Post-disaster mental health and psychosocial support: experience from the 2015 Nepal earthquake

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Abstract

On 25 April 2015, an earthquake of magnitude 7.8 struck Nepal, which, along with the subsequent aftershocks, killed 8897 people, injured 22 303 and left 2.8 million homeless. Previous efforts to provide services for mental health and psychological support (MHPSS) in humanitarian settings in Nepal have been largely considered inadequate and poorly coordinated. Immediately after the earthquake, the Government of Nepal declared a state of emergency and the health sector started to respond. The immediate response to the earthquake was coordinated following the Inter-Agency Standing Committee (IASC) cluster approach. One month after the disaster, integrated MHPSS subclusters were initiated to coordinate the activities of many national and international, governmental and nongovernmental, partners. These activities were largely conducted on an ad-hoc basis, owing to lack of focus on MHPSS in the health sector's contingency plan for emergencies. The mental health subcluster attempted to implement a mental health response according to World Health Organization and IASC guidelines. The MHPSS response highlighted many strengths and weaknesses of Nepal's mental health system. This provides an opportunity to "build back better" through reform of mental health services. A strategic response to the lessons of the 2015 earthquake will deliver both improved population mental health and increased preparedness for the future.

Keywords: disaster, earthquake, emergency, humanitarian response, mental health, Nepal, psychosocial support, South Asia

Background

The human suffering resulting from natural or human-made emergency situations includes not only large-scale displacements, food shortages and outbreaks of disease but also mental health problems. After a disaster, while a large proportion of the affected population has normal psychological reactions, an estimated 15–20% will have mild or moderate mental disorders, such as mild and moderate forms of depression, anxiety or post-traumatic stress disorder (PTSD), while 3–4% will suffer from severe disorders like psychosis, severe depression and severely disabling forms of anxiety disorders.[1] A systematic review of mental health problems after the Great East Japan Earthquake in 2011 found that the reported prevalence of post-traumatic stress reaction ranged from 10% to 53.5%, while for depression it was 3.0% to 43.7%.[2] Similarly, in Thailand, the prevalence of PTSD and depression was 33.6% and 14.3%, respectively, 3 months after the 2004 tsunami,[3] while in China, the prevalence of PTSD after the 2008 Wenchaun earthquake was 58.2% at 2 months and 22.1% at 8 months after the event.[4]

Along with new-onset problems, psychological trauma following a disaster also worsens pre-existing mental health problems. The distress associated with disaster is seen to persist for a long time after the incident.[2,5] In a longitudinal analysis 20–24 months after the New Zealand earthquake in 2010, the risk of developing mental disorder was found to be 1.4 (95% confidence interval [CI]: 1.1–1.7) times higher among the cohorts with high levels of exposure to the earthquake than among those with no exposure, owing to increases in the rates of major depression, PTSD, other anxiety disorders and nicotine dependence, with 10.8–13.3% of the overall rate of mental disorder attributable to exposure to the earthquake.[5] Longitudinal studies after the 2011 Great East Japan Earthquake showed that symptoms of post-traumatic stress decreased over time in the affected areas, whereas those of depression did not.[2]

On 25 April 2015, an earthquake of magnitude 7.8 struck Nepal, and, along with the subsequent aftershocks, killed 8856 people, injured 22 309 and left 2.8 million homeless.[6] Out of 75 districts, 14 were highly affected and 21 were moderately affected.[6] A total of 462 public and private health facilities were completely damaged and 765 health facilities or health-administration structures were partially damaged. A total of 18 health workers and volunteers lost their lives and 75 were injured, adding further challenges to the delivery of health services.[7] As a result, the ability of health facilities to respond to health-care needs was affected and service delivery was disrupted.

Nepal, with a population of 26.5 million,[8] is one of the poorest countries in the world, with a human development index of 0.548.[9] The country was still recovering from a decade-long political conflict that killed thousands when it was

struck by the major earthquake that affected 4.2 million people. The resulting instability is compounded by ongoing ethnic and political conflicts arising from disagreement on proposals for moving to a federal structure as per the provision in the constitution promulgated in 2015. Besides poverty and political conflict, Nepal is the country that is the 11th-most vulnerable to earthquake and 30th-most vulnerable to seasonal floods.[10] In the last 5 years, excluding the toll due to the earthquake in 2015, 1874 people have died, 655 went missing and 2121 were injured as a result of the many natural as well as human-made disasters that occurred in the country.[11]

Mental health in Nepal

Epidemiology of mental illness

Nepal is yet to conduct a national-level epidemiological study to estimate the prevalence of mental health problems. Most studies on the prevalence of mental illness have been done in discrete populations and geographical areas. Cross-sectional community-based studies have estimated that 27.5%[12] to 33.7%[13] of adults met the threshold for depression (Beck Depression Inventory), with a prevalence of 22.9%[12] to 27.7%[13] for anxiety (Beck Anxiety Inventory) and 9.6% for PTSD.[12] The prevalence was higher among women and older age categories,[13] and following armed conflict, as shown in longitudinal follow-up.[14] However, the prevalence was found to be much higher in former child soldiers (53.2% crossed the cut-off score for depression, 46.1% were diagnosed with anxiety, 55.3% with PTSD, 39.0% with psychological difficulties and 62.4% with functional impairment);[15] individuals who were internally displaced during the 1996–2006 Maoist insurgency (more than 50% of the subjects had symptoms of PTSD, and almost 80% had symptoms of anxiety and depression);[16] refugees from Bhutan who had experienced torture (lifetime prevalence of PTSD 73.7%, persistent somatoform pain disorder 56.2%, affective disorder 35.6%, generalized anxiety disorder 20.6%, specific phobias 23.2%, dissociative disorder 19.4%, any psychiatric disorder 88.3%);[17] and refugees from Bhutan who had not experienced torture (lifetime prevalence of PTSD 14.5%, persistent somatoform pain disorder 28.8%, affective disorder 15.6%, generalized anxiety disorder 12.5%, specific phobias 28.6%, dissociative disorder 4.6%, any psychiatric disorder 56.1%).[17] The prevalence of current alcohol drinkers in Nepal reported in 2013 (i.e. had consumed a drink containing alcohol in the previous 30 days) was 17.4% (men 28%, women 7.1%).[18]

Policy related to mental health

Nepal developed a mental health policy in 1996 but implementation of the policy framework has yet to begin.[19] Mental illness has been included under the disability act, to ensure disability benefits for those affected. Mental health has been prioritized in the Ministry of Health's *Multisectoral action plan for prevention and control of non communicable diseases (2014–2020)*.[20] Despite these policies, mental health and psychosocial support (MHPSS) has not been adequately addressed in the *Health sector emergency preparedness and disaster response plan*.[21,22] The absence of a long-term mental health strategy or programme, lack of a focal person for mental health under the Ministry of Health, and inadequate budget have resulted in poor implementation of the mental health policy.

Mental health services

Mental health services provided by the government are only hospital based. The community-based services provided by the Patan Mental Hospital, teaching hospitals and nongovernmental organizations are limited to certain places and population groups and hence far too limited to meet the demands.[23] Specialist mental health services are only available in major cities and towns. Owing to the difficult terrain and lack of transportation facilities, it typically requires a long journey to reach the specialist health facilities. Other public health facilities do not have adequately trained human resources to provide basic mental health services. This is complicated by the absence of a proper referral mechanism from lower- to higher-level care facilities and vice versa.

Mental health response during previous humanitarian situations

Previous efforts to provide MHPSS services in humanitarian settings in Nepal have largely been considered inadequate and poorly coordinated. The psychosocial rehabilitation support provided to child soldiers, support to families with long-term missing family members, or response to a complex emergency arising as a result of landslides, fires, epidemics and the civil war are some example of such efforts. The MHPSS response during the Koshi River flood in 2008 in eastern Nepal was poorly coordinated.[24] There were very few organizations providing psychosocial support and counselling to the survivors and orientation to school teachers and facilitators in child-friendly spaces.[24] An attempt was made to address the need for mental health services by training health workers on providing psychosocial support, as there were no mental health services in the temporary camps or in the district hospitals.[24] The Inter-Agency Standing Committee (IASC) *Guidelines on mental health and psychosocial support in emergency settings*[25] were translated into Nepali and validated in this language.[25,26] The challenges observed while implementing these interventions demonstrated the need to have a focal unit/person for mental health in the Ministry of Health, the need for a stronger MHPSS component in a health-emergency response, and the need for long-term and sustainable development of mental health services as part of the recovery effort to build resilience of the health system. These lessons from previous emergencies had not been fully translated into practice by the time of the 2015 earthquake.

Mental health and psychosocial support response to the 2015 earthquake

Coordination of the health and protection clusters

Immediately after the earthquake, the Government of Nepal declared a state of emergency and the health sector started to respond. The response was coordinated by the Health Emergency Operations Centre (HEOC) of the Ministry of Health, under the overall leadership of the National Emergency Operations Centre. The central hospitals in Kathmandu could absorb the load of patients from Kathmandu and the surrounding districts. The IASC cluster mechanisms were activated at both central and district levels; within the IASC cluster approach, there are defined sectors/areas, each with a designated "cluster lead" for humanitarian emergencies. The nine sectors/areas are: nutrition, health, water/sanitation,

emergency shelter, camp management, protection, early recovery, logistics, and emergency telecommunications.

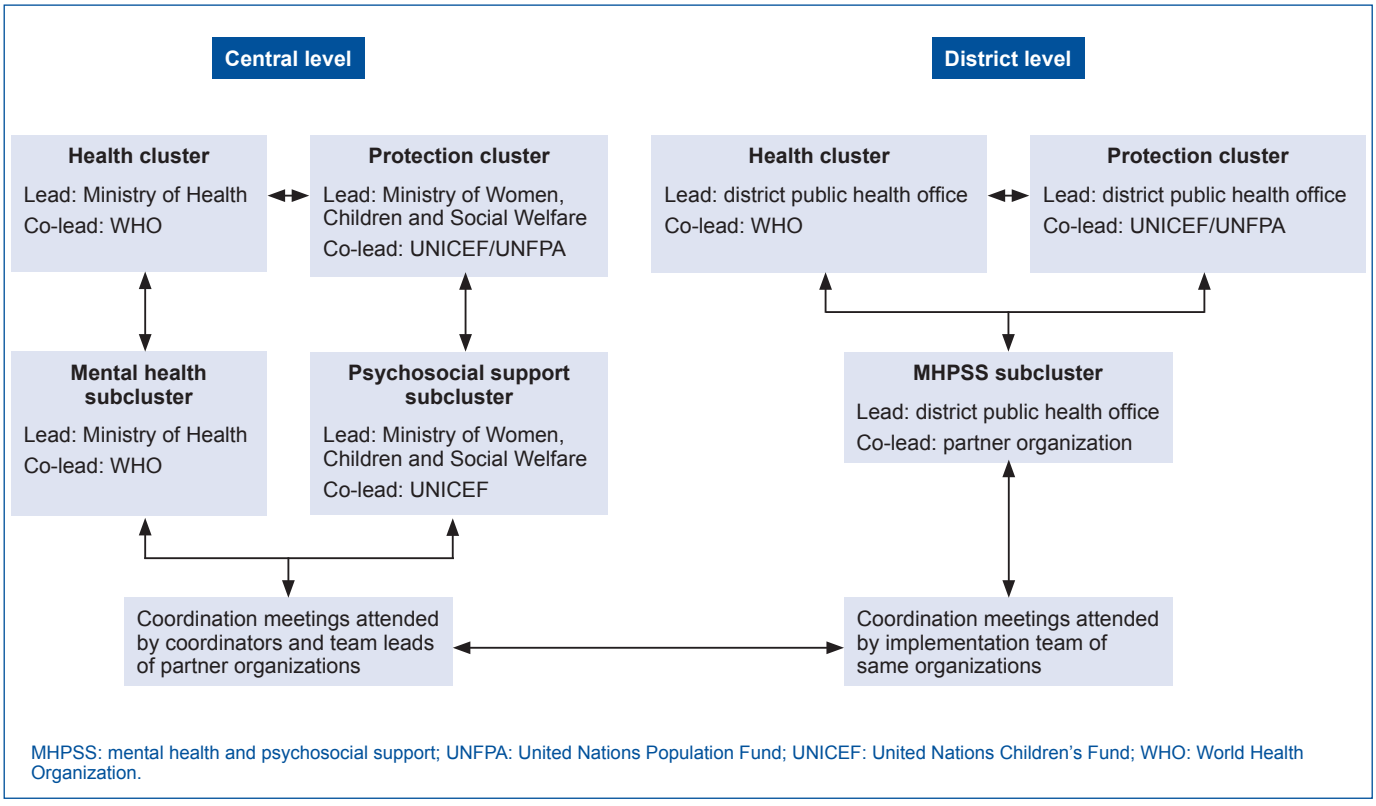
The organizations responsible for coordination of the health and protection clusters at central and district levels, with their associated mental health and psychosocial support subclusters, are outlined in Fig. 1. The health cluster was led by the Ministry of Health and co-led by the World Health Organization (WHO). An estimated 150 international and national emergency medical teams (EMTs) rushed to support the immediate medical response. The deployment and activities of these teams were coordinated by establishment of an EMT Coordination Cell (EMT-CC), supported by the National Health Research Council and WHO, under the delegated authority of the HEOC. Though there were very few international EMTs with a specific focus on MHPSS, at least 20 international EMTs included MHPSS experts, with one team having an especially large MHPSS contingent that provided clinical care initially and subsequently implemented two outreach psychosocial support interventions (Ian Norton, WHO EMT-CC Project, Geneva, Switzerland, personal communication). At a conference on lessons learnt, jointly held by the Ministry of Health and WHO on 21–22 April 2016, in collaboration with all internal and external health response stakeholders, the health response[6] was assessed as quite efficient.

Immediately after the earthquake, many national and international, governmental and nongovernmental organizations mobilized their teams, with the primary intention to restore, promote or maintain the mental health of the people affected by the disaster, acting in collaboration with medical teams and individuals under the leadership of the Ministry of Health. The psychological first aid that was the critical need in the immediate aftermath of the earthquake, especially to families who had lost their loved ones, their homes and physical assets, and individuals who had sustained injuries, was coordinated by the Ministry of Health and the Ministry of Women Children and Social Welfare, which led the protection cluster with responsibility for psychosocial support.

Leadership and coordination of the mental health response

Realizing the need for coordination between the mental health and psychosocial support subclusters, and at WHO's request, the United States Agency for International Development Office of US Foreign Disaster Assistance funded a project to support WHO to undertake this critical function in addition to other interventions. Subsequently, a mental health subcluster was activated under the health cluster, 1 month after the earthquake, to implement the Ministry of Health response according to WHO and IASC guidelines, and to support the government/health cluster through coordination of partners' interventions on MHPSS. A psychosocial support subcluster was also created under the protection cluster. The coordination was facilitated through regular meetings of the mental health subcluster at central and district levels. The active consultation and involvement of the partners working on MHPSS helped in developing actions and building ownership. Since specialized mental health and general psychosocial support are linked and cannot be separated, a strong working relationship between the mental health subcluster (under the health cluster) and the psychosocial support subcluster (under the protection cluster) was established, to ensure coordination of their activities and facilitate cross-referrals.

Fig. 1. Coordination of post-earthquake mental health and psychosocial support interventions



MHPSS: mental health and psychosocial support; UNFPA: United Nations Population Fund; UNICEF: United Nations Children's Fund; WHO: World Health Organization.

At the district level, one of the active partners for MHPSS in the district was designated by the health cluster as coordinator for each MHPSS subcluster, to conduct meetings of the mental health subcluster in the district and coordinate with the health cluster. This coordination of mental health activities was also facilitated by WHO emergency district support officers deployed in all 14 districts to support the district health authorities as co-leads of the health clusters at district level. These officers also helped in verifying rumours related to mental health issues and with assessment and interventions for four outbreaks of mass conversion disorder in earthquake-affected districts.

Information on MHPSS activities that the partners conducted was regularly collected and collated by the MHPSS subcluster coordinators, using "4W" forms (Who is doing What, Where, When), then analysed, mapped, updated and distributed back to the partners and all relevant response stakeholders. This approach was critical in determining the needs and gaps in the field and taking necessary actions to avoid duplication of activities. A section for mental health was created on the humanitarianresponse.info website,[27] where all information and publications related to mental health were posted for easy access.

Assessment of mental health needs after the earthquake

A detailed mixed-methods needs assessment was carried out from August to September 2015, in Kathmandu, Gurkha and Sindhupalchowk districts, three of the most affected areas.[28,29] Community members were deeply impacted by the collapse of their own and neighbours' homes, schools and hospitals; the deaths of family and loved ones; and seeing dead bodies.[28] The common mental health problems found on qualitative assessment of 240 community members were fears that an earthquake would occur again, increased anger/aggression, forgetfulness, lack of or too much sleep, numbness/tingling in the limbs, sadness, hopelessness, and alcohol-use problems.[28] In a quantitative survey of 513 community members, the proportions of those with symptom scores indicating depression (34.2%), anxiety (33.8%) and alcohol-use problems (20.4%) were higher than for those with symptoms of PTSD (5.2%). Alarmingly, the prevalence of suicidal ideation was 10.9% in the 4 months following the earthquake.[28,29] Addressing mental health was thus established as a critical need in the aftermath of the earthquake.

Post-earthquake mental health service delivery

After the earthquake, mental health service was delivered in the form of hospital-based clinical services; mobile health camps; training and supervision of health workers to provide basic mental health service at primary health-care clinics; development of a screening tool to assist health volunteers and educated lay persons in case detection and referral; and provision of psychological first aid, focused community-based psychosocial interventions, school-based psychosocial support, a 24/7 counselling hotline service, and public-awareness activities. The hospital-based specialist clinical mental health services in the disaster-affected districts were provided by the Patan Mental Hospital and psychiatry departments or units of the general hospitals, whereas the district hospitals provided basic mental health service following the training and supervision provided by the Ministry of Health and nongovernmental organizations, with the help of external development partners.

There was some variation in the approach to empowering health workers to provide basic mental health service. One notable approach was training and supervision based on the *mhGAP* [mental health gap] *humanitarian intervention guide* (mhGAP-HIG),[30] provided to prescribers and non-prescribers in the districts. Although all medical doctors working in the earthquake-affected districts were trained in mhGAP-HIG, the training provided to paramedics and post-training supervision were continued in only five of the highly affected districts. In these districts, more than 500 health workers (medical doctors and paramedics) were trained, to provide mental health and psychosocial service to more than 4000 people. Additionally, the district health facilities were also supported by specialist medical teams from the Patan Mental Hospital, teaching hospitals and nongovernmental organizations. These teams initially provided regular outpatient service every day, which later was run as weekly or monthly clinics. In addition to providing clinical services, these specialist teams also supervised non-specialist health workers in the district and conducted public-awareness and stigma-reduction activities.

At the same time, many initiatives were taken to provide service in the community, in the form of setting up temporary counselling centres in the districts and in the camps of temporarily displaced people, mobile health camps and outreach clinics, etc. Some nongovernmental organizations provided MHPSS in the affected districts, through deputation of non-specialized mental health workers, such as community psychosocial workers and psychosocial counsellors, under the supervision of professionals. The school-based approach focused on training teachers in improving classroom behavioural management; empowering parents and stakeholders for involvement in school activities; the practice of a positive disciplinary approach; and a student listening unit (school counselling) for a safe and respectful learning environment.

Inspired by previous work by the Transcultural Psychosocial Organization Nepal (TPO), a screening tool for community case detection was approved by the Ministry of Health in Nepal and distributed by MHPSS actors across sectors.[31] This simple screening tool in Nepali language was designed to help lay persons and female community health volunteers in case detection and referral. Besides these, 24-hour hotline counselling services were started, to provide basic counselling and advice to the public. These community-based activities were linked to the hospital-based specialist clinical service, to facilitate referral of complicated cases. A list of hospitals and centres that provided specialized mental health services, along with the contact details of the focal person, was developed and distributed to health-cluster partners. Mass awareness programmes about the mental health consequences of the disaster were conducted through radio and television programmes, interaction programmes in schools, or at the temporary camps.

Human resources for post-earthquake mental health care

There is an acute shortage of mental health professionals in Nepal, with just 110 psychiatrists and 15 clinical psychologists for the entire country. The gap between the need and availability became more pronounced after the disaster, as the demand for the service increased dramatically in the context of an already weak mental health system. Peripheral

and district health facilities do not have trained manpower to deal with mental health problems, so para-professionals supervised by specialists were the mainstay for provision of mental health services. Psychological first-aid training was given to the psychosocial workers, community volunteers and rescue personnel. Different psychosocial workers, existing and newly trained, were deployed specially by nongovernmental organizations to provide basic mental health care and support. The experience on mhGAP-based integration of mental health into primary health-care centres in Nepal[32] helped to generate a prompt decision that a similar approach is possible and would be useful to meet the increased demand even after the earthquake. This led to training of primary care doctors and paramedics on the mhGAP-HIG,[30] to increase their capacity on delivery of clinical mental health service (see Box 1). In order to strengthen the skills of the specialists (psychiatrists and psychologists), training was organized on eye movement desensitization and reprocessing (EMDR), a form of psychotherapy for trauma-related mental health problems, with technical assistance from Trauma Recovery, USA (United States of America) and the EMDR Association, India.

"Building back better" for mental health during the recovery phase

In spite of their tragic nature and adverse effects on mental health, emergencies provide unparalleled opportunities to improve the lives of large numbers of people through reform of mental health service.[1] Global progress on reform of mental health service would take place more rapidly if, in every crisis, strategic efforts were made to convert short-term interest in addressing the mental health problems related to the crisis into momentum for long-term reform of mental health service.[1] This would benefit not only people's mental health, but also the functioning and resilience of societies recovering from emergencies.[1] Although the momentum gained during the emergency response to this earthquake has not been fully capitalized, there has been more attention towards mental health service delivery. The heightened attention of policy-makers and health administrators, owing to the "tipping point" of the earthquake, has been utilized strategically to ensure actions on interventions that had already been advocated for a considerable time but were in limbo.

The Ministry of Health is planning to revise the *National mental health policy in Nepal*[19] and to draft mental health legislation. The organization of mental health services in the districts is being defined, and opportunities to introduce the *mhGAP intervention guide*[33] as part of undergraduate medical training at different universities in Nepal are being explored. The psychotropic medicines featured in the national essential drug list have been revised and medications with better safety profiles have been added. Nevertheless, a regular and uninterrupted supply of these medicines to health facilities remains a challenge for the Ministry of Health. The mental health chapter of the *Standard treatment protocol* – a regular publication of the Ministry of Health to guide primary care providers, especially health assistants – is being revised. The revised protocol will include the priority mental health and neurological disorders in Nepal, in addition to those identified by the *mhGAP intervention guide*.[33] This diagnostic list will also become a reference for the mental health diagnoses to be included in the Ministry of Health's health management information system in its upcoming review.

Successes and challenges

The MHPSS response to the 2015 Nepal earthquake was largely carried out on an ad-hoc basis, as MHPSS interventions were not adequately addressed and planned comprehensively in the health sector's contingency plan for emergencies. Nonetheless, the mental health and psychosocial support subclusters were able to add value to the response efforts of the health and protection clusters, by identifying the critical MHPSS needs and facilitating coordination of partners' work. A multifaceted approach to addressing the needs of the affected populations, following the pyramid structure of the IASC MHPSS guidelines,[25] appeared to be a pragmatic approach. The immediate need for basic services and security was the major concern, as with other disasters. The strong community and family bonding of Nepalese society was the largest source of mental and psychological support, which resulted in strong societal resilience to this traumatic event. However, this perception of supposedly unaided societal resilience is also a source of inaction by policy-makers when it comes to considering, planning, investment in and implementation of long-term MHPSS strategies and interventions.

The system of mental health care practised during the earthquake response has emphasized the critical role of community-based care with a strong focus on engaging the community. The empowerment of lay persons and community health workers in detection of cases and referral was an important contextual intervention. The deployment of psychosocial workers and counsellors to the community has

Box 1. Training on the *Mental Health Global Action Programme humanitarian intervention guide (mhGAP-HIG)*[30] for medical doctors working in earthquake-affected districts

Training on the mhGAP-HIG[30] was organized with the objective to empower primary care doctors to identify and treat common mental health problems after an earthquake. The mhGAP-HIG training was given to most of the doctors (114) working in the district hospitals, primary health-care centres and health posts of the 11 highly affected districts.

This was supported in five districts by training paramedical staff such as health assistants, community medical assistants and female community health volunteers. About 500 health workers (medical doctors and paramedics) in these five districts were given training based on the mhGAP-HIG.

The training, followed by monthly case-conference-based supervision, has been immensely supportive to the health workers. Primary care physicians reported increased competence in diagnosis and management of common mental disorders, as well as identification of suicidal risks and taking the necessary precautions.

been an important source of support to the Ministry of Health from the voluntary and private sectors. The non-specialized support provided by these psychosocial workers, promoting coordination of care between traditional healers and modern health services, was accepted well by the community. However, these low-intensity approaches need to be strengthened with the support of specialist clinical teams for handling complicated cases. This has emphasized the need for close coordination between the mental health and psychosocial support subclusters to strengthen cross-referrals. As these activities were carried out with the help of different stakeholders – government and private, national and international, formal and informal, health and non-health sectors – a strong coordinating mechanism was essential at central level, as well as in the field.

However, there were many challenges. Owing to the lack of a dedicated focal unit/person for mental health at the Ministry of Health, there was some delay in activation of the mental health subcluster and its functioning. The focal person appointed by the Ministry of Health was responsible for several other curative services besides mental health, which resulted in slow and incomplete implementation of the suggestions from stakeholders. There was overcrowding and overlap of the activities by partners at places with easier access, while activity in locations that were difficult to reach was minimal or absent, despite attempts to map and coordinate interventions. This was complicated by the lack of a unified coordination mechanism, as mental health fell under the district public health office, while psychosocial support came under the Women and Child Office. Most of the mental health response was from international and national nongovernmental organizations and the private sector, with varied approaches to achieving similar outcomes. These organizations received substantial funding support from external development partners to implement interventions. The sustainability of these programmes run by nongovernmental organizations is questionable, owing to lack of funding from the government and low capacity of the districts to continue them. Because of time and budget constraints, the needs-assessment survey done by TPO Nepal and the International Medical Corps[28,29] focused on a small sample size, in only a few districts. A comprehensive needs assessment by the health cluster lead would have provided a better evidence base to effectively plan the response and recovery efforts.

Lessons learnt and the way forward

The health-sector response was able to address the priority health issues of injury and disability, continuation of basic health services, and improved disease surveillance and outbreak containment, in an efficient manner.[34] However, the MHPSS response has highlighted the strengths and weaknesses of the mental health system in Nepal. The lessons learnt from these weaknesses will be important for building the mental health system anew (see Box 2). In order to ensure sustainable nationwide service coverage, a separate unit to coordinate mental health policy, services and research should be established in the Ministry of Health. This unit should spearhead revision and implementation of the national mental health policy; development of the MHPSS component of the health sector's contingency plan for emergencies; and integration of mental health services in primary and secondary health care. This dedicated unit would also regulate and coordinate the MHPSS-related work of the public and private sectors, community-based organizations and international and national nongovernmental organizations, and scale up the successful community mental health programmes being run by the Patan Mental Hospital, the mental health faculty of the medical teaching institutions, and nongovernmental organizations.

It is equally important to develop a variety of human resources for mental health. Nepal needs more psychiatrists and psychologists, but a new cadre of psychosocial workers to provide a broad range of psychosocial services to individuals, families and communities would also be an important asset. Training for this role can be developed as a short-course diploma to supplement the existing paramedical health workers' qualifications (nurses, health assistants, auxiliary nurse midwives, social workers, public health undergraduates), with a nationally accredited curriculum. This workforce could be effectively engaged by developing a comprehensive community mental health programme. The recent mhGAP-based mental health programmes should be scaled up nationwide, with local adaptation under the supervision of specialist teams in all the regional and zonal hospitals.

It is also important to consider the sustainable financing of these services – a start could be made by clearly defining the minimum essential package of MHPSS services that needs to be included in the health-insurance pilots being implemented by

Box 2. Recommendations for improving mental health service in Nepal

Actions to be taken immediately

- Establish a mental health unit under the Ministry of Health
- Form a central committee to coordinate the mental health and psychosocial activities carried out by the Ministry of Health and line ministries
- Develop and disseminate the MHPSS disaster-preparedness plan
- Establish a strong monitoring and evaluation mechanism to ensure the quality of the intervention provided

Actions to be taken in the longer term

- Establish specialist psychiatry treatment units in all regional/zonal hospitals and develop a referral network
- Integrate mental health into primary health-care centres in a phase-wise manner
- Develop a short diploma on mental health and counselling for paramedics, nurses and social workers
- Revise the curriculum of health workers, with more emphasis on mental health
- Run programmes to improve awareness about mental health, reduce stigma about mental disorders and promote mentally healthy lifestyles in the community

the Ministry of Health. In addition, a health-systems approach should be consistently applied in the development of MHPSS services in Nepal, since a resilient and sustainable health system is not only the base for servicing the routine MHPSS needs of the community but also the platform from which the surge in services needed in the aftermath of a disaster could be efficiently and effectively managed. Coordinated, enhanced and sustained efforts of all relevant stakeholders are critically needed to ensure that the opportunities and lessons resulting from the MHPSS response to the earthquake are fully exploited and not frittered away.

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Authorship: RS and KM were responsible for overall conceptualization of the article and manuscript writing. KM was also responsible for coordination among the co-authors. SS was responsible for writing part of the sections on response, successes and challenges, and lessons learnt. NA, MHVO and RO were responsible for editing and technical guidance on the manuscript. All authors were responsible for proofreading the final manuscript.

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