Bangladesh: Innovation for Universal Health Coverage 6

Innovation for universal health coverage in Bangladesh: a call to action

*Alayne M Adams, Tanvir Ahmed, Shams El Arifeen, Timothy G Evans, Tanvir Huda, Laura Reichenbach, for The Lancet Bangladesh Team**

Lancet 2013; 382: 2104–11
Published Online November 21, 2013 http://dx.doi.org/10.1016/S0140-6736(13)62150-9
See Comment *Lancet* 2013; 382: 1681
This is the sixth in a Series of six papers about innovation for universal health coverage in Bangladesh

*Members listed at end of paper
Centre for Equity and Health Systems (Prof A M Adams PhD, T Ahmed MD), **Centre for Child Health and Adolescent Health** (Prof S E Arifeen MD, T Huda MD), **and Centre for Reproductive Health** (L Reichenbach PhD), **International Centre for Diarrhoeal Disease Research, Bangladesh, Dhaka, Bangladesh; and World Bank, Washington, DC, USA** (Prof T G Evans MD)
Correspondence to: Dr Alayne M Adams, Centre for Equity and Health Systems, International Centre for Diarrhoeal Disease Research, Bangladesh, Mohakhali, Dhaka 1000, Bangladesh **aadams@icddrb.org**

A post-Millennium Development Goals agenda for health in Bangladesh should be defined to encourage a second generation of health-system innovations under the clarion call of universal health coverage. This agenda should draw on the experience of the first generation of innovations that underlie the country's impressive health achievements and creatively address future health challenges. Central to the reform process will be the development of a multipronged strategic approach that: responds to existing demands in a way that assures affordable, equitable, high-quality health care from a pluralistic health system; anticipates health-care needs in a period of rapid health and social transition; and addresses underlying structural issues that otherwise might hamper progress. A pragmatic reform agenda for achieving universal health coverage in Bangladesh should include development of a long-term national human resources policy and action plan, establishment of a national insurance system, building of an interoperable electronic health information system, investment to strengthen the capacity of the Ministry of Health and Family Welfare, and creation of a supraministerial council on health. Greater political, financial, and technical investment to implement this reform agenda offers the prospect of a stronger, more resilient, sustainable, and equitable health system.

Introduction

An important consideration in formulating a post-Millennium Development Goals agenda for Bangladesh is the changing determinants of sustained health improvements, both nationally and worldwide. Perhaps the most important of these shifting determinants are the demographic and epidemiological transitions associated with rapid falls in fertility and infant, child, and maternal mortality; progressive population ageing; and a shift from infectious to non-communicable diseases and causes of death.[1,2] According to the most recent Bangladesh Demographic and Health Survey,[3] 60% of women and 46% of men older than 35 years of age have high blood pressure and more than a third of the population has glucose intolerance, classifying them either as diabetic or prediabetic.

Rapid urbanisation and its attendant health risks must also be taken into account. By the middle of the century more than 50% of the population of Bangladesh is expected to live in urban areas,[4] mostly concentrated in urban slums that already house 30% of the urban population.[5] The capacity of the Government of Bangladesh to regulate, plan, or provide basic services in urban areas is not keeping pace with this population shift. Evidence suggests that 22% of poor urban settlements in Bangladesh have no or insufficient access to drinking water, 25% have no toilet facilities, 57% have no drains, and a massive 79% have no collection service for solid waste.[6] Health services are in similar disarray, with inadequate primary care provision and a mushrooming formal and informal private sector filling the void.[6–8] Concerns about costs and quality are widespread, particularly with respect to the informal private sector (ie, pharmacies, drug sellers, and traditional healers), which represents the predominant source of care for the urban poor.

Climate change is another looming health threat. With most of its landmass within 3 m of sea level, Bangladesh is highly vulnerable to the effects of rising sea levels and saltwater intrusion of groundwater aquifers.[9] About 53% of the country's coastal areas are currently affected.[10] High salinity in drinking water has been associated with increased frequencies of pre-eclampsia and gestational hypertension.[11,12] Reduced river flows, increased upstream withdrawal, and longer-term shifts induced by climate change in the timing of the rainy season further threaten health through effects on water supply and food security.[12]

Bangladesh's increasing role in the global economy represents another challenge for health development. Ranked the second largest exporter of ready-made garments in the world, and with a large proportion of the gross national product supplied by migrant remittances, Bangladesh is subject to the vicissitudes of global

Key messages

- The health agenda in Bangladesh should encourage a second generation of health-system innovations with the aim of achieving universal health coverage.
- Reform must involve a multipronged strategic approach that assures affordable, equitable, high-quality care in the context of a pluralistic health system.
- Crucial structural barriers and changing health-care needs in a period of rapid health and social transition must be taken into account.
- A pragmatic reform agenda should include the development of a long-term national human resources policy and action plan, establishment of a national insurance system, building of an interoperable electronic health information system, investment to strengthen the capacity of the Ministry of Health and Family Welfare, and creation of a supraministerial council on health.
- Political, financial, and technical investment will result in a stronger, more resilient, sustainable, and equitable health system.

markets, and has faced international criticism about the health, safety, and human rights of its workforce. Together with chronic political instability and weak governance, these changing determinants of health challenge the country's pursuit of middle-income status and sustained health improvement.

Health system barriers

Although the direction, speed, and scale of these 21st century challenges might be obvious, less clear is whether Bangladesh's health system has the capacity to respond appropriately, rapidly, and equitably. Designated a health workforce crisis country by WHO,[13] Bangladesh's health system is crippled by an absolute shortfall of health professionals (especially nurses and midwives), a dearth of public health and policy expertise, and distributional biases towards urban areas.[14,15] Despite increased attention to these issues in the recent health sector strategy,[16] there is little evidence of measurable improvement in the skill mix or geographical coverage of qualified health workers.[17] Although demand for health professionals has spurred a rapid emergence of medical, nursing, midwifery, allied health, and public health professional schools in the private sector, this growth seems to be driven more by the needs of emerging markets in higher education than by the changing health needs of the country.[9]

The health market is also serving to skew access to quality care by those most in need. The widespread practice of dualism, whereby doctors employed in public-sector hospitals in the morning pursue private practice in the afternoon,[17–19] and the proliferation of expensive for-profit private-sector hospitals clustered in urban areas further reduce equity of access. Currently, the private for-profit sector accounts for 80% of the more than 3500 hospitals in Bangladesh and is growing rapidly, with more than 100 new private hospitals and clinics and 200 new diagnostic centres opening every year.[20] By contrast, growth in public-sector services, which are free to poor people, is much slower, with bed occupancy far higher than safe thresholds, chronic shortages of doctors and nurses, and infrastructure deficits related to electricity, transport, and water.[20] Frequently characterised as poor care for poor people, the public sector is increasingly unable to compete with the private-sector model of high-volume diagnostic centres and inpatient treatment with expensive procedures.[8] One manifestation of private-sector oversupply is increase in caesarean section deliveries to an alarming 70% in private-sector facilities.[3]

The capacity of Bangladesh's health system to adapt to new health challenges is compromised by institutional legacies, including a complex civil service structure and centralised planning system.[21] The bifurcated division of labour between health services and family planning within the Ministry of Health and Family Welfare hampers the development of shared systems, resulting in inefficiency and duplication.[22] The absence of functioning accountability mechanisms around dual practice, as well as chronic and widespread absenteeism from rural posts, deprive many citizens of their entitlement to primary health care.[17–19] The absence of systems for cross-ministerial or intersectoral collaboration[21] represents other lost opportunities for coordination around the major issues of nutrition, climate change, and urban health.

The existing system of health-sector financing further hampers progress. Although Bangladesh currently spends about US$67 per head on health (adjusted for purchasing power parity),[23] trends in national health accounts data suggest that the Government share of total health expenditure is falling, with a reduction from 36% to 26% seen between 1997 and 2007.[24] By contrast, private expenditure is large ($32 per head) and has grown as a share of total health expenditure from 57% to 64% during the same period (with the remainder accounted for by donor contributions).[24] This growing privatisation of health financing, mainly through out-of-pocket expenditure, is both inefficient and inequitable.[25,26] Roughly 4–5 million people per year are pushed into poverty because of healthcare costs in Bangladesh, with millions more—especially poor people—deterred from seeking care.[27,28]

Although Bangladesh has made impressive gains in health equity during the past four decades, rising treatment costs and increased exposure of poor people to the negative health and economic effects of urbanisation, global market dynamics, and climate change threaten to undermine this success.[29,30] In addition to growing socioeconomic divides in access to curative and rehabilitative services, geographical inequities are also apparent as doctors and health resources continue to concentrate in urban areas.[30]

Universal health coverage

A five-point reform agenda

Although the scale of the health-system challenges in Bangladesh is daunting, they are not unique to the country. Many countries are mobilising around a global agenda of reform called universal health coverage. Emerging from a larger WHO effort to articulate and respond to the 21st century challenges faced by its member states, global commitment to the universal health coverage agenda has been formalised by resolutions at the World Health Assembly and the UN General Assembly.[31,32]

According to WHO, universal health coverage refers to the provision of comprehensive, high-quality services according to need and at an affordable cost.[30] This definition suggests two discrete dimensions of universal coverage that must be secured: first, the availability of comprehensive services spanning primary prevention, community-based primary health care, facility-based care, rehabilitation, and policies that support the creation of a healthy environment; and second, a funding system that does not deter individuals from accessing services because of cost and in which payment for services does

not lead to financial compromise of the individual or household. Although the frameworks and concepts for universal health coverage are shared across countries, specific national contexts will inform the actual path taken. The concepts associated with universal coverage are not new to Bangladesh, having appeared in policy documents as early as 1990, but they have never been implemented.[33,34] However, successful experiences in countries such as Ghana and Rwanda show how implementation is possible even in low-income contexts.[35]

A pragmatic five-point reform agenda for achieving universal health coverage in Bangladesh should be based on priority actions that are achievable in a 5–15 year timeframe: development of a long-term national human resources policy and action plan; establishment of a national insurance system; building of an interoperable electronic health information system; investment to strengthen the capacity of the Ministry of Health and Family Welfare; and creation of a supraministerial council on health (table). These actions are both necessary and realistic with respect to the nature of the health challenges that Bangladesh faces and the capacity for national scale-up when the Government and civil society align around shared public health goals. Moreover, reform in these areas will have beneficial ripple effects for health-system governance by promoting improved accountability, transparency, quality, and equity.

Action 1: Develop a national human resources policy and action plan

Although workforce shortages in Bangladesh affect geographically hard-to-reach areas most profoundly, human resource deficits in terms of absolute workforce numbers and skill mix are apparent throughout the country. Filling this gap is a massive informal health-care sector on which most poor people rely, with attendant risks of misdiagnosis, inappropriate treatment, and poor-quality care. The scarcity of non-physician health-care providers with primary health-care qualifications, such as midwives, nurses, and paramedics, is an especially urgent issue. Investment in training institutes for these non-physician health-care roles is therefore a priority. Task shifting of specific responsibilities from physicians to other health-care workers might also lead to increased efficiency, cost savings, and improved service coverage.

	Short term (1–5 years)	Medium term (5–15 years)
Action 1: Develop a national human resources policy and action plan	Encourage investment in training institutes for non-physician health-care workers (midwives, nurses, and paramedics) and increase their deployment Reorganise tasks and responsibilities to make more effective use of nurses and community health workers, especially in health promotion and prevention services Implement incentives to rectify health workforce shortages and target hard-to-reach areas and disadvantaged populations—eg, link postgraduate admission with service in rural areas, ensure sufficient financial and social support, set up training facilities in poorly served areas, and encourage high-quality private-sector provision	Introduce public health service and health systems management professionals to strengthen system Invest in expanding the pool of essential specialist providers on the basis of needs assessment and projections
Action 2: Establish a national insurance system	Raise public expenditure on health to 2% of the gross domestic product from the present 1% Enable large-scale pilots of health insurance schemes in the NGO sector Introduce insurance-based prepayment for poor people (up to 100% subsidised) and formal-sector workers (mandatory, including the ready-made garments sector) and offer non-poor people the opportunity to enrol Introduce user fees in public and non-governmental organisation (NGO)-run secondary and tertiary facilities to incentivise participation in the national insurance scheme Establish a strong regulatory body for health insurance that is independent of the Ministry of Health and Family Welfare and also acts as a purchaser of health services Continue government purchasing of non-existent services by contracting out to the private or NGO sectors. Develop policies and regulations to enable public-sector facilities to compete with private-sector providers within the health insurance system in supplying high-quality secondary and tertiary services Create an independent body for mandatory licensing and accreditation of all facilities in the public, NGO, and private sectors (including diagnostic centres and pharmacies), and, where appropriate, link with monitoring and supervision systems	Raise public expenditure on health to 3% of the gross domestic product Expand coverage of health insurance among the non-poor outside the formal employment sector Increase consumer choice by incentivising private-sector investments in health service delivery, particularly in geographically hard-to-reach areas and poor districts
Action 3: Build an interoperable electronic health information system	Introduce electronic individual medical records Strengthen and ensure interoperability of medical information systems in the public and NGO sectors, and encourage use in the private sector Bring the entire country under an effective vital statistics registration system on the basis of lessons from existing projects Provide Ministry of Health Family Welfare and district and subdistrict managers with geographical information system-based applications to track and monitor service provision and ensure effective coverage Establish a personnel management system to ensure transparency and efficiency in human resources management	..
Action 4: Invest to strengthen the capacity of the Ministry of Health and Family Welfare	Develop and implement a national health package that includes highly effective and cost-effective interventions as the core of the shift to comprehensive health care Strengthen quality and coverage of facility services with pay-for-performance systems, task shifting, and contracting out Establish effective regulatory mechanisms under the Ministry of Health and Family Welfare to ensure accountability, coordination, and quality of health service provision	Create three directorates based on function: hospitals and health services; public health (including family planning); and research and training
Action 5: Create a supraministerial council on health	Clarify the constitutional obligations of the state with respect to health care (ie, what services should be available for free) Promote research and innovation around effective intersectoral action Create intersectoral goals, policies, and laws that promote complementary health actions needed in different sectors Undertake periodic reviews of budgetary needs to achieve national health goals	..

Table: **Proposed actions to achieve universal health coverage in Bangladesh**

One promising strategy is to extend the remit of community health workers to include a full range of health promotion and prevention interventions, including services for patients with chronic diseases, such as monitoring of blood pressure and blood sugar.[36,37]

Requisite in increasing the roles and responsibilities of frontline community workers is effective supervision and around-the-clock access to essential facility-based services for when referral is needed. To this end, strategies to ensure equitable deployment and improved retention of health professionals in disadvantaged areas must be adopted—eg, linking eligibility for postgraduate admission with mandatory rural service.[38,39] Whatever the strategy, transparency in the public-sector deployment of health professionals is essential, and success should be measured against the goals of 100% occupancy of posts and zero tolerance for absenteeism.

The bias towards medical qualifications as the primary professional criteria for jobs in the Ministry of Health and Family Welfare represents another area in need of reform. Few existing managers have the public health, management, and administration skills and expertise necessary to address the complex set of emerging health-related challenges that Bangladesh is facing. Leading public health and managerial positions across the Ministry—especially its operational wings—should be created with so-called depth competencies in areas such as emergency response, surveillance, supply chains, and hospital administration. A complementary set of so-called breadth competencies related to problem solving, teamwork, bridging the public and private sectors, and building programmes or policies for change are also needed. These competencies should be stressed as prerequisite qualifications for public health and managerial positions, and as part of the in-service training of existing staff.[40]

Overcoming inefficiencies and enmity arising from the existing schism between the health and family planning wings of the Ministry through restructuring is another priority area. The creation of three directorates—hospitals and health services, public health (including family planning), and research and training—would improve the integrity and responsiveness of the health system.

Action 2: Establish a national insurance system

Recommendations related to financing for universal health coverage are unequivocal in their support of risk pooling and prepayment to cover the costs of services for the population and to reduce often impoverishing individual payments.[32] To this end, raising public compulsory financing and creating a single national risk pool is widely advocated.[32] However, with less than 1% of the population in Bangladesh under any sort of private prepayment scheme and only 15% of the workforce in formal employment, efforts around voluntary community health schemes have low uptake and a high turnover of members.[36] Chronic underinvestment in health by the Government is another challenge that needs to be addressed in the design and implementation of a national insurance system.

The Bangladesh Health Care Financing Strategy (HCFS) 2012–32 proposes a national social health protection scheme that targets the formal sector with mandatory payroll taxation, subsidises people below the poverty line from general revenue, and allows the large non-poor informal sector to join the scheme voluntarily.[41] Although details are absent from the proposal, several key pooling, purchasing, and payment attributes need to be implemented in a coordinated manner: a single large pool to avoid fragmentation and unequal risk pooling; a comprehensive and standardised benefits package; an autonomous national body for the purchasing of all health services; a system that allows health services to be purchased from both public and private providers to create competition; and patient freedom to choose providers.

Another important step will be to increase public spending on health. The low revenue-generating ability of the Government and high household out-of-pocket health expenditures makes risk pooling and prepayment an absolute necessity. But with about a third of the population below the poverty line and a fairly small proportion of workers in formal employment, meaningful resource mobilisation through the proposed national health insurance scheme might not be achievable. Also questionable is the effectiveness of the strategy to extend coverage to the large informal sector through a voluntary contribution approach. The Government needs to diversify its funding sources through innovative financing mechanisms and to allocate a larger proportion of the national budget to health. The probable beneficial effects of even small investments in health in terms of poverty reduction and the associated returns with respect to productivity and economic development provide ample justification for such action. However, convincing the Ministry of Finance to increase investment in health will depend on advocacy by civil society, donor partners, and other stakeholders.

Substantial policy reforms in revenue collection, provider payment, autonomy of public providers, and the management, regulation, accreditation, and purchasing of health services are first-order priorities. A key task will be to ensure that necessary financial and management procedures and skilled managers and health workers are available to enable public-sector facilities to effectively compete with private-sector providers of secondary and tertiary services within the health insurance system. The Government should enhance its regulatory capacity and role as a purchaser of health-care services, creating dedicated institutional capacity for this purpose—ie, a national health security office with requisite autonomy and accountability. In view of the absence of such a purchasing function in the present system, a serious capacity-building effort will be needed in terms of

prioritising services, managing information, quality assurance, and monitoring of day-to-day transactions to minimise the risk of fraud.

Creation of an independent body tasked with mandatory licensing and accreditation of public, non-governmental organisation (NGO), and all private-sector facilities, with appropriate links to monitoring and supervision systems, would also be advisable. Such a body would enhance patient choice of health services and foster healthy public-private competition within the national insurance scheme. Tax incentives or investment loans to the private sector might also incentivise service provision in geographically hard-to-reach areas and poor districts.

Strict insurance regulation and the introduction of cashless or cash-lite transactions through the use of smart cards or mobile technology would also be beneficial. For provider payments, a capitation system for primary health care and a diagnosis-related-group-based fixed-fee schedule would bundle secondary and tertiary care services to contain costs, increase efficiency, and enhance access to and use of services in poor and underserved areas.

The large informal employment sector will pose the biggest challenge to achieving universal health coverage in Bangladesh. Small-scale NGO health insurance initiatives have been beset by problems and have not been able to be scaled up in a way that meets the needs of the target population.[38] More ambitious efforts to engage participation within the national scheme include the imposition of user fees as a disincentive to not joining the national system. Currently user fees (formal fees) charged at public facilities are nominal and only applicable for entry tickets, laboratory investigations, and a few paying beds. A more structured user fee (as proposed by the HCFS), customised incentives packages, and education about the benefits of insurance would be necessary to attract non-formal workers into the national insurance scheme.

Action 3: Build an interoperable electronic health information system

Electronic and mobile health platforms offer great promise for increasing the quality and responsiveness of health services. Universal mobile telephone coverage, rapid improvements in internet access and connectivity, and the Government's Digital Bangladesh 20/21 policy provide a fertile environment for exciting and potentially transformative applications for health. Existing examples include text message-based dissemination of advice about health risk behaviours and service appointments for patients, and the electronic registration of pregnant mothers and newborn babies to establish real-time vital statistics.

Fully harnessing the opportunities provided by information technology will depend on investment in systems that use common standards for interoperability across the public, private, and NGO sectors. Present efforts to create unique identifiers of individuals using fingerprints or retinal scans—often referred to as bio-identifiers—for all Bangladeshis through the National Population Register is a first step in building a strong interoperable patient record information system, which could be used to monitor coverage and ensure the availability of services. Available technology can improve the recording, real-time transmission, and compilation of routine service provision, and the use of data for management and programme decisions. Digitised personnel management systems and applications based on geographical information systems also offer the possibility of increasing effective coverage by providing a more transparent and rational basis for the deployment of human resources.

Action 4: Invest to strengthen the capacity of the Ministry of Health and Family Welfare

The capacity of the Ministry of Health and Family Welfare should be strengthened to manage and guide the shift from selective to comprehensive primary health-care services at scale, and to ensure technical standards are maintained for all health-care services from public-sector and private-sector providers. Responsiveness to the epidemiological transitions underway and changing patient expectations must be taken into account in this shift towards comprehensive primary care. Sensitivity to the full range of determinants of health is imperative—efforts will need to strike the right balance between patient-focused care and intersectoral services that ensure healthy living conditions.

One approach used successfully in other countries to ensure comprehensive care across the health system is to identify highly effective and cost-effective interventions to inform a national health package that becomes an entitlement for all citizens. Realising such an entitlement will necessitate the establishment of a purchasing function within the Government that makes allocations to providers (both public and private) on the basis of services included in the national health package. This proposal would constitute a major reform of the present Government system of allocating resources through operational plans and could curb wastage and irrational expenditures incurred through existing procurement practices.

Efficiency gains in the provision of good-quality services at secondary and tertiary care facilities in the public and private sectors in urban areas, and across districts and subdistricts (Upazilas) are also needed. Permanent and effective mechanisms are needed to maintain technical standards for all health services. The implementation of standard operating protocols and patient safety checklists,[38,42] as well as improvements in effective around-the-clock coverage with skilled health workers and mandatory monitoring of compliance with standard operating protocols, are important to ensure the quality of care. Responsiveness to the needs of patients has to be a clear focus. Systems for effective gatekeeping to ensure appropriate and timely referral to—and through—facility-based

secondary and tertiary care are also crucial. Useful lessons can be drawn from existing referral approaches in Bangladesh, such as BRAC's work on maternal and newborn health in urban and rural areas of the country.[43,44]

Action 5: Create a supraministerial council on health

A supraministerial council should be established, the role of which would be to encourage intersectoral action by generating evidence and monitoring progress; creating intersectoral goals, policies, and laws as needed; making recommendations on budgets; and holding implementation agencies accountable. To perform these functions, it should be adequately financed and supported by a full-time secretariat.

Action targeted at the upstream determinants of health is likely to be much more cost-effective than dealing with the myriad manifestations of illness through the health-care system. A key function of the council would therefore be the promotion of strategic investments in research, assessment, and evidence generation to allow for innovative, effective intersectoral action, a function that is currently inconsistently supported by the Ministry of Health and Family Welfare.

The council would generate policy recommendations that provide explicit direction about what complementary health actions are needed in sectors other than health. In water management, for example, the range of issues that need attention include: water supply and sanitation in slums; industrial effluents in surface water; excessive use of groundwater for irrigation; drinking water contamination related to salinisation, arsenic, and manganese; and upstream issues related to the volume of water being drawn from or damned in rivers beyond Bangladesh's borders.[45]

Other key tasks of the council would include monitoring implementation and clarifying legislative roles and responsibilities for implementation agencies across ministries to ensure accountability to shared goals. The council will need the necessary resources and political power to undertake these important responsibilities. A fundamental step to ensure the conditions necessary for the effective functioning of the council is the formulation and implementation of laws in Parliament that clarify the constitutional obligations of the state with respect to health and health care. The council would have a key role in ensuring that all implementing agencies, not only the Ministry of Health and Family Welfare, are committed to the goals of universal health coverage. The council would also undertake periodic reviews of budgetary needs to achieve national health goals, and make specific recommendations for budgetary allocations to the Ministry of Health and Family Welfare and other ministries and agencies.

Conclusion

In the past 40 years, Bangladesh has outperformed other countries and defied the expert view that improvement of population health is a straightforward function of reducing poverty and increasing resources for health.[46] The high coverage of essential services and the innovative systems that have generated these results represent assets that can be built on for universal health coverage. Legacy innovations such as community health workers can provide a foundation for comprehensive care, a strong referral system, intersectoral action, and electronic health platforms. By contrast, the second dimension of coverage related to financial protection seems to be lagging behind, with substantial deterrence and destitution arising from the inequitable and inefficient financing of health care and, until recently, the absence of any long-term financing strategy for health that envisioned a major shift from the existing system. This issue needs to be addressed if Bangladesh is to remain on course in its health achievements.

With the national strategy on universal health coverage,[41] an opportunity exists for a bold programme of action, the coordination and financing of which would provide financial protection for the poorest and most marginalised people. If this opportunity is seized by the Government in collaboration with NGOs and the private sector, Bangladesh will maintain its reputation as an innovator committed to the promotion of equity in access to health care and health outcomes. Such a strategy will require that the state exercises its regulatory roles and responsibilities to ensure quality and equity across a pluralist health system, and that reforms of financing and health workforce strategy are undertaken.

The five-point reform agenda for achieving universal health coverage in Bangladesh proposed in this call to action takes pragmatic advantage of existing opportunities and focuses on priority actions over a 5–15 year timeframe. If universal coverage is implemented at scale, the beneficial ripple effects, such as the elimination of informal payments and improved access to private-sector preventive and curative services, could be substantial. Prepayment schemes could lead to improved harmonisation of provider pay scales, and more consistent quality of care between private and public facilities, both of which would enhance equity of access to comprehensive, effective, and affordable services.

Beyond the public sector, huge challenges remain, especially with respect to the massive informal health-care sector. As the principal source of primary care for the poorest people, strategies are needed to reduce harm while also taking advantage of the sector's coverage and proximity to disadvantaged populations. Research and experimentation in this area should be prioritised.

A final element in accelerating the transition to universal health coverage in Bangladesh involves continuing to nurture and invest in innovative approaches. Underlying the country's first 40 years as a centre of health innovation is a culture of ambitious experimentation and serious investment in science for the benefit of the people. Securing a well-trained,

well-distributed, supervised, and accountable health workforce with an appropriate mix of skills demands rigorous investments in educational institutions, improved employment conditions, and the correction of labour-market failures.

In the present donor environment, in which results-based financing and value-for-money approaches are heralded, it is important to recognise that many of the proven, cost-effective breakthroughs in Bangladesh were initially failures. BRAC's initial efforts to scale up oral rehydration therapy for diarrhoeal disease faltered twice before a scalable solution was found.[47] Recognition that the history of health innovation is littered with failures is indispensable to maintaining the culture of learning to do better, as are investments in the individuals, institutions, and information systems upon which this culture depends. Building on these strengths will help to secure a new generation of innovations through which Bangladesh will accelerate towards and ultimately achieve universal health coverage.

Contributors

All six members of the writing team participated in conceptualising the paper, reviewing the scientific literature, and drafting and revising assigned sections. AMA compiled and refined the paper, with contributions from SEA, TGE, TH, TA, and members of *The Lancet* Bangladesh Team. AMA and TGE revised the paper's final structure and arguments. AMA compiled references and arranged finalisation and approval by all members of the writing team.

The Lancet Bangladesh Team

In addition to the writing team, *The Lancet* Bangladesh Team consisted of: Faruque Ahmed (BRAC, Dhaka, Bangladesh), Shamim Ahmed (WaterAid Bangladesh, Dhaka, Bangladesh), Syed Masud Ahmed (BRAC University and International Centre for Diarrhoeal Disease Research, Bangladesh [icddr,b], Dhaka, Bangladesh), Kishwar Azad (Bangladesh Institute of Research & Rehabilitation in Diabetes, Endocrine and Metabolic Disorders, Dhaka, Bangladesh), Abbas Bhuiya (icddr,b, Dhaka, Bangladesh), Richard A Cash (Public Health Foundation of India, New Delhi, India, and Harvard School of Public Health, Boston, MA, USA), Lincoln C Chen (China Medical Board, Cambridge, MA, USA), Mahbub Elahi Chowdhury (icddr,b, Dhaka, Bangladesh), A Mushtaque R Chowdhury (BRAC, Dhaka, Bangladesh, and Columbia University, New York, NY, USA), Aliki Christou (icddr,b, Dhaka, Bangladesh), Shantana R Halder (Comprehensive Disaster Management Programme, Government of Bangladesh, Dhaka, Bangladesh), Mushtuq Husain (Institute of Epidemiology and Disease Control Research, Dhaka, Bangladesh), Md Sirajul Islam (icddr,b, Dhaka, Bangladesh), Khaled Shamsul Islam (Ministry of Health and Family Welfare, Dhaka, Bangladesh), Shireen Huq (Naripokkho, Dhaka, Bangladesh), Zakir Hussain (WHO Southeast Asia Regional Office, New Delhi, India), Shehrin Shaila Mahmood (icddr,b, Dhaka, Bangladesh), Simeen Mahmud (BRAC Development Institute, Dhaka, Bangladesh), Fuad H Mallick (BRAC University, Dhaka, Bangladesh), Maria A May (BRAC Social Innovation Lab, Dhaka, Bangladesh), Ferdous Arfina Osman (University of Dhaka, Dhaka, Bangladesh), David H Peters (Johns Hopkins University, Baltimore, MD, USA), Henry Perry (Johns Hopkins University, Baltimore, MD, USA), Atonu Rabbani (University of Dhaka, Dhaka, Bangladesh), M Aminur Rahman (BRAC University, Dhaka, Bangladesh), Mahmudur Rahman (Institute of Epidemiology and Disease Control Research, Dhaka, Bangladesh), Sabrina Rasheed (icddr,b, Dhaka, Bangladesh), Sabina F Rashid (BRAC University, Dhaka, Bangladesh), Ahmed Al-Sabir (formerly National Institute of Population Research and Training, Government of Bangladesh, Dhaka, Bangladesh), and Hilary Standing (University of Sussex, Brighton, UK).

Conflicts of interest

We declare that we have no conflicts of interest.

Acknowledgments

This call to action is endorsed by Fazle Hasan Abed (BRAC), A K Azad Khan (Bangladesh Diabetic Association), Rounaq Jahan (Centre for Policy Dialogue), Shahla Khatun (formerly Dhaka Medical College), and Hossain Zillur Rahman (Power and Participation Research Centre). We thank the Rockefeller Foundation for supporting the research, reflection, and dialogue that has allowed the story of health in Bangladesh to be told.

References

1 Streatfield PK, Karar ZA. Population challenges for Bangladesh in the coming decades. *J Health Popul Nutr* 2008; **26:** 261–72.
2 UN. World population prospects: the 2010 revision. New York: United Nations, 2010.
3 NIPORT, Mitra and Associates, ICF International. Bangladesh demographic and health survey 2011. Dhaka, Calverton: National Institute of Population Research and Training, Mitra and Associates, ICF International, 2013. http://www.measuredhs.com/pubs/pdf/FR265/FR265.pdf (accessed Aug 15, 2013).
4 UN. World urbanization prospects: the 2011 revision. New York: United Nations, 2011.
5 NIPORT, MEASURE Evaluation, icddr,b, ACPR. 2006 Bangladesh urban health survey. Dhaka; Chapel Hill: National Institute of Population Research and Training, MEASURE Evaluation, International Centre for Diarrhoeal Disease Research, Bangladesh, Associates for Community and Population Research, 2008. http://www.cpc.unc.edu/measure/publications/tr-08-68/at_download/document (accessed Aug 15, 2013).
6 UPPR. Urban partnerships for poverty reduction: poor settlements in Bangladesh: an assessment of 29 UPPR towns and cities. Dhaka: Urban Partnerships for Poverty Reduction, 2011.
7 Khan IR, Adams A. Chapter 1: The policy context of urban health in Bangladesh: does it work for the poor? In: icddr,b. Lesson learning around urban MNCH FP and nutrition service. Draft report. Dhaka: International Centre for Diarrhoeal Disease Research, Bangladesh, Dhaka, 2012.
8 Ahmed SM, Evans TG, Standing H, Mahmud S. Harnessing pluralism for better health in Bangladesh. *Lancet* 2013; published online Nov 21. http://dx.doi.org/10.1016/S0140-6736(13)62147-9.
9 Cash RA, Halder SR, Husain M, et al. Reducing the health effect of natural hazards in Bangladesh. *Lancet* 2013; published online Nov 21. http://dx.doi.org/10.1016/S0140-6736(13)61948-0.
10 Uddin MK, Juraimi AS, Ismail MR, Hossain MA, Othman R, Rahim AA. Effect of salinity stress on nutrient uptake and chlorophyll content of tropical turfgrass species. *Aust J Crop Sci* 2011; **5:** 620–29.
11 Khan A, Mojumder SK, Kovats S, Vineis P. Saline contamination of drinking water in Bangladesh. *Lancet* 2008; **371:** 385.
12 Khan AE, Ireson A, Kovats S, et al. Drinking water salinity and maternal health in coastal Bangladesh: implications of climate change. *Environ Health Perspect* 2011; **119:** 1328–32.
13 WHO. The World Health Report 2006: working together for health. Geneva: World Health Organization, 2006.
14 Bangladesh Health Watch. The state of health in Bangladesh 2007. Dhaka: James P Grant School of Public Health, BRAC University, 2008.
15 MOHFW. Health, population and nutrition sector development program (HPNSDP), July 2011–June 2016. Dhaka: Ministry of Health and Family Welfare, Bangladesh, 2012.
16 Directorate General of Health Services. Health bulletin 2012. Dhaka: Directorate General of Health Services, 2012.
17 Gruen R, Anwar R, Begum T, Killingsworth JR, Normand C. Dual job holding practitioners in Bangladesh: an exploration. *Soc Sci Med* 2002; **54:** 267–79.
18 Chaudhury N, Hammer JS. Ghost Doctors: absenteeism in rural Bangladeshi health facilities. *World Bank Econ Rev* 2004; **18:** 423–41.
19 Ferrinho P, Van Lerbeghe W, Fronteira I, Hipolito F, Biscaia A. Dual practice in the health sector: review of the evidence. *Hum Resour Health* 2004; **2:** 14.
20 Huque R, Barkat A, Nazme S. Chapter 3: Public health expenditure: equity, efficacy and universal health coverage. In: Bangladesh Health Watch. Moving towards universal health coverage. Dhaka: James P Grant School of Public Health, BRAC University, 2012: 25–32.

21 Government of Bangladesh. Annual program review 2012: volume I—consolidated technical report. Dhaka: Ministry of Health and Family Welfare, 2013.

22 HLSP (Mott MacDonald). Bangladesh health sector profile. London: HLSP, 2010.

23 World Bank. Health expenditure per capita, PPP (constant 2005 international $). http://data.worldbank.org/indicator/SH.XPD.PCAP.PP.KD (accessed Aug 24, 2013).

24 Ministry of Health and Family Welfare. Bangladesh national health accounts 1997–2007. Dhaka: Health Economics Unit, Ministry of Health and Family Welfare, 2010.

25 Wagstaff A, Van Doorslaer E. Catastrophe and impoverishment in paying for health care: with applications to Vietnam 1993–98. *Health Econ* 2003; **12:** 921–34.

26 Schneider P, Hanson K. Horizontal equity in utilization of care and fairness of health financing: a comparison of micro-health insurance and user fees in Rwanda. *Health Econ* 2006; **15:** 19–31.

27 van Doorslaer E, O'Donnell O, Rannan-Eliya RP, et al. Paying out-of-pocket for health care in Asia: catastrophic and poverty impact. EQUITAP Project working paper 2. EQUITAP Project, 2005.

28 Rahman HZ, Hussain M. Rethinking poverty. Dhaka: Bangladesh Institute of Development Studies, 1993.

29 Chowdhury AMR, Bhuiya A, Phaholyothin N, Ahmed F. Chapter 1: Introduction: universal health coverage: the next frontier. In: Bangladesh Health Watch. Moving towards universal health coverage. Dhaka: James P Grant School of Public Health, BRAC University, 2012: 1–16.

30 Adams AM, Rabbani A, Ahmed S, et al. Explaining equity gains in child survival in Bangladesh: scale, speed, and selectivity in health and development. *Lancet* 2013; published online Nov 21. http://dx.doi.org/10.1016/S0140-6736(13)62060-7.

31 UN. United Nations General Assembly, sixty-seventh session, agenda item 123: Draft resolution on global health and foreign policy: social protection and universal health coverage. New York: United Nations, 2012. http://www.un.org/ga/search/view_doc.asp?symbol=A/67/L.36 (accessed July 15, 2013).

32 WHO. The World Health Report 2010—Health systems financing: the path to universal coverage. Geneva: World Health Organization, 2010.

33 Chowdhury Z. The politics of essential drugs: the makings of a successful health strategy—lessons from Bangladesh. London: Zed Press, 1995.

34 WHO. The World Health Report 2006—Working together for health. Geneva: World Health Organization, 2006.

35 Lagomarsino G, Garabrant A, Adyas A, Muga R, Otoo N. Moving towards universal health coverage: health insurance reforms in nine developing countries in Africa and Asia. *Lancet* 2012; **380:** 933–43.

36 BRAC. Non-communicable disease (NCD) programme. http://health.brac.net/non-communicable-disease-ncd (accessed July 20, 2013).

37 El Arifeen S, Christou A, Reichenbach L, et al. Community-based approaches and partnerships: innovations in health-service delivery in Bangladesh. *Lancet* 2013; published online Nov 21. http://dx.doi.org/10.1016/S0140-6736(13)62149-2.

38 Evans TG. Chapter 9: Summary: a seven point agenda for universal health coverage. In: Bangladesh Health Watch. Moving towards universal health coverage. Dhaka: James P Grant School of Public Health, BRAC University, 2012: 111–23.

39 WHO. Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations. Geneva: World Health Organization, 2010.

40 MOHFW. Bangladesh health workforce strategy. Dhaka: Ministry of Health and Family Welfare, 2009.

41 MOHFW. Expanding social protection for health: towards universal coverage—health care financing strategy 2012–2032. Dhaka: Health Economics Unit, Ministry of Health and Family Welfare, 2012.

42 Begum SA, Ensor T, Dave-Sen P. The public-private mix in health care in Bangladesh. Dhaka: Health Economics Unit, Ministry of Health and Family Welfare, 2000.

43 Nahar S, Banu M, Nasreen HE. Women-focused development intervention reduces delays in accessing emergency obstetric care in urban slums in Bangladesh: a cross-sectional study. *BMC Pregnancy Childbirth* 2011; **11:** 11.

44 Nasreen HE, Nahar S, Mamun MA, Afsana K, Byass P. Oral misoprostol for preventing postpartum haemorrhage in home births in rural Bangladesh: how effective is it? *Glob Health Action* 2011; **4:** 7017.

45 Chowdhury N. Water management in Bangladesh: an analytical review. *Water Policy* 2010; **12:** 32–51.

46 Chowdhury AMR, Bhuiya A, Chowdhury ME, Rasheed S, Hussain Z, Chen LC. The Bangladesh paradox: exceptional health achievement despite economic poverty. *Lancet* 2013; published online Nov 21. http://dx.doi.org/10.1016/S0140-6736(13)62148-0.

47 Chowdhury AMR, Cash RA. A simple solution: teaching millions to treat diarrhoea at home. Dhaka: University Press, 1996.