LEADING ARTICLE

Building capacity to attain the Millennium Development Goals

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1. The Millennium Development Goals

There is only a decade remaining in which to attain the United Nations Millennium Development Goals (MDG) (Table 1). These goals have the unprecedented support of 189 nations and are a mechanism for holding rich and poor nations accountable for global development (United Nations Millennium Declaration, 2000). Three of the eight goals are directly concerned with health outcomes, as are eight of the 18 targets. Those directly concerned with health are not comprehensive (for example, they do not include injuries or reproductive health issues), but they address many key development challenges. However, improved health would contribute to the attainment of all the goals, because ill-health retards development in many ways (Haines and Cassels, 2004). For example, catastrophic health expenditure increases poverty (Xu et al., 2003), ill-health among family members and children impedes both economic productivity as well as the achievement of universal primary education, and environmental sustainability underpins future prospects for health.

Progress on many of the goals and targets shows considerable geographical variation, and several are unlikely to be attained by the poorest regions and even by the poorest groups within regions that do, on average, attain the MDGs (Gwatkin et al., 2004; World Bank, 2004). It seems unlikely, for example, that under-five mortality will be cut by two-thirds (in relation to the 1990 baseline) or maternal deaths by three-quarters. Reversing the spread of HIV/AIDS, tuberculosis (TB) and malaria also poses substantial challenges. Prospects for sub-Saharan Africa look particularly bleak, and it has been suggested that the required reduction in child mortality (Goal 4) will not be achieved until 2165 if current trends continue. To compound these difficulties, the quality of data is poor in many countries, with fewer than 10 sub-Saharan African countries possessing vital registration systems (WHO, 2003).

2. Recent progress

Despite the difficulties, there have been a number of positive developments in recent years. The Health Metrics Network (http://www.who.int/healthmetrics/about/en/) has been set up in part to address deficiencies in monitoring the health-related MDGs. Funding for health is beginning to increase; the Global Fund for AIDS, TB and Malaria commitment is projected to reach around $5 billion by mid-2005. UK Chancellor of the Exchequer Gordon Brown is seeking to convince world leaders to make a 10-year binding pledge of funding to an International Finance Facility, the aim of which is to double total development aid to $100 billion annually (HM Treasury, 2004). This is an ambitious goal, yet modest beside the $300 billion spent on...
agricultural subsidies annually by rich nations and the $1 trillion spent on military expenditure worldwide. The Commission for Africa has also made a case for increased development expenditure, particularly on health and education (Commission for Africa, 2005). The WHO Commission on Macroeconomics and Health suggested that increased annual expenditures by donor governments of $27 billion and low-income-country governments of $35 billion by 2007 are required to provide funding necessary to reinvigorate health systems (WHO, 2001).

Although overseas aid is currently only 0.25% of gross national product, compared with the United Nations (UN) target of 0.7%, during this year there may be real prospects of addressing international development. Both the G8 Summit and the UK government’s role as chair of the EU will provide opportunities to ensure that international development reaches the top of the agenda of political leaders.

### 3. Continuing challenges

Money alone will not be enough, however, because the health systems in many countries are too weakened and fragmented to enable the scaling-up of potentially effective interventions (Hanson et al., 2003; McCoy et al., 2005; Travis et al., 2004). It has been estimated that around 75% of more than 500,000 maternal deaths annually and over 60% of under-five deaths (which currently exceed 10 million per annum) could be prevented by a range of existing interventions (Jones et al., 2003; World Bank, 2004). While the need to develop and test new drugs and vaccines for priority diseases such as HIV/AIDS, TB and malaria is compelling, there is also a pressing need to acquire new knowledge about how to rapidly improve the capacity of health systems to deliver. This is starkly illustrated by the fact that coverage with the six basic vaccines of childhood has stagnated in almost every region of the world since 1990. For example, barely 60% of children in low-income countries receive DPT3 immunization (World Bank, 2004).

A task force convened by WHO has recently suggested a wide-ranging research agenda covering 12 topic areas, which, if addressed, could provide the knowledge to improve health-system functioning (Task Force on Health Systems Research, 2004). One key challenge is the need to develop human resources to enable health systems to function effectively and efficiently. Perhaps an additional 1 million personnel are required for Africa and 4 million on a global scale (Chen et al., 2004). Problems with medical migration, both within countries from rural to urban areas and from public to private sector, as well as from poorer to richer nations, have been extensively documented, but effective solutions are still wanting. HIV/AIDS poses a triple threat to the health workforce by increasing their workload, decimating their numbers and increasing their psychological stress. Recent research demonstrates that, contrary to earlier work based on inadequate data, the density of health workers is inversely related to maternal, infant and under-five mortality (Anand and Barnighausen, 2004): this underlines the importance of addressing deficiencies in human resources if the MDGs are to be attained.

### 4. Developing human resources for health

While almost a quarter of overseas development assistance goes to support capacity building, mainly through technical assistance, these efforts have been disappointing and have resulted in several in-depth reviews that have highlighted key issues (OECD, 2005). A recent report from the Rockefeller Foundation (Whyte, 2004) examines lessons from capacity building efforts. It points to the opportunity for funding agencies and other stakeholders to play a strategic role in developing innovative and effective solutions to bridge the daunting chasm between the capacity required and the capacity available to deliver development priorities, notably in the field of health. In the past, much capacity building has focused on the production of health professionals, rather than the need to retain them in the systems, to ensure their career development and to keep their skills and competencies up to date. Insufficient emphasis has been placed on
Building capacity to attain the Millennium Development Goals

Table 2: Summary of the United Nations Development Programme's 10 default principles for capacity development (Lopes and Theisohn, 2003)

<table>
<thead>
<tr>
<th>Principle</th>
<th>Details</th>
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<tr>
<td>1</td>
<td>Don’t rush: capacity development is a long-term process</td>
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<tr>
<td>2</td>
<td>Respect the value system and foster self-esteem</td>
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<td>3</td>
<td>Scan locally and globally. Reinvent locally; knowledge needs to be acquired rather than transferred</td>
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<td>4</td>
<td>Challenge mindsets and power differentials. Capacity development involves challenging vested interests, which can be a difficult process</td>
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<td>5</td>
<td>Think and act in terms of sustainable capacity outcomes. Capacity is at the core of development; any course of action needs to promote this end</td>
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<td>6</td>
<td>Establish positive incentives. Motives and incentives need to be aligned with the objective of capacity development, including through governance systems that respect fundamental rights</td>
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<tr>
<td>7</td>
<td>Integrate external inputs into national priorities, processes and systems. Where national systems are not strong enough, they should be reformed and strengthened, not by-passed</td>
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<tr>
<td>8</td>
<td>Build on existing capacities rather than create new ones</td>
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<tr>
<td>9</td>
<td>Stay engaged under difficult circumstances. The weaker the capacity, the greater the need. People should not be held hostage to irresponsible governance</td>
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<tr>
<td>10</td>
<td>Remain accountable to ultimate beneficiaries. Anchor development firmly in stakeholder participation and maintain pressure for an inclusive accountability system</td>
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The development of long-term institutional capacity to sustain the diverse range of health personnel required, and in Africa the past few decades have seen the weakening of training institutions, mainly as a result of chronic underfunding.

Low salary levels may be an important determinant of morale and retention of health personnel in the field, but other factors are also important, as illustrated by a recent survey of health personnel from India (Peters et al., 2002). This demonstrated that health workers also wish to work in a supportive environment where their skills are recognized, where promotion is based on ability, and where essential infrastructure such as drug distribution systems function effectively. Provision of appropriate accommodation and education for children is frequently identified as an important factor in sustaining morale and commitment.

There is a dearth of rigorous research on human resources for health, so the empirical basis for many policies and practices is weak. Policies may be based on concepts applied from high- to low-income settings without consideration of contextual differences. A number of modalities have been used by donors to build professional competencies, including: training and award programmes; study tours and conferences; twinning arrangements; centres of excellence; research and training networks; and institutional support of libraries and/or information and communication technologies. While in the past funding was often focused around one or two approaches, there appears to be an increasing trend for a multi-faceted approach combining a range of modalities (Whyte, 2004). This is no doubt a reaction to the perceived inadequacies of previous strategies.

Some general principles have been educed from the experience of many international donor agencies: for example, the United Nations Development Programme’s (UNDP’s) 10 default principles for capacity development (Lopes and Theisohn, 2003) (Table 2). Nevertheless, while such principles are useful, there is little guidance on how to implement them and how to adapt them to changing realities. For example, many developing countries are undergoing some form of government decentralization, not least in the health sector (Kolehmainen-Aitken, 2004), and this poses new challenges for capacity building, strategic planning, resource management and accountability to be effectively embedded at the district and provincial levels.

5. Mid-level and community health workers

The HIV/AIDS crisis has highlighted the pressing need to develop mid-level cadres of health workers, who might be less likely to migrate than doctors and nurses because their qualification may not be internationally recognized. In countries such as Mozambique, mid-level health workers such as assistant medical officers have been trained to undertake basic surgery, for example, and their outcomes for caesarean section seem comparable to those of trained surgeons (Pereira et al., 1996). Such health workers are also likely to play an increasingly important role in antiretroviral delivery programmes, because the sheer magnitude of
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However, the evidence base for such approaches in
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often difficult for decision-makers to keep up to
date with advances in knowledge and to main-
tain a clear vision of their own strategic priorities
when they are continually being buffeted by the
demands of donors, who may come with differ-
ent agendas. Systematic reviews addressing top-
ics of relevance to policymakers are likely to be
helpful in this respect (Lavis et al., 2004). The
development of mechanisms for a closer artic-
ulation between researchers generating policy-
relevant knowledge and policymakers is essential.
The European Health Observatory is one such model
(http://www.euro.who.int./observatory) that may
be adaptable to low-income settings. In this
approach, policymakers are provided with distilla-
tions of available evidence from systematic reviews
relevant to the decisions facing them.

The development of essential research capac-
ity is also required in many countries: arguably the
need for applied research directed at improving the
effectiveness and efficiency of health systems is
universal. An example is the research that under-
pinned the introduction of a large-scale antiretro-
viral delivery programme in Brazil demonstrating,
inter alia, a reduction in AIDS-related hospitaliza-
tions and consequent substantial savings (Global
Forum for Health Research, 2002). An overview of
reviews of research capacity building has indicated
that increasing resources alone are not sufficient
(Alliance for Health Policy and Systems Research,
2004) and need to be accompanied by: improved
knowledge management; creation of demand by
potential users; and support of collaborative net-
works and leadership development (Neufeld and
Johnson, 2001). The costs of capacity strengthen-
ing for health policy and systems research could
be relatively modest, amounting, for example, to
between $25 000 and 100 000 per annum per pro-
grame to strengthen higher education institutions
in the South in order to provide in-country train-
ing to researchers (Alliance for Health Policy and
Systems Research, 2004).

6. Improving the quality of care
Strengthening the capacity of district health teams
to focus limited resources on priority problems
can be done effectively in low-income settings,
as illustrated by the Tanzania Essential Health
Interventions Project, which has placed pow-
nerful but easy-to-operationalize decision-making
tools in the hands of local decision-makers
(http://www.idrc.ca/tehip). More effort needs to
be placed on updating staff in the field, given
that there is a rapid pace of transformation of
knowledge about effective interventions. Current
approaches all too often involve taking staff away
from health facilities to participate in courses and,
given the multiplicity of different disease pro-
grammes, which are often poorly integrated, such
courses can contribute to health facilities being
seriously understaffed (Ijumba, 2003). It is likely,
therefore, that more emphasis should be placed
on outreach education and supportive supervision,
which as far as possible is provided to health work-
ers in or close to their place of work.

Interventions to improve quality of care have
mostly been evaluated in high-income settings
(Haines et al., 2004). Failing costs of information
and communications technology may be helpful in
this respect, although the penetration of the Inter-
net in Africa is less than 1.2%, compared with 75%
in the USA (Lopes and Theisohn, 2003). Distance-
learning approaches offer the potential of scaling-
up human resources rapidly and providing contin-
uing professional development to existing personnel.
They do not necessarily require reliable Internet
access, because learning materials can be provided
as hard copy or CD-ROMs (Sanders et al., 2001).
However, the evidence base for such approaches in
low-income settings is still fragmentary, and they
must therefore be accompanied by rigorous eval-
uation in order to tailor approaches effectively to
rural and urban locations in low-income countries.

7. Supporting policymakers and
essential research
It is also essential to strengthen capacity at higher
management levels in ministries of health and
provincial or regional health departments. In these
settings, challenges of working with multiple donors
may place intolerable stresses on management
and planning capacity. In such circumstances it is
often difficult for decision-makers to keep up to
date with advances in knowledge and to main-
tain a clear vision of their own strategic priorities
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8. Conclusions

While there are still many questions about how best to scale up the human resources required over a short time period, there can be no doubt that developing human and institutional capacity is an essential prerequisite for the achievement of the MDGs. Capacity building that aims for long-term sustainability should be a major focus of initiatives arising from the recommendations of the Commission for Africa, the G8 Summit and the Millennium Development Summit. The juxtaposition of a number of important events attended by key policymakers during 2005 offers real prospects for advancing the international health agenda. The challenge now is to ensure that credible implementation plans are developed, which build genuine and equitable South–North and South–South partnerships to capitalize on these opportunities.

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