations, financial institutions and private investors using both equity (eg, stocks) and debt instruments (eg, bonds). CSR includes financial and in-kind contributions, in both products and human resources.
- Foundations include non-profit organisations either created and mainly funded by private-sector companies (eg, Microsoft Philanthropies) or created by wealthy individuals and their families and funded through gifts of shares or endowments (eg, Bill and Melinda Gates Foundation).[87] They are often grant-making entities.
- Individual households contribute through donations, including financial and in kind-contributions in goods or services, and private foreign investments. A small number of individuals are described as 'high-net-worth': individuals with financial assets greater than US$1 million. A different and larger group of individuals are diaspora movements, including almost three-quarters (186 million) of international migrants coming from LMICs.[88]

Third sector

- Third sector organisations constitute the most heterogeneous group of non-profit organisations providing goods and services in LMICs. Among others, this group includes non-governmental organisations (eg, BasicNeeds), professional associations (eg, World Psychiatric Association) and research centres (eg, universities).

Multisector partnerships

- Multisector partnerships are a similarly heterogeneous group of organisations arising from arrangements between actors from two or more sectors aimed to leverage additional funding for global health, usually for specific conditions. Amongst others, this group include

Continued

Box 1 Continued

global health initiatives (eg, Global Fund to Fight AIDS, Tuberculosis and Malaria) and innovation funds (eg, Dementia Discovery Fund).

journals in English, French, Italian, Portuguese or Spanish between 1 January 2000 and 31 July 2018. Searches were run in August 2018. The search strategy was designed for MEDLINE combining MeSH terms with keywords for mental disorders, external actors, and LMICs, and then adapted for each database (see supplementary appendix 2 for full search strategy). Mental disorders were defined according to the WHO definition to include common and severe mental disorders, mental disorders in children, substance use disorders, self-harm and suicide, and some neurological conditions (dementia, epilepsy).[13] External actors included *all* actors external to recipient countries as described in the new typology. LMICs were defined according to the World Bank classification.[14]

To be included, manuscripts had to report information on external organisations or individuals providing financial or in-kind contributions to mental disorders in LMICs (eg, actor description, contributions, activities funded). Contributions had to target either people living with mental disorders, their families and other carers, or populations at risk (eg, people living with HIV infection and acquired immune deficiency syndrome, HIV/AIDS). Manuscripts had to be original articles using any study design or other scientific publications (personal communications, commentaries, letters and editorials). Grey literature was excluded. Supplementary searches included snowballing citations from the reference lists and tracking citations using Google Scholar.

The database searches identified 2300 records (figure 2). After removing duplicates, the title and abstract of 2011 records were screened against the inclusion criteria using EndNote X8.[15] Out of the 163 full-text articles assessed for eligibility, 50 were included in the review. The supplementary searches led to the inclusion of 29 additional records.

I extracted data from the eligible manuscripts, including: publication characteristics (author, year), study characteristics (mental disorder, population, country, study type), and contributions from external actors (type of organisation, activities and revenues mobilisation). For quantitative studies only, additional study characteristics (dataset, years covered, type of analysis) were extracted. Data were extracted in Excel.[16] Narrative analysis was used to synthesise findings.

RESULTS

Five[5 17–20] of the 79 studies analysed the resource flows for development assistance for mental health (DAMH) only, defined as financial and in-kind contributions disbursed from donors through channel organisations into LMICs with the aim of preserving or improving mental health

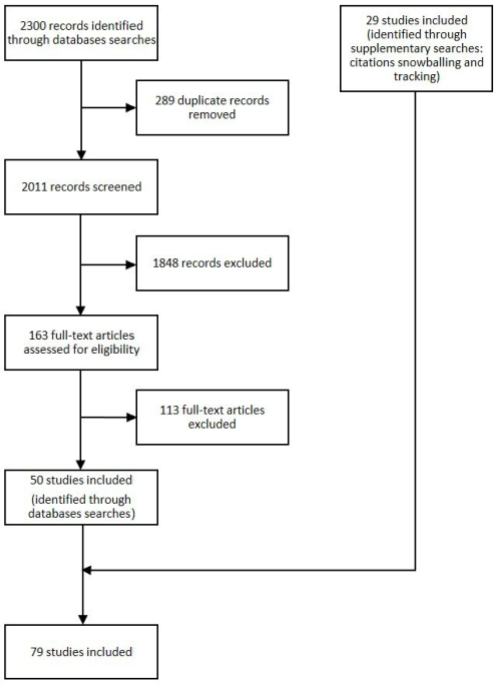

Figure 2 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flowchart.

(table 1). They were published over the last decade, had a global geographical focus, and include data on organisations from the public sector (bilateral and multilateral governmental organisations, multilateral development institutions), private sector (foundations), third sector (non-governmental organisations) and multisector partnerships (global health initiatives). They focused on disbursements for health activities only,[7] humanitarian activities only,[19] or activities in multiple areas (eg, health, humanitarian, education, government and civil services)[17 18 20] (see supplementary appendix 3 for data extraction table of quantitative studies).

The remaining 74 studies provided a description of the external actors and funded activities. Over three quarters of them were published in the last decade. The majority of them focused on the African region (n=17) or globally (n=15). Public and third sector organisations were the most studied, in particular through bilateral and multilateral governmental organisations and non-governmental organisations respectively. Studies focused mostly on contributions to activities of capacity-building, service provision, and research and research capacity-building (see supplementary appendix 4 for data extraction table of qualitative and other studies). The next sections describe in details evidence on global trends in external contributions for mental disorders in LMICs from quantitative studies and on each group of external actors from all studies.

Table 1 Study characteristics (n=79)

	Number of studies	
	Quantitative (n=5)	Qualitative and other (n=74)
Study type		
Quantitative	5	–
Qualitative	–	52
Other*	–	22
Year of publication		
2000–2004	0	7
2005–2009	0	10
2010–2014	1	35
2015–2018	4	22
WHO regions		
AFR	0	17
AMR	0	11
EMR	0	5
EUR	0	5
SEAR	0	10
WPR	0	6
Multiregional	0	5
Global	5	15
Organisations†		
Public sector		
Bilateral GOs	5	31
Multilateral GOs	5	24
Bilateral DFIs	0	0
Multilateral DFIs	5	4
Private sector		
Corporations and SME	0	6
Foundations	5	14
Individuals	0	0
Third sector		
Non-governmental organisations	5	33
Professional associations	0	2
Research centres	0	5
Multisector partnerships		
Global health initiatives	5	8

*Personal communications, commentaries, letters and editorials.
†Studies include one or more organisations.
AFR, African region; AMR, region of the Americas;DFIs, development financial institutions; EMR, Eastern Mediterranean region; EUR, European region;GO, governmental organisation; SEAR, South-East Asia region;SME, small and medium enterprises; WPR, Western Pacific region.

Global trends

Despite the sixfold increase in DAMH over the last two decades, in 2015 mental disorders still received a small proportion of development assistance for health (0.4%,

US$132 million), accounting for less than US$1 of development assistance for health per disability-adjusted life year (ie, year of 'healthy' life lost) compared with, for example, US$144 for HIV/AIDS.[5] A study[17] that also included disbursements to non-health sectors found a similar mean annual estimate (0.7%, US$134 million), of which 48% was directed to humanitarian assistance, education and governments. Among populations at higher risk of mental disorders, as little as 13% (US$190 million) of DAMH disbursed between 2007 and 2015 targeted children and adolescents, mainly in humanitarian contexts.[18] Similar estimates (17%, US$88 million) were found in another study.[20] Among humanitarian assistance disbursed between 2007 and 2009, only a tiny proportion (0.1%, US$226 million) targeted programmes including mental health and psychosocial support (MHPSS).[19]

Public sector

Bilateral governmental organisations accounted for 18% (US$222 million) of DAMH disbursed by channel organisations between 2000 and 2015.[5] They supported global mental health through programmes targeting their priority countries and areas, and including activities spanning mental health system capacity, mental health service provisions, humanitarian response, advocacy and research.

For instance, the UK's Department for International Development (DFID) funded numerous activities including mental health policy development in Kenya,[21] community-based mental health services in Nepal[22] and research into primary mental healthcare across Africa and South Asia.[23] The US Agency for International Development supported the integration of mental health into primary care after the 2003 conflict in Iraq[24] and capacity-building and research in Zimbabwe through the US President's Emergency Plan for AIDS Relief in collaboration with the US National Institute of Health.[25] The Swedish International Development Cooperation Agency contributed to mental health reform after the war in Bosnia and Herzegovina (1992–1995), funding capacity-building and research capacity-building in mental health.[26]

Multilateral governmental organisations accounted for 18% (US$228 million) of DAMH disbursed by channel organisations between 2000 and 2015, over two-thirds of which was by United Nations agencies.[5] They supported global mental health through normative and programmatic work, with activities linked to their missions and priorities.

For instance, the WHO developed the Mental Health Action Plan 2013–2020 and clinical guidelines for mental health treatment in non-specialised settings.[27] UNICEF was the biggest contributor to DAMH for children and adolescents in the health sector between 2007 and 2014, principally through psychosocial support in child friendly spaces.[20] The International Organization for Migration provided MHPSS and capacity-building activities in humanitarian and emergencies settings, such as conflicts in Nigeria and South Sudan[28] and the 2010 earthquake in Haiti.[29] At the regional level, the Pan American Health Organization promoted deinstitutionalisation in Latin America and the Caribbean,[30] and the European Commission research and research capacity-building in Africa and South Asia.[31]

No evidence was found on contributions of bilateral development finance institutions (DFIs) to global mental health. Multilateral DFIs accounted for 1% (US$14 million) of DAMH disbursed by channel organisations between 2000 and 2015,[5] contributing to global mental health through technical advice and programmatic work linked to their priority countries and areas. For instance, the World Bank supported the reconstruction of better mental health services after the conflict in Bosnia and Herzegovina (1992–1995)[26] and research in Sri Lanka.[32] At the regional level, the Inter-American Development Bank supported the evaluation of mental health services reforms in Latin America and the Caribbean along with other stakeholders.[33]

Private sector

Limited evidence was found on corporations and small and medium enterprises. Among transnational and multinational companies investing in healthcare in LMICs, pharmaceutical industries were the most profitable, with the top three also active in the market of psychotropic drugs: Pfizer (USA), Johnson & Johnson (USA), GlaxoSmithKline (UK).[34] US' companies were the major player in the hospital sector in LMICs.[34] No evidence was found on FDIs for health insurance or health technologies (eg, Apps) except for drugs. Similarly, no evidence was found on foreign portfolio investments (FPIs) or commercial bank loans for global mental health.

Corporate social responsibility (CSR)-supported activities in global mental health were aligned to areas of expertise of the businesses or the interests of their employees. For instance, multinational alcohol corporations are increasing presence in LMICs, such as Diageo in India[35] and SABMiller in South Africa.[36] SABMiller partnered with the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) to provide HIV education and counselling to heavy drinkers in South Africa.[36] Other companies supported humanitarian response and reconstruction, such as Nestlé, Holcim and Sika with psychosocial support in schools after the 2008 earthquake in Sichuan, China.[37]

Foundations created and predominantly funded by private sector companies invested in global mental health through activities linked to the parent company or the interests of their employees, while foundations created by wealthy individuals and families were more aligned to the interests of their founders. In 2015, foundations disbursed less than US$10 million to DAMH directly to implementing organisations in LMICs, and potentially a much larger amount through other channels.[5] For instance, between 2000 and 2015 Bill and Melinda Gates Foundation (BMGF) disbursed 85% (US$11 million) of

DAMH through non-governmental organisations and United Nations agencies.[5]

Among foundations created by private sector companies, Lilly Foundation supported a global collaboration on diabetes and depression aiming to raise awareness and improving diagnosis and treatment.[38] Among foundations created by wealthy individuals, BMGF funded psychosocial support for children affected by the 2010 earthquake in Haiti,[17] MacArthur Foundation activities of a civil society in global mental health in collaboration with other partners[39] and Wellcome Trust research and research capacity-building in LMICs.[40]

No evidence was available on individual households, both for donations and foreign investments to global mental health, including private FDIs and FPIs. Similarly, no evidence was available on contributions from the diaspora through remittances allocated to mental health or from the smaller group of 'high-net-worth' individuals.

Third sector

Third sector organisations supported and often delivered activities covering many aspects of global mental health, from advocacy to service provision, humanitarian response and research. In 2015, international non-governmental organisations disbursed US$54 million to DAMH as channel organisations.[5]

Among the numerous non-governmental organisations, BasicNeeds (now part of Christian Blind Mission, CBM) received funding from DFID to deliver community-based mental health services in Nepal,[22] and CBM partnered with the local government to scale-up community-based mental health services in Niger.[41] Carter Center[42] and International Medical Corps[43] provided psychosocial support and collaborated with local governments to 'build back better' mental health systems after the 2014–2015 Ebola outbreak in Liberia and the 2004 tsunami in Aceh (Indonesia), respectively. A large number of non-governmental organisations, including CBM, Doctors of the World, Doctors without Borders, Handicap International (now Humanity and Inclusion), members of the International Red Cross and Red Crescent Movement, and Partners in Health, delivered MHPSS activities after the 2010 earthquake in Haiti.[44] Grand Challenges Canada, a non-for-profit organisation primarily funded by the government of Canada, committed US$19 million for innovations in global mental health.[45]

Multisector partnerships

Limited evidence was found on global health initiatives. Between 2007 and 2015, GFATM disbursed as channel organisation US$551 million to DAMH for children and adolescents, focusing on psychological support for individuals living with or at risk of contracting AIDS/HIV.[18] For instance, GFATM supported services for illicit drug users in Thailand[46] and physical and psychosocial support for individuals living with HIV/AIDS in sub-Saharan Africa and East Asia,[47] the Global Alliance for Chronic Diseases research in global mental health.[48]

DISCUSSION

This new typology illuminates the ecosystem of external actors in global mental health. This is crucial in the new landscape of the SDG-era: the plurality of actors requires good understanding of each of them, not only as single entities but also as part of a larger ecosystem. The majority of the evidence focused on the public and third sector, with almost two-thirds of DAMH disbursed to LMICs through the third sector. Evidence on the private sector and multisector partnerships is scarce or inexistent. Overall, evidence remains very limited for a number or reasons.

First, across sectors, studies have focused primarily on donors. However, many investors are already active in global health. In the public sector, DFIs' annual commitments grew from US$10 billion in 2002 to US$70 billion in 2014,[49] though healthcare attracted a small (2%–3%) share of investments,[50] which could have included investments in mental healthcare. For instance, United States Overseas Private Investment Corporation invested in private healthcare businesses in sub-Saharan Africa and South Asia through healthcare funds.[51] In the private sector, FDIs represent the largest (39%, US$671 billion) external source of finance in LMICs, more than three times the contributions from official development assistance and other official flows (11%),[52] though the amount directed to healthcare is small[53] and to mental health is unknown.

Second, none of the studies explored the role of individual households. The wealth of high-net-worth individuals amounts to over US$70 trillion and is expected to reach US$100 trillion by 2025.[54] Among the members of the Giving Pledge, a group of wealthy individuals committed to donate more than a half of their wealth, Bill Gates committed US$100 million of personal investments to fight dementia.[55] Moreover, over the last decade contributions from a larger group of individuals, diaspora movements, through remittances increased to US$429 billion in 2016 and are expected to grow further.[56] They represent the second most important source of external financing in LMICs (24%) and are responsible for more than twice the amount of official development assistance and other official flows.[52] While remittances could unlock additional resources in global mental health, examples are difficult to find.

Third, studies have focused on external actors from *high-income* countries. External actors from other LMICs are gaining power in global health, in particular middle-income countries. For instance, official development assistance for health from China was estimated at US$1.6 billion between 2000 and 2013, focusing predominately on health infrastructures, supplies and drugs in Africa and Asia,[57] though evidence on mental health is lacking.

Fourth, comparison of financial estimates across studies requires consideration of limitations due to the use of different datasets and methodologies. Studies in this review used three datasets: the development assistance

for health database (Institute for Health Metrics and Evaluation),[7] the aid activities dataset from the Creditor Reporting System (Organisation for Economic Co-operation and Development),[17–20] and the Financial Tracking Service (United Nations Office for the Coordination of Humanitarian Affairs).[19] Estimates may vary as different datasets capture different information (eg, actors, sector of activities)[58] and may employ different methodologies to identify and compute estimates from the same source.[59] In particular, different methodologies influence financial estimates for programmes that tackle multiple health conditions.

Fifth, a limited number of funding instruments were used in the studies included in this review (grants, technical assistance, in-kind contributions). However, the use of both financial instruments from the private sectors and innovative financial instruments is growing in global health.[60] For instance, the World Bank is currently considering issuing social purpose bonds for global mental health.[61] The venture capital fund Acumen is facilitating investments in health in LMICs, such as affordable health insurance in Kenya and hospitals and emergency medical care for the lower income groups in India,[62] though not yet in mental health. Investment-based crowdfunding platforms are facilitating investments in health (potentially including mental health),[63] although with very limited presence in LMICs.

Sixth, allocations of funding to global mental health were often limited to geographical allocation. Only one study[7] reported misalignment of disbursement relative to needs, measured as burden of mental disorders. Similarly, development assistance for health has been found to be misaligned with disease burden,[64] with some conditions such as HIV/AIDS displacing other health funding priorities[65] and more aid targeting conditions with more cost-effective interventions.[66]

Seventh, funded activities focused primarily on treatment in healthcare and humanitarian or post-conflict settings. One study[22] reported on support for people with mental disorders in income-generating activities and another[37] on psychosocial support in schools. However, multiple dimensions of the lives of people with mental disorders, their families and other carers are affected and effective interventions are available. Those include support for children with intellectual disabilities in schools, stress-reduction programmes in the workplace, and support for carers of people with dementia.[3]

Eighth, partnerships with domestic actors were numerous but often restricted only to external actors in the public and third sectors. For instance, Doctors of the World collaborated with the local government to provide and 'build back better' mental health services after the 2007 earthquake in Peru,[67] and the Organisation of American States with the University of São Paulo to build research capacity on drugs in Latin America.[68] This reflects historical tensions in the field between biomedical and social explanations of and responses to mental disorders.[69] However, partnerships in global health are increasing in number and types of actors, allowing for pooling of a variety of resources and skills,[70] though posing new challenges such as in relation to accountability and sustainability.

Finally, few studies uncovered by this review addressed ethical concerns, such as accountability, equity, and conflict of interests. Three studies analysed conflict of interests between corporations' investments and CSR initiatives,[36] accountability of partnerships,[71] and human rights abuses in funded programmes.[72] The financialisation of global health (ie, the increase in size and influence of financial institutions and markets) introduces new ethical challenges spurred by financial motives,[73] such as conflicts of interest between global health foundations and food and pharmaceutical corporations,[10] 'responsible banking' of the financial sector investing in global health,[74] and equitable access to private healthcare.[75] Ethical concerns in global mental health are often limited to conflict of interests in practitioners,[76] while a systemic approach to ethical financing is lacking.

Limitations

This study has limitations. Systematic searches in electronic databases were only run in English between 2000 and 2018 and included only manuscripts published in peer-reviewed journals in English, French, Italian, Portuguese and Spanish. Given that the purpose of the study was to review external actors, those searches captured the main languages used for publications in high-income countries and many LMICs. The exclusion of grey literature made possible the introduction of a quality criterion in the systematic mapping. Mental health was defined to include mental disorders only, excluding positive aspects and social determinants of mental health. Finally, the exclusion of external actors not providing financial or in-kind contributions, such as political leaderships and consultative fora, might have discarded an important influencer of disbursements.

Recommendations

Mental disorders in LMICs require urgent political attention. Mental disorders account for a substantial proportion of the overall burden of poor health and high economic cost (US$0.9 trillion in 2010),[77] and their impact is expected to increase further due to projected demographic and epidemiological changes and an increase in (adverse) social determinants, such as economic inequalities and natural disasters associated with climate change.[2] The SDGs[7] and WHO Mental Health Action Plan 2013–2020[78] provide an unprecedented framework for global action. Tools are available to decision makers for designing better mental health system and services, such as the *Mental Health Atlas*,[4] as well as guidelines for mental health policy, planning and service development,[79] and for interventions in non-specialised settings.[80]

However, the low resources allocated to mental disorders both domestically and externally hinder progress.

With LMIC governments often at full capacity, external funding needs to be unlocked. The results of this review suggest a large ecosystem of external financial actors are already disbursing to global mental health, and untapped resources could be mobilised. However, drawing on this review, I suggest that the pluralism of actors requires five adaptations in order to achieve a sustainable impact.

First, a global coordination mechanism that involves all actors in global mental health should coordinate and monitor financial efforts over time, favouring partnerships and accountability. A global partnership for mental health[81] has been recommended by experts for coordinating efforts, and the recently launched Countdown Global Mental Health 2030 is expected to monitor progress towards decreased disparities in mental health across countries.[82] Second, collaborations across actors should be preferred to the establishment of new organisations. For instance, while a multidonor fund for noncommunicable diseases and mental health has been proposed by the WHO Independent High-Level Commission on noncommunicable diseases,[83] its establishment could contribute to the fragmentation of efforts in global health. Third, local ownership and sustainability should be at the centre of funding decisions: mental disorders should be included in LMIC government priorities[84] with an incremental approach for increasing domestic spending and coverage,[85] external funding should be aligned with those priorities, and humanitarian and development funding coordinated.[86] Fourth, it is paramount to collect better data that include contributions from all external actors in global mental health to favour planning and accountability. Finally, ethical considerations should be integrated into decision-making and monitoring processes in external financing for global mental health. This could favour the establishment of partnerships across sectors while preserving core values in global mental health.

Further research is needed to understand the role of external actors in global mental health, especially outside the public sector. Qualitative studies should map external actors for mental disorders in different settings, using the grey literature and this new typology to support consistency and inform comparisons. Studies tracking external resource flows should take a comprehensive approach and go beyond DAMH to include disbursements from other external actors. Quantitative studies should assess whether external funding for global mental health are allocated effectively, efficiently and equitably. Quantitative and qualitative studies should explore what financial instruments work in global mental health, including feasibility and acceptability in different local contexts, effectiveness, cost-effectiveness, equitability, scalability and sustainability. Finally, studies that examine ethical issues related to external funding in global mental health are needed, in particular studies of the financialisation of global mental health.

CONCLUSION

Addressing mental disorders in the SDG-era requires mobilisation of additional external funding from multiple sources, along with an incremental increase in domestic funding. Unlocking external funding is possible, but coordination of efforts across actors is crucial, and the use of a sustainable and ethical approach is a moral imperative. This study presents opportunities to engage with a multitude of external actors in global mental health. In addition, it suggests a new typology of external actors that could provide a helpful framework for future policy planning and research on sustainable development in global mental health and global health.

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Acknowledgements The author is extremely grateful to Martin Knapp, Ernestina Coast, Clare Wenham (London School of Economics and Political Science) for reviewing previous versions of this manuscript, to Alexis Palfreyman, Jessica Ng, Laura Sochas (London School of Economics and Political Science) for advice during the systematic review process, and to Daniel Chisholm (WHO) and United for Global Mental Health for enriching discussions that have informed the study.

Contributors VI has conceived and designed the study, searched the literature, extracted, analysed and interpreted the results, and written the paper.

Funding The author has not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as supplementary information.

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REFERENCES

1 Global Burden of Disease Collaborative Network. Global burden of disease study 2017 (GBD 2017) results, 2019. Available: http://ghdx.healthdata.org/gbd-results-tool
2 Patel V, Saxena S, Lund C, *et al*. The Lancet Commission on global mental health and sustainable development. *The Lancet* 2018;392:1553–98.
3 Patel V, Chisholm D, Parikh R, *et al*. Addressing the burden of mental, neurological, and substance use disorders: key messages from disease control priorities, 3rd edition. *The Lancet* 2016;387:1672–85.
4 World Health Organization. *Mental health atlas 2017*. Geneva: World Health Organization, 2018.
5 Charlson FJ, Dieleman J, Singh L, *et al*. Donor financing of global mental health, 1995—2015: an assessment of trends, channels, and alignment with the disease burden. *PLoS One* 2017;12:e0169384.
6 United Nations. *Addis Ababa action agenda of the third International Conference on financing for development*. New York: United Nations, 2015.
7 United Nations. *Transforming our world: the 2030 agenda for sustainable development*. New York: United Nations, 2015.
8 Mackenzie J, Kesner C. *Mental health funding and the SDGs. what now and who pays?* London: Overseas Development Institute, 2016.
9 Pollitt A, Cochrane G, Kirtley A, *et al*. *Mapping the global mental health research funding system*. Cambridge: RAND Europe, 2016.
10 Frenk J, Moon S. Governance challenges in global health. *N Engl J Med* 2013;368:936–42.

11 McCoy D, Chand S, Sridhar D. Global health funding: how much, where it comes from and where it goes. *Health Policy Plan* 2009;24:407–17.
12 Miake-Lye IM, Hempel S, Shanman R, *et al*. What is an evidence MAP? A systematic review of published evidence maps and their definitions, methods, and products. *Syst Rev* 2016;5:28.
13 World Health Organization. *mhGAP mental health gap action programme. scaling up care for mental, neurological, and substance use disorders*. Geneva: World Health Organization, 2008.
14 World Bank. World bank country and lending groups, 2018. Available: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups
15 Reuters T. *Endnote X8*. Eagan: Thomson Reuters, 2016.
16 Microsoft. *Excel 2013*. Redmond: Microsoft, 2013.
17 Gilbert BJ, Patel V, Farmer PE, *et al*. Assessing development assistance for mental health in developing countries: 2007–2013. *PLoS Med* 2015;12:e1001834.
18 Lu C, Li Z, Patel V. Global child and adolescent mental health: the orphan of development assistance for health. *PLoS Med* 2018;15:e1002524.
19 Tol WA, Barbui C, Galappatti A, *et al*. Mental health and psychosocial support in humanitarian settings: linking practice and research. *The Lancet* 2011;378:1581–91.
20 Turner J, Pigott H, Tomlinson M, *et al*. Developmental assistance for child and adolescent mental health in low– and middle–income countries (2007–2014): annual trends and allocation by sector, project type, donors and recipients. *J Glob Health* 2017;7:020901.
21 Kiima D, Jenkins R. Mental health policy in Kenya -an integrated approach to scaling up equitable care for poor populations. *Int J Ment Health Syst* 2010;4:19.
22 Raja S, Underhill C, Shrestha P, *et al*. Integrating mental health and development: a case study of the BasicNeeds model in Nepal. *PLoS Med* 2012;9:e1001261.
23 Lund C, Tomlinson M, De Silva M, *et al*. Prime: a programme to reduce the treatment gap for mental disorders in five low- and middle-income countries. *PLoS Med* 2012;9:e1001359.
24 Sharma S, Piachaud J. Iraq and mental health policy: a post invasion analysis. *Intervention* 2011;9:332–44.
25 Hakim JG, Chidzonga MM, Borok MZ, *et al*. Medical education partnership initiative (MEPI) in Zimbabwe: outcomes and challenges. *Glob Health Sci Pract* 2018;6:82–92.
26 Lagerkvist B, Jacobsson L. Development of community psychiatry in Bosnia-Herzegovina with focus on support from Sweden. *Med Arh* 2001;55:33–5.
27 Saxena S, Funk M, Chisholm D. Who's mental health action plan 2013-2020: what can psychiatrists do to facilitate its implementation? *World Psychiatry* 2014;13:107–9.
28 Schininà G, Nunes N, Birot P, *et al*. Mainstreaming mental health and psychosocial support in cAMP coordination and cAMP management. The experience of the International organization for migration in the North East of Nigeria and South Sudan. *Intervention* 2016;14:232–44.
29 Schininà G, Hosn MA, Ataya A, *et al*. Psychosocial response to the Haiti earthquake: the experiences of international organization for migration. *Intervention* 2010;8:158–64.
30 Rodríguez JJ. Mental health care systems in Latin America and the Caribbean. *International Review of Psychiatry* 2010;22:317–24.
31 Thornicroft G, Semrau M. Mental health capacity building in low and middle income countries: the Emerald programme. *Epidemiol Psychiatr Sci* 2018;27:1–2.
32 Siriwardhana C, Sumathipala A, Siribaddana S, *et al*. Reducing the scarcity in mental health research from low and middle income countries: a success story from Sri Lanka. *Int Rev Psychiatry* 2011;23:77–83.
33 de Almeida JM. [Technical cooperation strategies of the Pan American Health Organization in the new phase of mental health services reform in Latin America and the Caribbean]. *Rev Panam Salud Publica* 2005;18:314–26. [in Spanish].
34 Outreville JF. Foreign direct investment in the health care sector and most-favoured locations in developing countries. *Eur J Health Econ* 2007;8:305–12.
35 Esser MB, Jernigan DH. Multinational alcohol market development and public health: Diageo in India. *Am J Public Health* 2015;105:2220–7.
36 Babor TF, Robaina K, Jernigan D. The influence of industry actions on the availability of alcoholic beverages in the African region. *Addiction* 2015;110:561–71.
37 Sim T. Mapping changing territories: developing an expanded school mental health network in a post-earthquake Chinese context. *J Soc Work* 2011;11:326–30.
38 Sartorius N, Cimino L. The dialogue on diabetes and depression (DDD): origins and achievements. *J Affect Disord* 2012;142:S4–7.
39 The Lancet. Movement for global mental health gains momentum. *The Lancet* 2009;374.
40 Prince M, Graham N, Brodaty H, *et al*. Alzheimer disease international's 10/66 dementia research Group—One model for action research in developing countries. *Int J Geriatr Psychiatry* 2004;19:178–81.
41 Hwong A, Douma DM, Zamo S, *et al*. Scaling up mental healthcare in the Republic of niger: priorities for and barriers to service improvement. *BJPsych. International* 2015;12:S-6–S-9.
42 Gwaikolo WS, Kohrt BA, Cooper JL. Health system preparedness for integration of mental health services in rural Liberia. *BMC Health Serv Res* 2017;17:508.
43 Jones LM, Ghani HA, Mohanraj A, *et al*. Crisis into opportunity: setting up community mental health services in post-tsunami Aceh. *Asia Pac J Public Health* 2007;19:60–8.
44 Raviola G, Severe J, Therosme T, *et al*. The 2010 Haiti earthquake response. *Psychiatr Clin North Am* 2013;36:431–50.
45 Gulland A. Mental health projects in developing countries share $19m investment. *BMJ* 2012;345:e6812.
46 Kerr T, Kaplan K, Suwannawong P, *et al*. Getting global funds to those most in need: the Thai drug users' network. *Health Hum Rights* 2005;8:170–86.
47 RaguinG, Raguin G, Raguin G. The ESTHER Hospital partnership initiative: a powerful levy for building capacities to combat the HIV pandemic in low-resource countries. *Global Health* 2016;12:12.
48 Baingana F, al'Absi M, Becker AE, *et al*. Global research challenges and opportunities for mental health and substance-use disorders. *Nature* 2015;527:S172–7.
49 Savoy CM, Carter P, Lemma A. *Development finance institutions come of age: policy engagement, impact, and new directions*. Washington DC: Center for Strategic and International Studies and Overseas Development Institute, 2016.
50 Kenny C, Kalow J, Leo B, *et al*. *Comparing five bilateral development finance institutions and the IFC*. Washington DC: Center for Global Development, 2018.
51 Overseas Private Investment Corporation. OPIC in action: all project descriptions, 2019. Available: https://www.opic.gov/opic-action/all-project-descriptions
52 United Nations Conference on Trade and Development. *World investment report 2018: investment and new industrial policies*. Geneva: United Nations, 2018.
53 Smith RD, Chanda R, Tangcharoensathien V. Trade in health-related services. *The Lancet* 2009;373:593–601.
54 Capgemini. *World wealth report 2018*. New York: Capgemini, 2018.
55 Kelland K. Bill Gates makes $100 million personal investment to fight Alzheimer's. New York: Reuters, 2017. Available: https://www.reuters.com/article/us-health-dementia-gates/bill-gates-makes-100-million-personal-investment-to-fight-alzheimers-idUSKBN1DD0S3
56 Ratha D, De S, Kim EJ, *et al*. *Migration and remittances: recent developments and outlook. migration and development brief 29*. Washington DC: World Bank Group, 2018.
57 Tang K, Li Z, Li W, *et al*. China's silk road and global health. *The Lancet* 2017;390:2595–601.
58 Grepin KA, Leach-Kemon K, Schneider M, *et al*. How to do (or not to do)… Tracking data on development assistance for health. *Health Policy Plan* 2012;27:527–34.
59 Pitt C, Grollman C, Martinez-Alvarez M, *et al*. Tracking aid for global health goals: a systematic comparison of four approaches applied to reproductive, maternal, newborn, and child health. *The Lancet Global Health* 2018;6:e859–74.
60 Atun R, Silva S, Knaul FM. Innovative financing instruments for global health 2002–15: a systematic analysis. *The Lancet Global Health* 2017;5:e720–6.
61 World Bank Group. *Moving the needle: mental health stories from around the world*. Washington DC: World Bank Group, 2018.
62 Acumen. Investment sector: health, 2019. Available: https://acumen.org/companies/sectors/health
63 Renwick MJ, Mossialos E. Crowdfunding our health: economic risks and benefits. *Soc Sci Med* 2017;191:48–56.
64 Dieleman JL, Graves CM, Templin T, *et al*. Global Health Development Assistance Remained Steady In 2013 But Did Not Align With Recipients' Disease Burden. *Health Aff* 2014;33:878–86.
65 Lordan G, Tang KK, Carmignani F. Has HIV/AIDS displaced other health funding priorities? Evidence from a new dataset of development aid for health. *Soc Sci Med* 2011;73:351–5.
66 Bendavid E, Duong A, Sagan C, *et al*. Health aid is allocated efficiently, but not optimally: insights from a review of cost-effectiveness studies. *Health Aff* 2015;34:1188–95.

67 Kohan I, Pérez-Sales P, Cisneros MH, *et al*. Emergencies and disasters as opportunities to improve mental health systems: Peruvian experience in Huancavelica. *Intervention* 2011;9:237–48.
68 Luis MA, Mendes IA, Carvalho EC, *et al*. [Partnership between a university and an international organization with a view to drugs research training for Latin American nursing teachers]. *Rev Lat Am Enfermagem* 2004;12:S307–15. [in Spanish].
69 Clark J. Medicalization of global health 2: the medicalization of global mental health. *Glob Health Action* 2014;7:24000.
70 Youde J. Global health partnerships: the emerging agenda. In: Brown GW, Yamey G, Wamala S, eds. *The Handbook of global health policy*. Chichester: Wiley Blackwell, 2014: 505–18.
71 Matzopoulos R, Parry CDH, Corrigall J, *et al*. Global fund collusion with liquor giant is a clear conflict of interest. *Bull World Health Organ* 2012;90:67–9.
72 Amon JJ, Pearshouse R, Cohen JE, *et al*. Compulsory drug detention in East and Southeast Asia: evolving government, un and donor responses. *International Journal of Drug Policy* 2014;25:13–20.
73 Stein F, Sridhar D. The financialisation of global health. *Wellcome Open Res* 2018;3.
74 Krech R, Kickbusch I, Franz C, *et al*. Banking for health: the role of financial sector actors in investing in global health. *BMJ Glob Health* 2018;3:e000597.
75 Eren Vural I, Vural E I. Financialisation in health care: an analysis of private equity fund investments in turkey. *Soc Sci Med* 2017;187:276–86.
76 Fava GA. Financial conflicts of interest in psychiatry. *World Psychiatry* 2007;6:19–24.
77 Bloom DE, Cafiero ET, Jané-Llopis E, *et al*. *The global economic burden of noncommunicable diseases*. Geneva: World Economic Forum, 2011.
78 World Health Organization. *Mental health action plan 2013-2020*. Geneva: World Health Organization, 2013.
79 World Health Organization. The who mental health policy and service guidance package, 2019. Available: http://www.who.int/mental_health/policy/essentialpackage1/en
80 World Health Organization. *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings: mental health gap action programme (mhGAP) – version 2.0*. Geneva: World Health Organization, 2016.
81 Vigo DV, Patel V, Becker A, *et al*. A partnership for transforming mental health globally. *The Lancet Psychiatry* 2019;6:350–6.
82 Saxena S, Kestel D, Sunkel C, *et al*. Countdown global mental health 2030. *The Lancet* 2019;393:858–9.
83 Nishtar S, Niinistö S, Sirisena M, *et al*. Time to deliver: report of the who independent high-level Commission on NCDS. *The Lancet* 2018;392:245–52.
84 Docrat S, Lund C, Chisholm D. Sustainable financing options for mental health care in South Africa: findings from a situation analysis and key informant interviews. *Int J Ment Health Syst* 2019;13:4.
85 Caddick H, Horne B, Mackenzie J, *et al*. *Investing in mental health in low-income countries*. London: Overseas Development Institute, 2016.
86 World Health Organization. *Building back better. sustainable mental health care after emergencies*. Geneva: World Health Organization, 2013.
87 Stuckler D, Basu S, McKee M. Global health philanthropy and institutional relationships: how should conflicts of interest be addressed? *PLoS Med* 2011;8:e1001020.
88 United Nations Department of Economic and Social Affairs. *International migration report 2017*. New York: United Nations Department of Economic and Social Affairs, 2017.

Supplementary appendix

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Appendix 1: PRISMA-ScR checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	1-2
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	2
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	N/A
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	3, Figure 1, Box 1
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	2
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix 2
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	3

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	3
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	3
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	3
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	3, Figure 2
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	3-4, Table 1, Appendix 3-4
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Appendix 3-4
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	4-6, Table 1
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	6–7
Limitations	20	Discuss the limitations of the scoping review process.	7
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	7-8
FUNDING			

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SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	8

PRISMA-ScR checklist.[1] N/A: Not applicable. * Where sources of evidence (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites. † A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with information sources (see first footnote). ‡ The frameworks by Arksey and O'Malley[2] and Levac and colleagues[3] and the Joanna Briggs Institute guidance[4,5] refer to the process of data extraction in a scoping review as data charting. § The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

References

1. Tricco AC, Lillie E, Zarin W, *et al*. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
2. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
3. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
4. Peters MD, Godfrey CM, Khalil H, *et al*. Guidance for conducting systematic scoping reviews. *Int J Evid Based Healthc* 2015;13:141–46.
5. Peters MDJ, Godfrey C, McInerney P, *et al*. Scoping reviews. In: Aromataris E, Munn Z, eds. Joanna Briggs Institute Reviewer's Manual. Adelaide: Joanna Briggs Institute, 2017.

Appendix 2: Search strategy

MEDLINE (Ovid)

1. exp Mental Disorders/ or exp Mental Health/ or exp SUICIDE/ or exp EPILEPSY/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depression" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental disorder" or "common mental disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or "developmental disorder" or "developmental disorders" or "intellectual disability" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
3. exp "fees and charges"/ or financial support/ or exp financing, organized/ or exp financing, personal/ or exp health care sector/ or exp investments/ or exp taxes/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or financing or finance*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
5. exp Developing Countries/ or exp AFRICA/ or exp ASIA, NORTHERN/ or exp ASIA, CENTRAL/ or exp ASIA, SOUTHEASTERN/ or exp central america/ or exp Caribbean Region/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

Ionnni V. *BMJ Global Health* 2019; 4:e001826. doi: 10.1136/bmjgh-2019-001826

7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
10. 1 or 2
11. 3 or 4
12. 5 or 6 or 7 or 8 or 9
13. 10 and 11
14. 12 and 13
15. limit 14 to humans
16. limit 15 to yr="2000 - Current"

Global Health (Ovid)

1. exp Mental Disorders/ or exp Mental Health/ or exp SUICIDE/ or exp EPILEPSY/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depression" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental disorder" or "common mental disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or "developmental disorder" or "developmental disorders" or "intellectual disability" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
3. exp fees/ or financial institutions/ or exp insurance/ or exp funding/ or exp finance/ or exp investment/ or exp taxes/ or exp charitable contributions/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or financing or finance*).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
5. exp developing countries/ or exp Africa/ or exp South Asia/ or exp Central Asia/ or exp South East Asia/ or exp Latin America/ or exp Caribbean/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or

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"Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]

9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=abstract, title, original title, broad terms, heading words, identifiers, cabicodes]
10. 1 or 2
11. 3 or 4
12. 5 or 6 or 7 or 8 or 9
13. 10 and 11
14. 12 and 13
15. limit 14 to yr="2000 - Current"

EconLit (EBSCO)

S1. "mental illness" OR "mental health" OR "mental disorder" OR "mental disorders" OR "depressive" OR "mood disorder" OR "mood disorders" OR "anxiety disorder" OR "anxiety disorders" OR "affective disorder" OR "affective disorders" OR "bipolar disorder" OR "schizophrenia" OR psychos* OR "common mental disorder" OR "common mental disorders" OR "severe mental disorder" OR "severe mental disorders" OR "substance abuse" OR "alcoholism" OR "drug abuse" OR dementia* OR Alzheimer* OR "developmental disorder" OR "developmental disorders" OR "behavioural disorder" OR "behavioural disorders" OR "behavioral disorder" OR "behavioral disorders" OR "autism" OR "intellectual disability" OR suicid* OR epilep*

S2. insurance* or investment* or tax* or fee* or fund*

S3. "bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or foundation* or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* OR financ*

S4. "developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean"

S5. Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe

S6. Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia

S7. Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela

S8. S2 or S3

S9. S4 or S5 or S6 or S7

S10. S1 and S8

S11. S10 and S9

S12. Limiters - Published Date: 20000101-20180731

EMBASE (Ovid)

1. exp mental disease/ or exp mental health/ or exp epilepsy/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depression" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental

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disorder" or "common mental disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or "developmental disorder" or "developmental disorders" or "intellectual disability" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]

3. exp funding/ or exp investment/ or exp tax/ or exp finance/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or "development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or "health financing").mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
5. exp developing country/ or exp low income country/ or exp middle income country/ or exp Africa/ or exp south asia/ or exp Southeast Asia/ or exp Central America/ or exp caribbean/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp.

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[mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]

9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
10. 1 or 2
11. 3 or 4
12. 5 or 6 or 7 or 8 or 9
13. 10 and 11
14. 12 and 13
15. limit 14 to humans
16. limit 15 to yr="2000 - Current"

PsycINFO (Ovid)

1. exp mental disorders/ or suicide/ or exp attempted suicide/ or exp suicidal ideation/ or EPILEPSY/
2. ("mental illness" or "mental health" or "mental disorder" or "mental disorders" or "depressive" or "mood disorder" or "mood disorders" or "anxiety disorder" or "anxiety disorders" or "affective disorder" or "affective disorders" or "bipolar disorder" or "schizophrenia" or psychos* or "common mental disorder" or "common mental disorders" or "severe mental disorder" or "severe mental disorders" or "substance abuse" or "alcoholism" or "drug abuse" or dementia* or Alzheimer* or "developmental disorder" or "developmental disorders" or "behavioural disorder" or "behavioural disorders" or "behavioral disorder" or "behavioral disorders" or "autism" or suicid* or epilep*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
3. exp health insurance/ or exp funding/ or exp business investments/ or exp taxation/ or exp finance/ or exp charitable behavior/
4. ("bilateral organisation" or "bilateral organisations" or "multilateral organisation" or "multilateral organisations" or "international organisation" or "international organisations" or "bilateral organization" or "bilateral organizations" or "multilateral organization" or "multilateral organizations" or "international organization" or "international organizations" or "bilateral bank" or "regional bank" or "regional banks" or "development bank" or

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"development banks" or "development finance" or "multinational company" or "multinational companies" or "international non-governmental" or "international NGO" or "international NGOs" or "global health initiative" or "global health initiatives" or "development assistance" or "development aid" or "development aids" or "humanitarian assistance" or "humanitarian aid" or "humanitarian aids" or "external debt" or "foreign investment" or "foreign investments" or "corporate social responsibility" or remittanc* or "in-kind donation" or "in-kind donations" or philanthrop* or "donor funding" or financing or finance*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]

5. exp developing countries/
6. ("developing country" or "developing countries" or "low-income country" or "low-income countries" or "low income country" or "low income countries" or "middle-income country" or "middle-income countries" or "middle income country" or "middle income countries" or "third world" or "Africa" or "Central Asia" or "South Asia" or "Southeast Asia" or "South-East Asia" or "East Asia" or "Central America" or "Latin America" or "South America" or "Middle East" or "Caribbean").mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
7. (Afghanistan or Benin or "Burkina Faso" or Burundi or "Central African Republic" or Chad or Comoros or "Democratic Republic of the Congo" or DRC or Zaire or Eritrea or Ethiopia or Gambia or Guinea or Guinea-Bissau or "Guinea Bissau" or Haiti or "Democratic Republic of Korea" or "North Korea" or DPRK or Liberia or Madagascar or Malawi or Mali or Mozambique or Nepal or Niger or Rwanda or Senegal or "Sierra Leone" or Somalia or "South Sudan" or Syria or "Syrian Arab Republic" or Tajikistan or Tanzania or Togo or Uganda or Yemen or Zimbabwe).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
8. (Angola or Bangladesh or Bhutan or Bolivia or Cambodia or Cameroon or "Cape Verde" or "Cabo Verde" or Congo or "Cote d Ivoire" or "Ivory Coast" or Djibouti or Egypt or "El Salvador" or Georgia or Ghana or Honduras or Kenya or India or Indonesia or Kiribati or Kosovo or Kyrgyzstan or "Kyrgyz Republic" or Lao or Laos or Lesotho or Mauritania or Micronesia or Moldova or Mongolia or Morocco or Myanmar or Burma or Nicaragua or Nigeria or Pakistan or "Papua New Guinea" or Philippines or "Sao Tome" or Principe or "Solomon Islands" or "Sri Lanka" or Sudan or Swaziland or Timor-Leste or "Timor Leste" or "East Timor" or Tunisia or Ukraine or Uzbekistan or Vanuatu or Vietnam or "Viet Nam" or "West Bank" or Gaza or Zambia).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
9. (Albania or Algeria or "American Samoa" or Armenia or Azerbaijan or Belarus or Belize or Bosnia or Herzegovina or Botswana or Brazil or Bulgaria or China or Colombia or "Costa Rica" or Cuba or Dominica or "Dominican Republic" or Ecuador or "Equatorial Guinea" or Fiji or Gabon or Grenada or Guatemala or Guyana or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Lebanon or Libya or Macedonia or Malaysia or Maldives or "Marshall Islands" or Mauritius or Mexico or Montenegro or Namibia or "Nauru" or Paraguay or Peru or Romania or "Russian Federation" or Russia or Samoa or Serbia or "South Africa" or "St Lucia" or "Saint Lucia" or "St Vincent" or "Saint Vincent" or Grenadines or Suriname or Thailand or Tonga or Turkey or Turkmenistan or Tuvalu or Venezuela).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
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12. 5 or 6 or 7 or 8 or 9
13. 10 and 11

14. 12 and 13
15. limit 14 to humans
16. limit 15 to yr="2000 - Current"

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Appendix 3: Quantitative studies

	Mental disorders (population)	Country	Dataset	Years	Analysis	Organisations	Sector of activity funded
Charlson *et al.* 2017 [1]	Mental disorders	LMICs	IHME-DAH	1995-2015	Descriptive	*Bilateral governmental organisations* *Multilateral governmental organisations* *Multilateral Development Finance Institutions* *Private foundations* *Non-governmental organisations* *Global health initiatives*	Health
Gilbert *et al.* 2015 [2]	Mental disorders	LMICs	OECD-CRS	2007-2013	Descriptive	*Bilateral governmental organisations* *Multilateral governmental organisations* *Multilateral Development Finance Institutions* *Private foundations* *Non-governmental organisations* *Global health initiatives*	Education Health Humanitarian Government and civil services
Lu *et al.* 2018 [3]	Mental disorders (children and adolescents)	LMICs	OECD-CRS	2007-2015	Descriptive	See Gilbert et al. 2015	Education Health Humanitarian Government and civil services
Tol *et al.* 2011 [4]	Mental disorders	LMICs	OECD-CRS; OCHA-FTS	2007-2009	Descriptive	See Gilbert et al. 2015	Humanitarian
Turner *et al.* 2017 [5]	Mental disorders (children and adolescents)	LMICs	OECD-CRS	2007-2014	Descriptive	See Gilbert et al. 2015	Education Health Government and civil services Other social infrastructure and services Humanitarian

LMICs, low and middle income countries. IHME-DAH, development assistance for health (DAH) database of the Institute for Health Metrics and Evaluation (IHME); OCHA-FTS, Financial Tracking Service (FTS) database of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA); OECD-CRS, aid activities dataset from the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD).

References

1. Charlson FJ, Dieleman J, Singh L, *et al.* Donor financing of global mental health, 1995-2015: an assessment of trends, channels, and alignment with the disease burden. *PLoS One* 2017;12:e0169384.
2. Gilbert BJ, Patel V, Farmer PE, *et al.* Assessing development assistance for mental health in developing countries: 2007-2013. *PLoS Med* 2015;12:e1001834.
3. Lu C, Li Z, Patel V. Global child and adolescent mental health: The orphan of development assistance for health. *PLoS Med* 2018;15:e1002524.
4. Tol WA, Barbui C, Galappatti A, *et al.* Mental health and psychosocial support in humanitarian settings: linking practice and research. *Lancet* 2011;378:1581–91.
5. Turner J, Pigott H, Tomlinson M, *et al.* Developmental assistance for child and adolescent mental health in low- and middle-income countries (2007-2014): Annual trends and allocation by sector, project type, donors and recipients. *J Glob Health* 2017;7:020901.

Appendix 4: Qualitative studies and other publications

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
AFR								
Abdulmalik *et al.* 2014 [1]	Mental disorders	The Gambia; Ghana; Liberia; Nigeria; Sierra Leone	*Bilateral GOs*: Australian Aid		*NGOs*: Christian Blind Mission International		Capacity-building (NA)	Article
Adaku *et al.* 2016 [2]	Mental disorders and psychosocial problems	Uganda			*NGOs*: Uganda Red Cross Society; Medical Teams International; Peter C. Alderman Foundation		Service provision, refugees (NA)	Article
Amuyunzu-Nyamongo *et al.* 2013 [3]	NCDs and mental health	Ghana; Gambia; Nigeria; Kenya; Uganda; Tanzania	*Bilateral GOs*: US Centres for Disease Control and Prevention, Atlanta		*NGOs*: International Union for Health Promotion and Education		Civil societies establishment (NA)	Other
Babor *et al.* 2015 [4]	Alcohol abuse (HIV/AIDS)	Sub-Saharan Africa				*Global Health Initiatives*: The Global Fund	Service provision (NA)	Article
Bampoe *et al.* 2012 [5]	Alcohol abuse (HIV/AIDS)	South Africa		*CSR:* SABMiller		*Global Health Initiatives*: The Global Fund	Service provision (NA)	Other (communication)
Gwaikolo *et al.* 2017 [6]	Mental disorders	Liberia			*NGOs*: The Carter Center; Grand Challenges Canada		Service provision and research (NA)	Article
Hakim *et al.* 2018 [7]	Mental disorders	Zimbabwe	*Bilateral GOs:* US President's Emergency Plan for AIDS Relief, USAID; US National Institutes of Health				Capacity-building and research capacity-building (NA)	Article
Hwong *et al.* 2015[8]	Mental disorders	Niger			*NGOs*: Christian Blind Mission International		Service provision (NA)	Article
Jenkins *et al.* 2010 [9]	Mental disorders	Kenya	*Bilateral GOs:* UK Department for International Development	*Foundations:* Nuffield International Foundation			Mental health system, capacity-building and research (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
Jenkins *et al.* 2010 [10]	Mental disorders	Kenya		*Foundations:* Nuffield International Foundation			Capacity-building (NA)	Article
Jenkins *et al.* 2013 [11]	Mental disorders	Kenya	*Bilateral GOs:* UK Department for International Development	*Foundations:* Nuffield International Foundation			Mental health system, capacity-building and research (NA)	Article
Kirby 2014 [12]	Mental disorders	Zimbabwe	*Bilateral GOs*: US National Institute of Health's Fogarty International Center				Capacity-building (NA)	Other (brief report)
Kleintjes *et al.* 2013 [13]	Mental disorders	Ghana; South Africa			*NGOs*: World Network of Users and Survivors of Psychiatry		Civil societies establishment (NA)	Article
Kiima and Jenkins 2010[14]	Mental disorders	Kenya	*Bilateral GOs:* UK Department for International Development	*Foundations:* Nuffield International Foundation			Mental health system, capacity-building and research (NA)	Article
Matzopoulos *et al.* 2012 [15]	Alcohol abuse	South Africa		*CSR:* SABMiller		*Global Health Initiatives*: The Global Fund	Service provision (NA)	Other (brief report)
Moron-Nozaleda *et al.* 2011 [16]	Mental disorders	Equatorial Guinea	*Bilateral GOs*: Spanish Agency for International Development Cooperation		*NGOs*: Sanitary Religious Federation		Service provision (NA)	Article
Schinina *et al.* 2016 [17]	Mental disorders and psychosocial problems	Nigeria; South Sudan	*Multilateral GOs*: International Organization for Migration				Service provision and capacity-building, conflict (NA)	Article
AMR								
Bonini *et al.* 2017 [18]	Mental disorders	Brasil; Peru	*Bilateral GOs*: US National Institute of Mental Health				Research and research capacity-building (NA)	Article
de Almeida 2005 [19]	Mental disorders	Latin America and the Caribbean	*Bilateral GOs*: US National Institute of Mental Health; Institute of Neurosciences,				Technical assistance; Research and research	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
			Mental Health and Addiction (Canada) *Multilateral GOs*: Pan American Health Organization *Multilateral DFIs*: Inter-American Development Bank				capacity-building (NA)	
Gallo *et al.* 2010 [20]	Mental disorders	Latin America	*Multilateral GOs*: World Health Organization				Research (NA)	Article
Kohan *et al.* 2011 [21]	Mental disorders	Peru			*NGOs* : Médecins du Monde – Spain		Build Back Better: service provision, earthquake (NA)	Article
Luis *et al.* 2004 [22]	Drug abuse	Latin America	*Bilateral GOs*: American, Canadian, Japanese governments *Multilateral GOs*: Interamerican drugs abuse control commission of the Organization of American States				Research capacity-building (NA)	Article
Raviola *et al.* 2013 [23]	Mental disorders and psychosocial problems	Haiti	*Multilateral GOs*: International Organization for Migration; United Nations Educational, Scientific and Cultural Organization; United Nations Children's Fund		*NGOs*: Action Contre la Faim France; Lutheran World Federation-ACT; Adventist Development and Relief Agency; Ananda Marga Universal Relief Team; Association of Volunteers in International Service; Christian Blind Mission; Comité de la Cour des Enfants de Quettstar; Concern Worldwide; Christian Relief Fund; Food for the Hungry; Haitian Red Cross/Red Crescent Movement; Handicap International; International Medical Corps; Médecins du Monde Canada/France/Spain; Médecins Sans Frontières Belgium/Holland/Spain/Suisse; Mercy Corps; Partners In Health/Zanmi Lasante; People in Need; Plan International; Pharmaciens Sans Frontières – Comité International; Red Cross France/Holland; Save the		Service provision, earthquake (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
					Children; Start International; Terres des Hommes; Viva Rio; World Vision			
Razzouk *et al.* 2006 [24]	Mental disorders	Brasil	*Multilateral GOs*: World Health Organization				Research (NA)	Article
Rodriguez 2010 [25]	Mental disorders	Latin America	*Multilateral GOs*: Pan American Health Organization				Mental health system reform (NA)	Article
Schinina *et al.* 2010 [26]	Mental disorders and psychosocial problems	Haiti	*Multilateral GOs*: International Organization for Migration				Service provision and capacity-building, earthquake (NA)	Article
Wright *et al.* 2004 [27]	Drug abuse	Latin America	*Multilateral GOs*: Interamerican drugs abuse control commission of the Organization of American States				Research capacity-building (NA)	Article
Yang *et al.* 2017 [28]	Mental disorders	Colombia; Brazil	*Bilateral GOs*: US National Institute of Mental Health				Research capacity-building (NA)	Other (brief report)
EMR								
Fitzgerald *et al.* 2012 [29]	Mental disorders and psychosocial problems	Libya	*Multilateral GOs*: International Organisation for Migration; World Health Organization		*NGOs*: Danish Church Aid; International Medical Corps; Hilfswerk Austria International; Mercy Corps; Medecins Sans Frontieres – Belgium; Acts of Mercy; Save The Children		Service provision, conflict (NA)	Article
Kienzler *et al.* 2015 [30]	Mental disorders and psychosocial problems	Palestine	*Bilateral GOs*: French Cooperation; Italian Cooperation *Multilateral GOs*: European Union; World Health Organization		*NGOs* : Médecins du Monde		Mental health system reform (NA)	Article
Kunz 2009 [31]	Mental disorders and psychosocial problems	Iran	*Bilateral GOs*: Swiss Agency for Development and Cooperation	*CSR:* Nestle' Iran; Holcim; Sika *Foundations*: Degen foundation	*NGOs*: Swiss Academy for Development; Federation 'Ready to Move'		Service provision, earthquake (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
Regan *et al.* 2015 [32]	Mental disorders	Eastern Mediterranean Region	*Bilateral GOs*: US National Institute of Mental Health	*Foundations:* Wellcome Trust	*NGOs:* Grand Challenges Canada		Research and research capacity (NA)	Article
Sharma and Pichaud 2011[33]	Mental disorders	Iraq	*Bilateral GOs*: US Agency for International Development; Japan		*Professional associations :* UK Royal College of Psychiatry		Service provision and capacity-building, conflict (NA ; volunteer)	Article
EUR								
Harmer *et al.* 2013 [34]	Drug abuse (HIV/AIDS)	Georgia; Kyrgyzstan; Ukraine				*Global Health Initiatives*: The Global Fund	Civil societies (Georgia US$ 507000; Kyrgyzstan US$ 716580; Ukraine US$ 630000)	Article
Lagerkvist *et al.* 2001 [35]	Mental disorders	Bosnia Herzegovina	*Bilateral GOs*: Swedish International Development Cooperation Agency *Multilateral GOs*: United Nations International Children's Emergency Fund *Multilateral DFIs*: The World Bank		*NGOs*: SweBiH		Build Back Better: service provision, capacity-building and research capacity-building, conflict (NA)	Article
Lagerkvist *et al.* 2013 [36]	Mental disorders	Bosnia Herzegovina	*Bilateral GOs*: Swedish International Development Cooperation Agency		*NGOs*: SweBiH		Build Back Better: capacity-building and research capacity-building, conflict (NA)	Article
Mackey *et al.* 2015 [37]	Drug abuse	Ukraine		*Foundations*: Elton John Foundation	*NGOs*: International HIV/AIDS Alliance		Service provision, conflict (NA)	Other (commentary)
Revel 2001 [38]	Mental disorders and	Belarus			*NGOs*: International Federation of Red Cross Societies		Capacity-building, civilian	Other (brief report)

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
	psychosocial problems						nuclear disaster (NA)	
SEAR								
Acharya *et al.* 2017 [39]	Mental disorders	Nepal			*Research centres*: Harvard Medical School; University of California, San Francisco; University of Washington		Capacity-building and research capacity-building (NA)	Other (commentary)
Blignault *et al.* 2012 [40]	Mental disorders	Sri Lanka			*Research centres*: Black Dog Institute		Capacity-building (NA)	Article
Esser and Jernigan 2015[41]	Alcohol abuse	India		*Corporations and SME:* Diageo			Foreign Direct Investments (NA)	Article
Fink 2005 [42]	Drug abuse	Thailand			*NGOs*: International Gay and Lesbian Human Rights Commission		Research ($5,000)	Article
Jones *et al.* 2007 [43]	Mental disorders and psychosocial problems	Indonesia			*NGOs*: International Medical Corps		Build Back Better: service provision, Tsunami (NA)	Article
Keats *et al.* 2014 [44]	Mental disorders and psychosocial problems	Nepal			*NGOs*: Nepal House Society (Canada)		Capacity-building (volunteer)	Article
Kerr *et al.* 2005 [45]	Drug abuse	Thailand				*Global Health Initiatives*: The Global Fund	Service provision (US$1.3 million by approved application)	Article
Raja *et al.* 2012 [46]	Mental disorders	Nepal	*Bilateral GOs*: UK Department for International Development		*NGOs*: BasicNeeds		Service provision (NA)	Article
Ray *et al.* 2013 [47]	Drug abuse	India	*Bilateral GOs*: US National Institutes of Health; US National Institute of Drug Abuse		*Research centres*: University of California Los Angeles		Research and research capacity-building (NA)	Article
Siriwardhana *et al.* 2011 [48]	Mental disorders	Sri Lanka	*Bilateral GOs*: US Centres for Disease Control and Prevention, Atlanta	*Foundations*: The	*NGOs*: Social Psychiatry Research Trust		Research and research capacity-building (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
			Multilateral GOs: World Health Organization *Multilateral DFIs*: The World Bank	Wellcome Trust				
WPR								
Amon *et al.* 2014[49]	Drug abuse	Cambodia	*Multilateral GOs*: United Nations International Children's Emergency Fund				Service provision (NA)	Other (commentary)
		Lao PDR	*Bilateral GOs*: German Development Agency; US State Department's International Narcotics and Law Enforcement office; Singaporean Embassy *Multilateral GOs*: United Nations Office on Drugs and Crime		*NGOs*: Singapore International Foundation		Service provision (NA)	
		Vietnam	*Bilateral GOs*: Japan *Multilateral DFIs*: The World Bank			*Global health initiatives*: The Global Fund	Service provision (Japan: US$86,197 and US $77,380. World Bank: US$1.5 million)	
		Vietnam	*Bilateral GOs*: Australia; Luxembourg; Sweden; US State Department's International Narcotics and Law Enforcement office; US President's Emergency Plan for AIDS Relief, USAID; US Centers for Disease Control and Prevention *Multilateral GOs*: United Nations Office on Drugs and Crime				Capacity-building (UNODC: with more than US$1 million provided by Australia, Luxembourg and Sweden)	
MacLaren *et al.* 2015 [50]	Mental disorders	Solomon Islands			*Research centres*: James Cook University (Australia)		Research capacity-building (volunteer)	Other (brief report)
Parry 2011 [51]	Drug abuse	Lao	*Multilateral GOs*: United Nations Office on Drugs and Crime				Service provision (NA)	Other (brief report)
Ryan *et al.* 2015 [52]	Mental disorders	Solomon Islands	*Bilateral GOs*: Australian Aid				Mental health system reform	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
							and capacity-building (NA)	
Sim 2011 [53]	Mental disorders (children and adolescents)	China		*CSR:* MINDSET[a] *Foundations*: Hong Kong College of Paediatricians Foundation	*NGOs*: Cultural Regeneration Research Society; New SoHo New Life Association *Research centres*: Hong Kong Polytechnic University		Building Back Better: service provision, earthquake (US$ 500,000 + volunteer)	Other (brief report)
Tan *et al.* 2018 [54]	Mental disorders	China			*NGOs*: Clubhouse International, Clubhouses from Hong Kong and Australia		Capacity-building (NA)	Other (commentary)
Multi-regional								
Eisenbruch *et al.* 2004 [55]	Mental disorders and psychosocial problems	Uganda; Cambodia			*NGOs*: Transcultural Psychosocial Organization		Service provision and capacity-building, refugees (NA)	Article
Lund *et al.* 2012 [56]	Mental disorders	Ethiopia; India; Nepal; South Africa; Uganda	*Bilateral GOs*: UK Department for International Development				Research and research capacity-building (NA)	Article
Patel *et al.* 2006 [57]	Mental disorders	Zimbabwe; Uganda; Pakistan; Balkans; Kosovo		*Foundations*: The Wellcome Trust	*NGOs*: Tropical Health Education Trust		Capacity-building (NA + volunteer)	Other (brief report)
Raguin 2016 [58]	Mental health (HIV/AIDS)	Sub-Saharan Africa; East Asia	*Bilateral GOs*: French Development Agency; French government; city council of Paris; French public hospitals			*Global Health Initiatives*: Unitaid; The Global Fund	Service provision and capacity-building (NA)	Other (commentary)
Thornicroft 2018 [59]	Mental disorders	Ethiopia; India; Nepal; Nigeria; South Africa; Uganda	*Multilateral GOs*: European Union				Research and research capacity-building (NA)	Other (editorial)
Global								
Aggarwal *et al.* 2013 [60]	Mental disorders	Global	*Bilateral GOs*: UK Department for International Development; US National Institute of Mental Health				Research and research capacity-building (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
			Multilateral GOs: South Asian Association for Regional Co-Operation					
Baingana *et al.* 2015 [61]	Mental disorders	Global	*Bilateral GOs*: US National Institute of Mental Health			*Global Health Initiatives*: Global Alliance for Chronic Diseases	Research (NA)	Article
Chisholm *et al.* 2007 [62]	Mental disorders	Global	*Bilateral GOs*: UK Department for International Development; US Agency for International Development; Australian Agency for International Development; US National Institute of Mental Health *Multilateral GOs*: World Health Organization; European Commission	*Foundations*: The Wellcome Trust; Bill and Melinda Gates Foundation			Research (The Bill and Melinda Gates Foundation: US$ 0. The Wellcome Trust: US$55 600 604. US National Institute for Mental Health: US$57 300 188)	Article
Gulland 2012 [63]	Mental disorders	Global			*NGOs*: Grand Challenges Canada		Innovation (more than $19 millions)	Other (brief report)
Iwami 2016 [64]	Mental disorders and psychosocial problems	Global	*Bilateral GOs*: Japan Foundation; Japan International Cooperation Agency; Japan Ministry of Foreign Affairs				Service provision, conflict (NA)	Article
Howell *et al.* 2017 [65]	Mental disorders	Global	*Bilateral GOs*: UK Department for International Development				Research (NA)	Article
Ndetei 2012 [66]	Mental disorders	Global			*NGOs*: Grand Challenges Canada		Research capacity-building (NA)	Other (brief report)
Outreville 2007[67]	Heath (incl. mental health)	Global		*Corporations and SME:* Pfizer; Johnson and Johnson; GlaxoSmith-Kline			Drugs (NA)	Article

Author	Mental disorders (population)	Country	Public sector	Private sector	Third sector	Multi-sector partnerships	Activity funded (amount)	Type of publication
Prince *et al.* 2004 [68]	Dementia	Global	*Multilateral GOs*: World Health Organization	*Foundations*: The Wellcome Trust	*NGOs*: Alzheimer's Disease International		Research and research capacity-building (NA)	Article
Razzouk 2010 [69]	Mental disorders	Global	*Multilateral GOs*: World Health Organization				Research (NA)	Article
Sartorius and Cimino 2012[70]	Mental disorders	Global		*Foundations*: Lilly Foundation			Advocacy and research (NA)	Article
Saxena *et al.* 2014 [71]	Mental disorders	Global	*Multilateral GOs*: World Health Organization				Normative (NA)	Other (brief report)
Sawin 2003 [72]	Mental disorders	Global	*Multilateral GOs*: World Health Organization		*Professional associations:* Science, technology and medicine publishers		Research information system (NA)	Other (brief report)
The Lancet 2009 [73]	Mental disorders	Global		*Foundations*: The Wellcome Trust; MacArthur Foundation	*NGOs:* Global Initiative on Psychiatry		Civil societies (NA)	Other (editorial)
Wainberg *et al.* 2016 [74]	Mental disorders	Global	*Bilateral GOs*: US National Institute of Mental Health; US National Institute of Health Fogarty International Center		*NGOs*: Tropical Health Education Trust		Capacity-building, research and research capacity-building (NA)	Other (editorial)

[a] Philanthropic arm of Jardine Matheson Group, Hong Kong. AFR, African region; AMR, region of the Americas; EMR, Eastern Mediterranean region; EUR, European region; SEAR, South-East Asia region; WPR, Western Pacific region. CSR, corporate social responsibility; DFIs, development finance institutions; GOs, governmental organisations; NCDs, non-communicable disorders; NGOs, non-governmental organisations; SME, small and medium enterprises. NA, not available.

References

1. Abdulmalik J, Fadahunsi W, Kola L, *et al*. The mental health leadership and advocacy program (mhLAP): a pioneering response to the neglect of mental health in Anglophone West Africa. *Int J Ment Health Syst* 2014;8:5.

2. Adaku A, Okello J, Lowry B, *et al*. Mental health and psychosocial support for South Sudanese refugees in northern Uganda: a needs and resource assessment. *Confl Health* 2016;10:18.
3. Amuyunzu-Nyamongo M, Owuor JO, Blanchard C. The consortium for NCD prevention and control in Sub-Saharan Africa (CNCD-Africa): from concept to practice. *Glob Health Promot* 2013;20:S97–103.
4. Babor TF, Robaina K, Jernigan D. The influence of industry actions on the availability of alcoholic beverages in the African region. *Addiction* 2015;110:561–71.
5. Bampoe V, Clancy A, Sugarman M, *et al*. Response from the Global Fund. *Bulletin of the World Health Organization* 2012;90:70.
6. Gwaikolo WS, Kohrt BA, Cooper JL. Health system preparedness for integration of mental health services in rural Liberia. *BMC Health Serv Res* 2017;17:508.
7. Hakim JG, Chidzonga MM, Borok MZ, *et al*. Medical education partnership initiative (MEPI) in Zimbabwe: outcomes and challenges. *Global Health: Science and Practice* 2018;6:82–92.
8. Hwong A, Douma DM, Zamo S, *et al*. Scaling up mental healthcare in the Republic of Niger: priorities for and barriers to service improvement. *BJPsych International* 2015;12:S6–9.
9. Jenkins R, Kiima D, Okonji M, *et al*. Integration of mental health into primary care and community health working in Kenya: context, rationale, coverage and sustainability. *Ment Health Fam Med* 2010;7:37–47.
10. Jenkins R, Kiima D, Njenga F, *et al*. Integration of mental health into primary care in Kenya. *World Psychiatry* 2010;9:118–20.
11. Jenkins R, Othieno C, Okeyo S, *et al*. Health system challenges to integration of mental health delivery in primary care in Kenya-perspectives of primary care health workers. *BMC Health Services Research* 2013;13.
12. Kirby T. Profile: NIH's Fogarty International Center. *Lancet* 2014;384:121.
13. Kleintjes S, Lund C, Swartz L. Organising for self-advocacy in mental health: experiences from seven African countries. *Afr J Psychiatry (Johannesbg)* 2013;16:187–95.
14. Kiima D, Jenkins R. Mental health policy in Kenya -an integrated approach to scaling up equitable care for poor populations. *Int J Ment Health Syst* 2010;4:19.
15. Matzopoulos R, Parry CD, Corrigall J, *et al*. Global Fund collusion with liquor giant is a clear conflict of interest. *Bull World Health Organ* 2012;90:67–9.
16. Moron-Nozaleda MG, Gomez de Tojeiro J, Cobos-Munoz D, *et al*. Integrating mental health into primary care in Africa: the case of Equatorial Guinea. *Intervention* 2011;9:304–14.
17. Schinina G, Nunes N, Birot P, *et al*. Mainstreaming mental health and psychosocial support in camp coordination and camp management. The experience of the International Organization for Migration in the north east of Nigeria and South Sudan. *Intervention* 2016;14:232–44.
18. Bonini BB, Araya R, Quayle J, *et al*. LATIN-MH: a model for building research capacity within Latin America. *Glob Ment Health (Camb)* 2017;4:e2.
19. de Almeida JM. [Technical cooperation strategies of the Pan American Health Organization in the new phase of mental health services reform in Latin America and the Caribbean]. *Rev Panam Salud Publica* 2005;18:314–26. [in Spanish]
20. Gallo C, Tohen M. Current status and future perspectives for psychiatry/mental health research in Latin America. *Int Rev Psychiatry* 2010;22:382–93.

21. Kohan I, Pérez-Sales P, Cisneros MH, *et al.* Emergencies and disasters as opportunities to improve mental health systems: Peruvian experience in Huancavelica. *Intervention* 2011;9:237–48.
22. Luis MA, Mendes IA, Carvalho EC, *et al.* [Partnership between a university and an international organization with a view to drugs research training for Latin American nursing teachers]. *Rev Lat Am Enfermagem* 2004;12:S307–15. [in Spanish]
23. Raviola G, Severe J, Therosme T, et al. The 2010 Haiti earthquake response. *Psychiatr Clin North Am* 2013;36:431–50.
24. Razzouk D, Zorzetto R, Dubugras MT, *et al.* Mental health and psychiatry research in Brazil: scientific production from 1999 to 2003. *Rev Saude Publica* 2006;40:93–100.
25. Rodriguez JJ. Mental health care systems in Latin America and the Caribbean. *Int Rev Psychiatry* 2010;22:317–24.
26. Schinina G, Hosn MA, Ataya A, *et al.* Psychosocial response to the Haiti earthquake: the experiences of International Organization for Migration. *Intervention* 2010;8:158–64.
27. Wright Mda G, Chisman AM, Mendes IA, *et al.* [The role of technical & financial cooperation to advance nursing profession in the area of demand reduction in Latin America: challenges and perspectives]. *Rev Lat Am Enfermagem* 2004;12:301–6. [in Spanish]
28. Yang L, Pratt C, Valencia E, *et al.* RedeAmericas: building research capacity in young leaders for sustainable growth in community mental health services in Latin America. *Glob Ment Health (Camb)* 2017;4:e3.
29. Fitzgerald C, Elkaied A, Weissbecker I. Mapping of mental health and psychosocial support in post conflict Libya. *Intervention* 2012;10:188–200.
30. Kienzler H, Amro Z. 'Unknowing' and mental health system reform in Palestine. *Medicine Anthropology Theory* 2015;2:113–27.
31. Kunz V. Sport as a post-disaster psychosocial intervention in Bam, Iran. *Sport in Society* 2009;12:1147–57.
32. Regan M, Gater R, Rahman A, *et al.* Mental health research: developing priorities and promoting its utilization to inform policies and services. *Eastern Mediterranean Health Journal* 2015;21:517–21.
33. Sharma S, Piachaud J. Iraq and mental health policy: a post invasion analysis. *Intervention* 2011;9:332–44.
34. Harmer A, Spicer N, Aleshkina J, *et al.* Has Global Fund support for civil society advocacy in the Former Soviet Union established meaningful engagement or 'a lot of jabber about nothing'? *Health Policy and Planning* 2013;28:299–308.
35. Lagerkvist B, Jacobsson L. Development of community psychiatry in Bosnia-Herzegovina with focus on support from Sweden. *Med Arh* 2001;55:33–5.
36. Lagerkvist B, Mehic-Basara N, Ceric I, *et al.* The Swedish support to Bosnia Herzegovina: rebuilding mental health services after the war. *Intervention* 2013;11:249–60.
37. Mackey TK, Strathdee SA. Responding to the public health consequences of the Ukraine crisis: an opportunity for global health diplomacy. *J Int AIDS Soc* 2015;18:19410.
38. Revel JP. Meeting psychological needs after Chernobyl: the Red Cross experience. *Mil Med* 2001;166:S19-20.
39. Acharya B, Maru D, Schwarz R, *et al.* Partnerships in mental healthcare service delivery in low-resource settings: developing an innovative network in rural Nepal. *Global Health* 2017;13:2.
40. Blignault I, Manicavasagar V, Parker G, *et al.* Building capacity in identification and management of mood disorders: an Australia-Sri Lanka collaboration. *Australas Psychiatry* 2012;20:53–6.
41. Esser MB, Jernigan DH. Multinational alcohol market development and public health: Diageo in India. *Am J Public Health* 2015;105:2220–7.

42. Fink S. East-West fusion: cross-border human rights activism and the Thai drug users' network. *Health Hum Rights* 2005;8:188–202.
43. Jones LM, Ghani HA, Mohanraj A, et al. Crisis into opportunity: setting up community mental health services in post-tsunami Aceh. *Asia Pac J Public Health* 2007;19:60–8.
44. Keats PA, Sharma A. Canadian and Nepali Counsellors: In Collaboration for Social Justice in Nepal. *Canadian Journal of Counselling and Psychotherapy* 2014;48 :284–99.
45. Kerr T, Kaplan K, Suwannawong P, et al. Getting global funds to those most in need: the Thai drug users' network. *Health Hum Rights* 2005;8:170–86.
46. Raja S, Underhill C, Shrestha P, *et al.* Integrating mental health and development: a case study of the BasicNeeds model in Nepal. *PLoS Med* 2012;9:e1001261.
47. Ray R, Dhawan A, Chopra A. Addiction research centres and the nurturing of creativity: national drug dependence treatment centre, India--a profile. *Addiction* 2013;108:1705–10.
48. Siriwardhana C, Sumathipala A, Siribaddana S, *et al.* Reducing the scarcity in mental health research from low and middle income countries: a success story from Sri Lanka. *Int Rev Psychiatry* 2011;23:77–83.
49. Amon JJ, Pearshouse R, Cohen JE, *et al.* Compulsory drug detention in East and Southeast Asia: evolving government, UN and donor responses. *Int J Drug Policy* 2014;25:13–20.
50. MacLaren D, Asugeni J, Redman-MacLaren M. Strengthening research capacity in the Pacific: an example from the Atoifi Health Research Group, Solomon Islands. *Australas Psychiatry* 2015;23:S42–4.
51. Parry J. Foreign donors are criticised for funding inhumane drug detention centre in Laos. *BMJ* 2011;343:d6534.
52. Ryan B, Orotaloa P, Araitewa S, *et al.* Mental health in the Solomon Islands: developing reforms and partnerships. *Australas Psychiatry* 2015;23:662–6.
53. Sim T. Mapping changing territories: developing an expanded school mental health network in a post-earthquake Chinese context. *Journal of Social Work* 2011;11:326–30.
54. Tan YX, Yan H, Luo YH, *et al.* Mental rehabilitation in China: the clubhouse model. *Lancet Psychiatry* 2018;5:386–87.
55. Eisenbruch M, de Jong JT, van de Put W. Bringing order out of chaos: a culturally competent approach to managing the problems of refugees and victims of organized violence. *J Trauma Stress* 2004;17:123–31.
56. Lund C, Tomlinson M, De Silva M, *et al.* PRIME: a programme to reduce the treatment gap for mental disorders in five low- and middle-income countries. *PLoS Med* 2012;9:e1001359.
57. Patel V, Boardman J, Prince M, *et al.* Returning the debt: how rich countries can invest in mental health capacity in developing countries. *World Psychiatry* 2006;5:67–70.
58. Raguin G. The ESTHER hospital partnership initiative: a powerful levy for building capacities to combat the HIV pandemic in low-resource countries. *Global Health* 2016;12:12.
59. Thornicroft G, Semrau M. Mental health capacity building in low and middle income countries: the Emerald programme. *Epidemiol Psychiatr Sci* 2018;27:1–2.
60. Aggarwal NK, Kohrt BA. Medical diplomacy and global mental health: from community and national institutions to regional centers of excellence. *Community Ment Health J* 2013;49:805–14.

61. Baingana F, al'Absi M, Becker AE, *et al.* Global research challenges and opportunities for mental health and substance-use disorders. *Nature* 2015;527:S172–7.
62. Chisholm D, Flisher AJ, Lund C, *et al.* Scale up services for mental disorders: a call for action. *Lancet* 2007;370:1241–52.
63. Gulland A. Mental health projects in developing countries share $19m investment. *BMJ* 2012;345:e6812.
64. Iwami T. Constructing peace in the minds of people? Roles of Japan in psychosocial reconstruction. *Asian Journal of Peacebuilding* 2016;4:217–39.
65. Howell A, Mills C, Rushton S. The (Mis)appropriation of HIV/AIDS advocacy strategies in global mental health: towards a more nuanced approach. *Global Health* 2017;13:44.
66. Ndetei DM. Emerging opportunities for mental health research in Africa. *Afr J Psychiatry (Johannesbg)* 2012;15:158.
67. Outreville JF. Foreign direct investment in the health care sector and most-favoured locations in developing countries. *Eur J Health Econ* 2007;8:305–12.
68. Prince M, Graham N, Brodaty H, *et al.* Alzheimer Disease International's 10/66 dementia research group - one model for action research in developing countries. *Int J Geriatr Psychiatry* 2004;19:178–81.
69. Razzouk D, Sharan P, Gallo C, *et al.* Scarcity and inequity of mental health research resources in low-and-middle income countries: a global survey. *Health Policy* 2010;94:211–20.
70. Sartorius N, Cimino L. The Dialogue on Diabetes and Depression (DDD): Origins and achievements. *J Affect Disord* 2012;142:S4–7.
71. Saxena S, Funk M, Chisholm D. WHO's Mental Health Action Plan 2013-2020: what can psychiatrists do to facilitate its implementation? *World Psychiatry* 2014;13:107–9.
72. Sawin G. Public institutions in many developing countries gain on-line access to the Administration and Policy in Mental Health journal. *Adm Policy Ment Health* 2003;31:181–2.
73. The Lancet. Movement for global mental health gains momentum. *Lancet* 2009;374:587.
74. Wainberg ML, Lu FG, Riba MB. Global Mental Health. *Acad Psychiatry* 2016;40:647–9.

Appendix 4.1: Published paper (Chapter 4)

Global Mental Health

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Policy and Systems Brief Report

Cite this article: Iemmi V (2020). Philanthropy for global mental health 2000–2015. *Global Mental Health* **7**, e9, 1–6. https://doi.org/10.1017/gmh.2020.2

Received: 27 August 2019
Revised: 2 February 2020
Accepted: 27 February 2020

Key words:
Development assistance for health; low- and middle-income countries; global mental health; philanthropy; sustainable financing

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CAMBRIDGE UNIVERSITY PRESS

Philanthropy for global mental health 2000–2015

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Abstract

Background. Mental disorders are the leading cause of years lived with disability worldwide. While over three-quarters of people with mental disorders live in low- and middle-income countries (LMICs) and effective low-cost interventions are available, resource commitments are extremely limited. This paper seeks to understand the role of philanthropy in this area and to inform discussions about how to increase investments.

Methods. Novel analyses of a dataset on development assistance for health were conducted to study philanthropic development assistance for mental health (DAMH) in 156 countries between 2000 and 2015.

Results. Philanthropic contributions more than doubled over 16 years, accounting for one-third (US$364.1 million) of total DAMH 2000–2015. However, across health conditions, mental disorders received the lowest amount of philanthropic development assistance for health (0.5%). Thirty-seven of 156 LMICs received no philanthropic DAMH between 2000 and 2015 and just three LMICs (Antigua and Barbuda, Grenada, Saint Vincent and the Grenadines) received more than US$1 philanthropic DAMH per capita over the entire period. Eighty-one percent of philanthropic DAMH was disbursed to unspecified locations.

Conclusions. Philanthropic donors are potentially playing a critical role in DAMH, and the paper identifies challenges and opportunities for increasing their impact in sustainable financing for mental health.

Introduction

Mental disorders (including substance use disorders, dementia and self-harm) are the leading cause of years lived with disability worldwide (19%) (Global Burden of Disease Collaborative Network, 2018*b*; IHME, 2018*c*). While over three-quarters of people with mental disorders live in low- and middle-income countries (LMICs) fewer than 10% receive treatment (WHO, 2018*b*). Investments in mental disorders in LMICs are extremely limited: only 1.6% of LMIC government health budgets (WHO, 2018*b*) and 0.4% of development assistance for health (DAH, i.e. financial and in-kind contributions for health disbursed by donors to LMICs) (Charlson *et al.*, 2017). With LMIC government budgets often at capacity, it is paramount to mobilise additional external resources (Patel *et al.*, 2018).

United Nations Sustainable Development Goals recommend external resources for development from a wide range of sources, including philanthropy (UN, 2015*b*). Philanthropy includes contributions from non-state actors such as foundations, corporations and individuals (Youde, 2018). Over the last two decades their role and influence in global health has increased, bringing additional resources and innovative ideas along with concerns about legitimacy (Youde, 2018) and conflicts of interest (Stuckler *et al.*, 2011). While philanthropic contributions account for 17% of DAH (Dieleman *et al.*, 2016), they represent over one-third of development assistance for mental health (DAMH) (Charlson *et al.*, 2017). This paper analyses philanthropic DAMH in 156 countries between 2000 and 2015 to understand the role of philanthropy in this area and inform discussions about how to increase investments to address mental disorders.

Methods

I merged the Institute of Health Metrics and Evaluation (IHME) dataset on DAH 1990–2017 (IHME, 2018*a*) with three variables: country classification per region (WHO, 2018*a*), per country income-level (World Bank, 2018) and country population size (Global Burden of Disease Collaborative Network, 2018*a*). The IHME DAH dataset reports estimates on primary sources of funding for 172 countries (1990–2017), 24 governments and philanthropic donors (corporations, foundations, individuals) (IHME, 2018*b*). Estimates are also provided on *channels*, defined as intermediary organisations disbursing funding to implementing institutions providing support in LMICs. These channels include bilateral governmental organisations (e.g. United Kingdom Department for International Development), multilateral governmental organisations (e.g. World Health Organization, WHO), multilateral development finance

institutions (e.g. World Bank), non-governmental organisations, United States (US) foundations and global health initiatives (e.g. Global Fund to Fight AIDS, Tuberculosis and Malaria). US foundations can be either primary sources or channels. Recipient countries are classified as unspecified by IHME when information is not available.

I conducted descriptive analyses of philanthropic DAMH by year in absolute and relative terms, and compared with philanthropic DAH to other health conditions (HIV/AIDS, tuberculosis, malaria, other infectious diseases, maternal health, newborn and child health, non-communicable diseases excluding mental health), by channel organisation, and by recipient country. I limited analyses to 2000–2015, due to poor data quality pre-2000, preliminary estimates post-2015 and focus on the Millennium Development Goals era to inform the Sustainable Development Goals era, leaving 168 countries. I excluded 12 small overseas territories or dependencies due to the lack of World Bank country classification. Among excluded countries, only two received non-philanthropic DAMH during the period, Anguilla (2005) and the Cook Islands (2005–2006 and 2008–2012). Values are reported in 2017 United States dollars (US$) adjusted by purchasing-power parity. Analyses were conducted in Stata 14. Online Supplementary Appendix 1 provides further details.

Results

Annual trends

Between 2000 and 2015, philanthropic DAMH amounted to US $364.1 million, representing one-third of total DAMH (online Supplementary Appendix 2). Philanthropic contributions within DAMH increased substantially, both in absolute terms (more than doubling from US$20 million to US$51.7 million) and in relative terms (30% to 45% of total DAMH; Fig. 1). By contrast, over the same period, philanthropic DAH represented a smaller (17%) and constant share of DAH (online Supplementary Appendix 2).

Over 16 years, mental disorders received the lowest amount (0.5%) of philanthropic DAH across health conditions (online Supplementary Appendix 3). Newborn and child health (28%) and HIV/AIDS (17%) received the largest amounts. Over 16 years, philanthropic DAMH increased 2.6-fold (US$20 million to US$52 million), slightly lower than the 3.3-fold increase in philanthropic DAH (Fig. 2). While philanthropic DAH experienced substantial changes over the period for some health conditions (e.g. newborn and child health, HIV/AIDS), the increase was less sizeable for mental disorders.

Channel organisations

Between 2000 and 2015, non-governmental organisations were the main channels of philanthropic DAMH (US$254 million), followed by US foundations (US$79 million) and multilateral governmental organisations (US$31 million) (online Supplementary Appendix 4). Over 16 years, the proportion of philanthropic DAMH doubled for non-governmental organisations (38% to 77%) but more than halved for foundations (32% to 14%) and reduced even more noticeably for multilateral governmental organisations (30% to 9%). Non-governmental organisations were the main channels of philanthropic DAH (US$39 334 million) followed by US foundations (US$20 357 million), multilateral governmental organisations (US$8901 million) and global health initiatives (US$3847 million). Relative shares remained stable over the period.

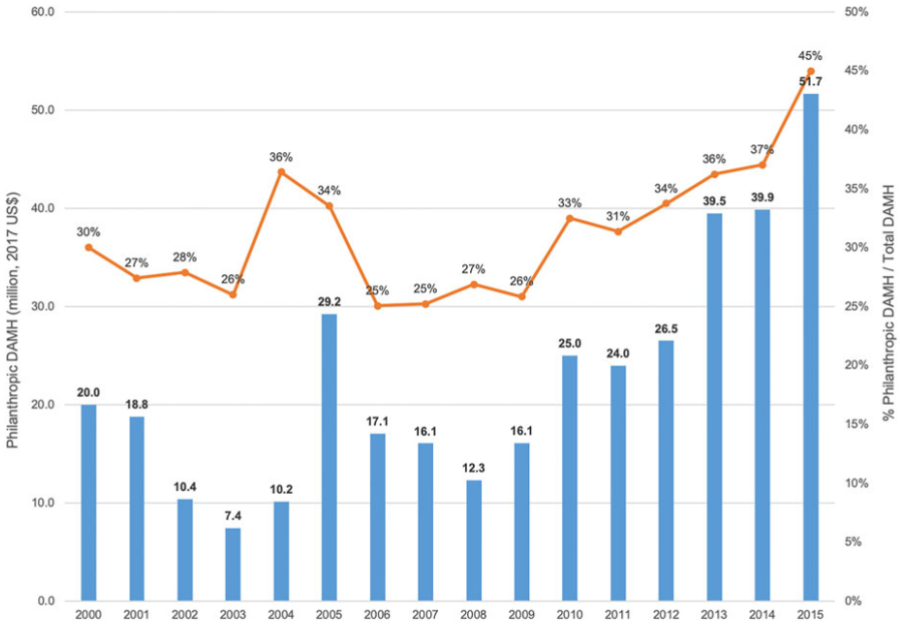

Fig. 1. Annual philanthropic DAMH as a percentage of total DAMH between 2000 and 2015 (million, 2017 US$). DAMH, development assistance for mental health.

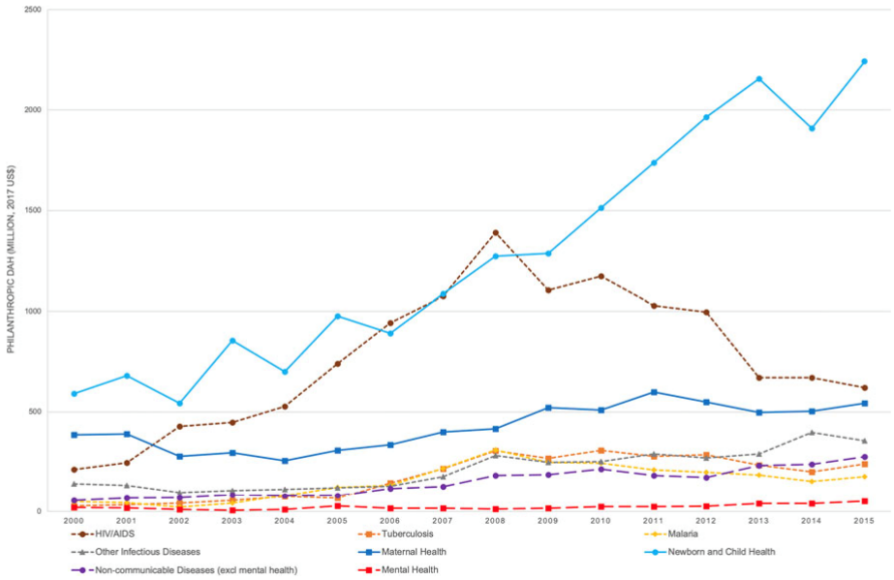

Fig. 2. Annual philanthropic DAH across health conditions between 2000 and 2015 (million, 2017 US$). DAH, development assistance for health.

Among US foundations, Ford Foundation (US$11 million) was the largest channel for philanthropic DAMH over the period, followed by Simons Foundation (US$7 million) and Open Society Fund and Oak Foundation (US$6 million each) (Fig. 3). There were variations in the most generous US foundations channelling funding across regions and country-income groups (online Supplementary Appendix 5). Across regions, Ford Foundation was the largest contributor in four regions (Africa, Eastern Mediterranean, South-East Asia and Western Pacific), Open Society Fund in Europe and James S. McDonnel Foundation in the Americas. Similarly, Ford Foundation was the largest contributor in low-income (US$1.7 million) and lower middle-income countries (US$5.2 million), while James S. McDonnel Foundation was the largest in upper middle-income countries (US$2.9 million).

Recipient countries

The majority of philanthropic DAMH between 2000 and 2015 was disbursed to unspecified locations (81%) or multiple regions (10%) (online Supplementary Appendix 6). Amongst known recipient countries, philanthropic DAMH varied across regions and country-income groups. It accounted for more than one-third of DAMH to both Western Pacific (US$11 million) and the Americas (US$12 million) unlike less than 5% to Eastern Mediterranean (US $3 million) and Africa (US$4 million). It represented over one-quarter of DAMH to upper middle-income countries (US$14 million) but 5% to low-income countries (US$6 million).

Across known recipient countries, philanthropic DAMH varied broadly. Over 16 years, China was the largest recipient (US $6 million), followed by the Philippines (US$4 million), Mexico (US$3 million) and Brazil (US$2 million). However, considering per capita estimates, only three out of 156 LMICs received more than US$1 per capita over the entire period (Antigua and Barbuda, Grenada, Saint Vincent and the Grenadines) (Fig. 4). Thirty-seven countries received no philanthropic DAMH: nine African, four American, two Eastern Mediterranean, seven Eastern European, one South-East Asian and 11 Western Pacific countries (online Supplementary Appendix 6).

Discussion

The paper offers a detailed account of trends in philanthropic DAMH in 156 countries between 2000 and 2015. Philanthropic contributions represented one-third (US$364.1) of total DAMH, more than doubling over 16 years. However, across health conditions, mental disorders received the lowest amount of philanthropic DAH (0.5%). Philanthropic DAMH was mainly channelled through non-governmental organisations (US$254 million). More than one-third of DAMH to Western Pacific and the Americas was philanthropic. The analyses suggest philanthropic contributions to mental disorders represented a small share of philanthropic DAH but had a substantial and increasing role in DAMH.

These results highlight four main challenges for philanthropic DAMH: scarcity, sustainability, allocation and data. Philanthropic contributions to mental disorders were limited, accounting for a relatively small share of philanthropic DAH when compared to other health conditions, reflecting similar trends in high-income countries (Brousseau *et al.*, 2003). The substantial share of DAMH disbursed by philanthropy raises concerns regarding its sustainability, especially vis-à-vis volatility and fungibility (i.e. partial displacement of domestic health budgets). While volatility concerns reflect broader challenges in DAH (Moon and Omole, 2017), philanthropy accounted for a lower share (less than 10%) of DAH across regions and country-income groups. Fungibility

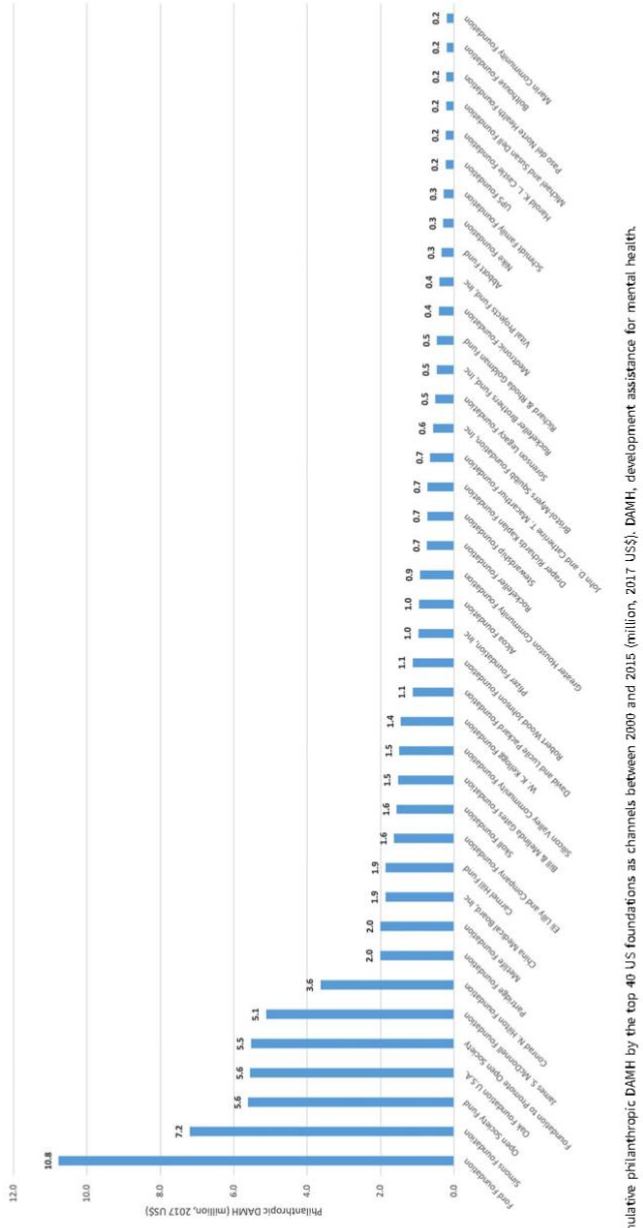

Fig. 3. Cumulative philanthropic DAMH by the top 40 US foundations as channels between 2000 and 2015 (million, 2017 US$). DAMH, development assistance for mental health.

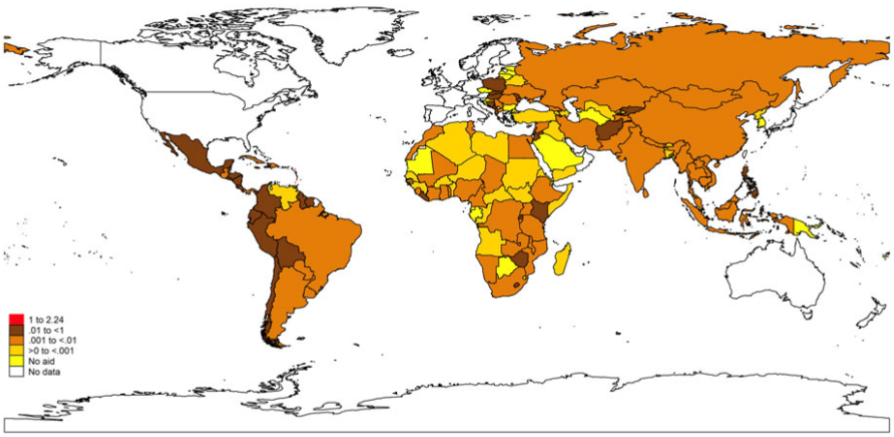

Fig. 4. Cumulative philanthropic DAMH per capita in recipient countries between 2000 and 2015 (2017 US$). DAMH, development assistance for mental health.

of philanthropic DAMH is partly mitigated by large disbursements through non-governmental organisations, which have been shown to have positive impacts on domestic government health spending (Lu *et al.*, 2010).

The uneven allocation of philanthropic DAMH means that the region where the majority of people with mental disorders live, South East Asia (26%) (Global Burden of Disease Collaborative Network, 2018*b*), received only 17% of philanthropic DAMH, raising concerns about equitable allocation. A similar misalignment occurs with total DAMH (Gilbert *et al.*, 2015; Charlson *et al.*, 2017) and DAH (Dieleman *et al.*, 2014). While allocation of development assistance is determined by a variety of factors beyond needs, including policy environment and donor interests (Hoeffler and Outram, 2011), stakeholders recognise health needs as of primary concern (Ottersen *et al.*, 2018). Similarly, factors beyond needs drive philanthropic giving, including solicitation, cost-benefit, altruism, reputation, psychological benefits, values and efficacy (Bekkers and Wiepking, 2011).

Finally, data on philanthropic DAMH are extremely poor in coverage and quality. They focus predominantly on US foundations and they are often insufficiently disaggregated. For instance, organisation names at the source and channel level are available only for Bill & Melinda Gates Foundation (BMGF) and US foundations, respectively. BMGF disbursing 15% of DAMH only as a channel (Charlson *et al.*, 2017) suggests other US foundations could disburse potentially a much larger amount through other channels. This reflects the lack of transparency of philanthropic donors in development (OECD, 2018).

This analysis has limitations due to data constraints. First, data are limited in breadth, focusing predominantly on US foundations. While this may have excluded some key players, almost three-quarters of philanthropic contributions in development originate from the US (OECD, 2018). Second, data are limited in depth, so that estimates are conservative for *some* organisations. For instance, IHME classifies DAH channelled through global health initiatives and some multilateral governmental organisations (United Nations Children's Fund, Joint United Nations Programme on HIV and AIDS) to health conditions constituting the organisations' focus, although programmes may include mental health components (IHME, 2018*b*).

Third, data are limited in scope, focusing on health only. This may have excluded sectors directly or indirectly relevant to mental health (e.g. education, employment) (Lund *et al.*, 2018). Fourth, data are limited in granularity. For instance, the majority of contributions are disbursed to unspecified countries and no information is reported on activities funded and populations targeted, limiting interpretations. Finally, inclusion of some neurological conditions (epilepsy, headache disorders, Parkinson's disease) reflects prior conceptualisation of mental disorders (WHO, 2008) and may have increased estimates.

The analyses in this paper show that, among external actors (Iemmi, 2019), philanthropic donors are already playing critical, albeit limited and imperfect, roles in DAMH. I suggest four opportunities for maximising their impact. First, philanthropic donors could initiate or increase contributions to mental disorders to reflect their growing relative importance as part of the epidemiological transition in LMICs (GBD 2017 DALYs and HALE Collaborators, 2018). They could scale-up their efforts through their priorities and competitive advantages, as illustrated for 15 large international foundations by the *Lancet Commission on Global Mental Health and Sustainable Development* (Patel *et al.*, 2018, online Supplementary Table S5).

Second, in line with Sustainable Development Goals and Addis Ababa Action Agenda (UN, 2015*a*), they could adopt a sustainable approach to disbursements in order to assure local ownership and impact beyond funded activities. They could *systematically* encourage partnerships between implementing organisations and local actors to facilitate an incremental transition to domestic delivery and funding (WHO, 2013). Third, philanthropic DAMH could be allocated within organisations' strategic roles and priorities, but more equitably across countries, reflecting local needs (e.g. burden of mental disorders) (Global Burden of Disease Collaborative Network, 2018*b*), capacity (e.g. mental health system) (WHO, 2018*b*) and recommended interventions and approaches (Patel *et al.*, 2016). Finally, philanthropic donors could increase transparency, collecting and sharing better and more disaggregated data. This could inform the work of organisations tracking resources (OECD, 2017; IHME, 2018*a*) and

monitoring global efforts in mental health (Saxena *et al.*, 2019), paramount for informing funding decision and ultimately for sustainable financing for global mental health. Additional external resources for global mental health are urgently needed: philanthropy is a crucial actor and could amplify its impact embracing greater sustainability, better allocation and transparency.

Supplementary material. The supplementary material for this article can be found at https://doi.org/10.1017/gmh.2020.2

Acknowledgements. I am grateful to Martin Knapp, Ernestina Coast and Clare Wenham (London School of Economics and Political Science) for reviewing previous versions of the manuscript, Francesco D'Amico and Alexis Palfreyman (London School of Economics and Political Science) for advice on analyses and data presentation, Joseph Dieleman and Angela Micah (Institute of Health Metrics and Evaluation) for data access and advice and United for Global Mental Health for rich discussions that have informed the study. For data, I am indebted to the Development Assistance for Health research team at the Institute of Health Metrics and Evaluation.

Author contributions. VI conceived and designed the study, analysed and interpreted the results, and wrote the manuscript.

Financial support. This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Conflict of interest. None.

References

Bekkers R, and Wiepking P (2011) A literature review of empirical studies of philanthropy: eight mechanisms that drive charitable giving. *Nonprofit and Voluntary Sector Quarterly* **40**, 924–973.

Brousseau RT, Langill D, and Pechura CM (2003) Are foundations overlooking mental health? *Health Affairs* **22**, 222–229.

Charlson FJ, Dieleman J, Singh L, and Whiteford HA (2017) Donor financing of global mental health, 1995–2015: an assessment of trends, channels, and alignment with the disease burden. *PLoS One* **12**, e0169384.

Dieleman JL, Graves CM, Templin T, Johnson E, Baral R, Keach-Lemon K, Haakenstad AM, and Murray CJL (2014) Global health development assistance remained steady in 2013 but did not align with recipients' disease burden. *Health Affairs* **34**, 878–886.

Dieleman JL, Schneider MT, Haakenstad A, Singh L, Sadat N, Birger M, Reynolds A, Templin T, Hamavid H, Chapin A, and Murray CJ (2016) Development assistance for health: past trends, associations, and the future of international financial flows for health. *Lancet* **387**, 2536–2544.

GBD 2017 DALYs and HALE Collaborators (2018) Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet* **392**, 1859–1922.

Gilbert BJ, Patel V, Farmer PE, and Lu C (2015) Assessing development assistance for mental health in developing countries: 2007–2013. *PLoS Medicine* **12**, e1001834.

Global Burden of Disease Collaborative Network (2018a) *Global Burden of Disease Study 2017 (GBD 2017) Population Estimates 1950–2017*. Seattle: Institute for Health Metrics and Evaluation. Available at http://ghdx.healthdata.org/record/global-burden-disease-study-2017-gbd-2017-population-estimates-1950-2017 (Accessed 27 August 2019).

Global Burden of Disease Collaborative Network (2018b) *Global Burden of Disease Study 2017 (GBD 2017) Results Tool*. Seattle: Institute for Health Metrics and Evaluation. Available at http://ghdx.healthdata.org/gbd-results-tool (Accessed 27 August 2019).

Hoeffler A, and Outram V (2011) Need, merit, or self-interest. What determines the allocation of aid? *Review of Development Economics* **15**, 237–250.

Iemmi V (2019) Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries. *BMJ Global Health* **4**, e001826.

IHME (2018a) *Development Assistance for Health Database 1990–2017*. Seattle: Institute for Health Metrics and Evaluation. Available at http://ghdx.healthdata.org/record/ihme-data/development-assistance-health-database-1990-2017 (Accessed 27 August 2019).

IHME (2018b) *Financing Global Health 2017: Funding Universal Health Coverage and the Unfinished HIV/AIDS Agenda*. Supplementary methods annex. Seattle: Institute for Health Metrics and Evaluation.

IHME (2018c) *GBD Compare*. Seattle: Institute for Health Metrics and Evaluation. Available at https://vizhub.healthdata.org/gbd-compare/ (Accessed 27 August 2019).

Lu C, Schneider MT, Gubbins P, Leach-Kemon K, Jamison D, and Murray CJ (2010) Public financing of health in developing countries: a cross-national systematic analysis. *Lancet* **375**, 1375–1387.

Lund C, Brooke-Sumner C, Baingana F, Baron EC, Breuer E, Chandra P, Haushofer J, Herrman H, Jordans M, Kieling C, Medina-Mora ME, Morgan E, Omigbodun O, Tol W, Patel V, and Saxena S (2018) Social determinants of mental disorders and the Sustainable Development Goals: a systematic review of reviews. *The Lancet Psychiatry* **5**, 357–369.

Moon S, and Omole O (2017) Development assistance for health: critiques, proposals and prospects for change. *Health Economics. Policy and Law* **12**, 207–221.

OECD (2017) *TOSSD: A New Statistical Measure for the SDG Era*. Paris: Organisation for Economic Co-operation and Development.

OECD (2018) *Private Philanthropy for Development*. Paris: Organisation for Economic Co-operation and Development.

Ottersen T, Grepin KA, Henderson K, Pinkstaff CB, Norheim OF, and Rottingen JA (2018) New approaches to ranking countries for the allocation of development assistance for health: choices, indicators and implications. *Health Policy and Planning* **33**, i31–i46.

Patel V, Chisholm D, Dua T, Laxminarayan R, Medina-Mora ME (eds) (2016) *Mental, Neurological, and Substance use Disorders: Disease Control Priorities*, 3rd Edn. vol. **4**. Washington, DC: The International Bank for Reconstruction and Development/The World Bank.

Patel V, Saxena S, Lund C, Thornicroft G, Baingana F, Bolton P, Chisholm D, Collins PY, Cooper JL, Eaton J, Herrman H, Herzallah MM, Huang Y, Jordans MJD, Kleinman A, Medina-Mora ME, Morgan E, Niaz U, Omigbodun O, Prince M, Rahman A, Saraceno B, Sarkar BK, De Silva M, Singh I, Stein DJ, Sunkel C, and Unutzer J (2018) The Lancet Commission on global mental health and sustainable development. *Lancet* **392**, 1553–1598.

Saxena S, Kestel D, Sunkel C, London E, Horton R, Patel V, and Swaminathan S (2019) Countdown global mental health 2030. *Lancet* **393**, 858–859.

Stuckler D, Basu S, and Mckee M (2011) Global health philanthropy and institutional relationships: how should conflicts of interest be addressed? *PLoS Medicine* **8**, e1001020.

UN (2015a) *Addis Ababa Action Agenda of the Third International Conference on Financing for Development*. New York, NY: United Nations.

UN (2015b) *Transforming Our World: The 2030 Agenda for Sustainable Development*. New York, NY: United Nations.

WHO (2008) *mhGAP Mental Health Gap Action Programme. Scaling Up Care for Mental, Neurological, and Substance Use Disorders*. Geneva: World Health Organization.

WHO (2013) *Building Back Better. Sustainable Mental Health Care After Emergencies*. Geneva: World Health Organization.

WHO (2018a) *Global Health Observatory (GHO) Data*. Geneva: World Health Organization. Available at https://www.who.int/gho/database/en/ (Accessed 27 August 2019).

WHO (2018b) *Mental Health Atlas 2017*. Geneva: World Health Organization.

World Bank (2018) *World Bank Country and Lending Groups (June 2018 Edition)*. Washington, DC: The World Bank. Available at https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups (Accessed 27 August 2019).

Youde J (2018) Philanthropy and global health. In Mcinnes C, Lee K and Youde J (eds), *The Oxford Handbook of Global Health Politics*. New York, NY: Oxford University Press, pp. 505–518.

Supplementary appendix

Supplement to: Iemmi V (2020). Philanthropy for global mental health 2000–2015. Global Mental Health 1–6. https://doi.org/10.1017/gmh.2020.2

Supplementary appendix

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Appendix 1. Data sources and analyses

Data sources

I merged the Institute of Health Metrics and Evaluation (IHME) dataset on development assistance for health (DAH) 1990-2017 (IHME, 2018) with three variables: country classification per region (WHO, 2018), per country income-level (World Bank, 2018), and country population size (Global Burden of Disease Collaborative Network, 2018). DAH includes "in-kind and financial resources transferred from primary development channels to low-income and middle-income countries for the purpose of maintaining or improving health" (Dieleman *et al.*, 2016, p. 2537).

The IHME DAH dataset reports semi-aggregated data on DAH in 172 countries between 1990 and 2017 (IHME, 2018). It reports estimates on resource flows from funding sources (Table 1), through *channel* organisations, defined as intermediary organisations disbursing funding to implementing institutions providing support in low- and middle-income countries (Table 2). The dataset is built by IHME using different sources: Development Assistance Committee and Creditor Reporting System databases (Organisation for Economic Co-operation and Development), financial reports, audited financial statements, United States Agency for International Development Report of Voluntary Agencies, Foundation Center's grant database, Bill & Melinda Gates Foundation online grant database, Internal Revenue Service 990 tax forms, and personal correspondences (Global Burden of Disease Health Financing Collaborator Network, 2018).

These data, in an aggregated form, exists publically on the Global Health Data Exchange (IHME, 2018). A detailed dataset was obtained from IHME in September 2018, including values omitted in the publicly available dataset (i.e. values greater than US$0 but less than US$500, or less than US$0 and greater than -US$500). In addition, disaggregated data for United States foundations (variable *channel*, category *Other US Foundations* in Table 2) were obtained in June 2018.

It is worth noting that development assistance for mental health in the IHME DAH dataset captures not only mental disorders (including substance use disorders, dementia, and self-harm) but also some neurological conditions (epilepsy, headache disorders, Parkinson's disease). This reflects previous conceptualisations of mental disorders (WHO, 2008). At the time of the analyses for this paper it was not possible to access data on development assistance for mental health excluding those neurological conditions.

Table 1. *Funding sources*

Donors	Description
Governments (OECD DAC members)	Australia; Austria; Belgium; Canada; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Japan; Korea; Luxembourg; Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; United Kingdom; United States
Governments (non OECD DAC members)	United Arab Emirates
Bill & Melinda Gates Foundation	Contribution from the Bill & Melinda Gates Foundation to NGOs

Donors	Description
Corporate donations	Private sector in-kind contributions to NGOs
Private (other)	Private sector financial contributions, including corporations, foundations (within and outside the United States), individuals, etc.
Debt repayments	Debt repayments (World Bank; regional development banks)
Other	Interest, transfer of funds, refunds, miscellaneous income earned by channel
Unallocable	Unspecified donor sector

Adapted from the dataset user guide (IHME, 2018). NGOs, non-governmental organisations; OECD DAC, Organisation for Economic Co-operation and Development's Development Assistance Committee. Bold: philanthropic donors included in the analyses.

Table 2. *Channel organisations*

Channel type	Organisations
Bilateral governmental organisations	Australia; Austria; Belgium; Canada; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Japan; Korea; Luxembourg; Netherlands; New Zealand; Norway; Portugal; Spain; Sweden; Switzerland; United Arab Emirates; United Kingdom; United States
Multilateral organisations	European Commission; Pan-American Health Organization; Joint United Nations Programme on HIV/AIDS; United Nations Population Fund; United Nations Children's Fund; World Health Organization
Multilateral Development Finance Institutions	African Development Bank; Asian Development Bank; Inter-American Development Bank; World Bank, International Bank for Reconstruction and Development; World Bank, International Development Association
Foundations	Bill & Melinda Gates Foundation; Other United States Foundations
Non-Governmental Organisations	Sample of United States-based and internationally based non-governmental organisations receiving support from the United States government
Global Health Initiatives	Gavi, the Vaccine Alliance; Global Fund to Fight AIDS, Tuberculosis, and Malaria; Unitaid

Adapted from the dataset user guide (IHME, 2018). Bold: philanthropic donors included in the additional disaggregated dataset.

Analyses

I conducted descriptive analyses of annual philanthropic development assistance for mental health (DAMH) in absolute and relative terms, by channel organisation, by recipient country, and compared with philanthropic DAH to other health conditions (HIV/AIDS, tuberculosis, malaria, other infectious diseases, maternal health, newborn and child health, non-communicable diseases excluding mental health). Philanthropic donors included in the analyses are corporations, foundations, individuals (Table 1-2). Analyses were limited to 2000-2015, due to poor data quality pre-2000, preliminary estimates post-2015 and to focus on the Millennium Development Goals era to inform the Sustainable Development Goals (SDGs) era, leaving 168 countries.

I excluded 12 small overseas territories or dependencies due to lack of World Bank country classification: Anguilla, Cook Islands, Mayotte, Montserrat, Nauru, Niue, Saint Helena, Saint Martin, Tokelau, Turks and Caicos Islands, Tuvalu, Wallis and Futuna Islands. None of them received philanthropic DAMH. Only two countries received non-philanthropic DAMH during the period, Anguilla (2005) and the Cook Islands (2005-2006 and 2008-2012). To reflect disbursements to recipient countries dissolved or created during the period of study (Kosovo, Serbia, South Sudan), the World Bank country classification was imputed using the first observation carried backward and the last observation carried forward.

Transfers between channels captured elsewhere in the database were excluded to avoid double-counting. Values are reported in 2017 United States dollars (US$) adjusted by purchasing-power parity. Analyses were conducted in Stata 14.

References

Dieleman JL, Schneider MT, Haakenstad A, Singh L, Sadat N, Birger M, Reynolds A, Templin T, Hamavid H, Chapin A, Murray CJ (2016). Development assistance for health: past trends, associations, and the future of international financial flows for health. *The Lancet* **387**, 2536–2544.

Global Burden of Disease Collaborative Network (2018a). Global Burden of Disease Study 2017 (GBD 2017) Population Estimates 1950-2017. Seattle: Institute for Health Metrics and Evaluation. (http://ghdx.healthdata.org/record/global-burden-disease-study-2017-gbd-2017-population-estimates-1950-2017). Accessed 27 August 2019.

Global Burden of Disease Health Financing Collaborator Network 2018. Spending on health and HIV/AIDS: domestic health spending and development assistance in 188 countries, 1995-2015. *The Lancet* **391**, 1799–1829.

IHME (2018a). Development Assistance for Health Database 1990-2017. Seattle: Institute for Health Metrics and Evaluation. (http://ghdx.healthdata.org/record/ihme-data/development-assistance-health-database-1990-2017). Accessed 27 August 2019.

WHO (2008). mhGAP Mental Health Gap Action Programme. Scaling Up Care for Mental, Neurological, and Substance Use Disorders. Geneva: World Health Organization.

WHO (2018a). Global Health Observatory (GHO) Data. Geneva: World Health Organization. (https://www.who.int/gho/database/en/). Accessed 27 August 2019.

World Bank (2018). World Bank Country and Lending Groups (June 2018 edition). Washington DC: The World Bank. (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups). Accessed 27 August 2019.

Appendix 2. Annual philanthropic DAMH and annual philanthropic DAH between 2000 and 2015 (million, 2017 US$) and as proportion of annual total DAMH and DAH

	Philanthropic DAMH		Philanthropic DAH	
	US$ (million)	% Total DAMH	US$ (million)	% Total DAH
2000	20.0	29.5%	2,053.6	17.1%
2001	18.8	27.4%	2,232.9	17.8%
2002	10.4	27.9%	2,148.7	15.1%
2003	7.4	26.0%	2,588.3	15.7%
2004	10.2	36.4%	2,617.6	14.0%
2005	29.2	33.5%	3,481.5	16.6%
2006	17.1	25.1%	3,859.7	16.9%
2007	16.1	25.2%	4,373.3	16.7%
2008	12.3	26.9%	5,715.2	18.6%
2009	16.1	25.8%	5,417.6	17.4%
2010	25.0	32.5%	5,810.9	16.7%
2011	24.0	31.4%	6,192.6	17.0%
2012	26.5	33.7%	6,274.0	17.0%
2013	39.5	36.2%	6,757.7	16.8%
2014	39.9	37.0%	6,233.9	16.9%
2015	51.7	45.0%	6,681.9	18.5%
Total	364.1	32.5%	72,439.5	17.0%

DAH, development assistance for health; DAMH, development assistance for mental health.

Appendix 3. Annual philanthropic DAH for mental health and other health conditions between 2000 and 2015 (million, 2017 US$)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Mental Health	20.0	18.8	10.4	7.4	10.2	29.2	17.1	16.1	12.3	16.1	25.0	24.0	26.5	39.5	39.9	51.7	364.1
HIV/AIDS	213.7	246.4	427.9	447.7	528.3	741.1	942.5	1,074.8	1,389.5	1,104.0	1,174.6	1,027.8	996.1	671.4	671.3	621.8	12,278.9
Tuberculosis	28.8	34.8	42.4	56.6	75.6	68.4	145.0	216.5	306.1	268.0	307.9	279.7	287.6	236.0	201.0	240.4	2,794.8
Malaria	51.1	44.0	22.8	43.2	82.5	124.6	132.8	219.8	310.4	249.3	245.2	210.3	199.4	185.3	153.0	178.2	2,451.9
Other Infectious Diseases	141.8	134.5	97.5	108.0	113.0	122.7	128.8	176.5	283.7	249.7	252.8	291.1	271.5	289.9	398.3	356.9	3,416.8
Maternal Health	386.7	390.0	278.7	296.8	256.6	309.5	336.5	399.6	415.3	520.8	509.6	599.9	549.4	497.2	503.9	543.2	6,793.8
Newborn and Child Health	591.9	680.3	543.3	856.4	700.6	976.0	890.4	1,086.7	1,272.8	1,287.5	1,513.4	1,739.1	1,964.6	2,156.3	1,909.1	2,241.5	20,409.9
Non-communicable Diseases (excl mental health)	56.8	67.8	70.3	83.7	80.1	82.7	118.3	128.7	183.6	186.9	214.9	183.5	173.8	233.9	240.0	276.7	2,381.6
Health Sector Programme Support	186.8	205.4	176.6	214.1	212.1	254.9	232.8	231.1	441.4	484.3	557.4	544.6	541.9	752.0	676.0	735.1	6,446.5
Other Health Focus Areas	376.0	410.9	478.8	474.5	558.7	772.3	915.5	823.6	1,100.1	1,050.9	1,010.1	1,292.6	1,263.3	1,696.2	1,441.3	1,436.3	15,101.1
Total	2,053.6	2,232.9	2,148.7	2,588.3	2,617.6	3,481.5	3,859.7	4,373.3	5,715.2	5,417.6	5,810.9	6,192.6	6,274.0	6,757.7	6,233.9	6,681.9	72,439.5

DAH, development assistance for health; DAMH, development assistance for mental health; HIV/AIDS, human immunodeficiency virus infection and acquired immune deficiency syndrome.

Appendix 4. Annual philanthropic DAMH and annual philanthropic DAH between 2000 and 2015, by channel organisation (million, 2017 US$)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Philanthropic DAMH																	
Bilateral GOs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Multilateral GOs	5.9	5.8	1.1	1.1	0.8	0.7	0.9	0.9	0.0	0.0	0.0	0.0	3.0	3.3	3.0	4.5	30.9
Multilateral DFIs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US Foundations	6.5	4.8	5.8	3.3	4.9	2.6	2.1	1.9	3.0	4.0	3.8	3.0	9.0	6.1	11.2	7.2	79.3
NGOs	7.6	8.2	3.5	3.0	4.5	25.9	14.1	13.2	9.3	12.1	21.2	21.0	14.5	30.1	25.8	40.0	254.0
GHIs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub-Total	20.0	18.8	10.4	7.4	10.2	29.2	17.1	16.1	12.3	16.1	25.0	24.0	26.5	39.5	39.9	51.7	364.1
Philanthropic DAH																	
Bilateral GOs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Multilateral GOs	317.6	364.9	272.8	269.0	339.8	413.1	423.4	477.8	624.3	628.9	847.8	920.8	675.4	729.6	675.3	920.9	8,901.3
Multilateral DFIs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US Foundations	624.7	541.0	589.6	847.0	563.5	734.1	1,008.9	1,257.7	1,743.8	1,679.9	1,521.7	1,698.8	1,771.9	1,826.4	1,888.2	2,059.6	20,356.8
NGOs	1,107.9	1,182.4	1,284.9	1,449.1	1,678.7	2,200.1	2,341.5	2,401.8	3,099.5	2,887.1	3,201.4	3,147.0	3,381.0	3,666.2	3,240.5	3,065.2	39,334.2
GHIs	3.4	144.6	1.4	23.2	35.7	134.1	86.0	236.0	247.6	221.6	239.9	426.0	445.8	535.6	429.9	636.2	3,847.2
Sub-Total	2,053.6	2,232.9	2,148.7	2,588.3	2,617.6	3,481.5	3,859.7	4,373.3	5,715.2	5,417.6	5,810.9	6,192.6	6,274.0	6,757.7	6,233.9	6,681.9	72,439.5

DAH, development assistance for health; DAMH, development assistance for mental health; DFIs, development finance institutions; GHIs, global health initiatives; GOs, governmental organisations; NGOs, non-governmental organisations; US, United States.

Appendix 5. Cumulative philanthropic DAMH by the top 10 US foundations as channels between 2000 and 2015, by region and country income group (thousand, 2017 US$)

	Philanthropic DAMH (US$, thousand)
Income Group	
LIC	
Ford Foundation	1,736
David and Lucile Packard Foundation	727
Rockefeller Foundation	447
Open Society Fund	425
Foundation to Promote Open Society	257
Draper Richards Kaplan Foundation	236
Michael and Susan Dell Foundation	165
Bristol-Myers Squibb Foundation, Inc	143
Mulago Foundation	123
James S. McDonnell Foundation	115
LMC	
Ford Foundation	5,243
Partridge Foundation	2,011
Open Society Fund	1,418
W. K. Kellogg Foundation	1,243
Foundation to Promote Open Society	1,063
China Medical Board, Inc	948
James S. McDonnell Foundation	385
Eli Lilly and Company Foundation	344
Sorenson Legacy Foundation	310
Abbott Fund	292
UMC	
James S. McDonnell Foundation	2,913
Foundation to Promote Open Society	2,100
Open Society Fund	1,834
Ford Foundation	990
Greater Houston Community Foundation	927
China Medical Board, Inc	921
MetLife Foundation	920
Alcoa Foundation	470
Harold K. L. Castle Foundation	223
Paso del Norte Health Foundation	207
WHO Region	
AFR	
Ford Foundation	1,325
Rockefeller Foundation	371
David and Lucile Packard Foundation	350
Draper Richards Kaplan Foundation	306
Michael and Susan Dell Foundation	201
Open Society Fund	193
Mulago Foundation	161
Oprah Winfrey Foundation	134
Bristol-Myers Squibb Foundation, Inc	124

	Philanthropic DAMH (US$, thousand)
William and Flora Hewlett Foundation	115
AMR	
James S. McDonnell Foundation	2,978
Foundation to Promote Open Society	2,452
Open Society Fund	2,020
W. K. Kellogg Foundation	1,435
MetLife Foundation	920
Alcoa Foundation	482
Harold K. L. Castle Foundation	223
Paso del Norte Health Foundation	207
Ford Foundation	195
Dalio Foundation, Inc	180
EMR	
Ford Foundation	666
Foundation to Promote Open Society	573
Sorenson Legacy Foundation	506
David and Lucile Packard Foundation	416
Open Society Fund	269
Eli Lilly and Company Foundation	241
Robert Wood Johnson Foundation	112
Alphawood Foundation	104
Draper Richards Kaplan Foundation	83
Johnson & Johnson Family of Companies Foundation	74
EUR	
Open Society Fund	862
James S. McDonnell Foundation	449
Pfizer Foundation, Inc	360
Bristol-Myers Squibb Foundation, Inc	347
Foundation to Promote Open Society	211
Medtronic Foundation	189
Ford Foundation	156
John D. and Catherine T. Macarthur Foundation	120
Eli Lilly and Company Foundation	112
Charles Stewart Mott Foundation	110
SEAR	
Ford Foundation	671
Open Society Fund	291
Abbott Fund	249
Nike Foundation	235
Robert Wood Johnson Foundation	160
David and Lucile Packard Foundation	156
Foundation to Promote Open Society	144
Annie E. Casey Foundation	116
Rockefeller Foundation	79
Alphawood Foundation	42
WPR	
Ford Foundation	4,956
Partridge Foundation	2,011
China Medical Board, Inc	1,869
Greater Houston Community Foundation	927
Bloomberg Philanthropies	173

	Philanthropic DAMH (US$, thousand)
UPS Foundation	157
Starr Foundation	141
Timken Foundation of Canton	84
Johnson & Johnson Family of Companies Foundation	68
Rockefeller Foundation	63
Multiple Regions	
Simons Foundation	7,087
Oak Foundation U.S.A.	5,554
Conrad N. Hilton Foundation	3,560
Foundation to Promote Open Society	2,088
Open Society Fund	1,929
Carmel Hill Fund	1,864
Skoll Foundation	1,532
Silicon Valley Community Foundation	1,481
Eli Lilly and Company Foundation	1,216
MetLife Foundation	1,088
Robert Wood Johnson Foundation	826
Stewardship Foundation	715
Unallocated/Unspecified	
Ford Foundation	2,525
James S. McDonnell Foundation	1,697
Bill & Melinda Gates Foundation	1,513
Rockefeller Brothers Fund, Inc	468
Alcoa Foundation	407
John D. and Catherine T. Macarthur Foundation	391
Draper Richards Kaplan Foundation	334
Schmidt Family Foundation	279
Pfizer Foundation, Inc	224
Sall Family Foundation, Inc	128
Helen Bader Foundation, Inc	112
State Street Foundation	105

The table reports philanthropic DAMH disbursed by US foundations as channels (i.e. intermediary organisations disbursing funding to implementing institutions providing support in low- and middle-income countries). It is worth noting that a much larger amount could have been disbursed by US foundations through other channels (e.g. non-governmental organisations and United Nations agencies). DAMH, development assistance for mental health; AFR, African region; AMR, region of the Americas; EMR, Eastern Mediterranean region; EUR, European Region; SEAR, South-East Asia region; WPR, Western Pacific region; LIC, low-income countries; LMC, lower middle-income countries; UMC, upper middle-income countries.

Appendix 6. Cumulative philanthropic DAMH and philanthropic DAH between 2000 and 2015, by region, country income group, country (thousand, 2017 US$)

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Total	364,134.6	32.5%	72,439,528.0	17.0%
Income Group				
LIC	5,485.4	5.0%	5,132,183.0	4.4%
LMC	15,659.7	12.3%	4,498,688.5	5.6%
UMC	13,998.3	25.8%	1,318,289.9	3.7%
HIC	38.4	78.5%	1,768.2	17.6%
WHO Region				
AFR	3,867.3	4.7%	5,718,036.5	4.6%
AMR	11,807.0	33.7%	1,023,675.8	3.4%
EMR	3,226.9	3.7%	927,386.6	4.5%
EUR	3,095.4	7.7%	311,805.8	2.9%
SEAR	2,305.0	11.6%	2,118,801.3	7.5%
WPR	10,880.3	42.5%	851,223.3	4.7%
Country				
Afghanistan	408.7	1.7%	94,195.7	2.7%
Albania	189.1	4.9%	11,487.3	3.2%
Algeria	6.7	1.1%	1,086.4	1.8%
Angola	4.5	1.0%	66,392.0	4.5%
Antigua and Barbuda	188.1	98.5%	313.0	6.6%
Argentina	348.4	68.1%	34,063.2	0.9%
Armenia	1.3	0.2%	6,993.8	1.8%
Azerbaijan	1.1	0.2%	10,192.5	3.3%
Bahrain	0.0	–	0.0	0.0%
Bangladesh	14.6	1.0%	317,378.9	6.9%
Barbados	0.0	–	5.8	0.0%
Belarus	2.7	3.6%	8,260.7	5.3%
Belize	99.2	74.2%	3,681.8	6.0%
Benin	2.0	0.9%	53,032.8	3.9%
Bhutan	0.1	0.9%	3,699.9	4.8%
Bolivia	408.8	10.3%	45,243.5	3.5%
Bosnia and Herzegovina	813.1	5.6%	10,098.0	2.2%
Botswana	0.0	–	92,161.1	5.5%
Brazil	1,854.1	34.5%	108,092.7	3.2%
Bulgaria	0.0	–	4,838.5	1.1%
Burkina Faso	2.6	1.4%	99,125.9	5.4%
Burundi	38.5	1.0%	48,216.0	4.3%
Cambodia	46.1	0.9%	97,067.5	4.1%
Cameroon	177.7	26.2%	89,223.5	6.5%
Cape Verde	0.0	–	930.7	0.5%
Central African Republic	3.6	0.9%	18,448.4	5.5%
Chad	13.7	2.9%	34,505.7	4.9%
Chile	1,573.5	87.6%	9,716.1	8.6%

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
China	6,329.3	80.1%	411,860.8	9.6%
Colombia	664.8	47.2%	82,663.2	2.3%
Comoros	0.0	–	2,908.3	3.0%
Congo (Brazzaville)	0.6	10.5%	13,023.5	5.4%
Costa Rica	113.0	62.7%	4,269.2	3.2%
Cote d'Ivoire	28.1	1.5%	71,733.1	3.7%
Croatia	0.0	0.0%	268.0	0.3%
Cuba	41.1	5.3%	10,840.0	4.7%
Czech Republic	0.0	–	320.1	100.0%
Democratic Republic of the Congo	221.5	1.6%	290,804.2	5.2%
Djibouti	0.0	–	5,482.3	3.0%
Dominica	0.0	–	327.9	4.1%
Dominican Republic	59.7	8.2%	29,296.5	2.0%
Ecuador	197.8	29.6%	38,981.8	5.9%
Egypt	354.1	9.6%	44,569.3	3.0%
El Salvador	877.3	95.5%	19,484.9	3.0%
Equatorial Guinea	0.0	–	3,085.5	5.3%
Eritrea	2.1	0.9%	22,054.6	4.1%
Estonia	0.0	–	202.6	2.7%
Ethiopia	287.3	14.5%	617,481.4	6.1%
Federated States of Micronesia	0.0	–	1,600.8	0.6%
Fiji	0.0	0.0%	2,554.7	1.5%
Gabon	0.0	–	7,727.8	6.0%
Georgia	7.1	0.2%	10,760.8	1.9%
Ghana	53.5	2.3%	224,224.5	5.6%
Grenada	232.9	98.6%	832.9	8.2%
Guatemala	127.2	78.0%	48,866.5	3.2%
Guinea	0.0	10.5%	48,181.0	4.9%
Guinea-Bissau	2.5	0.9%	11,619.4	3.7%
Guyana	11.3	4.9%	9,187.1	2.4%
Haiti	256.9	29.4%	106,615.6	3.5%
Honduras	448.3	12.7%	38,122.2	3.5%
Hungary	243.4	100.0%	4,296.7	56.0%
India	1,257.0	24.4%	1,368,016.4	10.2%
Indonesia	485.6	27.4%	163,044.1	3.3%
Iran	212.3	86.2%	8,573.0	3.4%
Iraq	6.1	0.8%	8,440.9	0.5%
Jamaica	51.9	74.2%	12,333.0	3.2%
Jordan	284.3	13.2%	10,883.1	1.2%
Kazakhstan	30.9	11.5%	9,494.2	2.0%
Kenya	1,300.6	34.9%	434,123.8	4.2%
Kiribati	0.0	0.0%	659.7	0.9%
Kosovo	54.0	1.7%	3,725.1	3.0%
Kyrgyzstan	62.9	28.3%	13,873.4	2.1%
Laos	30.1	9.8%	25,829.2	3.1%
Latvia	0.0	–	114.0	0.1%
Lebanon	31.7	0.7%	5,489.2	2.4%
Lesotho	21.3	92.3%	26,566.8	2.9%
Liberia	137.5	7.4%	92,861.2	6.9%

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Libya	4.9	0.7%	667.9	0.7%
Lithuania	0.0	–	78.9	0.3%
Macedonia	2.8	1.3%	3,989.3	2.4%
Madagascar	17.6	0.9%	74,886.7	4.6%
Malawi	125.2	1.3%	199,058.0	4.3%
Malaysia	80.6	43.2%	5,975.8	9.3%
Maldives	0.0	–	406.9	2.4%
Mali	51.8	8.5%	108,199.0	4.7%
Marshall Islands	0.0	–	1,627.5	1.3%
Mauritania	0.0	–	10,708.2	4.0%
Mauritius	0.0	–	986.7	5.7%
Mexico	3,361.6	90.0%	214,112.6	6.3%
Moldova	668.8	8.9%	20,095.9	4.0%
Mongolia	5.2	0.4%	6,861.6	1.8%
Montenegro	8.6	2.8%	1,235.0	2.0%
Morocco	315.3	35.6%	22,383.1	1.4%
Mozambique	55.8	1.3%	171,316.4	2.3%
Myanmar	224.1	87.4%	89,266.4	6.8%
Namibia	18.8	11.3%	28,034.6	1.8%
Nepal	31.6	1.0%	67,265.7	3.6%
Nicaragua	115.8	15.6%	40,251.0	3.0%
Niger	10.1	1.1%	62,211.8	5.5%
Nigeria	312.2	17.8%	892,400.7	7.2%
North Korea	0.3	0.4%	14,018.2	8.3%
Oman	0.0	–	0.0	0.0%
Pakistan	632.4	48.4%	501,260.1	8.7%
Palau	0.0	–	199.8	1.1%
Palestine	813.0	2.0%	12,146.5	1.2%
Panama	10.2	29.8%	5,176.1	2.1%
Papua New Guinea	0.0	–	34,662.1	2.0%
Paraguay	16.1	3.7%	10,540.4	3.4%
Peru	513.6	11.7%	139,581.8	7.5%
Philippines	3,744.5	84.6%	68,001.1	2.5%
Poland	228.4	100.0%	4,045.4	8.7%
Romania	202.8	100.0%	11,421.2	1.2%
Russia	336.6	100.0%	38,840.5	4.9%
Rwanda	103.7	1.0%	165,849.8	4.3%
Saint Kitts and Nevis	0.0	–	141.7	2.0%
Saint Lucia	22.0	4.3%	1,009.2	1.7%
Saint Vincent and the Grenadines	164.8	6.0%	593.9	3.2%
Samoa	0.0	–	349.6	0.3%
Sao Tome and Principe	0.0	–	3,480.1	3.2%
Saudi Arabia	0.0	–	1.1	0.2%
Senegal	6.6	1.0%	91,509.5	4.1%
Serbia	73.4	4.3%	9,314.6	2.3%
Seychelles	0.0	–	363.2	3.4%
Sierra Leone	25.4	0.9%	70,217.8	6.6%
Slovakia	43.3	100.0%	161.4	0.4%
Solomon Is.	0.0	0.0%	3,756.6	1.1%

	Philanthropic DAMH		Philanthropic DAH	
	US$ (thousand)	% Total DAMH	US$ (thousand)	% Total DAH
Somalia	4.6	1.0%	27,953.5	4.8%
South Africa	373.4	6.3%	344,333.3	3.9%
South Korea	0.0	–	51.7	100.0%
South Sudan	0.1	10.5%	39,223.6	3.0%
Sri Lanka	81.9	1.2%	16,421.1	2.8%
Sudan	30.1	4.0%	113,264.6	8.3%
Suriname	25.4	99.2%	4,924.3	2.8%
Swaziland	0.1	0.9%	30,218.2	4.5%
Syria	69.5	1.0%	11,679.8	6.8%
Tajikistan	19.9	35.2%	17,941.1	3.0%
Tanzania	221.3	5.4%	364,214.2	3.5%
Thailand	190.9	27.6%	72,798.2	6.8%
The Gambia	0.1	2.5%	40,551.2	10.4%
Timor Leste	18.9	3.9%	6,485.4	2.4%
Togo	8.8	0.9%	27,858.2	6.3%
Tonga	0.0	–	347.6	0.3%
Trinidad and Tobago	0.0	–	20.3	0.0%
Tunisia	59.8	16.3%	4,091.6	1.7%
Turkey	47.7	3.9%	28,336.9	2.6%
Turkmenistan	0.0	–	2,528.5	1.8%
Uganda	68.1	3.0%	275,958.9	3.4%
Ukraine	57.2	14.3%	53,426.4	5.0%
Uruguay	17.4	3.9%	1,029.4	0.5%
Uzbekistan	0.2	0.2%	25,464.9	3.4%
Vanuatu	0.0	0.0%	3,254.7	1.8%
Venezuela	6.0	3.5%	3,358.5	2.8%
Vietnam	644.3	20.4%	186,562.1	4.5%
Yemen	0.1	8.2%	56,305.0	4.9%
Zambia	26.0	1.2%	215,219.6	3.4%
Zimbabwe	137.8	16.1%	131,719.4	4.0%
Multiple Regions	35,010.1	66.4%	4,700,082.5	8.0%
Unallocated/ Unspecified	293,942.7	37.8%	56,788,516.0	41.6%

DAH, development assistance for health; DAMH, development assistance for mental health; AFR, African region; AMR, region of the Americas; EMR, Eastern Mediterranean region; EUR, European region; SEAR, South-East Asia region; WPR, Western Pacific region; LIC, low-income countries; LMC, lower middle-income countries; UMC, upper middle-income countries.

Appendix 7.1: Research and policy tool (Chapter 3)

SUSTAINABLE DEVELOPMENT FOR GLOBAL MENTAL HEALTH: EXTERNAL ACTORS IN LOW- AND MIDDLE-INCOME COUNTRIES

+1 billion

- People living with mental disorders (PLMD) (including substance use disorders, self-harm and dementia) worldwide.

3 out of 4

- PLMD live in low- and middle-income countries (LMICs) and their number is projected to increase.

<1 in 10

- PMLD in LMICs receiving support, although effective and low-cost interventions are available.

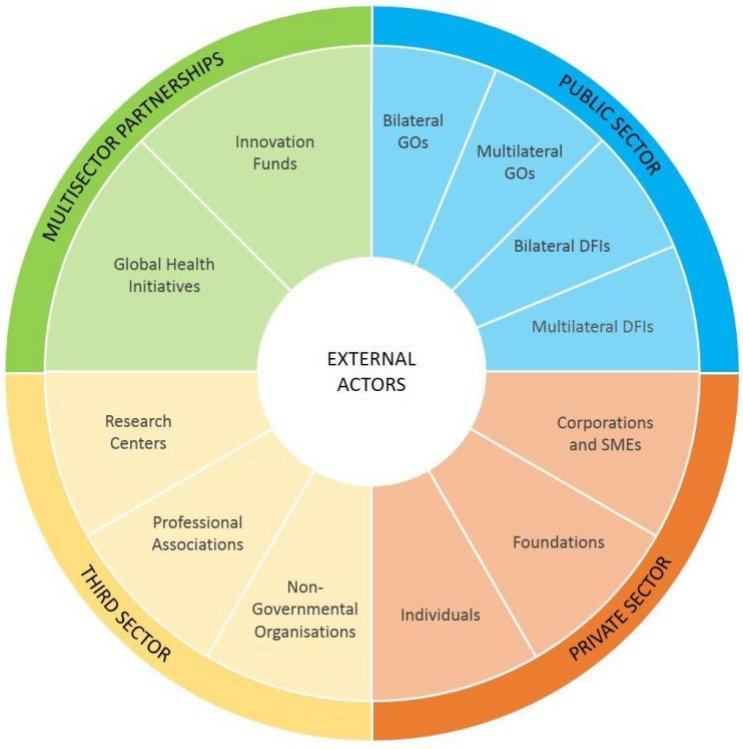
1.6%

- LMIC government health budgets and 0.4% of development assistance for health.

With most LMIC governments already under considerable economic pressure, external funding is urgently needed.

In line with the Addis Ababa Action Agenda, the United Nations Sustainable Development Goals (SDGs) recommend the mobilisation of additional external funding from a wide range of sources (e.g. development assistance, foreign direct investments, remittances) while assuring sustainability through local ownership and a gradual increase in domestic resources.

Who are the key external actors in global mental health?



This research and policy tool typology of external actors adapted for the SDG-era provides a framework for policy planning and research in sustainable development in global mental health and global health. It is for researchers, policy makers, funders and investors, advocates, people with mental disorders and their families and carers.

DFIs: development financial institutions.

GOs: governmental organisations.

SMEs: small and medium enterprises.

PUBLIC SECTOR

- **Governmental organisations** in high- and middle-income countries provide goods and services in LMICs, in agreement with recipient country governments. Bilateral governmental organisations in agreement with recipient countries are funded by just one state and include aid agencies (e.g. United States Agency for International Development, USAID) and other governmental agencies investing in development (e.g. ministries of foreign affairs or their equivalents, research councils). Multilateral governmental organisations are funded and composed by multiple states at the regional (e.g. European Commission), international (e.g. Colombo Plan), or global level (e.g. World Health Organization).

- **Development finance institutions (DFIs)** are organisations offering financial products (e.g. loans) in contexts where commercial banks would not usually invest, due to what might be perceived to be high political, socio-economic or environmental risks. Bilateral DFIs are funded by just one state and provide financial products usually at a commercial rate (e.g. United States Overseas Private Investment Corporation, OPIC). Multilateral DFIs provide financial products usually at facilitated rates and are funded by multiple states, at the regional (e.g. African Development Bank), international (e.g. Islamic Development Bank) or global level (e.g. World Bank).

PRIVATE SECTOR

- **Corporations and small and medium enterprises** are for-profit organisations providing goods and services through foreign investments and corporate social responsibility (CSR) initiatives. Foreign investments include foreign direct investments (FDIs), foreign portfolio investments (FPIs) and commercial loans. FPIs are foreign indirect investments made by corporations, financial institutions and private investors using both equity (e.g. stocks) and debt instruments (e.g. bonds). FDIs are substantial physical investments and purchases usually made by corporations in another country. CSR includes financial and in-kind contributions, in both products and human resources.

- **Foundations** include non-profit organisations either created and mainly funded by private-sector companies (e.g. Microsoft Philanthropies) or created by wealthy individuals and their families and funded through gifts of shares or endowments (e.g. Bill and Melinda Gates Foundation). They are often grant-making entities.

- **Individual households** contribute through donations, including financial and in kind-contributions in goods or services, and private foreign investments. A small number of individuals are described as 'high-net-worth': individuals with financial assets greater than US$1 million. A different and larger group of individuals are diaspora movements, including almost three-quarters (186 million) of international migrants coming from LMICs.

THIRD SECTOR

- **Third sector organisations** constitute the most heterogeneous group of non-profit organisations providing goods and services. Among others, this group includes non-governmental organisations (e.g. BasicNeeds), professional associations (e.g. World Psychiatric Association) and research centres (e.g. universities).

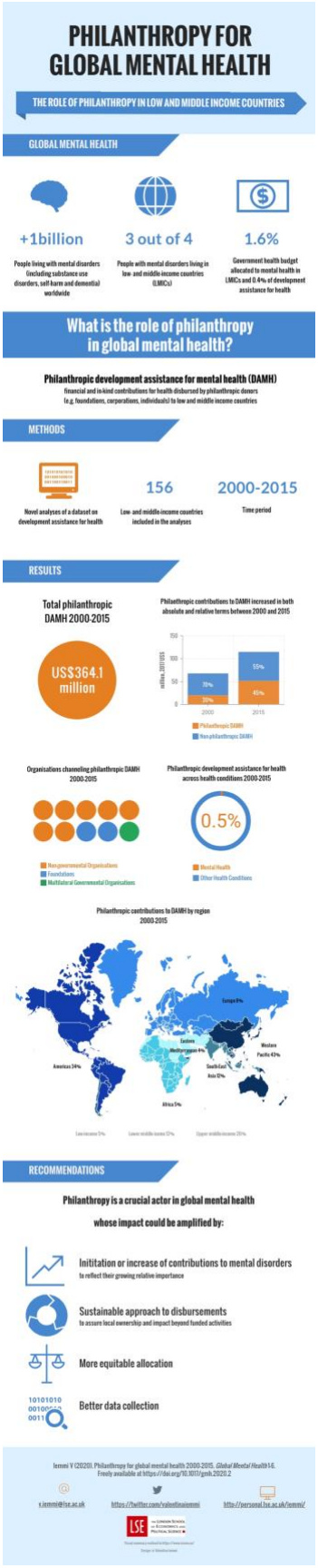
MULTISECTOR PARTNERSHIPS

- **Multi-sector partnerships** are a heterogeneous group of organisations arising from arrangements between actors from two or more sectors aimed to leverage additional funding for global health, usually for specific conditions. Amongst others, this group include global health initiatives (e.g. Global Fund to Fight AIDS, Tuberculosis and Malaria) and innovation funds (e.g. Dementia Discovery Fund).

This research and policy tool is adapted from and should be cited as:
Iemmi V. Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low- and middle-income countries. *BMJ Global Health* 2019;4:e001826. Freely available at https://dx.doi.org/10.1136/bmjgh-2019-001826
Icons courtesy of https://www.flaticon.com

Appendix 7.2: Infographic (Chapter 3)

Appendix 7.3: Infographic (Chapter 4)



Appendix 7.4: Highly Commended Festival Prize at the LSE Festival Research Competition 2020