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Human resources for mental health care: current situation and strategies for action

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A challenge faced by many countries is to provide adequate human resources for delivery of essential mental health interventions. The overwhelming worldwide shortage of human resources for mental health, particularly in low-income and middle-income countries, is well established. Here, we review the current state of human resources for mental health, needs, and strategies for action. At present, human resources for mental health in countries of low and middle income show a serious shortfall that is likely to grow unless effective steps are taken. Evidence suggests that mental health care can be delivered effectively in primary health-care settings, through community-based programmes and task-shifting approaches. Non-specialist health professionals, lay workers, affected individuals, and caregivers with brief training and appropriate supervision by mental health specialists are able to detect, diagnose, treat, and monitor individuals with mental disorders and reduce caregiver burden. We also discuss scale-up costs, human resources management, and leadership for mental health, particularly within the context of low-income and middle-income countries.

Introduction

“At the heart of each and every health system, the workforce is central to advancing health”

The World Health Report 2008 focused global attention on the shortage of health workers. Many countries of low and middle income face a human workforce crisis, and the scarcity of human resources and training is similarly overwhelming for mental health. Practical guidelines to assist policy makers, health planners, and educators to address shortfalls in human resources for mental health are available; efforts are increasing to focus on this issue; and evidence from countries of low and middle income is emerging that will have many implications for policy on human resources for mental health.

The mental health workforce described in this report includes three groups of individuals. The first is composed of specialist workers, such as psychiatrists, psychologists, psychiatric nurses, and occupational therapists. The second group is formed of non-specialist health workers, such as doctors, nurses and lay health workers, affected individuals, and caregivers. In the third group, other professionals are included, such as teachers and community-level workers.

Here, we discuss the current status and needs of human resources for mental health. We also review available evidence about actions and strategies to strengthen human resources for mental health in low-income and middle-income countries, with the objective to inform development of policies in this area.

Key messages

• Human resources for mental health are inadequate in most countries of low and middle income and are likely to worsen unless substantial investments are made and effective strategies are implemented
• Mental health care can be delivered effectively in primary care settings, through community-based programmes and task-shifting approaches that engage and support skilled non-specialist health professionals, lay workers, affected individuals, and caregivers in mental health service delivery
• Mental health specialists should, and will, continue to have essential roles in delivery of services and in training, supervision, and mentoring of non-specialist workers
• The specific composition of the mental health workforce should be expected to vary across countries, according to differing population needs, mental health service delivery systems, and resources
• Effective leadership and management of human resources for mental health will be essential to address key challenges such as mobilisation of financial resources, recruitment, and retention, and equitable distribution of the workforce

Identification of data sources

Evidence of the current status of human resources for mental health was obtained from WHO’s 2011 Mental Health Atlas. WHO has been gathering data on mental health resources approximately every 5 years since 2000 from almost all countries of the world. The latest data were published in 2011 and were obtained with a questionnaire containing standard definitions for all variables, from 183 countries covering 99% of the world’s population. Median change scores were calculated to assess the alteration in the number of psychiatrists per 100,000 population from Atlas 2005 to Atlas 2011. Information on estimated need and shortages of psychiatrists, psychosocial care providers,
and nurses in mental health settings in 58 low-income and middle-income countries was obtained from a large study published by WHO. The computations were based on 2005 data available from the 2005 WHO Assessment Instrument for Health Systems (WHO-AIMS) and the 2004 WHO Global Burden of Disease Report for the 58 countries. We are not aware of any other data sources that are comparable to these in scope and coverage.

We searched Medline and PubMed to identify peer-reviewed publications from 1990 to December, 2010, on effectiveness of mental health care and training for various service providers. Our search methodology incorporated three validated strategies to capture publications related to “health services and policy” and “mental health” in “LMICs [low-income and middle-income countries]” combined with selected index-text and free-text terms relating to non-specialist health workers and mental health. We also hand-searched relevant journals (Human Resources for Health, Bulletin of the World Health Organization, Health Research in Policy and Systems, and International Journal of Mental Health Systems) and scanned reference lists of relevant publications and websites of pertinent organisations (eg, WHO, Global Forum for Health Research).

We included studies that assessed the effectiveness of mental health care interventions delivered by specialist and non-specialist workers for detection, treatment, and prevention of mental disorders; and training on workforce capacity. Studies eligible for our report included randomised controlled trials and non-randomised trials (such as controlled clinical trials, controlled before-and-after studies, and interrupted time-series studies). For detection of mental disorders, cross-sectional studies in which diagnoses made by non-specialist health workers were compared directly with those made by specialists were also eligible for inclusion. Studies taking place in areas of conflict were excluded. No language restrictions were made.

Finally, we developed brief case examples from three countries—Sri Lanka, India, and Indonesia—to show how shortages in human resources for mental health are being addressed in these settings. To gain an historical perspective on mental health care in India, mental health experts and senior bureaucrats were interviewed by one of us (NvG; details available on request).

**Current state of human resources for mental health**

Figure 1 shows the median number of human resources for mental health reported in Atlas 2011, separated by income groups of countries. Globally, nurses were the largest workforce category in the mental health system, with a median of 4.95 nurses per 100 000 population, followed by psychiatrists (1.27 per 100 000 population). Although numbers of psychologists and social workers were much smaller, occupational therapists were especially rare, with not one occupational therapist working in the mental health system in at least 50% of low-income countries. Psychiatrists were far more prevalent in high-income countries, with the median number 172 times greater than in low-income countries.

Figure 2 and table 1 show changes in human resources for mental health over the years. Between Atlas 2005 and Atlas 2011, the median change in number of psychiatrists was greatest in high-income countries, with a median increase of 0.65 per 100 000 population, whereas in low-income countries the number fell by 0.01 per 100 000 population.

The estimated total number of mental health care workers needed in the 58 countries of low and middle income in 2005 was 362 000, representing 22·3 workers per 100 000 population in low-income countries and 26·7 workers per 100 000 in middle-income countries, comprising 6% psychiatrists, 54% nurses in mental health settings, and 41% psychosocial care providers. These data reflect an overall shortage of 239 052 mental health workers (17·3 workers per 100 000 population in low-income countries and 14·9 per 100 000 population in middle-income countries; table 2). Based on this result, a shortage of 1·18 million mental health workers was reported for all 144 countries of low and middle income. Almost all countries of low and middle income face shortages in at least one of the three categories of workers. The largest shortages were seen in Vietnam, with 1·70 psychiatrists and 11·52 psychosocial health providers per 100 000, and in Uruguay, with 22·20 nurses per 100 000. All low-income countries and about two-thirds of middle-income countries had far fewer mental health workers to deliver a core set of mental health interventions than were needed.

**Figure 1: Human resources for mental health per 100 000 population, by country income group**

Income groups defined by the World Bank, 2010.
Strategies for increasing human resources for mental health

Task shifting

Task shifting (also known as task sharing), defined as “delegating tasks to existing or new cadres with either less training or narrowly tailored training”, is an essential response to shortages in human resources for mental health. This process can entail: employment of mental health care providers in different sectors; intersectoral collaborations with other professionals, such as teachers and prison staff, to strengthen mental health awareness, detection of mental disorders, referrals, and service delivery; or both of these.

With our literature search, we retrieved 63 studies on strategies for increasing human resources for mental health, of which 42 evaluated interventions with respect to patient or caregiver outcomes (webappendix pp 1–7) and 24 evaluated training according to staff performance outcomes (webappendix pp 8–11). Three studies addressed both. 23 reports were from south Asia, 13 from Africa, ten from Latin America and the Caribbean, five from the Middle East, five from China, four from Turkey, two from east Asia, and one from Russia. Most studies were quasi-experimental in design, and 20 were randomised or cluster-randomised controlled trials.

The need for mental health specialists, particularly psychiatrists and neurologists, will continue even if task shifting is implemented extensively. Existing evidence shows that the roles of these specialists can change, with clinical roles focused on complex psychiatric cases and diagnoses whereas less complex cases can be managed by trained non-specialist health workers. Mid-level mental health workers (eg, medical officers for mental health) have also helped to reach rural areas where psychiatrists are typically unavailable (panel 1).

Psychosocial workers also have an important role. In India, social workers have facilitated support groups for...
patients and caregivers as part of a multidisciplinary mental health team, and in Chile they have provided psychoeducation (education of the patient and other relevant parties about the illness, its treatment, and relapse prevention), and monitoring. Psychologists have also applied effective psychoeducation interventions to reduce caregiver burden and improve attitudes of caregivers in Chile.

In most studies, psychiatrists, neuropsychiatrists, and psychosocial workers have provided effective short-term training, supervision, and monitoring for non-specialist health workers, enabling detection of mental disorders, referral, treatment, psychoeducation, and follow-up care, with positive outcomes for patients. Non-specialist health workers have contributed to services such as clinics, halfway homes, and community outreach services and have played a part in detection, diagnosis, treatment, and prevention of common and severe mental disorders, epilepsy, mental retardation, and dementia as part of a complex stepped-care intervention or single intervention, such as group interpersonal therapy, cognitive behavioural therapy, and psychoeducational programmes for caregivers.

The roles of non-specialist health workers differ according to the worker’s level of training. For example, trained nurses, social workers, and lay workers can take on follow-up and educational and promotional roles. Primary care doctors with mental health training have been involved in identification, diagnosis, treatment, and referral of complex cases. Furthermore, lay health-workers have provided support for caregivers, befriended affected individuals, ensured adherence to treatment, and helped to detect mental health problems. An example of the role of community support officers in Sri Lanka is presented in panel 1.

Findings of most studies show substantial improvements in patients’ outcomes—ie, better recovery and reduced dysfunction and severity. In India, infants of mothers with maternal depression (both antenatal and postnatal depression) benefited from a decline in symptom severity. Although training community health workers to screen for dementia was not effective in detecting people with dementia in one study, other interventions with non-specialist health workers have reduced caregiver burden. Although results are promising, these approaches need to be studied further in routine service settings.

Family caregivers contribute to detection, treatment-seeking, and management of family members with mental disorders, and evidence on educational programmes for caregivers, particularly those caring for patients with neurological disorders and in low-income and middle-income countries, is increasing. In Iran, parents of children admitted with schizophrenia were better equipped to manage their child’s behaviour and to provide a supportive role to produce improved outcomes in their child after a 1-month training programme. Eight educational sessions once a week were effective to reduce caregiver distress and challenging behaviours of people with dementia.

Panel 1: Case example from Sri Lanka

Out-migration of psychiatrists from Sri Lanka is greater than for most other countries of low and middle income. In 2007, 25 psychiatrists were working in Sri Lanka for a population of 20 million, whereas 142 Sri Lankan-trained psychiatrists were working in the UK, the USA, Australia, and New Zealand. The shortage of psychiatrists was the main impetus for creation of a new category of specialist mental health worker—namely, medical officers of mental health—and establishment of a 1-year diploma in psychiatry for doctors working in mental health settings. Medical officers of mental health receive 3 months’ specialist training in psychiatry and provide psychiatric outpatient and community outreach mental health services from primary care health clinics, enabling very good geographic coverage for basic mental health services. In areas where no psychiatrist is working, graduates of the diploma in psychiatry programme are able to support less well-trained workers in mental and general health and take responsibility for heading newly created acute psychiatric inpatient units in district general hospitals.

The devastation and widespread occurrence of mental disorders in communities affected by the 2004 Indian Ocean tsunami motivated creation of a new category of community mental health worker—namely, the community support officer. These workers were established initially as community volunteers receiving small monetary incentives to provide social support and psychological first aid and to identify people in need of additional mental health services, under the supervision of mental health professionals. They have contributed to detection and referral of affected individuals, and they provide support in the community, such as facilitation of treatment adherence.

Findings of a study in three districts in the southern province of Sri Lanka (Minas H; unpublished) showed that community support officers had referred more than half of all inpatients, and this proportion rose to 75% in areas where no psychiatric services had previously existed. During the month of the study, 128 community support officers (in addition to other duties) were case-managing more than 1500 people with mental disorders in the community. More than 80% of patients remained involved with the service and adhered to treatment. Referral sources included family members (40%), friends (21%), and the affected individual (15%). Community support officers were well connected with and managed by the primary health care system, had regular meetings with staff from this system, and were technically accountable to the medical officer of mental health. All districts had developed a highly organised system of coordination at the primary health care level.
Education of mental health service providers

Ongoing development of a workforce with appropriate skills is essential to strengthen human resources for mental health. Training should be relevant to the mental health needs of the population and include in-service training (ie, continuing education) and strengthening of institutional capacity to implement training programmes effectively. However, training programmes for psychiatrists are present in only 55% of low-income countries, 69% of countries of lower middle income, and 60% of those of upper middle income.1 Approaches to psychiatric education also vary across countries.2,3 In Nigeria, a specialist training programme in psychiatry has been in place for more than 25 years, yet only half of the country’s tertiary mental health facilities have enough psychiatrists to provide accredited training.1

Training of non-specialist health workers also needs scaling up. We noted in our review of published work that overall short-term training by specialist mental health professionals with ongoing monitoring and supervision can improve confidence, detection, treatment, and treatment adherence of individuals with mental disorders and reduce caregiver burden. Our findings were less convincing for detection of neurological conditions.3,4 The sustainability of knowledge and skills gained remains uncertain, and further examination of effective supervision and mentorship is needed.
Scale-up costs to remove shortages in human resources for mental health

The annual wage bill to eliminate shortages in human resources for mental health in countries of low and middle income will be considerable. Not including costs for training or improvement of facilities needed, the estimated bill was about US$184 million in 2005 ($894 million in 2009): $80 million for psychiatrists, $420 million for nurses in mental health settings, and $314 million for psychosocial care providers (table 2). The highest cost estimates were in Nigeria for all workforce categories: $14·8 million for psychiatrists, $49·6 million for nurses, and $53·7 million for psychosocial health providers, a total of $118·2 million.

Mobilisation of financial resources to develop human resources for mental health is one of the biggest challenges for development of effective mental health systems. All countries of low and middle income have inadequate funding for mental health. Cost-effectiveness studies for scaling-up of non-specialist health workers are scarce,

and further studies are necessary to inform planning of human resources for mental health.

Strategic changes in payment systems are as important as financing in bringing about system change. For example, increasing the role of psychiatrists as supervisor and trainer and boosting the number of other mental health workers will need payment arrangements that recognise these changed roles. These alterations will also be important for shifting of practice from institutions to community services.

Recruitment

Negative attitudes of health professionals is an important challenge to overcome, and even when training programmes are available, very few students are choosing a career in psychiatry. In Kenya, medical students were surveyed on their attitudes towards psychiatry. Although almost 75% of respondents had overall favourable attitudes, only 14% would consider psychiatry as a career choice. In Brazil, primary health care providers detect mental disorders of their clientele but believe that diagnosis and treatment should remain the responsibility of mental health specialists. Misconceptions about mental disorders, fear, perceived low status of mental health professionals, and inadequate training contribute to the reluctance of many health workers to provide mental health care in Ghana, South Africa, Uganda, and Zambia.

Educational interventions for primary care professionals improve attitudes towards mental illness, and similar strategies for medical students to increase recruitment need further investigation.

Management of attrition

Emigration of mental health professionals from countries of low and middle income, and rural-to-urban migration, seriously constrain development of human resources for mental health. Professional isolation and better training and career opportunities are key reasons for emigration. The UK, the USA, New Zealand, and Australia employ almost 9000 psychiatrists from India, the Philippines, Pakistan, Bangladesh, Nigeria, Egypt, and Sri Lanka. Without this migration, many source countries would have more than double (in some cases five to eight times) the number of psychiatrists per 100 000 population.

Establishment of local training programmes is especially important to reduce the likelihood of outmigration. International collaborations have been an important strategy in scaling-up of human resources for mental health. By providing training in Ethiopia, the number of psychiatrists rose from 11 to 34 between 2003 and 2009. The success of the initiative has led to its expansion to cover 14 different health programmes (Toronto Addis Ababa Academic Collaboration). Retention and equitable distribution of human resources for mental health remain a challenge. Innovative financial incentive strategies, institutional capacity building that promotes career development, opportunities to receive and provide mentorship, and favourable workplace conditions are areas that need to be strengthened to minimise attrition.

Leadership

Effective leadership is judged necessary for scaling-up of the mental health workforce, but little evidence exists that addresses this issue adequately. The case example from India highlights the result of poor leadership when funding for mental health was increased substantially (panel 2).

The University of Melbourne has been running an international mental health leadership programme since 2001. This 4-week course provides training in mental health policy and systems, mental health workforce, and mental health and human rights for researchers, psychiatrists, mental health professionals, and decision makers. Shorter 2-week leadership courses have been developed subsequently in Indonesia, India, and Nigeria. Anecdotal evidence suggests that the courses and ongoing support for alumni have a positive effect in their home countries (panel 3).

Concluding remarks

Human resources for mental health continue to be grossly inadequate in most countries of low and middle income. The shortage is likely to worsen unless substantial investments are made to train a wider range of mental health workers in much higher numbers. Task shifting seems to be an effective and feasible approach but it too will entail substantial investment, innovative thinking, and effective leadership.

Here, we have shown examples of innovative and effective strategies to expand mental health services to primary care settings and into the community. The variability in roles of different mental health workers across settings highlights the importance of focusing on a
The province of Aceh, Indonesia, had been embroiled in decades of military conflict when, on Dec 26, 2004, it was struck by the Indian Ocean earthquake and tsunami. 11 coastal districts were devastated. The death toll was estimated at more than 160,000, with more than 500,000 people displaced. All forms of physical and social infrastructure, including the health system in the capital Banda Aceh and the affected districts, were thrown into chaos. International response was swift and a massive influx of assistance, money, and technical expertise took place.

Immediately after the tsunami, the Ministry of Health asked WHO for assistance in preparing a mental health response to the disaster. WHO’s recommendations were adopted in full by the Ministry of Health as the mental health plan for Aceh in 2005. A key component of the recommendations was to build a comprehensive mental health system. In subsequent months, a model of community-focused mental health services was agreed.

Psychiatric morbidity was already high in Aceh as a result of the long-running military conflict, but it rose after the tsunami. Among the major impediments to development of a mental health system was the scarcity of human resources for mental health. The 250-bed mental hospital in Banda Aceh was the only mental health service for a population of 4 million people. The hospital was staffed by five psychiatrists and general nurses, with no nurses trained in mental health, psychologists, or other mental health specialists. Primary care doctors working in the well developed (though seriously damaged) primary health-care system had no training in psychiatry. Only patients with psychotic disorders were recognised as suffering from a mental disorder and were referred to the mental hospital for treatment. Psychiatric drugs were largely unavailable in primary health-care centres. Expansion of human resources for mental health was identified as a key strategy for building up a community-focused mental health system for the province. The strategy entailed development and delivery of short-course psychiatric training for primary care doctors (who were then designated as GP+), more extensive training for nurses who would then function as community mental health nurses, and recruitment, training, and support of village mental health volunteers.

In 2005, five psychiatrists were working in the mental hospital in Banda Aceh, and no other mental health professionals were present in the province. In 2009, nine psychiatrists, 27 psychologists, 628 community mental health nurses (of whom 94 were supervisors and trainers), and 5961 village mental health volunteers were working in 923 of Aceh’s 6381 villages (Minas H; unpublished).

The approach taken to strengthen human resources for mental health in Aceh has been consistent with WHO’s health-workforce framework developed in the World Health Report 2006. A provincial mental health policy is in place, and several districts have developed a district mental health policy. Data for the mental health workforce have improved steadily, although a good deal more work needs to be done to develop a workforce data system that would be adequate for planning, recruitment, deployment, and further skill development for workers. 13 of 23 districts have an identified budget for mental health, and all 23 districts employ community mental health nurses through the core district health budget and provide support for the extensive village volunteers programme. Education and training has been a major part of the strategy for development of the provincial mental health system. In partnership with Gadjah Mada University (Yogyakarta), the Syah Kuala University in Banda Aceh has established a clinical psychology training programme and is attracting many Acehnese students. Training and support for village mental health volunteers has seen rapid growth in the number of these essential community-level workers.

A key area of continuing deficiency is the scarcity of an Aceh-based training programme for psychiatrists, although several psychiatric residents are about to graduate in 2011 from training programmes in other parts of Indonesia. The provincial and district governments of Aceh, continuously supported by the Indonesian Ministry of Health, have shown exemplary leadership in their sustained commitment to development of the most comprehensive community-based mental health system in Indonesia. Many of the key people involved in building up the Acehnese mental health system have received training from the international mental health leadership programme based in Melbourne, Australia. The whole enterprise of building a community-based mental health system, and a community mental health workforce, has been a series of partnerships including: provincial and district governments of Aceh; the Indonesian Ministry of Health; Acehnese, other Indonesian, and international universities; UN agencies, including WHO, UNICEF, and the International Organization for Migration; and local and international non-governmental organisations.

Panel 3: Case example from Aceh, Indonesia

Involvement of a broad set of workforce categories is likely to facilitate scaling-up of mental health care in low-income and middle-income countries. The specific composition of the mental health workforce should vary across settings, to be aligned with existing delivery system and resource structures.

Future directions

Global efforts to address widespread shortages in the health workforce have entailed development of a technical framework to assist governments and health managers to
work on and implement a comprehensive strategy to achieve an effective and sustainable health workforce.1

The Human Resources for Health Action Framework,2,3 which consists of six interconnected components necessary in human resource development (policy, health workforce management, finance, education, partnerships, and leadership), could provide a useful approach to address shortages in human resources for mental health.

Skilled health management and support workers, who comprise up to a third of the health workforce, are vital for overseeing the implementation of strategic directions while policy makers manage resource allocation and monitor targets and outcomes. Managers and support workers are responsible for planning and implementation of human resources for health, management of the work environment and conditions, information systems for human resources for health, workforce performance, and staff retention. Greater investments in health management capacity will be an important component for increasing human resources for mental health.

Additional evidence is needed of the effectiveness and cost-effectiveness of task shifting for identification and management of mental disorders by non-specialist health workers. Information and data are also needed on training requirements and application of newly acquired knowledge and skills in everyday practice. Evidence of the effectiveness of involvement of affected individuals or caregivers in service delivery and a better understanding of push and pull factors for migration of mental health specialists are both needed for effective planning of human resources for mental health.

Stronger intersectoral collaborations than we have at present will also contribute to reduction of the shortage in human resources for mental health, and this area must be investigated further.7 With our literature search, we retrieved only one study that looked at the effect of training school teachers for raising mental health awareness among school children, parents, and neighbours.9 We did not identify with our search any studies assessing the role of community resources, such as traditional or alternative care providers. This issue needs careful investigation since, in many countries of low and middle income, alternative care is generally sought before care from a mental health specialist or primary care practitioner.

Despite emerging evidence on mental health systems in low-income and middle-income countries, development and evaluation of human resources for mental health are difficult and complex tasks that will continue to pose substantial challenges in the coming years. A systemic approach is needed, with interdisciplinary and multi-sectoral collaborations and strong partnerships between government ministries, researchers, non-governmental organisations, health professionals, affected individuals or caregivers, and communities, if important long-term gains are to be made. Adequate attention to these aspects is essential to achieve the objective of scaling-up of care for people with mental disorders.

Contributors
All authors contributed ideas for the report and helped to write the paper.

Conflicts of interest
We declare that we have no conflicts of interest.

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