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chapter two

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This chapter identifies some of the most important performance challenges facing health systems and the global health workforce today, examines the ways in which the health workforce is meeting them, and suggests how these responses can be improved.

These challenges are, first, to scale up interventions to attain the health-related MDGs; second, to shift successfully to community-based and patient-centred paradigms of care for the treatment of chronic diseases; third, to tackle the problems posed by disasters and outbreaks; and fourth, to preserve health services in conflict and post-conflict states.

They have been chosen because they provide a reasonable sample of the kinds of challenges that exist in many countries and settings. Each of the four sections of this chapter describes the main characteristics of one performance challenge, and how the health workforce is responding or can more adequately respond.

HIGH-PRIORITY SERVICES: HUMAN RESOURCES FOR HEALTH AND THE MDGs

It is now widely accepted that the dire shortage of health workers in many places is among the most significant constraints to achieving the three health-related Millennium Development Goals (MDGs): to reduce child mortality, improve maternal health, and combat HIV/AIDS and

other diseases, such as tuberculosis and malaria (1–6). Chad and the United Republic of Tanzania, for example, have less than half the workforce they require to meet essential health needs adequately (5). It is not only health service providers who are in short supply – shortfalls exist in all categories of health workers including laboratory technicians, pharmacists, logisticians and managers.

The impressive mobilization of donor funds to achieve the health-related MDGs, and in particular to combat HIV/AIDS, has created a new environment in which a shortage of human resources has

replaced finance issues as the most serious obstacle to implementing national treatment plans (7).

Achieving the MDGs will depend on finding effective human resources approaches that can be implemented rapidly (6). But simply training people to deliver disease-

“A shortage of human resources has replaced financial issues as the most serious obstacle to implementing national treatment plans”

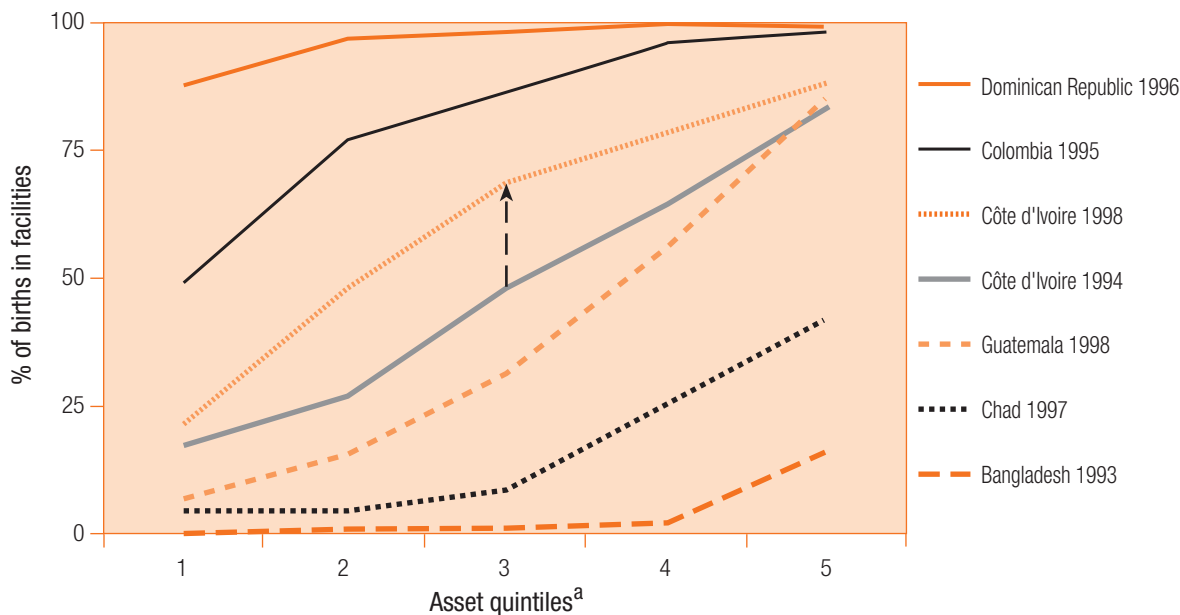
specific interventions is unlikely to be sufficient. Such approaches should also consider the larger health systems challenges that are related to the pervasive disadvantages associated with low income. For example, there are huge disparities between income groups in access to facility-based health services (see Figure 2.1).

Systematic thinking in several areas is required to formulate ways of recruiting and retaining health workers to provide the necessary MDG-related health actions (see Box 2.1). More effective human resources efforts need to employ critical evaluation of current behaviours.

Epidemics of in-service training

The numerous projects and programmes created in response to the MDGs are replete with budget lines to train staff, but lack comprehensive workforce strategies. As a result, a great deal of effort is directed towards running short training courses, often held in hotels in other countries. The aim of most of these courses is to equip health workers or the trainers of health

Figure 2.1 From massive deprivation to marginal exclusion: moving up the coverage ladder



^aAsset quintiles provide an index of socioeconomic status at the household level. They divide populations into five groups (in ascending order of wealth from 1 to 5), using a methodology that combines information on household head characteristics as well as household ownership of certain assets, availability of services, and housing characteristics.

Source (8).

workers with the skills to deliver specific interventions. While trainees may welcome an expense-free trip to a major urban centre, these trips pose significant opportunity costs. Staff are rarely replaced when they travel and often the same staff will attend several courses every year. Furthermore, the courses often have few links with local training institutions, and thereby opportunities are missed to involve faculty members or to contribute to the development of locally-based courses. Evaluations of short-term training in Africa in 2000–2001 led to the strong recommendation that training should be on-site as much as possible and delivered through local institutions (9).

Overburdened district staff

National programmes to achieve disease-specific MDGs place many parallel demands on district health managers and service providers, such as reading documents, filling forms, writing reports, attending meetings and making field visits. These demands are often imposed by international donors, and can quickly overwhelm limited, underfunded and insufficiently supported district-level staff. Simply keeping up with the reporting requirements of various programmes can occupy between 10% and 20% of a district health manager's time (10).

Two tiers of salaries

The onslaught of MDG-related programmes is also exerting severe pressure on salaries. In order to attract workers, well-funded programmes that are implemented through nongovernmental mechanisms – notably those focused on HIV/AIDS treatment – often pay salaries that exceed local wages in the public sector. As a result, two tiers of salaried workers are emerging, often within the same institution. This situation creates significant problems. The workers who receive less pay often feel aggrieved, resenting the fact that, for example, as an obstetric nurse they earn less than an HIV nurse. Furthermore, certain critical services may not be carried out if employers are unable to provide competitive salaries to attract and maintain staff.

“Two tiers of salaried workers are emerging, often within the same institution. This creates significant problems”

Box 2.1 Health workers and the Millennium Development Goals

Several constraints face the health workforce in the delivery of interventions aimed at achieving the health-related Millennium Development Goals. The main problems can be summarized as follows:

- inappropriate or inadequate training, with curricula that are not needs-based;
- poor access to information and knowledge resources;
- inadequate numbers and skills of health workers;
- uneven distribution of workers at different levels of service delivery, from national programme officers through to health facility personnel;
- low morale and motivation;
- unsafe conditions in the workplace;
- poor policies and practices for human resources development (poor career structures, working conditions and remuneration);
- lack of supportive supervision;
- lack of integration of services with the private sector;
- high attrition of health workers, as a consequence of death from the very diseases they work to cure, or because of migration.

Source: (2).

Strategy 2.1 Scale up workforce planning

The enormous shortfall in the human resources needed to provide MDG-related services demands an accelerated expansion of the workforce. Three factors must be present for this kind of expansion to take place – political leadership, adequate financing and a comprehensive plan.

“*Workforce expansion requires political leadership, adequate financing and a comprehensive plan*”

Before necessary reforms can take place, political leaders, donors and governments alike must view the workforce as an investment to be nurtured, and not as a cost to be minimized. Along with strong leadership must come a commitment to devote the necessary funds. This funding must not only cover health service providers, but also the management and support workers who provide crucial services to the front lines of the health system.

The third requirement is a sensible strategy to boost the health workforce, one with short-term as well as longer-term performance goals. The strategy must be based on established human resources needs for priority programmes (2) and it must mobilize the institutions involved in both the production and management of the workforce (see Chapters 3 and 4).

These three elements have converged in Malawi, where the Emergency Human Resources Programme has become a top priority for the Ministry of Health (see

Box 2.2 An emergency programme for human resources in Malawi

Staffing in Malawi's health service is inadequate to maintain a minimum level of health care, and is particularly low even by regional standards. It is also insufficient for the delivery of antiretroviral therapy and other HIV/AIDS-related services in response to demand. Of 27 districts, 15 have fewer than 1.5 nurses per facility, and five districts do not have even one each, while four districts have no doctor at all. HIV/AIDS-related attrition among the workforce compounds the shortage. In addition, up to 800 qualified nurses living in Malawi choose not to work in the health sector.

In April 2004, the Ministry of Health called for action to retain current staff and prevent brain drain as a top priority, highlighting the need to attract back into the system those who had left it and remained in Malawi. The 6-year Emergency Human Resources Programme includes: improving incentives for recruitment and retention of Malawian staff by 52%, gross salary increases for 11 selected professional and technical cadres; external stop-gap recruitment of physicians and nurses; and significant expansion of domestic training capacity. The programme recognizes the need to address a range of non-financial factors affecting retention, including policies for postings and promotions, performance management, regrading, opportunities for training and upgrading of skills, gender issues and quality of housing. Human resources planning and management capacity

in the Ministry of Health and at local level is also being strengthened.

The programme, which is supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria, the United Kingdom Department for International Development, the Malawi Government and other donors, is estimated to cost about US\$ 278 million. Up to US\$ 98 million will support salary top-ups, with a further US\$ 35 million for improved staff housing, and US\$ 64 million earmarked for expansion of training capacity.

While it is early days, the approach appears to be having a positive impact. By the end of 2005, some 5400 doctors, nurses and other key staff were receiving the salary top-up and there has been a reduction in the outflow of staff from the public sector. Over 700 new health staff have been recruited by the government since July 2004, with interviews for nearly 200 further posts currently taking place. Plans for infrastructure expansion and additional teaching staff for Malawi training schools will increase training capacity by over 50% on average, triple the number of doctors and nearly double the number of registered nurses in training. While more Malawians are being trained, expatriate doctors and nurses will continue to be relied on to fill critical positions.

Source: (11).

Box 2.2). With the support of the international community, countries experiencing similar human resources crises should consider developing similar plans.

Strategy 2.2 Capitalize on synergies across priority programmes

In responding to the specific health challenges of the MDGs, given the urgency and the availability of financing, there is a tendency to plan the workforce around specific diseases or interventions. As mentioned, this sort of planning risks a number of inefficiencies that result mainly from inadequate consideration of the systemic nature of human resources and health services delivery more broadly. Increasingly, this is being recognized and important innovations are emerging.

In many cases, channels for delivering these interventions can be combined to use scarce human resources more efficiently. The term “piggy-backing” has been coined to identify ways in which services can be added to existing delivery vehicles rather than mobilization of workers for separate, single-purpose, community-directed interventions. For example, the WHO Onchocerciasis Control Programme to prevent river blindness in west Africa used community-directed treatment projects to add vitamin A to ivermectin distribution. “Piggy-backing” of other treatment elements is also a deliberate strategy of the WHO Global Programme to Eliminate Lymphatic Filariasis (12).

Strategy 2.3 Simplify services and delegate appropriately

Greater efficiencies in workforce performance can be achieved by applying two of the cardinal rules for scaling up interventions effectively: simplification and delegation. Simplification often improves staff productivity by allowing more to be done, with greater consistency, and often by less skilled colleagues. Simplifying all basic tasks is the first element of the Global Polio Eradication Initiative, is crucial to the scaling up of oral rehydration therapy in Bangladesh (13), and is a core strategy of the WHO/UNAIDS 3 by 5 Initiative (14). Within the Polio Eradication Initiative, for example, all basic tasks were simplified as a result of strategic decisions, technological innovations and locally appropriate adaptation. All available human resources, from unskilled volunteers to highly skilled workers, both inside and outside the health sector, were considered to be potential “vaccinators” and, if necessary, surveillance officers (15). The WHO/UNAIDS 3 by 5 Initiative has shown that people living with HIV/AIDS can make important contributions across the spectrum of HIV/AIDS prevention and treatment services (16).

In many areas, programmes aimed at integrating skills among providers of primary care for children, adolescents and adults are taking place at the district and primary care level. WHO’s Integrated Management of Adolescent and Adult Illness (IMAI) and the HIV adaptation of Integrated Management of Childhood Illness (IMCI-HIV) provide a novel approach to scaling up HIV prevention, care and treatment, as well as tuberculosis care and co-management of TB/HIV/AIDS patients (see Box 2.3). Despite these promising examples, increased efforts will be required to identify pragmatic ways of working across priority programmes.

Simplification facilitates but is not a prerequisite of task delegation. Tasks related to service delivery can often be carried out as or even more efficiently by less senior staff. Task delegation is especially important in resource-constrained settings where skilled staff are in very short supply. The delegation of malaria diagnosis to volunteer health workers using village-based microscopy in Myanmar and the Philippines, for

“*In several southern African countries, death from HIV/AIDS is the largest cause of worker exits from the workforce*”

example, has been shown to be reliable and to improve the treatment of malaria, while at the same time raising the morale and self-esteem of workers (18, 19).

Plans to simplify and to delegate tasks require careful assessment of the intended impact. In the 1970s and 1980s, for example, tens of thousands of traditional birth attendants were trained throughout the developing world (20) in the hope of improving the survival of mothers in settings where professional midwives were rare. But, after more than three decades of well-meant attempts, there is no convincing evidence that the training strategy has reduced maternal mortality rates (8).

” **Strategy 2.4 Secure the health and safety of health workers**

In several southern African countries, death from HIV/AIDS is the largest cause of worker exits from the workforce. Those who remain often work in understaffed health facilities that are overburdened with patients (many with HIV/AIDS) and that have inadequate means to treat them. These working conditions, in turn, fuel low morale, burn-out and absenteeism. In light of this fact, efforts are now under way to address occupational health and safety risks through the prevention of needle-stick injuries, post-exposure prophylaxis, and increasing the supplies of protective equipment. More and more countries are making provisions to ensure treatment access to workers who become infected with HIV (21), and in 2005 the International Labour Organization and WHO agreed to joint guidelines designed to help workers involved in the global struggle against HIV/AIDS stay healthy (see Chapter 5).

PREPARING THE WORKFORCE FOR THE GROWING BURDEN OF CHRONIC DISEASES AND INJURIES

As well as those diseases which form the primary focus of the MDGs, the world is faced with a massive and growing burden of chronic diseases, which are among

Box 2.3 Task shifting in the health care workforce

More than 25 countries in Africa are now using a set of simplified operational guidelines from WHO's Integrated Management of Adult and Adolescent Illness (IMAI) to train health workers. These guidelines clearly define the tasks required for chronic HIV/AIDS prevention, care, and antiretroviral therapy (ART), as well as tuberculosis care and co-management of TB/HIV/AIDS patients; they allow these interventions to be delivered by nurses, clinical officers, midwives and various cadres of medical assistants, working together in a clinical team in the hospital outpatient facility or in peripheral health centres.

Shifting tasks between health care workers and expanding the clinical team can relieve short-term human resource limitations in settings with low resources. Rapid scaling up involves:

- shifting tasks to the lowest relevant cadre;
- expanding the clinical team by including people living with AIDS;

- placing strong emphasis on patient self-management and community involvement.

Based on this approach, tasks in many health care settings can be shifted from specialized (and therefore scarce) workers to less specialized ones. The most important task shift is to the patients themselves (i.e. self-management). The community can be progressively involved in managing HIV/AIDS care and antiretroviral therapy for such tasks as treatment support, repeat drug prescriptions and simple monitoring.

IMAI training focuses on the needs of the clinical team. The training uses adult participatory training methods that emphasize the acquisition of skills and case practice, rather than just knowledge. It also considers people living with HIV/AIDS as experts in their own illness and as a valuable educational resource to support the training of health workers.

Source: (17).

the world's leading causes of death and disability. Trends indicate that they are likely to become even more important over the next decade (22). The epidemiologic importance of such conditions is matched by their direct and indirect social and economic consequences.

New paradigms of care require a workforce response

In recent years, the traditional focus on acute, inpatient and sub-specialty care has given way to new paradigms of care emphasizing self-management, and community-based patient-centred pre-hospital care (23) (see Figure 2.2). This evolution has been accompanied by a recognition by experts, professional bodies and health workers themselves of both the inadequacies of traditional training and deployment of the workforce, and the imperative for new approaches (25–29).

Strategy 2.5 Deploy towards a continuum of care

Five core competencies for long-term patient care have been identified: patient-centred care, partnering, quality improvement, information and communication technology, and a public health perspective (see Box 2.4). The challenge is to translate these into practice through the institutions that produce and deploy the health workforce. Changes in the curriculum, new teaching methods, and innovative training models are necessary (31–33).

Decisions surrounding training and recruitment must also reflect the continuum of care and take into account the distribution and type of workers required to meet the health care needs of the population. Provision of community mental health services for example relies heavily on effective education outreach programmes for police officers, religious healers and social workers. Non-professional workers can help meet some of the demand for care as long as they are competent and supervised, and can draw upon professional staff when necessary to deal with complex cases.

Box 2.4 Core competencies for long-term patient care

PATIENT-CENTRED CARE

- Learn how to negotiate individualized care plans with patients, taking into account their needs, values, and preferences.
- Learn how to support patient self-management efforts.
- Learn how to organize and implement group medical visits for patients who share common health problems.

PARTNERING

- Work as a member of a multidisciplinary health care team.

QUALITY IMPROVEMENT

- Design and participate in health care quality improvement projects.

INFORMATION AND COMMUNICATION TECHNOLOGY

- Develop information systems (e.g. patient registries), even if paper-based, to ensure continuity of care and planned follow-up.
- Use available technology and communication systems to exchange patient information with other health care workers and to consult specialists from primary health care.

PUBLIC HEALTH PERSPECTIVE

- Work in a community-based setting and conduct community outreach to promote healthy lifestyles, encourage responsible and safe behaviour, and reduce the stigma associated with physical disability and mental illness.
- Learn to think beyond caring for one patient at a time to a “population” perspective.
- Hone skills for clinical prevention.

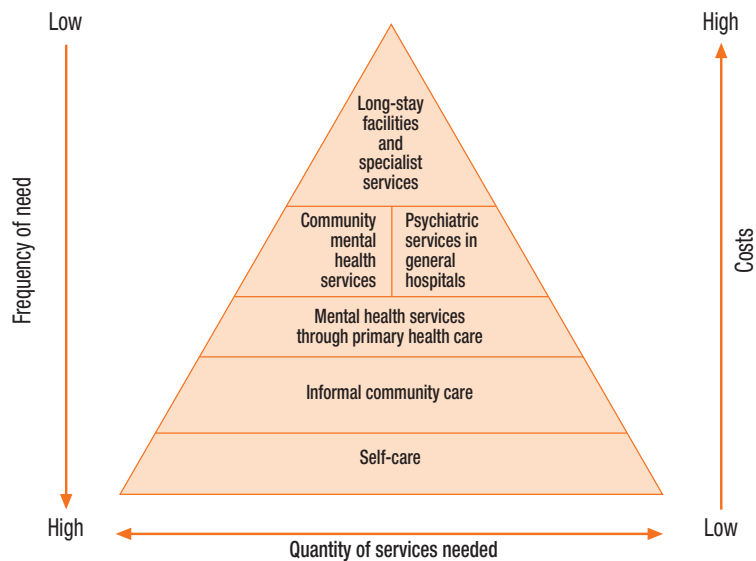
Source: (30).

Village volunteers are another largely untapped but potentially valuable resource. In Ghana in 1999, for example, the WHO Nations for Mental Health Project launched a three-year pilot project that trained volunteers selected by their communities to identify, refer and follow-up people in their villages who had mental disorders. The government has now adopted the project and it is being extended to other districts (24).

It is important to recognize that the shift to community-based care should not overlook the other end of the continuum, i.e. specialist and sub-specialist care. In many parts of the world, the critical shortage of such specialists is a major constraint to the integrity of the continuum of care concept. The shortages of specialists, such as psychiatrists, in many parts of the world, means that care is often not available. Psychiatrists have a crucial role to play in managing and treating complex cases of mental disorders, in providing ongoing supervision and support to non-specialists working in the mental health field, and in teaching and training other mental health professionals (see Figure 2.3).

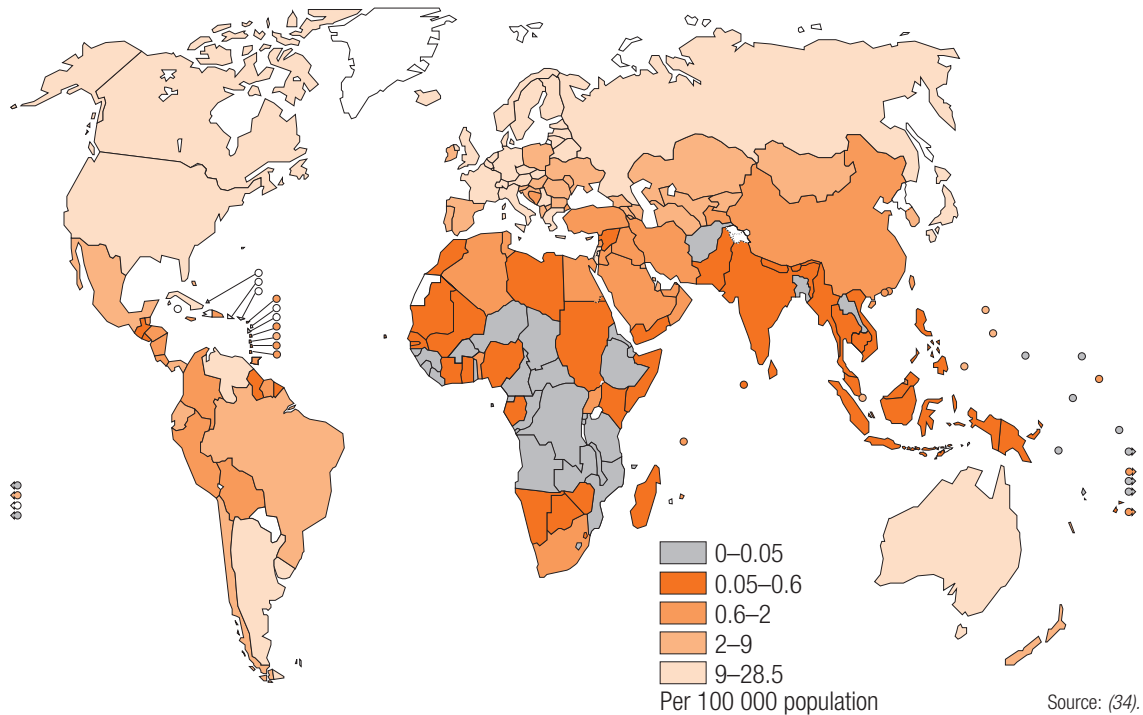
The shift from hospital-based to community-based care, and the new emphasis on multidisciplinary and intersectoral approaches, means changing roles for staff as well. These changing roles present challenges for managers, health workers and regulatory agencies. Scope-of-practice regulations, designed to establish minimum standards and protect patients, can become impediments to the pursuit of change. Managers need to engage actively with health workers, listen to their requirements and present the case for service reform and new, evidence-based ways of working. The challenge for health workers is to embrace change as an opportunity for further learning and personal and professional development, given their legitimate concerns related to personal status and income.

Figure 2.2 Optimal mix of mental health services



Data source: (24).

Figure 2.3 Global distribution of psychiatrists



Strategy 2.6 Foster collaboration

Inherent in the new paradigm of care is a strong emphasis on collaboration and teamwork between health worker and patient. Creating a relationship that values the patient as a partner in his or her own care has been frequently shown to improve health behaviour and clinical outcomes. Extensive evidence shows that interventions designed to promote patients' roles in the prevention and management of chronic diseases can lead to improved outcomes (31, 35, 36). What patients and their families do for themselves on a daily basis, such as engaging in physical activity, eating properly, avoiding tobacco use, sleeping regularly, and adhering to treatment plans, significantly influences their health. Health workers are instrumental in helping patients to initiate new behaviours and to self-manage their conditions more effectively, and thus serious attention must be paid to their communication skills (33).

A team approach is required not only in the management of individuals with chronic conditions but in addressing these public health challenges more broadly. In general, care for chronic diseases is best delivered with a collaborative effort involving public health specialists, policy and service planners, researchers, information technology designers, and support personnel. The multidisciplinary team in mental health includes psychiatrists, psychologists, nurses, general practitioners, occupational therapists and community/social workers who can share their expertise and collaborate with each other (37).

“Studies show that errors in health care are not only frequent but also leading causes of mortality and morbidity”

Strategy 2.7 Promote continuous learning for patient safety

As health services for chronic conditions have evolved, so too has their complexity. Although much has improved, the volume of information, the number of medications, and the myriad of providers has led to a number of unintended consequences. There may be, for example, errors related to dosages, misidentification of patients, insanitary or unhygienic practices related to hand washing or equipment, or inadequate follow-up of patients. Studies show that errors in health care are not only frequent but are also leading causes of mortality and morbidity (33).

Although awareness of errors and unsafe practices is an important first step in dealing with the complexities of care provision, there is also a need to develop evidence-based approaches to deal with them more effectively, such as risk management programmes, patient-centred approaches, and patient empowerment (38) (see Box 2.5).

Box 2.5 Patient safety

A growing body of research evidence suggests that unsafe patient care is very common in health care systems globally. No country – rich or poor – can claim to be coping fully with the problem.

Caring for patients involves a complex interplay of people, technology, devices and medicines. Health care workers must make many decisions and judgements on a daily basis, and things can and do go wrong.

Experience in both health care and other high-risk industries shows that errors and mistakes are often provoked by weak systems. Deficiencies in system design can create problems at many levels including the individual clinician, health care team, organization and health care system. Such deficiencies can include a lack of clear protocols for treating patients, lack of knowledge and experience among health care workers, poor supervision of junior staff, fragmented patient information and poor coordination.

A completely risk-free health care environment is probably unattainable. Much can be done, however, to improve the “error wisdom” of front-line staff. In particular, health care workers who are educated and trained to work together well can reduce risks to patients and themselves. Three core knowledge and performance requirements are suggested below.

- Communicate effectively and honestly with patients and their families about the risks of health care interventions, especially when things have gone wrong. Unintended harm to patients is often made worse by the defensive way that many health care organizations respond to patients and their families after a serious event. In some countries, secretiveness on the part of health care organizations is associated with increased litigation.

- Identify risks and hazards in the health care environment and act to reduce their potential to cause patient harm. At its simplest this requires ways in which staff can report hazards and events within the health care organization. Identifying problems should be seen as a source of learning, not blame. Reporting is of little value, however, if no action is taken. Strategies to minimize identified risks and hazards are also vital.
- Work safely as part of a team. Even where human resources are limited, effective teamwork can promote good communication, willingness to share information and effective interpersonal relationships. Effectively transferring information between health care workers is increasingly recognized as an important part of improving patient safety. Problems in teamwork can lead to diagnostic delays and poor management of life-threatening events.

It is vital to ensure that patient safety is a key component of educational curricula, training programmes and induction schemes. Organizations have a responsibility to provide the appropriate systems and support to enable their workforce to learn and apply the skills and knowledge required for patient safety. Strong organizational leadership for patient safety is important.

The WHO World Alliance for Patient Safety is leading the global work on patient safety. Launched in October 2004, the Alliance provides a vehicle for international collaboration and action to coordinate, spread and accelerate improvements in patient safety worldwide. This includes international action on patient safety education and training. More information is available at www.who.int/patientsafety.

Sources: (39, 40).

To improve the quality of long-term care more generally, continuing education in chronic disease management is necessary. Lifelong learning is a cornerstone of continued fitness to practice, and is closely connected to the quality of care and patient safety (25, 28).

MOBILIZING FOR EMERGENCY NEEDS: NATURAL DISASTERS AND OUTBREAKS

At least 40 countries worldwide are at risk of being affected by severe natural disasters and no country is immune to an outbreak of a highly infectious disease. Sudden catastrophic events can quickly overwhelm local and national health systems, especially those that are already suffering from staff shortages or lack of funds. During disasters, local communities are the first to respond, followed by local and national governments. Because no society has the resources to be prepared adequately at all times, no nation can manage a major disaster or outbreak on its own. Qualified, experienced, and well-prepared international health personnel are usually needed to help (see Box 2.6)

Furthermore, when the immediate priority of humanitarian assistance is to save lives, partnership with, and strengthening of, local institutions is often seen by external actors as an obstacle that delays the delivery of relief. Early investment in national staff is rarely considered a necessary component of an emergency response. Sub-Saharan Africa, the area of the world most severely affected by natural and man-made disasters, is particularly vulnerable in this regard (42). An international emergency response workforce has not yet been organized in a systematic way. As a result, human resource shortages remain a serious constraint to achieving better humanitarian and health outcomes.

Preparedness plans can help

The loss of life, illness and disease caused by outbreaks and other natural disasters can be reduced if preparedness plans are in place and easily and quickly activated. Emergency preparedness requires the availability of an up-to-date database of the

Box 2.6 Responding to infectious disease outbreaks – SARS

The WHO Regional Office for the Western Pacific is based in Manila, Philippines. In responding promptly to the SARS threat, it formed an outbreak response and preparedness team. This initially drew on the expertise of WHO staff in the region, but was quickly complemented by professionals in the field of epidemiology, infection control, laboratory diagnosis and public information.

WHO teams of epidemiologists and infection control experts fanned out across the region to China, Hong Kong (China), the Philippines, Singapore and Viet Nam. Infection control equipment, such as masks and gowns, was dispatched from Manila to newly affected countries and to those considered vulnerable to an attack.

The region was fortunate to have a network in place before SARS struck called the Global Outbreak Alert and

Response Network, which was established in 2000. This was very important as it provided operational support teams with specific tasks, from coordination through to resource mobilization, including human resources. WHO support to countries consisted of providing technical guidelines, on-site expertise and resource mobilization. It was important that the kind of expertise developed matched the needs in each country. Among the lessons learnt were the need to have one focal point to coordinate partners who share a commitment and common goals, and the need for transparent policies and political commitment at the country level.

Source: (41).

“*The loss of life, illness and disease caused by outbreaks and other natural disasters can be reduced by preparedness*”

actual competencies of health personnel, knowledge about how to communicate risk effectively, and a way of prioritizing training needs, policies and actions to ensure the safety of health personnel.

Comprehensive preparedness plans should include components related to the way the health system needs to react, and those related to preparing the overall workforce response. Three general responses are critical during a disaster or outbreak situation: a “command and control approach”, collaboration across sectors, and risk communication. In turn, the plans for health workforce response should include training of appropriate staff, adequate deployment and match of skills, and protection of health workers.

Strategy 2.8 Take a “command and control” approach

A “command and control” approach to management is critical if resources are to be directed in a timely manner. Coordination and team work are essential but once consensus has been reached, the speed of an intervention can be enhanced if action is triggered in a directive fashion. In such situations, feedback channels must be established so that corrective action can be taken when new situations during an unfolding crisis demand changes in the direction of action. Simple management tools for supportive staff supervision using equally simple indicators facilitate the flow of information in such situations. This approach calls for the integration of existing resources, thus avoiding duplication or unnecessary diversion of human resources. It also requires the mapping of all existing resources including appropriate back-up support and response scenarios in case of loss of resources or sudden increase in demand.

Another essential action that is required in order to control the rapid spread of fear and panic during disease outbreaks is risk communication. This includes conveying information about risks of infection to health workers, lay people and the media, in a way that is transparent, honest, credible and compassionate (43).

Strategy 2.9 Help remove sector boundaries

An “all out” response to a disaster or outbreak requires the removal of boundaries between health workers in different sectors. Preparing the workforce at all levels of the system and coordinating with other sectors greatly reduces the impact of the emergency. Collaboration with other sectors permits the best use of existing resources, prevents the often observed confusion found during initial intervention periods, and allows rapid implementation of life-saving measures. Planning specific roles and functions for staff in the military, transport and education sectors minimizes confusion and maximizes the input of scarce human resources. Moreover, as the tsunami of December 2004 and the earthquake in South Asia of October 2005 have shown, international support must be mobilized and coordinated.

At international level, the Global Outbreak Alert and Response Network (GOARN)¹ provides an operational framework that links international networks and institutions and keeps the international community alert to the threat of outbreaks and ready to respond.

¹ <http://www.who.int/csr/outbreaknetwork/en/>.

Strategy 2.10 Train appropriate health staff for emergency response

Mounting immediate and effective responses to disasters and outbreaks as varied as earthquakes, tsunamis, hurricanes, floods, SARS and avian influenza requires an agile workforce with highly specialized skills. These include the ability to carry out rapid diagnosis, surveillance, organization and logistics, containment, communications and emergency surgery, and to create temporary facilities. But emergency preparedness must go beyond identification of skills. Training institutions and programmes must be designated where these skills are generated and updated (see Box 2.7).

A weakness found in many countries is a scarcity of planning and management capacity, both to prepare for emergencies and to deal with them when they happen. Many countries simply do not have enough human resource planners and managers, so new ways must be developed to produce them and to activate them when the need arises. One approach is to give supplementary training on the management of emergencies to managers who already occupy key positions in agencies or organizations likely to be involved in an emergency response. These organizations usually include hospitals, ministries of health, local government, the military, those responsible for transport and communications, civil protection, social welfare and so on. This supplementary training can be conducted by national government or nongovernmental agencies.

Priority should also be given to the development of new cadres focused on emergency planning and management within the various agencies and institutions responsible for emergency management. These new cadres could be developed

Box 2.7 Thailand's response to epidemics and disasters

Thailand is a middle income country (with a per capita GDP of US\$ 2000) that in recent years has been affected by SARS, the tsunami of December 2004 and avian influenza. In the avian influenza epidemic, 60 million chickens were killed and the government paid US\$ 120 million to farmers in compensation. A vertical plan for avian influenza was approved by the cabinet in January 2005, for US\$ 120 million for three years, with an intensive human resources component. In the recent epidemic, Thailand called on its 800 000 village health volunteers to assist in bird surveillance. These volunteers have existed in Thailand's villages since the era of primary health care. The country also used its network of 100 000 health centres, 750 public hospitals, 95 provincial hospitals and 1330 teams in every district, who were on call 24 hours a day.

Balanced distribution of health workers is of the utmost importance in the rapid response to infectious diseases and disasters. Inequitable distribution leaning towards urban centres makes an effective response difficult: during the tsunami it was possible to recruit from districts around the capital, because health workers were equitably distributed. Incentives are important to facilitate balanced distribution: a newly graduated medical doctor receives US\$ 1500 per month to go to the most remote districts, which provides very strong encouragement to serve in such areas.

It is also important to strengthen the limited speciality of "field epidemiologists", as they are the first group to move into disaster areas. Thailand's Field Epidemiology Training Programme (FETP) was launched in 1980 to train epidemiologists with an interest in public health and to improve epidemiological capacity within the Ministry of Public Health. The programme requires three years' training after graduation from medical school. FETP trainees have responded rapidly to 353 health threats to date, and the government has started to double the intake.

Thailand's field epidemiologists were mobilized when the tsunami hit in December 2004. They carried out active disease surveillance in all affected districts. Data were collected from all medical facilities, two shelters for displaced persons, and two forensic identification centres. FETP trainees visited each site daily and collected individual case-report forms that included information on disease syndrome, age, sex and nationality. These teams analysed data and identified events requiring further action. Given the threat of pandemics, governments need to invest now in their human resources, before the epidemics arrive.

Sources: (44, 45).

“*In responding to major natural disasters or disease outbreaks, skilled disaster coordination teams are as essential as a large number of trained volunteers*”

through training, capacity assessment exercises, simulations and using emergencies as opportunities for learning by doing. All these actions should be part of a national strategy for capacity development which is attuned to the different risks and levels of preparedness of individual countries.

At the global level, training of interagency and national country teams needs to emphasize the importance of working effectively, efficiently and safely, and according to agreed benchmarks and standards. To that end, WHO and other members of the Inter-Agency Standing Committee are developing a Health Emergency Action Response Network,¹ one component of which is a specialized training course aimed at improving the skills of humanitarian personnel working in the field. The training programme includes the necessary mix of scientific knowledge, technical skills, attitudes, behaviours and field know-how, and familiarity with standard operating procedures and support platforms.

Strategy 2.11 Develop an emergency deployment strategy for different kinds of health workers

Strategies for the deployment of different types and cadres of health workers with specific roles and functions during a crisis period is an essential component of an emergency preparedness plan. The plan should include a distribution of tasks across the health workforce which matches skills and capacities to anticipated health interventions. Table 2.1 lists the various types of health personnel that were redeployed within Turkey's public health care delivery system during the recent avian influenza outbreak. In addition to ministry of health personnel, those in other sectors must also be mobilized.

In responding to major natural disasters or disease outbreaks, skilled disaster coordination teams are essential, particularly to manage the large number of trained volunteers that are deployed in these situations. Given the scarcity of skilled workers and overwhelming demand, efficient triage is imperative. Transferring simplified tasks and skills to the right members of the workforce and avoiding “de-skilling” of highly qualified staff are essential components of an effective deployment of the health workforce during emergencies.

Strategy 2.12 Ensure adequate support for front-line workers

Staff dealing with emergencies must be supported with sufficient transport, supplies and communications equipment. These should all be specified in the emergency response plan. In the case of pandemics, providing access to prevention and treatment for the health workforce is a priority (46). Information about infection control measures needs to be made available and taught regularly. In accordance with clear guidelines, medicines or vaccines should be made available to front-line workers.

Emergencies demand extra working hours beyond the call of duty, often leading to physical and mental exhaustion (21). Incentives and rewards, both financial and personal, have to be provided to compensate health workers for their extra efforts. This helps to boost morale and maintain levels of service commitment at the highest level possible. Planning for losses will further enhance preparedness (47).

¹ For more information, see <http://www.who.int/hac/techguidance/training/hearnet/en>.

Table 2.1 Deployment of state-employed health personnel in response to avian influenza outbreak in Turkey

Competencies required in an outbreak of avian influenza	Type of health professional with respect to work locale													
	MOH (Central)	District health directorate			Secondary and tertiary level health care (hospitals)				Primary level health care (health centres)					
	PHS/GP/N/NM	PHS	GP	N/NM	IDS	Other S	GP	N	PHS	Other S	GP	N/NM	HO	EHT
Operations management														
Surveillance														
Identification of cases														
Verification of cases	*													
Isolation of new cases														
Treatment of new cases						**	**							
Quarantine of contacts														
Management of health personnel information														
Risk communication														
Management of media and public information	***													
Veterinary containment (culling chickens)														
Intersectoral issues (transport, tourism)														

* By central national reference laboratories.

** In Turkey only infectious disease specialists have the legal right to prescribe Tamiflu.

*** Nobody but high-level MOH officials have the authority to speak to the media.

EHT: Environmental health technician: 4 years of high school training with special emphasis on environmental health issues.

GP: General practitioner: graduate of 6 years of medical school with a licence to practice medicine.

HO: Health officer: same as nurse but only high school graduates.

IDS: Infectious disease specialist: medical school graduate with 4–5 years of training.

N: Nurse: 4 years of high school or university training; no difference in employment or job definitions though more college graduates employed in hospitals.

NM: Nurse/midwife: same as nurse but trained more specifically to provide MCH services, including home deliveries.

Other S: Other specialist: internal medicine, pediatrics, etc.: medical school graduate with 4–5 years of training.

PHS: Public health specialist: medical school graduate with 3–4 years of community medicine and public health training.

“*Conflict often causes severe and long-lasting damage to the health workforce*”

WORKING IN CONFLICT AND POST-CONFLICT ENVIRONMENTS

Conflict often causes severe and long-lasting damage to the health workforce. Qualified personnel may be killed or forced to abandon their jobs. In protracted conflicts, a number of destructive tendencies emerge. Civilian workers flee health centres and hospitals in dangerous areas, and those in safer areas become overstuffed. Management systems collapse, working environments deteriorate and professional values decline (48). Health workers desperate to make a living may slide into practices such as taking under-the-table fees or embezzling drugs. In long-lasting conflicts, relief agencies, whose main objective is often to recruit personnel to care for refugees, may compete for the few available health workers. In such situations the local public services are almost invariably the losers (49).

A severe crisis, especially if it is protracted, can radically distort the composition and diminish the competence of the health workforce. “Crash courses” intended to prepare health workers to cope with epidemics of infectious diseases and sexual violence during the acute phase of a crisis are often inadequate. Improvised training tends to continue through the post-conflict reconstruction period, as the complexities of educating health personnel are ignored and hasty initiatives – involving abbreviated courses of study – are taken to fill the gaps of key staff, such as doctors and nurses. Such distortions – which hamper the recovery of the health sector after conflicts have ended, and often demand aggressive, sustained and well-resourced strategies to remedy them – can be minimized through effective stewardship.

Strategy 2.13 Obtain and maintain strategic information

In the ever-changing environment of complex emergencies, those with stewardship responsibilities in the health sector have to invest from a very early stage in obtaining and updating strategic information on the health workforce. This means finding out how many health workers there are, where they are, and what their capacities are. Such assessments, drawing on quantitative and qualitative information, should include all categories of health workers, whatever their status or qualifications (not just those in the public sector). A frequently made mistake is to launch ambitious and detailed field studies or inventories which take too long to be useful and carry heavy opportunity costs. Efforts to obtain strategic information should be pragmatic, and a stimulus to action. Such information, even if incomplete, can help maintain a human resource focus in wider sectoral plans or initiatives.

Strategy 2.14 Invest in advanced planning and focused interventions

The establishment of a high-level focal point for human resources for health within the ministry of health – as in Afghanistan, where it was placed at General Directorate level – or within the body which is acting as health authority, can be a useful rallying and reference point (50). Such a move makes it more likely that advance plans for the rehabilitation of human resources will be considered when spending priorities and public expenditure management are reviewed. Mozambique, for example, made human resources for health plans before conflict had ended and was able to introduce corrective measures in a timely manner (51). At the same time, action needs to be focused on and geared towards the specific context. In phases of acute conflict the

protection of human resources will be paramount. Similarly, in times of protracted conflict, repair will be essential, as will be rehabilitation during transition phases.

Strategy 2.15 Protect what works

During acute conflict the focus should be on maintaining and supporting what works. Box 2.8 highlights the importance of protecting health systems and services during conflicts. The workforce must be marshalled to support institutional islands of dependable critical services, particularly medical supply depots and hospitals. Maintaining a number of centres of good clinical and managerial practice is paramount for safeguarding the concept of what a functioning hospital, health centre or operational district really means. Donor funds should be channelled into structures that are still functioning in order to keep them adequately supplied and maintained. This is better than using them hastily to introduce new modes of intervention, such as mobile clinics, or to launch population-wide immunization campaigns. All this works better if it is done with the full involvement of nongovernmental organizations and humanitarian agencies, and with short-term planning horizons such as the 90-day cycle used in Darfur (Sudan) and Liberia.

Even in countries in crisis, there are many professionals working tirelessly at field level, often without salaries. To make progress the first need is cash to get institutions working, to enable those who work in them to feed themselves, and to prevent recourse to levying of user charges or pilfering of supplies. Paying decent wages to local workers is far cheaper than bringing in foreign volunteers.

Strategy 2.16 Repair and prepare

Protracted conflicts and complex emergencies require the initial focus to be on repair, on getting things working, and not on reform. Offering minimum health services in rural areas requires immediate strengthening of the health care system and the workforce. This is a difficult process to manage and depends partly on identifying incentives (such as monetary or career incentives) to encourage health workers to take positions in less desirable locations.

Keeping a focus on repairing and preparing means:

- redeploying health workers on an area per area or district per district basis (rather than programme per programme), in a pragmatic and flexible fashion;
- providing protection and support to health workers;
- taking early measures to avoid commercialization of the health sector. User charges are inefficient and have perverse effects;
- obtaining the commitment of the donor community and all the other major actors to reach a consensus on human resource planning criteria and standards concerning support for existing networks, salary scales, contracts, and essential drug guidelines.

Strategy 2.17 Rehabilitate when stability begins

Once a crisis situation has begun to stabilize, the first need is to adopt measures to correct distortions in the labour market. These include the following:

- Establish systems to assess the level of competence of health workers emerging from the crisis, in combination with a review of categories, job descriptions and training programmes that have proliferated during the crisis.

“Even in countries in crisis, many professionals work tirelessly and often without salaries”

- Establish retraining to fill gaps. Health workers who have received mostly classroom training should receive clinical training, while people who received hands-on training should in turn obtain the classroom background necessary to gain more autonomy.
- Limit further unregulated workforce expansion. If the size of the workforce is too great, freeze recruitment and pre-service training and invest in in-service training. Consideration should be given to whether it is preferable to train additional staff or whether priority should be given to retrain existing staff with limited qualifications.
- Emphasize medical and nursing education quite early in post-conflict situations, to re-establish educational standards, and avoid the mass training of poorly qualified doctors and nurses.
- Continue to redeploy personnel and establish health care networks in the areas that have remained excluded.
- Extend the supply of health services, offer access to all, regardless of ability to pay, and protect against any financial consequences of seeking care.

CONCLUSION

The challenges highlighted in this chapter illustrate the spectrum of needs to which the health workforce is expected to respond. Viewing these challenges from a workforce perspective helps identify both opportunities and constraints. The specific assessments reveal a tremendous amount of diversity and at the same time a number of commonalities – working across sectors, simplification of tasks, adequate support to health workers.

Importantly, for the theme of this report, the imperative of working together emerges repeatedly. Collaboration across sectors for chronic diseases and emergencies, striking synergies across programmes for the MDGs, and bringing stakeholders together to reach consensus on strategies to protect what works in the context of conflicts makes the case for working together abundantly clear.

Box 2.8 Protecting health systems and biomedical practice during conflicts

Uses and misuses of biomedical and public health knowledge during time of war or armed conflict are commonplace. Public health and medical crimes such as diverting medical supplies and human resources, abuse and torture, medical killing in the name of science, and eugenics for social goals, have been perpetrated with the complicity of health and medical professionals in countries such as Bosnia and Herzegovina, Cambodia, Nazi Germany and Rwanda. Much more frequent, though, are cases in which health professionals are victims themselves. The attack against Vukovar Hospital on the eve of the war in the former Yugoslavia, in 1991, underscores the extreme vulnerability of health facilities and medical personnel operating in war zones.

Since the Nuremberg Code in 1947 concluded the judgement of the Doctors Trial – the Medical Case of the subsequent Nuremberg Proceedings – and founded bioethics as an independent discipline, dozens of binding treaties, declarations and other texts have drawn up very specific provi-

sions that protect the public and biomedical practitioners from harm (and from doing harm) both in peacetime and in times of conflict. In June 1977, for example, 27 articles, which are known as the “principles of medical neutrality” in times of war, were added to the body of International Humanitarian Law, the Protocols Additional to the Geneva Conventions. The most recent reformulation of aid workers’ competencies and responsibilities in times of conflict and man-made disasters appears in the Sphere Handbook, a document that aims to improve the quality and the accountability of the humanitarian system.

The protection of health systems and biomedical practice from harm requires a universal commitment. As prerequisites to such a commitment, formal education curricula for health professionals should gradually incorporate studies in bioethics, human rights and humanitarian law.

Examining each from a workforce perspective reveals important insights not only about needs but also exciting innovations. The efforts to integrate clinical management of adult illness and the shift to competencies arising from the new paradigm of chronic care management represent important innovations in the training and deployment of the workforce. Harnessing and nurturing these insights and innovations should be a primary focus of more systematic planning for the health workforce.

Planning for the health workforce both within these major challenges and across them is a key message that emerges from this chapter. As suggested, in conflict/post-conflict situations, a human resources assessment is an important first step. When shortfalls in the existing total of health workers related to achieving service delivery targets are known, appropriately scaled (as opposed to incremental) responses can be articulated. The findings of such assessments help create a more realistic, broader picture of the needs of the health sector.

These specific analyses, however, point to the need for more comprehensive planning of the workforce along the lines of the entry, stock and exit model (see Overview). The call for new types of skills, workers, better standardization of skills, new programmes and retraining, places significant demands on the health worker training institutions. These are discussed in more depth in Chapter 3. The importance of effective “skills to tasks” management, information on performance, and the use of different management approaches, from delegation to collaboration to command and control, are among the challenges in optimizing the performance of the workforce in situ (see Chapter 4). Finally, the need to ensure the health of the workforce and plan for adequate respite or even demise of individual workers are important dimensions of managing outflows (see Chapter 5).

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