

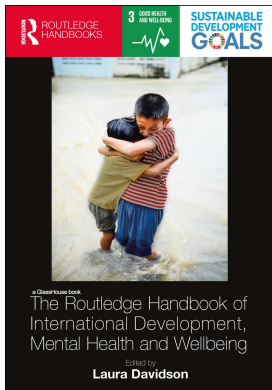
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3

MEETING SDG3

The role of economics in mental health policy

Martin Knapp and Valentina Iemmi†*

Introduction

In today's global world, economic issues are of the utmost importance—even more so than previously. There is a pervasive scarcity of resources worldwide. Mental health has often lost out in battles to access those scarce resources, particularly in low- and middle-income countries (LMICs). This chapter will focus on four specific aspects. It will discuss the relationship between mental health issues and economic performance, with effects such as unemployment, work absenteeism, education disruption (consequently affecting human capital) and economic growth. The ways in which economic considerations can affect mental health and wellbeing will be explored, including the effect of poverty, unemployment and unsecured debt on common mental disorders. Given that resources are in scarce supply, it is also necessary to analyse economic evaluation methodology, such as the tools available to assess cost-effectiveness. Finally, using several case studies, the chapter will explore how various methods can inform decision-makers, and particularly those in LMICs, in order to help them meet relevant Sustainable Development Goals (SDGs) in the mental health context.

Why are economic issues important?

Most mental health problems are complicated and distressing. They have negative consequences for individuals who are unwell, as well as for their families, their peers at school, college or work, employers and in wider society. They can cause temporary or permanent incapacity, abject misery, self-loathing and personal shame, and lead to public stigma and discrimination in many different settings. They can prompt violent behaviour, self-harm and suicidal ideation,¹ leading societies to impose restrictions on individual liberty because of assumed or confirmed risks to

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1 For statistics on suicide and self-harm, see Chapter 1 of this book by Shekhar Saxena and Laura Davidson.

these individuals themselves, or to others. They are associated with poor health behaviours and premature mortality.² There may also be some positives: mental illnesses may give people new insights, help them to embrace change, and may even energise them.³ Overwhelmingly, however, the negatives outweigh any positives.

These wide-ranging and largely deleterious consequences make mental illness appear ‘expensive’ in the sense that scarce resources must be devoted to respond to them, often over long periods. As a result, decision-makers controlling health care and other budgets often look for ways to reduce these resource impacts, with careful thought about how to deploy resources in order to meet needs associated with mental illness or, better still, how those needs can be prevented from emerging in the first place. Evidence from economic evaluations help decision-makers think through the options.

When considering whether a health care intervention warrants support, the core ‘clinical’ question is whether it reduces symptoms or improves functioning. The equivalent for preventive strategies is whether the target illness is prevented or its impact lessened. If one were to adopt a recovery focus,⁴ the equivalent question would be the degree to which personally defined goals have been achieved, whether in terms of objective indicators of social roles or subjective indicators of personal goals. However, resources are always scarce, so decision-makers will face a second question: are the resources employed to deliver the intervention or strategy justified by the effects (outcomes) that are achieved? Those decision-makers include government ministers, elected politicians, chief executives and boards of major corporations, owners of small enterprises, health insurance fund managers, and almost every purchaser, provider and professional in health, social care, housing, education and other systems. Scarcity is everyone’s everyday reality.

In the next section of this chapter the ways in which mental health issues can influence economic performance will be considered. The third section will discuss connections in the other direction, such as how economic considerations and experiences can affect mental health. Methods of economic evaluation will then be examined (the best known of which is cost-effectiveness analysis), and how evidence from evaluation studies can inform decision-makers in LMIC contexts. In the final section, these economic arguments will be evaluated in the context of the UN SDGs, along with illustrations.

Mental health affects economic performance

Wide-ranging costs

Mental health issues—when recognised and responded to—can have sizeable impacts on health care budgets, associated with treatments delivered in inpatient, outpatient, community and primary care settings. Of course, as other chapters in this book have shown,⁵ the vast majority of people with mental health needs in LMICs do not have access to treatment: a few years ago,

2 For more on these aspects, see *ibid.*

3 See, e.g., Galvez, J. F., Thommi, S., & Ghaemi, S. N. (2011), Positive aspects of mental illness: a review in bipolar disorder, *Journal of Affective Disorders*, 128(3): 185–190.

4 Ramon, S., Healy, B., & Renouf, N. (2007), Recovery from mental illness as an emergent concept and practice in Australia and the UK, *International Journal of Social Psychiatry*, 53(2): 108–122.

5 See, e.g., Chapter 1 of this book by Shekhar Saxena and Laura Davidson, and Chapter 2 by Lawrence O. Gostin and Laura Davidson.

the World Health Organization (WHO) estimated that between 76% and 85% of people with severe mental, neurological and substance use disorders had received no treatment in the previous 12 months.⁶ Even in high-income countries, the ‘treatment gap’ between those requiring treatment and those receiving it is wide. When treatment services are available, patients and families may need to make high out-of-pocket payments to access them, either in cash or kind. Very commonly there will be wider consequences of poor mental health, so that some people will need support in relation to housing, social care or employment, whilst others may exhibit behaviours that lead to contact with criminal justice agencies. Difficulties with employment as a result of mental illness may generate productivity losses for the economy, and income losses for the individual.

Consequently, there will be both direct and indirect costs arising from mental health issues, many of them lasting for many years, and ranging widely across different services and systems. A few years ago the World Economic Forum (WEF) estimated the global costs of the most common non-communicable diseases (NCDs), making projections to 2030.⁷ For mental health issues, the global cost in 2010 was calculated to be almost US\$2.5 trillion, two-thirds of which was accounted for by indirect costs. By 2030, these mental health-related costs were projected to increase to US\$6 trillion. In relative terms, the estimated costs of mental health exceed current costs in relation to cardiovascular disease, chronic respiratory disease, cancer or diabetes. By 2030, mental health issues are projected to account for more than half of the overall global economic burden attributable to NCDs. As the authors of the WEF report emphasise, people with mental health issues are at above-average risk of other NCDs (such as cardiovascular disease and diabetes), so that the global economic impact is actually much higher. This treatment-related cost would be considerably higher if there was universal health coverage which extended health care to everyone with mental, neurological and substance use (MNS) disorders, although such calculations are always fraught with difficulties.⁸ On the other hand, recognising and responding to the mental health needs of a much wider group of people would bring enormous improvements in quality of life.

In terms of the economic effects of mental illness, the high costs borne by families are often overlooked. These include payments for health care treatments and the opportunity costs of providing unpaid care and support which can disrupt employment and damage earnings for those family members.⁹ Calculations in the *World Alzheimer Report 2010* suggested that unpaid care from family members and others represented more than half the total costs of dementia in low-income countries, and almost two-thirds in lower-middle-income countries.¹⁰

6 WHO (2008), *mhiGAP: Mental Health Gap Action Programme: Scaling up Care for Mental, Neurological and Substance Use Disorders* (Geneva: WHO).

7 Bloom, D. E., Cafiero, E. T., Jané-Llopis, E., et al. (2011), *The Global Economic Burden of Noncommunicable Diseases* (Geneva: World Economic Forum). See also Chapter 1 of this book by Shekhar Saxena and Laura Davidson.

8 Chisholm, D., Johansson, K. A., Reykar, N., et al. (2015), ‘Universal health coverage for mental, neurological, and substance use disorders: an extended cost-effectiveness analysis’, in V. Patel, D. Chisholm, T. Dua, et al. (eds) (2015), *Mental, Neurological, and Substance Use Disorders. Disease Control Priorities* (3rd edn), Vol.4 (Washington, DC: World Bank).

9 Hamber, B. E. (1997), *The Burden of Care: An Analysis of the Burden of Care on the Caregivers of Psychiatric Outpatients* (Johannesburg: Centre for Health Policy, Department of Community Health, University of the Witwatersrand).

10 Wimo, A. & Prince, M. (2010), *World Alzheimer Report 2010: The Global Economic Impact of Dementia* (London: Alzheimer’s Disease International).

The enduring nature of most mental health issues means that there will be economic impacts across the life-course for many people: a need for support in school, but still under-achievement in terms of educational qualifications; poor employment chances, frequent absences from work, low wages and slow career progression; heavy use of both generic and specialist health services through childhood and adulthood; perhaps continuing behavioural problems that result in antisocial and criminal activity, or possibly in substance use; and difficulties with personal relationships. One UK study found that adulthood economic impacts that could be traced back to childhood mental health issues were much greater than the impacts of physical illnesses, and occurred earlier in adulthood.¹¹

Employment, productivity and economic growth

Employment is an especially important sphere,¹² because of its key roles in both national economic growth and personal economic circumstances, as just noted. In fact, there are multiple, complex, two-way links between mental health issues and employment difficulties. On the one hand, people with mental health issues are at greater risk of unemployment, job insecurity, absenteeism, presenteeism (reduced productivity when at work due to debilitating symptoms), low salaries, and early retirement.¹³ This is partly because of their episodic or more permanent state of ill-health, partly because their history of disrupted employment (and education) leaves them less well placed to compete with others for paid work or promotion, and partly because of endemic social stigma and widespread discrimination by employers and others.¹⁴

Although documented most robustly in high-income countries,¹⁵ these adverse impacts have been reported in other countries across the world.¹⁶ Psychoses, which are most likely to emerge when people are in their late teenage years or early 20s, can be especially damaging, given that the typical age of onset is precisely the time when many individuals are looking to make key investments in their human capital.¹⁷

On the other hand, experiences of stress, bullying and other difficulties in the workplace can cause or exacerbate mental health issues such as anxiety and depression.¹⁸ Given the close links between employment, income, personal debt and poverty (as discussed further below), the

11 Goodman, A., Joyce, R., & Smith, J. P. (2011), The long shadow cast by childhood physical and mental problems on adult life, *Proceedings of the National Academy of Sciences of the United States of America*, 108 (15): 6032–6037.

12 For an in-depth consideration of mental health and employment see further Chapter 14 of this book by Aart Hendriks.

13 Organisation for Economic Co-operation and Development (2012), *Sick on the Job? Myths and Realities about Mental Health and Work* (Paris: OECD).

14 For more on this topic, see, e.g., G. Thornicroft (2006), *Shunned: Discrimination against People with Mental Illness* (Oxford: Oxford University Press).

15 OECD, *op. cit.*, nt.13.

16 Kawakami, N., Abdulghani, E., Alonso, J., *et al.* (2012), Early-life mental disorders and adult household income in the World Mental Health Surveys, *Biological Psychiatry*, 72(3): 228–237.

17 Fleischhacker, W., Arango, C., Arteel, P., *et al.* (2014), Schizophrenia: time to commit to policy change, *Schizophrenia Bulletin*, 40(33): S165–S194.

18 Harvey, S. B., Modini, M., Joyce, S., *et al.* (2017), Can work make you mentally ill? A systematic meta-review of work-related risk factors for common mental health problems, *Occupational and Environmental Medicine*, 74(4): 301–310.

complex downward spiralling relationship between mental health issues and work-related difficulties can be hard to break down. The overall effect is that lost productivity tends to be the biggest contributor to the costs of mental health issues, with implications for household income, community prosperity and national economic growth. Moreover, employment generally confers more than just individual and national economic benefits, although these are clearly of considerable importance. Employment also generates status and social roles, it fosters social networks, and it is a key source of self-concept. Consequently, many individuals will gain over the longer term from the social capital that such roles and networks create, helping to build resilience to future shocks as well as sources of support at times of crisis. For these reasons, in a few Organization for Economic Cooperation and Development (OECD) countries, legislation has been introduced to ensure that mental health issues are, at least in principle, addressed in the same way as physical health problems in terms of employment rights.¹⁹ Most people with mental health issues want to work and are perfectly capable of doing so with the appropriate support.

Economic factors affect mental health

There are close links between mental illness and economic disadvantage; indeed there is commonly a vicious circle.²⁰ Two main explanations have been offered. The social causation hypothesis is that economic and social disadvantage such as poverty increases the risk of mental illness through augmented risk factors (for example, financial stress such as unsecured personal debt, social stigma, isolation, social exclusion, food insecurity, and malnutrition) and decreased protective factors (such as low levels of social capital or poor education). In contrast, the social selection or 'drift' hypothesis is that people with mental health issues have higher risks of remaining in or falling into poverty thanks to high treatment costs, disrupted or poorly remunerated employment, and hence lower individual or household income.²¹ The social causation explanation may be more pertinent when considering conditions such as depression and anxiety, whilst the drift explanation is probably more relevant to more severe mental health issues such as those experiencing symptoms associated with chronic schizophrenia; but in either case the causal pathways are complex and probably bi-directional.

Poverty

Studies in high-income countries have shown that poverty and unemployment are associated with the *maintenance*, but apparently not necessarily the *onset*, of common mental disorders such as depression and anxiety, whereas financial strain (unsecured or problematic personal debt) appears to be associated with both.²² Poverty is associated with, or leads to, many forms of disadvantage,

19 See, e.g., Thornicroft (2006), *op. cit.*, nt.14.

20 See, e.g., Lund, C., De Silva, M., Plagerson, S., *et al.* (2011), Poverty and mental disorders: breaking the cycle in low-income and middle-income countries, *The Lancet*, 378(9801): 1502–1514; Lemmi, V., Bantjes, J., Coast, E., *et al.* (2016), Suicide and poverty in low-income and middle-income countries: a systematic review, *The Lancet Psychiatry*, 3(8): 774–783.

21 See, e.g., Patel, V. & Kleinman, A. (2003), Poverty and common mental disorders in developing countries, *Bulletin of the World Health Organization*, 81(8): 609–615; Funk, M., Drew, N., & Knapp, M. (2012), Mental health, poverty and development, *Journal of Public Mental Health*, 11(4): 166–185.

22 Weich, S. & Lewis, G. (1998), Poverty, unemployment, and common mental disorders: population based cohort study, *BMJ*, 317(7151): 115–119.

including limited educational and employment opportunities, bad housing, homelessness and violence.²³ Living in poverty also makes it very difficult for individuals to afford treatment for their mental or other health issues.²⁴

Recession and debt

The recent global economic crisis exposed the close relationships between mental health issues, personal debt and financial instability. The effects on suicide rates have been most clearly demonstrated through a number of studies, given the availability of national-level indicators. For example, one study analysed data for more than 50 European and American countries and found that suicide rates increased significantly after the 2008 global economic crisis, more so for men than women, and more noticeably in countries where recession bit deepest (as measured by job losses).²⁵ The Asian economic downturn in the late 1990s was associated with an increase in suicide rates, as well as a widening of income-related mental health inequalities.²⁶ Socioeconomic upheaval in the Russian Federation in the 1990s was followed by increased rates of suicide and alcohol-related deaths.²⁷ In low-income country contexts, one study in India found higher rates of distress and suicide amongst farmers who fell into debt following a national agricultural crisis,²⁸ and another study in Pakistan demonstrated the close association between personal debt problems and suicide attempts.²⁹

The impact of personal financial difficulties on mental health depends partly on the type of debt and whether it is considered by the individual to be ‘manageable’. The effects are mainly seen with respect to depression, rather than anxiety or non-specific mental disorders.³⁰ Economic conditions can have wider effects too: recession in the wider economy has been found to affect the mental health not only of adults, but also of children,³¹ and has been linked to higher levels of youth substance use and drug-dealing.³² How governments respond to prevailing

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- 23 See, e.g., Patel, V., Kirkwood, B., Pednekar, S., *et al.* (2006), Risk factors for common mental disorders in women. Population-based longitudinal study, *British Journal of Psychiatry*, 189(6): 547–555; Havenaar, J., Geerlings, M., Vivian, L., *et al.* (2008), Common mental health problems in historically disadvantaged urban and rural communities in South Africa: prevalence and risk factors, *Social Psychiatry and Psychiatric Epidemiology*, 43(3): 209–215.
- 24 Saxena, S., Thornicroft, G., Knapp, M., & Whiteford, H. (2007), Scarcity, inequity and inefficiency of resources: three major obstacles to better mental health, *The Lancet*, 370(9590): 878–889.
- 25 Chang, S., Stuckler, D., Yip, P., & Gunnell, D. (2013), Impact of 2008 global economic crisis on suicide: time trend study in 54 countries, *BMJ*, 347: f5239.
- 26 Hong, J., Knapp, M., & McGuire, A. (2011), Income-related inequalities in the prevalence of depression and suicidal behaviour: a 10-year trend following economic crisis, *World Psychiatry*, 10(1): 40–44.
- 27 Men, T., Brennan, P., Boffetta P., & Zaridze, D. (2003), Russian mortality trends for 1991–2001: analysis by cause and region, *BMJ*, 327(7421): 964.
- 28 Deshpande, R. S. (2002), Suicide by farmers in Karnataka: agrarian distress and possible alleviatory steps, *Economic and Political Weekly*, 37(26): 2601–2610.
- 29 Haider, S. I. & Ijaz, H. (2002), Deliberate self-poisoning (unemployment and debt), *Pakistan Journal of Medical Sciences*, 18(2): 122–125.
- 30 Fitch, C., Hamilton, S., Bassett, P., & Davey, R. (2011), The relationship between personal debt and mental health: a systematic review, *Mental Health Review Journal*, 16(4): 153–166.
- 31 Solantaus, T., Leinonen, J., & Punamäki, R. L. (2004), Children’s mental health in times of economic recession: replication and extension of the family economic stress model in Finland, *Developmental Psychology*, 40(3): 412–429.
- 32 Arkes, J. (2007), Does the economy affect teenage substance use?, *Health Economics*, 16(1): 19–36.

macroeconomic circumstances is clearly important. One line of argument is that ‘austerity fiscal policies’ may well exacerbate the negative impacts of recession on mental health issues.³³

Economic interventions

To improve global mental health—and indeed to meet SDG3—it is clear that policies need to target both the causes of mental health issues and the causes of poverty. Studies in a range of LMICs have demonstrated how mental health interventions such as medications, psychotherapy and community rehabilitation can help to prevent the drift into poverty, even though focused primarily on tackling psychiatric symptoms.³⁴ In contrast, the evidence of the effect on mental health issues of poverty alleviation interventions such as cash transfers and microcredit is inconclusive. Asset promotion programmes appear to have clear mental health benefits. For example, the evaluation of the conditional cash transfer (CCT) programme *Oportunidades* in Mexico found a significant reduction in both depressive symptoms in mothers and behavioural problems in children of families having benefited from the programme for three to five years.³⁵ *Oportunidades* is a national CCT programme for poor households, including a cash transfer of about 25% of household income conditional on compliance with activities (such as pre-natal care, immunisation, nutrition supplementation, and educational workshops). Another evaluation of a microcredit intervention in South Africa found an *increase* in perceived stress levels amongst recipients of small loans (both in men and women), but a decrease in depressive symptoms in men.³⁶ Debt advice and counselling services can decrease the risk of developing or exacerbating mental disorders.³⁷ Plainly, more research is required.

Economic evaluation

When evaluating a specific intervention—whether one targeted at addressing mental health issues or at poverty alleviation, or with any other objective—there is a strong need to consider not just whether the objectives are met, but also the cost of doing so. In a clinical context, for example, the core effectiveness question will be whether an intervention such as medication or a community support programme alleviates symptoms or meets individuals’ needs in another way, such as lessening the impacts of poor mental health on quality of life or functioning. The economic question also needs to be asked: are the resources needed to deliver the specific intervention justified by the outcomes achieved?

There are three main types of health-based economic evaluations, each sharing some features, but differing in how they conceptualise outcomes. When comparing two or more interventions targeted on a particular condition (such as depression), the most relevant outcomes will be

33 D. Stuckler & S. Basu (2013), *The Body Economic: Why Austerity Kills* (London: Basic Books).

34 For a detailed discussion of the economics of mental health and poverty in LMICs, see Chapter 4 of this book by Judith Bass.

35 Ozer, E. J., Fernald, L. C., Weber, A., *et al.* (2011), Does alleviating poverty affect mothers’ depressive symptoms? A quasi-experimental investigation of Mexico’s *Oportunidades* programme, *International Journal of Epidemiology*, 40(6): 1565–1576.

36 Fernald, L. C., Hamad, R., Karlan, D., *et al.* (2008), Small individual loans and mental health: a randomized controlled trial among South African adults, *BMC Public Health*, 8(1): 409.

37 See, *e.g.*, Wahlbeck, K. & McDaid, D. (2012), Actions to alleviate the mental health impact of the economic crisis, *World Psychiatry*, 11(3): 139–145.

specific to the disorder (for example, reducing depressive symptoms). A *cost-effectiveness analysis* would be most appropriate here: it looks at disorder-specific outcomes and the resources required to achieve or prevent them.³⁸

If the decision context is broader (such as whether to invest in the treatment of depression, rather than in HIV), then outcomes must be measured in a common unit relevant to *both* disease areas. The two most frequently used such generic outcome measures are changes in quality-adjusted life years (QALYs) and disability-adjusted life years (DALYs). When economists measure outcomes using QALYs or DALYs, this is often called a *cost-utility analysis* (although it must be noted that the terminology used is inconsistent). A cost-utility analysis tells the strategic decision-maker where they will achieve most impact from their available resources by showing which of the two or more interventions achieved greater QALY or DALY gains from a given amount of money.³⁹

If a decision-maker needs to choose how to allocate resources across a much wider canvas (such as between health care, education and defence) then the only feasible generic outcome measures would be monetary valuations of what is achieved, or perhaps a high-level wellbeing measure such as happiness.⁴⁰ Health economists call this a *cost-benefit analysis*. It is hard to calculate monetary values of mental health outcomes, so cost-benefit analyses are rare. An exception might be where the primary aim is something like improving employment outcomes (more people in paid jobs and lower absenteeism rates, for example), because then the effectiveness measure could be monetised in terms of productivity gains.⁴¹

Cost and outcome measurement

Many mental health issues have broad cost impacts, spread across different sectors. An evaluation of a mental health intervention, therefore, usually will need to measure impacts on multiple budgets. In fact, the breadth of cost and outcome measurement in an evaluation depends on the purpose of the study: is it intended to inform resource allocation within a single agency (such as a community mental health service) or a wider system (such as health care) or a particular sector (such as government) or a whole society? Broader questions need broader measures of costs and outcomes. This is easier said than done, as it may be difficult practically to measure all impacts, and even more problematic to bring different systems together to coordinate their actions. Naturally, it is difficult to persuade decision-makers to invest their resources when the pay-offs (economic or otherwise) are mainly in another sector, and/or when they take many years to be achieved.

On the outcome side of an evaluation, the most relevant measures assess changes in symptoms, behaviour, functioning and quality of life. QALYs or other generic measures are also

38 Petrou, S. & Gray, A. (2011), Economic evaluation alongside randomised controlled trials: design, conduct, analysis, and reporting, *BMJ*, 342: d1548.

39 Luyten, J., Naci, H., & Knapp, M. (2016), Economic evaluation of mental health interventions: an introduction to cost-utility analysis, *Evidence-based Mental Health*, 19(2): 49–53.

40 For more on this topic, see, e.g., O'Donnell, G. (2013), 'Using Well-being as a Guide to Policy', in J. Helliwell, R. Layard, & J. Sachs (eds) (2013), *World Happiness Report 2013* (New York: UN Sustainable Development Solutions Network). See also Chapter 7 of this book by Joseph D. Calabrese, which considers mental health in Bhutan—a country famous for its 'happiness' index.

41 Knapp, M., Patel, A., Curran, C., et al. (2013), Supported employment: cost-effectiveness across six European sites, *World Psychiatry*, 12(1): 60–68.

likely to be recommended by economists alongside clinical measures, because QALYs make it easier to consider resource allocation across a range of different disease areas. The most widely used tool for obtaining QALYs is the EQ-5D.⁴² This is a simple, five-dimensional tool that covers mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Item scores are aggregated using preference weights that reflect societal perspectives on what drives health-related quality of life.

Ideally, these costs and outcomes would be measured for long periods. This is because mental health issues are often chronic due to their underlying biology, low rates of recognition and treatment, and because therapies mainly address symptoms, rather than curing underlying diseases. Furthermore, good interventions are often more likely to generate long-term positive impacts, as has been shown with some psychological therapies.⁴³ In practice, however, it is hard to conduct evaluations over long periods because it is infeasible (due, for example, to a lack of interest by the participants in staying in a clinical trial), expensive or unethical.

Trade-offs

When one intervention is found to be more effective than another, but also to have higher costs, the question then arises as to which represents the most efficient use of available resources. The answer depends on the value attached by the decision-maker to the effectiveness gains and whether or not they are considered to be ‘worth’ the additional costs. In these circumstances there is a need to decide how effectiveness gains are traded off against higher cost, which is a value judgement.

The usual approach employed by health economists to highlight the nature of the trade-off is to calculate the incremental cost-effectiveness ratio (ICER): the difference in cost between the two interventions being evaluated, divided by the difference in effectiveness.⁴⁴ If the primary outcome is, for example, preventing suicides, then the ICER might represent the additional cost of avoiding one additional suicide. If the outcome is to reduce depressive symptoms, then the ICER might show the cost of achieving a one-point gain in the symptom measure. Calculated ICER values can be discussed with decision-makers, who then must judge whether or not they consider this value to be an amount ‘worth paying’.

In England and Wales, the National Institute for Health and Care Excellence (NICE) goes one step further in seeking to advise on resource deployment in the National Health Service (NHS). It employs a threshold value as a point of reference to guide discussion and decision. In its technology appraisals, NICE calculates the ICER as cost per additional QALY and compares it with a threshold of £20,000 per QALY.⁴⁵ If the ICER exceeds this threshold, the argument is

42 EuroQol Group (1990), EuroQoL: a new facility for the measurement of health-related quality of life, *Health Policy*, 16(3): 199–208.

43 See, e.g., Wiles, N. J., Thomas, L., Turner, N., *et al.* (2016), Long-term effectiveness and cost-effectiveness of cognitive behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: follow-up of the CoBaIT randomised controlled trial, *The Lancet Psychiatry*, 3(2): 137–144; Isasi, A. G., Echeburua, E., Liminana, J. M., & Gonzalez-Pinto, A. (2014), Psychoeducation and cognitive-behavioral therapy for patients with refractory bipolar disorder: a five-year controlled clinical trial, *European Psychiatry*, 29(3): 134–141.

44 M. Drummond, M. Sculpher, G. W. Torrance, *et al.* (2005), *Methods for the Economic Evaluation of Health Care Programmes* (3rd edn) (Oxford: Oxford University Press).

45 National Institute for Health and Clinical Excellence (2008), *Guide to the Methods of Technology Appraisal* (London: National Institute for Health and Clinical Excellence).

that resources (represented by cost) could be better spent elsewhere in the NHS (on other interventions) where it costs less than £20,000 to achieve one additional QALY. However, the NICE threshold is a guide, not a rigid rule. It reminds everyone that resources are scarce and that choices must be made before using them.

Two things need to be emphasised. First, for an intervention to be cost-effective it does *not* need to generate savings; it must simply represent a better use of resources. Second, economic evaluations examine the efficiency of use of available resources, but there are other criteria that will concern decision-makers, such as equity of access or prioritisation of certain population subgroups.

Study design

A randomised controlled design—where people are allocated to treatments by chance—is undoubtedly the most robust study design to answer many clinical questions. As Sibbald has observed, it ‘ensures no systematic differences between intervention groups in factors, known and unknown, that may affect outcome’.⁴⁶ Such a design is widely used in clinical research, and can easily accommodate economic evaluation. However, randomised trials are not always feasible, and might sometimes be considered unethical because some participants are being denied access to treatment. Furthermore, decision-makers may not want to wait for a randomised trial to be completed, as they can often take three years or more.

An alternative to the randomised trial is some form of mathematical modelling, populated with data from previous trials, observational studies or routine management information systems (in other words, secondary data). Models are simulations of what might happen in reality—for example, tracing pathways through care for individuals with particular needs, or estimating and comparing outcomes and costs associated with two or more interventions.⁴⁷ Model-based economic evaluations are more easily generalised and flexible than trials, and much quicker to carry out (thus providing earlier answers to decision-makers), but they are clearly simplifications of reality, and their usefulness depends fundamentally on the quality of the data used to populate them.

Global aspirations and resource realities

Mental health issues represent significant and growing economic challenges across the world, but unfortunately they have not been very prominent on global policy agenda until relatively recently. The WHO focused its 2001 *World Health Report* on mental health,⁴⁸ and has subsequently taken a global lead in addressing the endemic neglect of mental health issues across large parts of the world.⁴⁹ Amongst other things, it regularly updates a Mental Health Atlas,⁵⁰ has developed the WHO

46 Sibbald, B. (1998), Understanding controlled trials: Why are randomised controlled trials important?, *BMJ*, 316: 201.

47 A. Briggs, K. Claxton, & M. Sculpher (2006), *Decision Modelling for Health Economic Evaluation* (Oxford: Oxford University Press).

48 WHO (2000), *The World Health Report 2001: Mental Health: New Understanding, New Hope* (Geneva: WHO).

49 For more on the role of the WHO, see Chapter 1 of this book by Shekhar Saxena and Laura Davidson.

50 WHO (2015), *Mental Health Atlas 2014* (Geneva: WHO).

Assessment Instrument for Mental Health Systems (WHO-AIMS) to facilitate more systematic mapping of activities,⁵¹ and drafted guidelines for mental health policy, planning and service development.⁵² The WHO has played a major role, too, in the Mental Health Gap Action Programme (mhGAP),⁵³ set up in 2008 to guide treatment of mental health issues in low-resource settings,⁵⁴ and a few years later launched the Mental Health Action Plan (MHAP) 2013–2020, which set out objectives, targets and proposed actions at both global and country levels.⁵⁵

In contrast to these influential efforts by the WHO, other international bodies have shown less interest in mental health issues. For reasons that are hard to fathom, the United Nations (UN) omitted all reference to mental health in its Millennium Development Goals (MDGs), launched in 2000.⁵⁶ Recognition—albeit still rather modest when viewed in their wider context—eventually followed when the SDGs were adopted by the UN at its General Assembly in September 2015.⁵⁷ Two of the health-related targets explicitly mention mental health:

- Target 3.4: ‘By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.’
- Target 3.5: ‘Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.’

The mental health-related indicators associated with these targets—suicide mortality rates, coverage of treatments (pharmacological, psychosocial, rehabilitation, aftercare) for substance use disorders, and a measure of alcohol consumption—are somewhat narrow, given the wide-ranging effects of poor mental health.

However, other health-related targets (such as target 3.8 on universal health coverage) and SDGs with more general aims (such as SDG8 to ‘promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all’, and SDG10 seeking to ‘reduce inequality within and among countries’) have relevance for or can be linked to mental health issues. In addition, the principle of ‘no one being left behind’ that spans the SDG agenda emphasises the inclusion of people with disabilities, including those with mental disabilities.

Conclusion

There are a number of economic considerations to take into account when considering mental health issues. One of those considerations is how to respond to the pervasiveness of scarcity.

51 WHO (2005), *WHO-AIMS (Version 2.2) World Health Organization Assessment Instrument for Mental Health Systems* (Geneva: WHO).

52 See, e.g., WHO (2003), *Organization of Services for Mental Health* (Geneva: WHO).

53 WHO (2008), *op. cit.*, nt.6.

54 WHO (2010), *mhGAP Intervention Guide for Mental, Neurological and Substance Use Disorders in Non-specialized Health Settings: Mental Health Gap Action Programme (mhGAP)—version 2.0.* (Geneva: WHO).

55 WHO (2013), *Investing in Mental Health: Evidence for Action* (Geneva: WHO). For more on the role of WHO in relation to mental health, see Chapter 1 of this book by Shekhar Saxena and Laura Davidson.

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

57 United Nations (2015), *Transforming our World: the 2030 Agenda for Sustainable Development* (New York: UN).

Policy-makers, funding bodies and service providers all face difficult decisions about how to use the resources for which they are responsible—which are always more limited than they would wish—in order to achieve the best mental health and wider outcomes. It would seem to make enormous sense to try to prevent mental issues from emerging in the first place. That said, a prevention programme must be rigorously tested to ensure it makes the best use of societal resources. Modest or very uncertain benefits from delivery of a particular programme may not be cost-effective. Further pilot studies may be necessary first. Similarly, it may appear obvious that efficacious treatments alleviating the often very distressing symptoms and pervasive functional limitations of a mental disorder should be made available as widely as possible. Again, however, economic issues need to be taken into consideration: the outcomes achieved from the investment in such treatments may be relatively modest when set alongside the costs of achieving them.

Economic evaluations—cost-effectiveness and similar analyses—are tools that decision-makers can use to inform the difficult choices that, inevitably, they must make. Those evaluations do not *themselves* make the decisions, but they offer a logical framework and a set of empirical findings to feed into the ethical judgements that decision-makers will have to make. Those decision-makers will rightly also take other criteria into consideration when choosing between the various courses of actions open to them, particularly equitable access to effective treatments. Yet, even then there will be an economic dimension: what, for example, is the cost of achieving fairness, and what are the economic consequences of persisting with a system that is unfair?

A second important economic consideration is the set of often quite complex interconnections between the economic status of individuals and communities and the risk of mental health issues. In this chapter, some of those links have been highlighted. For example, there are clear links between personal and societal economic ‘adversity’—such as poverty, lengthy periods of unemployment, and problematic debt—and the emergence, prolongation or exacerbation of poor mental health. When national economies get into difficulty, such as during a prolonged recession, there is a higher prevalence of common mental disorders, and higher rates of suicide.

Third, mental health issues themselves have economic consequences. Someone experiencing a period of poor mental health may have difficulty performing to their full potential at work or in the household, for example. This may lead to lower productivity for the economy and lower income for the individual. They may need support from their family, which could in turn cause those other family members employment disruption or income loss. The individual experiencing mental health issues will generally need treatment from the health care system or perhaps services from other systems, such as social care or welfare benefits (if they exist), with concomitant costs to the system and/or the individual and/or their family.

Although modest, the SDGs represent the first time that mental health issues have been recognised by world leaders as part of the global development agenda. The obvious challenge is to convert those global aspirations into action on the ground through well-designed, broadly spanned prevention programmes and evidence-based, affordable, feasible treatments and services. For that conversion to be realised, substantial additional resources will need to be generated and invested wisely. Nonetheless, there is every chance that many of the possible prevention and treatment initiatives would, in due course, generate sufficient monetary savings to pay for themselves, or contribute importantly to economic growth, such as through increased employment and

productivity rates.⁵⁸ Success in pursuit of the mental health-related SDG targets discussed above can therefore be linked not only to better individual and societal wellbeing, but also to improved individual and national economic performance. This is a most persuasive factor which those advocating with governments and other bodies in relation to the rights of those with mental health issues should emphasise when seeking additional resources.

58 McDaid, D., Park, A., & Knapp, M. (2017), *Commissioning Cost-effective Services for Promotion of Mental Health and Wellbeing and Prevention of Mental Ill Health* (London: Public Health England).