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International Public Health – The Future Place of Primary Care*

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Introduction

Most preventable deaths occur in poor countries. Poor people carry the greatest burden from communicable diseases including AIDS, TB and malaria, particularly in Africa. However, non-communicable chronic conditions, once regarded as diseases of affluence, are increasing in poor countries (World Health Organisation, 2005b). The changing burden of disease implies changing models of service delivery. Reducing income poverty through economic development will improve health status, but poor people also need access to effective, affordable, preventive and curative health services, including essential medicines. Primary care services have an essential role to play in future global health.

In 1978 at Alma Ata, primary health care was declared to be the key to delivering 'health for all' by the year 2000. Primary health care was to be 'based on practical, scientifically sound and socially acceptable methods and technology made universally accessible through people's full participation and at a cost that the community and country can afford' (World Health Organisation, 1978). The social and political goals of those epochal declarations – acknowledging as they did the social and economic determinants of health – were subsequently diluted. The failure in most countries to provide even selective packages of low cost primary care, coupled with the proliferation of 'vertical' initiatives to address specific global health problems, hastened its eclipse. Primary health care merited little mention in the Millennium Declaration of 2000.[1]

In this chapter we argue the case to bring the focus back onto primary care in the interests of global public health in future. We begin the chapter by examining the changing global burden of disease and outlining how it should be addressed. We go on to consider the implications of burden of disease for health systems in future, and reassert the particular contribution primary care can make towards reducing this burden and ensuring greater equity of health outcomes in future. Since this chapter was written, the 2008 World Health

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Report has supported the crucial role of primary health care in strengthening countries' health systems to respond to their citizens' health needs and the global health challenges of the future (World Health Organisation, 2008).

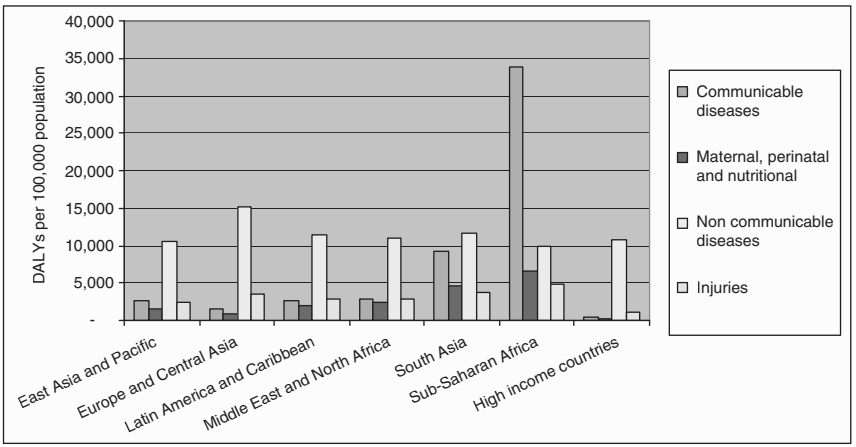
1 The global burden of disease

The premature deaths and preventable ill-health of millions of poor people present a major challenge now and in the future. Figure 2.1 shows the relative burden of disease by different regions of the world in 2002. It shows the inequality across regions, and the high burden of communicable disease in Sub-saharan Africa and South Asia. The implications for appropriate priorities and interventions are outlined below.

Communicable diseases

Communicable diseases remain, and will remain, a major cause of ill-health and death in poor countries, despite advances in vaccine development, diagnosis and available treatment. Figure 2.1 shows that in middle and low-income countries communicable diseases account for over 60 per cent of disease burden, compared to about 30 per cent in the low-income countries of South Asia, and an even greater burden in Sub-Saharan Africa. Most of this disease burden is from malaria, HIV, TB, and 'neglected' tropical diseases such as Leishmanisasis, Trypanosomiasis and Schistosomiasis. Globally, there are two million deaths each year from TB and one million from malaria. An estimated 33 million people worldwide were living with HIV at the end of 2007. Overall, the HIV incidence rate is thought to have peaked in the late 1990s,

Figure 2.1 Burden of disease in DALYs[2] per 100,000 population due to four broad disease categories by region



Source: WHO Global Burden of Disease data for 2002

and stabilised, although the incidence continues to rise in some countries. Sub-Saharan Africa has 10 per cent of the world's population and more than 60 per cent of all those living with HIV. Women are disproportionately affected. Even where new infections are decreasing, the lag time between infection and death means the burden of disease will remain high for years to come (UNAIDS, 2008). Communicable disease will remain a significant challenge in future, with AIDS a major cause of death globally. New diseases such as SARS will emerge, and a further pandemic of influenza is likely.

Reproductive and child health

Overall, the lifetime risk of maternal death for a woman in high-income countries is 1 in 4000. In middle-income countries it is 1 in 61, and in low-income countries 1 in 17 (AbouZahr and Wardlaw, 2003). This is the largest disparity in health outcome between the richest and poorest countries. Most of these deaths could be prevented if interventions, already known, were available to all women. These include access to family planning methods and safe abortion, to skilled attendants at the time of delivery, and to 24-hour emergency obstetric care, because most life-threatening complications such as postpartum haemorrhage cannot be predicted (Campbell and Graham, 2006). Women's health can also be improved through better access to family planning and other reproductive health services. Progress has been made in some countries but more needs to be done. For example, about one third of pregnancies worldwide each year (80 million) are unwanted or unplanned. This reflects an unmet need for family planning worldwide, and ongoing concerns about how to ensure the future supply of contraceptive methods to those who need them (Cleland *et al*., 2006). Accessible primary health care is part of the solution. Many of the other issues which impact on reproductive health fall outside the health arena – women's empowerment, literacy, and poverty, for example. These cannot be speedily tackled as they require new policies and in some cases legislation, but they are known to be effective. A recent impact evaluation in Bangladesh showed that a child born to a mother with primary education is around 20 per cent less likely to die than a child born to a mother with no education; increasing to 80 per cent for women with secondary education. Girls' education is more cost effective, for example, than rural electrification. Rural electrification reduced the probability of deaths to those under five years of age, but at a cost of US$20,000 per death averted (World Bank, 2005).

Maternal health is linked with child health, but there are fundamental differences in effective approaches to addressing them. While successful approaches to child health improvement involve delivery of services as close to the community as possible (Bryce *et al*., 2003), the reduction of maternal mortality is associated with access to hospital-based interventions for life-threatening complications around the time of delivery (World Bank, 2003). Good maternal health requires functioning health services at community and

hospital levels, and effective referral systems between them. It is therefore considered an important marker of a functioning health system (United Nations, 2005).

Despite falling death rates in many countries, and an anticipated decline in infant mortality rates, approximately 10.8 million children die each year. Of these deaths, 90 per cent occur in only 42 countries. In poorer countries, serious illnesses commonly occur sequentially or concurrently before death. For example, measles is often complicated by pneumonia or diarrhoea. Underweight and micronutrient deficiencies decrease host defences, and malnutrition is estimated to contribute to about 60 per cent of avoidable childhood deaths (Black, 2003). Three-quarters of all child deaths in sub-Saharan Africa and in South Asia are from acute respiratory infections, diarrhoeal diseases, perinatal conditions, measles and malaria.

The interventions to prevent these deaths are well researched. They mostly require 'low tech' interventions delivered or supported through primary health systems. These include preventive interventions such as the promotion of exclusive breastfeeding for the first six months and appropriate complementary feeding, the use of insecticide treated bed nets to prevent malaria, clean delivery and specific neonatal care. The treatment interventions include oral rehydration therapy for diarrhoeal diseases, antibiotics for sepsis, antibiotics for pneumonia, antimalarials, zinc supplementation to reduce the morbidity and mortality from diarrhoea, and others (Jones, 2003). These are likely to remain important interventions in future and should be developed.

Integrated management of childhood illnesses (IMCI) is a strategy for improving child health through the combined delivery of a set of cost-effective interventions. It began with a set of clinical guidelines to manage a sick child at a health facility, and expanded to include household, community, and referral interventions. Despite the challenges and constraints to implementation, IMCI remains a promising approach to integrating primary health care (Bryce *et al*., 2005), one that can be adapted to local circumstances in future. For example, an estimated 1.1 million newborn deaths occur annually in India – about 28 per cent of the world's total. Two major adaptations have been made to the IMCI model there: integrated management of neonatal illness, and a focus on early home visits for all newborns. Results from pilot districts in India are awaited (Lawn *et al*., 2006).

Non-communicable disease and injury

Of increasing importance to future global health are non-communicable diseases. Rates of obesity, diabetes and ischaemic heart disease are rising, and rates of chronic disease are projected to become more significant in all countries by 2030 (Mathers and Loncar, 2006), increasing by 56 per cent globally from 2002. When countries are grouped by per person income, chronic diseases are projected to be the leading cause of death in all income groups in 2015 (Strong *et al*., 2005). In 2003 the estimated world prevalence of diabetes in people aged 30 to 79 was 5.1 per cent, or 141 million people. By

2025 this is projected to rise to 6.3 per cent or 332 million people, of which no less than 264 million will be in developing countries (Disease Control Priorities Project, 2007a). This places an additional burden on health systems. In low-income countries road traffic accidents are expected to cause proportionately more deaths by 2030, becoming the seventh leading cause of death (Ameratunga, 2006).

Factors contributing to the changing pattern of disease include international migration, rapid rural-to-urban migration in most poor countries, and changing family structures (Disease Control Priorities Project, 2007b). Robust public health measures in sectors other than health are required to address the key risk factors of nutrition, smoking, unsafe sex, and the growing epidemic of injury and death from road traffic accidents (Ameratunga, 2006). In the next section we set out the prerequisites for future public health gain, including economic and political organisation, as well as elements of the health system.

2 Prerequisites for future health gain

Economic growth

The number of people living in poverty globally is falling, but at current rates of poverty reduction, there will still be 617 million people living on the equivalent of less than a dollar a day by 2015 (World Bank, 2006). Orthodox economic arguments highlight the need for macroeconomic growth to reduce levels of poverty, but there are increasing concerns about 'jobless' growth, with millions of poor people remaining at the margins of society. Debt relief and fairer trade with access to markets for poorer countries require action from rich country governments. More predictable aid would enable countries to fund sustainable five to ten year health plans and invest in well-trained workforces. Greater investment is needed in the development of new technologies: for example, better diagnostics, medicines and vaccines for HIV, TB and malaria. But none of these will make a significant difference without strong health services: accessible to poor people and staffed by well-trained, supervised, motivated and adequately rewarded health workers. Countries like Sri Lanka have shown that the health of the population can be improved to the level of many developed countries with modest macroeconomic growth and public investment in health services (Rannan-Eliya, 2001). Low-income countries where significant improvements have taken place in the health of the population without high or rapidly rising incomes also include Costa Rica, Cuba and Kerala State in India. Priority support for community level health facilities and staff have characterised these 'high achievers'.

Inequality, social inclusion and equity

The widening economic inequalities within and between countries are exacerbated by new patterns of communication and consumption, rapid

urbanisation and concomitant degradation of the environment. The accompanying economic and demographic changes affect working conditions, learning environments, and family patterns – the social and physical fabric of communities. Against this background, many countries have signed up under the aegis of the WHO to the Bangkok Charter (World Health Organisation, 2005a). This identifies actions, commitments and pledges required to address the determinants of health. Key principles are:

- globalisation as a positive force for health improvement
- promoting health as a core government responsibility
- health promotion as good corporate responsibility
- environments empowering individuals and communities to improve health
- regulation and legislation to protect citizens and promote their health.

Signatories recognise the requirement for investment and partnership across governments, international organisations, civil society, and the private sector. This approach moves the debate from the global market as the enemy of good health and the corporate sector as unengaged, to recognising that new models of joint working are needed. It requires new approaches to improve health that embrace a range of stakeholders whose priorities may differ – but they too need careful evaluation.

One challenge to successful implementation is that hitherto, certain population groups have worse health outcomes and are persistently excluded from access to health services because of their ethnicity, caste, gender, religion or other characteristics. For example, in India infant mortality rates for scheduled castes and tribes are significantly higher than those of the rest of the population (World Bank, 2004). For geographically remote and isolated populations it may cost more to deliver cost-effective interventions than in accessible, more densely populated areas. Well trained, multi-skilled primary care workers can bring effective services to such populations, but only if this is given political priority and adequate funding.

Good health system governance

Effective health systems will also require effective governance. Much poor performance in terms of health service delivery is due to weaknesses in institutions, budgeting and public expenditure management (Grindle, 2002). Governments should be held to account for maintaining fiscal discipline, ensuring resources are spent in line with stated priorities, are not lost through corruption or mismanagement, and are used to achieve maximum impact on health outcomes. Making information more accessible and promoting transparency in fees, budgets and expenditure enable corruption to be tackled more easily, but there are often strong forces at work to avoid such transparency. Citizens' voices in budget allocations (Brazil), budget moni-

toring (South Africa) and budget auditing (Rajasthan, Northern India) have enabled local people to influence the use of public funds (World Development Report, 2004). The 2005 Commission for Africa Report concluded that without progress in improving governance, all other reforms would have limited impact (Commission for Africa, 2005). Given the plurality of most health economies, improved governance is crucially important in the private and voluntary sectors as well as in public systems.

Adequate funding

Better governance can improve resource allocation, but one of the reasons for low health service coverage and poor health outcomes is low expenditure on health per capita. The Commission on Macroeconomics and Health calculated that US$34 per capita in 2002 prices was needed to provide a basic package of services to address the main causes of ill-health and premature death in low-income countries (World Health Organisation, 2002). (The package comprised many of the same components of primary care defined at Alma Ata.) This would require an additional US$40 to 52 billion by 2015 and would save some eight million lives each year. In 2000 African countries pledged in Abuja, Nigeria to increase funding for health from around 8 per cent on average to 15 per cent of their budgets but few have achieved that level to date. Inadequate action on these commitments has been attributed to the lack of accountability of governments, costly debt servicing, and poor tracking systems for government resources (Action Aid, 2005). However, some countries are attaining measurably better levels of service coverage with lower levels of expenditure. For example, Sri Lanka has remarkably good health outcomes and its public sector spends only $US15 per capita on health; investment is in more cost-effective interventions with greater efficiency of spend. This is due in part to the equitable allocation of resources for health and a judicious mix of skilled health personnel (Levine *et al*., 2004).

Adequate staffing

Adequate numbers of well-trained, motivated health workers are essential for effective service delivery. Many countries face a deep crisis in staffing their health services, resulting from chronic under-investment in staff and health systems (World Health Organisation, 2006). This is exacerbated by the burden of AIDS, especially in southern African countries. There, the health services are overwhelmed with AIDS patients, and the capacity of health services to cope is further limited because of illness and death from AIDS among health workers and their families. Staff shortages are also made worse by low-income countries subsidising high-income ones by supplying them with trained staff through outward migration. From Africa the net outflow is equivalent to about US$500 million a year (World Health Organisation, 2006). Changes to international recruitment practice may help to manage the flow of migrants in future, but migration is the result of low

pay, lack of career prospects and poor working conditions in 'source' countries, as well as high-income 'destination' countries' inability to train and meet their own workforce requirements (World Health Organisation, 2006).

Coherent national health policy and priorities

There is a trend toward vertical health programmes focusing on specific disease areas. Current examples of vertical programmes include those addressing polio eradication, AIDS, TB, malaria, and childhood immunisation. There are over 70 global health partnerships and initiatives addressing diseases or other specific health needs, many with private-public financing. This is in addition to the multilateral development agencies working in health, notably the EC, World Bank, Regional Development Banks, UN technical agencies such as WHO, UNICEF, UNFPA, UNAIDS, private entities such as the Bill and Melinda Gates Foundation, and many bilateral donors.

Targeted programmes raise the profile of specific health conditions, mobilise additional resources, and often deliver short-term results against specific targets. The global eradication of smallpox was a major success, but efforts to eradicate malaria since the 1960s have notably failed, and eradication is no longer a goal. Vertical approaches divert human and financial resources, and can undermine and weaken other health initiatives, despite achieving their own specific objectives. There is increasing concern that they may undermine broader health service delivery, through duplication of effort, distortion of national health plans and budgets, and particularly through diversion of scarce trained staff. Vertical programmes tend to focus on a single disease, often neglecting the multiple needs of each patient. Vertical approaches address one disease or issue at a time, and are controlled by experts. When health systems are extremely weak, such as post conflict or when governments lack legitimacy or capacity to fund or provide any meaningful services, vertical programmes delivered initially by the UN or NGOs, may be the best way to provide services. The burgeoning of top-down programmes challenges many countries' capacity to address agreed national priorities, and to coordinate the work of different donors. It is important that efforts are made in parallel to (re)build public health systems in future, and not weaken them further.

Better information for managing performance and assessing effectiveness

The Millennium Development Goals (MDGs) collectively address the different dimensions of poverty and health.[3] There are a number of weaknesses inherent in the goals. For example, the MDG indicators measure average progress for a country, but do not reflect inequalities or widening gaps creating potential to leave poorer people further behind in future. Monitoring data in countries need to be disaggregated to reflect relative progress on health outcomes amongst the poorest and excluded groups. The framing of numerical targets has focused attention, but risks a technocratic, top-down

approach to the complex challenges facing different countries and cultures (United Nations, 2006). Governments and international organisations do not always use the same data sources or definitions. Furthermore, progress towards the health-related millennium development goals and respective indicators is limited by poor information, incomplete vital registration of births and deaths, and poor quality data. There is an urgent need, therefore, for better data systems to guide results-based performance monitoring, better disaggregation to allow analysis of equity and distributional issues, and improved capture of health service quality measures. The management of chronic diseases increasingly calls for longitudinal patient records, which require a very different approach to the activity-based record systems most commonly used.

The processes of target-setting expose further knowledge gaps. Notably, only 10 per cent of the annual $70 billion spent on global health research targets the diseases responsible for 90 per cent of the world's health problems (Labonte and Spiegel, 2003). In addition to increased global investment, new ways of stimulating research into the diseases of poverty, and the development of commodities including vaccines, diagnostics and medicines are required. Evaluative research is urgently needed on the best way of delivering health interventions: to better understand what works and why.

Strong public health services

To maximise their benefit, health resources must be reallocated towards more cost-effective services, poorer geographical regions within countries, and services that are used by poor people. Effective policies, well implemented,

Box 2.1 Core public health functions

These include:

- Collection and dissemination of evidence for public health policies
- Public health regulation and enforcement
- Pharmaceutical policy regulation and enforcement
- Epidemiological and behavioural surveillance for risk factors of disease
- Prevention and control of disease
- Health promotion
- Inter-sectoral action for improving health
- Monitoring and evaluation of public health policy
- Development of human resources and capacity for public health

Source: Adapted from A. Wagstaff and M. Claeson, 2004.

can greatly improve the health of poor people, as illustrated by the examples of Sri Lanka and Kerala State in India. The HIV epidemic and emergence of new diseases such as SARS have highlighted the crucial role of governments in strengthening and maintaining core public health functions (Wagstaff and Claeson, 2004). Essential aspects of a successful core public health function are set out in Box 2.1, and include many of the prerequisites for health gain already discussed.

Population health is improved by the existence of a well-functioning district health system comprising first contact primary care, community services (e.g. midwifery, pharmacy) and first-referral (district) hospitals. This organisational and service unit is fundamental to effective health care provision, and failure to recognise the interrelationship between component levels has had high health costs and resulted in great inefficiency (Doherty and Govender, 2004). In developing countries, factors such as geographic and financial inaccessibility, limited funds and staff, erratic drug supply, and non-functioning equipment often mean that the services offered at the primary care level are disappointingly limited in their range, coverage, and effect. Primary care has been neglected as a strategic priority, yet provides a conduit through which many of resources for health can flow. What do we mean by primary care and how can this first level be strengthened?

Strong primary care

The Alma Ata Declaration of 1978 rejected the vertical approach to disease management and called on governments to tackle common underlying causes of ill-health, by building sustainable health care systems, locally-based and locally controlled (World Health Organisation, 1978). Emphasis was given to people's participation in health. Reviewing European primary care, Boerma (2006) has emphasised the benefits of strong primary care in developing teamwork and collaboration which helps smooth the interface with secondary care and increase patient responsiveness. In addition, screening, monitoring and follow up can only be effectively carried out by the coordinated efforts of various professional groups on the basis of the population they serve. The difficulty of transposing health systems across international boundaries is widely acknowledged, but evidence from high-income countries can be applied to the developing world (and vice versa). The World Bank has estimated that the primary care level could potentially deal with up to 90 per cent of health care demands and that only 10 per cent of care needs require the services and skills typically associated with hospitals (World Bank, 1994). Primary health care is considered below in terms of its role as provider and coordinator of other care.

Care provision

Low- and middle-income countries, like high-income ones, face a future of increasing prevalence of non-communicable illness. This shift has already

led to the coexistence of persisting infectious disease, nutrition and reproductive health problems alongside emerging non-communicable disease and related risk factors (such as hypertension, obesity, diabetes, stroke, and cardiovascular disease). The challenge this transition poses to the provision of primary care is considerable. For the most part, existing health systems are oriented to maternal and child health and the management of acute illness. Thus developing primary care services appropriate to future needs will require extending the reach and capacity of primary acute care systems (presently oriented to episodic care) to accommodate the need for effective systems of long-term care and monitoring.

There are a number of reasons why, and ways in which, primary care should be developed in this way. Not only does the primary care level constitute the first point of patient or family contact, it is also a critical base for extending care to communities and vulnerable groups. Outreach services may focus on individual preventive measures (such as immunisation, vitamin A, or oral rehydration therapy) or community-wide health-promoting efforts (such as education on child nutrition or adult diets and exercise). Increasingly, home-based care for chronic conditions, such as HIV and AIDS and post-stroke rehabilitation, can be expected to feature in outreach services. These services depend substantially on community support and mechanisms for identifying, training and supporting village or community health workers. Adequate resources have to be allocated along with new service responsibilities, and local political institutions must be functional and accountable to the population (Wagstaff and Claeson, 2004).

Care coordination

Primary care, as a level of care, is thus a key interface that links, on the one hand, ambulatory care with hospital and specialty services and, on the other, individual clinical care with community-wide or population-wide health, nutrition and family planning programmes. Acting as the fulcrum of

Box 2.2 Two successful programmes

National programmes such as the Lady Health Workers in Pakistan's National Family Planning and Primary Care Programme, or the Auxiliary Nurse Midwives and ASHAs (Accredited Social and Health Activists) in India's National Rural Health Mission, aim to train and support enough community health workers to provide a range of reproductive, child, maternal and other health services and health promotion and preventive interventions, to a defined catchment population at village level. These initiatives have the potential to provide continuity of care and basic management of chronic diseases. These health workers depend crucially on a functioning referral system for their patients to access more complex care when required (Government of India, 2005; Government of Pakistan, 2007).

a comprehensive care and support system, development of primary care requires that local management teams plan services for their defined catchment communities (Jha and Mills, 2002). Two successful programmes are described in Box 2.2 as examples.

This coordinating function provides a major economic justification for primary care: evidence suggests that health systems which are primary care oriented are more likely to deliver better health outcomes, lower costs and greater public satisfaction (Macinko *et al.*, 2003). However, achieving these benefits is not inevitable. Our analysis identifies six key challenges for primary care services to achieve better public health in future. The focus is on poor countries, but the messages apply equally to policies directed to those who are poor and disadvantaged in rich countries.

Six challenges for primary care to deliver public health in future

1. What kind of primary care is affordable and appropriate in different settings?

No single model of primary health care will be universally applicable. A major challenge is to establish the most effective combinations or clusters of interventions that can target multiple conditions and risk factors affecting key community groups (children, women, and older adults, for example) and which are appropriately adapted to local epidemiological, economic, and sociocultural contexts. Clustering interventions achieves comprehensiveness while at the same time acknowledging resource constraints. For example, community-oriented primary care (COPC) seeks to integrate public health practice by delivering primary care to defined communities on the basis of assessed health needs (Mullan and Epstein, 2002). COPC remains a powerful, enduring concept but its protagonists have made little mark beyond developing countries (see Box 2.3).

Intervention clusters are likely to include IMCI (integrated management of childhood illnesses); maternal and reproductive health services; clinic and community-based management of tuberculosis, HIV/AIDS, and sexually transmitted infections; malaria management; management of hypertension, other cardiovascular risk factors, and – increasingly – stroke and cardiovascular disease; and mental illness and substance abuse.

The UK has traditionally been regarded as boasting some of the best primary care services in the developed world; to these in large measure has been attributed the relative efficiency of the National Health Service. Ironically, moves to create a market for these services with the encouragement of large private sector providers may fragment health care (Hill *et al.*, 2007). Experience from North America suggests that, for example, parcelling up the care of chronic diseases between different commercial companies principally concerned to increase profit margins results in less efficient (higher transaction costs) and more inequitable (excluding patients at higher risk) care (Weiner *et al.*, 2002).

2. How can equity goals be promoted?
One well-attested form of differential access to care is the so called 'inverse prevention' effect whereby communities most at risk of ill-health tend to experience the least satisfactory access to the full range of preventive services (Acheson Report, 1998). User charges for primary care have been repeatedly shown to deter those most likely to benefit from preventive activities (NHS Centre for Reviews and Dissemination, 2000). Indeed, one way to address this is to provide financial incentives for poorer people to visit services. The conditional cash transfer schemes in Mexico have improved health outcomes for a large number of poor people (Skoufis, 2005). Other methods of demand-side financing where money or vouchers are given to the poorest people to increase access to particular services such as maternity care, are being piloted in many countries (Standing, 2004). Other ways to improve equitable access include the monitoring of service delivery and health outcomes by separate population groups, and provision of incentives to service providers to deliver services to these groups.

3. How can the workforce be developed and retained?
The creation of dynamic health teams at the primary level is one of the greatest requirements for scaling up effective primary care. Public health competencies, especially as they relate to the management of chronic disease, are of particular importance to the 21st Century global health care workforce (World Health Organisation, 2005b). At the same time, one of the most challenging constraints is to overcome the loss of motivation and sense of resignation of the great body of primary care workers who work in under-staffed settings; who lack consistent, quality support; and who have grown accustomed to a norm of inadequate service delivery (Narasimhan *et al.*, 2004). In most developing countries primary care roles are regarded as low status, less valued than hospital medicine by both the public and policymakers. Only high level political commitment, adequate governance and funding will raise the status of primary care and attract suitable workers to it. Ironically, poor countries which emulated training standards of the industrialised countries, such as Ghana, have been most vulnerable to poaching by them (Blanchet *et al.*, 2003).

4. How can the rhetoric of patient and public involvement be made a reality?
In many poor countries even the rhetoric of greater patient and public involvement in health is absent. Julian Tudor Hart, an eloquent exponent of COPC in the Welsh mining village where he practised, long ago argued for the need to look in a new way at the relationship between doctors and patients as 'co-producers of health' and develop alliances between health workers and the public in defence of health (Tudor Hart, 1988). Public health is likely to improve when health services meet community expectations and

treat patients in a dignified manner. In addition, primary-level facilities can be used as a community resource (providing communal meeting places, for example) and primary care services can contribute support to neighbourhood sports and community development activities.

The diffusion of new technologies may provide greater scope for self-care amongst some groups in developing countries, as is anticipated in the high-income countries. Escalating rates of cell phone connectivity in India will transform access to information and health services in rural India, for example (Muir Gray, 1999).

5. How can low-income countries increase their capacity to obtain and use health information?

A basic longitudinal record for monitoring child development and reproductive health events is needed universally by primary care service providers. Such records are also essential to manage chronic diseases effectively, to follow symptoms, biochemical and other test results, and the impact of treatment over time.

Tanzania Essential Health Interventions Project (TEHIP) (see Box 2.3), and related experience, make clear that delivery of effective primary care requires a greatly stepped-up capacity to provide an evidence base that is founded on local disease and risk factor burdens, the performance of local health services, client use of public as well as private and traditional services, and (where appropriate) the costs of providing care. Effective use of such information can profoundly enhance the ability of the health system to deliver on its core service functions, target high-risk and vulnerable groups,

Box 2.3 Tanzania Essential Health Interventions Project

Community-oriented primary care underpins the Tanzanian Essential Health Interventions Program (TEHIP), 1997–2004. TEHIP has tested how and to what extent evidence can guide planning of the health sector at district level in order to improve technical and allocative efficiency (de Savigny *et al.*, 2002). A dynamic process of using high-quality local information, coupled with local problem solving, planning, and ownership, was central to appropriate decisionmaking and consequent implementation. New analytic tools were devised that would help focus resource allocation on the major 'intervention-addressable' disease burdens. The net effect of decentralised funding, together with a mutually reinforcing series of planning, management, and capacity-development inputs, was an increase in resources for cost-effective interventions addressing the largest shares of the preventable local burden of disease; an increase in the use of government health services; and a decrease in mortality in infants, children under five, adolescents, and adults. This was achieved with relatively limited resources.

assess coverage in service provision, and gauge health effects. Moreover, such information is vital to establishing the dimensions of the local disease burden that should be managed at the primary care level (Bellagio Study Group on Child Survival, 2003).

6. How can the evidence base be extended?
The empirical evidence with regard to large-scale and routine primary care programmes is scant (Doherty and Govender, 2004). There is plenty of evidence for cost-effective interventions that could vastly improve maternal and child health, for example, but less evidence on how to ensure that these services, when delivered in resource-poor settings, reach the most vulnerable populations to lasting effect (Victora *et al*., 2004).

Whether primary care has an impact on health has much to do with the quality and effectiveness of the services provided, but also how the service is delivered, whether it is perceived as relevant to people's immediate needs, and whether it is affordable and culturally acceptable. Thus evidence gathered in high-income countries, may be less useful in countries with less developed health systems. Evaluations are required of new forms of organising primary care services in specific locations (in particular, balancing persisting acute needs with the growing need for chronic care, or establishing the skill mix that is most effective in particular settings). To date, a community-focused operational research agenda has been neglected in favour of the evidence base for individual interventions. Such research is complex because it is context-specific and dependent on local capacity and commitment.

Conclusion

Adequate delivery of services at the primary care level is fundamental to effective functioning of health systems if they are not going to be overwhelmed by the emerging epidemics of chronic and non-communicable diseases which will add to the current burden of communicable disease. However, for the most part, primary care systems in low- and middle-income countries have yet to receive the sustained attention and resources that their importance warrants. Early efforts at primary care expansion in the late 1970s and early 1980s were overtaken in many parts of the developing world by economic crisis, sharp reductions in public spending, political instability, and emerging disease. Essential packages based on cost-effectiveness criteria have been criticised for their largely disease-oriented and top down approach. In most poor countries even these limited versions of general primary care remain incompletely applied and largely unaffordable.

Primary care amounts to more than a simple summation of individual technological interventions. Its power resides in linking different disciplines, integrating different elements of disease management, stressing

early prevention and the maintenance of health. Effective general primary care that responds to the rapid health transitions under way in all socioeconomic contexts offers the potential for major health and, hence, development gains that provide good value for money and enhance equity. Critical make-or-break points include increased financial investments paralleled by sustained investment in human resources (principally the strengthening of local staff capacity, including supportive management – and the encouragement of innovation in services development). Far greater attention is needed to improving delivery and service quality, monitoring service coverage, improving access by vulnerable groups and establishing constructive partnerships with local communities. Developing effective, sustainable primary care systems is a major challenge for those active in the policy and practice of public health.

Notes

1 The largest ever gathering of heads of state in September 2000 in New York adopted the Millennium Declaration which was then translated into a roadmap. The eight goals in the section on development and poverty eradication are known collectively as the Millennium Development Goals. They build on agreements made at major UN conferences in the 1990s and represent commitments to tackle poverty, hunger, ill-health, gender inequality, lack of education, lack of access to clean water, environmental degradation, and the need for global partnerships for development. Goals 4, 5 and 6 are, respectively, to reduce child mortality, improve maternal health, and combat HIV and AIDS and other diseases.

2 Disability Adjusted Life Year (DALY) is a measure of the burden of ill-health that takes into account both reduced life expectancy and quality of life. It is widely used internationally despite limitations. Values vary widely according to discount rates and weighting of different age groups used. Relatively poor data are available for some countries and conditions, but no better alternative measure has yet been agreed.

3 Millennium Developments Goals to be achieved by 2015

- Halve extreme poverty and hunger
  1.2 billion people still live on less than $1 a day. But 43 countries, with more than 60 per cent of the world's people, have already met or are on track to meet the goal of cutting hunger in half by 2015.
- Achieve universal primary education
  113 million children do not attend school, but this goal is within reach:
  Empower women and promote equality between women and men
  Two-thirds of the world's illiterate people are women, and 80 per cent of its refugees are women and children. Since the 1997 Microcredit Summit, progress has been made in reaching and empowering poor women, nearly 19 million in 2000 alone.
- Reduce under-five mortality by two-thirds
  11 million young children die every year, but that number is down from 15 million in 1980.
- Reduce maternal mortality by three-quarters
  In the developing world, the risk of dying in childbirth is one in 48. But virtually all countries now have safe motherhood programmes and are poised for progress.

- Reverse the spread of diseases, especially HIV/AIDS and malaria
  AIDS and other diseases have erased a generation of development gains in some countries in Africa. Countries like Brazil, Senegal, Thailand and Uganda have shown that the HIV epidemic can be slowed and reversed.
- Ensure environmental sustainability
  More than one billion people still lack access to safe drinking water; however, during the 1990s, nearly one billion people gained access to safe water and as many to sanitation.
- Create a global partnership for development, with targets for aid, trade and debt relief. Too many developing countries are spending more on debt service than on social services. New aid commitments made in the first half of 2002 alone, though, reached an additional $12 billion per year by 2006.

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