MENTAL HEALTH INVESTMENT CASE: A GUIDANCE NOTE
Mental health investment case: a guidance note

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# ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>ABBREVIATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHOICE</td>
<td>Choosing interventions that are cost-effective</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>mhGAP</td>
<td>Mental Health Gap Action Programme</td>
</tr>
<tr>
<td>MNS</td>
<td>Mental, neurological and substance use</td>
</tr>
<tr>
<td>NCD</td>
<td>Non-communicable disease</td>
</tr>
<tr>
<td>OHT</td>
<td>OneHealth Tool</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on investment</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
</tr>
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</table>
OVERVIEW

In line with the SDG 3 ‘Global Action Plan for Healthy Lives and Well-Being for All’, WHO and UNDP, in cooperation with the broader United Nations Inter-Agency Task Force on the Prevention and Control of Non-Communicable Diseases (Task Force) and other partners, supports governments in all regions to implement or strengthen whole-of-government non-communicable disease (NCD) responses. WHO and UNDP prepared this note to provide a structured approach for making national cases for investment in mental health. The note complements the *Non-communicable disease prevention and control: a guidance note for investment cases* (WHO and UNDP, 2019). Investment cases are part of a WHO-UNDP Joint Programme to catalyze multi-sectoral action in Member States to reduce the burden of NCDs and mental health disorders. The Joint Programme is part of the larger work of the Task Force.

The note starts with asking why it makes sense to invest in the mental health of populations. It provides not only the economic rationale for doing so but also other arguments, including those for public health, protection of human rights, equal access and efficiency. The second question asked is what interventions and services should receive more investment. There is substantial evidence for guiding appropriate allocation of resources towards interventions, services and models of care that are effective, affordable and feasible in various settings, including not only health care settings but also schools, workplaces and communities. Mental health in humanitarian situations requires separate considerations and thus falls outside the scope of this guide.

The note then provides an overview of how to make an investment case, covering the principles and practice of analysing the return on investment (ROI) and their application to the mental health sector. The questions answered by an ROI analysis are deceptively simple: Are the benefits of an investment of resources greater than the costs incurred and, if so, by how much? In practice, essential data and analytical decisions are required to arrive at an answer, including the costs and benefits to be included, the time-frame to be used and the specific policy question to be addressed. In this guidance note, we consider each of these practical considerations and illustrate them with examples from global mental health.

A decision to increase investment and innovation in mental health services is determined by many considerations other than cost or value for money, including the sociocultural context, the feasibility of implementation and the extent to which health inequality or the needs of underserved and vulnerable populations are effectively addressed. Such considerations should be discussed in an open, explicit, consultative process to ensure fair and efficient allocation of resources. Consideration should also be given to how different financing modalities and mechanisms could bridge gaps in mental health services equitably and sustainably.
1. INTRODUCTION

1.1 Why invest in mental health?

Mental health is an indispensable part of health. It has been defined by WHO as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to her or his community” (WHO, 2004). Mental illness is defined as suffering, disability or morbidity due to mental, neurological or substance use (MNS) disorders, which are associated with the biological and psychological make-up of individuals and adverse social conditions and environmental factors. Investment in mental health comprises both promotion and protection and the prevention and treatment of mental health conditions. Mental health is affected by biological characteristics, social and economic circumstances, cultural gender norms and the broader environment of individuals (Lund et al., 2018). Exposure to risk factors or stressors can result in a range of mental health problems. Increased exposure to adverse determinants of mental health and the ageing of populations in many parts of the world has resulted in a 30% rise in the global prevalence of mental health conditions since 1990.

The COVID-19 pandemic threatens to increase mental health burdens. Measures being used in response, especially physical distancing, are likely to increase levels of loneliness, depression, harmful alcohol and drug use and self-harm or suicidal behaviour.

Psychosis, depression, dementia, alcohol dependence and other MNS conditions are a subgroup of NCDs that together have severe consequences for public health in all regions of the world. According to the WHO Global Health Estimates for 2016 (WHO, 2018), these conditions accounted for 28% of the non-fatal disease burden (years lived with disability) and 10% of the total disease burden (disability-adjusted life-years). Even these alarming statistics do not fully capture the fatal toll of these health conditions, as their predominant contribution to the 788,000 suicide deaths in the world in 2016 is counted separately as a cause of injury. Furthermore, the average mortality rate of people with severe mental health conditions is two to three times higher than that of the general population, reducing their life expectancy by 10–20 years. These premature deaths are most commonly due to physical health conditions and NCD risk factors that are often not recognized, addressed or treated.

A further concern for global public health and development is that mental health problems during childhood and adolescence are increasing as prominent causes of morbidity and mortality. Worldwide, 10–20% of children and adolescents experience mental health problems, such that MNS conditions are the leading cause of disability in young people globally. If untreated, these conditions severely influence children’s development, their educational attainment and their potential to live fulfilling, productive lives. Investment in early mental health promotion and prevention of risk factors associated with mental health conditions is therefore vital.

The economic implications of diminished or foregone mental health are enormous. In a study conducted for the World Economic Forum (Bloom et al., 2011), the projected global economic losses attributable to MNS health conditions between 2011 and
2030 were estimated to be US$ 16 trillion, and, in a study led by WHO (Chisholm et al., 2016), it was estimated that common mental disorders alone cost the global economy US$ 1 trillion per year.

In response to the large, growing challenge to public health posed by mental health and related conditions, WHO issued the Comprehensive Mental Health Action Plan 2013–2020 (WHO, 2013a). The intrinsic value of good mental health, the wide-ranging consequences of MNS conditions and the multi-sectoral nature of a comprehensive approach to the formation, preservation and restoration of mental health are among the main reasons for inclusion of mental health and well-being in the Sustainable Development Goals (SDGs). A major implication of SDG target 3.4 for mental health policy and practice is a requirement for a strong public health approach to the known determinants of mental health and the needs of those with mental health conditions and psychosocial disabilities. Mental health is also related to attainment of several other SDGs, including poverty reduction (SDG 1), achievement of gender equality (SDG 5), sustainable economic growth and decent work for all (SDG 8) and reduction of inequality within and between countries (SDG 10) (Lund et al., 2018). Addressing mental health is central to fulfilling the 2030 Agenda pledge to leave no one behind.

The ‘Political declaration of the high-level meeting on universal health coverage’ commits Member States to “implement measures to promote and improve mental health and well-being as an essential component of universal health coverage”, and notes that “mental disorders and other mental health conditions as well as neurological disorders are an important cause of morbidity and contribute to the non-communicable diseases burden worldwide.” (United Nations, 2019). The ‘Political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases’ explicitly and prominently articulated governments’ desire and commitment to link and include mental health within the NCD agenda. MNS health conditions are NCDs by definition but had not been identified as priorities in earlier political declarations, such as that of the high-level meeting on NCDs in 2011. Member States have now not only established greater parity between mental health conditions and other NCDs but also provided new opportunities for a more holistic, collaborative, person-centred response to NCD prevention and management.

In a report entitled Investing in mental health: evidence for action, WHO (2013b) set out four criteria for making public health investments: protection of human rights, including the right to health; the current and future (health and economic) burden of disease; the avertable burden of disease (resulting from provision of cost-effective services); and reduction in social inequality, including access to essential health services. Application of these criteria to mental health indicates that a robust investment case can be made for enhancing individual and population health and well-being, reducing social inequalities, protecting human rights and improving economic efficiency (see Panel 1).
Panel 1. Reasons for investing in mental health

Protection of human rights
- Individuals with mental health problems (and their families) are commonly subjected to stigma, discrimination and victimization.
- Well-formulated, properly enforced policies and laws that are oriented towards human rights, including in the provision of services, prevent abuse and protect rights.

Public health and economic burden
- MNS conditions are leading causes of years lived with disability worldwide (more than one fourth of all measured disability) and account for 10% of the global burden of disease (both deaths and disability).
- If these conditions are not addressed, the lost economic output will increase significantly from the already high levels. It has been estimated that the annual global effect of common mental health conditions in terms of lost economic output is US$ 1 trillion (Chisholm et al., 2016).

Cost and cost-effectiveness
- Feasible, affordable, cost-effective measures are available for preventing and treating MNS conditions.
- An integrated package of cost-effective care and prevention can be delivered in community settings in low- and middle-income countries for US$ 3–4 per capita.

Equitable access, financial protection and universal health coverage
- Most people with mental ill-health do not have adequate access to the care they require, and those who do pay for a large proportion of the care.
- Integration of mental health care into publicly funded primary care and task-sharing with non-specialist health care providers are appropriate, viable strategies for improving access.

Current global investment in mental health is very low. Data from the WHO Mental Health Atlas (WHO, 2015) show that many low- and middle-income countries allocate less than 2%—or even 1%—of their health budget to the treatment and prevention of mental health conditions, and most of the funds made available by governments are allocated for the operational costs of specialized but increasingly outdated mental hospitals, many of which are associated with isolation, violations of human rights and poor health outcomes. Such allocation of resources inevitably slows the development of more equitable, cost-effective community services. From the donor perspective, the situation is no better: a mere 0.1% of development assistance for health is for mental health promotion, protection and care (Lu et al., 2018). Other barriers to access to and availability of mental health services, closely linked to the paucity and misallocation of financial and human resources, include weak governance and leadership of mental health systems, with poor communication and collaboration among health, social and other service providers.

As a result of the low investment in public mental health, there is a vast gap between the need for treatment and its availability, especially in low- and middle-income countries. This gap affects not only the health and well-being of individuals with mental health conditions and their families but has inevitable consequences for employers and governments because of less productivity at work, reduced rates of participation in the labour market, foregone tax receipts and increased welfare payments. The many consequences of not investing in mental health include:
• little public awareness, understanding and literacy about the causes and effects of better or worse mental health, resulting in stigma and discrimination against people with mental health conditions;
• unrealized opportunities for nurturing and protecting the cognitive, emotional and social capacities and the educational outcomes of children and adolescents;
• low rates of detection, diagnosis, treatment and care for people with mental health conditions; and
• high costs to businesses and national economies due to lower productivity.

In summary, mental health conditions impose a high, increasing burden on public health and on socioeconomic welfare, and coverage of essential mental health care services and interventions remains inadequate, in terms of both access for those in need and financial protection or inclusion in benefits. Increases in community public mental health services can therefore be expected to contribute to greater equality in access, as more people in need will be served, with less reliance on direct out-of-pocket spending. Increasing mental health services can also contribute to national progress towards universal health coverage.

1.2 What investments should be made in mental health?

Strengthening policy and increasing interest in mental health is a major challenge for public health and sustainable development. Member States require clear guidance on which mental health promotion and protection strategies to invest in. To provide guidance, information is required on:
• the effectiveness or health impact of interventions;
• their cost-effectiveness;
• the cost of scaling-up prioritized interventions; and
• the ROI in terms of improved health and productivity.

As shown in Table 1, progress was made in the past decade in generating economic evidence for investing in mental health by use of validated, standardized methods developed by WHO and its partners. The evidence demonstrates the efficacy and also the cost-effectiveness, affordability and feasibility of the interventions for countries at different income levels with regard to alcohol use (as a risk factor for disease), epilepsy, depression, anxiety disorders, bipolar disorder and psychosis (Chisholm & Saxena, 2012; Patel et al., 2016). Effective measures also exist for prevention of suicide, prevention and treatment of mental health conditions in children and adolescents, prevention and treatment of dementia and treatment of substance use disorders. New analyses of cost-effectiveness with standard WHO methods have been completed recently for banning pesticides as a means of preventing suicide and for socio-emotional learning programmes in schools (WHO, 2019).
Table 1. Clinical and economic evidence base for global mental health interventions

<table>
<thead>
<tr>
<th>1. Effectiveness</th>
<th>Systematic review of efficacy and effectiveness of interventions for management of MNS health conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• mhGAP evidence centre (WHO, 2010)</td>
</tr>
<tr>
<td></td>
<td>• mhGAP intervention guide</td>
</tr>
<tr>
<td></td>
<td>• treatment guidelines for opioid dependence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Cost-effectiveness</th>
<th>Estimation of the economic costs, health impacts and cost-effectiveness of psychosocial and pharmacological interventions for priority mental health conditions identified in the mhGAP intervention guide, including psychosis, depression, epilepsy and alcohol use disorders (with pricing policies and restriction on marketing and availability)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• WHO CHOICE(^a) analysis of mental health interventions; several publications on specific health conditions and comparisons among them (Chisholm &amp; Saxena, 2012)</td>
</tr>
<tr>
<td></td>
<td>• Disease Control Priorities project: selected chapters in the 2nd edition (2006) and a dedicated volume in the 3rd edition (2016), largely based on WHO CHOICE analyses (Patel et al, 2016)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Cost of scaling up</th>
<th>Estimation of the financial cost of increasing coverage of evidence-based, cost-effective interventions over time (in US$ or local currency)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• OneHealth Tool (OHT) (WHO, 2013c): A mental health module has been used to make projections for several countries in the Emerald project (e.g. Ethiopia, Nigeria, South Africa) (Chisholm et al, 2017)</td>
</tr>
<tr>
<td></td>
<td>• SDG price tag: Mental health included in the SDG “price tag” analysis by WHO with OHT methods and results for ≥ 67 countries (Stenberg et al, 2017)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Return on investment</th>
<th>Estimation of the monetary value of health impacts (healthy life-years gained) and economic outcomes (productivity gains) of scaled-up investment, subsequently related to the costs of intervention to obtain a ratio of benefits to costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Global ROI analysis: for depression and anxiety from OHT estimates for 36 countries(^b)</td>
</tr>
<tr>
<td></td>
<td>• National ROI: conducted for Jamaica (psychosis, depression and anxiety) with NCD investment method(^c)</td>
</tr>
</tbody>
</table>

\(^a\) Choosing interventions that are cost-effective ([https://www.who.int/choice/cost-effectiveness/en/](https://www.who.int/choice/cost-effectiveness/en/))
\(^b\) See Annex 4
\(^c\) See Annex 3

Interventions considered to be ‘best practices’ are listed in Table 2, grouped by the level of the health or welfare system at which they are appropriate. Interventions were considered to represent best practice on the basis of evidence of their effectiveness, their contextual acceptability and scalability in low- and middle-income countries and evidence of their cost-effectiveness, at least in high-income countries (Patel et al., 2016). Those interventions that have been analysed for cost-effectiveness in a WHO CHOICE analysis are indicated in bold type.
Table 2. Priority interventions identified in the volume on MNS disorders in Disease Control Priorities, 3rd Edition

<table>
<thead>
<tr>
<th>Delivery platform</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population-wide</td>
<td>Policy and legislative measures to control the availability and demand for alcohol (e.g. increases in excise taxes on alcohol, advertising bans) Legislative measures to control the sale and distribution of means of suicide (e.g. pesticides)</td>
</tr>
<tr>
<td>Community</td>
<td>Health literacy and life skills training in schools to build social and emotional competence Interventions for parenting to promote early child development</td>
</tr>
<tr>
<td>Health care</td>
<td>Psychological treatment for mood, anxiety, attention deficit hyperactivity disorder and disruptive behaviour among children Diagnosis and management of depression and anxiety Continuing care for schizophrenia and bipolar disorder Self-managed treatment of migraine Diagnosis and management of epilepsy Interventions to support caregivers of patients with dementia Screening and brief interventions for alcohol use disorders Opioid substitution therapy for opioid dependence</td>
</tr>
</tbody>
</table>

From Patel et al. (2016) Interventions in **bold** are those for which WHO CHOICE analyses are complete, and those in *italics* are ongoing.

Comparative analysis of value or efficiency is important, because all decision-makers, particularly those in the public sector, face constraints on spending. Even the richest countries and the most extensive welfare states, which spend a third or more of the country’s income or wealth on government activities, have to justify where money is spent. Many criteria influence allocation decisions, including equity, sustainability and acceptability, and some criteria might carry more weight than others. Nevertheless, value for money is a key consideration, and equitable allocation cannot be achieved if resources are not used efficiently. Therefore, the more economic evidence there is, with other evidence of effectiveness or impact, the more likely it is that appropriate decisions will be made about value and ROI in mental health. Whether the investment decision is made will depend on the strength of evidence, the magnitude of the return and the availability of funds in the face of fiscal constraints or competing demands, as well as political support or expediency.
2. MAKING A NATIONAL INVESTMENT CASE FOR MENTAL HEALTH

Apart from information on cost-effectiveness, which is important for identifying and specifying which mental health interventions should be scaled-up, a standard method for analysing investment cases for mental health promotion, care and protection is required that is in line with other investment case methods. This publication provides such a standard method. ROI analysis gives a convenient, comparable measure of the efficiency of one or more investment choices, expressed as the expected flow of benefits resulting from an investment of resources. Its intent is therefore similar to those of other measures of efficiency that have been used extensively in the health sector, notably cost-effectiveness analysis; however, cost-effectiveness analysis is usually used to measure only health-related benefits, which are expressed in a natural unit, such as lives saved, disability-adjusted life-years averted or symptoms reduced, while ROI also includes economic outcomes and benefits, expressed in monetary terms. Expression of both the costs and the benefits of an innovation or intervention in the same units (money) makes investment decisions straightforward, indicating that, if the benefits of an investment are larger than the costs, it is sound. Furthermore, the extent to which the benefits exceed the costs is readily computed and communicated. A simple way of interpreting an ROI ratio is “for every 1 dollar invested, there are X dollars’ worth of benefits”. This enables investors, such as ministries of finance or international development partners, to compare different investment choices and the returns they generate for different times (short-term, long-term), not only within the health sector but also beyond it.

2.1 Investment case framework

The economic and social benefits of better mental health are both its intrinsic value (greater well-being) and its instrumental value, in terms of being able to form and maintain relationships, to study, work or pursue leisure interests and to make decisions in everyday life. Those benefits and their relation to investment costs are assessed in order to establish the rate of return, by estimating current and future levels of mental ill-health and effective intervention coverage in a population and then determining the economic impacts of improved mental health outcomes, particularly rates of labour participation and productivity. With established methods, it is also possible to monetize the intrinsic value of improved mental health, although those benefits are outside the real (measured) economy. Several theoretical and practical issues associated with these methods should be considered before using them. For example, people’s willingness to pay for better health may overlap with their ability to pay; i.e. richer people may skew the valuations because they can pay more than poorer people.

Different types or categories of cost and benefit are shown in Table 3. The cost of a mental health intervention is the sum of all the resources used in developing and providing it to the target population. The consumed resources are therefore no longer available for other purposes, representing the notion of ‘opportunity cost’, which is central to economic analysis. The investment could result in several possible benefits: first, improvements in the health or functional status of the target population (health impact); second, allowing the beneficiaries of the intervention to go back to work or school, to
work more productively or to improve their financial situation (financial impact); and, third, providing benefits for others, such as reducing caregiving time spent by family members or friends (social impact).

Table 3. Economic costs and benefits of mental health intervention

<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development and provision of mental health interventions</td>
<td>Health (mental, physical)</td>
</tr>
<tr>
<td>opportunity to invest elsewhere</td>
<td>Functioning</td>
</tr>
<tr>
<td>consumption in future by those benefiting from effective interventions</td>
<td>Participation (work, school)</td>
</tr>
<tr>
<td></td>
<td>Productivity (home, work, school)</td>
</tr>
<tr>
<td></td>
<td>Informal caregiving</td>
</tr>
<tr>
<td></td>
<td>Health and welfare services</td>
</tr>
<tr>
<td></td>
<td>Savings or investment by households</td>
</tr>
</tbody>
</table>

Consideration should also be given to whether the costs and benefits are market-traded. Market prices can be used for valuation of market-traded service or intervention inputs and outcomes, whereas non-market estimates of prices are required for non-market-traded inputs and outcomes. This information is shown in Table 4; the four cells constitute the basic structure of an accounting framework for an investment case analysis. Non-market-valued benefits are restricted to health (non-market-valued inputs are usually ignored). The estimates of prices (shadow prices) for non-market-valued benefits are estimated by various techniques (discussed below).

Table 4. Generic accounting for a typical investment case in health

<table>
<thead>
<tr>
<th>Delivery platform</th>
<th>Costs (prices x quantities)</th>
<th>Benefits (prices x quantities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-valued costs and benefits</td>
<td>Human resources</td>
<td>Productivity or labour market participation</td>
</tr>
<tr>
<td></td>
<td>Equipment and machines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medicines and consumables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other market-traded costs</td>
<td></td>
</tr>
<tr>
<td>Non-market-valued costs and benefits</td>
<td>Null</td>
<td>More years of life</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Better health-related quality of life</td>
</tr>
</tbody>
</table>

The proposed approach for estimating impacts or ROIs in mental health can be illustrated by the treatment of so-called ‘common’ mental disorders, such as depression, summarized in the conceptual framework in Fig. 1. The figure shows the potential pathways of the health, economic and social ramifications of common mental health conditions and their treatment. The direct impact of treatment is on people’s health, as decreases in morbidity and mortality (health impact). Treatment can also benefit others, such as the cognitive development of children of mothers treated successfully for perinatal depression. These effects of treatment can in turn result in better welfare and social functioning of affected individuals and their households (social impact) and greater ability to work or be productive at work (financial impact), which in turn can influence future levels of household or aggregate investment and savings.
Mental health care and treatment can also reduce health care costs related to physical aspects of a person’s health, especially for those with comorbid conditions like diabetes, heart disease or HIV infection.

The feasibility of accurately attaching an economic value to each of the pathways will depend on the scope of analysis, the availability of data and the extent of measurement, as discussed below.

**Fig. 1. Analytical framework for identifying potential impacts of mental health investment**

Calculations of present health care costs and productivity losses associated with mental health conditions can also be used to derive estimates of their economic burden, an economic analysis that can form the basis for planning an investment case. Several attempts have been made to compute national, regional and global costs to society (Bloom et al., 2011; Chisholm et al., 2016b). This guidance focuses on ROI analysis rather than economic impacts, but the two are connected, and much of the same data and measurement approaches are used. Estimates of economic burden for mental health conditions are therefore included in the ‘ROI calculator’ developed for country use (Section 2.4).
2.2 Planning and managing an investment case study

Before ROI is analysed, the feasibility of measuring potential costs and benefits for the population of interest should be assessed and translated into economic impact. Economic returns may be more difficult to model or establish for certain conditions than for others. For example, while there is evidence that depression can lead to losses in productivity among the working-age population that can be restored through effective intervention, equivalent evidence may be more difficult to obtain or quantify for the economic benefits of intervention at younger or older ages, such as greater educational attainment and earning potential or enhanced social participation and inclusion. Data that should be calculated and transformed into ROI summary metrics include:

- **Intervention and service costs** (*the investment*): the monetized value of the resources used to develop, implement and maintain the interventions or services of interest. These comprise the costs of the interventions themselves (e.g. the use or uptake of an adapted or new psychosocial intervention) and also the broader costs of scaling-up and overseeing implementation of the interventions in the population. Detailed guidance on the identification, measurement and valuation of costs have been published (e.g. WHO, 2003; Drummond et al., 2005); key components of cost measurement are outlined below.

- **Intervention benefits** (*the returns*): the monetized value of improvements in health and productivity due to uptake or use of the intervention(s). These include improvements in health and functioning scores (which can be expressed as a monetary amount, for example by conversion to a summary measure of population health (healthy life-years gained) and then assignment of an economic value or ‘price’ to each healthy life year gained. The benefits also include greater participation in the labour market and productivity, which can be assessed with reference to local rates of employment and the income generated per worker.

While country-specific data are preferable, empirical evidence may be limited in some countries, and regional or global values might have to be used. In the absence of data for key components of the model, judgement should be used to decide the extent to which global values are appropriate. For example, the findings of an international meta-analysis of studies on the expected effect of pharmacological or psychological treatment of depression or psychosis may be preferable to estimating the local cost of an intervention in an African country on the basis of a study conducted in a widely different context, such as a high-income European country. In contrast, international evidence for the effect of an intervention on days out of work is likely to be less appropriate than data collected locally, although few such data are available in most low- and middle-income countries. **Table 5** lists the steps that can be followed to identify the time and resources required for practical management and oversight of an ROI study.
### Table 5. Steps in preparing a mental health investment case

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>OUTCOMES</th>
<th>TIMESCALE</th>
</tr>
</thead>
</table>
| **Ministry of Health requests and begins formal arrangements for investment case activities and outcomes** | • Agreement reached on desired and feasible outcomes  
• Default investment case method adapted to the country  
• Preferences of the country clearly articulated  
• Terms of reference for an initial country mission agreed by external partners and country officials | **Two weeks** |
| **Data requirements checklist sent to Ministry of Health and shared with the entire government** | • Terms of reference finalized  
• Data requirements checklist divided into subsections, which are passed to relevant ministerial departments  
• Ministry of Health reviews checklist before data collection to identify sources, availability and gaps  
• Preliminary data collected | **Two weeks** |
| **Relevant WHO and other United Nations country office staff convene with the Ministry of Health to collect data** | • Finalizing data collection with final data points  
• Discussion held on the nature and extent of gaps in data and requirement for proxies (e.g. regional or global estimates)  
• Investigation of trade-offs between an extensive analysis with proxies and a reduced analysis based on only the most recent national data | **Three weeks** |
| **Economic model templates populated with data and preliminary results** | • Initial inputs fed into the economic model (e.g. OHT)  
• Multiple modelling scenarios generated with different sets of input preferences  
• Implications of preliminary findings and methods of describing the outputs discussed | **Six weeks** |
| **International team conducts a mission to complete an institutional and context analysis, finalize the economic modelling and present the findings to a multi-stakeholder audience** | • Description of the economic modelling procedure with country officials  
• Results of several economic modelling scenarios interpreted  
• Institutional and context analysis: consultations held with various stakeholders and institutions  
• Institutional and context analysis: viability of prioritized cost-effective policies and interventions in the institutional context assessed  
• Findings presented to national authorities and key stakeholders | **One week** |
| **Drafting of initial report** | • Analysis undertaken  
• Report written  
• Infographics prepared  
• Quality assurance completed | **Two weeks** |
| **Government reviews the findings of the case and plans next steps, linked to health and development plans** | • In-depth review of the economic modelling techniques used  
• Action plan developed that includes dates for implementing or scaling-up prioritized interventions | **Six weeks** |
| **Government hosts high-level stakeholder forum** | • Ministry of Health briefed in depth on the messages and partners to target  
• High-level meeting or event to present the findings and to debrief all key ministries and international and local partners | **Within nine months** |
2.3 Analytical methods, data requirement and outputs

An ROI analysis has two components: the cost of implementing the programme or intervention and the monetary value of subsequent benefits. An ROI analysis is usually performed for the total cost and benefits of an intervention or package of care over a defined period of scaling-up as compared with a counterfactual of no scale-up. As the flows of costs and benefits change from year to year, the ROI will vary during the period of investment; for example, the initial programme costs might be higher than the realized benefits in the early years of scaling-up but become lower as the benefits accrue. Estimated costs and economic benefits over time are used to calculate the ROI from the following formula:

\[
ROI = \frac{(\text{increased well-being} + \text{increased productivity and income}) - \text{intervention costs}}{\text{intervention costs}}
\]

The ROI is the net benefits gained from every dollar invested at an aggregate level. It is most simply expressed as a ratio (i.e. every additional dollar spent yields x dollars in benefit). A related, commonly used metric in ROI analysis is the benefit: cost ratio, which is simply the relation between total benefits and costs, given by the following formula:

\[
\text{Benefit: cost ratio} = \frac{(\text{increased well-being} + \text{increased productivity and income})}{\text{intervention costs}}
\]

The methods used to quantify costs and effects in an ROI analysis largely overlap with an economic evaluation of a health care technology, for which there are several guides and publications (e.g. WHO, 2003; Drummond et al., 2005; Robinson et al., 2019). As a detailed account of all the elements of an economic evaluation is impracticable, we describe the main input parameters, assumptions and metrics used in ROI analysis. Readers are therefore expected to understand economic evaluation in health care or are encouraged to become familiar with its principles and practice by reference to the published guidance.

In order to conduct an ROI analysis, the projected costs and benefits for the target population should be estimated over a defined time. Analytical tools and models are available, as described in more detail below. The main input parameters for such models cover demographic, epidemiological, effectiveness and economic domains:

- the population of the country, region or target group;
- prevalence, incidence and mortality rates of the disease or risk factor in question;
- coverage (the proportion of the population in need that is exposed to or receives the intervention);
• the quantities of resources required to implement the intervention and the price or unit cost of each item or entity (e.g. salaries, drug prices); and
• the effects or benefits of the intervention on health, social, economic or other outcomes.

The key issues and steps are described below for the inputs or investment side of the ROI equation (intervention and service costs) and then for the outputs of that investment (effects and benefits). Entry or use of the parameters into the OneHealth Tool (OHT) is then described.

**Intervention and service costs**

In basic terms, the total costs of a mental health intervention or service in a given year can be estimated by multiplying the resource use needs by their respective unit costs to obtain the cost per beneficiary or treated case, which is then multiplied by the total number of beneficiaries or cases expected to receive the intervention.

Estimation of service use at the level of the individual enables generation of detailed information on the consumption of a wide range of resources. An initial stage in recording resource use is identification of the relevant components of potential service receipt by users, such as contacts with primary care physicians and other health workers, private or voluntary community providers and hospital inpatient and outpatient care (both psychiatric and general). The services to be included will depend on the scope, objectives and setting of the analysis and the needs of the client group(s). For example, users with more severe or lasting mental disorders, such as schizophrenia, often need a wider range of services (e.g. day care and residential care) than those with common mental health conditions such as depression and anxiety. When new estimates of resource use are required, data are commonly obtained by interviews about service receipt, which can be administered during service evaluation or research. Data should also be collected on the socio-demographic and socio-economic characteristics of individuals, including lost opportunities to work, be educated or otherwise build human capital. The categories of resource use include:

• **Inpatient care**: Some people with mental health conditions might require hospitalization (e.g. 5% of moderate–severe cases of depression, for an average stay of 14 days).

• **Outpatient and primary care**: Most cases require regular outpatient visits (e.g. from four visits per case per year for basic psychosocial treatment or pharmacological management to monthly or bi-monthly visits for moderate–severe cases receiving intensive psychological treatment).

• **Medication**: Essential psychotropic medications include anti-psychotics, anti-depressants and anti-epileptics. The average daily doses and duration of treatment should be specified.

• **Programme costs and shared health system resources**: These include programme management and administration, training and supervision. Estimates are sometime expressed as an ‘on-cost’ to direct health care costs. Estimation of these costs is also relevant for health promotion or prevention strategies for specific groups, such as life skills training in schools, or for whole populations, such as a mental health information and awareness campaign.
A unit cost estimate is required for each item of resource use, such as cost per inpatient day or per contact with a primary care worker. These estimates are compiled and computed from various data sources, including national or local government statistics, health authority data and the revenue accounts of a specific facility or organization. The main categories of operational costs to be quantified are listed below.

- **Salaries or wages of staff** employed in the direct care and management of service users. Salary costs can be obtained from local or national pay scales. The ideal value is a weighted average of all grades on a pay scale. Supplementary (fringe) benefits, bonuses and allowances should be included. Employer contributions to local or national taxes, pension or health insurance schemes and other benefits and entitlements should be included, often calculated as a percentage add-on to the salary or wage.

- **Operating costs of the facility** in which the service is provided (e.g. cleaning, catering, consumables, water, electricity). These are the costs of running an establishment such as a rural health centre. They can be obtained by dividing the total pro rata running costs of the establishment (excluding capital costs or rent) by the number of full-time equivalent staff. For local or federal government facilities, these costs can usually be obtained from the finance or planning department.

- **Overhead and capital costs** of the service. Costs associated with service management and administration, such as finance and personnel functions, are often difficult to identify accurately and might have to be estimated only as a percentage add-on to known revenue (operating) costs. Similarly, to estimate the capital costs of the facility in which the service is provided (e.g. land, buildings), the (opportunity) cost of capital should be calculated as the annuity that will deplete the lump sum value over the lifetime of the capital; however, it may be possible (and simpler) to obtain a best estimate of the proportionate on-cost that can be added to personnel and operating costs.

When possible, local, country-specific unit costs for each aspect of an intervention should be calculated. In the absence of local data, national unit costs of inpatient and outpatient care from the WHO-CHOICE database can be used. Information on treatment costs can also be obtained from validated multilateral agencies, previous cost-effectiveness studies, profiles of resource needs from treatment guidelines and costing tools. Costing and price information specific to the OHT is described further below.

**Intervention effectiveness**

The average impact of mental health interventions, as measured in clinical trials and other studies or summarized in meta-analyses, can be expressed as the standardized mean difference or effect size for primary measures of outcome, such as incidence, remission or case fatality. To calculate the standardized mean difference between two groups, subtract the mean of one group from the other, and divide the result by the standard deviation of the population from which the groups were sampled. Observed increases in the rate of functioning or remission can also be expressed as a proportionate improvement. As estimates of effect size from trials usually apply to the efficacy of an intervention as opposed to its real-world effectiveness, they should be
modified to account for partial response, the lag time between the onset of the disorder and treatment and expected levels of non-adherence by treated populations.

The impacts of several interventions for MNS conditions that are covered in the intervention guide of the WHO Mental Health Gap Action Programme (mhGAP) (WHO, 2010) have been estimated in this way. Annex 1 summarizes the effect sizes for selected MNS health conditions and interventions derived in WHO CHOICE analyses (see Chisholm et al., 2016b for details). Most of the interventions analysed to date by WHO CHOICE are individual clinical interventions; analyses of a number of population-based or community preventive interventions will be added to the database. National estimates of ROIs in mental health, such as in Australia (National Mental Health Commission, 2019) and the United Kingdom (Knapp, McDaid & Parsonage, 2011), include various preventive strategies, such as anti-bullying in schools, parenting interventions and wellness at work initiatives for promoting good mental health and preventing depression.

Population health benefits

To estimate or project the impact of an intervention on the population, the results must be extrapolated in a population model. The inputs for such an analysis are (i) the total target population; (ii) the prevalence of the mental disorder; (iii) the effect of the intervention on prevalence or the average level of disability associated with the mental disorder; and (iv) the current and target levels of coverage. Tools are available for calculating population health impacts, such as the OHT (see below).

As most of the effects of mental health interventions are in reducing morbidity or disability (as opposed to saving lives), a suitable metric for summarizing them at population level is healthy life-years gained (equivalent to disability-adjusted life-years averted, thought of as lost years of healthy life). Healthy life-years can be computed from national life tables, which reflect the combined time spent by the population in a state of health with a known degree (or free) of disability. Disability levels or weights for all major conditions are available from the Global Burden of Disease study (Salomon et al., 2012). Implementation or scaling-up of an effective intervention in a population is modelled to reduce the time spent in a disabled state, either by reducing the prevalence (e.g. by decreasing the number of new cases or by increasing the rate of remission) or by improving the level of functioning of people with the condition. For example, the main effect of treatment for depression is reducing the duration of an episode (equivalent to increasing the remission rate), while key effects of managing psychosis with anti-psychotic drugs and psychosocial treatment are to control symptoms and enhance functioning.

Economic benefits

The economic and social benefits of better mental health include their intrinsic value (improved well-being) and their instrumental value (ability to study, work or carry out usual activities). The direct economic benefits attributable to both better work productivity in the economy and the intrinsic value of better mental health on individuals’ quality of life should be included in ROI analyses of mental health interventions and services. A further direct potential benefit of successful treatment of mental health conditions is a decrease in overall health care costs, e.g. because of reduced need for expensive inpatient care.
The value of these benefits can be assessed by estimating the population in need in each country, then determining the health effects of scaled-up coverage of an effective intervention and finally calculating the economic impacts of better mental health outcomes in terms of greater labour participation and productivity. Impaired productivity should be assessed with respect to both time off work due to illness (absenteeism) and impaired job productivity due to illness while the individual is in the workplace (presenteeism). Lost work days can be linked to the prevailing rates of labour participation of the working age population (15–64 years) and the average income per worker to estimate the aggregate effect on the local economy. Panel 2 shows the approach taken in a global ROI study to estimate production losses and gains for an intervention to treat depression.

Panel 2. Valuing productivity losses and gains

**Production losses**: The World Mental Health Survey carried out in low-, middle- and high-income countries has estimated that adults with depression have 34–36 days fully out of their role and 44–58 days partially out of their role, which amounts to 4–15 more days fully out of their role and 11–24 more days partially out of their role than adults without depression (Alonso et al., 2011; Bruffaerts et al., 2012).

**Return to work**: Few studies have addressed the extent to which effective treatment for depression allows people to return to work; in those that have, the estimates are linked to local factors such as prevailing unemployment. Two studies in the USA (Wells et al., 2000; Wang et al., 2007) found a 6% increase in unemployment among depressed patients under closely managed care. A further study of patients in primary care (Woo et al., 2011) showed that, at 6 months, the employment rate was 52.5% for patients with no care and 72.2% for patients with care. For a base case analysis, 5% restored ability to work as a result of treatment was adopted.

**Labour force productivity**: Trials in India, the Republic of Korea and the USA allowed estimates of the impact of interventions on productivity loss (Rost et al., 2004; Wang et al., 2007; Woo et al., 2011; Buttorff et al., 2012). The decrease in absenteeism observed in these studies was about 1 day per month. Only two studies reported the findings for reduced ability to work separately from days lost due to absenteeism (Woo et al., 2011; Buttorff et al., 2012). A 5% increase in working days because of less absenteeism and a 5% increase due to better ability to work were used in the base case, expressed as the proportion of total working days per year (220 days) and allowing for both the onset of effect and the lag between improved health and return to work.

Being alive and healthy is considered to be valuable itself for labour force outcomes, independently of the instrumental value of better mental health. The overall value of a life–year can be broken down into its economic (instrumental) and health (intrinsic) elements. A Lancet commission on investing in health (Jamison et al., 2013; Stenberg et al., 2014) attributed the value of a healthy life–year at 1.5 times the gross domestic product (GDP) per capita, of which two-thirds was allocated to the instrumental component (equivalent to 1.0 times per capita income) and a third to the intrinsic benefits of health (equivalent to 0.5 times per capita income). The most recent international guidelines for benefit–cost analysis (Robinson et al., 2019) recommend, however, that the intrinsic value of health be valued fully (at 1.5 times GDP per capita) and counted in addition to the (instrumental) economic value of being able to work or increase earnings. Accordingly, this is the approach recommended here (the lower value of 0.5 times GDP per capita can be used in sensitivity analyses). For mental health conditions for which few data are available on labour force outcomes, such as psychosis and bipolar disorder, the instrumental value of health (which was valued at 1.0 times GDP per capita by the Lancet commission) can be used as a proxy estimate of the benefits of restored productivity. For more common conditions, such as depression, it can be measured directly.
Benefit: cost ratios and ROI

The main outputs of an ROI model are year-on-year estimates of:

• the total costs of scaling up the intervention or service (the investment);
• the increase in healthy life-years gained as a result of treatment (health return);
• the value associated with better health (the value of health returns); and
• higher productivity (economic return).

It is conventional to discount the stream of costs incurred and benefits obtained over the scaling-up period to obtain a ‘present value’. The proposed default discount rate is 3%, around which sensitivity analyses could be undertaken.

Annexes 2, 3 and 4 provide illustrative case studies of completed ROI analyses.

• Annex 2. The project example is an ROI analysis of the Friendship Bench, a brief psychological intervention delivered by lay health workers in Zimbabwe for individuals with common mental health conditions.
• Annex 3. The national example is an ROI analysis of mental health conditions and interventions in Jamaica.
• Annex 4. The international example is from a global ROI analysis of common mental disorders.

2.4 Analytical tools

WHO and other United Nations agencies developed the OneHealth Tool (OHT) for estimating the costs and effects of population health services, to inform sector-wide national strategic health planning and costing (WHO, 2013c). The tool provides planners with a single framework for health impact analysis as well as costing, budgeting and financing of strategies for all major diseases and health system components. While many tools are disease-specific, the OHT links the strategic objectives and targets of disease control and prevention programmes to the necessary investments in health systems. The OHT was prepared under the guidance of the United Nations Interagency Working Group on Costing. The first official version was released in May 2012, and OHT has been used in more than 35 countries.

During development of OHT and in the context of a research project on strengthening mental health systems, a mental health module was devised for estimating the costs and health impacts of services and interventions at population level (Chisholm et al., 2017). It can be downloaded and used for free at https://www.avenirhealth.org/software-onehealth.php. The mental health conditions currently programmed into OHT are psychosis, bipolar disorder, depression, anxiety, epilepsy and alcohol use disorders. Work is under way to add prevention of self-harm and suicide as well as mental health promotion and prevention for children and adolescents. A complete list is in Annex 1.
The mental health module provides an accessible tool for executing several steps in an ROI analysis:

- estimation of the number of people with mental health conditions in a specified population, such as a province or a country. By default, the estimates of population and disease prevalence are based on United Nations projections and the latest Global Burden of Disease study, respectively, but can be replaced by national estimates, if available;

- estimation of the resources and costs associated with scaled-up mental health interventions and services, by multiplying the expected use of resources by their unit cost and then by the population targeted for the intervention or service; summaries of total costs by year, intervention and cost category are automatically generated in the programme; and

- estimation of the numbers of cases of illness averted and healthy life-years gained over time in the population as a result of the intervention, by linking the epidemiology of mental disorder in OHT (prevalence, incidence, remission, excess mortality and disability weight) to national life tables.

Manuals are available for using OHT and for the NCD and mental health modules (https://www.avenirhealth.org/software-onehealth.php). The manual for the MNS module provides detailed information and guidance on deriving population-level costs and health impacts.

Although much of the data required for a national mental health investment case can be generated with OHT, it does not (yet) contain all the necessary economic variables and does not automatically produce ROI metrics and results. Temporarily, therefore, data can be synthesized and analysed with an ‘ROI calculator’ spreadsheet, available on request from the Task Force. The calculator comprises the following worksheets:

- **Input data**: demographic, economic and epidemiological data to calculate the economic burden and ROI, including GDP, GDP per capita and GDP per worker; workforce participation and unemployment rates; absenteeism and reduced capacity at work for people with MNS conditions; and prevalence and mortality rates for mental health conditions;

- **Economic burden**: estimates of lost productivity due to absenteeism, reduced capacity at work and premature mortality automatically calculated from input data;

- **Interventions**: pattern of increase in coverage used to calculate health outcomes (from OHT), the number of people reached by the interventions (from OHT) and a breakdown of the costs of drugs and ambulatory and hospital care (from OHT);

- **Cost of scaling-up**: automatically calculated annual costs of intervention (to calculate ROI for each intervention);

- **Health impact**: for each group of interventions (or for each intervention if required) with the MNS impact module of the OHT; and

- **Return on investment**: automatic calculation of the ROIs with the following economic and social benefits: averted prevalent cases, averted mortality, and social value of the healthy life-years gained.
2.5 Institutional and context analysis

Policy and investment decisions are rarely made based on social and economic data alone. The institutional and context analysis (ICA) component of mental health investment cases assesses the national political context of mental health intervention adoption and implementation, including how an ROI analysis would affect it. The ICA uncovers areas of consensus, political appetite and opportunity as well as challenges and barriers. It supports institutions to examine/determine political space for implementing priority interventions from the investment case, and for WHO, UNDP and partners to recommend strategies and approaches to increase that space.

A pilot mental health ICA carried out as part of the Jamaica investment case (Annex 3): (1) highlighted the need to transition from a hospital focus to a community-based response, including for management of mental disorders; (2) uncovered barriers to accessing, delivering and financing mental health services, including social stigma, misperceptions that care is not cost-effective, and low numbers and limited types of health workers trained and supervised in mental health care; (3) encouraged a multisectoral response to mental health; (4) identified opportunities to strengthen collaboration between mental health and primary care; and (5) recommended connecting investment case findings with Jamaica’s economic growth plan.

An initial ‘Basic Mental Health Institutional and Context Analysis Framework’, as well as description of activities and outputs, is below. A detailed topic guide for conducting mental health ICAs as part of investment cases is available (see Annex 5).
Table 5. Basic Mental Health Institutional and Context Analysis Framework

<table>
<thead>
<tr>
<th>Steps</th>
<th>Overarching question</th>
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<tbody>
<tr>
<td>1. Define the scope of the problem and assess the opportunities/challenges for responses.</td>
<td>“What are the needs, opportunities and challenges for mental health interventions?”</td>
</tr>
<tr>
<td>2. Determine institutional and governance arrangements and capacities.</td>
<td>“Who are the relevant actors, how do they operate, and are they capable, effective and efficient?”</td>
</tr>
<tr>
<td>3. Assess available and potential resources.</td>
<td>“What current and potential mechanisms, strategies and opportunities exist for financing the mental health response?”</td>
</tr>
<tr>
<td>4. Identify the political economy drivers.</td>
<td>“What are the political, economic and other priorities/incentives of the relevant actors – and how do these relate, broadly, to mental health interventions?”</td>
</tr>
<tr>
<td>5. Propose priority actions and identify key supporters and key opposition.</td>
<td>“Which cost-effective mental health interventions are most feasible given the political and economic context, and how are relevant actors likely to perceive them?”</td>
</tr>
<tr>
<td>6. Evaluate potential for change and identify enabling factors/strategies.</td>
<td>“How likely to be implemented are the priority actions and what factors/strategies can expand the political space for adoption and implementation?”</td>
</tr>
</tbody>
</table>

Activities and outputs

With WHO and UNDP Country Office support, social development specialists on the investment case mission team carry out the activities and produce the outputs below:

- **Conduct pre-mission desk research on the context of the participating country.** This should cover estimated mental health burdens, including how mental health conditions are distributed across populations, and other relevant information (e.g. population size, development indicators, socio-economic profile, broader epidemiological trends). The desk review should at minimum include relevant results from any previous WHO assessments and activities. The pre-mission desk research should also examine media coverage, if any, of mental health burdens, trends and policy responses (or lack thereof).

- **Conduct a comprehensive landscape analysis to determine factors such as:** existing and planned interventions; the governance structures, agencies, civil society organizations, private sector and other key stakeholders involved in the response – and the influence/views of each; potential bottlenecks to interventions; existing and potential financing mechanisms/resources; and promising approaches/strategies for implementing multisectoral mental health protection and promotion strategies.
• **Document results, experiences, recommendations and lessons learned in an ICA report.** The report should outline a clear plan for increasing the political space to adopt and implement mental health interventions, including by overcoming identified blockages and ensuring increased policy coherence across sectors of government. The report should be finalized in consultation with WHO, UNDP and other designated colleagues/counterparts. Recommendations from the ICA can assist in the communications strategy that ensures that an investment case is heard, understood and acted on.
3. **FINANCING THE INVESTMENT CASE FOR MENTAL HEALTH**

Estimates of the benefits and costs of scaled-up treatment for mental health conditions as part of a national investment case analysis provide information to support greater investment; however, they do not specify the sources of increased investment. Scaling-up evidence-based treatment and prevention will place new demands on health and welfare systems for administration and governance arrangements, additional human resources, upgraded infrastructure, greater access to medicines and strengthened surveillance. The budgetary implications of these extra claims on the health system are therefore a pressing concern for countries moving towards universal health coverage, including for MNS conditions.

The often high, potentially catastrophic cost to households of securing the health services and goods they need is the fundamental concern underlying the drive towards universal health coverage. Direct, out-of-pocket payments represent a regressive form of health financing; they penalize those least able to afford care and cause or exacerbate impoverishment. Pre-payment mechanisms, such as national or social insurance, are more equitable mechanisms for safeguarding at-risk populations from the adverse financial consequences of mental health conditions. Accordingly, the aim of universal health coverage is not only to improve service access and coverage but also to increase the proportion of the population with some form of financial protection and the proportion of total costs covered by some form of prepayment, such as an insurance premium.

A stepped approach to evaluating national financing requirements for mental health has been proposed (Chisholm et al., 2019) in the context of strengthening mental health systems and informed by frameworks for other disease priorities in the health sector, such as HIV infection. Domains of a sustainable financing framework beyond those covered in an ROI analysis include assessments of the mental health and general health systems, the current and projected macro-fiscal situations and selection of appropriate financing mechanisms.

**Assessment of the mental health and general health systems**

WHO’s framework (WHO, 2010) is a suitable structure for assessing a health system. It presents six ‘building blocks’ for health system strengthening: governance, health workforce, financing, service delivery, essential health technologies and information systems. Application of this framework to a national mental health system can address relevant contextual investment issues and questions (Table 6). Responses to the questions can be based on both quantitative indicators of workforce availability and spending levels, for example, and qualitative feedback from interviews or discussions with senior health policy experts in the country. One element of the health system assessment is current financing arrangements for both overall amounts flowing to NCDs and for ascertaining the relative contributions of households, governments and nongovernmental organizations to the costs of care and prevention. Such information is available in national health accounts (available nationally or from [http://www.who.int/health-accounts](http://www.who.int/health-accounts)), although no data are available on specific diseases or conditions.
### Table 6. Domains for assessing a national mental health system

<table>
<thead>
<tr>
<th>Domain</th>
<th>Questions for assessment</th>
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| Governance                  | What is the level of policy commitment to mental health?  
Is there an explicit national mental health policy and action plan?  
If so, what are its key features and objectives, and over what period is it to be implemented?  
To what extent was an inter-sectoral, multi-stakeholder approach to its development used?  
To what extent has the mental health action plan already been implemented sub-nationally?  
Which authority has the lead responsibility for implementing, monitoring and evaluating the mental health action plan? |
| Financing                   | What is the current level of total health spending in the country?  
What proportion of health spending is paid by the government?  
What proportion of total health spending is for mental health?  
What health insurance or other financial protection arrangements are in place? Are there any exemptions for the poor?  
What mental health conditions are covered by financial protection? |
| Health workforce            | What is the current availability of mental health specialists?  
What is the current availability of non-specialists? What role do they play in mental health care?  
What training programmes are available for non-specialists to build capacity in mental health care?  
What measures are there to enhance worker performance and retention (e.g. supervision, performance-related pay)? |
| Essential health technologies| What is the process for selecting essential medicines (for mental health conditions)?  
What measures are there to control the price and ensure rational prescribing of medicines?  
What are the volumes and prices of the medicines most commonly used for mental health conditions?  
What proportion of the population that requires essential medicines does not have physical or financial access? |
| Information systems         | Are data on mental health service uptake and outcomes of patients available through routine health information systems?  
What health system indicators of mental health are routinely reported? |
| Service delivery            | How are health services organized? What services and interventions for mental health care are provided at the various levels of the health system and beyond it (e.g. via social services or the education sector)?  
To what extent is mental health integrated into general health care (e.g. primary health care)? |
Assessment of the current and projected macro-fiscal situations

The next step is to understand the broader macro-fiscal context in which scaling-up is to be done. A country that is experiencing and expecting a prolonged period of economic growth, with manageable levels of indebtedness and a robust tax collection system, is likely to have different policy options from a country with a stagnant economy and/or a high level of indebtedness and reliance on external development assistance. A country with strong economic growth can be expected to have fewer constraints on public spending and therefore more ‘fiscal space’ to extend NCD control and prevention.

Critical measures of economic performance and progress include current and projected output (total and per capita GDP), levels of borrowing and debt (as percentages of GDP) and inflation (year-on-year change in consumer prices). Employment and capital investment rates are other important measures, given the place of labour and capital in determining overall economic activity. Measures of poverty and income inequality provide complementary information on the distribution of national wealth. Key fiscal measures are overall levels of government revenue and expenditure, including the running deficit (again as a percentage of GDP). The percentage of total government expenditure allocated to health provides a broad measure of the priority of this sector in relation to others. Such measures of economic performance and fiscal activity are regularly collected and compiled by the World Bank and the International Monetary Fund, and their data can be synthesized into a country profile with the latest estimates and also past and projected trends.

Identification and selection of financing mechanisms

Once the preceding steps have been completed, an informed discussion can be had about the most appropriate, feasible mechanisms for meeting the budgetary and other resource requirements for scaling-up mental health promotion, prevention and care. Selection should be based on: (i) good understanding of the current and projected threat to public health and economic growth posed by mental health conditions; (ii) up-to-date data on how well the health system can address and counter the threat in terms of service delivery, financing and other critical functions; (iii) awareness of the wider macroeconomic context of health and other sectoral development; and (iv) a clear plan of the resources required and the additional investment necessary to meet nationally agreed mental health goals and targets.

The vast majority of mental health financing will be domestic - external financing will be catalytic. These aspects are to be considered:

- the amount of investment needed;
- the level of political will to raise new resources for health;
- the fiscal space for raising new resources for health;
- eligibility for bilateral or multilateral funding;
- availability of bilateral or multilateral funding; and
- readiness or willingness to adopt innovative types of financing.
Such considerations are likely to be made in the broader international dialogue on financing for development, in particular the renewed emphasis on domestic financing through strengthened revenue collection (United Nations, 2015). The WHO list of ‘best buys’ and other recommended interventions on the prevention and control of NCDs includes cost-effective, pro-health, revenue-raising measures: (1) increase excise taxes and prices on tobacco products; (2) increase excise taxes on alcoholic beverages; and (3) reduce sugar consumption through effective taxation on sugar-sweetened beverages (WHO, 2017).

For many low- and middle-income countries, a first question will be whether domestic financing is feasible and sufficient to cover mental health promotion, prevention and care as part of a package of measures to be paid for from increased revenue generation. Lower-income countries eligible for official development assistance may ask a second question about the extent to which external funding could complement domestic resources to catalyze mental health service development or strengthening and, if so, from what source. In countries where domestic and/or external funding mechanisms are expected to be inadequate or pose a risk for fiscal stability, a further question is the potential role of market-based financing options as a suitable, feasible approach to generating and providing funds for outcomes-based scaling-up of mental health care services.
REFERENCES


Chisholm D, Heslin M, Docrat S, Nanda S, Shidaye R, Upadhaya N, et al. Scaling-up services for psychosis, depression and epilepsy in Sub-Saharan Africa and South Asia: development and application of a mental health systems planning tool (OneHealth). Epid Psych Sciences, 26: 234-244.


ANNEX 1.A MENTAL, NEUROLOGICAL AND SUBSTANCE USE HEALTH CONDITIONS AND TREATMENT INTERVENTIONS IN THE ONEHEALTH TOOL

<table>
<thead>
<tr>
<th>Target population</th>
<th>Targeted age group (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depression</strong></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support for mild cases</td>
<td>40% of persons with depression</td>
</tr>
<tr>
<td>Basic psychosocial support and anti-depressant medication for first episode moderate-severe cases</td>
<td>60% * 30% of persons with depression</td>
</tr>
<tr>
<td>Psychological treatment for first episode moderate-severe cases</td>
<td>60% * 30% of persons with depression</td>
</tr>
<tr>
<td>Psychological treatment and anti-depressant medication for first episode moderate-severe cases</td>
<td>60% * 30% of persons with depression</td>
</tr>
<tr>
<td>Basic psychosocial support and anti-depressant medication for recurrent moderate-severe cases on an episodic basis</td>
<td>60% * 70% of persons with depression</td>
</tr>
<tr>
<td>Psychological treatment for recurrent moderate-severe cases on an episodic basis</td>
<td>60% * 70% of persons with depression</td>
</tr>
<tr>
<td>Psychological treatment and anti-depressant medication for recurrent moderate-severe cases on an episodic basis</td>
<td>60% * 70% of persons with depression</td>
</tr>
<tr>
<td>Basic psychosocial support and anti-depressant medication for recurrent moderate-severe cases on a maintenance basis</td>
<td>60% * 70% of persons with depression</td>
</tr>
<tr>
<td>Psychological treatment for recurrent moderate-severe cases on a maintenance basis</td>
<td>60% * 70% of persons with depression</td>
</tr>
<tr>
<td><strong>Psychosis</strong></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support and (older) anti-psychotic medication</td>
<td>Persons with psychosis</td>
</tr>
<tr>
<td>Psychological treatment and (older) anti-psychotic medication</td>
<td>Persons with psychosis</td>
</tr>
<tr>
<td>Basic psychosocial support and (newer) anti-psychotic medication</td>
<td>Persons with psychosis</td>
</tr>
<tr>
<td>Psychological treatment and (newer) anti-psychotic medication</td>
<td>Persons with psychosis</td>
</tr>
<tr>
<td><strong>Bipolar disorder</strong></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support plus mood-stabilizing medication (valproate)</td>
<td>Persons with bipolar disorder</td>
</tr>
<tr>
<td>Psychological treatment plus mood-stabilizing medication (valproate)</td>
<td>Persons with bipolar disorder</td>
</tr>
<tr>
<td>Basic psychosocial support plus mood-stabilizing medication (lithium)</td>
<td>Persons with bipolar disorder</td>
</tr>
<tr>
<td>Psychological treatment plus mood-stabilizing medication (lithium)</td>
<td>Persons with bipolar disorder</td>
</tr>
<tr>
<td><strong>Epilepsy</strong></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support plus anti-epileptic medication</td>
<td>Persons with epilepsy</td>
</tr>
<tr>
<td><strong>Alcohol use/dependence</strong></td>
<td></td>
</tr>
<tr>
<td>Brief interventions for identified cases of alcohol use/dependence</td>
<td>Persons with alcohol use disorder</td>
</tr>
</tbody>
</table>
### ANNEX 1.B MENTAL, NEUROLOGICAL, AND SUBSTANCE USE CONDITIONS AND TREATMENT INTERVENTIONS IN THE ONEHEALTH TOOL: EFFECT SIZES

<table>
<thead>
<tr>
<th>Intervention efficacy</th>
<th>Incidence</th>
<th>Remission</th>
<th>Case fatality</th>
<th>Function</th>
<th>Adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support for mild cases</td>
<td>0%</td>
<td>25.0%</td>
<td>0%</td>
<td>5.8%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Basic psychosocial support and anti-depressant medication for first episode moderate-severe cases</td>
<td>0%</td>
<td>35.0%</td>
<td>0%</td>
<td>9.1%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Psychological treatment for first episode moderate-severe cases</td>
<td>0%</td>
<td>35.0%</td>
<td>0%</td>
<td>12.4%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Psychological treatment and anti-depressant medication for first episode moderate-severe cases</td>
<td>0%</td>
<td>35.0%</td>
<td>0%</td>
<td>12.4%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Basic psychosocial support and anti-depressant medication for recurrent moderate-severe cases on an episodic basis</td>
<td>0%</td>
<td>35.0%</td>
<td>0%</td>
<td>9.1%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Psychological treatment for recurrent moderate-severe cases on an episodic basis</td>
<td>0%</td>
<td>35.0%</td>
<td>0%</td>
<td>12.4%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Psychological treatment and anti-depressant medication for recurrent moderate-severe cases on an episodic basis</td>
<td>0%</td>
<td>35.0%</td>
<td>0%</td>
<td>12.4%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Basic psychosocial support and anti-depressant medication for moderate-severe cases on a maintenance basis</td>
<td>40%</td>
<td>35.0%</td>
<td>0%</td>
<td>9.1%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Psychological treatment for recurrent moderate-severe cases on a maintenance basis</td>
<td>40%</td>
<td>35.0%</td>
<td>0%</td>
<td>12.4%</td>
<td>70.0%</td>
</tr>
<tr>
<td><strong>Psychosis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support and (older) anti-psychotic medication</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>32.2%</td>
<td>65.0%</td>
</tr>
<tr>
<td>Psychological treatment and (older) anti-psychotic medication</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>32.2%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Basic psychosocial support and (newer) anti-psychotic medication</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>47.1%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Psychological treatment and (newer) anti-psychotic medication</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>47.1%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Intervention efficacy</td>
<td>Adherence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence</td>
<td>Remission</td>
<td>Case fatality</td>
<td>Function</td>
<td>Adherence</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
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<td></td>
</tr>
<tr>
<td><strong>Bipolar disorder</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support plus mood-stabilizing medication (valproate)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>34.0%</td>
<td>65.0%</td>
</tr>
<tr>
<td>Psychological treatment plus mood-stabilizing medication (valproate)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>34.0%</td>
<td>71.5%</td>
</tr>
<tr>
<td>Basic psychosocial support plus mood-stabilizing medication (lithium)</td>
<td>0%</td>
<td>0%</td>
<td>-65%</td>
<td>40.0%</td>
<td>65.0%</td>
</tr>
<tr>
<td>Psychological treatment plus mood-stabilizing medication (lithium)</td>
<td>0%</td>
<td>0%</td>
<td>-65%</td>
<td>40.0%</td>
<td>71.5%</td>
</tr>
<tr>
<td><strong>Epilepsy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic psychosocial support plus anti-epileptic medication</td>
<td>0%</td>
<td>60.0%</td>
<td>0%</td>
<td>47.0%</td>
<td>70.0%</td>
</tr>
<tr>
<td><strong>Alcohol use/dependence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brief interventions for identified cases of alcohol use/dependence</td>
<td>0%</td>
<td>15.0%</td>
<td>0%</td>
<td>0%</td>
<td>50.0%</td>
</tr>
</tbody>
</table>
ANNEX 2. RETURN ON INVESTMENT: CASE STUDY AT PROJECT LEVEL: FRIENDSHIP BENCH, ZIMBABWE

Scope

A cluster randomized controlled trial of a brief psychological intervention for common mental health conditions delivered by lay health workers was studied in 24 health clinics in Harare, Zimbabwe. The ROI analysis addressed the impact of initial programme implementation and the additional benefits of extending the intervention to 76 health clinics in Harare, Gweru and Chitungwiza, with a total population of two million in 2016. Other project characteristics are listed below. The main values were:

- Scaling-up period (2016–2020): 5 years
- Population (Harare, Gweru, Chitungwiza): 2 million
- Cases in 2016: depression: 88 000 (prevalence: 4.2%); anxiety: 77 000 (prevalence: 3.7%)
- Intervention coverage:
  - current (in 24 health clinics in Harare): depression, 3.1% of all cases; anxiety, 2.1% of all cases
  - target (in 76 health centres in three cities with a recruitment rate of four cases of depression and three of anxiety per week): depression, 14.9%; anxiety, 10.7%

Investment required

The estimated cost of scaling up the Friendship Bench intervention to two million inhabitants, expressed as the present value of the total expenditure required for the scaling-up period 2016–2020 (i.e. the cumulative cost over 5 years of steady scaling-up but discounted at a rate of 3%) is US$ 1.5 million for depression and anxiety. This covers incremental coverage of the population with treatment, over and above current coverage. Standardization for population size showed that the average annual cost of scaled-up investment in treatment for depression and anxiety over 5 years is US$ 0.14 per person in Harare, Gweru and Chitungwiza.

Health impact

A modest decrease in the estimated prevalence of depression and anxiety was observed at the three sites as a result of faster recovery of treated cases. Over the next 5 years, the gradual decrease in prevalence will amount to 24 000 averted cases (20 000 fewer cases of depression and 4000 fewer of anxiety disorder). Weighting averted prevalent cases by the average level of improved functioning (or reduced disability) provides a measure of healthy life-years gained. For depression and anxiety combined, the cumulative number of healthy life-years gained over 5 years is 9000 (8000 for depression and 1000 for anxiety).
<table>
<thead>
<tr>
<th><strong>Project</strong></th>
<th><strong>Friendship Bench</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country and WHO region</strong></td>
<td>Zimbabwe, African Region</td>
</tr>
<tr>
<td><strong>Project summary</strong></td>
<td>A two-arm cluster randomized controlled trial of a brief psychological intervention for common mental health conditions with an e-health approach, delivered by appropriately trained lay health workers in Zimbabwe</td>
</tr>
<tr>
<td><strong>Conditions</strong></td>
<td>Depression and anxiety</td>
</tr>
<tr>
<td><strong>Intervention</strong></td>
<td>The intervention is delivered on a bench by elderly women commonly referred to as ‘grandmother health providers’, who use smart phones and tablets to communicate with their supervisors. Treatment consists of six structured 45-min sessions delivered on a wooden bench in a discrete area on the grounds of a clinic.</td>
</tr>
<tr>
<td><strong>Outcome measure</strong></td>
<td>Primary outcome measure: 14-item Shona symptom questionnaire (SSQ) applied 6 months after entry to the trial. Secondary outcomes: SSQ at 12 months, patient health questionnaire (PHQ) 6 and 12 months after recruitment and function levels and other health indicators from WHO disability assessment schedule and seven-item generalized anxiety disorder (GAD-7) surveys 6 and 12 months after recruitment.</td>
</tr>
<tr>
<td><strong>Study size</strong></td>
<td>2,960 people screened for depression in 24 public clinics in Harare; 468 and 568 followed up</td>
</tr>
<tr>
<td><strong>Impact</strong></td>
<td>Strong effects seen on all outcome measures, with clinically and statistically significant improvements in depression, anxiety, quality of life and functioning in 246 participants (40% HIV-positive) in the intervention arm 6 months after start of therapy as compared with the control group. Full results are awaited, but they are likely to demonstrate that the innovation is affordable (low cost) and more cost-effective than usual care.</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td>Strong support from the Ministry of Health (e.g. for training) will be necessary. It is not clear whether that is available or whether common mental disorders are a priority for the Government.</td>
</tr>
<tr>
<td><strong>Data collected</strong></td>
<td>Baseline mean, follow-up mean and standard deviation of scores for SSQ and PHQ tests at baseline and follow-up. Baseline mean WHO-DAS, GAD-7 and five-dimensional Euro quality of life (EQ-5) scores. Mean test score and standard error for the control and intervention arms on all four tests and crude difference (with 95% confidence interval (CI)). Prevalence of depression based on test scores for all four tests in control and intervention arms at 6 months after recruitment, relative risk and change in relative risk after intervention (95% CI included). Attrition rate. Intervention coverage. Detailed intervention costing, including staff type, time allotted per treatment, total number of treatment sessions, training costs, salaries and programme costs. Prevalence of other conditions studied (anxiety)</td>
</tr>
</tbody>
</table>
**Social and economic benefits**

Scaling-up the Friendship Bench intervention between 2016 and 2020 is projected to avert US$ 12.2 million in lost productivity due to anxiety and depression. The ‘zeebag’ income generation component of the project, in which beneficiaries make and sell bags made from recycled plastic, accounted for US$ 1.7 million, 14% of the total; the remaining economic gain is from return to work and greater productivity at work. The monetized value of improvements in health is estimated to be US$ 4 million. Accordingly, the total value of benefits due to improved health and productivity for the entire period of scaling-up, discounted at 3% to give a present value, is US$ 16.3 million (US$ 14 million for depression and US$ 2.3 million for anxiety).

**Return on investment**

By summing the discounted costs and benefits, a summary measure of the relation between the benefits of scaled-up treatment and the associated costs of investment can be derived. If the assessment is restricted to zeebag income generation (no other health or economic benefits included), the rate of return is < 1 ([additional income of US$ 1.7 million – investment of US$ 1.5 million] / investment of US$ 1.5 million = 0.1). Inclusion of productivity gains and income generation in the calculation gave an ROI ratio of 7.0. Extension of the benefit-cost analysis to include the estimated value of health returns increased the estimated return on investment to 9.6; that is, for every US$ 1 invested in the Friendship Bench, up to US$ 10 will be returned in terms of improved health, productivity and income generation.
ANNEX 3. RETURN ON INVESTMENT: CASE STUDY AT NATIONAL LEVEL: JAMAICA

The ROI study was prepared by an international team, in collaboration with the Ministry of Health and Wellness of Jamaica, consisting of RTI International, the Pan American Health Organization, United Nations Development Programme, and the United Nations Inter-Agency Task Force on Noncommunicable Diseases.

Mental health conditions impose a high economic burden, as individuals who suffer from mental illness are more likely to leave the labour force, miss days of work (absenteeism) or work at reduced capacity. In Jamaica, the burden of mental illness is considerable and is predicted to result in US$ 2.76 billion in lost economic output between 2015 and 2030, which is more than is predicted to be lost from all NCD conditions individually, except cardiovascular disease.

With timely, effective treatment, most people with mental illness can regain full health. Unfortunately, access to mental health services is poor in Jamaica, with insufficient resources allocated to scaling up treatment for mental illness. In this context, an analysis of the expected ROI over 15 years of scaling up interventions for depression, anxiety and psychosis in Jamaica was carried out. The interventions were selected with the Jamaican Ministry of Health and Wellness and are part of the WHO Mental Health Gap Action Programme (mhGAP). For depression and anxiety, basic psychosocial interventions designed to address psychosocial stressors and pharmacological treatment were assessed. For psychosis, pharmacological treatment combined with either basic psychosocial treatment through education and social rehabilitation or intensive psychosocial treatment with therapy for social skills and family relationships were evaluated.

The WHO Inter-Agency OHT and the mhGAP costing tool were used to estimate the medical costs associated with these interventions, and estimates of use were derived from the report of the Jamaica Task Force on Mental Health and Homelessness to account for the costs of the programme and health system that would deliver the interventions. OHT was also used to calculate the expected health gains from scaling up psychosocial and pharmacological treatment for depression, anxiety and psychosis.

It was found that scaling up psychosocial interventions and pharmacological treatment for depression, anxiety and psychosis in Jamaica will:

- **improve health.** Scaled-up treatment for depression, anxiety and psychosis will restore 75 883 healthy life-years, with 51 328 life-years for people with depression and 22 671 for those with anxiety, by reducing disability and increasing remission rates. For psychosis, an extra 1884 healthy life-years will be realized from reduced disability alone.

- **provide total benefits (60 billion Jamaican dollars) that significantly outweigh the costs (15.9 billion JMD).** Health gains due to scaled-up treatment for depression, anxiety and psychosis will lead to large gains in economic productivity (a present value of 38.9 billion JMD and social benefits (a net present value of 21.1 billion JMD).
These benefits significantly outweigh the costs of medical care (14.2 billion JMD) and implementation of the intervention (1.7 billion JMD) associated with scaling up treatment.

- **have a high ROI.** Comparison of the economic and social benefits of scaling up treatment for depression, anxiety and psychosis with the cost of implementation indicates that interventions for anxiety have the highest ROI: for every JMD invested in clinical treatment for anxiety, the return will be 5.5 JMD. The ROI for the depression treatment package is 5.2 and that for psychosis is 1.1.

Although mental illness poses a significant health and economic burden, results show that Jamaica can significantly reduce the burden by investing in interventions to improve mental health.

For more information, contact Brian Hutchinson at RTI International: *(bhutchinson@rti.org)*.
ANNEX 4. RETURN ON INVESTMENT: CASE STUDY AT INTERNATIONAL LEVEL: GLOBAL ANALYSIS FOR DEPRESSION

Dan Chisholm, Kim Sweeny, Peter Sheehan, Bruce Rasmussen, Filip Smit, Pim Cuijpers, Shekhar Saxena

Background
Depression is a highly prevalent and disabling condition, which results not only in human misery and lost health but also lost economic output.

Methods
A global ROI analysis was carried out, covering 80% of the world’s population. The mental health module of the OHT was used to calculate treatment costs and health outcomes in 36 countries for the period 2016–2030, on the assumption of a linear increase in treatment coverage. A modest improvement of 5% in both ability to work and productivity at work as a result of treatment was factored in and subsequently mapped to the prevailing rates of labour participation and GDP per worker in each country.

Findings
The present value of investment required during 2016–2030 to significantly scale up effective treatment coverage for depression is substantial, amounting to US$ 91.5 billion. The expected returns on this investment are also substantial. Scaled-up treatment would lead to 37 million extra years of healthy-life during the period. The economic value of these extra healthy life-years amount to a present value of US$ 258 billion. Over and above the intrinsic benefits of better health, scaled-up treatment for common mental disorders will also result in large gains in economic productivity (a present value of US$ 230 billion). For all country income groups, the resulting benefit: cost ratios would be 2.5 to 1 for economic benefits only and 5.3 to 1 when the value of health returns is included.

Interpretation
ROI analyses such as that reported here can contribute strongly to a balanced investment case for action to address the large, growing burden of depression throughout the world.
## Costs and benefits

<table>
<thead>
<tr>
<th>Description</th>
<th>All 36 countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population of countries analysed (millions, 2013)</td>
<td>5,751</td>
</tr>
<tr>
<td>Total investment (present value, US$ million)</td>
<td>91,522</td>
</tr>
<tr>
<td>Average annual investment (present value, US$ per capita)</td>
<td>1.50</td>
</tr>
<tr>
<td>Health returns (healthy life-years gained [HLY])</td>
<td>36,908,711</td>
</tr>
<tr>
<td>Economic returns (present value, US$ million)</td>
<td>229,744</td>
</tr>
<tr>
<td>Value of health returns (present value, US$ million) (HLY x GDP per capita x 0.5)</td>
<td>257,694</td>
</tr>
<tr>
<td>Benefit: cost ratio (economic returns)</td>
<td>2.5</td>
</tr>
<tr>
<td>Benefit: cost ratio (economic and value of health returns)</td>
<td>5.3</td>
</tr>
<tr>
<td>ROI (economic returns)</td>
<td>1.5</td>
</tr>
<tr>
<td>ROI (economic and value of health returns)</td>
<td>4.4</td>
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</table>

ANNEX 5. TOPIC GUIDE FOR ICA MISSIONS

<table>
<thead>
<tr>
<th>Date:</th>
<th>Interviewer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Informant Affiliation/Organization:</td>
<td></td>
</tr>
<tr>
<td>Key Informant Name(s):</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Questions related to ICA methodology in blue, Probing questions to be adapted based on key informant(s).

### 1. Defining the perceived scope of the problem

#### 1.1 What are the **main challenges** concerning mental health needs, policies or services in your work? [insert wording based on this person’s ministry/department/agency/area of work]

[Probing questions: e.g. interviewee understanding of mental health, national circumstances affecting mental health, specific MH conditions, specific groups that are vulnerable to MH problems, MH services (availability, accessibility, acceptability, quality), human rights, stigma and discrimination, demand for services, human resources for MH]

### 2. Identifying social/political/economic drivers and how they relate to mental health

#### 2.1 How does mental health fit into the **overall priorities of your work**? [insert wording based on this person's ministry/department/agency/area of work]

[Probing questions: e.g. Financing of MH compared to other areas of work, MH as part of other areas of work and broader development domain/2030 Sustainable Development Agenda (e.g. migration, crisis prevention and recovery, poverty, nutrition, education, gender equality, decent work); options to mainstream mental health considerations and interventions into the core work of non-health sectors such as education, labour, justice, transport, environment, housing, and social welfare]
### 3. Determining current institutional arrangements, governance mechanisms and available/potential resources

#### 3.1 What is currently being done by [insert person’s ministry/department/agency] to address mental health needs?

[Probing questions: Financial resources allocated, existing MH laws, policies and plans and their implementation, any specific key initiatives or pilot projects, effectiveness/success or challenges regarding what is being done (e.g. resources, implementation)]

#### 3.2 What is being done by other actors [e.g. other ministries/agencies, INGOs, civil society] to address mental health needs?

[Probing questions: Any specific key initiatives or pilot projects, effectiveness/success or challenges regarding what is being done (e.g. resources, implementation)]

#### 3.3 What else could be done by [insert person’s ministry/department/agency] to address these needs and challenges?

[Probing questions: Gaps and opportunities in leadership (including identification and empowerment of public and political champions), governance and partnerships for mental health (including persons with lived experience), human rights (including discrimination and institutionalization), ways to strengthen information systems, evidence and research, MH interventions and services, human resources for MH, resources that can be mobilized internally from potential donors for MH]

### 4. Proposing priority actions and identify key supporters and key opposition

#### 4.1 Which mental health interventions or activities are most feasible [given the political and economic context and resources], and how are relevant actors likely to perceive them?

[Probing questions: Rationale for selecting specific MH priorities, are they supported by a critical mass of actors? Which stakeholders/actors are critical in influencing decisions? What are anticipated challenges and how those could be overcome? What would be optimal timing and sequencing regarding strategies and political/financial resources that can improve the likelihood of success?]
5. Additional questions

Probe topics, depending on interlocutor:

• MH interventions/priority actions
• Main MH actors/cooordination
• Socio-political engagement for MH
• MH funding

Detailed questions, by topic:

MH interventions/priority actions

• What have been the common arguments/tactics for and against different types of MH-related interventions? Who is responsible for them and what is their effect?

• Based on the information collected, which perceived cost-effective MH-related interventions are most/least likely to be supported across a critical mass of actors? What are the pros/cons of each, and how do they advance or impede (or not affect) the interests of the most influential actors?

• What are the most feasible entry points for introducing these interventions in the short-, medium- and long-term?

• What is the optimal timing, tailoring, and sequencing of the priority MH actions (e.g. how can key windows of political opportunity be maximized, such as national planning/programme processes)?
Main MH actors/coordination

- Which institutions, sectors of government and other stakeholders including industry (collectively ‘actors’) influence the country’s MH-related targets, plans and interventions?
- What are their roles, responsibilities and capacities (defined and informal)? Is there clarity/agreement over these?
- What are the main interests and priorities (political/economic/other) of the relevant actors?
- Given interests, priorities and incentives, as well as historical legacies, which actors are most likely to support MH programmes, and which are most likely to oppose them (i.e. which actors gain from the status quo, and which gain from a strengthened MH response)?
- How can ‘allied’ actors be empowered/supported to promote the MH-related interventions? What other strategies and political/financial resources can improve the likelihood of success (e.g. can media, NGOs and/or civil society be engaged to counter the opposition’s potential arguments)?
- Relative to each other, which actors have the most/least political influence, money and resources? How capable, effective and efficient is each actor in either advancing or impeding MH-related interventions?
- What incentives could make key actors put public interest before private interest? Can these private interests be leveraged for public gain?
- What broader social, economic and political trends/forces are relevant to national MH responses?
- What are the existing coordination mechanisms for MH in the country?
- What needs to be done to ensure coordination and supervision of MH activities at the local level?
- To what extent are multisectoral approaches recognized/valued?
- What role do traditional/religious healers have in MH care at community and political levels?
Socio-political engagement for MH

- Does the country consider itself a leader in MH in the region? If so how does that affect decision making?
- Are certain groups particularly in favour or against having mental health policies and services aligned with human rights conventions (e.g. CRPD)?
- Are certain groups particularly in favour or against community-based mental health services?
- Are certain groups particularly in favour or against deinstitutionalization?
- Are certain groups particularly in favour or against a focus on cost-effectiveness and evidence-based interventions?
- Are the priority MH-related interventions likely to be implemented within the existing political space?
- Are there other promising approaches for expanding political support for MH responses (e.g. can certain private sector interests and/or broader social, economic and political forces be leveraged)?
- How can public awareness and debate be harnessed to drive policy change or influence institutional decisions?
- How are priorities shaped by political/election cycles?
- What past political/social/economic conditions or events have caused an acceleration in MH/general health programmes?
- What is the general population’s expectations for the government in terms of MH services? And how can this be changed to increase demand for coverage and quality?
# MH financing system

- Is the country receiving – or has it previously received – external/donor funding for MH responses? If yes, what for?
- What mental health interventions, if any, are part of health care benefit packages or insurance schemes?
- Are existing and planned MH policies/interventions budgeted for?
- Which donors are potentially interested in financing MH programmes?
- How is the country planning on financing the public mental health system in the long run?
- Have innovative domestic financing strategies been considered and/or implemented, including taxes on health-harming products, analyzing public expenditures across sectors to ensure coherence with MH policies/objectives, identifying high-value integrated responses, etc.?