

B I Health systems advocacy

After years of neglect, ‘health systems strengthening’ in poor countries is receiving some attention. For example, the proposed health agenda for the G8 meeting in July 2008 focuses on health systems (Reich et al. 2008). The GAVI Alliance has invested \$500 million for health systems strengthening from 2006 to 2010 (GAVI 2007) and the World Bank’s (2007) most recent health strategy strongly emphasises health systems strengthening. Additionally, the World Health Organization’s (WHO) 2008 annual report will focus on primary health care and its role in health systems strengthening.

However, it is unclear what is meant by health systems strengthening. But this is important, especially because policies advocated to strengthen health systems may actually end up harming them. It is also important because the way in which health systems are financed and managed also influences the amount and distribution of income of those who produce and provide health care. There are many vested interests at play in discussions about health systems policies.

For example, some health-care practitioners might be keen on policies that will maximise their incomes; drug companies might be keen to maximise expenditure on medicines; and upper income groups may wish to promote health systems that separate them away from the poor. A strong health system may mean different things to different people.

Health systems policies also influence the orientation of health-care provision – for example, determining the mix of biomedical and social interventions, or the extent to which people are viewed as consumers who purchase a commodity versus citizens who receive health care from providers providing a service.

This chapter outlines the factors that undermine health systems, and describes a vision for what makes a ‘good’ health system.¹



IMAGE BI.1 An ill child with diarrhoea arrives by boat and is carried to a health clinic in Matlab, Bangladesh

Health systems factors

Several factors in low-income countries are often responsible for various negative health systems outcomes, notably: unfair, delayed or unavailable access to health care; inefficient (often unnecessary) health care; medical impoverishment resulting from out-of-pocket payments and a neglect of the underlying social and environmental determinants of ill-health.

In many countries, the resource base of health-care systems is inadequate. Volatile and unreliable health-care funding adds to the problem by making it difficult for countries to make medium- to long-term plans.

Another problem is disharmony. The governance and management of many health-care systems is like an orchestra with musicians playing different tunes without a conductor. The poor coordination of multiple donors and global health initiatives undermines coherent health systems planning, imposes large costs upon ministries of health and health workers who have to liaise with and report to a multitude of stakeholders, and fragments the provision of health care. When inappropriate conditionalities and agendas are imposed by external agencies it can weaken ministries of health.

While vertically organised programmes and selective health-care interventions have arisen partly as a consequence of underfunded and dysfunctional health-care systems, they can also aggravate the problem, cause duplication of systems and services, drain away skilled personnel from the public sector, and prevent integrated, context-based local health planning.

Weak public leadership and management in some countries may reflect the difficulty that ministries of health have in retaining good personnel, as well as the demoralisation that has accompanied the chronic deterioration of public-sector working conditions over the years. It may also reflect other broader deficiencies of governance such as corruption, a weak judiciary, civil conflict or a lack of capacity among civil society institutions to hold governments to account.

The enduring effects of structural adjustment programmes are another cause of dysfunctionality. The commercialised primary care sector, which accounts for the bulk of primary-level expenditure in most low-income countries, grew as a result of cuts in public-sector expenditure, and is largely disorganised and unregulated. As public services deteriorated, cash payments for the purchase of care and medicines became more common, deterring people from accessing health care and entrenching poverty.

More so in middle-income countries, private insurance markets can 'segment out' higher income groups into a separate system of health care, distancing them from the health needs of the poor and the problems of the public system. Although it is argued that the public sector will be able to focus on the poor and ensure access to a basic package of services, often a private system mainly catering for upper income groups will siphon out more resources than it relieves the public sector of workload. It also weakens the social commitment to cross-subsidisation, risk sharing and equitable health care.

The collapse of public-sector services and the increased share of private financing have led to greater market-driven care, and its problems of 'over-servicing'; accentuating a bias towards biomedical interventions at the expense of public health approaches; replacing provider collaboration with provider competition; and deteriorating levels of trust between patients and providers.

Supply-and-demand-driven care also underlies the international brain drain of skilled human resources from poor to rich countries, the diversion of scarce resources in some countries towards a 'health tourism industry' serving economically advantaged patients and contractors from high-income countries. Currently, the medical tourism industry has an estimated turnover of \$67 billion, a figure set to rise by 20 per cent a year (Macready 2007). Most of this turnover will be captured by commercial, private providers.²

The vision of a 'strong' health-care system

There are no quick-fix solutions. Strengthening health systems requires a multidimensional programme of change and development, guided by a long-term vision. It also requires a set of guiding principles, specifically around:

- progressive health financing;
- pooling health finance to optimise risk-sharing and cross-subsidisation;
- fitting health-care expenditure and utilisation patterns according to need, rather than demand or the ability to pay;
- balancing population-based approaches to health with individualised health care;
- balancing needs-driven and rights-based health provision against commercialisation.

A strong health system should also operate as a social institution that promotes social solidarity, good governance and the right to essential health care.

Ideally, service providers would be adequately paid through a system that delinks their income from the delivery of health care (a critical condition for ethical behaviour and values within health systems), whilst encouraging quality and responsiveness through monitoring and evaluation, competition for non-financial rewards, fostering a culture of excellence and community empowerment.

With these principles in mind, a nine-point health systems development agenda for low-income countries was put forward by Global Health Watch (2006). This chapter now discusses key issues related to this agenda.

I *Comprehensive human resource plans*

The nature of the human resources (HR) crisis in low-income health systems is well known (WHO 2006). There are too few health workers. Many of those are, furthermore, demotivated and inadequately trained, supported and supervised. There is also often a maldistribution of health workers, with a high concentration in urban areas. In many countries the public sector struggles to retain skilled staff because of low salaries relative to the private and non-government sector.

One positive development was the creation of the Global Health Workforce Alliance in 2006 and a Global Forum on the Human Resources for Health Crisis, which was held in Kampala in March 2008. But, overall, there has been inadequate progress made in addressing the crisis.

Another less recent but extremely positive initiative was Malawi's six-year Emergency Human Resource Programme (EHRP), supported by the UK

Department for International Development and a grant from the Global Fund (Palmer 2006). The EHRP takes a five-pronged approach:

- improving incentives for recruitment and retention of public-sector and CHAM staff through a 52 per cent salary top-up for eleven professional and technical cadres, coupled with a major initiative to recruit and re-engage qualified Malawian staff;
- expanding domestic training capacity, including doubling the number of nurses and tripling the number of doctors in training;
- using international volunteer doctors and nurse tutors as a short-term measure to fill critical posts while Malawians are being trained;
- providing technical assistance to bolster Ministry of Health capacity in HR planning, management and development;
- establishing robust HR monitoring and evaluation capacity.

In addition, the programme explicitly recognises the importance of improving policies on postings and promotions, training and career development, and incentives for deploying staff to underserved areas (which includes a major effort to improve staff housing).

Sadly, the degree of international support for strengthening and replicating this programme to other countries has been limited. In many countries, effective human resource planning cannot even begin because of a lack of data on the existing number, distribution, location and income of health workers (McCoy et al. 2008). There is a particular lack of data on health workers in the private sector, which makes it difficult for ministries of health to shape the labour market according to sector-wide, priority health needs. Governments, the WHO, the International Labour Organization, research funders and research institutions need to ensure that the data required to produce detailed HR situation analyses are generated. In addition, they need to encourage much greater investment in HR policy research, an aspect of health research that is greatly neglected (Chopra et al. 2008).

Ministries of health, NGOs and donor agencies should also coordinate their HR recruitment and deployment policies rather than competing with each other over scarce staff. Recently, a group of international NGOs developed a code of conduct to discourage NGOs from inadvertently undermining the public sector by, among other things, recruiting its staff.³

In the meantime, many responses to the HR crisis have focused on the delegation of tasks to 'lower' and less costly cadres of health worker. Such efforts have shown that well-trained nurses, non-physician clinicians and lay workers can be trained to carry out skilled tasks (Dovlo 2004).

However, a system of fair pay will be important to maintain morale and avoid exploitation.

Interventions to improve the retention, motivation and payment of health workers in the public sector remain mostly neglected, especially for health workers operating in isolated and difficult circumstances. These include enhancing working conditions and the quality of supervision; addressing on-the-job safety and security concerns; and improving management of the payroll.

Despite efforts by the Commonwealth Secretariat to promote voluntary ethical codes of conduct when it comes to high-income countries recruiting health workers from low-income countries, commercial recruitment agencies still operate aggressively in resource-poor countries (Mills et al. 2008). This practice could be stopped if the international community was serious about tackling the crisis.

Finally, for the public sector, there has been insufficient progress made in getting the International Monetary Fund (IMF) and ministries of finance to lift inappropriate ceilings on public-sector wage bills, which prevent some governments from paying public-sector health workers an adequate wage or expanding the public workforce (CGD 2007; Marphatia et al. 2007).

2 Adequate, sustainable and reliable public financing for the health system

An adequate human infrastructure for health systems in low-income countries will require increased levels of health expenditure. There are three possible strategies. First, low-income countries can improve health expenditure by increasing their public budgets through more efficient and effective systems, and then allocating a higher proportion of the public budget to health. Second, high-income countries could reach the long-standing target of allocating 0.7 per cent of gross national income (GNI) to development assistance, and commit to reliable transfer of funds for periods of five to ten years. Third, in a globalised world economy, public finance should be generated at the global level, possibly through an international tax authority of some sort that could help reclaim the hundreds of billions of dollars of public revenue lost due to tax avoidance and tax competition (Tax Justice Network 2007). In addition to generating revenue for health and poverty eradication, regulation of global finance and banking could help reduce levels of corruption.

In terms of the first strategy, civil society action to raise the level of domestic public spending on health has been inadequate. Few African countries have reached the Abuja target of allocating 15 per cent of their public budget to health, and in many low-income countries public revenues are a small proportion of gross domestic product (GDP). The effectiveness

and accountability of national tax regimes in many low-income countries can and should be strengthened.

So far as the second strategy is concerned, high-income countries have begun to increase volumes of development assistance in recent years. However, it is still a paltry amount that falls far short of the UN target (see D2). Furthermore, much health aid is used poorly, as discussed in later chapters in this book.

So far as the third strategy is concerned, there is still limited political appetite for tackling the problems of capital flight, tax avoidance and tax evasion. The Tax Justice Network campaigns to help low- and middle-income countries reclaim their lost public revenue – they need greater support from the health community, who in turn would benefit from higher levels of health expenditure.

One recent positive development came in 2006 when an international air ticket ‘solidarity levy’ was established by France, Brazil, Chile, Great Britain and Norway. The money raised is dedicated to projects addressing HIV/AIDS, TB and Malaria and is pooled and administered by a new organisation called UNITAID. By the middle of 2007, thirty-four countries had committed to implementing this levy. UNITAID’s expenditure of about US\$300 million in 2007 is a relatively small amount of money, but it does represent an innovative new source of global public revenue generation.⁴

3 *Harmonised, sector-wide coordination and planning*

Effective and coherent health systems development requires effective and coherent health-sector stewardship. In many countries, this doesn’t exist for two reasons. First, external development assistance for health is uncoordinated and fragmented. Second, ministries of health are not providing enough effective leadership. Much greater attention needs to be paid to sector-wide funding, budgeting and planning; developing the capacities of ministries of health to provide effective leadership; and enabling civil society organisations to hold both donors and governments to account. These issues are discussed in greater detail in Chapters D1.1 and D1.4.

4 *Unhindered access to essential health care*

User fees remain an intolerable barrier to essential health care. In many countries, the abolition of user fees in the public sector requires an increase in public health budgets, as discussed earlier. All countries should, as a first step, adopt a target to reduce direct out-of-pocket payments to less than 20 per cent of total health-care expenditure.

Community-based health insurance (CBHI) – also called community-based financing, mutual health organisations, and micro-insurance



IMAGE BI.2 Women in Sudan attend a birthing ceremony

programmes for health – is sometimes suggested as a way to mitigate the impact of user fees. The aim of CBHI is to encourage individuals to make prepayments for health care which can be pooled and then used to insure households against the costs of health care. However, the potential of CBHI is limited for several reasons (least of all the fact that poor households would find it difficult to contribute to such a scheme), which are discussed in an accompanying GHW document that can found at www.ghwatch.org/.

Another proposal for raising and organising health finance is social health insurance (SHI), where money is raised directly from the payrolls of employed individuals and then pooled into a health insurance fund. In some countries, SHI only covers those in formal employment, leaving those in informal employment or who are unemployed to be covered by a separate system of public financing. In some countries, SHI schemes receive public subsidies to include those who are unemployed, indigent or working in the informal sector. In many countries, policies to encourage SHI may represent a positive step forward, but there are various pros and cons that need to be carefully weighed. This is discussed in an accompanying GHW document that can found at www.ghwatch.org/.

A number of options are open to countries to remove the harmful and inequitable impacts of user fees. Civil society organisations (CSOs), however, need to study the political, economic and health systems context of each country carefully before adopting a campaigning strategy for health financing that is appropriate and feasible.

5 *Effective health-sector management*

The clear need to improve public-sector governance and management at all levels of the health system in many countries appears to be largely ignored by donors and international health policy experts. As well as improving HR planning and management, other aspects of health management which need to be highlighted include resource management and planning; expenditure monitoring; financial management; information management; essential drugs management; and operational research. These are all aspects of health systems strengthening that civil society organisations need to be monitoring just as carefully as they monitor progress in relation to coverage of disease-based clinical interventions.

In order to force the issue, CSOs in low-income countries could be supported to demand the regular production of national health accounts to describe how health care is financed as well as the pattern of expenditure across geographic areas, socio-economic groups, and between secondary/tertiary hospitals and district health services. This will improve government and donor accountability and strengthen health and management information systems.

However, the current predisposition towards organising health systems as a patchwork of vertical programmes and fragmented projects is distracting attention away from the 'slow-fix' solutions required to tackle deep-rooted deficiencies in health systems management.

6 *Vertical and horizontal alignment*

Although selective and vertical interventions make important contributions to health, the present configuration of multiple funding channels and programmes is hindering the important requirement for integration and coherent health systems development. Rationalisation of the global health aid architecture and sector-wide coordination and management will help improve this situation. But there is a need for a more bottom-up approach and agreement on a common and cross-cutting set of health systems indicators that can be shared by all agencies and programmes. There could also be agreement that certain aspects of a health-care system, such as the supply and distribution system of medicines and laboratory services, should not be duplicated, and certain key components of management, such as information systems, should be aligned.

7 *Public accountability and community involvement*

For public-sector bureaucracies to work effectively, efficiently and fairly, they need to be held accountable internally through rules and codes of

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conduct, and to communities and the public. Sector-wide budgets and a commitment to public stewardship are insufficient in themselves to get health systems working well – the public sector also needs to be kept honest and accountable. The scope of civil society activities involved in strengthening health-care systems include advocacy, monitoring and participating in planning and decision-making. Civil society can call for streams of funding to support civil society engagement in such activities, either from sector-wide budgets or from external sources.

8 *The district health system*

The district health system (DHS) provides a framework for the integration of policies, programmes and priorities emanating from the centre; for health plans and programmes to be tailored to the needs and characteristics of local populations; and for better community involvement in health. The WHO and others have for many years promoted the rationale of the DHS model. However, implementation has been undermined by the effects of structural adjustment programmes; the persistence of vertical programmes and top-down management cultures; market-based policies; and a reluctance to invest in district-level health management structures with authority, status and skills.

Civil society can advocate for the promotion of the DHS model as an organisational basis for health systems. In countries where non-government providers supply a significant amount of health care, health districts can form the basis for improved collaboration and joint planning with public-sector providers.

9 *A private sector harnessed to serve the public good*

In many countries, a large proportion of health-care provision is carried out by the private sector, much of it by unregulated, small-scale and disorganised private dispensaries, clinics and ‘pavement doctors’. This unregulated network of private provision threatens to expand in the current commercial climate favoured by actors such as the Gates Foundation and the World Bank.

Many governments currently lack the capacity to monitor the quality of this health care, let alone improve its quality. This capacity needs to be developed. Meanwhile, civil society can advocate for:

- the completion of in-depth studies of the quality of care provided by the primary-level private sector;
- strategies to integrate the private sector into a structured and accountable framework of standards;

- policy instruments, such as licensing requirements, formal accreditation and price controls, to regulate and improve the quality of care of this sector.

In some countries, further steps need to be taken to regulate organised private insurance markets and to amalgamate them into larger pools of financing, where appropriate. Civil society can call for:

- a review of private insurance markets and private hospitals, and their impact on the public sector;
- laws to promote community rating and prescribed minimum benefits where private insurance schemes exist, and to block payment systems that encourage over-servicing.

Final comment

While it may be easier to advance the goal of ‘health for all’ through the more straightforward agenda of diseases, it is vital that civil society organisations are able to demystify the set of multiple and technical issues related to health systems in order to campaign on behalf of detailed health systems policies that will promote equity, effectiveness and sustainability in the long run.

Notes

1. For a detailed discussion on health systems, see *Global Health Watch 2005–2006*.
2. See www.ghwatch.org/ for a more detailed description of medical tourism.
3. See <http://depts.washington.edu/haiuw/news/newsletters/2007–09.html>.
4. See www.unitaid.eu and www.ghwatch.org/ for more details.

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B 2 Mental health: culture, language and power

In poor countries, mental illness tends to be grossly neglected by health systems. Diseases tend to get prioritised. This chapter discusses the challenges of caring for people with mental illness and emotional distress. However, emotional distress and mental illness are embedded within and cannot be separated from language, and cultural, social and political context. Placing mental health within these contexts is the essence of this chapter. Those who are mentally ill are also subject to stigma, sometimes feared, and sometimes cared for in inhumane conditions. These crucial issues are not addressed directly but are highlighted in some of the case studies that accompany this chapter on the Global Health Watch website.

Mental health problems are wide-ranging and include depression, schizophrenia, anxiety, stress-related disorders and substance abuse. They may be mild and temporary or chronic and severely disabling and affect all ages. Mental health problems also include organic disorders such as dementia and mental retardation (but not epilepsy, which is sometimes wrongly seen as a mental disorder). Poor mental health can also result in poorer outcomes associated with other diseases such as cancer, HIV/AIDS, diabetes and cardiovascular disease (Prince et al. 2007).

The World Health Organization (WHO 2003) estimated that 13 per cent of the worldwide burden of disease is due to mental health problems, although 31 per cent of countries do not have a specific public budget for mental health (Saxena et al. 2007). In addition, each year nearly a million people take their own lives. Rates are highest in Europe's Baltic States where around 40 people per 100,000 commit suicide annually. However, the incidence of suicide is widely under-reported because suicide is considered a sin in many religions, a taboo in many societies, and a crime in others.



IMAGE B2.1 Young Brazilian girl suffering from mental illness is chained to the wall

Suicide is among the top three causes of death of young people aged 15–35 (WHO 2000) and is one of the leading causes of death of young women in India and China (Wortley 2000).

In spite of the burden of mental illness across the world, 40 per cent of countries have no mental health policies. Thirty-three countries with a combined population of 2 billion invest less than 1 per cent of their total health budget on mental health (WHO 2005a). More than two-thirds of the world's population (68 per cent), the majority of whom are in Africa and South Asia, have access to only 0.04 psychiatrists per 100,000 of the population, although these areas have an extensive network of traditional practitioners (WHO 2005a).

The social and structural determinants of mental ill health

There is a need to improve the availability and quality of mental health-care services worldwide. However, as mental health is inextricably linked to the cultural and social fabric in which each person lives, improving mental health must also address negative social and economic factors.

A multiplicity of factors can contribute to either increased vulnerability or the development of resilience – that is, the capacity to cope with adversity. Many factors are associated with emotional well-being. These include self-esteem, optimism, a sense of control, and the ability to initiate, develop and sustain mutually satisfying personal relationships. These factors operate at individual, family, community and societal levels.

The dominant model of health care for mental illness focuses on the individual and family, and on providing treatment rather than on prevention and mental health promotion. While treatment is necessary for conditions that have an organic or physical basis, a large proportion of the burden of mental distress is exacerbated by social and economic factors and is preventable. A list of some of the social and structural determinants of mental health is presented below.

Poverty, affluence and inequality

The interrelationships between poverty, affluence, inequality and mental ill health are complex. Poverty can predispose people to mental health problems, but mentally ill people and their families are also likely to move into poverty. Poor mental health can therefore be both a cause and a consequence of poverty. This risk is exacerbated by factors such as insecurity, poor physical health, rapid social change and limited opportunities as a result of less education (Patel and Kleinman 2003).

When people exist in extreme poverty, material progress can increase emotional well-being. However, when material discomfort has been assuaged, extra income becomes much less important than interpersonal relationships.

When I don't have [any food to bring my family] I borrow, mainly from neighbours and friends. I feel ashamed standing before my children when I have nothing to help feed my family. I'm not well when I'm unemployed. It's terrible. (Patel and Kleinman 2003)

Rich countries have reached a level of development beyond which further rises in living standards fail to reduce social problems or improve well-being or happiness.¹ Indeed, excessive materialism has been described as a cause of social malaise and is sometimes described as 'affluenza' (James 2007).

While levels of income may have an independent effect on levels of mental well-being, recent evidence suggests that the experience of relative poverty and inequality also has a negative effect on both psychological and social well-being (Wilkinson 2005). Inequality has grown dramatically over the last 300 years, both between rich and poor countries and within countries. Cross-country comparisons demonstrate that countries with a wide gap between social classes will be more dysfunctional, violent and have higher rates of mental distress than those with a narrower gap. Further, poor countries with fairer wealth distribution are healthier and happier than richer, more unequal nations (Wilkinson 2005).

Wilkinson (2006) asserts that inequality is the most important explanation of why some affluent societies are 'social failures'. What is important is the

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scale of difference in social status and divisions within a society. This view is also supported by Richard Layard (2006), a UK economist, who argues that social comparison and status competition in affluent societies are significant factors and that happiness is derived from relative, not absolute, income.

Layard also points to the negative effect of constant competition between individuals and companies for status and material possessions. Advertising colludes with this by encouraging people to feel that possessions can make one feel like a more substantial person in the eyes of others. People also continually adapt to higher income levels so that their idea of a sufficient income grows as their income increases, leaving a large number of people chasing an ever-elusive goal.

Globalisation/industrialisation

Linked to the determinants of material well-being and relative social position are the processes of globalisation and industrialisation. Both have fuelled changes in lifestyle and shaped patterns of inequality within and between countries which have had profound effects. Traditional ways of living have been undermined and devalued as consumerism, materialism and economic growth are promulgated and equated with the concept of 'development'. The speed of change is also such that societies are struggling to adapt. Millions of people, who have been forced to leave the land and their traditional ways of life, are now living in alien urban environments, often with little hope of decent employment and forced to cope with the disintegration of family and community structures.

Globalisation has also contributed to hundreds of millions of people living in increasing poverty. In this sense, the rising tide of suicides and premature mortality in many countries can be viewed not just as 'mental health problems' but also as an understandable consequence of the profound despair experienced as a result of the loss of livelihoods and ways of life.

Sengupta (2006) illustrates this despair in his description of how globalisation has affected small-scale farmers in India, who are now subject to unfair competition. Together with the pressure to purchase more expensive genetically modified seeds and susceptibility to monsoons and crop failures, debt and unemployment among Indian small-scale farmers have reached unprecedented levels, and the suicide rate within this group has substantially increased (Patel et al. 2006).

In addition to the movement of people from rural to urban settings, there is increased movement of people internationally. Integration into host countries can be stressful. Forced migration from political violence can magnify the problems, and the mental health of refugees presents ongoing complex needs, some of which are referred to in Chapter B3.

Gender and violence

Gender inequalities are an important social determinant of mental distress. There is a consistent gender difference in risks for common mental disorders in all societies. For example, depression affects twice as many women as men across different countries and settings (Patel and Kleinman 2003). Women's multiple roles as both caregivers and breadwinners, as well as their vulnerability to gender-based sexual violence, are contributory factors. In low-income countries, women also bear the brunt of the adversities associated with poverty, and have less access to school (Wortley 2006).

The relationship between violence and mental health is complex. Domestic violence is ubiquitous and usually directed towards women; political violence creates fear, injury and loss of loved ones and disruption of the social fabric of society. Both are associated with stress and mental disorder. In political violence there may be gender differences in that young men are more likely to take up arms and be casualties, whilst women are left isolated and without means of support.

Children are also deeply affected by political violence and in some cases are even recruited as child soldiers. Mental well-being requires stable caring relationships; violence is the antithesis of this.

Exposure to poverty, inequalities and injustice may contribute to both mental distress and violence, independently of each. Violence may cause mental ill-health, though not all who experience violence develop mental health problems.

In some societies, the mental health system has been used as an instrument of social control and even repression, as was the case in the former Soviet Union. McCulloch's (1995) review of the history of psychiatry in Africa reveals how it was entwined with the ideology of colonialism.

Language, explanatory models and power

Although common biological factors underlie some forms of mental illness across all societies, explanatory models for mental illness and emotional distress are embedded within the assumptions and belief systems of the prevailing culture.

However, those whose language and explanatory models exert greatest power also hold the power to determine and label mental distress. In an increasingly globalised world, it is mainly the materialistic, secular and scientific ideologies of the West that dominate thinking, particularly in international organisations. For example, in 2007 *The Lancet* published a prominent series on global mental health, wherein contributors argue for the universal applicability of Western models. They pay little attention to

BOX B2.1 The importance of language

In Afghanistan, *mualagh* denotes a feeling of floating in sad uncertainty, like a leaf held aloft only by gusts of wind; in Darfur, *mondahesh* means a sense of shocked surprise; and in East Timor, *hanoin barak* denotes a state of thinking too much. How do these concepts, rooted in local cultural contexts and understandings, relate to Western mental health concepts, if at all?

The problem is not simply one of 'translation'. Every language carries within it all the assumptions used by a society to make sense of the human condition, including inner feelings and emotional distress. These assumptions contain what people *believe* to be 'true' in relation to mental health problems. Just because emotional reactions to distressing circumstances can be found worldwide does not necessarily mean that they *mean* the same thing for people everywhere.

the role of traditional healers and make scarce mention of the essential role of language and culture.

The globalisation of Western approaches can sideline the articulation of local understandings of mental distress in indigenous languages and sometimes ignore or pathologise the religious and spiritual dimensions of human experience.

One of the features of Western mental health approaches is an individualistic view of self. Separateness, independence, and the capacity to express one's own views and opinions are both explicitly valued and implicitly assumed. The reductionist neoliberal scientific method favoured by the West tends to reduce phenomena into parts, including how human beings are perceived. Individualism and the scientific approach are coupled with ideologies of consumerism, individual choice and individual fulfilment.

Many non-Western cultures socialise children into a different sense of self where priority is given to connections and interrelationship with others as the basis of psychological well-being. The health of individuals is dependent on, and not separate from, healthy relationships with the wider social, cultural and natural environments – ancestors, the community and the land.

In all societies families and communities are the first line of support when someone experiences emotional distress. How families make sense of what is happening and what they perceive needs to be done cannot be separated from their language, values, assumptions and culture. Socially constructed explanations shape the way people make sense of chaotic and

confusing feelings (biochemical cause or evil spell), determine who is socially sanctioned to heal (psychiatrist or shaman), and what people believe will help (Prozac, ECT or rituals to appease the ancestors). The diversity of these assumptions reflects the many ways of making sense of human experience within a multitude of cultural traditions.

Western mental health programmes which focus on the individual have sometimes been inappropriately applied to socio-centric cultures. In societies where recovery for the individual is intimately connected with recovery for the wider community, this can be potentially harmful and undermine communal support systems.

A specific feature of most Western models in mental health is the identification of symptoms, which are then collapsed into a specific diagnosis. This diagnosis is then used to determine 'treatment'. In this model different individuals with similar constellations of symptoms would be likely to receive similar treatment. Cultural, religious and other social factors and unique life histories are considered less relevant to the diagnostic and therapeutic process.

One diagnosis that is the subject of considerable controversy is Post-Traumatic Stress Disorder (PTSD), a term used to describe a severe or prolonged constellation of particular physical and psychological reactions to deeply distressing events. Some of the symptoms of PTSD include intense fear, helplessness, and recurrent, intrusive and distressing recollections of the event; recurrent dreams of the event; acting or feeling as if the traumatic event were recurring; avoiding the place or associations with the trauma; emotional numbing; outbursts of anger; and somatisation (the manifestation of psychological distress through physical symptoms).

After traumatic events such as war, violence and natural disasters, many of the 'symptoms' typical of PTSD tend to be present. However, the significance of those symptoms is dependent upon social, economic, environmental and cultural factors. The ways in which individuals react emotionally to an adverse event are also dependent on past experiences; on the availability of coping strategies and emotional support available from others; on perceptions, understanding and meanings attributed to what is happening; and on perceived capacity to take effective action and plan for the future.

All these variables interact with social, religious and cultural norms in complex ways to determine how someone will react psychologically to trauma *and* how they will recover. The substance of the debate regarding the universal applicability of a diagnosis of PTSD (and associated treatment) is that it does not take these additional factors sufficiently into account.

Many people are resilient and appear able to deal with even quite severe traumatic events, especially if meaningful social structures remain, but there

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is a danger that Western medico-therapeutic approaches focus on individuals to the exclusion of social factors. These approaches also tend to focus on concepts of forgiveness and acceptance rather than on the need to find a social and moral meaning for the traumatic event. This may include a demand for justice, accountability and punishment of perpetrators, rather than 'acceptance'.

The spread of PTSD as a universal diagnostic category is another reflection of the worldwide influence of the West's medically based way of understanding distress. As Derek Summerfield (2003) comments, 'Western mental health discourse introduces core components of Western culture, including a theory of human nature, a definition of personhood, a sense of time and memory, and a secular source of moral authority. None of this is universal.'

The Western, biomedical approach to mental illness also promotes an approach to 'treatment' that is heavily based on pharmacology. This not only benefits the pharmaceuticals industry, but also creates a privileged position for the medical profession. While psychotropic medication *can* be beneficial for several conditions such as psychoses or bipolar disorders, the increasing use of pharmacological treatments can also undermine other approaches to treatment and care which may be more rooted in local culture.

Mental health in humanitarian aid programmes: a steep learning curve

Ever since the Rwandan genocide and the Bosnian conflict in the early 1990s, health professionals have been grappling with how to address the mental health needs of those affected by humanitarian emergencies. 'Psychosocial' and mental health interventions now draw increasing amounts of donor funding, although vigorous debates about the appropriateness and effectiveness of interventions are ongoing.

Responses from aid agencies following disasters should be underpinned by the principle of supporting and understanding local concepts, perceptions and strategies, which may prove very difficult in practice. Aid workers responding to a disaster may have little local experience or understanding, and pressure from donors may require the implementation of a programme within a short time frame coupled with 'evidence of impact'.

There have been major divisions among Western mental health professionals regarding the severity and prevalence of mental health problems in humanitarian emergencies, particularly in relation to 'trauma'. The debate centres on whether wars, disasters and other humanitarian emergencies generate enormous mental health needs, as is sometimes claimed, and

BOX B2.2 Fishermen from Sri Lanka

‘We are fishermen and we need space in our houses – not only to live but also to store our fishing equipment. After the tsunami we have been living in this camp, which is 12 kilometres away from the coast and in this place for reconstruction. When the international agency came and started building a housing scheme, we realised that they are building flats, which is not suitable to us. But when we try to explain this to the foreigners who are building this scheme, they looked at us as if we were aliens from another planet. What are we supposed to do?’

‘I came to the village the day after the tsunami to look for my children but the guards had already put a fence up. I begged them to let me in but they said it was their land and they would be building a hotel. They held their guns and said that, if I didn’t go, I would join those who died in the tsunami. We have lost our families, now we are having our homes stolen too.’

Source: Action Aid International 2006.

whether individual treatment of trauma symptoms or the restoration of the cultural, social and communal fabric should take precedence. The recent synthesis of differing views by WHO (2005b) concludes that there is no consensus regarding the appropriateness of Western-type interventions in non-Western settings.

These issues received particular attention and stimulated worldwide debate in relation to the response to the tsunami in early 2005. After the tsunami many NGOs sought to provide ‘mental health assistance’, utilising the underlying assumptions of, and believing in, the universality of Western psychological models of distress, including underlying assumptions about the individual nature of trauma. Most were ignorant of local culture and traditions and did not have an understanding of the location of personal identities within a communal society. But was mental health assistance what local communities themselves were seeking? Were their voices heard? How appropriate are mental health interventions if people are losing their access to land, water, natural resources and social services?

Experiences of some mental health interventions have led a number of people to question whether external mental health ‘aid’ had actually been harmful. In Sri Lanka, the concept of an individual without his/her community does not exist. Positive self-identity is based on harmonious relationships with family and community. A woman is not simply an

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individual person – her identity is tied to her being a mother, daughter, wife, grandmother and through her work as a farmer or teacher. So, too, for men, children, youth, the elderly and people with disabilities. This identity provides them with a place in the world, including respect and honour. It is in a social setting that those who need help reveal themselves and that the processes which determine how victims become survivors are played out over time.

Inappropriate interventions which afford people only a passive role, for instance awaiting a cure delivered by outside (or inside) ‘experts’ who depend on Western knowledge, may aggravate feelings of helplessness and vulnerability. Western mental health models involving expertise, training and a new language of medico-therapeutics may contribute to this and devalue local articulations and understandings of distress, undermining some of the local, time-honoured processes that offer protection at a time of crisis.

How are these potentially incompatible approaches to understanding the nature of personhood and identity resolved? Are mental health ‘experts’ and the trauma industry ready to acknowledge the limited validity of Western psychiatric and psychological formulations, and Western-style counselling, in settings like Sri Lanka?

Despite the limitations of their current form, mental health issues are slowly moving into the mainstream of the humanitarian aid agenda. In 2007 the Inter-Agency Standing Committee (IASC) Task Force on Mental Health and Psychosocial Support published comprehensive guidelines and minimum standards on ‘Mental Health and Psychosocial Support in Emergency Settings’. These take a holistic approach, attempting to promote emotional well-being in all areas of aid provision – from sanitation and shelter to psychosocial programmes, psychological self-care for aid workers, and identification and care of the mentally ill.

What needs to be done?

This chapter has highlighted issues of language, culture and power and the importance of context in understanding and responding to mental distress, and also briefly described the main social and structural determinants. This section highlights some conclusions and recommendations.

Advocate for mental health

Caution is required in the application of a scientific ideology which divides human beings into parts rather than seeing people as whole within their own social, political and cultural context. Ancient medical systems such as

Ayurvedic and Chinese medicine took such a holistic view, seeing mind, body and spirit as inseparable. Thus there is the paradox of advocating strongly that mental health and emotional well-being need greater attention in government policies, plans, international NGOs and every aspect of society, but at the same time also advocating for a holistic view of human health. There have been calls for the inclusion of mental health within the framework of the Millennium Development Goals (MDGs), especially because of their influence on policy development and resource allocation decisions, but ideally all MDGs need to incorporate mental health.

At the present time, even when recognising the need for a holistic approach to health, the ‘no health without mental health’ (Prince et al. 2007) mantra still has to be articulated loud and clear when so much of human economic, social and political activity is inimical to emotional well-being and actively harmful to mental health.

Challenge Western, medico-centric concepts of mental health

Although Western-based mental health care is not homogeneous, a bio-medical and highly individualised strand of Western psychiatry has tended to dominate and influence much of the formal global approach to mental distress. Some aspects of this model and system of practice have a role to play, but the limitations are often minimised. It is particularly important that there is a far more extensive critique of the assumptions underlying Western approaches to mental health care. Such reflection is essential to minimise cultural imperialism and to ensure the necessary degree of respect and care when working in very different cultural contexts.

Above all, there is a requirement for mental health professionals and policymakers to listen, respect and understand how people make sense of emotional distress within their own culture and language. They need to learn and work with the ‘untranslatable’ (it has been suggested that a worldwide database of indigenous expressions describing experiences of mental distress be developed), and to tailor all therapeutic interventions to the social context.

Promote integration

In spite of enormous cultural differences, certain characteristics of the process of healing appear to be common across different societies. These include:

- an emotionally charged, confiding relationship with a helping person (often with the participation of a group);
- a healing setting;

BOX B2.3 Traditional healing: Mbarara case study

Over 90 per cent of mentally ill patients who come to hospital first go to traditional healers (THs). During hospitalisation some patients continue consulting THs while others talk of consulting them after discharge to perform certain rituals or ceremonies. It is a common belief among the majority of our people that witchcraft, sorcery, the evil eye, the breaking of taboo or the neglecting of rituals for ancestral spirits cause mental illness. This explains the reason why THs are consulted.

THs occupy a key position in the community. They see and treat many people with mental problems. They distinguish illnesses according to various physiological systems as in the modern Western system. THs also use psychotherapeutic techniques which include reassurance, suggestion, manipulation of the environment, and ego-strengthening elements such as reciting incantations and the wearing of prescribed amulets. Many THs have described this approach as *siyasa* (psychological manipulation).

The concept of treatment from the TH's point of view often transcends the physical, emotional and psychological to include the social and spiritual parameters. It involves man's relationship with the past, the present and the future and with spirits, especially of ancestors. In addition to psychotherapeutic techniques, herbs are administered. We have identified both good and harmful practices. However, through discussion, good practices have been encouraged. Harmful practices such as starving, tying up patients or cutting the skin of various patients using the same razor blade have been discouraged. THs now recognise the danger of using the same blade on different people and have willingly accepted change. While THs can treat various kinds of psychological problems, they do not have the means of treating severe mental disorders. Traditional and scientific approaches must therefore be seen as complementary.

Source: Case study submitted by Elias Byaruhanga (Uganda).

- a rationale, conceptual scheme or even a myth that provides a plausible, culturally appropriate explanation for the patient's symptoms and prescribes a ritual or procedure for resolving them;
- a ritual or procedure that requires the active participation of both patient and healer, and that is believed by both to be the means of restoring the patient's health (Frank and Frank 1991).

Many traditional approaches to healing are effective because they are embedded within local social and cultural structures, but, as with all

mental health care, they are by no means perfect. Western psychiatry, traditional healing and systems of self-caring have both benefits and limitations. However, a greater appreciation of the strengths of indigenous or traditional healing practices and their underlying cultural assumptions could help lead to a more appropriate integration of and synergy between different systems and models of care. The case study in Box B2.3 illustrates the successful integration of traditional and Western approaches to mental health care.

Generating such joint working has significant implications for the training of all mental health professionals. The capacity to integrate different cultural perspectives needs to be at the core of the curriculum for the training of formal mental health professionals in both Western and low-income countries. This would enable them confidently to work across and between different cultures and languages, rather than being trained in the application of Western approaches. Even today, the training of mental health personnel in low-income countries can still be based on a Western curriculum that ignores the local language and cultural context, and some who train in Western countries even become ashamed of their own culture. Those with knowledge of indigenous language, practices and beliefs should be seen as exceptionally valuable resources and should not have to abandon that understanding when they begin professional training.

Promote a holistic approach to mental health

Improving psychological and emotional well-being should be made a primary aim of public policy not just within the health sector, but also in the education, housing, employment, trade and justice sectors.

The elimination of poverty, a reduction in social and economic disparities, respect for women, the acknowledgement, understanding and acceptance of cultural diversity and language must all be essential components in national and global health plans. Although mental health is gradually receiving more attention, a holistic approach to well-being and the inclusion of mental health as a cross-cutting feature of national health plans and poverty reduction strategies remains elusive.

Research

There is a need for greater dissemination of research on the effects of culture, language and social structure on mental illness. This must be accompanied by a commitment to extend further and develop an appropriate evidence base. Western research methods themselves are a product of a specific 'scientific' way of understanding phenomena and can be ill-suited to capturing the emotional, spiritual and existential dimensions of human existence and challenges brought about by globalisation, economic reforms

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and political processes. There is much to be learned from other disciplines, particularly anthropology.

There is also a need for more detailed and thoughtful analysis of the policies and programmes of the key global and international health institutions such as the WHO and the World Bank. To what extent do they promote a holistic and culturally appropriate model of mental health care? If funding for mental health programmes is expanding, how exactly is this extra money being used?

There is no doubt that great progress has been made in bringing mental health issues into the mainstream, and that this presents increasing opportunities for funding, programmes and developing of services. The experience of emotional distress is part of being human, and a concern for mental health is one of the commonalities that unites all people and all societies. However, mental illness, emotional distress and psychological well-being are expressed through a myriad languages and cultural and social contexts. We have the knowledge and understanding to rise to the challenge of recognising the commonalities we share while still being able to safeguard our own uniqueness as human beings. Will our social and political systems allow us to turn that understanding into a reality?

Notes

1. For more information, see www.happyplanetindex.org.

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B3 Access to health care for migrants and asylum-seekers

Migrants, refugees and displaced people

In a world where one in thirty-five of us are migrants, migration has been described as 'one of the defining issues of the 21st century'. The International Organisation for Migration estimates that the number of international migrants increased from 76 million to 191 million between 1960 and 2005. Of the 191 million people living outside their country of birth in 2005, 8.7 million were refugees and 773,000 asylum-seekers. By the end of 2006, there were approximately 9.9 million refugees worldwide, an increase of 14 per cent from late 2005 (UNHCR 2007a). There were also 24.4 million 'internally displaced persons' who had been forced to flee their homes but not crossed national borders (IDMC 2007). Many of the internally displaced persons live in 'refugee camps', mostly in low- and middle-income countries (IDMC 2007). While the unmet health needs of the millions of people living in makeshift camps across the world are a public health challenge, this chapter mainly draws attention to the plight of migrants, refugees and asylum-seekers.

Migration has tended to be seen as either *forced* or *voluntary*. 'Forced migration' includes movement of people displaced by conflict, political or religious persecution, natural or environmental disasters, famine, chemical or nuclear accidents or 'development projects'. 'Voluntary migration' has been used to describe those who migrate of their own accord, for instance to find work. For example, in the Middle East, a large number of foreign contract workers from Asia and Africa have fulfilled the demand for unskilled workers. In other instances, workers migrate for shorter-term, seasonal work. However, there is growing recognition that it is difficult to distinguish between forced and voluntary migration.

BOX B3.1 Some definitions

Refugees are defined by the 1951 Convention Relating to the Status of Refugees as people who 'owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion' are outside the country of their nationality and who are unable to or, owing to fear, unwilling 'to avail (themselves) of the protection of that country'. Asylum-seekers are people who have fled to another country where they have applied for state protection by claiming refugee status, but have not received a final decision on their application.

Contrary to the impression given by Western media, developing countries host 70 per cent of the global refugee population. Africa hosts 25 per cent of all refugees, Europe 18 per cent, North and South America 10 per cent, and Asia/Pacific 9 per cent. Pakistan hosts the greatest number of refugees with over a million. Iran and the United States host the next highest numbers of refugees, respectively. Most refugees in 2006 came from Afghanistan (21 per cent of all refugees). Iraqi refugees quintupled in 2006, with Sudan following behind (UNHCR 2007a). Tanzania has the highest number of refugees in relation its economic capacity: between 2001 and 2005 it hosted 868 refugees for each US dollar of gross domestic product (GDP) per capita. This compares to 21 refugees per GDP\$1/capita in Germany, the highest ranking industrialised country (UNHCR 2007b).

In developed countries, public attention and debate are often focused on people who have entered a country without authorisation or who have overstayed their authorised entry. They are variously labelled as 'irregular', 'undocumented', 'illegal' or 'unauthorised' migrants. There are an estimated 30 to 40 million such migrants worldwide, of which 4.5 to 8 million are thought to be in Europe and an estimated 10.3 million in the United States (European Commission 2007; IOM 2007). Another group of people, mostly women and children, who can also be classified as migrants are the estimated 2.5 million victims of 'human trafficking'.

Migration, health and rights

People who migrate tend to be stronger and healthier than the populations they leave behind. Despite this 'healthy migrant' effect, migrants, especially 'forced migrants', face considerable threats to their health and barriers to receiving health care. Not only do many flee from hazardous situations,

BOX B3.2 Stuck, ignored and isolated in transit

'Fatima', a young Nigerian woman who found herself stuck in Morocco, gave birth to a baby in a forest near Oujda. Because her baby suffered an infection of the umbilical cord, she sought medical help from an NGO and was referred to the hospital. She was then transferred to a penitentiary centre and detained for five days, after which she and her baby were taken to the Algerian border in the desert and abandoned with the prospect of a perilous journey across no-man's land.

'Edwin' was trying to migrate to the United States from Guatemala by travelling on the infamous train known as 'the Beast', which travels through Mexico. Dizzy from fatigue and hindered by the crush of migrants, he fell off the train and lost his left leg. Edwin was lucky enough to be cared for by nurse and human rights activist Olga Sanchez. Although Mexican laws recognise the right of migrants to health care, most Central American migrants are unaware of these rights or are too afraid to contact services.

Sources: MSF 1997; Miller Llana 2007.

but they are exposed to risks during their migration journey; these include exposure to physical danger, violence, extreme temperatures and lack of access to food. Furthermore, as border control policies become tighter, migration routes become more risky. In 2006, for example, 7,000 people were estimated to have died making the dangerous crossing to the Canary Islands from the African coast (EU 2007).

The tightening of border controls in developed countries has also resulted in many migrants being stuck in low- and middle-income 'transit countries'. For example, North Africa is a transit area for people trying to reach Europe. Many transit countries, however, do not have the resources to respond to the needs or to protect the rights of this vulnerable population (see Box B3.2).

Migrants also face health-related problems after being settled in their host country. Poor mental health is commonly due to social isolation, poverty, loss of status and hostility from the local population. For those already suffering from distress caused by persecution, torture and violence, these exacerbating factors can result in serious mental illness and suicide. Migrants are also often overexposed to poor living conditions and more likely to be involved in jobs that are 'dirty, difficult and dangerous' (IPPR 2006) and that lack basic occupational safeguards and workers' rights (EC 2007).

BOX B3.3 Access to health care for ‘internal migrants’ in China

In China, the migration of 150–200 million people from rural areas into cities has been called the ‘world’s largest ever peacetime flow of migration’ (Tuñón 2006). Many of these internal migrants end up in hazardous occupations and poor housing, often in overcrowded factory dormitories. Many are officially registered as ‘temporary residents’. These temporary residents are also known as ‘floating citizens’ and have restricted entitlements to local health care. They are often ineligible for urban health insurance schemes and unable to afford private insurance or health-care fees (Amnesty International 2007). Thus, when Cha Guoqun left his village to do work in the city of Hangzhou and ended up with a leg injury that got infected, the doctor at the local state hospital gave him two options: either pay 1,000 yuan (US\$120) a day for treatment (the equivalent of his entire monthly income), or have his leg amputated. Cha got lucky. He received subsidised treatment from a charity hospital, and was able to save his leg. As he said, ‘I was lucky this time, but, on the whole, medical treatment is too expensive for people like me.’

Source: Amnesty International 2007.

Finally, migrants tend to experience poorer access to health care compared to the rest of the population. National health systems often discriminate against migrants and asylum-seekers in spite of several international treaties and commitments protecting their rights. The most vulnerable group are ‘unauthorised’ or ‘undocumented’ migrants. In Europe, the prevailing official attitude has been to treat them as though they are ‘rightless’, without basic legal protection or avenues to claim their entitlements (Human Rights Watch 2002; Jesuit Refugee Service 2001).

Access to health care in Europe***Asylum-seekers***

A recent study of the legal situation in the twenty-five European Union (EU) countries found some restrictions on the access of asylum-seekers to health care in ten of them (Norredam et al. 2006), in spite of their being ‘documented’ migrants. The same study found that in five countries pregnant asylum-seekers were allowed access to emergency care only and that the entitlements of children were restricted in seven countries.

In Germany, for example, asylum-seekers do not have the same rights as citizens until they have lived in the country for three years (Médecins

BOX B3.4 Migrants' rights

Article 25 of the Universal Declaration of Human Rights states that *everyone* has the right to a standard of living adequate for the health and well-being of himself and of his family, including medical care and necessary social services.

The 'right of everyone to the enjoyment of the highest attainable standard of physical and mental health' is also laid down in the International Covenant on Economic, Social and Cultural Rights (ICESCR). The 156 countries that have ratified the Covenant must 'refrain from denying or limiting equal access for all persons' to preventive, curative and palliative health services, including 'asylum-seekers and illegal immigrants'.

The 1951 Convention Relating to the Status of Refugees states that 'refugees shall be accorded the same treatment' as nationals in relation to maternity, sickness, disability and old age.

The 2003 International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families has set out the rights of migrant workers to health care (although it fails to address their rights to preventive measures and early treatment).

du Monde 2007). In Sweden, asylum-seeking children have the same access to health care as other children, but asylum-seeking adults do not have the same access as other adults (Hunt 2007).

Undocumented migrants

Relatively little is known about the access to health care of 'undocumented migrants'. However, in 2007 findings from a Médecins du Monde survey of 835 'undocumented migrants' in seven European countries were published. Although they are not a representative sample of undocumented migrants, the findings illustrate some of the problems faced in accessing health care. Some of these findings were:

- Although 78 per cent of the informants had in theory some right to access health care, only 24 per cent had any real access to it.
- As many as 32 per cent of those who had legal entitlement to health care were not aware of that right.
- More than two-thirds of the chronic health problems identified were untreated.
- Some 47 per cent of those with at least one health problem had suffered a delay in treatment.



IMAGE B3.1 Undocumented migrant seeking care from Médecins du Monde UK's Project, London

The survey also revealed major differences between countries. Both Belgium and France have special schemes to ensure some free medical care for 'undocumented migrants'. However, because of poor awareness of these rights and complex administrative procedures, these health-care entitlements are often unrealised.

In Spain, the law recognises 'the right to health protection and assistance for medical care for all Spanish citizens and foreign nationals residing on Spanish soil'. Undocumented migrants must register with the local municipality to obtain a health-care card. Although this does not require legal residence, the law allows the police to access local registers, thus deterring many undocumented migrants from registering. Migrants who do not have a health-care card are only able to access emergency treatment, except for children and pregnant women, who are entitled to the same health care as Spanish citizens.

Under Greek law, undocumented migrants have no right to health-care cover, with a few exceptions – emergencies including maternity care and treatment of certain infectious diseases.

In the United Kingdom, various reports have documented the poor access to health care for refused asylum-seekers and undocumented migrants. They point to a particular problem with access to maternity care for pregnant women (Refugee Council 2006; Médecins du Monde UK 2007). Of the

BOX B3.5 Aisha and Jacob

Aisha and her husband Jacob fled to the UK after they had been threatened because of their inter-faith marriage. Their claim for asylum was refused. They were not allowed to work and were surviving on £35 in vouchers and support with accommodation. Then Aisha became pregnant. 'Four months into the pregnancy the overseas visitors officer started telling us that they would stop access to the hospital ... when we questioned her on where my wife should deliver her baby she said we can deliver it at home.'

Source: Médecins du Monde UK 2007.

women attending Médecins du Monde UK's clinic in London in 2006, 23 per cent were pregnant women needing access to primary care, antenatal care or termination of pregnancy. Over half had not had any prior antenatal care, and of these 40 per cent were more than twenty weeks pregnant.

Regarding Sweden, Paul Hunt, UN Special Rapporteur on the right to the highest attainable standard of health, commented that when 'examined through the prism of the right to health, some health policies are a genuine cause for concern' (Hunt 2007). Undocumented migrants have no right to publicly funded health care, including emergency treatment, and have to pay for care received. Thus many tend not to seek health care at all or delay seeking care.

A common feature across Europe is the lack of awareness among migrants, refugees and asylum-seekers about their entitlements. Another is that claims to these entitlements are often blocked by administrative barriers. The fear of being reported to immigration authorities also deters 'undocumented migrants' from seeking health care, especially when there are real or perceived links between health professionals and immigration officials. In Germany, for example, since 2005, health administrators are required to report the presence of undocumented migrants to immigration officials. Another important issue is that there are few well-developed plans to address the diverse and complex health requirements of migrants. There are few measures designed to overcome cultural and language barriers, for example.

Detention centres

Many asylum-seekers, refused asylum-seekers and undocumented migrants are held in detention centres. Some are waiting for their claim to be processed. Others await deportation. There has been a lot of criticism of the

arbitrary nature of detention. In the UK, immigration detention has been criticised as being ‘protracted, inappropriate, disproportionate and unlawful’ (Amnesty International 2005). In Europe, there were 218 detention facilities for migrants and asylum-seekers in twenty-three different countries at the end of 2007. As of June 2005, there were 885 persons in immigration detention centres in Australia (Phillips and Millbank 2005).

Virtually all asylum-seekers apprehended at US borders are subjected to lengthy detention regardless of their circumstances. Examples include:

- a Burmese woman, a member of a religious and ethnic minority group, detained for nearly two years in a Texas immigration jail, even though she would clearly face torture and persecution if returned to Burma;
- a pastor who fled Liberia after criticising the use and abuse of child soldiers was detained for three months in a New Jersey immigration jail;
- a young human rights worker from Cameroon, who had been arrested, jailed and tortured on three occasions, was detained for sixteen months at New York and New Jersey immigration jails before being granted asylum and released.

Studies in many countries point to unmet health needs and inadequate health care in centres. Research in the UK, Australia and the US has also shown the detrimental impact of detention on the mental health of an already traumatised population (Cutler and Ceneda 2004; PHR 2003).

In the UK, the management of detention or removal centres is often contracted out to private companies, and health-care services are further subcontracted. An inquiry by the Chief Inspector of Prisons into the case of a Ugandan asylum-seeker ‘who was reduced to a state of mental collapse’ at Yarl’s Wood removal centre, criticised the inadequate mental health care provisions, unclear management arrangements and weak clinical governance. Further concerns have been expressed in the UK about the detention of pregnant and breastfeeding women, contrary to UNHCR guidelines, and the inadequate provision of pre- and postnatal care; and about the detention of people with serious health problems, including mental illness, in spite of guidelines that such people, including torture survivors, should not normally be detained.

According to Human Rights First (2007), asylum-seekers in the US are detained in conditions that are inappropriate, often for months and sometimes years. The US Commission on International Religious Freedom reported the following findings from visits to nineteen detention centres:

- widespread use of segregation, isolation or solitary confinement for disciplinary reasons;

BOX B3.6 Not a criminal but held in detention

In his South Asian country, HN was forced into hiding to avoid arrest because of his political activities. Fearing for the safety of his family, he fled to the US. There, he endured three and a half years of detention, with extended periods of solitary confinement. 'I was sick in my mind, had nightmares, stomach pain, and couldn't sleep. Always I was thinking someone's going to kill me. I don't know why they kept me to a small room with no people there. I felt like I was dying. I cannot breathe there.' After repeated requests over several months, HN saw a psychiatrist, although no translation was provided. HN finally won asylum (PHR 2003).

- significant limitations on privacy;
- use of physical restraints in eighteen facilities;
- lack of staff training focused on the special needs and concerns of asylum-seekers, particularly the victims of torture or trauma.

Detained asylum-seekers suffer extremely high levels of anxiety, depression and post-traumatic stress. In a US study, 86 per cent of the interviewed asylum-seekers suffered significant depression, 77 per cent suffered anxiety and 50 per cent suffered from Post-Traumatic Stress Disorder (PTSD). They also suffer verbal abuse by immigration inspectors at US airports, as well as verbal abuse and other mistreatment at the hands of officers staffing detention facilities (PHR 2003).

Migrating for health care; deportation because of ill health

Within this context of increased migration, some commentators have expressed concern about people migrating with the specific purpose of obtaining health treatment which is not available in their country of origin. There is, however, little evidence of this so-called 'health tourism'. The UK government admitted in testimony to the Parliamentary Health Select Committee that it did not have any such evidence. According to the Committee (2005), the evidence 'suggests that HIV+ migrants do not access NHS services until their disease is very advanced, usually many months or even years after their arrival in the UK, which would not be the expected behaviour of a cynical "health tourist" who had come to this country solely to access free services.'

There have also been examples of governments using illness as a reason for restricting migration or leading to deportation. For twenty years, the US has had a 'policy of inadmissibility' which prohibits non-US

citizens with HIV from entry into the country. This policy is contrary to WHO/UNAIDS guidance. In 1998 the United Arab Emirates carried out a screening programme and deported all the migrant workers who tested positive for HIV/AIDS (WHO 2003).

Discussion

Without even covering the plight of refugees, migrants and ‘internally displaced persons’ in low-income countries in any detail, this chapter paints a bleak picture of access to health care for migrants and asylum-seekers.

The issues raised in this chapter cannot be discussed without placing them in the context of a hostile global political economy for hundreds of millions of people. The World Commission on the Social Dimensions of Globalisation (2004) described the ‘deep-seated and persistent imbalances in the current workings of the global economy’ as being ‘ethically unacceptable and politically unsustainable’, explaining how ‘the rules of world trade today often favour the rich and powerful’.

Hundreds of millions of people, mainly in low- and middle-income countries, have been socially and economically disenfranchised by a brutal and predatory system of global capitalism. The governments of many poor countries are increasingly unable to manage their economies and fulfil their duties and obligations. Added to this is the tolerance of corruption and oppression within low- and middle-income countries by world powers when it suits them. It is no surprise that millions of people are prepared to risk death to escape their countries for a better life.

Under these conditions it is fitting that all migrants, including temporary migrants, refugees, asylum-seekers and ‘illegal’ or ‘undocumented’ migrants, are accorded clear rights and entitlements to health care. In fact, all nations that have signed the ICESCR have a legal obligation to ensure that proper health care is accessible to all. However, countries do not always comply with this obligation.

In this increasingly globalised world, there is a need to rework the definition of citizenship so that it includes a more robust set of social and health rights for all global citizens, irrespective of their nationality, country of residence or immigration status.

As a starting point, the discrimination and persecution of migrants from poor countries who have successfully reached the shores of wealthy countries must be stopped. Exaggerated press stories about the negative impact of migrants must be countered with a more reasoned and honest account of the nature of the global political economy and the underlying causes of migration.

More countries should follow the Spanish example of incorporating into national law the rights of migrants to health care, irrespective of their status. Governments should also actively inform potential beneficiaries of their rights to health care and how to access it, and remove any administrative obstacles to health care. Health workers must resist measures that compromise their independence by ensuring clear boundaries between health services and immigration law.

While there are strong moral reasons for providing access to health care for all groups of migrants, it also makes public health sense. Not only does it help with the control of communicable diseases; easier access to health care will allow treatment to be provided earlier, thus avoiding the costly provision of emergency care or expensive treatment of diseases in an advanced stage.

There are encouraging examples of civil society defending the rights of ‘undocumented migrants’ to health care. In Europe, the Platform for International Cooperation on Undocumented Migrants (PICUM) has found that health professionals ‘are reluctant to accept national government pressure to preclude vulnerable migrants’ from health services (Flynn and Duvell 2007). And in recent years several countries have seen hundreds of thousands of people peacefully demonstrating in defence of migrants’ rights.

There are also examples of regional or local governments adopting positive initiatives. In Belgium, some Flemish mayors have said that they will refuse to sign deportation orders. A municipal council in Switzerland passed a resolution to ensure that undocumented migrants have access to services. And in the US, several cities have declared themselves ‘sanctuary cities’ which seek to provide services and protection to all residents, regardless of their status, and to prevent city employees from cooperating with immigration enforcement.

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B4 Prisoners

More than thirty years ago, a young black medical student named Steven Bantu Biko spearheaded the formation of the Black Consciousness movement in South Africa, an important contribution to the eventual downfall of apartheid. In the years that followed, he was kept under surveillance by South Africa's security police, subjected to repeated interrogations and detention, and banned from making public speeches. On 12 September 1977 Biko died of a severe head injury in Pretoria Central Prison following an interrogation during which he was beaten, chained to a window grille and left to lie in his own urine. Biko was one of more than seventy detainees in South Africa who died in detention between 1960 and 1990. In 1997 South Africa's Truth and Reconciliation Commission heard how two doctors serving Pretoria Prison at the time had failed to render adequate medical assistance to Biko following the assault he had been subjected to. The dereliction of duty of these doctors had been raised in 1978. At the time, however, the Medical Association of South Africa defended the prison doctors, demonstrating the apathy and complicity of the medical profession towards the systematic abuse and killing of many prisoners. Torture and death form the extreme end of a spectrum of public health problems that concern people who are imprisoned or held in detention.

This chapter discusses the health-care needs and living conditions of prisoners and detainees deprived of their freedom by the state, and for whom the state is thus responsible. Although the words 'prison' and 'jail' are often used interchangeably in many countries, 'jail' often refers to a place used to hold persons awaiting trial or serving sentences of less than one year, whereas prisons are usually used to hold those serving longer sentences. 'Detention centre', on the other hand, describes a facility used

TABLE B4.1 **Prison population rate**

Country	prisoners/100,000 population
United States	738
Russia	611
St Kitts & Nevis	547
US Virgin Islands	521
Turkmenistan	489
Belize	487
Cuba	487
Palau	478
British Virgin Islands	464
Bermuda	463
Bahamas	462
Iceland	40
Nigeria	30
India	30
Nepal	26
Mauritiana	26
Central African Republic	24
Congo	22
Faroe Islands	15

Source: Wamsley 2007.

to confine persons detained without charge or awaiting trial, those facing immigration issues, refugees and minors. Where the word ‘penal institution’ is used in the context of this chapter, it refers to both prisons and jails.

At the end of 2006 over 9 million people were being held in penal institutions worldwide. The United States incarcerates the greatest number of people (2.19 million in 2006), nearly a quarter of the world’s prison population. This is followed by China (1.55 million) and Russia (0.87 million) (Wamsley 2007).

Many prisoners around the world are victims of unsafe convictions, imperfect judicial systems and poor living conditions in prisons. The majority come from the poorest and most marginalised sections of society with limited or no access to health care. Shockingly, a large number of those

held in prisons and detention facilities are children. A significant proportion of prisoners suffer from mental illnesses, making prisons the new 'mental asylums' of our time (Fellner 2007). Ritual humiliation and sexual abuse by prison guards and other prisoners pose further threats to a prisoner's physical and mental well-being.

Prisons and health

Information on the state of prison health around the world is incomplete and largely inadequate. In 1993, Human Rights Watch (HRW) conducted a major review of prison conditions worldwide and found that the great majority of prisoners were 'confined in conditions of filth and corruption, without adequate food or medical care, with little or nothing to do, and in circumstances in which violence from other inmates, their keepers or both is a constant threat'. HRW also noted that incidences of cruelty frequently occur because 'prisons, by their nature, are out of sight; and because prisoners, by definition, are outcasts'.

Eight years later, another international review noted that living conditions in prisons 'have certainly not improved uniformly in the past decade, and in many countries, overcrowding has made these conditions even worse' (Van Zyl Smit and Dunkel 2001).

In 2007, a prison health brief found that 'the prevalence of disease, malnutrition, mental illness and general ill health among the global prison population provides overwhelming and incontrovertible evidence that prisons are bad for your health. For many, imprisonment is marked by the deterioration in health and well-being – in some cases it is tantamount to a death sentence' (Penal Reform International 2007).

Prison health in the context of public health and policy

In many countries, prison health care falls under the remit of the Ministry of Justice rather than the Ministry of Health, often resulting in the exclusion of prison health from wider public health policy development. This is particularly short-sighted as the majority of prisoners will eventually re-enter the civilian population and custodial personnel, health staff, visitors, delivery personnel, repairmen and lawyers act as 'bridge populations' between prisoners and the outside world (Reyes 2007).

Communicable diseases: HIV and tuberculosis

The prevalence of HIV and other sexually transmitted infections (STIs) tends to be higher among prison populations compared to the general population (UN Office on Drugs and Crime et al. 2006). In South Africa,

BOX B4.1 The campaign to gain access to anti-retroviral treatment (ART) in South African prisons

In August 2005, a South African NGO, the AIDS Law Project (ALP), became aware of the plight of HIV-positive prisoners at Westville Prison who were being denied access to ART. The ALP initiated legal proceedings on behalf of the prisoners and in June 2006 the High Court ruled that the South African government should ensure that all HIV-positive prisoners are assessed for treatment. However, by August 2006, prisoners with AIDS had still not received treatment, forcing the courts to order the government to provide ART to sick prisoners with immediate effect. This and the ensuing media coverage eventually forced the government to make a vital policy shift.

Source: Hassim 2006.

HIV prevalence in prison is twice that in the general population (Goyer 2003). In Central Asia, one-third of people living with HIV are in prison; in Krygstan this figure is as high as 56 per cent (Walcher 2005). High rates of HIV prevalence in prison settings are due to an over-representation of three high-risk groups: intravenous drug users, commercial sex workers, and men who have sex with men (WHO 2007). In spite of this, HIV/STI programmes in prisons have not been implemented in many countries (see Box B4.1).

In many countries, tuberculosis (TB) is a leading cause of mortality in prisons, where the rate of infection may be 100 times higher than the rest of the population (Reyes 2007). In the Ukraine in 2003, about 30 per cent of TB patients resided within the penitentiary service, with the disease accounting for about 40 per cent of all prison mortality. In Russia in 2002, 42 per cent of all known TB cases were estimated to be prisoners (Prison Healthcare Project n.d.). Between 10,000 and 30,000 of prisoners released each year in Russia are believed to have active TB.

However, with sufficient political will and appropriate policies, progress can be made. In Azerbaijan, the treatment of about 7,000 prisoners with TB reduced mortality rates from 14 per cent in 1995 to 3 per cent in 2004. In Georgia, TB treatment programmes resulted in prevalence falling from 6.5 per cent in 1998 to 0.6 per cent in 2005 (ICRC 2006).

In cases of prisoners on antiretrovirals (ARVs), there is often no cohesive follow-up or support system upon release from prison. In countries where health care is largely privatised, prisoners struggle to keep up with their



IMAGE B4.1 **Overcrowded remand cell in Malawi**

treatment regimens, even if they were compliant in prison. This not only impacts on the health of ex-prisoners and their ability to seek and maintain employment (helping break the cycle of reincarceration), but also fuels wider disease transmission and the development of drug resistance, particularly multi-drug-resistant TB.

Sanitation and living conditions

Many prisons are overcrowded and unfit for habitation. In 2006, the UN Office on Drugs and Crime found that ‘overcrowding, violence, inadequate natural lighting and ventilation, and lack of protection from extreme climatic conditions are common in many prisons of the world’, often combined with ‘inadequate means for personal hygiene, inadequate nutrition, lack of access to clean drinking water, and inadequate medical services’.

On average, prisons in Europe run at 130 per cent of official capacity. In the US, prisons are at 107 per cent capacity. Prisons in Bangladesh currently hold 288 per cent of their official capacity. However, the country with the highest level of prison overcrowding is Kenya: 337 per cent of official capacity (Penal Reform International 2007).

According to the European Committee for the Prevention of Torture, cells intended for single occupancy should be about 7 square metres.

However, in May 2006, Georgia's Tbilisi Prison No. 5 held 3,559 prisoners in a facility originally designed for 1,800 prisoners, resulting in 1 square metre or less per prisoner (HRW 2006a). One cell was found to contain 75 prisoners with only 25 beds, non-private toilet facilities and piles of uncollected refuse.

The excessive use of pre-trial detention and slow, bureaucratic criminal justice systems are major contributing factors to prison overcrowding. In India, for example, seven out of ten people held in penal institutions are pre-trial detainees, while in Nigeria over 25,000 prisoners are awaiting trial (Penal Reform International 2007).

Mental health issues

The criminalisation and incarceration of people with mental illness is a human rights issue in need of urgent attention. People with mental illnesses often end up being 'misdirected towards prison rather than appropriate mental health care or support services' (Commission on Human Rights 2005).

A systematic review of surveys from twelve different countries estimated the prevalence of psychiatric disorders in a total population of 22,790 prisoners. It found that among male prisoners included in the review, 3.7 per cent had a psychotic illness, 10 per cent major depression and 65 per cent a personality disorder. Among women prisoners surveyed, 4 per cent had a psychotic illness, 12 per cent major depression and 42 per cent a personality disorder (Fazel and Danesh 2002).

Prisons in the US are now host to three times more adults with serious mental health disorders than the general population. In 2005, it was estimated that around 50 per cent of prison inmates were suffering from a mental health problem – over 1 million men and women. Many have ended up in prison because 'community mental health systems are in a shambles – fragmented, under-funded and unable to serve the poor, the homeless and those who are substance-addicted as well as mentally ill' (Fellner 2007). Furthermore, around a half of prisoners with mental health problems were imprisoned for non-violent offences.

Prison mental health services are frequently lacking in funding, resources and adequately trained medical personnel. In many areas of the world, prison mental health services are non-existent, with prison staff often receiving little or no training in managing prisoners with mental health problems. Common practices such as solitary confinement only serve to further fuel mental illness.

BOX B4.2 Human rights abuses at Guantánamo Bay

Since January 2002, more than 750 individuals of some 45 nationalities have been detained at the US's offshore prison camp at Guantánamo Bay, Cuba. Among the detainees were children as young as 13. Amnesty International (2007) has found that 'their dignity, humanity and fundamental rights have been denied', including the right to due legal process. Five years since the start of the 'war on terror', hundreds of individuals remain in detention without having been formally charged or brought to trial.

In 2005, in spite of having condemned the practice of binding and shackling of prisoners' limbs in China, Eritrea, Iraq, Israel, Libya and Pakistan, the US government allowed the use of 'stress positions' and the shackling of prisoners in painful positions for extended periods of time in Afghanistan. The US also condemned forced nudity when used by regimes in North Korea, Egypt, Syria and Turkey but used it as a tactic in detention camps in Afghanistan and Iraq. Solitary confinement and isolation in China, Jordan, Pakistan, Tunisia, Jordan, Iran, North Korea and pre-war Iraq had also been condemned, but later approved for use by the US military (Malinowski 2005). The CIA is also believed to have used 'water-boarding', a tactic that simulates drowning, during interrogation sessions. The UN Working Group (UN Economic and Social Council 2006) on the situation of detainees at Guantánamo Bay found that although thirty days was the maximum time permissible for detainees to be held in isolation, detainees were put back in isolation after very short breaks, resulting in quasi-isolation for up to eighteen months.

Torture and abuse

In 1984 the UN Convention Against Torture was adopted by the United Nations General Assembly. To date, over 140 countries have ratified it. In spite of this, in 1998 the UN Special Rapporteur on Torture reported that 'systematic torture was still being practised in over 70 countries' (BBC News 1998). According to HRW, the US, China, Iran, Egypt, North Korea, Pakistan, Brazil, Libya, Burma, Zimbabwe and Tunisia are among the worst offenders (HRW 2005). In 2006, the Medical Foundation for the Care of Torture Victims (a UK-based NGO) received 2,145 new referrals from 86 different countries. The top ten countries that produced the most referrals were Iran (235), DRC (193), Eritrea (150), Turkey (142), Somalia (118), Cameroon (104), Afghanistan (101), Sri Lanka (80), Sudan (80) and Iraq (74).

Judicial caning

Judicial caning continues to be used as a form of punishment in a number of countries including Malaysia, Singapore, Brunei and Hong Kong. In 2007, Malaysia came under criticism following the release of a video showing a naked and screaming prisoner strapped to a wooden frame whilst being beaten with a rattan stick by a prison guard (CNN 2007). Amnesty International and various other human rights advocates have spoken out against this form of cruel and degrading punishment on a number of occasions, to no avail.

The complicity of medical professionals in torture and abuse

The complicity of medical professionals in the conduct of torture includes disclosing confidential medical details to those committing torture; providing clinical support for the initiation and continuation of torture; or simply remaining silent about such abuse.

In his book which details how physicians at Abu Ghraib and Guantánamo Bay prisons violated codes of good medical practice, Stephen Miles (2006) concludes that 'the US military medical system failed to protect detainees' human rights, sometimes collaborated with interrogators or abusive guards, and failed to properly report injuries or deaths caused by beatings.' This also involved delays in issuing and falsifying death certificates. Doctors are also known to have broken detainee hunger strikes through forced feeding via the insertion of nasogastric tubes (Rose 2006).

Evidence of medical complicity from other countries also exists. Amnesty International (2001) has reported the widespread use of torture and cruel treatment within Brazilian prisons and places of detention. In some instances, doctors examining torture victims were alleged to have omitted documenting evidence of torture in medical case notes and failed to carry out thorough medical examinations, including examining prisoners fully clothed. Under the regime of Saddam Hussein in Iraq, doctors are known to have been involved in torture (for example, amputating ears of dissidents), although in many instances doctors are thought to have been forced to act under extreme duress (Reis et al. 2004).

HRW (2004) has produced a report highlighting the persecution and torture of men who have sex with men in Egypt. Between 2001 and 2004, at least 179 men were charged with the 'crime' of homosexuality. Many were forced to undergo cruel and degrading physical examinations in order to 'prove' their sexual orientation, which included the use of rectal sonograms and manometry. Although doctors claim to have obtained consent prior to these examinations, HRW found documentation of this in only one of the hundred case notes it examined.

Counterculture

Turkey is one example of a country where the practice of torture is being overturned (Worden 2005). There have been multiple accounts of students, intellectuals and government critics being subjected to brutal torture. However, when Turkey ratified the European Torture Convention in 1998, it was forced to open itself up to greater international scrutiny. This included granting the European Committee for the Prevention of Torture access to police stations for unscheduled visits. In 2003, *immunicado* detention was officially abolished. The medical profession and other civil society groups within Turkey began speaking out against torture, and evidence on the practising of torture was presented to parliament. Since 2000 there have been no further recorded deaths in police custody. In 2005, HRW reported a reduction in the number and severity of torture cases.

Children

According to the United Nations Children's Fund (UNICEF) (2006) there are over 1 million children held in detention worldwide, the majority of whom are held for minor offences or petty crimes such as truancy, vagrancy, begging or alcohol use. Many of these offences are 'status' dependent, meaning that such actions would fail to be a 'crime' if carried out by adults. Many legal systems do not take into account a child's age when handing out sentences.

Child detention: some examples

HRW has reported that an estimated 400 children between the ages of 13 and 18 are incarcerated in state prisons in Burundi, three-quarters of whom are held under pre-trial detention. Many of the children had been awaiting trial for months, and in some cases years. Many were also being held in communal holding cells and police lock-ups, awaiting transfer to state prison facilities. In some cases children were tortured to obtain confessions and most of the children had no access to legal counsel (HRW 2007). Lack of space, poor sanitation facilities, along with inadequate bedding, food and water, are daily threats to the well-being of these children. Whilst in prison children receive no education. In breach of international law, children and adult prisoners are in contact for much of the day, making child prisoners in Burundi vulnerable to physical and sexual abuse.

Vietnam is a country that routinely and arbitrarily detains street children. Children are held in state 'rehabilitation' centres for periods of time ranging from two weeks to six months. Serious abuses of street children held at the Dong Dau and Ba Vi 'social protection centres' on the outskirts of Hanoi

have been documented. Children were confined to their cells for twenty-three hours a day in filthy, overcrowded conditions with only a bucket available for use as a toilet. Lights were kept on both day and night. There was no access to medical or psychological treatment and frequent beatings and verbal abuse by prison staff were also reported (HRW 2006b).

Children and the death penalty

Despite clear prohibitions in international law against the use of the death penalty for juvenile offenders, child executions still exist in some parts of the world. Amnesty International (2006) has documented a total of fifty-three child executions in eight countries since January 1990. Offending countries include Iran, Nigeria, Saudi Arabia, the Democratic Republic of Congo, Yemen, China, Pakistan and the US. Iran and the US accounted for more executions than all other countries combined. Twenty-one executions took place in Iran and nineteen in the US. In 2005, the US Supreme Court finally found the execution of child offenders to be unconstitutional.

Response of the international community

While prisoner health remains by and large a neglected public health domain, a number of important initiatives have been undertaken by various organisations to address some of these critical issues. These include efforts to improve data collection and monitoring; advocacy for more effective and just penal systems; and the development of guidelines and instruments to improve prison health programmes. However, many of these initiatives are in urgent need of funding, as well as greater attention and support from the health community at the levels of both policymaking and implementation. A brief overview of some of these initiatives and the organisations leading them is available from the GHW website at: www.ghwatch.org.

Recommendations

Governments

GHW reiterates the call to governments worldwide to incorporate prison health into public health policy; for prison health to fall under the jurisdiction of ministries of health; and for the right to health to be recognised in prisons. Firm political commitment is needed to combat the spread of infectious disease, particularly TB, HIV and hepatitis C. Mental health-care provision and substance dependency management are two other areas that require urgent attention and that could help to break the revolving-door syndrome of reoffending and reincarceration. Urgent steps must be taken

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to improve basic sanitation, living conditions and treatment of prisoners. Robust mechanisms for monitoring prison conditions are required that allow rapid action to be taken when incidences of abuse and injustice are uncovered.

WHO and the United Nations

Efforts made by the World Health Organization (WHO) and the UN in advancing health in prisons in Europe (particularly eastern Europe) are encouraging. However, this needs to be extended, particularly to countries in Africa and Asia. Initiatives such as the WHO Prison Health Database need to be promoted and supported to ensure progress and sustainability. Other initiatives such as the UN Special Rapporteur to African Prisons require increased funding and support to enable them to widen their scope of activities and influence.

National medical associations

National medical associations need to lobby governments to make prison health a public health priority and encourage continual professional development and conduct among prison doctors. They need to support doctors within their own countries to speak out against incidences of abuse, neglect and torture. Disciplinary action should also be taken whenever members are found to violate ethical codes of conduct.

Non-governmental organisations

Much of the research into prison conditions and health has thus far been conducted by non-governmental organisations (NGOs). Whilst their contribution has been vital, greater government, UN funding and private philanthropy are needed to ensure that a systematic, comprehensive and coordinated review of prison conditions takes place at least every five years. Whilst the Health in Prison Project has made good progress in Eastern Europe and Asia in particular, little information is available on prison conditions in China, South America and Southeast Asia.

In summary, prison health is a major public health issue in need of urgent and immediate attention. Overcrowding, unsanitary living conditions, the dangers of transmittable and highly infectious diseases, poor mental health services, torture, abuse and the scandal of child imprisonment continue to plague prison services worldwide. We need to remember that prisoners are sent to prison as punishment, not for punishment. Dying from TB, dysentery, malnutrition or from a beating by prison officials should never form part of a prisoner's sentence.

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B 5 **Medicine**

There are major problems with the way medicines are developed, marketed, priced, prescribed and consumed across the world. Three underlying factors deserve particular attention: a patent-driven system for pharmaceutical innovation; the predominance of profit-seeking actors within the sector; and the failure of public institutions to correct market failures and protect the public good.

These three factors were described in some detail in the first *Global Health Watch*. This chapter builds on that analysis by focusing on two policy issues:

- New mechanisms for financing and giving incentive for pharmaceutical research and development (R&D).
- The growing threat of antibiotic resistance.

The Innovation + Access (I+A) movement has brought the first issue to the discussions of the World Health Organization's Intergovernmental Working Group on Public Health, Innovation and Intellectual Property. An emerging coalition, Action on Antibiotic Resistance (ReAct), has begun to raise the profile of the second issue. The discussion of each flags serious challenges to improved innovation and affordable access to essential medicines. By no means though does this chapter discuss all the responsible factors. Other concerns which plague health-care systems include poor quality clinical care, ineffectual drug supply and distribution systems, and the lack of infrastructure required to ensure an effective cold chain.

A better system of pharmaceutical R&D*Problems with the current system*

The public sector provides for extensive funding of research, training of the scientific workforce, and paying for the procurement of pharmaceuticals. Taking into account tax credits, the public sector provides 60 per cent of the funding for global health R&D (GFHR 2006). Yet the priorities of pharmaceutical R&D are largely shaped by the granting of patents to private corporations.

In the hands of profit-seeking drug firms, the time-limited market exclusivity conferred by patents shapes not only the process of scientific discovery and medical innovation, but also their approach to pricing and marketing.

Consistently one of the most profitable sectors, the pharmaceuticals industry is under pressure to maintain high returns. Not surprisingly, this translates into prioritising classes of drugs which are likely to generate large streams of revenue with low levels of R&D investment, rather than prioritising medicines of high public health priority. As a result, 'me too' drugs for chronic diseases take priority over novel treatments for acute illnesses. The improvement of a 'me too' drug may only be marginal over existing therapies, but a consumer buying a chronic-disease drug for years returns far more revenues than a short antibiotic course.

Tropical diseases remain neglected while lifestyle medications receive priority in the R&D pipeline. Though tropical diseases may impose a far greater burden of disease, these neglected diseases often afflict resource-poor markets from which patents can extract little in the way of profits. Under the current system of financing pharmaceutical R&D, public health and private-sector priorities have become misaligned.

The wish to generate high revenue streams also incentivises pharmaceutical companies to spend large amounts on advertising, marketing and influencing the prescribing behaviour of doctors, to downplay considerations of safety, and to set prices to maximise revenue rather than access.

Finally, and equally troubling, R&D productivity has fallen over the past decade: industry R&D expenditures have gone up 147 per cent from 1993 to 2004 while the approval of new chemical entities by the US Food and Drug Administration dropped from a peak of 53 new molecular entities in 1996 to 18 in 2007 (GAO 2006; Jordan 2008). To maintain this R&D premium, the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) reports that the industry spent \$51 billion in 2005, which amounts to less than 9 per cent of global sales (IFPMA 2006; IMS Health 2005). Most of the R&D premium is recouped in the industrialised



IMAGE B5.1 **A vendor sells pharmaceuticals at a street market in Senegal**

world. The pharmaceuticals market of the developing world, by value, amounts to only 8.8 per cent (WHO 2004a). What type of R&D, though, does this system buy?

Existing strategies for overcoming financial barriers to access

A variety of strategies are used to overcome the barriers to access caused by the high price of medicines. These include promotion of the use of differential pricing schemes (tailoring the price of medicines to the differential purchasing power of different countries); voluntary licences (where patent holders voluntarily award a licence to a manufacturer to produce a patented medicine at a lower price); and corporate social responsibility approaches such as making drug donations or selling medicines at a discount.

Public strategies include governments issuing compulsory licences to get around the monopoly pricing of patented drugs. Another has been to allocate more public and donor money to purchase medicines on behalf of poor people. Various public–private partnerships have also been developed, often involving public finance, United Nations agencies, private companies and

non-profit, non-governmental organisations (NGOs), to develop new and affordable medicines and other health technologies. Partnerships, as well as the use of Advance Market Commitments (AMCs), have also been encouraged as a strategy for addressing the gaps in R&D for neglected diseases.

Finally, poor people also implement their own strategies. These include diverting household income from food to medicines, taking children out of school, and selling off what little assets they have. They may also resort to purchasing cheaper medicines on the informal market, exposing themselves to fraud and harm.

But the strategies described above, even collectively, do not provide an adequate or equitable response to the problem of inaccessible medicines. And none of them addresses the fundamental problems of a system based on patents and profit-seeking behaviour.

A new system for financing and rewarding pharmaceutical R&D

Over the last few years, efforts have been made by various academics and civil society groups to develop a strategy that would overcome the flaws in the current system. In 2003, the WHO's Commission on Intellectual Property, Innovation and Public Health (CIPIH) was established to review existing medical R&D efforts and intellectual property regimes, and to consider other incentive and funding mechanisms for stimulating R&D.

However, at the time of its establishment, the US government and the pharmaceuticals industry lobbied to prevent the CIPIH from considering any amendments to existing international legal or trade instruments, or to consider suggestions that had been made for an international R&D treaty. As a result, a diverse group of NGOs, academics and health experts decided to formulate and draft the outline of a possible R&D treaty. In February 2005, 162 individuals petitioned the WHO Executive Board and the CIPIH to formally evaluate the draft treaty.¹

The treaty was based on the idea that governments should spend a certain proportion of national income on medical R&D and that there would be maximum sharing of any knowledge and technology that would emerge from this public investment. The treaty became an issue of great debate within the CIPIH. When the Commission published its final report in April 2006,² it noted the need for sustainable sources of finance into R&D for neglected diseases and said that the proposed international R&D treaty provided some new ideas that deserved further discussion.

Meanwhile, Kenya and Brazil had been leading a process to introduce a resolution to the World Health Assembly (WHA) on the creation of a 'Global Framework on Essential Health Research and Development'. In spite of attempts to have this blocked, resolution WHA 59.24 was adopted in

May 2006 incorporating several recommendations made by the CIPIH and by Kenya and Brazil. It also called for the establishment of the Intergovernmental Working Group on Public Health, Innovation and Intellectual Property (PHI/IGWG).

PHI/IGWG was tasked with drawing up a global strategy and plan of action to secure, inter alia, an enhanced and sustainable basis for needs-driven, essential health R&D. Its first meeting took place in December 2006. In February 2006, Bangladesh and Bolivia submitted papers to PHI/IGWG calling for consideration of new methods of stimulating medical R&D in which incentives for stimulating innovation are separated from the prices of medicines, such as the use of prizes.

What's the big idea about prize funds?

The proposal that 'prize funds' be used as an alternative method for financing and rewarding successful investments in R&D has been addressed in detail by, among others, the NGO and think-tank Knowledge Ecology International (KEI).³

Prize funds are basically a way of providing an alternative reward to innovators – one that is not linked to the sale and price of the product. Instead, innovators would be rewarded on the basis of the contribution they make to improving health outcomes. Clearly, an important requirement of prize funds is the generation of finance for the fund and a system to adjudicate the value of the innovation or invention.

Prize funds could, however, exist together with patents. But patents would be used to make a claim against a monetary prize, rather than an exclusive right to make, market or use an invention. By divorcing the incentive for innovation from the product's price to consumers, outputs of the R&D could be placed in the public domain immediately, so that competition among manufacturers and suppliers would lead to low prices and more efficient medical innovation. It would also promote rational drug use and reduce spending on unimportant 'me too' products that do not improve health outcomes and curb spending on marketing.

The idea of prize mechanisms to stimulate R&D will require effort and political will. But there are some starting points. For example, a proposed US Medical Innovation Prize Fund would reward successful drug developers with monetary prizes, not a temporary monopoly. Each new successful drug would qualify for prize money, the amount of which would depend upon the overall size of the fund and evidence of the incremental impact of the new product on health outcomes. While every new product would be a 'winner', they would also compete against each other for a share of the total prize fund.

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Another proposal involves the special case for medicines that rely on money from donors. The suggestion is that donors would set aside a fixed proportion (e.g. 10 per cent) of their existing budget for drug purchases to finance a prize fund. However, prizes would only be available to patent owners who agree to license their patents to a shared patent pool. Manufacturers could then compete to produce generic versions of the medicines in the patent pool. The patent owners would be rewarded according to the positive impact of their inventions on health outcomes in developing countries.

A precedent for the use of prize funds is the 2005 Grainger Challenge, which involved prizes of up to US\$1 million for the development of cheap filtration devices for removing arsenic from well water. Over seventy entries were submitted. The winning entry, announced in 2007, is now being used to provide safe drinking water to hundreds of thousands of people. Less successful was the 1994 US\$1 million Rockefeller Prize for developing a low-cost diagnostic test for gonorrhoea or chlamydia. The prize expired in 1999 without a winner.

Prize mechanisms are not a magic-bullet solution to the inequities and inefficiencies of the pharmaceuticals sector. Neither do they address the low levels of technical capacity in low- and middle-income countries. Unless such capacity is developed, it will mainly be established pharmaceutical companies that are able to compete for the prize funds. Prize mechanisms therefore need to be seen as part of a larger set of systems and incentives that includes direct or indirect government funding of basic research, non-profit product development partnerships (PDPs) and technology transfer agreements. What prize funds offer uniquely is an alternative to the marketing monopoly as an incentive for private investment.

Meeting the challenge of antibiotic resistance: public good and collective action⁴

Antibiotic resistance represents another illustration of the current failings of the pharmaceuticals sector as well as a neglected public health priority in its own right. Although the intensity of antibiotic use is greatest in industrialised countries, the burden of infectious disease falls disproportionately on developing countries where national strategies to contain antibiotic resistance are often absent and where there is a general lack of access to reserve antibacterials (Fasehun 1999; WHO 2004b).

Antibiotic resistance recognises no geographic boundaries. Last year, global media tracked the story of a plane passenger who purportedly had multi-drug-resistant tuberculosis (MDR-TB), but who had managed to

trek across Europe and Canada on his return to the United States while untreated and infectious (CNN 2007).

Less widely reported is the fact that XDR-TB (extensively drug-resistant tuberculosis) has been identified in every region of the world, most frequently in the former Soviet Union and in Asia (WHO 2006). During the 1990s, a resistant strain of *Streptococcus pneumoniae* spread worldwide from Spain (Smith and Coast 2002).

Within countries, antibiotic resistance is no longer a problem primarily found in hospital wards, but has extended into the community. Increasingly, transmission of community-acquired, multi-drug-resistant infections is occurring in developing countries (Okeke et al. 2005).

Strategies to counter resistance can be divided between those that conserve the effectiveness of antibiotics and those that replenish the supply of new drugs. To conserve the effectiveness of antibiotics, steps can be taken to reduce infections in the first place, delay the emergence of resistance, and slow its spread. To replenish the supply of new antimicrobials, the R&D pipeline for new drugs, or, better still, new classes or mechanisms of antibiotic therapy, needs to be primed with new drug candidates and financed.

Ensuring the effectiveness of antibiotics involves tackling both underuse and overuse. Underuse stems from problems of therapeutic, financial and structural access. The lack of therapeutic access refers to the failure of the R&D pipeline to produce appropriate drugs or drug combinations. The lack of financial access arises from unaffordable prices, and can result in patients truncating a full treatment course, thereby facilitating the emergence of resistance. Finally, limited resources might prompt procurement agencies to opt for less costly therapy at the expense of more appropriate therapy. An example from a related area is the use of quinine therapy or artemisinin monotherapy when, in fact, artemisinin combination therapy would work most effectively in the face of growing malarial resistance.

Problems of structural access can take various forms. Antibiotic overuse also hastens the emergence of resistance. Overuse might take the form of using an antibiotic when not necessary or using an overly broad-spectrum antibiotic for a narrow clinical indication. Various reasons contribute to overuse (Elamin 2003). Typically, overuse mitigates risks perceived by the health provider – risks of missing a treatable diagnosis, losing a patient in follow-up, or incurring the costs of return visits. Health providers may opt for presumptive therapy when rapid diagnostics are not available, handing out prescriptions to meet patient expectations and substituting antibiotic treatment for clinic visit time (Schartz 1997). As resistance grows, so might the perceived need for broad-spectrum antibiotics in a vicious feedback loop.

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Together, underuse and overuse of antibiotics are rampant. WHO (2004b) estimates that ‘more than half of medicines are prescribed, dispensed or sold inappropriately’ and ‘half of all patients fail to take [medicines] correctly’. As much as 20–50 per cent of antibiotic prescriptions in community settings and 25–45 per cent of antibiotic prescriptions in hospital settings may be unnecessary (Hooton 2001). Irrational drug prescribing has been noted for decades but still receives cursory policy attention.

Antibiotic resistance both removes therapeutic options and imposes significant economic costs. Treatment alternatives may no longer work, or their effective market life may be shortened. The impact, however, extends to other life-prolonging and life-saving technologies reliant on the complementary use of antibiotics. Antibiotic resistance places many advances of modern medicine, ranging from organ transplants to cancer chemotherapy, in jeopardy. Measuring the economic toll of antibiotic resistance is methodologically complex, but significant by any measure. Indeed, estimates of the costs to the US alone range from \$350 million to \$65 billion (Foster 2007; Laxminarayan et al. 2007).

Conserving the effectiveness of antibiotics

The preservation of effective antibiotic therapy is a typical public good (Smith and Coast 2003). The two defining characteristics of a public good are non-rivalry (where consumption by one person does not limit or diminish access to the good by the next person) and non-exclusivity (where access to the good cannot be restricted, and therefore is available to everyone). Examining each dimension provides insight into the problem of containing antibiotic resistance.

In so far as the benefits of new antibiotics are beyond the financial reach of those in developing countries, the benefits are excludable. In so far as the benefits extend beyond the individual’s consumption, the lower risk of communicable disease is community-wide and thereby non-exclusive. Like vaccines, the use of antibiotics can reduce the spread of contagion. Unlike vaccines, no herd immunity results, and any public benefit is mostly local and transitory.

The containment of antibiotic resistance, however, can be both non-excludable and non-rival. This leaves open the possibility of a *tragedy of the commons*, which arises when the gains for individuals impose costs on the community collectively (Hardin 1968). Antibiotic resistance pits the micro-motives of particular stakeholders against those of the entire community. This tension plays out at multiple levels between physician and patient, hospitals and health insurers, and drug companies and health insurers.

In the face of diagnostic uncertainty, the physician minimises risks to the individual patient and reaches for presumptive therapy. To order a further diagnostic test would likely involve more money and greater delay. A timely start to treatment may improve the likelihood of clinical success. Imprecise diagnostics contribute to the use of broader-spectrum antibiotics. That uncertainty in clinical decision-making also extends to variations in the prescribed duration of antibiotic therapy.

If vaccines were available, the physician would not face this dilemma and the need for antibiotics would be reshaped. For example, pneumococcal conjugate vaccine prevents 35 antibiotic prescriptions per 100 children, with savings estimated at 1.4 million antibiotic prescriptions in the United States each year by reducing the incidence of otitis media (Fireman et al. 2003). Importantly, a study in South Africa demonstrated that the carriage of antibiotic-resistant strains may decline after vaccination (Mbelle et al. 1999).

The financial incentives facing hospitals may provide no incentive for tackling antibiotic resistance if all they see are beds filled for longer hospital stays and corresponding payments. Infection control measures such as hand hygiene are investments that no single insurer would make if they imposed higher operating costs and encouraged freeriding by other insurers. Among hospitals serving the same catchment area, there may be little incentive to undertake aggressive infection control measures.

In the Netherlands, a strict containment approach to methicillin-resistant *Staphylococcus aureus* (MRSA) has kept prevalence below 0.5 per cent in contrast to higher rates of 1.6 per cent to 62.4 per cent in neighbouring Belgium (Verhoef et al. 1999). Not only were patients infected with MRSA isolated, but all health-care workers in contact with that patient also are swabbed regularly. In fact, all patients from outside the Netherlands undergo quarantine for forty-eight hours or until three successive tests come back negative for MRSA. Although this policy cost €2.8 million, it was estimated to be half the anticipated cost that might have otherwise resulted from MRSA and related infections (Vriens et al. 2002).

At the market level, there is a trade-off between the rapid scaling up of antibiotic use and the emergence of resistance. Rapid scaling up might ramp up pharmaceutical revenues, but rapid emergence of resistance might shorten the period that an antibiotic remains effective. Modelling suggests that antibiotics marketed aggressively at the outset of entry into the health system return lower revenues than those gradually introduced to reduce the emergence of antibiotic resistance (Power 2006). However, the reality is that there are many existing antibiotics in the marketplace, and with competition within a therapeutic class there is little incentive for any single manufacturer to exercise restraint in marketing the use of an antibiotic.

Replenishing the supply of antibiotics

Between the 1930s and 1970s, over a dozen new classes of antibiotics entered the marketplace. However, in the last four decades, only two new classes have surfaced (IDSA 2004). Only thirty-one anti-infective drugs are currently under development among the top fifteen multinational pharmaceuticals companies (Spellberg et al. 2004). Among these, only five are antibacterials (comprising only 1.6 per cent of the publicly disclosed pipelines of these companies), none of which appears to have a novel mechanism of action. Adding the seven largest biotechnology companies to this analysis did not improve the outlook.

A more in-depth analysis of the entire industry in 2005 provides a clearer picture. White (2005) found seventy drug candidates in the pipeline, thirteen of which were in five new classes of antibiotics. Of the forty-four candidates whose bacterial targets were known, most were for Gram-positive bacteria. Additionally, all the drug candidates for new classes of drugs – where targets were disclosed – targeted only Gram-positive and respiratory-tract bacteria. There were no new class candidates for Gram-negative bacteria.

Companies set R&D priorities according to the net present value and a measure of expected revenue for R&D investment. Antibiotics have a low net present value compared to many other types of therapy (Projan 2003; Projan and Shlaes 2004), due in part to shorter treatment length compared to chronic therapies, high therapeutic competition, the restriction of use of new antibiotics to resistant infections, and decreased value due to the emergence of resistance (Charles and Grayson 2004).

Mobilising for solutions

Combating antibiotic resistance has generated lengthy lists of proposed policy interventions (Laxminarayan et al. 2007; WHO 2005; Smith and Coast 2003). While more research may be needed to develop new and effective antibiotics, action plans can build on the ample evidence base for prevention and containment. More importantly, mobilising for change involves strategic choices. These choices should prioritise pathways that:

- make data actionable;
- reframe antibiotic resistance as a cross-cutting concern;
- realign incentives by pooling risks, resources and response;
- re-engineer the value chain of R&D for new diagnostics, drugs and vaccines.

To make data actionable, one has to motivate its collection. Access to over-the-counter drugs, unnecessary presumptive treatment and weak regulatory systems hinder efforts to bolster rational use of antibiotics.

Though some parts of the world track antibiotic resistance patterns (e.g. the European Antibiotic Resistance Surveillance System), most regions do not have effective surveillance systems in place. Improved data collection is also important for mobilising action and monitoring efforts to improve clinical practice. At the country level, such steps may help spur and revitalise rational prescribing programmes, use of essential drug lists, and other activities by ministries of health.

In the US, for example, the Institute for Healthcare Improvement launched the 100,000 Lives Campaign to reduce preventable deaths in US hospitals. The campaign targeted six best-practice interventions, including the prevention of infections at central line and surgical sites. By setting quantifiable goals and targets, and developing a methodology for counting the number of lives saved, the Campaign and more than 3,000 participating hospitals were able to achieve remarkable success. Building on this, the '5 Million Lives Campaign' is now under way to prevent 5 million incidents of iatrogenic harm in the US.⁵

The example demonstrates how making antibiotic resistance a cross-cutting concern may give it greater traction. Through a campaign aimed at improving patient safety in the hospital, infection control measures might be implemented, which in turn makes the environment less conducive to the development of antibiotic resistance. Extending the approach further, the World Alliance for Patient Safety has set its sights on campaigning to combat antibiotic resistance, building upon the stepping stones of previous efforts to improve hand hygiene and safe surgery.

Antibiotic resistance is an issue that cuts across AIDS, tuberculosis and malaria programmes. Lessons learned about surveillance and syndromic management, for example, might apply across these programmes. By coordinating these efforts, the WHO might develop synergy among these vertical disease programmes and lead by example on these issues.

Another strategic approach involves the pooling of health financing and health risks in order to improve the rational use of drugs. For example, a competitive health insurance market creates weak incentives for insurance companies to motivate infection control in local hospitals. But if the patients going to hospitals belong to the same health insurance pool, then the individual health insurance company internalises these costs and has a stronger incentive to act. By apportioning costs that otherwise might fall as an externality on others, policies that pool resources among these stakeholders share the burden of supplying a public good.

Finally, what about R&D for new antibiotics and complementary technologies like diagnostics and vaccines? There are multiple points along the value chain of R&D that would benefit from re-engineering. Various

groups have called for applying a range of financial incentives to encourage drug manufacturers to develop new antibacterial drugs (Laxminarayan et al. 2007; IDSA 2004; Spellberg et al. 2007). In addition to changing the nature of financing and incentives, there is a need to rethink the opportunity costs, economies of scale and profit expectations.

For example, by working with manufacturers in emerging economies, academia has the potential to change the value chain of drug R&D more fundamentally. Sunil Shaunak and his colleagues at Imperial College in London recognised that the treatment for hepatitis C was too expensive for widespread use in the developing world. When they modified pegylated interferon to make it last longer and work better in tropical climates, they created a company, PolyTherics, to handle the new product and then licensed the drug directly to a company in India to conduct the clinical trials and to make the product available at a target \$3/dose, much lower than the current \$200/dose. The deal does not generate as much revenue for PolyTherics on a per unit basis, but it does illustrate a model of partnership between academia and developing-country drug manufacturers that enables more affordable access in poor countries.

Firm size and cost of operations appear to be important as well. Manufacturers with lower overhead costs might be more willing to serve markets where the profit margin is tighter. Where the big drug companies may not find markets attractive, universities or smaller companies in developing countries may step in. For example, after losing money on the tuberculosis drug Seromycin, Eli Lilly transferred rights on the drug to Purdue University. Purdue believes that its lower overheads and smaller capacity will allow it to manufacture this drug without suffering losses, and this will make Purdue the only supplier of Seromycin in North America (Purdue 2007).

The R&D of new diagnostics also requires attention. The basic technique for diagnosing TB has evolved little in over a hundred years and remains complicated and costly. Simplifying and streamlining the process would mark a significant advance. For other infectious diseases like malaria, paediatric diagnostics alone could prevent approximately 400 million inappropriate treatments every year (Global Health Diagnostics Forum 2006). Point-of-care diagnostics for bacterial infections could help reduce the clinical uncertainty that results in unnecessary, presumptive treatment of patients with antibiotics and improve care. Rapid diagnostics for the detection of bacterial pathogens in food also could reframe how policymakers handle food safety and trade. Importantly, moving from the detection of antibiotic residues in food to the finding of antibiotic-resistant plasmids in poultry and livestock products could bolster efforts to limit the inappropriate use of antibiotics in animals.

Conclusion

The victims of antibiotic resistance are too often faceless. As with other public goods, combating antibiotic resistance will require effective governmental, civil society and private-sector efforts. Policy interventions have to change the rules of the game. Surveillance has to be redesigned to create actionable, follow-on steps. The issue of antibiotic resistance has to be reframed to be a problem of more than just the community focused on infectious diseases. Pooling can help realign incentives and enlist key stakeholders to contribute to the public good of preventing and stemming the emergence of antibiotic resistance. Re-engineering the R&D and delivery of antibiotics offers some creative pathways forward. The challenge of antibiotic resistance has the form of a repeated game, but only through the spirit of public-sector collective action will humankind go the distance and ensure a future with effective antibiotics.

Taking concerted action, ReAct, a coalition to combat antibiotic resistance, has emerged to tackle this challenge. The coalition's vision is that current and future generations of people around the globe should have access to effective treatment of bacterial infections as part of their right to health.

Notes

1. See www.cptech.org/workingdrafts/rndsignonletter.html.
2. See www.who.int/intellectualproperty/report/en/index.html.
3. See www.keionline.org for more information.
4. This discussion of antibiotic resistance draws upon an abbreviated version of A. So and C. Manz, Meeting the challenge of antimicrobial resistance: Public good and collective action, www.react-group.org.
5. See www.ihf.org/IHI/Programs/Campaign for more information on the campaign.

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