



## Future directions for global mental health 1

# The role of global traditional and complementary systems of medicine in the treatment of mental health disorders

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Traditional and complementary systems of medicine include a broad range of practices, which are commonly embedded in cultural milieus and reflect community beliefs, experiences, religion, and spirituality. Two major components of this system are discernible: complementary alternative medicine and traditional medicine, with different clientele and correlates of patronage. Evidence from around the world suggests that a traditional or complementary system of medicine is commonly used by a large number of people with mental illness. Practitioners of traditional medicine in low-income and middle-income countries fill a major gap in mental health service delivery. Although some overlap exists in the diagnostic approaches of traditional and complementary systems of medicine and conventional biomedicine, some major differences exist, largely in the understanding of the nature and cause of mental disorders. Treatments used by providers of traditional and complementary systems of medicine, especially traditional and faith healers in low-income and middle-income countries, might sometimes fail to meet widespread understandings of human rights and humane care. Nevertheless, collaborative engagement between traditional and complementary systems of medicine and conventional biomedicine might be possible in the care of people with mental illness. The best model to bring about that collaboration will need to be established by the needs of the extant mental health system in a country. Research is needed to provide an empirical basis for the feasibility of such collaboration, to clearly delineate its boundaries, and to test its effectiveness in bringing about improved patient outcomes.

### Introduction

WHO launched a Global Mental Health Action Plan in 2013 to close the treatment gap in mental disorders, with the use of a task-sharing approach between the community, primary and specialist care, and other relevant sectors. Non-orthodox medicine has long been appreciated to have a major role in the delivery of health care (including mental health care) in all countries, but especially in low-income and middle-income countries. However, well designed research is scarce, hampered by many challenges, including conceptual confusion and scarcity of funding. In this Review we provide a narrative overview of the published literature for researchers and practitioners wishing to advance the understanding of how to improve patient outcomes through evidence-based collaboration with non-orthodox medicine (panel).

### Definitions of traditional, complementary, and alternative medicine

Communication between professionals and researchers about health-care interventions needs a robust classification system so that like can be compared with like, but the range of approaches in traditional, complementary, and alternative medicine is enormous, and attempts at definition and classification have shown complex terminology, historical antecedents, diverse cultural meanings, and entrenched usage.<sup>3</sup> However, two main strands of published literature can be traced, one focused on traditional medicine in low-income and middle-income countries, and the other focused on complementary and alternative medicine practised in high-income countries. In this Review, with respect to

traditional medicine in low-income and middle-income countries, although emphasis is on traditional healing, much of what is written about that healing approach applies to faith healing. Indeed, despite the fact that many faith healers have derived influences from either Christianity or Islam, much of traditional medicine is based on one form of indigenous religion or another.

Traditional medicine has a long history. The sum total of the knowledge, skill, and practice of traditional medicine is based on theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, and in the prevention, diagnosis, and improvement or treatment of physical and mental illness.<sup>2</sup> The various healing traditions might have developed over tens of thousands of years.<sup>7</sup>

Much of traditional healing practices places emphasis on the spirit world, supernatural forces, and religion.<sup>8</sup> In many parts of Africa, health is understood to be not just about proper functioning of bodily organs, but rather about mental, physical, spiritual, and emotional stability of oneself, one's family, and community members, and also one's ancestors who are believed to be able to protect the living.<sup>9</sup> Conversely, so-called western medicine that has evolved from the Greek Hippocratic system onwards to modern biomedicine is generally secular, although the mental health specialty in particular has expanded its emphasis from purely disturbed physiology to a more biopsychosocial understanding of the causes, manifestations, and consequences of mental illness.<sup>10,11</sup>

When adopted outside of its traditional culture, traditional medicine is often called complementary and alternative medicine. As the name implies, these

therapies have been described either as alternatives to conventional medicine, or as complementary healing modalities used alongside conventional care.<sup>12</sup> Thus, complementary and alternative medicine has often been defined in terms of its contrast with contemporary biomedicine, which might be called allopathy, orthodox, regular, conventional, modern, mainstream, or western medicine. The huge variety of complementary and alternative medicine practices, derived from vastly different historical and philosophical traditions, are notoriously difficult to group together under a satisfactory definition.<sup>1,6,13</sup> The most influential definitions to date (panel) focus on a few common features. Every definition notes that complementary and alternative medicine modalities are not part of conventional biomedicine, although the exact phrasing differs and some authors note the intrinsic relativism of any such criterion.<sup>1,4</sup> Indeed, the boundary between conventional medicine and complementary and alternative medicine is increasingly unclear, as medical schools, general practitioners, and hospitals worldwide have introduced complementary and alternative medicine modalities alongside mainstream biomedical therapy,<sup>15–17</sup> and official regulatory bodies acknowledge and license selected complementary and alternative medicine practices.<sup>1</sup> Definitions acknowledging that complementary and alternative medicine satisfies a demand not met by conventional biomedicine help to explain its complementary function in society, but still depend unsatisfactorily on the ill-defined shortcomings of biomedicine. Some definitions make explicit reference to the alternative theories and beliefs unique to complementary and alternative medicine,<sup>1,6,18</sup> such as the emphasis on holism and meaning, which are essential, even in therapies such as homoeopathy that superficially mimic the form of biomedicine.<sup>19</sup>

Another term, integrative medicine, refers to the integration of complementary and alternative medicine into conventional medicine, aiming thus to obtain a synergistic therapeutic effect greater than that obtained with either modality alone. Integrative medicine also shifts the emphasis of care from treatment to prevention and self-healing.<sup>20</sup>

Traditional medicine is more widespread in low-income and middle-income countries than in high-income countries, although it tends to be popular and vibrant in minority cultures in high-income countries. Conversely, complementary and alternative medicine tends to be less culture specific and more widely used in high-income countries. Despite the differences between the two, they share an emphasis on a more holistic approach to illness than does conventional medicine. These two approaches make less distinction between mind and body and seek to attend to psychological, social, and emotional aspects of illness, even when the illness is somatic. This holistic approach to care is especially valued by patients with mental health conditions.<sup>21</sup>

## The profile and diverse use of traditional and complementary medicine

To make generalisations about the prevalence of use of traditional and complementary medicine is difficult. The difficulty derives partly from the fact that the component approaches, traditional medicine and complementary and alternative medicine, are popular in different populations and because of the range of practices embedded in every population. 12 month prevalence rates of the use of complementary and alternative medicine range from 10% to 76%, depending on the population studied, response rates, which therapies are counted as complementary and alternative medicine, and the method of eliciting information.<sup>22,23</sup> For example, the inclusion or exclusion of prayer or exercise can drastically change the results.<sup>23–25</sup> Large population surveys in high-income countries suggest that the 12 month prevalence of the use of complementary and alternative medicine is 20–50%, with Australia and the USA having higher rates than Britain.<sup>23–27</sup> Many indicators suggest that the use of complementary and alternative medicine has been increasing since the 1960s.<sup>23,26,27</sup> Complementary and alternative medicine is most often used for chronic conditions that patients feel are not adequately treated by conventional medicine. In many instances, users

### Panel: Influential definitions of complementary and alternative medicine

- Complementary and alternative medicine includes a range of resources that encompasses health systems, modalities, and practices and their accompanying theories and beliefs, apart from those intrinsic to the predominant health-care system of a society or culture in a given historical period. Complementary and alternative medicine includes such resources perceived by their users as associated with positive health outcomes. Boundaries in complementary and alternative medicine and between its domain and the domain of the predominant system are not always sharp or fixed.<sup>1</sup>
- Complementary and alternative medicine refers to a broad set of health-care practices that are not part of a country's own tradition and not integrated into the predominant health-care system.<sup>2</sup>
- Complementary and alternative medicine is a group of diverse medical and health-care systems, practices, and products that are not generally considered part of conventional medicine.<sup>3</sup>
- Complementary and alternative medicine includes all practices and ideas that are outside the domain of conventional medicine in several countries, and is defined by its users as the prevention or treatment of illness, or promotion of health and well being. These practices complement mainstream medicine by contributing to a common whole; satisfying a demand not met by conventional practices, and diversifying the conceptual framework of medicine.<sup>4</sup>
- Complementary and alternative medicine includes therapeutic practices that are not presently considered an integral part of conventional allopathic medical practice.<sup>5</sup>
- Unconventional therapies [are] medical interventions not taught widely at US medical schools or generally available at US hospitals.<sup>6</sup>
- Complementary and alternative medicine includes practices not accepted as correct, proper or appropriate, or not in conformity with the beliefs or standards of the dominant group of medical practitioners in a society.<sup>2</sup>

continue to patronise conventional medicine in addition to the complementary and alternative medicine modality.<sup>28–30</sup> That is, its use is typically complementary rather than alternative.

In view of the chronicity and substantial subjective component in mental disorders, the widespread use of complementary and alternative medicine in patients with psychiatric disorders is unsurprising, with reported rates of 20–80%.<sup>28,31</sup> Similar to populations with non-psychiatric disorders, chronicity and comorbidity predict higher rates of complementary and alternative medicine use in patients with mental illness.<sup>28,30,32,33</sup> Most complementary and alternative medicine therapies are more easily available than are conventional treatments and may be largely free of the stigma associated with a psychiatric diagnosis.<sup>21,29</sup>

Studies of patients who were consulting providers of traditional medicine in low-income and middle-income countries reported high but varying rates of psychiatric disorders, depending on the methods used and the disorders examined. Saeed and colleagues,<sup>34</sup> in a study of attendees to native faith healers in rural Pakistan, noted an overall rate of 61% Diagnostic and Statistical Manual of Mental Disorders (DSM)-III-R diagnoses using the Psychiatric Assessment Schedule. The most common diagnoses were major depressive disorder (24%), generalised anxiety disorder (15%), and psychosis (4%). In Uganda, Abbo and colleagues<sup>35</sup> used the Mini International Neuropsychiatric Interview (MINI) to assess patients presenting to traditional healers and reported a DSM-IV diagnosis in 60·2% of patients, with psychotic disorders the most common (29·7%). Mbwayo and colleagues<sup>21</sup> in Kenya used the MINI and showed a rate of mental disorders of 64·3% in participants included in their study, including 20·3% with depression, 10·5% with anxiety disorders and 7·5% with schizophrenia. Ngoma and colleagues<sup>36</sup> in Tanzania used the Clinical Interview Schedule–Revised and reported 49% of patients presenting to traditional healers had diagnoses of common mental disorders (depression and mixed anxiety or depression) according to the International Classification of Mental and Behavioural Disorders-10.

Unlike the clear evidence of an increase in the use of complementary and alternative medicine in developed countries, the pattern of the use of traditional medicine in low-income and middle-income countries is probably more varied in view of the differential effects of the historical and current influence of high-income countries. Therefore, although practitioners of traditional medicine are still commonly patronised, especially by people with mental illness, no robust medical literature exists to draw on with respects to trends in use. Nevertheless, many studies around the world show that practitioners of traditional and complementary systems of medicine are often consulted by patients with mental disorders on their pathway to conventional care (table).

## Assessment, diagnosis, and treatment of mental disorders

Every healing modality assesses and categorises patients' distress according to its own philosophy of illness, which is embedded in a larger world view. Diagnostic systems differ and by necessity show differences in world views. Thus unsurprisingly, practitioners of traditional medicine, and most complementary and alternative medicine use diagnostic systems that are incompatible with conventional medicine.

Diagnostic practices in traditional medicine have been a subject of only a few systematic studies. The available studies<sup>52–55</sup> used qualitative methods including focus group discussions and interviews with traditional healers. Diagnostic approaches included a combination of history taking, examination or observation of the patient, and divination.<sup>52–55</sup> Divination refers to the revelation of knowledge from supernatural sources such as spirits or ancestors and uses various methods including tossing of artifacts, such as shells or bones, use of mirrors, animal sacrifice, drumming, trance, or prayer.<sup>21,53,55–57</sup> Although traditional medicine may sometimes attribute ill-health to physical causes, an accompanying supernatural explanation is typically given of why a person has become ill, and which spirits, earthly sorcerers, or neglected rituals are responsible. By contrast with conventional psychiatry, which emphasises the importance of specific symptoms or behaviours to diagnose a syndrome, the emphasis in traditional medicine is on the divination of the ultimate supernatural cause of a problem with little emphasis on particular symptoms.<sup>58,59</sup> Under traditional medicine, a person with an illness or behaviour might receive different diagnoses depending on the personal or social circumstances they are in when the illness or behaviour occurs.<sup>60</sup> Generally, diagnosis of mental disorders and the treatment prescribed by practitioners of traditional medicine are often based on indigenous beliefs and the cultural interpretation of a condition that is peculiar to every local culture.<sup>54</sup>

The treatment modalities used by traditional medicine practitioners are often in keeping with the traditional beliefs about the causes of mental disorders and generally aim to reduce or eliminate the cause of the illness rather than targeting the symptoms.<sup>34</sup> Both pharmacological and non-pharmacological treatment approaches are used. Pharmacological methods commonly include the use of different types and preparations of herbs with various routes of administration. Potentially, every part of selected plants might be used in herbal remedies, prepared, and administered in myriad ways, including boiling, pounding, burning, and macerating, followed by drinking, inhaling, sniffing, rubbing, smearing, and even parenteral application through skin incisions. Such use is based on the experience, oral tradition, and divine revelation of the healers rather than any scientific evidence of efficacy.<sup>61</sup>

Site	Setting	Diagnosis	Patients (N)	Consulted THP first (%)	Consulted FHP first (%)	Consulted THP or FHP (%)	
Erinosho et al (1977) <sup>37</sup>	Abeokuta, Nigeria	Psychiatric hospital and community mental health centre	Schizophrenia	208	74.5%	11.5%	86%
Gureje et al (1995) <sup>38</sup>	Ibadan, Nigeria	Outpatient department of a teaching hospital	Any mental disorder, but mainly psychosis	159	19%	13%	32%
Patel et al (1997) <sup>39</sup>	Harare, Zimbabwe	Three primary health clinics and four THP facilities	Common mental disorders	109	24.5%	20%	34.5%
Jain et al (2012) <sup>40</sup>	Jaipur, India	Department of psychiatry in a teaching hospital	Any mental disorder	76	39.5%	4%	43.5%
Temmingh and Oosthuizen (2008) <sup>41</sup>	Cape Town, South Africa	Acute inpatient wards	Psychosis	71	2.8%	2.8%	5.6%
Giasuddin et al (2012) <sup>42</sup>	Dhaka, Bangladesh	OPD of a department of psychiatry of a teaching hospital	Any mental disorder	50	ND	ND	22%
Burns et al (2011) <sup>43</sup>	Kwazulu Natal, South Africa	Inpatients of psychiatric hospital	Psychosis	54	ND	ND	39%
Razali and Mohd Yasin (2008) <sup>44</sup>	Malaysia	OPD of departments of psychiatry and medicine in a teaching hospital	Psychosis and epilepsy	120	ND	ND	44.2%
Archie et al (2010) <sup>45</sup>	Ontario Canada	Early intervention for psychosis specialised units	Psychosis	200	ND	ND	12.2%
Abiodun (1995) <sup>46</sup>	Ilorin, Nigeria	OPD of a department of psychiatry in a teaching hospital	Any mental disorder	238	26.5%	13.4%	39.9%
Campion and Bhugra (1997) <sup>47</sup>	Tamil Nadu, south India	Psychiatric hospital	Any mental disorder	198	NA	44.9%	44.9%
Appiah-Poku et al (2004) <sup>48</sup>	Kumasi, Ghana	Psychiatric hospitals	Any mental disorder	303	5.9%	14.2%	20.1%
Razali and Najib (2000) <sup>49</sup>	Kelantan, Malaysia	OPD of psychiatry department of a teaching hospital	Any mental disorder	134	69%	NA	69%
Chadda et al (2001) <sup>50</sup>	Delhi, India	OPD of a tertiary hospital	Any mental disorder	78	1.3%	29.5%	30.8%
Salem et al (2009) <sup>51</sup>	Al-Ain, United Arab Emirates	Psychiatric inpatients and outpatients in psychiatry department of a general hospital	Any mental disorder	106	NA	44.4%	44.4%

THP=traditional-healing practitioner. FHP=faith-healing practitioner. OPD=outpatient department. ND=not differentiated. NA=no available data.

**Table: Studies on pathway to care for patients with mental disorders attending orthodox mental health facilities**

Non-pharmacological treatment modalities can include combinations of physical restraints, including the use of shackles and manacles, restriction of food, isolation, recitations from holy books, incantations, rituals, sacrificial offerings, exorcism, and prayers.<sup>53,62-64</sup> Another important non-pharmacological treatment modality is culture-specific psychotherapeutic methods. The healer is often revered by the community and draws on this reverence in the use of powerful methods of suggestion, which offers the patients an understanding of the problem and encouragement to adhere to the proffered solution.<sup>34,56</sup>

By contrast with traditional medicine, long exposure to conventional medicine in non-indigenous settings has influenced complementary and alternative medicine to adopt a hybrid position between that of traditional medicine and conventional medicine. Although complementary and alternative healing modalities espouse unconventional models of illness and healing, based for example on humours, chi, water memory, or spinal alignment, they have more readily adopted conventional psychiatric diagnoses such as depression or anxiety, as

evidenced by the many trials of complementary and alternative medicine for treatment of these disorders. To explore the possibility of collaboration between a traditional and complementary system of medicine and conventional medicine, the contrast with respect to the treatment approaches of traditional medicine and complementary and alternative medicine practitioners is especially relevant because traditional medicine has less in common with conventional practice than does complementary and alternative medicine.

### The global context

In high-income countries, increasing popularity and use of complementary and alternative medicine over the past 50 years needs to be seen in the context of broader social and cultural changes over the same period. The values and beliefs that might lead people to choose complementary and alternative medicine are now part of contemporary culture,<sup>65</sup> but this situation was not always the case.

Scientific optimism and trust in the medical establishment peaked in the 1950s as infectious diseases were conquered and people's lifespans were extended,<sup>66</sup>

while homoeopathic schools in the USA almost disappeared.<sup>67</sup> Political and social events in the 1960s and 1970s, however, saw the emergence of a growing counter-culture, which questioned authority and rejected paternalism, and chose to embrace instead personal autonomy and individualism. Disillusionment with the reductionism of the medical establishment was spurred on by an increased awareness of iatrogenesis, exemplified by the tragedy of birth defects as a result of thalidomide treatment for morning sickness in the 1960s,<sup>68,69</sup> the overprescription of medication,<sup>70</sup> and the decreased use of benzodiazepines following raised awareness of their adverse effects.<sup>71</sup> The relation between user satisfaction with conventional medicine and the use of complementary and alternative medicine is subtle and complex. Large epidemiological samples in high-income countries show that individuals who use complementary and alternative medicine are no less satisfied with conventional medicine than are people who do not use complementary and alternative medicine.<sup>28,32,72</sup> The use of complementary and alternative medicine is not simply due to dissatisfaction with conventional medicine. Repeatedly, complementary and alternative medicine users report that the use of both forms of care together is more useful than use of either alone.<sup>72–74</sup> However, users of complementary and alternative medicine do complain about the quality of the doctor–patient relationship during the brief consultations typical of conventional medicine.<sup>17</sup> In addition to more satisfying consultations, the philosophies behind complementary and alternative medicine have a persuasive appeal, which users find compelling.<sup>18,75</sup> An appeal to the wisdom of nature is a defining metaphor in many types of complementary and alternative medicine. Nature is idealised as innocent, wholesome, and virtuous, and anything that is deemed artificial, toxic, synthetic, and processed is condemned. Conventional medicine, notably psychiatric drug treatment, is typically perceived as falling on the wrong side of this divide. Holism—the attention to not merely the physical body but also the social, psychological, and spiritual needs of an individual—is another philosophy by which complementary and alternative medicine defines itself. By contrast, conventional medicine is described by complementary and alternative medicine users as fragmented and impersonal, and ultimately disempowering.<sup>18</sup> Whereas doctors of conventional medicine might be more interested in objective improvements, or changes in psychopathology perhaps even measured on a rating scale, complementary and alternative medicine practitioners acknowledge and take seriously all subjective changes, thus the patient and their experience are validated.<sup>76</sup> Spirituality—the quest for deeper meaning, the sacred, and connectedness—is also a core philosophy of complementary and alternative medicine, although it is not always made explicit. Although psychiatrists acknowledge the importance of spirituality and religion, and are more willing than other

physicians to talk about them with patients,<sup>77</sup> they are unlikely to provide a world view that is as appealing and satisfying as the philosophies motivating patients to use complementary and alternative medicine.

The patronage of traditional medicine has followed a less consistent trajectory. The colonial and immediate postcolonial era saw the introduction and promotion of western medicine for the treatment of mental health disorders in low-income and middle-income countries and a concomitant decrease in the influence of traditional medicine including the outright banning of traditional medicine practice in some countries.<sup>78</sup> Indeed, at one time, it was thought the more available and accessible an orthodox form of treatment becomes, the less influential traditional medicine will be in a society. A few practitioners of conventional biomedicine were confident enough to predict a narrow role for traditional medicine in the succeeding years.<sup>79</sup> The reality is far different because the use of traditional medicine and faith-healing in the care of people with mental health disorders and physical illness has probably increased in the past 40 years especially in developing countries.<sup>80</sup> The wave of nationalism that heralded independence from colonial powers improved the fortunes of traditional medicine as the initial ambivalence of the governments of newly independent countries towards traditional medicine afforded some growth in this sector. Subsequently, in asserting independence and evoking national consciousness, several governments in low-income and middle-income countries have given recognition to traditional medicine through the setting up of boards and registering of practitioners. Several countries, including China and India, have in principle approved the integration of traditional medicine into mainstream health-care delivery systems.<sup>81</sup> This policy has received political support from the highest quarters, which is shown in the declaration<sup>82</sup> by the African Union that the period 2001–10 was the Decade of African Traditional Medicine.

Traditional medicine practitioners share a perception with their patients of the causes of mental illness that often results in the joint pursuit of putting an end to the abnormal experience of the illness. A supernatural origin of mental illness remains a highly prevalent notion of the cause of mental illness in most low-income and middle-income countries.<sup>43,47,49,78,83,84</sup> Neither urbanisation nor level of education has affected the widespread belief in a supernatural cause of mental illness, with educated elites consulting traditional medicine practitioners at a similar frequency to those with no formal education.<sup>84</sup>

### Economic context

The economic context in which the services of traditional, complementary, and alternative medicine are sought in high-income countries is different from that in low-income and middle-income countries. People from high economic groups in high-income countries are more likely to use the services of complementary and alternative

medicine than people from high economic groups in low-income and middle-income countries. On the contrary, traditional medicine is most commonly used by people from low economic groups in low-income and middle-income countries.<sup>25,83,85</sup> Patwardhan,<sup>81</sup> in a WHO report, identified poverty as a major reason traditional medicine has continued to have substantial patronage in low-income and middle-income countries. Treatment received from traditional medicine practitioners is generally seen as more affordable and payment schedules are often flexible.<sup>86</sup> Perhaps beyond affordability, the use of outcome contingency contracts between patients and traditional medicine practitioners might be an added incentive to seek their services<sup>87,88</sup> and the main reason that people in the community choose traditional medicine practitioners instead of conventional medicine practitioners for some medical conditions. In an outcome contingency contract the traditional medicine practitioner gets a deposit, which is usually a small amount (token) on first contact with the patient; the final payment is deferred until treatment is complete and is only paid if a satisfactory outcome is achieved after intervention by the practitioner (pay if cured).

The large patronage of traditional medicine and faith healers is closely related to their availability and accessibility. The number of traditional medicine practitioners in sub-Saharan Africa is about 100-times the number of conventional medical practitioners.<sup>89</sup> Although in many low-income and middle-income countries most of the population resides in rural areas, facilities providing conventional medical care are more often located in urban areas. Traditional medicine practitioners thus fill the resultant gaps in health-care services.<sup>80,85</sup>

### Role in global mental health and scaling up of services

The treatment gap for mental, neurological, and substance use disorders in low-income and middle-income countries, where treatment rates for these disorders in 12 months ranges from 15% to 24%,<sup>90</sup> necessitates an urgent scaling up of the delivery of core mental health services.<sup>91</sup> An evaluation of epidemiological and health services data for 58 low-income and middle-income countries by WHO showed that 67% of these countries had a shortage of psychiatrists, 95% a shortage of nurses, and 79% a shortage of psychosocial care providers.<sup>92</sup> To scale up services, the labour force of trained non-specialists and non-medical services needs to be increased. The large number and wide distribution of traditional medicine (and faith-healing) practitioners, compared with conventional mental health care providers, makes incorporation of their service into mainstream mental health-care services a desirable goal.<sup>93</sup>

For patients and their caregivers, collaboration between traditional and complementary systems of medicine and conventional mental health care has several potential

advantages. Improved cultural acceptability, accessibility, and a perceived holistic approach to care and less stigma might lead to increased use of a collaborative health-care service by patients and their caregivers. The availability of several treatment modalities might make it more likely that patients will find the therapy that best meets their needs.<sup>94</sup> Other advantages might include family and community involvement, manipulation of the environment to achieve therapeutic goals, and cost-effectiveness.<sup>58,95,96</sup>

The idea to use traditional medicine as a way of maximising mental health-care services for the community is not new<sup>97</sup> and various models exist for working together with traditional healers.<sup>98</sup> In a task-shifting model, traditional medicine might be incorporated into existing mental health-care services by co-opting its community penetrance and cultural acceptability to deliver conventional treatment. For example, traditional medicine practitioners could administer psychotropic medication and brief psychotherapies to patients in rural areas, or be trained to deliver other psychiatric support.<sup>93,98</sup> Although task-shifting might expand the reach of psychiatric services in countries with few resources, this approach makes little use of healers' unique skills and specific advantages, which should instead be acknowledged and built on. In a collaborative model, traditional or conventional medicine practitioners remain autonomous and independent, but cooperate fully; for example, by referring patients to each other or consulting on complex cases. In a fully integrated model, traditional and conventional medicine health-care services would be blended into a new hybrid system such that patients need not choose one over the other. Treatment approaches would be integrated; for example, a culturally relevant explanation might be given for why someone is depressed, followed by the necessary ritual and a prescription for an antidepressant.

Variants of the collaborative model have been practised with some success in Ecuador,<sup>99</sup> Puerto Rico,<sup>100</sup> Brazil,<sup>101</sup> and in New Zealand where a Maori mental health-care facility in a large psychiatric hospital provides traditional ceremonies and spiritual encounters in addition to conventional pharmacotherapy.<sup>102</sup> In all of these examples, conventional psychiatric interventions and traditional medicine practices are offered to patients. Patients might be offered a choice of which traditional faith-healer they believe in, thus capitalising on powerful expectancy effects, which can influence outcome.<sup>100,103</sup> Patients greatly appreciate this collaborative approach, and both treatment modalities can benefit from the legitimacy thus bestowed by the other.<sup>99</sup>

Only a few examples of the collaborative use of traditional medicine practitioners to effectively deliver community-based mental health care exist in low-income and middle-income countries. The establishment of collaboration between primary mental health-care services and traditional medicine practitioners remains a

challenge and best practice models of blending or aligning of treatment delivery and scale-up of treatment delivery are, as yet, elusive.<sup>104,105</sup> The potential roles that practitioners of traditional and complementary systems of medicine can provide include the promotion of mental health, prevention of mental illness,<sup>106</sup> detection and assessment of mental disorders, treatment of mental disorders, referral to primary care practitioners or directly to hospitals, and collaborative care, including monitoring of medication, side-effects, symptoms, family support, and education of families about early warning signs of relapse. A 2011 review<sup>107</sup> did not show any studies assessing the role that practitioners of traditional and complementary systems of medicine have in the delivery of these interventions. However, a 2012 study<sup>108</sup> that used standardised clinical assessments of the outcome of such a collaboration, noted the combined use of conventional medical services and traditional medicine in a cohort of patients with psychosis (schizophrenia, mania, and depression with psychosis) was associated with a significant reduction in psychosis at 3 months, although at 6 months combined treatment was more likely in patients who still met the criteria for psychopathology.

Substantial published literature exists on the problems that arise from vertical rather than integrated health-care programmes.<sup>109</sup> In view of the experience from vertical health-care programmes and the scarcity of resources in low-income and middle-income countries, and the current need to strengthen general health-care systems,<sup>110</sup> a focus on integration of mental health care into general health care at every level of a community-based health-care system would be more rational.<sup>107</sup> Such an approach would use self-help, family help, traditional and complementary systems of medicine, volunteer community health workers, and primary care staff, supported and supervised by district mental health-care specialists,<sup>107</sup>

or district public health nurses, which has been successfully implemented in Kenya.<sup>111</sup>

Whatever model is used, any attempt to forge a working relationship between traditional medicine and conventional medicine is likely to face several challenges. Practitioners of conventional medicine will have to deal with a clash of fundamental ideologies between the so-called western view of health care based on empirical evidence, and the traditional medicine practitioner's philosophy based on magic, religion, and sorcery.<sup>93,102</sup> Conventional medicine practitioners might be concerned about evidence suggesting that patients who see traditional medicine practitioners might be less likely to comply with biomedical treatment<sup>93</sup> and are more likely to have longer duration of untreated psychosis, and about some of the potentially harmful practices used in traditional medicine such as toxic potions, physical beatings, and inhumane restraints.<sup>112-114</sup> Conversely, in view of the important role of ritual and symbolism in traditional medicine, practitioners might feel that their effectiveness is undermined by any collaborative arrangement that discourages the use of ritual and symbolism.<sup>115</sup>

To be successful, any approach would require the provision of adequate training and continued education for practitioners of traditional medicine and re-education of conventional medicine practitioners. Apart from information about the recognition and treatment of defined mental disorders, education would need to focus on the boundaries for collaboration, patient engagement and referral, and the importance of mutual respect and trust. However, in view of the fact that low-income and middle-income countries struggle to find the resources to provide continued education to primary health-care workers, the likelihood they would have the resources to re-educate practitioners of traditional medicine who might be 50-times or more in number compared with primary health-care workers is small. A potential way forward that is being tested in Kenya is to use primary care to provide continuing professional development around mental health. In this scenario, primary health-care workers, who have had 40 h of continuing professional development in mental health care, are asked to include a mental health component in their weekly training of the volunteer community health-workers and are encouraged to initiate ad hoc and planned dialogues with their local traditional and complementary medicine practitioners.<sup>111</sup>

## Conclusion

In the context of low-income and middle-income countries, a role seems to exist for practitioners of traditional and complementary medicine, especially traditional healers, to fill the treatment gap for mental disorders. Whether a collaborative or a fully integrated model would best facilitate that role and offer the best outcome for patients is unclear. Just one model is

### Search strategy and selection criteria

We reviewed the published literature focusing on current practices of providers of traditional, complementary, and alternative medicine and the potential contributions of these methods of treatment to scaling up mental health-care services especially in low-income and middle-income countries. We searched several electronic databases on April 7, 2014, including Medline, Social Science Citation Index, Scopus, PsycArticles Medline, Alternative and Complementary Medicine Database, and Embase. We retrieved relevant papers from the overlap of search terms: "traditional healers", (with 14 variants or synonyms) and "mental disorders" (with nine variants or synonyms), and "effect" (with ten variants or synonyms). Papers were sorted according to their relevance to subsections of the Review. We excluded papers on traditional and complementary systems of medicine with only a tangential mention or reference to mental health but that discussed one or more physical problems in detail from the Review. For the exploration of pathways to care, we did a search covering the period from January, 1970, to February, 2014 with the keywords, "traditional medicine", and/or, "complementary medicine", "mental disorder", and/or "mental illness". Articles addressing traditional and/or complementary medicine with respect to mental health or mental disorders were selected for further scrutiny.

unlikely to suit every situation, so a region's solution will need to be tailored to local circumstances and resources. This tailored approach should be based on a more detailed understanding of the dynamics of traditional medicine than we have at present. Knowledge gaps include the following questions: what are the specific effects of traditional medicine practices on mental health? What is the nature of the qualitative changes that traditional medicine practitioners facilitate? What are the mechanisms of such changes, and how could these be preserved? Will these mechanisms work in a collaborative setting? Each of these questions requires empirical investigation. Ultimately, collaboration or integration would necessitate cognisance by the various practitioners of the different treatment approaches that traditional and complementary systems of medicine deliver. Efforts at collaboration or integration should include ways in which harmful treatment practices can be discouraged as well as the implementation of effective monitoring of service delivery by these healers. In essence, research is needed to clearly describe the nature and form of the collaboration that can be developed between providers of traditional and complementary systems of medicine and providers of conventional mental health and to test the effectiveness of this collaboration on patient outcome.

#### Contributors

OG prepared the first draft based on inputs from all authors. GN and VM did the electronic search. OG finalised the draft based on detailed comments from GN and reviewer feedback. OG provided overall guidance. All authors reviewed the final draft.

#### Declaration of interests

OG has received grants from the National Institute of Mental Health to study collaboration between conventional and alternative medicine and conventional biomedicine. RJ has received grants from the Department of International Development to run a randomised controlled trial of training in primary care about mental health and to run a community survey of mental health, malaria, and immunity. The other authors declare no conflicts of interest.

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