

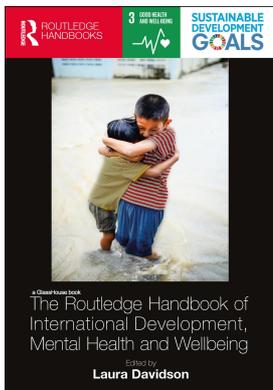
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THE GLOBAL CHALLENGE OF MENTAL HEALTH AND AGEING, AND SCALABLE INNOVATIONS IN MENTAL HEALTH SERVICES FOR OLDER ADULTS

*Stephen J. Bartels**

Introduction

Between 2015 and 2050 the World Health Organization estimates that the world's population of adults aged 60 and older will almost double from 12% to 22%—an absolute increase from 900 million to approximately 2 billion.¹ Increasing life expectancy across the globe due to improvements in basic public health measures have spawned a new era for older adults who can now expect to live longer and pursue a common goal of 'ageing in community'. However, a paradoxical downside of this increase in longevity is the rapidly growing burden of an older population with complex health and long-term care needs associated with escalating costs, potentially threatening the viability and financial sustainability of health care systems across the world. In the absence of developing affordable and sustainable innovative approaches to the challenge of an ageing population, regional economies are at risk of diverting core resources away from other pressing needs such as preventive, medical, behavioural, and substance abuse services for young adults, as well as investments in education, and regional infrastructure.

This demographic challenge disproportionately affects low-income countries. The proportion of older adults living in low and middle-income countries (LMICs) is estimated to increase from 65% in 2015, to 71% in 2030 and 76% in 2050.² Health care systems around the world are unprepared for the workforce challenges of caring for this ageing demographic, as the number of adults who are of employment age is also falling, reducing both the numbers

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1 WHO (2017), Mental health of older adults (fact sheet). Available at: www.who.int/mediacentre/factsheets/fs381/en/.

2 Prince, M., Wimo, A., Guerchet, M., et al. (2015), *The Global Impact of Dementia: An Analysis of Prevalence, Incidence, Cost and Trends* (London: Alzheimer's Disease International). Available at: www.alz.co.uk/research/world-report-2015.

of available caregivers, and the revenue needed to support ageing health and social services. Further complicating this picture is the growing number of older adults living alone, with the waning of traditional configurations in which extended, multi-generation family caregivers could be relied on to provide family-based, long-term care to parents and grandparents. This chapter will highlight how the increasing demand for mental health services for the elderly will dramatically outstrip capacity, and consider how states worldwide might create innovative and unconventional solutions to service provision in order to plug the gap and meet their obligations under the UN Sustainable Development Goals (SDGs), and particularly SDG3 relating to health and wellbeing.

The challenge and impact of common mental health disorders in older adults

Approximately 20% of adults aged 60 and older suffer from a mental disorder, accounting for 6.6% of total disability and over 17 years of disability for this age group. This changing demographic will substantially challenge health and social services due to a dramatic workforce shortfall and a lack of appropriate services to address the mental health and medical needs of this high-risk population. Estimates of the worldwide prevalence of major mental disorders in adults aged 60 and older include dementia (5%) depression (7%) anxiety disorders (4%) and substance abuse (1%). Under-detection and under-diagnosis is common.³ Psychiatric disorders are often obscured due to the presence of comorbid chronic health conditions, misattribution of mental health symptoms to physical disorders, and the inaccurate perspective that mental disorders are a 'normal' consequence of ageing. The picture is further complicated by under-reporting of mental health symptoms by older adults due to stigma.⁴

Older adults experience additional challenges compared with younger adults, making them vulnerable to depression and anxiety disorders. Age-related physical limitations or loss of independence, mobility, vision, hearing, or cognitive capability are associated with increased risk of depression, anxiety disorders, and other mental health conditions. The impact of mental health conditions in older adults is often compounded by the common presence of chronic health conditions and the interaction between physical and mental health.⁵ For example, chronic health conditions that are associated with impaired functioning, chronic pain, and physical symptoms can worsen the course and severity of a mental health condition. Conversely, mental illness can worsen the outcomes of common disorders such as heart disease, diabetes, and cancer. The interaction between physical and mental health in older adults is a common dynamic that adds to the social, economic, and overall health burden of mental disorders.

Finally, older adults have the highest suicide rate of any age group. For example, in the United States, over 6,000 older adults take their lives each year, with the highest rate represented by

3 WHO (2017), *op. cit.*, nt. 1.

4 See e.g., J. Eden, K. Maslow, M. Le, & D. Blazer (eds) (2012), *The Mental Health and Substance Use Workforce for Older Adults: In Whose Hands?* Committee on the Mental Health Workforce for Geriatric Populations, Board on Health Care Services, Institute of Medicine (Washington, DC: National Academies Press US); and Bharadwaj, P., Pai, M. M., & Suziedelyte, A. (2015), 'Mental health stigma', National Bureau of Economic Research Working Paper 21240. Available at: www.nber.org/papers/w21240.

5 For more on the relationship between physical and mental health, see Chapter 2 of this book by Lawrence O. Gostin and Laura Davidson.

white males over the age of 85 with 51.4 deaths by suicide per 100,000.⁶ In China, where suicides constitute one-fifth of all recorded suicides in the world, adults over age 65 have a suicide rate ranging from 44–200 per 100,000—four to five times greater than the general population.⁷ A comparison of the characteristics amongst older adults who died by suicide in Australia found that suicide in the ‘young’ old (age 65–74) is more likely to be associated with legal, financial, and relationship stressors, whereas suicide in the ‘oldest’ old (85 and older) is more likely to be associated with declining physical health and bereavement.⁸

SDG target 3.4 requires states, by 2030, to ‘reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being’, including through indicator 3.4.2—the suicide mortality rate. A substantial body of worldwide research identifies five primary domains associated with increased risk of suicide in older adults: psychiatric illness, personality traits and coping styles, medical illness, life stressors and social disconnectedness, and functional impairment.⁹ In contrast to young adults, older adults are more likely to experience the loss of spouses, siblings, and friends, potentially triggering prolonged bereavement and increased risk of depression, substance use disorders, and suicide. Loss of valued work and socially related roles, and declining ability to participate in leisure activities, are additional age-related stressors. Age-related sensory, mobility, and functional limitations also contribute to an increased risk of social isolation and declining social support, setting the stage for greater vulnerability to mental illness.

In summary, no single factor has been identified to account for the disproportionately high rate of suicide in older adults across the globe. However, it is noteworthy that there are some isolated exceptions. In some indigenous cultures, rates amongst older adults are relatively low compared with younger adults, suggesting that factors associated with traditional cultural structures and support may serve as potential protective factors.¹⁰ This is worth further research, given that states must consider what policy changes they need to make in order to ensure that they meet SDG3 ‘for all at all ages’.

The emerging challenge of ageing adults with serious mental illness

The ageing of the population is also resulting in an unprecedented increase in the number of older adults with ‘serious’ or ‘severe’ mental illnesses (SMI) such as schizophrenia, schizoaffective disorder, and bipolar disorder. Across all age groups, it is estimated that over three-quarters of people with serious mental illness in LMICs and approximately half in high-income countries

6 Conwell, Y. (2014), Suicide later in life: challenges and priorities for prevention, *American Journal of Preventive Medicine*, 47(3): S244.

7 Dong, X., Chang, E. S., Zeng, P., et al. (2015), Suicide in the Global Chinese Aging Population: A Review of Risk and Protective Factors, Consequences, and Interventions, *Ageing and Disease*, 6(2): 121–130.

8 Koo, Y. W., Kolves, K., & De Leo, D. (2017), Suicide in older adults: a comparison with middle-aged adults using the Queensland Suicide Register, *International Psychogeriatrics*, 29(3): 419–430.

9 See, e.g., Conwell (2014), *op. cit.*, nt.6; Sachs-Ericsson, N., Van Orden, K., & Zarit, S. (2016), Suicide and aging: special issue, *Ageing & Mental Health*, 20(2): 110–112; Stanley, I. H., Hom, M. A., Rogers, M. L., et al. (2016), Understanding suicide among older adults: a review of psychological and sociological theories of suicide, *Ageing & Mental Health*, 20(2): 113–122.

10 Hunter, E. & Harvey, D. (2002), Indigenous suicide in Australia, New Zealand, Canada, and the United States, *Emergency Medicine*, 14(1): 14–23.

receive no treatment for their mental illness.¹¹ The health care workforce is particularly unprepared to address the special needs of this complex population. In addition to experiencing substantial challenges in independent functioning, middle aged and older adults with serious mental illness experience a significant health disparity with respect to reduced life expectancy. Whilst life expectancy for the general population has increased in the majority of countries across the globe, it has decreased for those with a serious mental illness (SMI).¹² The life expectancy of people with SMI such as schizophrenia, bipolar disorder, or chronic depression is an alarming 11 to 30 years less than that of the general population.¹³ A meta-analysis consisting of 203 studies conducted in 29 countries determined that people with mental illness have a mortality rate that is 2.22 times higher than the general population without mental disorders. Two-thirds of these deaths were due to natural causes and a median ten years of life lost, accounting for 14.3% of deaths worldwide.¹⁴ Major causes of early mortality for this high-risk group include cardiovascular disease (associated with high rates of obesity), diabetes, and hypertension, with increased levels of sedentary behaviour, poor nutrition, and tobacco use evident.¹⁵ SMI is not only devastating for individuals and families through its impact on functioning, productivity, and early mortality, but it also exerts a considerable burden on national economies. For example, in high-income countries such as the US, people with SMI (including older adults) have aggregate health care costs that are two to three times greater than those of people with physical illness alone.¹⁶ The ageing of this subgroup is likely to overwhelm mental health and primary care services that lack the capacity, competency, and services required to meet the special needs of this rapidly growing group with unique psychiatric and medical care needs.

The global dementia epidemic

Global ageing will also dramatically increase the burden of providing care to adults with dementia. In aggregate, the total number of people with dementia is projected to increase from 46.8 million people worldwide in 2015, almost doubling every 20 years, to 74.7 million in 2030 and 131.5 million in 2050.¹⁷ Much of this increase is attributable to an increase in the number of those with dementia in LMICs: in 2015, 58% of all people with dementia lived in LMICs, which is projected to rise to 63% in 2030 and 68% in 2050.¹⁸ Dementia and cognitive impairment are

11 See, e.g., Wang, P. S., Aguilar-Gaxiola, S., Alonso, J., *et al.* (2007), Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys, *The Lancet*, 370(9590): 841–850.

12 Saha, S., Chant, D., & McGrath, J. (2007), A systematic review of mortality in schizophrenia: is the differential mortality gap worsening over time?, *Arch Gen Psychiatry*, 64(10): 1123–1131.

13 See, e.g., De Hert, M., Correll, C. U., Bobes, J., *et al.* (2011), Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care, *World Psychiatry*, 10(1): 52–77; Druss, B. G., Zhao, L., Von Esenwein, S., *et al.* (2011), Understanding excess mortality in persons with mental illness: 17-year follow up of a nationally representative US survey, *Med Care*, 49(6): 599–560.

14 Walker, E. R., McGee, R. E., & Druss, B. G. (2015), Mortality in mental disorders and global disease burden implications: a systematic review and meta-analysis, *JAMA Psychiat*, 72(4): 334–341.

15 See, e.g., Druss *et al.* (2011), *op. cit.*, nt. 13.

16 Bartels, S. J., Clark, R. E., Peacock, W. J., *et al.* (2003), Medicare and medicaid costs for schizophrenia patients by age cohort compared with costs for depression, dementia, and medically ill patients, *Am J Geriatr Psychiatry*, 11(6): 648–657.

17 Prince *et al.* (2015), *op. cit.*, nt. 2.

18 *Ibid.*

the leading contributors of disability and dependence on care amongst older people worldwide. The global burden of Alzheimer's disease alone will substantially challenge health care economies with respect to caregiving, long-term care and social costs. The worldwide costs of dementia have increased from US\$604 billion in 2010 to US\$818 billion in 2015; an increase of 35.4%, representing 1.09% of global GDP—with future projections amounting to approximately US\$1 trillion in 2018 and US\$2 trillion in 2030.¹⁹

The growing shortfall in the mental health and ageing service workforce

The increasing demand for mental health services for older adults will dramatically outstrip capacity, requiring innovative and unconventional solutions to service provision around the globe. The World Health Organization Mental Health Atlas 2014 dramatically illustrates the profound gap *per capita* in expenditure for mental health services in LMICs which make up 80% to 90% of the world's population (US\$1.53) compared with high income countries (US\$58.73). With respect to outcomes and provision of basic mental health services, the gap is especially alarming. Over 95% of individuals in LMICs fail to receive minimally adequate treatment for depression, compared with over 75% of those in high income countries. Outside of high-income countries, psychiatrists, psychologists, and social workers are almost non-existent. Indeed, the World Health Organization estimates that there is a shortage of over 4.5 million mental health clinicians across the globe, which is mostly concentrated in 57 of the world's poorest countries.²⁰

In addition to the impact on health care services and costs, there are substantial indirect costs associated with caregiving, in conjunction with impact on the mental health and wellbeing of caregivers. For example, caregivers of people with chronic health conditions and Alzheimer's disease have higher rates of depression, substance use disorder, and stress-related health conditions such as hypertension and cardiovascular disease. Caregiving is also associated with absenteeism and lost days at work, as well as significant economic hardships for families.²¹ With the related ageing of the health care workforce, there is an inadequate capacity to provide needed health care and social support services to this rapidly growing population. The global challenge of addressing the mental health needs of older adults might be described as a 'perfect storm' disproportionately affecting LMICs. Many such countries have an unprecedented global ageing demographic, and thus an increased burden arising from the special needs of older adults with mental health conditions. Yet, they also have a growing workforce shortfall of providers with expertise in older adult mental health interventions.²² Such persons have high rates of multi-morbidity, physical disability, cognitive impairment, functional limitations, and poverty.

¹⁹ *Ibid.*

²⁰ WHO (2015), Mental Health Atlas 2014. Available at: www.who.int/mental_health/evidence/atlas/mental_health_atlas_2014/en/.

²¹ For more on mental health and employment, see Chapter 14 of this book by Aart Hendriks. See also Chapter 3 by Martin Knapp and Valentina Iemmi on the economic impact of mental health, and Chapter 4 by Judith Bass which considers the issue in LMICs.

²² For more on the global shortage of mental health workers generally, see Chapter 2 of this book by Lawrence O. Gostin and Laura Davidson.

Scalable innovations in global delivery of mental health services tailored to older adults

Addressing these challenges will require innovative approaches that are specifically tailored to the needs of older adults, whilst also being scalable, affordable, and sustainable. Key examples of innovations with special application to older adults include collaborative care, task-shifting, and integrated mental and physical health self-management. Other approaches involve prevention of late-life mental disorders and suicide, and distress-focused interventions. The social determinants of health and integrated ageing social services need to be considered. Further, caregiver support interventions in dementia care require development, and digital health expansion may assist with this (see summary in Table 12.1 at the end of the next section).

Collaborative care

Over 75 studies document the effectiveness of the collaborative care model for treatment of depression in primary care across all age groups. The model consists of an embedded depression care manager providing systematic screening, care coordination and follow-up for mental health problems.²³ A recent systematic review of 29 studies focused on older adults (age 60+) confirms that collaborative care is effective in treating late-life depression in primary care settings, and also of potential value in improving dementia care outcomes. Collaborative care may be particularly beneficial in providing access to mental health care for older adults in countries with disproportionately large and growing populations of older adults. For example, a recent study of collaborative care in China found that patients in the depression care management group achieved a remission rate that was over six times greater than usual care.²⁴

Task-shifting

Although collaborative care models have been shown to be effective by combining embedded depression care managers within primary care delivery settings, in LMICs and high-income rural settings, specialty mental health providers are virtually non-existent. This necessitates the use of alternative providers to make such models scalable. Community health workers or peers often take on the role of mental health providers within primary care settings or in social service organisations.²⁵ They are trained to follow stepped care protocols which include systematic screening, monitoring of outcomes, and altering treatment for individuals not responding to basic initial interventions. Lay health workers and peers have also been shown to be effective in delivering basic problem-solving therapy and other evidence-based cognitive-behavioural interventions.²⁶

23 Archer, J., Bower, P., Gilbody, S., *et al.* (2012), Collaborative care for depression and anxiety problems, *The Cochrane Database of Systematic Reviews*, 10: Cd006525.

24 Bartels, S. J. (2015), Why collaborative care matters for older adults in China, *The Lancet Psychiatry*, 2(4): 286–287.

25 For more on task-shifting, see Chapter 2 of this book by Lawrence O. Gostin and Laura Davidson, Chapter 4 by Judith Bass, Chapter 5 by Chris Underhill, Victoria K. Ngo, and Tam Nguyen, and Chapter 11 by Cornelius Ani and Olayinka Omigbodun.

26 Patel, V. & Saxena, S. (2014), Transforming lives, enhancing communities—innovations in global mental health, *NEJM*, 370(6): 498–501.

Home and community-based older adult mental health services

A series of randomised trials dating back over two decades document the effectiveness of home and community-based mental health outreach interventions for common mental health conditions affecting older adults.²⁷ High rates of mental illness (40.5%) have been identified by home care services for home-bound disabled older adults in high-income countries.²⁸ This is due to the expansion of home-based, long-term care services as alternatives to institution-based nursing home settings. Although prescriptions for antidepressants have risen sharply in some regions of the world few homebound older adults receive formal mental health services despite proven models of care associated with improved outcomes. For example, a randomised trial testing the effectiveness of integrating depression care management into routine home health care for home-bound medical/surgical patients with co-occurring depression proved that it was effective in reducing depression severity and hospitalisation.²⁹

Integrated mental and physical health self-management

'Integrated illness self-management' is based on the premise that the interaction of physical and mental health in older adults with mental health conditions warrants self-management of both domains.³⁰ For example, Integrated Illness Management and Recovery (I-IMR) is a recovery-oriented intervention which combines training and coaching in both psychiatric and physical illness self-management into a single integrated curriculum and programme aimed at improving outcomes for older adults (age 50+) with SMI and chronic health conditions. I-IMR combines four evidence-based psychosocial interventions shown to be effective amongst people with serious mental illness: psychoeducation (which improves knowledge about mental illness management), behavioural tailoring (which improves medication adherence), relapse prevention training (which decreases relapse and re-hospitalisation), and coping skills training (which reduces symptom-related distress).³¹ A synthesis of integrated evidence-based models of care for older adults with serious mental illness found four approaches to be effective: psychosocial skills training, integrated illness self-management, collaborative care, and 'behavioural health homes' (a mental health agency that partners with primary care and integrates it into community mental health

27 See, e.g., Bruce, M. L., Van Citters, A. D., & Bartels, S. J. (2005), Evidence-based mental health services for home and community, *The Psychiatric Clinics of North America*, 28(4): 1039–1060; Van Citters, A. D. & Bartels, S. J. (2004), A systematic review of the effectiveness of community-based mental health outreach services for older adults, *Psychiatr Serv*, 55(11): 1237–1249.

28 See, e.g., Li, L. W. & Conwell, Y. (2007), Mental health status of home care elders in Michigan, *The Gerontologist*, 47(4): 528–534; Qiu, W. Q., Dean, M., Liu, T., et al. (2010), Physical and mental health of homebound older adults: an overlooked population, *Journal of the American Geriatrics Society*, 58(12): 2423–2428.

29 See, e.g., Bruce, M. L., Lohman, M. C., Greenberg, R. L., et al. (2016), Integrating Depression Care Management into Medicare Home Health Reduces Risk of 30- and 60-day Hospitalization: The Depression Care for Patients at Home Cluster-randomized Trial, *Journal of the American Geriatrics Society*, 64(11): 2196–2203; Bruce, M. L., Raue, P. J., Reilly, C. E., et al. (2015), Clinical effectiveness of integrating depression care management into medicare home health: the Depression CAREPATH Randomized trial, *JAMA Internal Medicine*, 175(1): 55–64.

30 Bartels, S. J. (2004), Caring for the whole person: integrated health care for older adults with severe mental illness and medical comorbidity, *Journal of the American Geriatrics Society*, 52(12 Suppl): S249–S257.

31 Bartels, S. J., Pratt, S. I., Mueser, K. T., et al. (2014), Integrated IMR for psychiatric and general medical illness for adults aged 50 or older with serious mental illness, *Psychiatr Serv*, 65(3): 330–337.

clinics). Innovative models of care building on these approaches that incorporate telehealth, mobile health, and peer support hold specific promise for addressing the needs of this high-risk group in LMICs.³²

Prevention

Recent advances have also been achieved in prevention for older adults with mental health conditions. For example, indicated prevention consisting of brief interventions for subsyndromal or minor depression has been demonstrated as effective in preventing progression to major depression.³³ For example, a current trial is underway in Goa, India, evaluating indicated prevention of depression in later life (DIL) aimed at older adults with mild (subsyndromal) symptoms of depression and anxiety with the aim of preventing transitioning to major depression and anxiety disorders.³⁴ This study builds on the MANAS trial of Patel and colleagues which used lay health counsellors in a multicomponent stepped care depression intervention, providing problem-solving therapy and addressing additional sleep challenges and social casework needs in conjunction with self-management of chronic health conditions.³⁵ This is the first randomised clinical trial addressing prevention of depressive disorders in LMICs, and the intervention is both extremely novel with respect to focusing on prevention of geriatric mental health conditions, whilst also incorporating a highly scalable population-based approach through delivering both screening and the intervention through lay health counsellors.³⁶

As older adults have the highest suicide rates of any age group, late-life suicide is a critical target for prevention. In contrast to an extensive research literature on risk factors, there are few studies on preventive interventions for late-life suicide. Noteworthy examples include trials of integrated collaborative depression care management in primary care in the US;³⁷ a programme of community-based outreach and in-home support for isolated, frail older adults in Italy;³⁸ and a multi-level suicide prevention programme in rural Japan consisting of systematic depression screening for older adults and referral for treatment in conjunction with community-based support, social services, and patient education.³⁹

32 Bartels, S. J., DiMilia, P. R., Fortuna, K. L., & Naslund, J. A. (2018), Integrated Care for Older Adults with Serious Mental Illness and Medical Comorbidity: Evidence-based Models and Future Research Directions, *The Psychiatric Clinics of North America*, 41(1): 153–164.

33 Reynolds, C. F. 3rd, Thomas, S. B., Morse, J. Q., et al. (2014), Early intervention to preempt major depression among older black and white adults, *Psychiatr Serv*, 65(6): 765–773.

34 Dias, A., Azariah, F., Health, P., et al. (2017), Intervention development for the indicated prevention of depression in later life: the ‘DIL’ protocol in Goa, India, *Contemporary Clinical Trials Communications*, 6: 131–139.

35 Patel, V., Weiss, H. A., Chowdhary, N., et al. (2010), Effectiveness of an intervention led by lay health counsellors for depressive and anxiety disorders in primary care in Goa, India (MANAS): a cluster randomised controlled trial, *The Lancet*, 376(9758): 2086–2095.

36 Dias & Azariah, et al. (2017), *op. cit.*, nt.34.

37 Bruce, M. L., Ten Have, T. R., Reynolds, C. F. 3rd, et al. (2004), Reducing suicidal ideation and depressive symptoms in depressed older primary care patients: a randomized controlled trial, *Journal of the American Medical Association*, 291(9): 1081–1091.

38 De Leo, D., Dello Buono, M., & Dwyer, J. (2002), Suicide among the elderly: the long-term impact of a telephone support and assessment intervention in northern Italy, *The British Journal of Psychiatry*, 181: 226–229.

39 Oyama, H., Sakashita, T., Ono, Y., et al. (2008), Effect of community-based intervention using depression screening on elderly suicide risk: a meta-analysis of the evidence from Japan, *Community Mental Health Journal*, 44(5): 311–320.

A proposed framework to guide research and programme development for reducing suicide risk in older adults identifies four key ‘drivers’: developing effective early detection strategies, enhancing general health promotion for older adults, increasing access to mental health care, and programmes to improve social connectedness.⁴⁰ Examples of early detection measures include systematic screening in primary care and training of individuals who regularly come in contact with older adults in the community (such as social service providers, senior housing workers, and home delivered meal programmes), to identify at-risk older adults and engage in helpful action. General health promotion measures aimed at maximising physical and mental health include the promotion of healthy behaviour, provision of routine preventive care, ensuring effective pain management, and access to community-based services and support to optimise functioning. Improving access to mental health care for at-risk older adults necessitates delivering care where older adults live and seek services, and ensuring that mental health is included as a covered component of general health care. Finally, increasing social connectedness and resilience at the individual level can take place by providing psychosocial behavioural activation interventions and facilitating social networks. At the community level, this can be facilitated by promoting ageing social services, subsidised congregated living opportunities, and elder-friendly communities.⁴¹ Admittedly, although such interventions may have an evidence-base for reducing suicide in the elderly, expecting such labour-intensive and costly interventions to be provided country-wide in LMICs may be unrealistic at this stage. However, SDG17 requires that states ‘[s]trengthen the means of implementation and revitalise the Global Partnership for Sustainable Development’. Thus, wealthier states have a duty to assist with appropriate development funding. Given the global ageing population, this would be an apposite area for such support.

Finally, and importantly, the alarming projected global health and economic burden of dementia is potentially amenable to health promotion and prevention measures. A 2013 G8 Summit on Dementia determined that there is sufficient evidence to suggest that approximately half of all cases of Alzheimer’s disease are attributable to seven modifiable risk factors: depression, diabetes, midlife obesity, midlife hypertension, smoking, low educational attainment, and physical inactivity.⁴² It is estimated that a 25% reduction in these seven factors could result in 3 million fewer cases worldwide.⁴³

Distress-focused interventions and integrated ageing social services

Due to the heterogeneity of mental health conditions in older adults, and the frequency of comorbidity with physical health symptoms, treatment should be tailored to the individual’s needs and preferences, rather than in accordance with a universal diagnostic label. In this respect, focusing on addressing ‘distress’ and the social determinants of health is central to engaging the individual with mental health treatment, as is providing services acceptable and relevant to the individual.

40 Conwell (2014), *op. cit.*, nt.6.

41 *Ibid.*

42 For more on the 2013 G8 Dementia Summit, see: www.gov.uk/government/publications/g8-dementia-summit-agreements.

43 Baumgart, M., Snyder, H. M., Carrillo, M. C., *et al.* (2015), Summary of the evidence on modifiable risk factors for cognitive decline and dementia: a population-based perspective, *Alzheimer’s & Dementia*, 11(6): 718–726.

Caregiver support interventions in dementia care

The majority of personal health care services for older adults is provided by family members. Effective support services for family caregivers have been associated with decreased nursing home admissions and use of acute care services. Dias and colleagues conducted a randomised trial of a home care programme for caregivers of persons with dementia in developing countries based in Goa, India. This study consisted of a community-based intervention provided by a team consisting of 'home care advisors', and supervised by a counsellor with personal experience as the caregiver of a family member with dementia with consultative support from a psychiatrist. The team was focused on supporting the caregiver of the individual with dementia via four key strands: education, strategies for behavioural management, access to a one-time psychiatric assessment, and medication interventions as needed. This approach was associated with a significant reduction in overall distress as measured by the General Health Questionnaire and the Neuropsychiatric Inventory measure of distress.⁴⁴

In addition to enhancing caregiver skills to address the special needs of older adults with mental disorders, family members provide critical support and are at increased risk of mental health and physical health disorders in their own right due to caregiver stress. For example, being a caregiver of a family member with a chronic health condition or a mental health disorder is associated with increased risk of depression, anxiety disorders, sleep disorders, substance use disorders and stress-related health conditions such as hypertension, obesity, and cardiovascular disease.⁴⁵ Providing early detection, prevention, and interventions aimed at family caregivers of the older person with a mental health condition can be essential to maintaining the older adult successfully in the community and preventing or delaying institution-based long-term care.

Technology, telehealth, and digital platforms

Other novel solutions capitalise on the emerging role of web-based and mobile health technologies in detection, monitoring, and self-management of chronic health conditions. Older adults are amongst the fastest-growing users of the internet,⁴⁶ providing opportunities for screening and treatments that are otherwise poorly accessed due to lack of transportation, limited mobility, social isolation, and perceived stigma. Mobile health technologies in telehealth have been shown to be effective in identifying early symptoms of either psychiatric or medical complications and supporting early intervention.⁴⁷ Automated telehealth approaches include providing in-home monitoring of medical and psychiatric symptoms in conjunction with automated educational and support instructions for common physical and mental health symptoms. When early signs of either psychiatric or medical relapse are detected, automated algorithms can alert nurses

44 Dias, A., Dewey, M. E., D'Souza, J., *et al.* (2008), The effectiveness of a home care program for supporting caregivers of persons with dementia in developing countries: a randomised controlled trial from Goa, India, *PLoS ONE*, 3(6): e2333.

45 See, *e.g.*, Brodaty, H. & Donkin, M. (2009), Family caregivers of people with dementia, *Dialogues in Clinical Neuroscience*, 11(2): 217–228; Collins, L. G. & Swartz, K. (2011), Caregiver care, *American Family Physician*, 83(11): 1309–1317.

46 Charness, N. & Boot, W. R. (2009), Aging and information technology use: potential and barriers, *Current Directions in Psychological Science*, 18(5): 253–258.

47 Pratt, S. I., Bartels, S. J., Mueser, K. T., *et al.* (2013), Feasibility and effectiveness of an automated telehealth intervention to improve illness self-management in people with serious psychiatric and medical disorders, *Psychiatric Rehabilitation Journal*, 36(4): 297–305.

Table 12.1 Summary of scalable innovations in global delivery of mental health services tailored to older adults

<i>Innovation</i>	<i>Description</i>	<i>Older adult-specific application</i>
Collaborative care	Embedded care managers or lay health workers in primary care provide screening, brief interventions, follow-up, and referrals using stepped care algorithms.	Older adults are more likely to engage in mental health care and receive treatment in primary care. Collaborative care addresses the common comorbidity of chronic health conditions and mental illness in older adults.
Task-shifting	Lay health workers, peers, and caregivers with brief training and supervision by mental health specialists detect diagnose, treat, and monitor symptoms.	The rapidly growing older adult demographic, coupled with an inadequate (and ageing) workforce has spawned a variety of effective lay, peer, and caregiver-delivered interventions with an emphasis on home and community-based services.
Home and community-based older adult mental health services	Mental health and substance abuse services are delivered in home and community-based settings where older adults reside or seek services.	The need to deliver services in the community due to transportation and mobility limitations (especially in rural and LMICs) necessitates delivery of mental health services to older adults where they reside and seek services.
Integrated mental and physical health self-management	Middle aged and older adults with serious mental illness have disproportionately high rates of multi-morbidity, and experience a ten–25-year reduced life expectancy. Combined mental health and physical health self-management supports both mental health and physical illness self-efficacy and self-management.	Integrated mental and physical self-management training and support delivered to middle aged and older adults with serious mental illness is associated with improved psychiatric and medical self-management, chronic disease outcomes, and reduced acute service use.
Prevention of late-life mental disorders and suicide in older adults	Prevention of depression: Brief cognitive-behavioural interventions can prevent conversion from minor (subsyndromal) depression to major depressive illness. Prevention of suicide: Key approaches to reducing suicide risk in older adults include providing screening and mental health services in primary care and in the community; enhancing health promotion to improve overall health and functioning; and programmes to improve social connectedness. Prevention of dementia: Reduction of seven modifiable risk factors: depression, diabetes, midlife obesity, midlife hypertension, smoking, low educational attainment, and physical inactivity.	Older adults are at increased risk of depressive symptoms and suicide associated with physical illnesses, chronic pain, social isolation, loneliness, and loss. Effective approaches to prevention require screening and delivery of preventive interventions where older adults reside and seek social services, and primary health care including home and community-based outreach. In addition, efforts focused on health promotion and social connectedness are key elements of mental health preventive strategies for older adults.

(Continued)

Table 12.1 (Continued)

<i>Innovation</i>	<i>Description</i>	<i>Older adult-specific application</i>
Distress-focused interventions and integrated ageing social services	In contrast to diagnosis-specific interventions, distress-focused approaches are more likely to be viewed as acceptable, culturally appropriate, and generalisable to diverse populations. Integrated mental health and ageing social services have the potential to address key social determinants of older adult health and independent functioning.	Older adults are more likely to perceive and experience stigma associated with mental illness and have comorbid mental and physical health symptoms causing 'distress' affecting overall functioning. Growth in community-based social services to support successful ageing in the community has the potential to provide integrated mental health and social services by lay professionals working in home-based care programmes and other support services.
Caregiver support interventions in dementia care	Caregiver support interventions assist in delaying nursing home placement, reducing psychiatric symptoms, and reducing caregiver depression and stress-related conditions.	Caregiver support interventions are a mainstay of community-based dementia, leveraging the crucial role of family caregivers, and supporting home and community-based services for older adults with dementia. Family caregivers provide the majority of at-home support for older adults with dementia, with a major impact on the overall cost of dementia care.
Technology, telehealth, and digital platforms	Automated telehealth interventions can provide in-home monitoring and self-management support for medical and psychiatric conditions. Evidence-based brief psychotherapies can be delivered through telehealth or web-based programmes for prevention and treatment of depression and other common mental health conditions.	Older adults are amongst the fastest growing users of the internet, potentially helping to overcome access barriers to screening and treatments due to lack of transportation, limited mobility, social isolation, and perceived stigma. Tailoring digital technology to the needs of older adults includes coaching support along with modifications and accommodations for visual, hearing, and cognitive limitations.

or community health workers to intervene and pre-emptively address illness relapse before it occurs.⁴⁸ Brief evidence-based psychotherapies can be delivered effectively through telehealth

⁴⁸ Naslund, J. A., Aschbrenner, K. A., Araya, R., *et al.* (2017), Digital technology for treating and preventing mental disorders in low-income and middle-income countries: a narrative review of the literature, *The Lancet Psychiatry*, 4(6): 486–500.

or automated web-based programmes for both the treatment and prevention of depression and other common mental health conditions.⁴⁹ Use of social media also has the potential to provide lay peer support and older adult volunteers as a potential solution to overcoming the profound social isolation experienced by many older adults following the death of a spouse, or due to physical disabilities associated with chronic illness.

Access to health care information was identified as a key determinant in reaching the Millennium Development Goals (MDGs) and also the post-2015 Sustainable Development Goals.⁵⁰ Despite the potential for web-based and mobile health technologies to help overcome the dramatic shortfall in trained mental health providers and the potential for telehealth to improve access to services in rural settings, significant barriers remain. The rapid growth in the use of web-based and mobile health technologies is substantially limited in populations within LMICs due to persistent economic and infrastructure barriers.⁵¹ Improving access to mental health interventions and services for older adults across the globe will require significant economic reforms—and, where necessary, international cooperation in accordance with SDG17—that support innovation in delivery, including enhanced access to trained lay health outreach workers⁵² and health-related technology.

The key role of implementation science in future strategies and research

Perhaps the greatest challenge in future research addressing the global challenge of mental health conditions in older adults will relate to implementation. There is a multitude of evidence-based practices for late-life mental health conditions. Implementation science is the scientific study of methods to promote the systematic uptake of research findings into the routines of local, regional or national health care delivery systems. In addition, implementation science improves the development of new treatments and practices by informing *how* they are designed in order to maximise usability, reach, spread, and sustainability. Many of the current innovations in global mental health and ageing are adaptations of existing evidence-based practices to improve implementation outcomes, including uptake, spread, reach, scalability, and sustainability. A dynamic tension has developed in implementation science regarding two imperatives: *fidelity of implementation*—the delivery of a manualised intervention programme, and *programme adaptation*—the modification of a programme to improve the fit for a specific consumer group, local organisation, and/or setting. Intensive training, supervision, fidelity monitoring, and use of optimal providers and circumstances for delivering interventions are frequently impractical, and may present barriers to effective implementation in real-world settings. Chambers and colleagues (2013) suggest a ‘Dynamic Sustainability Framework’, and propose that *both* fidelity and adaptation are essential elements of effective and *sustainable* programme implementation to ensure that interventions evolve to respond to different ethnicities, cultures, settings, environments, resources, providers,

49 See, e.g., Pratt & Bartels, *et al.* (2013), *op. cit.*, nt.47. See also Sandoval, L. R., Buckey, J. C., Ainslie, R., *et al.* (2017), Randomized controlled trial of a computerized interactive media-based problem solving treatment for depression, *Behavior Therapy*, 48(3): 413–425.

50 Royston, G., Hagar, C., Long, L. A., *et al.* (2015), Mobile health-care information for all: a global challenge, *The Lancet Global Health*, 3(7): e356–357.

51 *Ibid.*

52 For more on the use of lay health workers, see Chapter 2 of this book by Lawrence O. Gostin and Laura Davidson.

and financing structures.⁵³ In this construct, fidelity-consistent modifications are viewed as meeting the intent of adaptations when defined as a deliberate and thoughtful alteration to the design or delivery of an intervention with a goal of improving its fit, effectiveness, and potential sustainability within a specific context or culture. Such modifications are essential to meet the needs of the ageing population globally, particularly in LMICs with different cultures and resource constraints.

Conclusion: addressing the global challenge of older adults with mental health needs

The worldwide ‘silver tsunami’ of older adults with mental health needs will soon overwhelm an inadequately prepared and poorly resourced health care system due to the dearth of mental health providers with expertise on adult mental health conditions. Addressing the mental health needs of an ageing population will require a paradigm shift and innovative approaches to treatment and community-based services. In addition to the use of community health workers and lay providers, a growing literature is documenting the potential benefits and acceptability of using telehealth and digital health platforms as well as social media. This could be used to engage peers and family to help older adults with depression by, for example, reducing social isolation and providing social support following the death of a spouse, or to those with functional limitations associated with chronic illness and immobility. This challenge is compounded for older adults with mental illness who are likely to be dually affected by disability arising from both their mental health and their physical health.⁵⁴ Following the principles of the World Health Organization, mental health services for older adults need to be developed which reflect evidence-based practices, but which are adapted to optimise acceptability and scalability.⁵⁵ This applies in particular to LMICs due to their resource constraints. To be specific, this means identifying and reducing existing evidence-based practices to their core essential components and implementing them through competency-based training that identifies the core basic fundamental components of evidence-based practices and ensures that the requisite skills to provide the appropriate care, support, and treatment have been acquired by community-based members of the treatment team. In this respect, the priority for future research is likely to lie in the growing field of implementation science focused on identifying optimal approaches to achieving practical, generalisable, scalable, and sustainable implementation, and on the spreading and utilisation of effective interventions which meet the needs and preferences of the rapidly growing global population of older adults with mental health needs.

53 Chambers, D. A., Glasgow, R. E., & Stange, K. C. (2013), The dynamic sustainability framework: addressing the paradox of sustainment amid ongoing change, *Implementation Science*, 8: 117.

54 Bartels, S. J., Naslund, J. A. (2013), The underside of the silver tsunami—older adults and mental health care, *NEJM*, 368(6): 493–496. See also Beard, J. R., Officer, A., de Carvalho, I. A., *et al.* (2016), The World report on ageing and health: a policy framework for healthy ageing, *The Lancet*, 387(10033): 2145–2154.

55 WHO (2017), Mental health of older adults (fact sheet). Available at: www.who.int/mediacentre/factsheets/fs381/en/.