Choosing Health

An entitlement for all Indians

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Ramanan Laxminarayan

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About the Centre for Global Health Research (CGHR)
CGHR is a non-profit academic research institution. CGHR was established in 2002 to conduct large scale epidemiological studies in developing countries. The mission of CGHR is to conduct high-quality research that advances global health, with a focus on the major causes of premature mortality worldwide.

CGHR is based in the Li Ka Shing Knowledge Institute, Keenan Research Centre at St. Michael's Hospital, Dalla Lana School of Public Health, University of Toronto. It has offices in Toronto, New Delhi and Bangalore. Prof. Prabhat Jha is the Founding Director of CGHR and a Canada Research Chair in Health and Development at the University of Toronto.

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Contents

Acronyms and Equivalencies

Acronyms

ASHA	accredited social health activist
BPL	below poverty line
CGHR	Centre for Global Health Research
CHC	community health center
COPD	chronic obstructive pulmonary disease
DALY	disability adjusted life year
DCPP	Disease Control Priorities Project
DTP	diphtheria, tetanus, pertussis
EAGA	empowered action group states and Assam
EPI	expanded programme on immunisation
GDP	gross domestic product
Hib	hemophilus influenza type b
HIV	human immunodeficiency virus
JSY	janani suraksha yojana
MDG	millennium development goals
NCEUS	National Commission on Enterprise in the Unorganized Sector
NCMH	National Commission on Macroeconomics and Health
NFHS	National Family Health Survey
NRHM	National Rural Health Mission
OECD	Organization for Economic Co-operation and Development
ORT	oral rehydration therapy
PPP	purchasing power parity
RGI	Registrar General of India
STI	sexually transmitted infection
UN	United Nations
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Equivalencies

40 rupees (Rs)	= 1 U.S. Dollar (US$) at 2007 rates
1 lakh	= 1,00,000
10 lakhs	= 1 million
1 crore	= 100 lakhs = 10 million
100 crores	= 1 billion = 1,000 million

Preface

At one time or another in their lives, every Indian will have to deal with illnesses or help a relative go through a time of sickness. Regardless of our wealth or creed, we all share the desire for fair, decent, humane and affordable healthcare. Yet the gap between that expectation and reality is large. For the vast majority of Indians, care is either in the hands of overstretched, underequipped staff in poorly managed public clinics or from private doctors, many of whom are unqualified or provide services of questionable value. Indians are entitled to better.

For the few who can afford it, private hospitals and clinics can offer the very best of care. Indeed, many medical tourists from overseas are flocking to India's elite hospitals. But even the relatively well off lack robust ways to prevent disease or know if the doctor is prescribing a test procedure that is really necessary or is profiting at their expense. Too many middle-class families are paying vast amounts for clinical care, much of which may not even be needed. Rich or poor, the social solidarity of better health shared by all is not only morally justified, it makes the best practical sense.

The remarkable growth in India's economy and with it, the expectation that our development problems will be met with 21st century solutions has created a unique opportunity: to embark on major reforms that would create an equitable, effective and affordable healthcare system. Health in India stands at a cross-roads. One path leads to a largely private financed and privately provided healthcare system that essentially leaves health care choice and availability to the market with an excessive focus on curative care. The other path leads to a tax-payer paid health services that covers everyone, ensures high quality, allows competition between public and private doctors, and puts emphasis on preventing sickness and treating all those who need care. Citizens in Europe, Canada, New Zealand, and elsewhere have chosen the latter "universal" system. But it often took four decades or more to adopt such universal systems.

Can India do as well or better than these countries? Our purpose in writing this book is to show that India can make huge improvements within a decade not just in the health of the poor, but also among the large numbers

of those in the middle classes and among the rich. We discuss why private markets, although good at many things, perform poorly at delivering the right healthcare to the right people at the right price. We argue that the entitlement to better health can begin quickly enough to improve the health of current and future generations. Admittedly, our aspiration is audacious: a health system in India that transforms health, keeps India's economy robust and competitive on the global stage, and secures the common man or woman against the terrible suffering and financial uncertainties of avoidable disease.

Our hope is that this book will spur India to walk down the path to better health. This path requires action by society and not only by government. The mobilization which India had prior to Independence, the green revolution to ensure that India fed its own citizens, and the more recent calls for better government and stamping out corruption are comparable to what would be required for a sea change in health in India. But the fruits of these toils would be both remarkable and predictable: lives saved, suffering reduced, money better spent, and the start of a fair and modern system that would be commensurate with India's standing among the great and just nations of the world.

Prabhat Jha, Centre for Global Health Research
Ramanan Laxminarayan, Resources for the Future

New Delhi, May 2009

Report team

This report was prepared by a team led by Prabhat Jha, and included Ramanan Laxminarayan (economist), Phyllida Brown (editor), Sarah Darley and Jeffrey Chow (cost-effectiveness analyses), and Shreelata Rao Seshadri and Prabha Sati (evaluation).

This report benefited greatly from substantive background papers (see references) and from a wide variety of consultations (see Appendix B). Valuable input was provided by George Alleyne, Shailaja Chandra, Anil Deolalikar, Neeraj Dhingra, David de Ferranti, N.K. Ganguly, Meenakshi Datta Ghosh, Roger Glass, Dean T. Jamison, Satish Jha, Lalit Kant, Manmeet Kaur, Rajesh Kumar, Anura Kurpad, Lysander Menezes, Rajiv Misra, Philip Musgrove, R. Poornalingam, Sujatha Rao and Amartya Sen. Input from the World Health Organization was provided by Christopher Dye, Jai Narain, Katherine Floyd and U Than Sein. The production staff of the report included Sally Atwater, Prabha Sati and Gautam Vig. Any errors are the report team's own.

The analytical work was supported by the Fogarty International Centre, National Institutes of Health and the Population Reference Bureau for the Disease Control Priorities Project (www.dcp2.org). Resources for the Future (www.rff.org) provided support for the cost-effectiveness analyses. The St. John's Research Institute in Bangalore, India provided important support for consultations. Core funding was provided by the Lombard Insurance Global Poverty Action Lab at the Centre for Global Health Research (www.cghr.org), Li Ka Shing Knowledge Institute, Keenan Research Centre, St. Michael's Hospital, University of Toronto. Their assistance is warmly acknowledged. The study funders had no role in the analyses, interpretation and conclusions, however.

Executive Summary

This report is about India's health. It examines what needs to change for Indians to enjoy the same levels of health as people in other progressive democracies. It suggests concrete steps that the central government and state governments could take to entitle all citizens to the equitable, high-quality services they should expect in a strong, successful nation.

India has reached a critical point in its history. More than a decade of rapid economic growth has brought new confidence to the world's largest democracy. Its power as both a producer and consumer on the global stage continues to attract new investment, both internally and from abroad. Even with recent economic uncertainties, the nation's future looks bright.

Yet all is not well. Despite economic growth, more than 25 crore (250 million) Indians are still living below the poverty line. One of the best ways to reduce poverty and secure people against its effects is better health. But on a range of measures of health, including the number of children who die each year and the number of mothers who die because of pregnancy or childbirth, India is trailing well behind other nations in Asia and even some in Africa. Although India is gradually making gains, for example in saving the lives of children aged under five years, the rate of improvement has been much slower than for nearby countries including Bangladesh, Indonesia and Nepal. And within India, income inequalities between states are increasing, with the poorest being left increasingly far behind. Most worryingly for a country whose economy is growing faster than nearly every other country's except China's, some of India's health gains have actually been reversed since the late 1990s. According to the National Family Health Survey of 2005-6, more children and women are now anemic than in 1998. More children show wasting through malnutrition. And the proportion of young children immunised against common killer diseases has barely improved nationwide, climbing in some states but falling in others.

India cannot afford to be disadvantaged in the global economy by ill health. Sick children – and children with sick parents – miss out on vital education. India has enormously improved its schools for young children,

but still has worse educational outcomes for its young people than China. As the economy develops an increasing emphasis on services, a "skills crunch" lies ahead unless the government can support families to keep children healthy, in school and learning well. Finally, better health can also protect families from the consequences of economic downturns.

Multiple threats

While India grapples with its old health enemies, such as malaria, tuberculosis and diarrheal disease, it is also facing a parallel epidemic of the chronic diseases that afflict adults. Cardiovascular disease – a group of conditions that includes heart attack, stroke and other disorders related to the heart and circulation – is now India's biggest killer, causing over 25% of deaths in middle-aged adults. Once believed to be a "disease of affluence", cardiovascular disease is now known to affect adults in all income groups, including in the poorest states of India. Chronic respiratory diseases, diabetes and cancers are also important causes of death among adults. Tobacco smoking, either of bidis or of cigarettes, kills nearly a million Indians a year and, as elsewhere in the world, the number of deaths is expected to increase in the coming decades. And, in a country whose public health facilities, surveillance and diagnostics have suffered from underinvestment, new threats such as chikungunya virus, dengue or highly fatal strains of flu virus could do real damage.

An inadequate health system

The reasons for India's relatively poor performance in tackling its health problems can be laid, in large measure, at the door of its health system. The system has suffered from a sustained period of underfunding, poor management and poor governance.

India has invested less public money in health than most comparable countries, with government spending on this sector falling below 1% of gross domestic product (GDP) through the 1990s and only reaching around 1.2% today. In fact, India's overall health spending reaches 6%

of GDP – but most of that is private money. Private spending on health outweighs public spending by a factor of about four to one, making India's health services more reliant on private money than in almost any other country in the world. In most industrialised countries, where total spending on health ranges between 6% and 8% of GDP, public money outweighs private money by about three to one; and in middle-income countries, the proportion is typically about 50% private and 50% public. India's reliance on private healthcare spending is a significant cause of the marked inequities in health between its richer and poorer citizens.

The private sector has grown rapidly, in part because of an underperforming public sector. Unfortunately, the private sector is not a panacea either. For those with the money and geographic access to the better providers, it can provide good or acceptable care. For others, it offers care of uneven quality, at prices that are often higher than in the public sector. For example, in private rural hospitals, patients' costs are more than twice as high as in the public sector. Private health care costs are currently rising fast – about 50% more rapidly than incomes.

Of all the private money spent on health care in India, 80% is in the form of out-of-pocket payments rather than prepaid insurance schemes, about the highest proportion of out-of-pocket health spending in the world. As ill health is difficult to predict, households are usually unprepared for the financially crippling sums they must pay out if one of the family ends up in hospital or chronically sick. One in ten households in India is spending more than 10% of its income on health care – a higher proportion than in most other Asian countries. Moderate earners are being driven into poverty, poor people to destitution. Once knocked down in this way, many cannot escape the poverty trap. Recent research has demonstrated the real impact of ill health on the poverty headcount. When health care payments are taken into account in assessing incomes, the number of Indians who are found to reach the threshold for absolute poverty – that is, surviving on an income of around Rs 40 (US$ 1) each day – swells by 3.7 crore (37 million). This is more than the population of Canada. Economic down turns add even more to those trapped in poverty from ill-health.

As well as trapping people in poverty, health care paid for privately and out-of-pocket is often inefficient because it wastes people's money on health care that they may not need. Few individuals are able to assess

whether or not the care that they are offered is appropriate, because few patients have access to as much information as their doctors. As a result, providers may offer them unnecessary or inappropriate services.

Under-investment by the public sector is only one factor in the health system's difficulties. Alongside lack of public money and crumbling infrastructure there are more complex failures of management and governance, including inadequate and poorly enforced regulation of health care providers, poor planning and monitoring of services, staffing shortages or imbalances, and poor accountability of staff. In addition, the central government and state governments have not yet offered consumers open, accessible information about what clinical and preventive services are available, how much they should cost and which treatments work best. Corruption is widespread, with users being charged for services that they are entitled to receive free and, in some states, corrupt deals for the purchasing of supplies or the maintenance of buildings or equipment.

In all, neither public nor private health care providers are currently offering Indians the equitable, high-quality, efficient care they need, nor value for their money. India's health system risks becoming stuck in a vicious cycle in which providers are underperforming, and people's expectations are reduced. In turn, these low expectations put little pressure on the government to invest in the services, leading to yet further decline.

Investing in health: rational, equitable and evidence based approaches

The central government has moved to tackle some of these problems, by pledging to raise its health spending to 2% of GDP by 2012. This welcome decision offers India a genuine opportunity for change. So far, however, the government has increased spending only to 1.2%, mainly by pooling funding from several existing health programmes into the National Rural Health Mission (NRHM), an ambitious and broad programme of improvements to the services available to India's millions of villages. The NRHM is already achieving some changes, for example in improving the number of functioning health centres and increasing the proportion of births that take place in a properly equipped facility. But the Mission faces formidable challenges and it is too early to assess its outcomes for people's health. Nor is the Mission able to meet the needs of all Indians.

The government is only now planning to address the health challenges faced by an estimated 10 crore (100 million) urban poor, announcing earlier last year its intent to set up a National Urban Health Mission. On present evidence, therefore, India's authorities have much more to do before they will have fulfilled their promises on health.

How should the government spend the pledged new money for the best outcomes and ensure that its investments buy the maximum amount of improved health per Rupee? The team behind this report has tried to answer those questions. Our aim has been to find ways to turn the vicious cycle of poor performance, low expectations and under-investment into a virtuous circle. We argue that more – but radically reformed – public investment will lead to better services, saving lives and improving health. In turn, this will raise demand for citizens' entitlement to further service improvements and more investment ahead.

Our involvement follows a meeting with the Prime Minister and senior officials which led to a request for independent assessments of the country's health needs. The team has drawn on an approach first developed in the early 1990s as part of the Disease Control Priorities Project, a collaboration between several international bodies including the Bill and Melinda Gates Foundation and the World Health Organization. The approach identifies the most significant health problems in a population, the most cost-effective interventions to treat or prevent those problems, and those that are most feasible for use in the healthcare settings available to that population. The approach aims to help governments make rational, evidence-based and equitable choices about health spending.

An Entitlement Package of health care for all to save 80 million lives

Working closely with the Registrar General of India and others, we have gathered data on the main causes of death in people in India. Then, using the published literature we have identified the most cost-effective interventions against major causes of death and disability, asking also which of these interventions can feasibly be scaled up for wider use in

the real conditions of each state. The results for the selected interventions are shown in Table 5.1 on page 85-86. While most of these interventions – such as oral rehydration therapy for diarrheal disease or pharmaceutical management of heart attack – are already in use in India, many people are missing out on access to them. Taken together, the interventions form an Entitlement Package that could, we argue, be financed publicly from taxation or social insurance and available free at the point of use to all Indians. If all citizens had access to the package, we estimate that some 8 crore (80 million) lives could be saved over 30 years, or about 27 lakh (2.7 million) lives a year. Overall, we estimate that the additional cost of the Entitlement Package per person (on top of existing public health spending) is likely to be about Rs 280 (US$ 7) per person per year. This is less than 1% of GDP, and well within the government's pledged increase. The package takes account of the different health needs and costs of the low-income Empowered Action Group (EAG) states and Assam, as well as those of the more affluent southern states. The package includes:

- Safer pregnancy and childbirth for mothers and infants;
- Life-saving but simple treatments for children with common killer diseases;
- Vaccines to protect every Indian child against disease as thoroughly as children in the West;
- Treatment for all people with communicable diseases such as tuberculosis, malaria and HIV/AIDS;
- A low-cost package of drugs for those with previous heart attack, stroke, and diabetes;
- Taxes and regulation to reduce smoking; and
- A local component to give communities choices about tackling health problems that are important to their area.

Reforms to the health system

Of course, the mere existence of a package of health interventions is unlikely to transform health unless it is also accompanied by significant changes to the health system that delivers them. The inequities and inefficiencies of the current system are already being addressed by the Government, but we argue that a different and more radical approach to

change is needed. We suggest that in the limited time and budget available, India's government must focus on a few key reforms instead of trying to do everything at once.

Using published evidence from other countries and the World Health Organization, evidence from around India, and a series of consultations with experts in health system management, both in India and abroad, we have identified a set of key reforms and estimated their cost. Our estimates suggest that for as little as a further 0.4% of GDP, or Rs 120 (US$ 3) per person per year, over a decade, India's health system could complete an initial phase of modernisation to make it fit for a successful nation. Rather than simply working towards a better health system in abstract, the government should initially focus its reforms on the implementation of the Entitlement Package, using health outcomes to measure its impact. This focus in itself would serve to strengthen the existing health system, but just as importantly, it would hold the government to account to bring returns on taxpayers' investments. Whereas the ambitions for improvement set out by the National Rural Health Mission are broad, our own are more sharply defined so that citizens can judge clearly whether their tax money is being spent well.

Our proposed reforms are based on the following principles:

- Allocating resources to buy a key set of health outcomes, to achieve the greatest health gain with the greatest efficiency;
- Developing national frameworks to regulate health care providers, whether public or private, on the same standards, thus driving up quality, controlling costs and reducing waste and inefficiency;
- Providing clear, timely and independently audited information to managers on health needs and the performance of service providers; and
- Unlocking people's demand for equitable, high-quality health services by communicating to them exactly what they can expect their services to deliver, at what standards, and having them hold their politicians to account if their demands remain unmet.

Taken together, then, the Entitlement Package and the system reforms could be delivered for about Rs 400 (US$ 10) per person per year, or around 1.2% of GDP, over the next decade (Table S1)

TABLE S1 TOTAL ADDITIONAL COSTS FOR ENTITLEMENT PACKAGE AND SYSTEM REFORMS, FIRST DECADE, PER YEAR

Component	*Price per person (Rs)*	*Percentage of GDP at current prices*
Entitlement Package	280	0.8
Catalytic system reforms	120	0.4
Total	400	1.2

Table 5.2 on page 98-99 gives more detail of how the central and state governments might work on these principles, for example by enforcing regulatory standards, publishing regular state and district "report cards" on key health outcomes, and demanding a more transparent recruitment and placement process for doctors. The state governments should develop a management information system to enable them to monitor the performance of all health care providers, public and private.

Of course, the National Rural Health Mission has already begun some of these reforms. The physical infrastructure of the public health service is being upgraded and more staff are being recruited, albeit slowly, particularly in nursing and midwifery. But merely upgrading to meet government norms will change little unless health care providers have incentives to improve the health outcomes for their users: for example by immunising more children, reducing the number of deaths in infants and mothers, and improving quit rates among smokers.

We argue that the best way to achieve the reforms is for India's states to begin financing the Entitlement Package, using public money to buy services, either from public providers or from regulated private providers.

Healthcare providers' budgets should be awarded on outcomes rather than on bureaucratic norms. Districts should be paid on the basis of how far they can improve their performance: for example when immunising children, any improvement in the number of children reached should be rewarded with additional funding. Rewards for improvement should ensure that poorly-performing districts making any gains are recognised, rather than simply giving more money to the already successful districts. Results should be independently monitored and published promptly, in a format accessible to the media and the public. In this way, consistently poor performers will be put under pressure to improve.

India's central and state governments should strengthen and enforce their frameworks to regulate health care providers, whether public or private, on care and treatment standards and the quality of pharmaceutical products. All providers should be registered with the state government and failure to conform with national regulatory standards should result in the closure of the provider. Not only would such regulation enable people seeking health care to hold their local providers to account on quality of service; it would also help to control the rising costs of private health care. Over a period of time, all unqualified practitioners would be replaced by qualified ones.

Equitable health care and options for financing it

Radical changes in India's health are needed if the nation is to retain its place as a global player over the next generation. Without focused action, the stagnation seen in immunisation and malnutrition could deepen and also leave India unable to deal with the growing number of adults with chronic diseases.

A key question for policy makers is how to achieve the best means of financing health care. One option would be to allow the current rush to private health insurance to continue. Unfortunately, as the report explains, health care is unlike many of the commodities that people can buy or sell. Households are unlikely to be able to predict how much of it they will need across their lifetimes. And, by definition, providers will tend not to want to offer insurance to individuals who are likely to need lots of expensive care. As a result, millions of people with chronic diseases such as diabetes are

liable to be excluded. Heavy reliance on private insurance is therefore likely to lead to an inequitable health system. Experience from other countries in Asia, such as China and Vietnam, has provided valuable lessons on the risks of leaving health to the markets: they show that costs of care rise and large numbers of people are excluded from access to service.

Most industrialised countries have shifted to a system of health financing that shares the risks of ill health across the whole of society, using social insurance or income taxation to prepay health care needs. In this way, the direct purchaser of health services is the government or a regulated health insurance provider, not the patient, and the provider is required to meet government quality standards that ensure the appropriateness of care. Across India, a wide range of small community-based insurance schemes have been developed, some proving very successful, but as yet there is little evidence that they could be extended more widely. A national social insurance scheme was introduced in 2003, but uptake has been minimal, suggesting that people's confidence in the public sector is currently so poor that they do not expect any services in return for their investment. The latest social insurance scheme to be proposed, due to be introduced this year, offers cash-free health services to families who are classified as below the poverty line but, while this is a welcome improvement, the scheme has certain drawbacks that the report discusses.

Thus, the piecemeal solutions offered so far have not been enough. But few would advocate simply pouring money into India's public sector while there are widespread and legitimate concerns about its current governance and capacity. Would the money be used well or would this just be a costlier version of business as usual? Given public concerns about corruption, there are good reasons for avoiding the "blank cheque" approach.

An alternative, we suggest, is to start with the limited funds needed to implement the Entitlement Package and the priority reforms to the health system. Taken together they would cost about 1.2% of GDP in additional public expenditure. This is clearly a considerable sum of money and would double existing spending, but it would be pegged to a defined and highly focused set of activities and with highly measurable outcomes.

We draw attention to the double gains from higher taxations of bidis

and cigarettes. Not only would sharp increases deter consumption, saving millions of lives, but such taxes could raise over Rs 10,000 crores (Rs 100 billion, US$ 2.5 billion) more in revenue.

The idea of the package is to use the principle first described by the World Health Organization a decade ago as "coverage for all, not coverage of everything" – in other words, to offer a universally accessible but defined set of health care services. Not only would a limited package be easier to monitor than trying to finance everything, but it would also be easier to communicate to the public clearly so that they knew their entitlements. If the initial package were shown to be delivered appropriately and to result in better health outcomes, then the government would have the evidence it needed to justify to its taxpayers an additional investment in an extended package with a wider range of services in the medium-term future. This approach has already been taken in other countries such as Mexico, with favourable results.

There will always be tensions about services that are excluded from any package: for example, if a poor worker breaks his or her leg, would services be denied because treatment for this particular condition is not in the package? We stress that the package is an increment above existing services, and would only add to, rather than restrict, poor people's access to services. If it is implemented properly, it is likely to give the worker a better chance than currently to find a functioning hospital with a surgeon in post and appropriate painkillers in stock.

Why universal services and not just a programme for the poor?

Some policy makers have argued that only the poorest in India should be entitled to receive the publicly funded package. We disagree. We argue that the services contained in the package should be open to all. Evidence from other countries and, in India, from experience with the education sector suggests that when services are offered to all citizens, they actually benefit a higher proportion of low-income families than targeted services. Universal services are also cheaper to administer than targeted services, because there is no need to spend time and money checking each user's entitlement. They are "cleaner", too, because there are fewer opportunities for illegal corruption. Perhaps most important of all, the fact that when the services are offered to all, not just the poor, keeps them under the scrutiny of the most demanding and politically influential users. Unfortunately,

services for the poor can all too often become “poor services”, neglected and under-invested because their users typically lack a voice to demand more. Finally, targeting can have the effect of humiliating and exposing poorer households by asking them to define themselves as poor, rather than citizens with a democratic entitlement to a service.

The urgency of now

By following the course outlined above, India could, we suggest, have a universal health service offering the Entitlement Package by 2017, with a possibility of introducing an extended package including a much wider set of services, though still not coverage of everything, by 2022. For example, the extended package might include surgery and cost-effective chemotherapy for most types of cancer. Over this period the government’s health spending would increase gradually to reach around 6% -7% of GDP, in line with comparable countries, with a modest top-up of private spending of around 1% GDP (Table S2).

TABLE S2 TIMELINE FOR ACTION

By this date	*Action*	*Government health spending as a share of GDP (%)*	*Private health spending as a share of GDP (%)*
August 15, 2012 (65th Anniversary of Independence)	1) Publicly financed Entitlement Package introduced in all states, with independent monitoring for outcomes and performance 2) First phase of system reforms: register and accredit all health providers	2.4	4.5
August 15, 2017 (70th Anniversary of Independence)	3) Entitlement Package expanded in pilot states to cover wider range of affordable interventions, including major surgery for cancers	4	3
August 15, 2022 (75th anniversary of Independence)	4) Full implementation in all states of expanded Entitlement Package providing most evidence-based clinical services	7	1 - 2

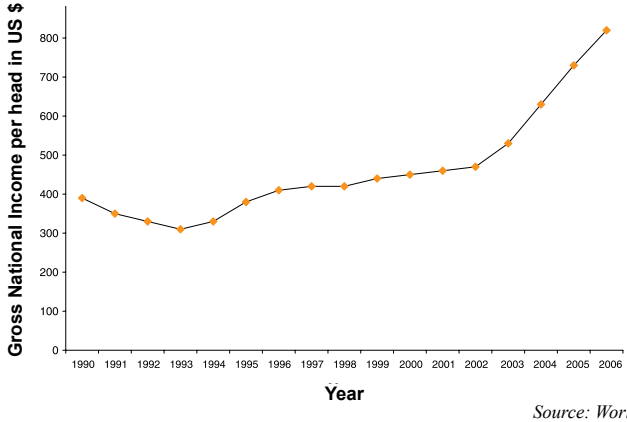
The time for action is limited. As private insurance spreads and becomes entrenched, there will be fewer opportunities to build a more equitable system. Salary costs are also rising fast as India's economy grows, so that while the costs of reform are currently reasonable, they may not be so reasonable if delayed. Thus, while there is a window for achieving significant improvement now, it may not last for more than a few years. India owes itself a health system worthy of all its citizens. Its politicians and its people are tired of having the nation's health record criticised and compared unfavourably with those of much poorer and less sophisticated countries. India now has the opportunity to fast-forward within one decade the health reforms that were implemented over at least three decades slowly, through trial and error, in the industrialised countries. Within a generation, India could develop a responsive, equitable and modern health system of high-quality care for all, to commensurate with its standing as one of the great and just countries of the world.

CHAPTER 1

Introduction: India at a crossroads

India has reached an unprecedented point in its history. Its material wealth and its confidence are greater than ever before. As exports of services and software have boomed, economic growth has been sustained, reaching 9.4% in 2007 (UN 2008), outstripping growth in every other country but China. According to government data, the proportion of India's population living in absolute poverty, on less than Rs 40 (US$ 1) per day, has fallen from about half to about a quarter since the early 1990s. Average income per head has more than doubled since 1990 (Figure 1.1).

FIGURE 1.1 INCOME PER HEAD IN INDIA



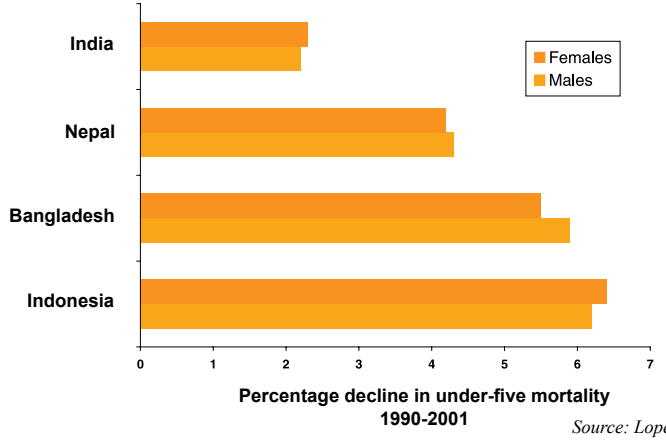
Source: World Bank 2007

The health of India's population has also improved considerably. A baby boy born today can expect to live to about 64 years, almost three decades longer than a boy born at Independence in 1947. Infant mortality has fallen by more than half in four decades (RGI 2006a; NFHS 2006).

1.1 Progress in health, but lagging behind other Asian countries

India's health improvements are nevertheless modest when compared with the gains of some neighbouring Asian countries. For example, between 1990 and 2001, the probability of dying before age five fell more than twice as rapidly in Bangladesh and Indonesia as in India (Lopez et al. 2006) (Figure 1.2). Children's survival chances in India have increased further since 2001, with another fall in infant mortality (NFHS 2006), but at the current rate of decline, the nation will not achieve its own goal of halving infant deaths by 2012, or the 2015 goal in the United Nations' Millennium Declaration.

FIGURE 1.2 CHILD SURVIVAL: INDIA LAGS BEHIND



Source: Lopez et al. 2006

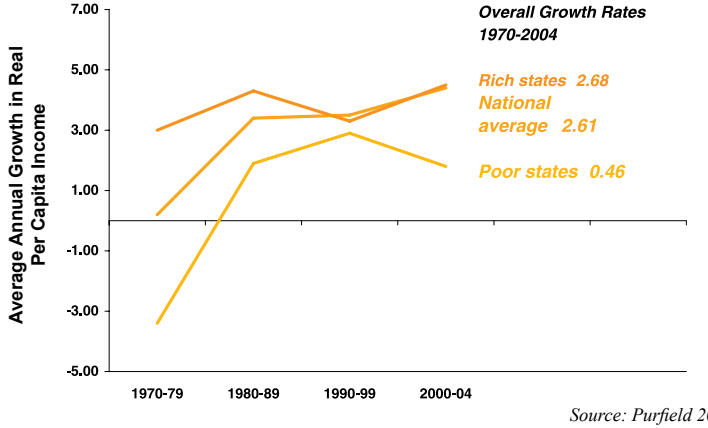
Nor has India yet managed to end the needless loss of many mothers' lives in pregnancy or childbirth. About 250 women died for each 1 lakh (100,000) live births in India in 2004-2006 (RGI 2009), compared with 56 per 1 lakh (100,000) live births in China (WHO 2005). On a range of other

measures of population health, too, India is trailing behind other Asian nations.

The latest government data reveal just how frustratingly slow progress against ill health has been. The percentage of children who are immunised against six major diseases, including measles, tuberculosis, and polio, has barely improved since the late 1990s. In 2005–2006, just 44% of one-year-olds nationwide received the full set of immunisations, a level scarcely better than in 1998, when the proportion was 42%. The number of children who were underweight scarcely declined in the same seven-year period, and the prevalence of wasting (low weight for height) and anemia actually increased (NFHS 2006).

All of the national figures for India mask wide variation between and within its states. In the richer states, such as Gujarat, Maharashtra, and Punjab, average incomes are more than four times greater than in Bihar, the poorest (Ministry of Finance 2007) (see Appendix A). The economies of the richest and middle-income states have grown fast since 1990, while the poorest have been left behind (Figure 1.3) (Purfield 2006). Current indications are that rich and poor will continue to diverge as population growth in the poor states continues.

FIGURE 1.3 DIVERGENCE IN INCOME GROWTH RATES AMONG STATES



Source: Purfield 2006

The health gap between rich and poor states is equally stark. Eight states have been identified by the government as having particularly high levels of child mortality, low life expectancy, and other challenges. These states, known as the Empowered Action Group (EAG) states (see Map 1.1), comprise Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttarakhand, and Uttar Pradesh. The EAG states and Assam together are the nine states with the worst health conditions (see Appendix A), and we refer to them throughout this report as the EAGA group. Although they have only about 45% of India's population, they account for over 60% of all infant deaths and of all maternal deaths (RGI 2009) (Figure 1.4).

To grasp the scale of this inequality of life-chances between states, it is worth considering some examples. The risk of death before age one for a baby girl born in a village in Madhya Pradesh is about six times greater than for a baby girl born in rural Kerala (RGI 2006a; NFHS 2006). A woman in an EAGA state faces a lifetime risk of death in pregnancy or childbirth that is three to four times greater than for her peers in Tamil Nadu. Similarly, within states, there are extreme variations in both health services and health outcomes between one district and another.

MAP 1.1 EMPOWERED ACTION GROUP STATES PLUS ASSAM (EAGA STATES)

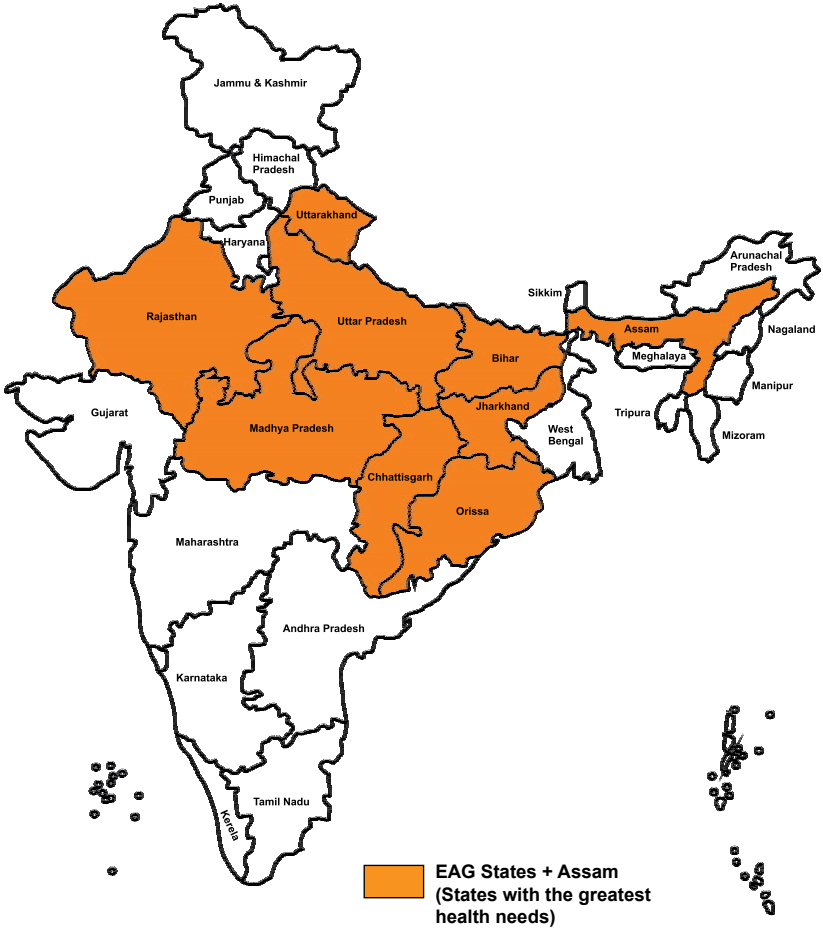
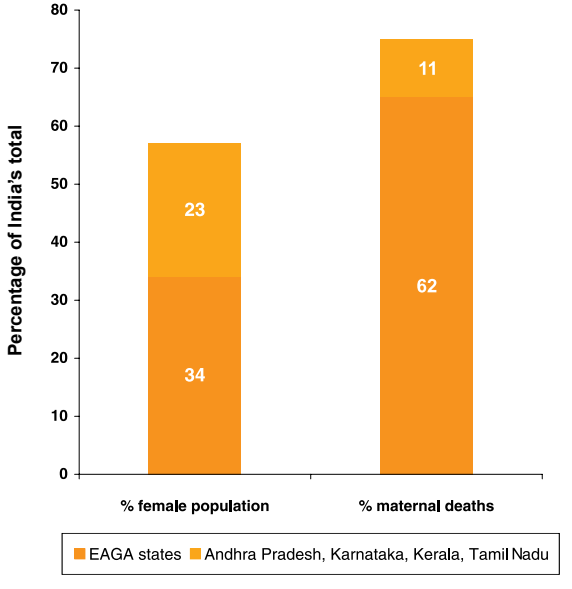


FIGURE 1.4 LIFE LOTTERY: DEATH IN CHILDBIRTH IS MORE LIKELY IN THE POOR STATES

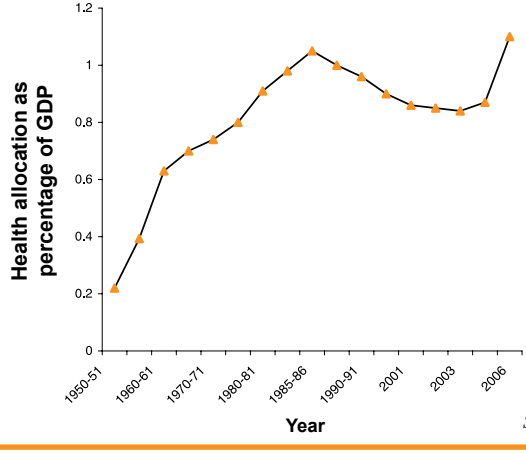


Source: RGI 2009

1.2 Decades of underinvestment in public services

India's relatively slow and unequal progress toward better health can be attributed to several factors. A major factor is underinvestment in health services. Although successive governments increased their spending on health between Independence and the mid-1980s, investment as a percentage of GDP then declined steadily for almost two decades. Indian government health spending has lagged well behind the average for countries of similar wealth levels (Deolalikar et al. 2008). During the 1990s, it actually fell or stayed flat (Figure 1.5) and continued to do so until 2003–2004. Only in the past three years has it risen, and as a proportion of GDP it has only now returned to its mid-1980s level.

FIGURE 1.5 INDIAN GOVERNMENT SPENDING ON HEALTH



Source: RGI 2006b

Such underinvestment over 20 years led public health services into a severe decline. With public services weak or absent in many parts of the country, by 2004 some 78% of the population was seeking outpatient treatment in the private sector (National Sample Survey 2004, in NRHM 2007b).

More and more people of all income groups are paying for private health care, many of them out-of-pocket (Ananthakrishnan 2005) rather than through insurance schemes. For many households, the only way to pay treatment costs is to borrow and then risk being locked into debt. Even for the middle classes, the costs are prohibitively high, and for the poor they can spell destitution. When researchers calculate household incomes after taking account of out-of-pocket health care payments, they find that the number of Indians who fall below the threshold of absolute poverty (living on under Rs 40 [US$ 1] a day) is more than 3.7 crore (37 million) higher than when health care payments are ignored (Van Doorslaer et al. 2006). This raises India's "poverty headcount" by more than the entire population of Canada, and is also one of the highest proportionate increases in that headcount in any Asian country. Moreover, economic slowdowns are likely to further inflate the numbers of poor arising from ill-health.

1.3 Parallel burdens of disease

To add to the complexity of the challenge, India is already facing two parallel burdens of disease. On the one hand are the nation's traditional enemies of health, such as infections, unsafe pregnancy and childbirth, and malnutrition. On the other hand is a second burden of chronic diseases such as heart disease, diabetes and cancers, most common among adults. Alongside both of these burdens lies the potential for a major epidemic caused by an emerging disease, such as avian influenza ("bird flu"), chikungunya viruses, or dengue.

The burden of chronic diseases has grown for two reasons. As couples decide to have fewer children and life expectancy increases, the ratio of adults to children in a population gradually increases, part of a process known as the demographic transition. India has seen a steady fall in average family size, from 5.2 children in 1971 to 2.9 in 2004, and over the same period the proportion of the population aged 0 to 14 years has fallen from 41% to 34% (RGI 2006a). Over the coming decade, that proportion is set to fall further as India aims to reduce average family size to 2 children by 2012 (NRHM 2005). The diseases of adulthood are therefore increasing their share of the total burden of ill health in the population, with cardiovascular disease (mostly heart attacks and strokes) already established as India's biggest killer.

In parallel with those demographic shifts, lifestyle changes are heightening adults' risks of developing chronic diseases, particularly diabetes and cardiovascular disease. Smoking is becoming more popular (Jha et al. 2008), diets are changing, and urban adults are less likely to be physically active than their rural cousins. India has the second-highest incidence worldwide of diabetes mellitus, with approximately 12% to 14% of the urban adult population having this condition (Ramachandran et al. 2001). Dealing with this "double whammy" of traditional and more modern health threats is a major challenge for health policymakers as demands on the health system increase in volume and complexity. A third potential threat, unexpected epidemics of infectious diseases, could further stretch the health system to respond with preparedness and efficiency.

1.4 A healthy population for a healthy economy

If India's economic success is to be sustained in the coming decades, it will need a skilled, educated workforce to extend and develop its strength in the international service sector. Economic analysts argue that future growth will depend in part on improving educational outcomes. There is a significant risk that India will suffer a "skills crunch" that could affect its earning power unless it invests in improving the quality and duration of education (OECD 2007). Yet while health remains poor for so many, their education is likely to suffer.

Not only do unhealthy children miss more school hours than healthy children, but while they are in school, their learning capacity may be diminished. Although more research is needed, scientists have begun to study a possible link between underperformance in the classroom and malnutrition, including anemia, and chronic infections. With malnutrition and chronic infections remaining the norm for many children in India, their potential effect on educational attainment cannot be ignored, and further investigation is urgently needed.

Thanks to recent action by the government, primary school enrolment has improved significantly (Wu et al. 2005). Nevertheless, India has to work hard to catch up with its competitors. Indian children still spend approximately three years' less time in school than their counterparts in most emerging economies. The literacy level among adults, at 61%, is lower than in most comparable economies, such as China, where the corresponding figure is 91% (World Bank 2006), and fewer young adults graduate from tertiary education (OECD 2007). Among those who are in full-time education, some may not be achieving their potential: in a sample of secondary school students from Orissa and Rajasthan, performance in mathematics was below the international average (Wu and Dar 2006).

Clearly, then, India faces serious health-related challenges to its future wealth and development. But great as the challenges may seem, so are the opportunities for change. Currently, about 1 crore (10 million) people die each year in India. Of these, some 30 lakh (3 million) die before age 35 and a further 40 lakh (4 million) before age 70. Estimates for this report

suggest that as many as 27 lakh (2.7 million) deaths could be avoided each year, through wider use of a set of readily available, effective interventions. Over 30 years, therefore some 8 crore (80 million) lives could be saved.

The government, well aware of both the challenges and the opportunities, has acted to accelerate improvements in India's health. Originally, in 2004, it pledged to increase its health spending to 2% to 3% of GDP by 2008–2009 (Prime Minister of India 2004). This pledge received support across political parties and attracted interest in the media. Current GDP stands at about Rs 32,000 (US$ 800) per capita. If growth were to continue at current rates, the projected GDP in 2009 could be some Rs 52,000 (US$ 1,300) per capita at current prices (Deolalikar et al. 2008). If the government had kept its original pledge, health spending could therefore have reached more than fourfold the current allocated sum.

Yet so far, although spending has increased, it remains substantially short of the pledged amount, and the government recently scaled back its ambition, promising only to increase spending to 2% of GDP, and by 2012 instead of 2009. In 2006, the combined expenditure of national and state governments on health was still only around 1.1% of GDP (Deolalikar et al. 2008). This was barely keeping pace with the growing economy. The current focus of the government's action on health is the ambitious National Rural Health Mission, which was launched in 2005 and is due to run until 2012. The Mission is intended to provide "accessible, affordable and accountable quality health services" to rural population throughout the country with special focus on 18 states, including the EAG states, Assam and nine other states with smaller populations identified as needing support (NRHM 2005). Some of its specific targets exceed the United Nations' Millennium Development Goals of cutting maternal deaths by three-quarters and halving infant mortality by 2012. Equally important, it aims to strengthen the health system in rural areas, including renewing a dilapidated infrastructure and addressing staff shortages. The mission's total cumulative fund at December 2007 was around Rs 17,600 crore (176 billion, US$ 4.4 billion) (NRHM 2008; Government of India 2008a). Most of the money is not new money, however, but has been redirected from other sources or retained under relevant national disease control programmes, such that overall health spending has remained at about 1.2% of GDP to date.

The National Rural Health Mission has already claimed some promising progress. For example, the number of functional primary health centres operating 24 hours a day, seven days a week, reportedly increased more than fivefold between 2005 and December 2007 (NRHM 2008). In addition, one of the cornerstones of the mission, having an accredited social health activist (ASHA) for every village nationwide, is firmly under way, with some 1.87 lakh (187,000) women in post with drug kits, and around 4.5 lakh (450,000) appointed and undergoing training (NRHM 2008). Some states have also reported significant improvements in the use of health services (NRHM 2008, 2007b). For example, the number of cataract surgery operations has rocketed nationwide, from 5 lakh (0.5 million) in 1981-1982 to more than 48 lakh (4.8 million) in 2006. However, as the mission's own leaders have acknowledged, "it is clearly a gigantic task to bring about major changes in outcomes by simultaneous action on a wide range of determinants of health" (NRHM 2007b). From the early data, it is too soon to assess whether this gigantic task is on track or even whether its ambition is realistically achievable.

India's policymakers now face choices. With the nation's newfound wealth and confidence, there is an historic opportunity to act. Government revenues are growing even more rapidly than GDP (Ministry of Finance 2008). The government has not hesitated to invest multibillion-dollar sums in defence, agriculture, and a range of social measures for the poor, such as pension improvements (see, e.g., Times of India 2007). Against this background, it is perhaps surprising that health has not attracted more spending, given that a carefully targeted additional investment could bring tangible and rapid returns. Not only could Indian lives be saved on a scale that exceeds the ambitions even of many global health campaigns, but the government could also empower millions of people to lift themselves out of the poverty trap. Recent research shows that better health can protect people from poverty, especially during economic downturns (NCMH, 2005). Households freed from serious ill health are able to become productive, and they avoid paying crippling bills for prolonged health care. By improving population health, the government will also boost the confidence of foreign investors in India. Importantly, progress towards these gains can be achieved now, even while some states' health systems remain relatively weak and incomes remain unequal (Croghan 2006). With such focused and prioritised investment, the death toll could be cut dramatically over the next three decades.

However, the window of opportunity is narrow. If policymakers decline radical action, the situation could worsen considerably. The middle classes have already deserted the public health system in droves. Numerous studies have shown that besides pushing people into poverty, out-of-pocket payments for health care can be highly wasteful of resources (Jamison, Jha and Bloom 2008). As unnecessary costs in the health system proliferate, an estimated Rs 40,000 crores to Rs 80,000 crores (US$ 10 billion to US$ 20 billion) could be wasted (Jha et al. 2007). Beyond wasted resources, there is also a real risk that India's population could see its overall health deteriorate. Annual premature deaths could rise as high as 1.3 crore (13 million) by 2020 as an unchecked tobacco epidemic takes its toll on growing numbers of adults in productive middle age. Further undernutrition and poor immunisation coverage could slow or halt the decline in child deaths, and an unprepared health infrastructure could be left on the back foot if an epidemic of influenza were to strike.

1.5 Why this report?

Given the steps taken already by the government to improve health, why should anyone else become involved? Like other countries, India's government uses independent advisers to provide information, guide planning, and monitor outcomes in many spheres of activity. The group responsible for this report, which comprises Indian and other nationals (see Appendix B), joined the debate following a discussion with the Prime Minister, Dr Manmohan Singh, in December 2004. That discussion, and further consultations with government officials, led to an agreement that the group could best serve the government in its initiative to improve health by performing independent assessments of the country's health needs.

Headed by the Centre for Global Health Research in Delhi and the University of Toronto, and working closely with the Indian Council of Medical Research and the Registrar General of India, the group has made new and direct estimates of the main causes of death in India and their distribution across states. The group has also estimated the relative cost-effectiveness of different interventions to treat and prevent ill health in the context of India's health services (Chow et al. 2007). In line with the aims of the government, the initiative seeks to identify and price a package

of interventions that will buy the maximum amount of health across the population, using affordable public resources. Finally, the group has used expert analysis and data from national sources to assess the factors that contribute to the inefficiency and failures of the health system. It has identified and priced a focused set of radical reforms that would enable all citizens to receive their entitlement to responsive and effective health care.

The group uses methods developed by the Disease Control Priorities Project (DCPP), an international collaboration including the World Health Organization and the Bill and Melinda Gates Foundation. In the early 1990s, the forerunner of the current DCPP described a rational, evidence-based approach to reducing disease burden in developing countries: identifying the most significant health problems in a population, the most cost-effective interventions, and the most feasible actions given the health care settings available to that population (Jamison et al. 1993). Its aim was to help policymakers identify ways to reduce the burden of specific diseases in their countries and also achieve greater equity and efficiency in their nations' health systems. The project had a significant influence on international health policy and research. Recently, the DCPP published its second edition (Jamison et al. 2006), with a much-expanded scope. In the present initiative, the Centre for Global Health Research applies the approach directly in India for the first time at the national and state levels, using new data and working in partnership with national and state governments and officials who have detailed knowledge of each state and its health problems. Building on the National Rural Health Mission and drawing on the report of the National Commission on Macroeconomics and Health (2005), it uses rigorous evidence and analysis to focus policy on areas where gains are achievable.

In its role as an independent body, the Centre for Global Health Research also challenges the government constructively on some of its current proposals for improving health. It asks how, while the government is focused on the National Rural Health Mission as the main vehicle for improving health, it can also address the needs of India's estimated 10 crore (100 million) urban poor. The announcement in 2008 of a plan to create a National Urban Health Mission is welcome, but details remain unclear. The group asks, too, whether the government has placed adequate

emphasis on common chronic diseases, such as heart disease – now the leading cause of death in India – and diabetes, given that many of its initiatives to date have focused on improving reproductive health and controlling communicable diseases. Although the National Programme for the Prevention and Control of Diabetes, Cardiovascular Disease and Stroke, launched in January 2008, is an important start, the programme clearly faces an immense task. Finally, the group argues here that to be effective in improving the health system, the government must plan an achievable short list of radical reforms to the most pressing problems, rather than try to do everything at once.

The report identifies India's major health needs and describes a focused and affordable set of possible responses. It identifies an Entitlement Package of health interventions to be publicly financed that could prevent over 27 lakh (2.7 million) premature deaths in India each year at an annual cost of around Rs 280 (US$ 7) per person. The report suggests that, with a further annual amount of about Rs 120 (US$ 3) over a decade, national and state governments could deliver effective and affordable reforms to the health system. The total annual amount, then, of Rs 400 (US$ 10) per person would amount to no more than 1.2% of GDP, thus approximately doubling current public spending on health[1] yet remaining well within the pledged budget increase for health. An extended package with a broader range of clinical services could be developed in the midterm future with additional investment.

1.6 India as a leader in evidence-based health policy

If India implements the approach set out here, it will be by far the biggest country worldwide to have adopted a rational, equitable, and evidence-based approach of the kind advocated by the Disease Control Priorities Project. India's initiative could demonstrate to other nations such as China and Indonesia the possibility of developing effective models for publicly financed, evidence-based health services for all their citizens.

[1] Defined as expenditure by central and state governments on health facilities, services, supplies, staff and their training and education; and excluding expenditure on the health care costs of government employees, railway employees and defence staff.

We believe that India can be a pioneer and achieve impressive gains for its people by using the approaches described here. And because India has such a high proportion of the total global population and a high proportion of the global disease burden, it has the potential to make a significant difference to global health outcomes as well. Conversely, failure to act through wise spending, and further stagnation of the public health system, could have costly consequences for the whole nation and its economy. In the report that follows, we examine the choices ahead.

CHAPTER 2

Health report for the nation

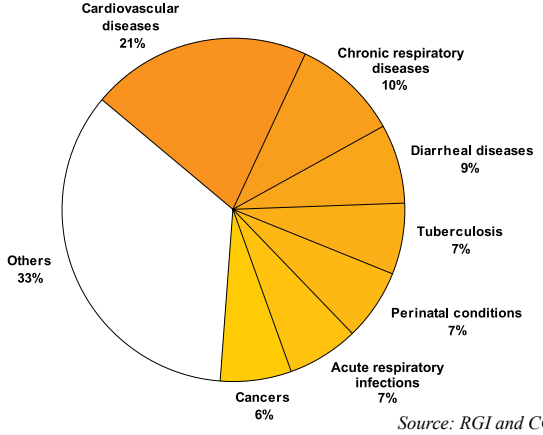
Each year, millions of Indian households are affected by a premature death. Millions more live with avoidable chronic illness. Using new data analysed specifically for this report, as well as the latest government surveys, we profile the health of the population and assess the challenges.

One essential step in measuring the health of a population is determining the main causes of death for its people. Accurate information on a country's main killer diseases and conditions is essential if policymakers are to plan the best use of resources to prevent and treat disease. Yet perhaps surprisingly, such information is lacking in many countries. India, with its 110 crore (1.1 billion) citizens, many of whom live in remote rural areas, faces particular difficulties in collecting and maintaining accurate data on its annual deaths, currently estimated to be about 1 crore (10 million). Many of these deaths are not certified by a doctor simply because no doctor is available. The Registrar General of India (RGI) and the Centre for Global Health Research (CGHR) are currently collaborating on a major prospective study to analyse in detail the causes of approximately 1 million deaths in India over the period 1997 to 2014. Their aim is to obtain a representative sample of data for the whole country (Jha et al. 2006b). The preliminary results, based on a detailed sample of the deaths that occurred between 2001 and 2003, are summarised here and will be available in full through the Registrar General of India in 2009.

2.1. The major killers

In 2004, India's biggest killer was cardiovascular disease, accounting for one in five of all deaths from defined causes (RGI and CGHR 2009). The majority of these deaths were from heart attacks and stroke. Other major killers included chronic respiratory diseases, diarrheal diseases, tuberculosis, perinatal conditions – including low birth weight and birth asphyxia, acute respiratory infections (pneumonias) and cancers (Figure 2.1).

FIGURE 2.1 THE LEADING CAUSES OF DEATH, ALL INDIA, ALL AGES, 2004



Source: RGI and CGHR 2009

When the findings are analysed by state groups, it is clear that the EAGA states have a somewhat different pattern of deaths from India as a whole (Table 2.1). Cardiovascular disease remains the most important killer in both groups of states, and chronic respiratory diseases remain in the top four in both groups. In the EAGA states, however, communicable diseases, including acute respiratory infections, malaria, and diarrheal diseases account for more of the overall burden, while in the other states cancers and injuries are significant.

The pattern is different again when only those deaths that are defined as premature – in people aged under 70 – are considered. Cardiovascular disease retains its place at the head of the ranking of defined deaths in both the EAGA states and other states. But in the EAGA states, chronic

respiratory diseases drop to sixth place while in the other states, cancers rise to become the second-biggest cause of defined deaths (RGI and CGHR 2009).

TABLE 2.1 TOP 10 CAUSES OF DEATH IN INDIA, ALL AGES, 2004

EAGA States	*Rank*	*Percentage of all deaths*	***Other states***	*Rank*	*Percentage of all deaths*
Cardiovascular disease	1	14	Cardiovascular disease	1	27
Diarrheal diseases	2	12	Chronic respiratory diseases	2	10
Acute respiratory infections	3	10	Cancers	3	8
Chronic respiratory diseases	4	10	Acute respiratory infections	4	7
Perinatal conditions	5	9	Diarrheal diseases	5	6
Tuberculosis	6	7	Tuberculosis	6	6
Unintentional injuries	7	7	Unintentional injuries	7	6
Other infectious and parasitic diseases	8	6	Perinatal conditions	8	5
Malaria	9	5	Digestive diseases	9	4
Cancers	10	4	Suicides	10	3
Total as a percentage of all deaths		**84**	**Total as a percentage of all deaths**		**82**

Note: Deaths attributed to the categories of "senility" and "ill-defined" are excluded.

Source: RGI and CGHR 2009

To gain a better understanding of the patterns of death in India's diverse population, we have analysed the results within a framework used by the World Health Organization in its reporting of the Global Burden of Disease (Lopez et al. 2006). This framework classifies causes of death into three main groups. Group I consists of the traditional health threats in poorer populations with high birth and death rates, which includes the following: communicable diseases, deaths in pregnancy and childbirth, perinatal conditions such as low birth weight and birth asphyxia, and deaths associated with undernutrition. Group II consists of noncommunicable or chronic diseases, such as heart disease, stroke, diabetes mellitus, and depression and other mental health problems. These tend to be more common in adulthood than childhood and tend therefore to increase their share of the total burden of disease in a population as it moves through the demographic transition. In the past, it has sometimes been suggested that these noncommunicable diseases are "diseases of affluence", but in reality, people on lower incomes tend to be more vulnerable to diseases of all types than their wealthier peers. Group III consists of injuries, both unintentional and intentional, such as traffic injuries, suicides, homicides, and the consequences of war.

Researchers also recognise a fourth category, "Symptoms, signs and ill-defined conditions", for deaths that have not been assigned a more specific cause by a certifying doctor. When analysts are trying to develop a broad picture of the patterns of disease and death in a population, they often "redistribute" the deaths assigned to this fourth category of ill-defined causes among the first three categories, using certain algorithms based on evidence, to produce the most accurate estimates possible. Our decision to keep this category separate for the time being in the Indian data is intended to keep the estimates transparent as the analysis evolves. But because most of the deaths assigned to this fourth category occur in adults aged 70 and over, their effect on the analysis of premature deaths is likely to be relatively minor. We have therefore excluded them from the data shown here.

Table 2.2 shows the distribution of deaths by the three main causes, excluding those in the ill-defined category, in people under age 70. The differences between the EAGA and other states are evident.

TABLE 2.2 BROAD CAUSES OF DEATH IN PEOPLE UNDER AGE 70, BY STATE GROUP, 2004

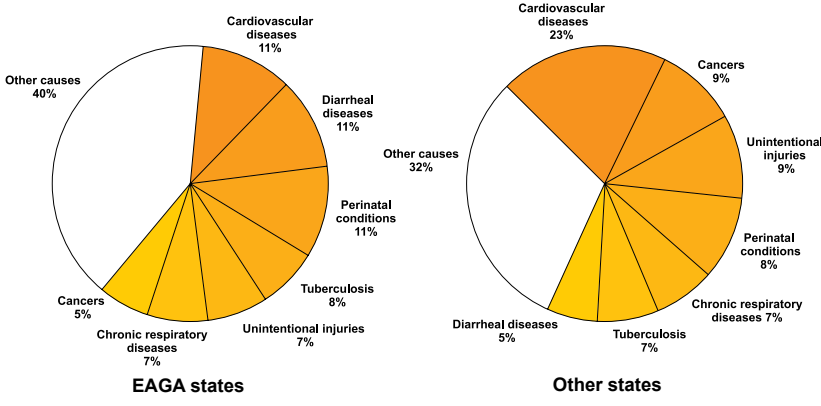
Cause group	*EAGA states (%)*	*Other states (%)*
I. Communicable, maternal, perinatal, and nutritional	59	34
II. Noncommunicable	31	51
III. Injuries	10	15

Note: Deaths attributed to the categories of "senility" and "ill-defined" are excluded.

Source: RGI and CGHR 2009

In the EAGA states, almost 60% of all deaths are due to Group I causes – the "unfinished agenda" of traditional health problems. In India's other states, the proportion of deaths caused by Group I conditions is about one-third (Table 2.2). But it is notable that the burden of chronic diseases (Group II conditions) is significant in both sets of states, not confined to the affluent ones. This confirms that India's people, particularly those living in the EAGA states, are already experiencing a double burden of health problems. Once again, the data show that just a handful of conditions are responsible for most premature deaths. The burdens of cardiovascular diseases, diarrheal diseases, perinatal conditions and tuberculosis in the EAGA states are significant; the other states have a substantial percentage of premature deaths due to cardiovascular diseases, cancers and unintentional injuries (Figure 2.2).

FIGURE 2.2 PREMATURE DEATHS (UNDER AGE 70) BY STATE GROUP, 2004



Note: Deaths attributed to the categories of "senility" and "ill-defined" are excluded.

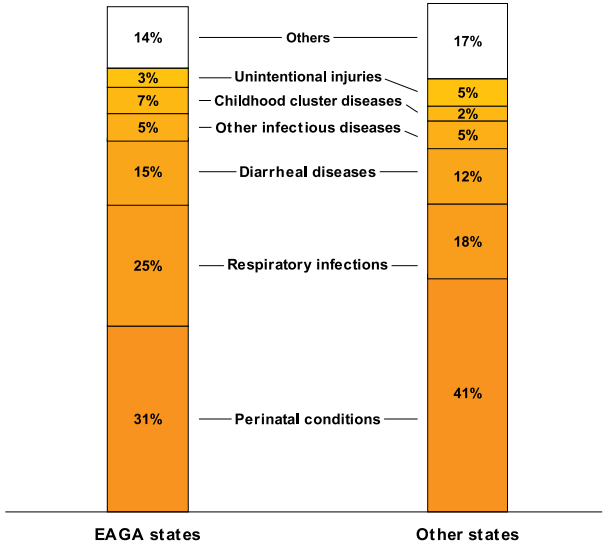
Source: RGI and CGHR 2009

2.2 Deaths and disease in young children

Based on the latest data, more than 20 lakh (2 million) children in India die before their fifth birthday each year, more than in any other country in the world and well above the estimated 7.65 lakh (765,000) deaths in children of this age group in China. Three causes account for over 70% of their deaths: perinatal conditions, acute respiratory infections, and diarrheal diseases (RGI and CGHR 2009). Three-fifths of the children who die live in the EAGA states. Many of these 14 lakh (1.4 million) children's deaths are avoidable, including those from the childhood cluster of vaccine-preventable diseases (especially measles), from malaria, from diarrhea caused by organisms such as rotavirus, and from acute respiratory infections caused by major killers such as *Streptococcus pneumonia and Hemophilus influenza* type b (Hib). In the other states, fewer children die but the numbers are still considerable, especially in rural areas. The same conditions dominate as in the EAGA states (Figure 2.3).

Results from India's most recent National Family Health Survey, conducted during 2005 and 2006, offer further information about children's health. One critical finding is that immunisation, long established worldwide as a highly cost-effective lifesaver, still reaches only a minority of India's children.

FIGURE 2.3 CAUSES OF DEATH FOR 2 MILLION CHILDREN UNDER AGE 5, BY STATE GROUP, 2004



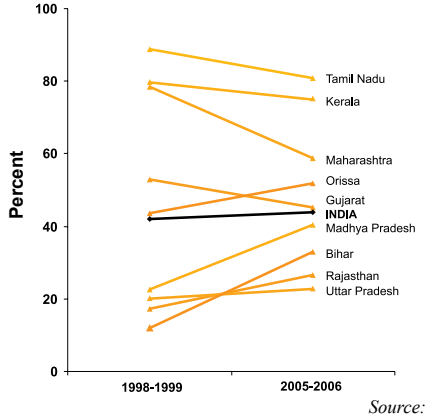
Note: Other infectious diseases include fever of unknown origin.

Source: RGI and CGHR 2009

The survey results show that, even with substantial improvements in vaccination coverage against measles and polio, the overall proportion of children being fully immunised against six avoidable diseases – measles, polio, tuberculosis, and diphtheria, tetanus, and pertussis (DTP) – is still only 44% nationwide, with some states falling well below this figure.

Bihar, Madhya Pradesh and Rajasthan have made marked improvements in reaching more children. In Bihar, for example, full immunisation coverage has climbed from a lamentable 12% in 1998 to 33% (NFHS 2006) (Figure 2.4). However, in 11 states, including Gujarat, Kerala, Maharashtra and Tamil Nadu (all of these affluent, and some of them accustomed to receiving praise for their health services), full coverage has actually fallen (NFHS 2006). Government analyses indicate a broad split between the previously poorly performing states and the affluent states, suggesting that the former have improved while the latter may have become complacent (Reproductive and Child Health Programme 2007).

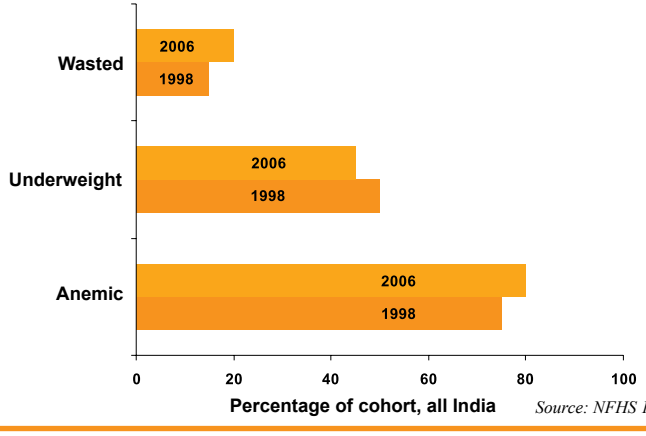
FIGURE 2.4 IMMUNISATION TRENDS, 1998 - 2006



Source: NFHS 1999 and 2006

National data also show worrying trends in the prevalence of conditions associated with undernutrition. As Figure 2.5 shows, both anemia and wasting among young children have increased in prevalence since 1998, and the prevalence of underweight has not changed significantly (NFHS 1999, 2006). There may be 8 million severly malnourished children in India. Children who are undernourished are more likely to suffer infections, and during infections, children lose weight, have a reduced intake of nutrients, and become yet more undernourished.

FIGURE 2.5 PERCENTAGE OF UNDERNOURISHED CHILDREN UNDER AGE 3, 1998 AND 2006



Source: NFHS 1999 and 2006

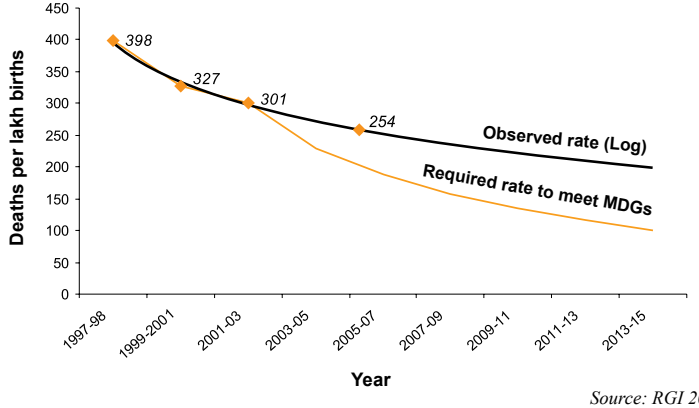
2.3 Undernutrition in women

A high proportion of women are still undernourished, with 33% nationwide having a body mass index below normal (NFHS 2006). The figure has fallen slightly since 1998. In Bihar, fully 43% of women have lower-than-normal body mass. Anemia has risen among women nationwide, just as it has in children. Nationwide, the prevalence of anemia in pregnant women rose from 49.7% in 1998 to a disturbingly high 57.9% by 2005. Undernutrition in women in India has a complex set of causes, including the continuing tradition that women serve food first to men and boys, then girls, then feed themselves last. There is also evidence that iron absorption may be reduced in some women in India (Sloan et al. 2002).

2.4 Women who die because of pregnancy or childbirth

India has more maternal deaths each year than any other country in the world: in 2006 about 65,000 women died because of pregnancy, childbirth, or abortion. Most of these deaths are in the EAGA states. National statistics indicate that the death rate for mothers fell from about 400 per 1 lakh (100,000) live births in 1997–1998 to about 250 per 1 lakh (100,000) live births in 2004-2006, a decline of nearly 40%, and continues to fall.

FIGURE 2.6 MATERNAL DEATHS PER 1,00,000 LIVE BIRTHS, ACTUAL TRENDS 1997 - 2006, AND POSSIBLE FUTURE TRENDS



Source: RGI 2006b

The Millennium Development Goal (MDG) for reducing maternal mortality is a rate of 109 per 1 lakh (100,000) by 2015, but India has set itself a more ambitious goal of 100 per 1 lakh (100,000) by 2012 (NRHM 2005). At current rates, India's government is aware that it will miss both goals unless it can substantially accelerate the decline (RGI 2006b) (Figure 2.6).

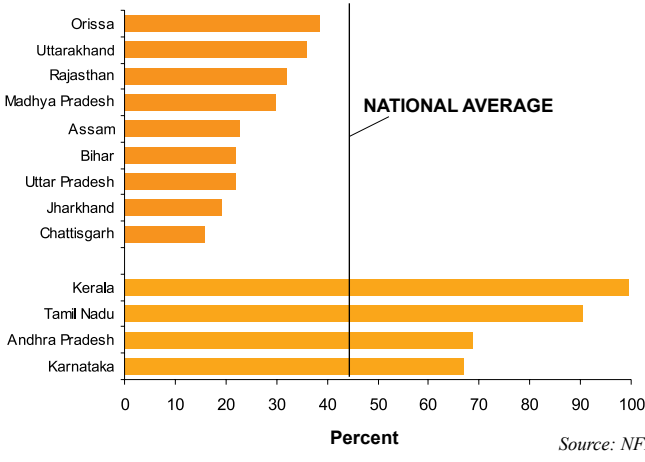
The extraordinarily high rate of maternal deaths in India can be explained by three underlying factors. One is that many women simply do not have access to modern family planning methods and thus have little control over the timing or spacing of their pregnancies. Even though the proportion of couples using contraception has increased to 56% in recent years, an estimated 2.5 crore (25 million) women in 2006 still had unmet needs for contraception. Thus, women become pregnant when very young, a known risk factor for complications of pregnancy, and many become pregnant again within just months of giving birth, before their bodies have recovered. Second, even when contraception is available, many women lack choices about their reproductive health. Families in traditional communities often expect a daughter to marry young, bear a child within a year, and produce several more in quick succession, particularly if the first one or two are girls. Third, anemia in early pregnancy is associated with a significantly increased risk of preterm delivery (Scholl and Reilly 2000) and also with hemorrhage at birth. A mother who is anemic is also likely to give birth to a baby whose weight is below average, disadvantaging the child further.

The biggest single cause of maternal deaths is hemorrhage, accounting for 38% of the total. Sepsis, unsafe abortion, obstructed labour, and hypertensive disorders such as eclampsia are among the other main causes of maternal deaths. For most of these complications, prompt medical attention is lifesaving. Yet for many Indian women, access to that attention is still not available.

In 2003, a very low proportion of India's births, just 28% nationwide, took place in institutions where prompt and skilled treatment is available (RGI 2006b). A steep increase in that proportion is now being reported, with the National Family Health Survey 3 (2006) finding that 40% of births are in institutions nationwide. In Kerala and Tamil Nadu almost all

women give birth in institutions, but in some states the proportion is far lower than the national average, at just 22% in Assam, Bihar and Uttar Pradesh alike (Figure 2.7).

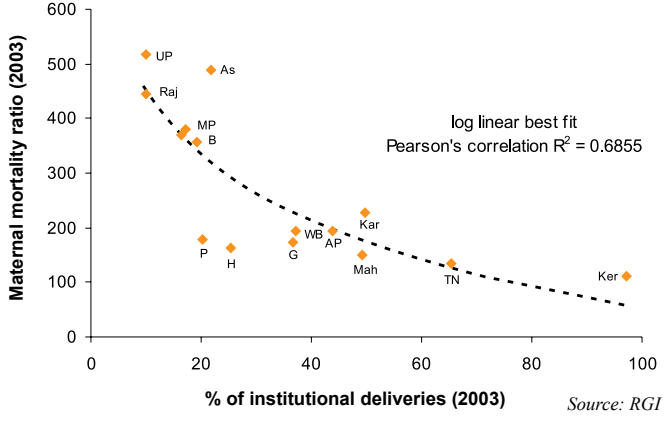
FIGURE 2.7 INSTITUTIONAL DELIVERIES IN EAGA AND SELECTED OTHER STATES, 2005–2006



Source: NFHS (2006)

States where a relatively high proportion of births are in institutions have lower maternal death rates (RGI 2006b) (Figure 2.8). In 2006, the lifetime risk for a woman of dying in childbirth was 1.4% in the EAGA states – an unacceptably high risk of almost 1 in 70. This compared with 0.3%, or less than 1 in 300, in the southern states of Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu. In 2007, just 24% of births in the EAGA states were in institutions, compared with 75% in the four southern states (RGI 2008). Today, both groups of states have improved their performance, as have Gujarat, Maharashtra, and Punjab, but the gap remains unacceptably wide.

FIGURE 2.8 THE MORE BABIES DELIVERED IN INSTITUTIONS WITH SKILLED CARE, THE LOWER THE MATERNAL DEATH RATE



Source: RGI 2006b

2.5 Gender differences in child mortality

Girl children are at a clear disadvantage in many aspects of life in India – a disadvantage that goes as far as reducing their chance of being born at all. Census records of female-to-male ratios of children under age six show that the number of girls for every 1,000 boys fell sharply between 1981 and 2001 (Table 2.3), falling further to 892 at birth in 2002 (Jha et al. 2006a).

TABLE 2.3 RATIO OF FEMALES TO MALES PER 1000, AGED 0 TO 6

Year	*Ratio*
1981	962
1991	945
2001	927

Source: Jha et al. 2006a

Thus, in two decades since 1985, as many as 1 crore (10 million) girl children have gone "missing" in India, with half a million girls missing in 1997 alone. Researchers believe that the most plausible explanation is that families are using ultrasound scan results to selectively abort girl fetuses (Jha et al. 2006a). Other possible explanations for the missing girls, such as infanticide and stillbirth, have been ruled out. Stillborn boys remain more common than stillborn girls, in line with worldwide patterns.

The risk of selective abortion is greatest in the northern states of Bihar, Delhi, Haryana, and Punjab (but not, in this case, Assam). Within families, the risk is greatest when the parents already have a girl and the woman becomes pregnant with a second girl. Despite legislation to prevent female feticide, increasing coverage of the topic in the media, and a scattering of successful local initiatives to overturn the practice, the trend to abort girls selectively does not appear to be decreasing, suggesting that girls are missing out on a basic human right in an otherwise democratic society. Moreover, as the technology for ultrasound scanning moves towards portable devices that soon could be available for sale as "do-it-yourself" kits for home use, government ministers face increasing challenges in banning the practice.

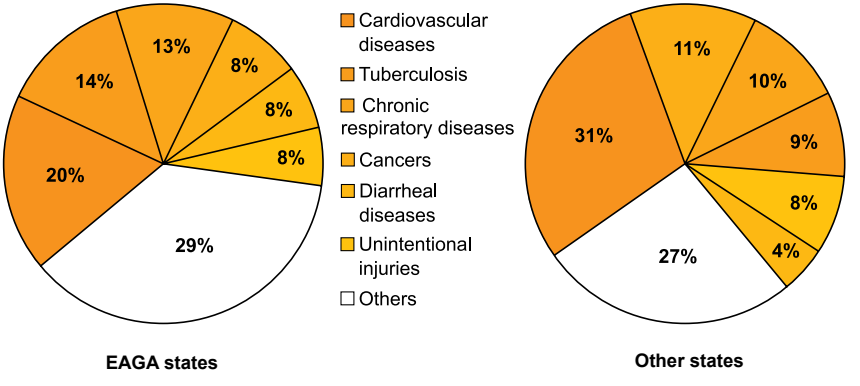
For girls who survive, the risks of ill health are about 40% greater than for boys, although as with every population, boys are more likely than girls to die in the first month of life from perinatal conditions, such as birth asphyxia and birth trauma. Only two other causes of death – unintentional injuries and congenital anomalies – are more common among boys. More girls than boys die of acute respiratory infections, diarrheal diseases, nutritional deficiencies, vaccine-preventable diseases, and malaria (RGI and CGHR 2009).

2.6 Patterns of adult death

As with children, a handful of conditions are responsible for the vast majority of adult deaths in middle age (defined as 25 to 69 years old). Cardiovascular disease is the leading cause of death for women as well as men in this age group, with most of the deaths due to heart attack or stroke.

In the EAGA states, four causes account for more than half (55%) of all deaths in people aged 25 to 69 years. These are, in descending order, cardiovascular diseases, tuberculosis, chronic respiratory diseases, and cancers. In the other states, these conditions cause a similar 61% of all deaths, but cancers rank second and tuberculosis ranks fourth (Figure 2.9). In the EAGA states, communicable diseases remain significant among middle-aged adults: in addition to tuberculosis, a substantial proportion of deaths in 2004 were caused by diarrheal diseases accounting for about 8 % of deaths in this age group and both featuring among the top 6 killers. Unintentional injuries ranked among the top 6 causes of death in this age group in both sets of states.

FIGURE 2.9 THE TOP SIX CAUSES OF ADULT DEATHS IN MIDDLE AGE (AGE 25-69 YEARS), 2004



Source: RGI and CGHR 2009

HIV/AIDS has been estimated by the World Health Organization to cause some 3 lakh (300,000) deaths a year in India, but recent evidence suggests that the actual number may be about 1 lakh (100,000) (RGI and CGHR 2009). The relatively lower number of AIDS deaths nationwide is consistent with newly revised estimates of how many people in India are infected with HIV, which show also that rates of new infections have fallen by over 50% in Andhra Pradesh, Karnataka, Maharashtra, and Tamil Nadu (Kumar et al. 2006; Arora et al. 2008). Although the lower numbers are undoubtedly good news, they should not encourage complacency about

the threat still posed by HIV. The most constructive lessons of India's experience with HIV so far are to be learned in the southern states, where it appears that peer-based programmes that encourage condom use within the sex industry have reduced the rate of new infections. If other states are to avoid much higher rates of infection, the coverage and quality of such programmes should be extended.

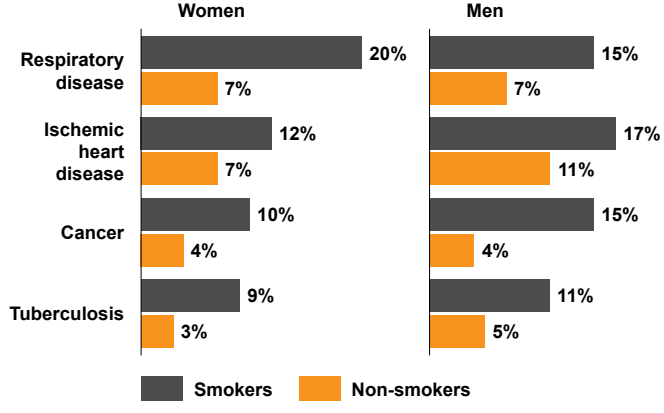
The data suggest that India's adult malaria deaths (Dhingra 2007) is much higher than in previous estimates by the World Health Organization. However, estimates of the number of children killed by malaria are similar to those by WHO. Adult malaria deaths seem to be mostly concentrated in a few states, notably Andhra Pradesh, Madhya Pradesh, Maharashtra, and Orissa, a finding that is broadly corroborated by independent data from the malaria control programme. More research is needed to confirm whether the unexpected adult deaths are really due to malaria or to other fevers or infections, such as dengue.

2.7 Tobacco smoking

Once seen as a threat mainly to the industrialised countries, tobacco smoking is now recognised as a major health problem for India – and one that is likely to worsen. Tobacco is estimated to cause nearly 10 lakh (1 million) deaths a year overall (Jha et al. 2008). About one-third of Indian men now smoke (NFHS 2006), and although the percentage of women who smoke is far lower, at about 2% in rural areas, the absolute number of women is nonetheless significant. Smoking prevalence in men appears to have risen since the most recent survey, in 1998–1999, with some evidence that smoking is becoming more popular among young people and in cities. The data analysed for this report suggest that smoking (most commonly of bidis but also of cigarettes) is already causing one-fifth of all male deaths between ages 30 and 69 (Jha et al. 2008) and a substantial number of female deaths. Smokers are about twice as likely to die in middle age as nonsmokers. Notably, the data suggest that smokers in this age group are three times more likely to die of tuberculosis than nonsmokers. Deaths from heart attacks and stroke are also more common among smokers than nonsmokers. Deaths from heart attacks and stroke are also more common among smokers than nonsmokers, along with respiratory diseases,

cancer, and peptic ulcer (Figure 2.10). Women who smoke appear to face a surprisingly high risk of death from respiratory diseases. As in industrialised countries such as the United Kingdom, smokers die about six to eight years younger than nonsmokers, with fully 70% of them dying in middle age (under 70 years of age) rather than in old age.

FIGURE 2.10 RISKS OF DEATH AT AGES 30-69 AMONG SMOKERS AND NON-SMOKERS BY DISEASE IN INDIA, 2010, BY GENDER



Note: Risks are in the hypothetical absence of competing causes of death.

Source: Jha et al. 2008

Studies from China and other countries indicate that, worldwide, deaths from tobacco smoking are likely to rise steeply over the next four decades, causing about 50 crore (500 million) cummulative deaths by 2050 (Peto and Lopez 2001; Jha and Chaloupka, 1999), most of these in smokers alive today. In Chapter 5 we shall examine the likely effect on India's share of tobacco-related deaths of implementing controls on bidis and cigarettes.

CHAPTER 3

An unhealthy health system:
Underinvestment, inefficiencies, inequity, and poor governance

In this chapter, we summarise the main challenges facing India's health system – the set of policies, people, and institutions that finance, regulate, and provide health care. We make no claim here to duplicate the valuable analytic work conducted by the National Rural Health Mission (2007b) and the National Commission on Macroeconomics and Health (NCMH 2005), each of which has already made comprehensive assessments and offered detailed prescriptions for improvement. Here, our purpose is somewhat different. Our aim, as with the assessment of health needs in the previous chapter, is to identify the most significant problems so that priorities for change can be selected.

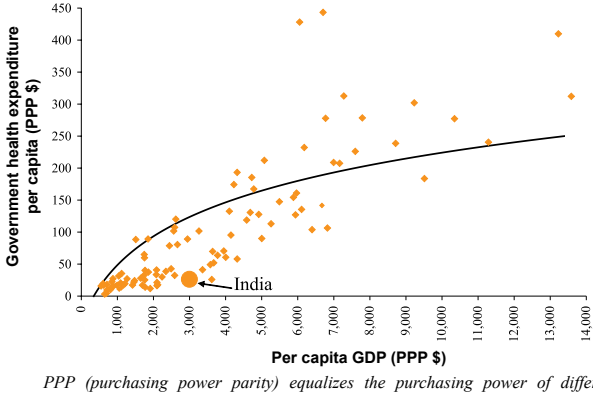
Most of the challenges facing India's health system can be attributed to underinvestment, the inefficient use of resources, failures of management and poor governance.

3.1 Poor allocation of resources: The financing of health care in India

The poor state of India's health infrastructure is in part due to decades of underinvestment and the inefficient use of resources. In 2002, India's national public investment in its health system was estimated to be just Rs 270 (US$ 6) per person per year (WHO 2005). This was equivalent to less than 1% of GDP, significantly lower than would be expected for

most countries of a similar level of wealth. Although India's public health spending has now risen to about 1.2% of GDP, this is still comparatively low (Figure 3.1).

FIGURE 3.1 PER CAPITA PUBLIC SPENDING ON HEALTH IN RELATION TO GDP IN COUNTRIES WITH LOW AND MEDIUM DEVELOPMENT, 2003



PPP (purchasing power parity) equalizes the purchasing power of different currencies in their home countries for a given basket of goods.

Source: Deolalikar et al. 2008

Interestingly, however, India's total health spending (private and public combined) is higher than in some other Asian countries, at around 6% of GDP (WHO 2005). The difference comes from an unusually high level of private spending on health. The norm for private spending in countries with a per capita GDP in the same range as India's is around 50% of total health spending. Yet in India, overall, 80% of all health spending is private, making the ratio of private-to-public spending one of the highest in the world (Deolalikar et al. 2008).

With public services suffering from chronic underinvestment, users turn to the private sector. Outpatient services are overwhelmingly provided by the private sector, especially in rural areas. Nationwide, the poor appear to use the private sector as much as the rich (Das and Hammer 2005). Unfortunately, the quality of care in the private sector is uneven, but users have no choice or find greater convenience in the private sector. What is clear is that patients pay more, on average, for private health care. A review cited by the National Rural Health Mission found that in rural areas, average costs per hospital in-patient in private facilities, at Rs 7,408

(US$ 185), were more than twice as high as those in public facilities, at Rs 3,238 (US$ 81) (NRHM 2007b). Private health care expenditure is also rising, almost 50% more rapidly than income, as the private sector grows and private insurance schemes proliferate (Mavalankar and Bhat 2000).

Much of the private health care expenditure in India takes the form of out-of-pocket payments. Recently, researchers investigated how paying for unexpected illness and treatment costs affects households in a range of Asian countries (Van Doorslaer et al. 2006). They found that almost a quarter of India's households reported spending 5% or more of their total annual expenditure on out-of-pocket health care payments, and for 1 household in 10, out-of-pocket payments accounted for more than 10% of total expenditure. These figures indicate that India has one of the highest incidences of catastrophic health care payments in Asia. When researchers take account of unanticipated health expenditure in estimating how many people in India fall below the absolute poverty line, they find that the numbers swell by 3.7 crore (37 million) (Van Doorslaer et al. 2006).

When health care payments are made on the basis of a fee for each service, as is frequently the case in India, there may sometimes be a perverse incentive for health care providers to offer unnecessary or inappropriate diagnostics and medicines. In an environment where private practitioners are not tightly regulated, the risk of such inappropriate practice is raised. Although India has legislation to regulate private health providers, in practice it is often poorly enforced. Consumers often lack information about which treatments are appropriate and are therefore unable to make informed decisions. The result can be disastrous personal misspending to achieve little or no health benefit, as well as a wider cost escalation. Also, where health services are poor, users may spend their money three times over before they receive effective care: they may first approach accessible but underqualified practitioners and only later, if the treatments fail, resort to mainstream medicine. The multiple attempts to obtain health care not only cost more in total but may delay diagnosis and treatment.

In the United States, which has the most costly health system in the world, absorbing some 15% of GDP, fully 2% of GDP is estimated to be wasted on inappropriate health care (Institute of Medicine, 2001). The

analyses for this report suggest that in India, if reliance on private out-of-pocket payments for health care increased with increasingly complex health needs and assuming no change to the current system, the waste to the economy could rise to at least Rs 40,000 crore (Rs 400 billion; US$ 10 billion) or 1 % of GDP (Jha et al. 2007).

In principle, private health providers can offer services of high quality and with value for money, provided they are subject to regulation and cost controls. There is no reason why state governments should not buy specific and appropriate health care services from regulated private providers. To date, few such successful private-public partnerships of this kind exist, although where they do, they are attracting increased attention – as, for example, in the Chiranjeevi initiative in Gujarat (Singh 2007). In the main, meanwhile, the absence of publicly funded health facilities directly denies people access to quality-assured care.

The National Rural Health Mission since 2005 has added only modest new money to the health budget, bringing it to approximately 1.2% of GDP so far. The mission has begun to make a difference by upgrading health centres, appointing more nurses and accredited social health activists, and increasing access to services, such as institutional deliveries. But the government is still falling well short of its original promise to invest up to 3% of GDP in health by 2008–2009. We describe a few of the consequences here.

3.2 Consequences of underinvestment in public services

3.2.1 Inadequate physical facilities

Publicly funded health services are simply not available for many Indians, especially in rural areas. The National Rural Health Mission (2007b) recently reviewed data from 2004 showing that only 22% of outpatient services, and only 42% of inpatient services, were provided by government sources.

Table 3.1 shows the estimated shortfall in health centres, based on the government's population-based norms for the minimum acceptable provision; for example, there should be one community health centre per 1 lakh (100,000) people.

TABLE 3.1 SHORTFALL IN PUBLIC HEALTH SERVICE FACILITIES, 2004

Level	*Target ratio*	*Required additional facilities*
Community health centres	1 per 100,000 population	7,096
Primary health centres	1 per 30,000 population	11,598
Health subcentres	1 per 3,000 population	64,325

Source: Chow et al. 2007

In a separate analysis using geographic location instead of crude population norms, the Jansankhya Sthirata Kosh (National Population Stabilisation Fund) has provided fresh evidence of the inaccessibility of publicly financed health facilities for many Indians. Jansankhya Sthirata Kosh and the National Informatics Centre are using geographic information system mapping and census data to compile online maps for each district and list the distance of every village from a primary health centre. Their findings show that many hundreds of villages are more than 10 kilometres from the nearest health centre.

3.2.2 Inadequate equipment and supplies

More than a third of community health centres surveyed had inadequate infrastructure, less than half had adequate equipment, only a quarter had adequate supplies of medicines and dressings, and only 14% had adequate staff (NRHM 2007b). As detailed in Table 3.2, a high proportion lacked even running water or a toilet.

TABLE 3.2 PERCENTAGE OF INADEQUATE PUBLIC HEALTH FACILITIES, 2004

	India	*EAGA states*	*Other states*
District hospitals			
Inadequate infrastructure	7.3	9.3	4.2
Inadequate equipment	15.9	15.5	16.7
Community health centres			
Inadequate infrastructure	37.2	46.8	29.9
Inadequate equipment	55.5	56.7	54.0
Primary health centres			
Inadequate infrastructure	68.2	85.1	39.1
Inadequate equipment	58.7	74.6	40.3
Health subcentres			
Without electricity	57.9	76.7	40.4
Without tap water	81.1	95.2	68.0
Without toilet	29.4	35.8	23.4

Source: Chow et al. 2007

3.2.3 Staffing shortfalls

Doctors. India suffers from severe imbalances in the supply of doctors between rural and urban areas, and between affluent and poor states. As of 2004, there were some 6 lakh (600,000) registered doctors (National Commission on Macroeconomics and Health 2005). Yet, according to the National Rural Health Mission (2007b), only 26,000 of these serve the rural population. The most recent estimates (NRHM 2008) indicate that some 6% of primary health centres have no doctor on staff; other sources suggest that the actual figure may be higher.

Nurses. Whereas in most developed countries, the ratio of nurses to doctors is approximately 3 to 1, in India it is about 1.3 to 1. In 2005 there was approximately 1 nurse for every 1,200 people, compared with 1 for

every 200 people in most developed countries (NCMH 2005). Midwives are also in short supply. Nurses in many developed countries carry out an increasing range of diagnostic, treatment, and care management tasks, widening and accelerating people's access to primary health care. In India, this option has not yet been fully explored, although the National Rural Health Mission (2007c, 2008) has employed additional nurses.

Managers. There are few data to measure the extent of the deficit in managers across India's health system. At district level, many management tasks have been left to doctors, who receive no formal training for the role and have no structures of planning or accountability (Rao Seshadri and Subramaniyam 2007; Poornalingam 2007; Kaur 2007). Despite the recent appointment of 1,200 new staff in management, finance, and data monitoring (NRHM 2007b), the shortage of staff with relevant skills appears to be severe. "Programme management units" are being set up across states as part of the National Rural Health Mission, and although some are making good progress, a review has noted that in many states, these units are not yet sufficiently integrated with the state health system (NRHM 2007c).

All of the above resource shortages have been thoroughly documented elsewhere. However, perhaps surprisingly, these shortages are usually discussed simply in relation to government norms about how many staff there should be, rather than how staff numbers affect health outcomes across states and districts. Our own assessments suggest that inadequate services do, indeed, translate into worse health outcomes. For example, as discussed in Chapter 2, two-thirds of the children in India who die of easily preventable diseases, such as measles, would survive if they had access to immunisation. The online data monitoring and maps described earlier in this section are beginning to provide information on health outcomes as well as services, ranking districts by their performance on key indicators.

3.3 Management failures

Linked to the inadequacy of resources are equally serious problems in the management of the health system. These include a lack of capacity for planning and monitoring, and inadequate flows of information to the

purchasers and users of health services. Given the detailed discussion of these issues elsewhere, we only summarise them here.

3.3.1 Strategic planning

In health, in contrast to education, most states have only limited capacity for functional strategic planning and policy making. As a result, health has been a vulnerable item in each state's budget, leading to unstable funding. Without a functional strategic unit that can justify and advocate for funding linked to health outcomes, monitor performance and outcomes, and plan services accordingly, state health policies have tended to be reactive, based on short-term political imperatives rather than on health objectives. The continuity of health planning can also be adversely affected by a high turnover of civil servants at senior levels.

A lack of strategic vision can harm health services in numerous ways. For example, without systematic assessment of the levels of demand for different types of specialist health worker, there can be no planning for appropriate training and recruitment to fill the gaps. Likewise, without monitoring to ascertain trends in disease prevalence, services are unlikely to keep pace with changing demand. Relatively few civil servants are trained in public health disciplines such as epidemiology, health economics, or outcomes research, so the capacity to develop evidence-based policies is inadequate. A few states, including Karnataka, Maharashtra and Tamil Nadu are now training public health managers at the postgraduate level.

3.3.2 Regulation and quality assurance

India's state governments have historically been free to legislate independently on most health issues. Health is a state subject, with the central government having only limited jurisdiction. The result has been wide variations among states in issues such as quality assurance, pharmaceuticals, patient rights, ethical standards, and the maintenance of records (NCMH 2005). The National Rural Health Mission is starting to address some aspects of the interstate variation – for example, working to ensure that rural residents have more uniform access to basic health services and implementing the Indian public health standards for

government facilities. However, the Common Review Mission (NRHM 2007c) recognises that these standards have so far been perceived mainly as a benchmark for the required numbers and mix of staff and other inputs, without attention to the quality of service and other outputs. Meanwhile, much more radical action is needed to ensure that private providers are also regulated and that services for the urban poor meet the same standards.

3.3.3 Lack of health monitoring systems

Despite a profusion of published statistics, India's health system suffers from serious gaps in the flow of meaningful information to decision makers. The purchasers of health care – whether individual patients or state governments – need information on the performance of providers, the quality of their care and the outcomes for their users' health. This information is rarely available in accessible, timely, or comparable formats; instead, many data are published whose usefulness is limited (Poornalingam 2007). For example, purchasers need to know not how many malaria blood-smears were processed but how many cases were diagnosed and, of these, how many were successfully treated and how many were drug resistant. Good practice in this area, as for example in the national tuberculosis programme, is the exception rather than the rule.

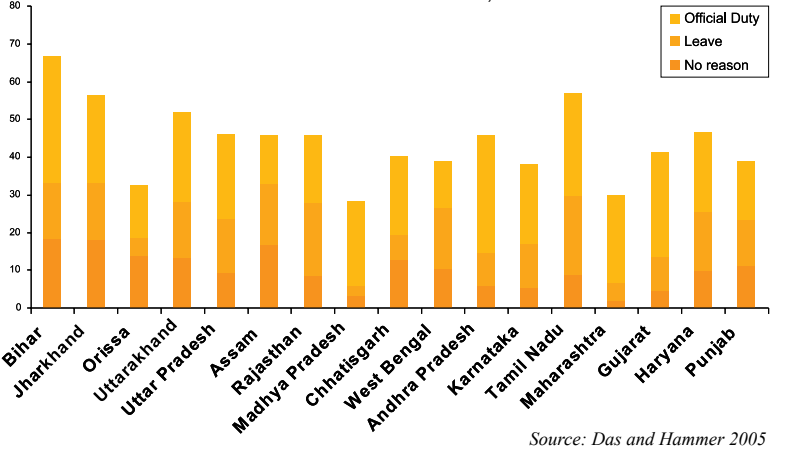
The lack of meaningful information is partly attributable to the health system's relatively slow adoption of information technology. While other government departments have developed software for managing complex information flows, the health system has lagged behind. Rajasthan is currently using software that monitors drug utilization, hospital bed occupancy, and other indicators that may be useful in other states. The National Rural Health Mission is recommending that all states adopt similar programmes and is publishing its own centralized data intermittently to track progress.

3.3.4 Human resource management

Linked to the lack of strategic planning and monitoring are failures in staff training and recruitment. According to recent surveys, almost half of all doctors in district hospitals, 90% of staff in community health centres, and 80% of staff in primary health centres need additional training (Chow et al. 2007). Shortages of nursing and midwifery staff are supposed to have been addressed by increasing the number of training places, but this programme is behind schedule (NRHM 2007c). Opportunities for in-service training are few (Rao Seshadri and Subramaniyam 2007), and the quality of much clinical training, especially for nurses, is doubtful (NCMH 2005; NRHM 2007c).

Once in post, staff in many states have been poorly managed; most doctors, for example, have no contracts, terms of reference, or clear lines of accountability. Few states have had an effective system for monitoring the performance of clinical staff. Rates of absenteeism are notoriously high. In one survey, absenteeism among doctors ranged between 66% (Bihar) and 28% (Madhya Pradesh), with no reason being given for the majority of absences (Das and Hammer 2005) (Figure 3.2).

FIGURE 3.2 ABSENTEEISM AMONGST DOCTORS BY STATE & REASONS FOR ABSENCE, 2003



Source: Das and Hammer 2005

The quality of service offered by public sector doctors has also been questioned, with the same authors concluding that these doctors apparently lack the motivation to use their knowledge and training and perform less effectively than private sector doctors with less training.

In the more challenging work environments, such as isolated rural areas, staff retention is poor, and many posts are vacant. Previous attempts to create incentives for staff retention have largely failed. Karnataka, Maharashtra, and a few other states have developed innovative incentive structures, including salary weighting, but the effect of incentives at the national level remains modest.

3.3.5 Procurement procedures

Many states still have no centralized procurement system for the purchase and distribution of drugs and supplies. Those states with centralized systems, including Haryana and Tamil Nadu, report improved quality of supplies, cost savings, and increased use of state services by patients (Poornalingam 2007; Kaur 2007). However, despite the support of the National Rural Health Mission, many other states have yet to follow suit, and those that have begun have encountered difficulties (NRHM 2007c).

3.4 Governance issues beyond the health system

Corruption is perceived to be a problem in many areas of Indian society, and the health system takes a share of the blame. According to a survey by Transparency International, the Indian public perceived health to be the second-most corrupt sector in government, after the police (Sudarshan 2007; Kumar 2003). For example, in government hospitals, patients complained that doctors and other staff demanded money for services that are provided free at the point of use, such as X-ray diagnostics, blood transfusions, and issuance of medical certificates. Patients often lacked clear information about which services were free and which incurred a charge.

The public sector has often attracted intense criticism for having an endemic culture of corruption. A recent review of World Bank funded

health activities in India has found preliminary indications of fraud and corruption at high levels – for example, in procurement – within large-scale disease programmes. As a result, funding has been withheld (World Bank 2008). A review by the National Rural Health Mission (2007c) also cites serious concerns about governance within the health system but gives few details.

Corruption also affects the medical appointments system, with widespread reports of interference by politicians. The NGO, Transparency International India reports that promotions and transfers are equally subject to corrupt practice, as well as contracts for equipment purchase and maintenance.

Addressing the underlying political culture that facilitates corrupt practices is a major task, and few familiar with the culture would expect to see corruption eradicated overnight. However, as we shall argue below, even here there are some feasible actions that could significantly reduce the problem.

CHAPTER 4

Health gains are possible and affordable:
The case for focused and rational public investment

As we have seen in Chapters 2 and 3, India faces enormous challenges in improving the health of its people. Can the national and state governments hope to improve the situation of such a large and diverse country? In this chapter, we start by summarising the evidence that the health of whole populations can change rapidly and we discuss the important factors in such change. We examine the role of governments in health, asking what is and is not the responsibility of the public sector. We then describe a focused, evidence-based, and equitable approach that governments elsewhere are using to achieve health gains for their populations, before asking how India might tailor the approach to its specific needs.

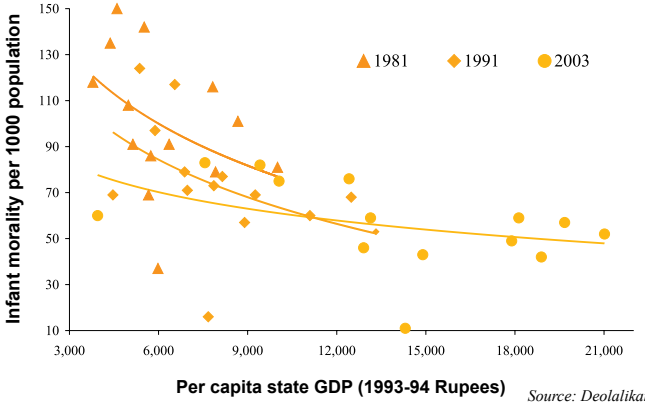
4.1 Rapid health gains in developing countries

The second half of the 20th century saw faster improvement in the health of the world's populations than all the preceding centuries together (Jamison et al. 2006; World Bank 1993). A well-documented example of this transformation is in Chile, where in 1910, a baby girl could not have expected to survive beyond 33 years of age. Today, a baby girl in Chile can expect to live beyond her 78th birthday. Improvements in life expectancy are a reasonable marker for improving health in a population. In developing countries overall, in 1950, life expectancy at birth was just 40 years. By 1990 it had improved to 63 years (World Bank 1993), and by 2005, it had reached 65 years (World Bank 2007).

Importantly, the health of people in the 20th century improved much more rapidly than their incomes. People living in the United States in the first decade of the 20th century had income levels fairly similar to those of Chile today but could expect to live only to their early 50s. Historians have analysed the possible explanations for the sharp health gains over the century and concluded that a major factor is the increase and spread of technical knowledge – for example, knowledge of the germ theory of disease, and basic drugs and vaccines – that have enabled many lives to be saved at relatively low cost (Jamison, Jha, Bloom 2008; Jamison et al. 2006). A recent statistical analysis of the factors contributing to the decline in child mortality in developing countries between the 1960s and 1990 concluded that income growth could account for only 7% of the decline, and education, 21%, whereas technical knowledge could account for some 66% (Jamison et al. 2001). The idea that technical progress is more important than income growth is also borne out by case studies from individual countries (Croghan 2006).

Of course, in most countries, as a nation's gross domestic product increases, child mortality generally falls and average life expectancy rises. India has been no exception. However, the link between income growth and declining child mortality has weakened over time in India (Figure 4.1), China, and elsewhere, suggesting that further gains in life expectancy may not automatically follow further income growth (Liu et al. 1999). Health economists and historians increasingly agree, therefore, that future gains in children's survival and populations' life expectancy are most likely to be achieved through the wider use of technical knowledge and interventions to prevent and treat disease (Jamison et al. 2001; Deolalikar et al. 2008).

FIGURE 4.1 RELATIONSHIP BETWEEN INFANT MORTALITY RATE AND REAL GDP PER CAPITA ACROSS STATES, 1981, 1991 AND 2003



Source: Deolalikar et al. 2008

The evidence appears to suggest that India can nevertheless achieve further gains. Other countries with lower or similar incomes have, as we have seen, achieved more rapid declines in the mortality of their young children, as Figure 1.2 showed for Bangladesh, Indonesia, and Nepal. Those countries' recent experience suggests that India has the potential to achieve much steeper declines. However, the evidence from other countries also suggests that India's best chances of success lie in the use of effective technical tools and knowledge to reduce disease – most of which already exist.

4.2 Health spending and the role of governments

Health services account for a substantial proportion of all spending worldwide. Surprisingly, perhaps, as much as 10% of the world's total global product is spent on health care (Jamison et al. 2006). Whether that money is public or private, the amount is so significant that it deserves careful attention from policymakers.

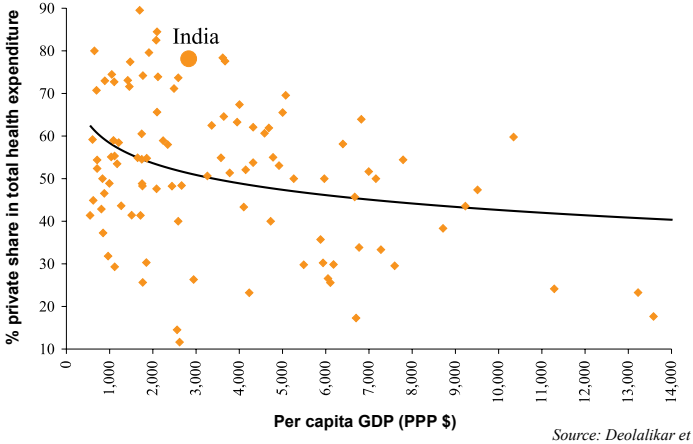
Health care can be considered as something that people can buy and sell, but it is unlike many other commodities. Compare, for the sake of argument, a household's need to buy health care with its need to buy clothes.

Within reason, householders can estimate how many clothes they will need each year, and although consumption will vary over time and among households, the extremes of use per person will not differ dramatically. By contrast, it is very difficult to predict how much health care anyone will need, and consumption can vary sharply among individuals, depending, obviously, on whether or not they get sick. Unanticipated "health shocks" are an important cause of household impoverishment in India.

Because of the unpredictability and unevenness of individuals' health care needs, most societies have moved towards a system of prepaid care as national incomes have risen. In India, the overwhelming majority of private health care payments – about 97% – are made out-of-pocket at the point of service (WHO 2006). There is widespread evidence that this is a relatively inefficient and wasteful way to finance health care (Jamison et al. 2006).

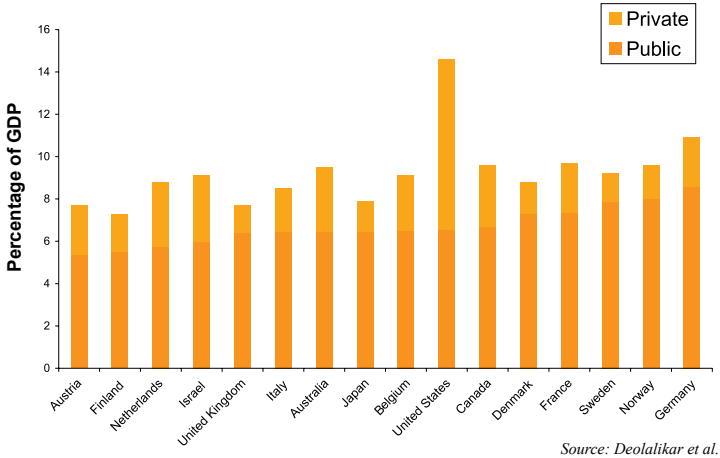
India's public health spending until now has been well below what would be expected for its income level, with some 80% of all health care expenditure coming from private sources – one of the highest proportions in the world (Figure 4.2).

FIGURE 4.2 PERCENTAGE OF PRIVATE HEALTH SPENDING IN RELATION TO PER CAPITA INCOME, LOW AND MEDIUM HUMAN DEVELOPMENT COUNTRIES, 2003



Source: Deolalikar et al. 2008

FIGURE 4.3 PUBLIC AND PRIVATE HEALTH SPENDING IN SELECTED HIGHER-INCOME COUNTRIES % OF GDP, 2002



Source: Deolalikar et al. 2008

Broadly, as countries' incomes have risen, most have attempted to spread the risk of ill health across society as a whole by financing health care through a prepaid system, with public funding accounting for an increasing proportion of total health spending. Among the high-income countries, most except the United States have chosen to provide universal, publicly financed services; more than 73% of health care expenditure in the European Union, for example, comes from public funds (Figure 4.3). Universal, publicly financed health services have also been adopted by some emerging countries, including Taiwan (China), the Republic of Korea, Mexico, Thailand and more recently, Vietnam and Colombia. It should be stressed that public *financing* of health care need not mean public *provision* of health care. In many industrialised countries, most providers are private organisations under contract to the public sector – an arrangement that can increase efficiency (Jamison et al. 2006).

A reasonable question is whether a government increase in health spending will simply fuel an increase in health spending across the board, raising outgoings for no return. At present, based on international evidence, this does not appear to be the case. In countries where changes have been monitored over time, it appears that public spending on health "crowds out"

private spending (Lindert 2004). In India, the same relationship between private and public spending seems to be borne out by the evidence. Indian states vary widely in the amount spent by the government on health care, from well below 1% of state GDP in several states to 2% in Himachal Pradesh in 2002. In general, those with higher public spending tend to have lower private spending, suggesting that the public spending crowds out the private.

Why do so many rich countries choose to finance most of their health care publicly? The arguments in favour of government involvement in some aspects of health are clear and widely accepted. For example, few disagree that governments should pay to prevent the spread of infectious diseases, such as tuberculosis or dengue, which pose a threat to all. Another example of a widely accepted government responsibility is the provision of health information, as for tobacco use or safer sex, to enable individuals to make healthier choices and thus reduce future health care costs. But is it appropriate for governments to finance personal care, which absorbs a much higher proportion of the total cost than preventive services?

Some economists have argued that individual treatment costs are the responsibility of individuals and as such should be left to the markets. Yet a growing body of evidence suggests that a free market for health care is often inequitable and inefficient (Jamison, Jha and Bloom 2008). One reason is that, because individual needs for health care vary so much, insurers are often unwilling to insure the very people who will need the most care – those who are already ill or who have a condition such as diabetes mellitus that predisposes them to other health problems. Another problem with privately financed clinical services is that those who are buying the care – insurers and patients – are unlikely to have all the information they need to make proper choices. This kind of market failure can be addressed by the involvement of governments (Arrow 1963).

Most societies view access to basic care as a human right. There are also sound economic arguments for investing in health as a means towards economic growth. By providing publicly financed services, governments can help lift households out of poverty, ultimately enabling them to become more productive (World Bank 1993). Research for the Commission on Macroeconomics and Health showed that, particularly at lower income

levels, improvements in health led to greater aggregate income (Bloom et al. 2001). Further research by the same authors found that each extra year of life expectancy raised a country's GDP per person by around 4% in the long run (Bloom et al. 2004).

Given the evidence from the past and from other countries, then, the Indian government's pledge to increase its investment in health will be justifiable, on economic as well as humanitarian grounds. However, as we have seen, the amount invested is still lower than the amount pledged; and the scale of need is always certain to be far greater than the available resources. Each additional 1% of GDP, even allowing for growth, is still a relatively modest sum per capita, around Rs 320 (US$ 8) each per year. How can the government make sure that it uses these very limited amounts of money effectively? Clearly, it will be essential to set priorities. In the discussion that follows, we examine what kinds of criteria might be used.

4.3 Rational approaches to setting priorities

Many factors can influence governments' decisions about how to prioritise their health spending. Often, the power of a political lobby, a pressure group, or the medical profession can be significant. Skewed priorities can result in governments' investing heavily in facilities that will be used only by a wealthy minority, while neglecting basic public health tools, such as child immunisation. Almost all countries can point to expensive mistakes in the allocation of their health resources – such as high-profile, high-specification hospitals that are opened proudly by politicians but remain inaccessible to the majority in need of basic, essential services. Governments have a responsibility to spend their taxpayers' money carefully, using independently monitored evidence on what works and how best to organise the delivery of services.

To achieve the goal of improving health on a limited budget, rational criteria should guide the decisions. Since the 1990s, mainly as a result of initiatives such as the Disease Control Priorities Project, health policy researchers in many countries have made systematic efforts to identify such criteria. As discussed in the Introduction to this report, the DCPP was set up to review, generate, and disseminate information on how to improve

health in developing countries. Its members agreed on three basic criteria to guide decisions on how to allocate scarce health care resources between specific health problems:

1. The scale of a given health problem. If a health problem is both prevalent and serious, measured in terms of the number of premature deaths and/or the severity of disability that it causes, then it has a high disease burden. High-burden conditions take priority over low-burden conditions.

2. The cost-effectiveness of an intervention. Available treatments, preventive tools, and policy instruments (such as tobacco tax increases) that are known to work against a high-burden condition should be funded. Evidence for the efficacy of interventions is based on the published literature and ongoing research.

3. The feasibility of scaling up. The cost-effective intervention for the high-burden condition must be practical to implement in the real conditions of the country's health service.

Governments are justified in spending money on tackling conditions that meet all three criteria. So, for example, if a vaccine against a specific harmful microbe is known to provide 90% of those who receive it with immunity to infection, and countries with similar incomes and health infrastructure have reported immunisation coverage of 80% with the vaccine, then one can estimate how much of the burden of that disease could be averted if the vaccine were available at a similar coverage for the population.

By the same criteria, governments would be hard-pressed to justify investing limited public resources in treatments for either trivial or very rare conditions while leaving conditions with a heavier disease burden unchecked. And if a condition has a high disease burden but the only existing intervention is highly cost-ineffective, most decisionmakers would struggle to justify prioritising its purchase at the expense of more cost-effective tools against other high-burden conditions. Finally, even if a cost-effective intervention is available for a serious condition, governments

are unlikely to make good use of public money in buying it if local health facilities are unable to deliver or apply it properly and on an adequate scale to those who need it.

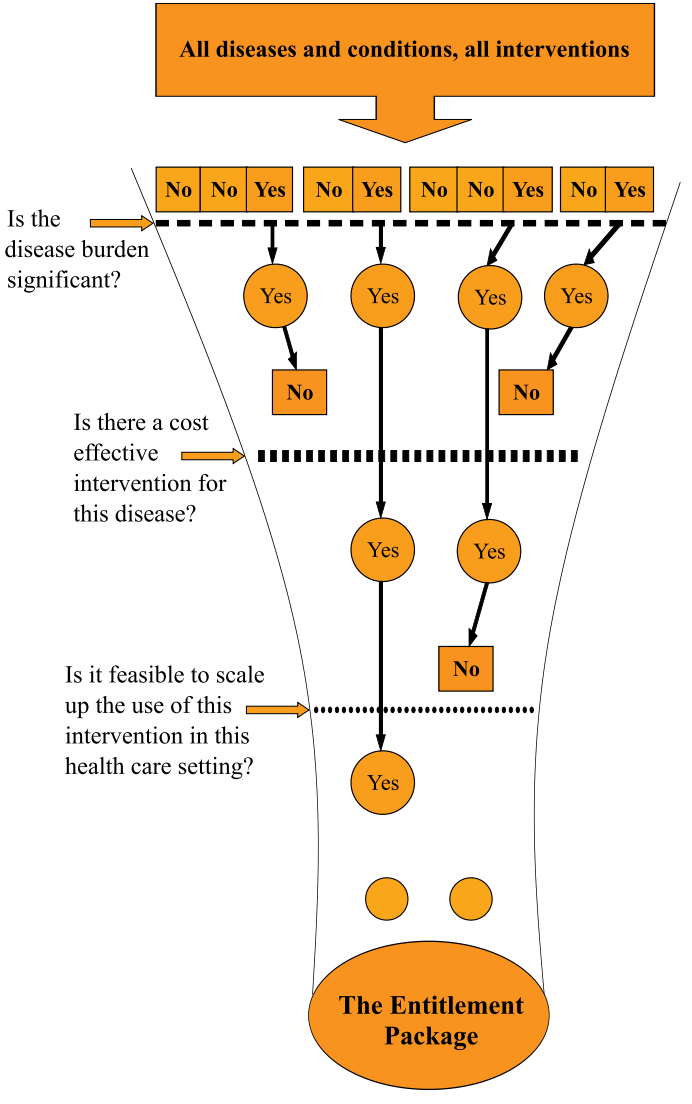
Used appropriately, the DCPP criteria form an approach that is supported by three "pillars": ethical, technical, and political (Alleyne 2006). The approach is said to be ethical because it aims to achieve the greatest good for the greatest number, using the best available evidence; it is technically justified because it is based on scientific and economic knowledge, such as clinical trials and epidemiological data on disease burden; and it can be politically justified because the criteria are transparent and relatively objective. The criteria constitute a funnel to help cash-strapped governments select the "best buys" for health on a limited budget: the aim is to achieve the maximum health gain for the lowest cost (Figure 4.4). At the same time, the use of these criteria can help create clear public expectations about what the government can and cannot provide fairly and justly to all. If people clearly understand what they are entitled to (and what not), the government gains a powerful natural "monitor" of the political popularity of its funding decisions.

Together, these interventions can be offered as an Entitlement Package of health care interventions, publicly funded and offered to all. Over and above the package, other interventions are available but may not be publicly funded. Such packages are already in use in, for example, Tanzania and Mexico (Frenk et al. 2006).

The approach is clearly designed to set priorities for tackling specific health problems, rather than improving a health system more broadly. However, as we shall argue in the next chapter, the generic difficulties facing a health system – such as poor governance and run-down facilities – can also be prioritised using rational criteria, and "bought out" by focusing on expanding the coverage and quality of a given package.

To make the priority-setting approach to selecting health interventions possible, governments first need information on the main causes of death and disease burden. The second requirement is estimates of the relative

FIGURE 4.4 A THREE-STEP PROCESS FOR PRIORITISING HEALTH INTERVENTIONS



cost-effectiveness of different interventions. For example, in tackling heart disease, is it more cost-effective to provide angioplasty to a relatively small number of adults in urban areas, or to provide low-cost preventive drugs to a much larger number of adults in both rural and urban areas? The third requirement is sound knowledge of the health system in a given area, to determine whether it can scale up the use of an intervention.

Cost-effectiveness and disease burden are not the only factors that decisionmakers must take into account in weighing the choices before them. Specific health problems may present a low burden nationally but a very high burden in a particular locality. For example, in certain states or communities in India, priorities may include chikungunya viruses, dengue, Japanese encephalitis, or leprosy. Clearly, the approach can be ethical only if it is sufficiently flexible to address such variations. One option is to devote most of the health budget to the agreed entitlement package of cost-effective interventions across the whole population, but reserve a small amount to be spent according to local choices (Bobadilla 1998). A locally flexible component to the package may also have political benefits, including the local government's increased "ownership", and enhanced appeal to users, who are more likely to have confidence in it if it tackles visible and immediate problems.

How, though, do health economists measure cost-effectiveness in practice? The key is to estimate how much health gain a given tool or intervention can deliver for a given amount of money (Jamison et al. 1993). The potential health gain can be measured in terms of the number of deaths averted or the number of years of life gained per unit of currency spent on the intervention. It can also be measured more sensitively, to take account of disability and premature death, in terms of the number of healthy life-years saved, using the measure known as the disability-adjusted life-year, or DALY (Jamison et al. 1993, 2006; Laxminarayan et al. 2006). This accounts both for years of life lost through premature death and for years lived with a disability in a single, time-based measure. Given that one DALY is one lost year of healthy life, the price of an intervention can be measured as cost per year of healthy life saved. This process allows a comparison of the relative cost-effectiveness of different health interventions in a given health care setting. For example, for just a few

rupees per year of healthy life gained, full immunisation coverage could be doubled. In contrast, it could cost perhaps Rs 10 lakh (Rs 1 million; US$ 25,000) per year of healthy life gained to treat heart disease by coronary artery bypass graft surgery. The latter would save considerably fewer healthy life-years (Jamison et al. 2006).

One approach is to see cost-effectiveness data as a means to assess the "price" of equivalent units of health, using different interventions. For example, the price of a unit of health to treat malaria might be lower than the price of an equivalent unit to treat some cancers. This allows decisionmakers to assess the potential trade-offs of interventions against each other when the total budget is fixed.

Once the price has been estimated for each intervention, decisionmakers must decide what is cost-effective. The Disease Control Priorities Project team defined highly cost-effective interventions, in low-income countries, as those that cost less than Rs 4000 (US$ 100) per year of healthy life gained (Laxminarayan et al. 2006). However, this cutoff is fairly arbitrary, and governments need to set their own thresholds based on national and local circumstances, taking account of income, budget levels, and disease burden. Importantly, policymakers should also interpret the estimates carefully and look for order-of-magnitude differences between interventions, rather than differences of a few rupees (Jamison et al. 1993).

The crucial feature of the approach is that it focuses on a few carefully selected interventions rather than trying to do everything. There are several reasons for this. First, a short list of interventions against a few major conditions can sharply reduce the total disease burden. Widening access to safe delivery in an institution with skilled care, for example, could save more than 3.47 lakh (347,000) newborn lives a year (Table 5.1). Given limited human resources and the constraints on local health services, it makes more sense to focus on a few powerful interventions than to attempt many. Second, planners and policymakers may find that estimating costs is initially more manageable, and configuring the necessary resources, staff, and supplies more feasible, for a short list of interventions than for a long one. With a strictly limited budget, it is also easier for a government to

communicate clearly a short list of services in the package. In settings where many people with limited access to information have found themselves paying bribes to health workers for services that, unknown to them, should be free at the point of use, a focused package can help clarify their rights (Deolalikar et al. 2008). Another less obvious benefit of focusing on a short list of interventions is that it can improve the service that people receive from health workers. Peabody et al. (2006) have argued that health workers are more likely to acquire skill and efficiency by doing a few tasks frequently than by doing many things occasionally.

4.4 Applying the criteria in real life

To illustrate the priority-setting approach outlined here, consider the case of cardiovascular disease. First, for this leading cause of death in India, there is little doubt that the first criterion – high burden – is met. Second, what cost-effective options are there? Some relatively low-cost health care tools are available. For example, the clinical management of heart attack with aspirin and beta-blockers can be delivered at very low cost for each year of healthy life gained – less than Rs 1 per person per year (Chow et al. 2007). Another option is to increase the price of tobacco by one-third, a measure known from other countries' experience to reduce tobacco consumption significantly. A third option would be to extend trials of a so-called polypill, which combines several medications to reduce the risk of death or life-threatening heart attacks or strokes in people with known cardiovascular disease. Finally, in this example, the health policymaker must apply the third criterion by weighing the realistic chances that each intervention can be applied in the given health setting. The selection of interventions shown in the package in Chapter 5 reflects our application of all three criteria.

We turn now to a universal health Entitlement Package and a set of reforms to the health system.

CHAPTER 5

Best buys for better health in India:
An Entitlement Package with priority reforms to the system

In the previous chapters, we have assessed the country's health needs and explored a rational approach that may help the government respond to those needs. We have shown that there is an equitable, transparent, evidence-based method to select a short list of interventions that tackle major health problems, are cost-effective, and can feasibly be scaled up for widespread, publicly financed implementation.

Following the approach outlined, the team has identified a package of interventions tailored to the needs of India. Here we briefly outline our selection of interventions in the package. We are well aware that in many states, most of these interventions are already in use and being funded, in some cases through the National Rural Health Mission. The package is a means to scale up these interventions to reach all Indians. The estimated costs, shown below, are based on the additional investment required, over and above any existing public spending on these interventions, such as the national immunisation programme.

Given that the ranking of the different causes of death varies between the EAGA states and the other states, and given that interventions for the main conditions range in cost from low to medium, the cost of the package varies accordingly; we therefore show the complete packages for both state groups.

It is not the purpose of this report to rehearse all the published evidence on the efficacy of each selected intervention. That evidence is in the public domain and can be found referenced through the published medical literature, the background papers to the report, and other sources, including the publications of the Disease Control Priorities Project (www.dcp2.org). Having summarised the selection of each group of interventions in the package, we set out its expected cost and the expected savings in lives in each group of states.

5.1 The Entitlement Package

As Chapter 2 showed, a few diseases and conditions cause more than half of all premature deaths in India. We have identified 14 conditions or groups of conditions with interventions that are cost-effective and feasible and could be delivered for under Rs 280 (US$ 7) per person per year. All of these interventions are well known and many are already in use in at least some areas; the idea of the package is to scale up their delivery to all, with public finance and vastly improved accountability. This investment could be covered by approximately the next 0.85% of GDP, well within the government's pledged increase. We estimate that if a package of these interventions were universally available, it could prevent some 27 lakh (2.7 million) deaths a year, or about 40% of all premature deaths. Over a generation, up to 2035, this would amount to some 8 crore (80 million) lives saved (Table 5.1).

The costs shown in the table include the marginal costs of increasing existing services to reach all, but no costs for setting up new services or new infrastructure (Chow et al. 2007). Later in the chapter, we also show estimates of the additional costs of such service improvements. At the end of the chapter, the total costs of both the Entitlement Package and the health system improvements are summarised, in Table 5.3.

We describe the Entitlement Package in more detail below.

TABLE 5.1 THE ENTITLEMENT PACKAGE IN SUMMARY

Diseases and interventions	*Annual cost per person (Rs)*			*Estimated number of deaths in 2004 (in 000's)*	**Average number of deaths averted per year (in 000's)*
	EAGA	*Other States*	*Total*		
A. Maternal and neonatal deaths					
Maternal				65	34
A1: Institutional delivery at CHCs & expanded contraception	26.0	12.0	19.0		
Neonatal intervention				1,312	347
A2: All newborns receive postnatal care in institutions	19.0	10.0	15.0		
B. Deaths in children < 5 years				2,166	372
B1: Vaccine-preventable childhood diseases (milliary TB, polio, diphtheria, tetanus, pertussis, measles)					
B1.1: 90% EPI coverage	2.7	0.5	1.5		
B1.2: 2nd measles dose	1.1	1.4	1.3		
B1.3: Add antigens to EPI:					
- Hepatitis B	1.6	2.0	1.8		
- Hemophilus influenza type B	6.6	8.6	7.8		
- Rotavirus	6.4	8.3	7.5		
- Pneumococcus	2.9	3.8	3.4		
B2: Undernutrition					
B2.1: Vitamin A and albendazole	0.7	0.5	0.6		
B2.2: Salt iodization	0.4	0.4	0.4		
B3: Diarrheal diseases					
B3.1: Oral rehydration therapy	1.6	0.9	1.2		
B3.2: Promote breastfeeding	0.5	0.3	0.4		
B4: Acute pneumonia					
B4.1: Improved case management	1.4	0.9	1.1		
C. Selected infectious diseases > 5 years					
C1: Malaria	11.0	5.5	8.0	284	142
C1.1: Chloroquine for P. vivax cases C1.2: Artemisinin-combination therapy for P. falciparum cases C1.3: Indoor residual spraying					
C2: Tuberculosis				590	64
C2.1: DOTS for sputum + cases	7.4	8.0	7.7		
C2.2: DOTS for sputum - cases	9.9	10.2	10.1		
C3: HIV/AIDS				80	261
C3.1: 80% condom use by sex workers	1.1	4.3	2.8		
C3.2: Voluntary counseling/testing to 1/3 of sexually active adults	2.9	11.0	7.3		
C3.3: Prevent mother-to-child transmission	3.4	13.0	8.4		
C3.4: Manage STIs	2.9	11.0	7.3		
C3.5: Antiretroviral treatment for 40% of symptomatic adults	6.7	26.0	17.0		
Subtotal of communicable, maternal and perinatal conditions	116	139	130	4,497	1,220

Diseases and interventions	Annual cost per person (Rs) EAGA	Other States	Total	Estimated number of deaths in 2004 (in 000's)	*Average number of deaths averted per year (in 000's)
D. Selected noncommunicable diseases					
D1: Cardiovascular disease				1,983	587
D1.1: Aspirin, blood-pressure drugs, cholesterol lowering drugs for those with heart attacks or strokes	7.0	10.8	9.0		
D1.2: 33% increase in price of tobacco, warning labels, clean air laws, and mass information on risks	2.9	2.4	2.6		
D2: Other (diabetes, cancers, respiratory disease)				2,226	443
D2.1: Metformin treatment for diabetes for average of 3 years	1.4	2.8	2.2		
D2.2: 33% increase in price of tobacco, warning labels, clean air laws, and mass information on risks	included in above				
D3: Cervical cancer				4	1
D3.1: Once-lifetime screening for adult women using acetic acid and visual inspection	2.1	2.6	2.4		
D4: Blindness				-	-
D4.1: Cataract surgery	8.0	8.0	8.0		
D5: Epiliepsy				-	-
D5.1: Phenobarbital treatment	16.0	11.0	13.0		
Subtotal of noncommunicable diseases	**37**	**38**	**37**	**4,213**	**1,031**
*E. **Other medical diseases affected by this package of intervention*				677	448
F. Local priority cost	100	100	100		
Total deaths addressed in Entitlement Package	**253**	**277**	**267**	**9,387**	**2,699**

** Premature deaths averted below 70 years. Annual average based on 30- year projections*
*** Chiefly infectious diseases in children over age 5, but excluding injury*

In each case, the interventions were selected by the team from a short list of interventions whose efficacy is established in the published literature. The cost-effectiveness and feasibility of scaling up in the EAGA and other states were estimated for each intervention (Chow et al. 2007). Only those interventions that met the criteria discussed in Chapter 4 were included. The estimated number of lives saved directly by each intervention is based on conservative assumptions. Lives that would likely have been saved anyway through demographic and economic changes over the period are not included in the totals.

We organize the package by sets of interventions that are most applicable to particular groups of people at different stages in life: services for safe birth and motherhood; services for young children; services for older children and adults with communicable diseases; and services for adults with chronic diseases. Here we summarise the types of intervention.

5.1.1 Interventions for safe birth and motherhood

The package includes contraceptive services for all women with unmet needs, plus universal access to delivery in an institution with skilled care. We estimate that more than 34,000 women's lives and more than 3.47 lakh (347,000) infants' lives could be saved each year with these interventions.

An overwhelming body of evidence now shows that mothers facing complications in labour are much more likely to survive if assisted by skilled health workers in health care institutions with appropriate equipment. Similarly, the survival chances of infants are greater when skilled postnatal care is available (Aggarwal et al. 2007). The proportion of women in India who now deliver their babies in an appropriately staffed and equipped institution has reportedly risen to 40% but remains low compared with many countries with comparable economic wealth. So far, it is too early to assess the outcomes of the increase in institutional deliveries for the survival chances of either infants or their mothers.

A system called Janani Suraksha Yojana (JSY), now being implemented under the National Rural Health Mission, is beginning to

increase the proportion of institutional births further. Under JSY, which is funded by the central government, all pregnant women in certain states and women whose income is below the poverty line in all other states are entitled to a conditional cash transfer of up to Rs 1400 (US$ 35) when they deliver their babies in institutions. The cash can be used for transport to and from the delivery institution and towards the cost of care. Women who prefer to deliver their babies at home receive a smaller payment, to help them purchase safer care. Women who choose to deliver their babies in an accredited private institution have to pay the additional costs but still receive a limited cash payment. A payment is also made to the accredited social health activist or other worker whose job it is to help the woman prepare for institutional delivery and accompany her to the facility.

The National Rural Health Mission reports a "significant increase" in institutional deliveries, which it attributes to the JSY system. It reported 108 lakh (10.8 million) institutional deliveries in 2005–2006, rising to 112 lakh (11.2 million) in 2006–2007 (NRHM 2008). In Madhya Pradesh, whose infant mortality record at the turn of the 21st century was one of the worst in India, institutional deliveries in some rural areas more than doubled, from 26% to 53%, and statewide, the number increased from 6 lakh to over 9 lakh (600,000 to 920,000) between 2005 and 2007 (NRHM 2007a). Bihar reports a 62% increase in institutional deliveries (NRHM 2007c). However, not all EAGA states appear to have done so well. It will be important to monitor state data carefully over the next few years, particularly the impact on infant mortality and maternal mortality.

There are problems with the JSY system. The supply of qualified nurses and midwives has not kept pace with the sharp increase in demand (NRHM 2007c), so the quality of care that women receive is not yet optimal. In part because of staff shortages, many women are leaving the health centre within six hours of giving birth, even though the length of stay recommended for maximising the health of both baby and mother is at least 24 hours. The care surrounding the actual delivery – including care for the newborn and additional services such as postpartum sterilisation – are not yet fully linked into the services (NRHM 2007c). Health workers in some centres have complained that the incentive payments to mothers and accredited social health activists are not replicated in any enhancements

to their own wages, yet their workload has increased sharply. There are reports that health workers at some centres are sending away women assessed as low-risk. Much more improvement is needed in the quality of this service before it can be called a success (NRHM 2007c).

5.1.2 Surviving the first five years of life

Of all groups in society, young children are among the most vulnerable to disease. Yet a striking number of proven tools exist to protect them from disease or treat them promptly – and, significantly, most of these interventions are highly cost-effective. Our data suggest that, in addition to more than 3.47 lakh (347,000) infants who could be saved through institutional delivery each year, the Entitlement Package could avert the deaths of a further 3.72 lakh (372,000) children under five each year with better use of existing, well-established tools.

A major tool for saving children's lives is immunisation. Among all well-documented health interventions, immunisation stands out as highly cost-effective and efficient (Bloom et al. 2005), even in settings of very low income. Currently, in India, two-thirds of the children who die of measles and the other preventable childhood diseases would have survived if they had had access to immunisation (Kumar et al. 2008). We show that the additional cost per capita each year to reach 90% of Indian children with the six basic vaccines already included in the national immunisation programme – diphtheria, tetanus, pertussis, tuberculosis (BCG), polio, and measles – would be less than Rs 3 (8 US cents) in the EAGA states and even less in the other states (Table 5.1).

As well as raising coverage above the current unacceptably low levels, India's states may save more lives by improving the delivery strategies for these vaccines – for example, by offering a second opportunity for measles immunisation as recommended by the World Health Organization and UNICEF in their global strategy against the disease (World Health Assembly 2003). Implementation of this recommended strategy has helped many African countries much poorer than India to reduce their measles deaths sharply in the past decade. WHO has noted that global success against measles will depend on India and Pakistan following the

lead of these smaller and poorer countries (WHO 2007). The cost of this additional measles vaccine opportunity would be less than Rs 2 (5 US cents) per capita per year.

In many developing countries, the immunisation schedule is now being enlarged beyond the basic six vaccines. Newer or underused vaccines can protect against other important diseases, including hepatitis B, a common cause of liver cancer; *Hemophilus influenza* type b (Hib); pneumococcus, a major cause of pneumonia; and rotavirus, which causes life-threatening diarrheal disease. The uptake for these vaccines, which was initially slower than expected in developing countries, has surged in the past year in countries with much lower incomes than India's (GAVI Alliance 2007). Recent reviews of the literature (see Brenzel et al. 2006) confirm that immunisation against these common and serious diseases is highly cost-effective. We estimate that together, these vaccines could be added to India's immunisation programme at an additional cost of around Rs 21 (50 US cents) per person nationally each year.

To date, however, the Indian government has been unwilling to pay for the newer vaccines, demanding that they be supplied for about a quarter of their current cost. We argue that the historically low prices of the vaccines included in the WHO Expanded Programme on Immunisation may have led governments to have unrealistically low price expectations for newer vaccines, whose costs in both development and clinical trials have risen sharply. However, there is also reason to expect that India's own powerful pharmaceuticals and biologics industry will be able to produce the newer vaccines at international quality standards and at competitive prices in the near future, given its track record in antiretroviral medication for AIDS and other areas.

In addition, the Entitlement Package contains some interventions to combat malnutrition, specifically vitamin A deficiency, albendazole, and iodine deficiency (Vijayaraghavan 2007). In recent decades, India has attempted to address undernutrition in children through mass feeding programmes designed to ensure that children from poorer households receive at least one decent meal daily. Unfortunately, the effect of these programmes has been very limited (Aggarwal et al. 2007). More recently,

researchers have suggested shifting the emphasis of nutrition interventions from mass feeding programmes to micronutrient supplementation, as well as reducing children's exposure to serious infections, as discussed above, by increasing the number of antigens in the national immunisation programme.

Other effective tools to prevent child deaths include prompt and careful case management for children with respiratory infections, the promotion of breastfeeding to prevent diarrheal diseases, and treatment with oral rehydration therapy (ORT) if symptoms develop. We estimate that the additional cost of bringing these interventions to all children would be less than Rs 5 (13 US cents) per person per year in the EAGA states, and a smaller amount in the other states.

5.1.3 Controlling communicable diseases among older children and adults

The Entitlement Package contains interventions to treat and prevent three significant and life-threatening infections: tuberculosis, HIV/AIDS, and malaria. Treatment with a standard regimen of drugs against tuberculosis could sharply reduce death rates and also reduce the number of new infections across India (Chadha 2007). In the case of HIV/AIDS, India has been able to revise downwards its estimates of the number of new infections, but the disease remains significant because it kills young adults at the height of their productivity and in the midst of their parenting years. For this reason, the interventions to combat HIV – which include both preventive measures and treatment drugs – are cost-effective and could prevent a surprisingly high number of new infections in the future, so averting future deaths. Thus they have been included in the package.

Malaria is now thought to affect a larger number of adults in India than previously thought (Dhingra 2007), and its resurgence in urban areas has altered the dynamics of transmission and the demography of who is affected. Prompt treatment with chloroquine where this is still effective, or artemisinin-based combinations in situations where there is chloroquine resistance, is crucial (Sharma 2007).

We estimate that a set of interventions for these conditions, shown in Table 5.1, could be delivered to all who need them for an additional Rs 70 (US$ 1.75) per person nationally.

5.1.4 Managing noncommunicable diseases

It is more difficult for state governments to respond to the growing epidemic of noncommunicable diseases than to the traditional health threats discussed above. Although the tools used to prevent and treat infections, diarrheal diseases, and acute respiratory infections are well established, there are fewer highly cost-effective interventions to treat long-running, chronic diseases such as diabetes mellitus and cardiovascular disease. Yet the need for such tools is urgent, given that noncommunicable diseases increasingly dominate India's health problems.

Applying the principles set out in the previous chapter, we have selected a very limited set of interventions that can be promptly delivered, are highly cost-effective, and bring significant reductions in the number of deaths from cardiovascular disease, diabetes mellitus, and cancers. In addition, we have identified a few interventions that can reduce the effects of two common nonfatal but disabling conditions: epilepsy and blindness. Although we are well aware of the importance of other nonfatal but disabling conditions, such as depression, interventions that meet the cost-effectiveness and scaling-up criteria have not been identified (Chandra and Pandav 2007). Health researchers in India should focus on identifying more tools that can feasibly be used in low-capacity settings to combat these chronic conditions.

Of the interventions known to be cost-effective for cardiovascular disease and cancers, a priority is to persuade as many as possible of India's current 12 crore (120 million) smokers to quit. At present, only 2% of adult men in India describe themselves as ex-smokers, compared with 9% in China, 25% in Poland, and 40% in the United Kingdom. Quitting brings immediate health benefits at any age and substantially reduces the risk of death to most smokers, especially before the onset of disease. Unless a high proportion of current smokers quit, the death toll from tobacco in India is set to continue rising, even if younger people can be deterred from starting to smoke (Ray and Gupta 2007; Dikshit 2007). Projections based

on evidence from countries with long histories of smoking suggest that the expected 52 crore (520 million) tobacco-related deaths worldwide by 2050 can be reduced sharply to 34 crore (340 million) if half of adult smokers quit by 2020 (Peto and Lopez 2001). However, if adult smokers fail to quit, the total deaths by 2050 will be only slightly reduced, to 50 crore (500 million), even if half of those young people who would have taken up smoking are dissuaded from doing so by 2020.

Effective tools to help smokers quit include price rises on tobacco, clean air legislation, comprehensive bans on advertising, and provision of information about the risks to smokers' health. The potential effect of increasing the price of tobacco in India by 33%, applied to both cigarettes and the bidi industry, has been estimated in separate studies. International evidence suggests that a 10% increase in the price of tobacco decreases consumption by around 8% in low- and middle-income countries (Jha and Chaloupka, 1999). Such a tax could save at least 60 lakh (6 million) lives over the next few decades (John et al. 2009).

Although effective measures to prevent tobacco-related deaths will prevent many cases of cardiovascular disease and cancers, other measures are also necessary and cost-effective. To tackle cardiovascular disease, a highly cost-effective intervention is the pharmaceutical management of heart attack with aspirin, which significantly reduces the risk of death from a further heart attack (Prabhakaran et al. 2007). We have also considered interventions using combinations of drugs that lower blood pressure (antihypertensives), diuretics, drugs that reduce the risk of blood clots (anticoagulants), and drugs which lower cholesterol. Based on international data, the risk for an individual with cardiovascular disease of being admitted to hospital or dying of an acute event (such as a heart attack or stroke) is an estimated 7% per year without treatment. If that individual receives treatment with three to four drugs, including antihypertensives, diuretics, anticoagulants, and a cholesterol-lowering drug, the risk typically drops to about 2% per year. Over a decade, therefore, the risk of death or hospitalization drops substantially with access to these medications.

To control diabetes mellitus, the 11th biggest cause of death in India's non-EAGA states, we have included the preventive use of metformin for an average of three years. We have also included visual screening

for cervical cancer, using acetic acid (Megevand et al. 1996) as a cost-effective alternative to the Papanicolaou screening method used in most high-income countries. One of the advantages of this method is that its results are available in minutes, whereas Pap smear test results can take months (Jeronimo et al. 2005). We estimate that widespread access to this test would prevent more than 1,300 deaths a year in India.

Together, then, this group of interventions against noncommunicable diseases could save about a million lives a year, at a cost of just Rs 37 (90 US cents) per person extra each year (Table 5.1).

5.1.5 The local priority component

As other countries' experience has shown, national health intervention packages may need flexibility to allow state health systems to respond to local needs. For example, if malaria is particularly prevalent in a particular state, or there is an epidemic of chikungunya or dengue, the state must respond swiftly and effectively. Likewise, a health problem can have political significance if it disproportionately affects one group of people, even if its incidence nationally is small. State governments need to be able to retain the confidence of their local health system users by taking appropriate action. For this reason, we have included Rs 100 (US$ 2.50) per person per year for local priorities. It is important that independent audits be conducted to protect this funding from corrupt misuse or lobbying.

In sum, we estimate that the Entitlement Package could save around 8 crore (80 million) lives over 30 years at an average rate of 27 lakh (2.7 million) lives per year. In our judgment, this represents a significant opportunity for better health and represents excellent value for money.

5.2 Using the Entitlement Package to catalyze reform

In its position as an established economic giant, India has committed itself to eradicate poverty and what India's Prime Minister has described as the "national shame" of malnutrition. In deciding how to move forward on the almost equally shameful state of the health system, as described in Chapter 3, the government has set itself many ambitious targets. The National Rural Health Mission cannot address all targets at once, however, and

if too many targets based on service norms rather than health outcomes are tackled, the initiative may lose sight of its goals. Nor is it designed to address urban health needs, which are growing rapidly, with half the population projected to be living in cities by 2020. Given the breadth of the demands on the government, we argue that priorities for reform should be set.

The process that has guided our deliberations consists of several strands. We have drawn on a range of sources of information:

- published analytic reports of the outcomes of health reform in other countries, such as Mexico, Vietnam, and Colombia;

- knowledge of good (and less good) practice around India and elsewhere, contributed by the authors of the background papers to this report and by members of our expert review panels; and

- principles and evidence collected and disseminated by international bodies with responsibility for health policy, principally the World Health Organization, the Commission on Macroeconomics and Health, and the Disease Control Priorities Project.

In addition, we have consulted external academics and health policymakers in a series of exchanges and discussions and used their contributions to inform the conclusions we present here.

Lessons learned by other countries may be of particular interest to India's decisionmakers (WHO 1999, 2000). Mexico, like India, is suffering a double burden, with concurrent epidemics of infectious and chronic diseases. Its society has certain features comparable to India's, including wide income inequalities and high out-of-pocket health care costs for 5 crore (50 million) previously uninsured citizens. In 2001, Mexico's policymakers decided to implement a social insurance package that would progressively entitle nearly 5 crore (50 million) people to a package of priority health interventions, somewhat comparable to those in the package described above; it includes immunisation, antenatal care, and skilled assistance for delivery. The aim was to use the priority health interventions to drive the attainment of better health outcomes and better health services at the same time.

In the past, many of the debates about health system reform have become entangled in weighing the relative merits of "vertical" reforms, involving programmes to attack specific diseases, versus "horizontal" reforms, which focus on improving services across the system. Mexico's policymakers considered this a false dichotomy. They adopted instead what they called a "diagonal" approach: using an entitlement package and the democratic demand it unlocked to achieve reform both vertically and horizontally at the same time (Frenk et al. 2006; Frenk et al. 2003). By giving citizens clear entitlement to a well-publicised set of health interventions, the package set priorities for the health system and ensured that demand for the interventions would maintain the pressure on politicians to invest more money in the services.

Early results from Mexico's experiment indicate that it is succeeding in buying better health outcomes – for example, in accelerating the country's decline in maternal mortality, reaching previously disadvantaged groups, and increasing the effective coverage of a large number of health interventions (Gakidou et al. 2006). Also as a result of the reform, central government has overhauled the way it allocates health funding to providers, using the number of families enrolled as a basis and hence rewarding better performance. Health spending as a proportion of GDP has increased, and the content of the entitlement package has expanded sharply (Frenk et al. 2006).

We argue that India's citizens could benefit similarly from that diagonal approach to health improvement, through the implementation of the initial interventions described above. Rather than try to improve all aspects of the system, we argue instead for a small number of actions related to the Entitlement Package as the first phase of reform. We set these out below (Table 5.2) in broad outline and then offer an estimate of the costs of some of these actions.

The following particular types of change were selected because of their potential to catalyze further reforms:

1. Focus the allocation of resources. Buying a key set of health outcomes will help achieve the greatest health gain most efficiently.

2. Develop strong national regulatory and quality-assurance frameworks. When purchasers can assess providers, whether public or private, on the same standards, they help drive up quality, control costs, and reduce waste and inefficiency.

3. Provide clear, timely, and independently audited information to managers. Data on health needs and the performance of service providers will improve strategic planning, monitoring, and the development of fully accountable services.

4. Unlock people's demand for equitable, high-quality health services. Once people know exactly what they can expect their services to deliver, and at what standards, they can hold their politicians to account if their demands remain unmet.

Our aim has been to select actions that will bring the greatest health gains with the most efficient allocation of resources. We believe that these actions can significantly improve the whole system's performance. Below, we provide some preliminary estimates of their costs, but we do not prescribe how the central government and individual states should best achieve the identified changes. Decisionmakers who choose the approach outlined here will use their expertise and appropriate consultation to turn principles into nationally and locally effective strategies.

In identifying priority actions, we separate those that are linked directly to the health system, its resources, and management from those affected by wider governance issues in India. Drawing on knowledge of good practice in India and evidence from other countries about what works, we focus on affordable and feasible changes – the "low-hanging fruit" on the tree. Initially, these actions are bound up with the delivery of the Entitlement Package. As capacity and budgets increase, India's health plans may evolve, and the package of entitlement services is likely to grow and extend. But we argue that, for the meantime, the package, with its potential to save 8 crore (80 million) lives in a generation, is an excellent start.

TABLE 5.2 PRIORITY REFORMS: SELECTED ACTIONS TO IMPROVE HEALTH OUTCOMES

Problem	*Selected actions*	*Outcomes*
Poor allocation of resources	Focus resource allocation for maximum health gain	- Better health and macroeconomic gains
Underinvestment in public sector	- Increase government spending on health at central and state level to roll out Entitlement Package - Create incentives for state governments to improve service delivery by rewarding outcomes, financially compensating states that achieve reductions in mortality - Publicise clearly what is and is not covered by Entitlement Package - Building on National Rural Health Mission, invest in infrastructure, skilled staff, equipment, and supplies to deliver Entitlement Package, including urban areas	- State budgets for health increase - Public demand for Entitlement Package services increases - Public knowledge of Entitlement Package creates demand for best value and rejection of overpriced services - Effective coverage of Entitlement Package services increases - Quit rates for tobacco smoking rise - Mortality declines for all conditions covered by Entitlement Package
Heavy reliance on private finance and out-of-pocket payments for unregulated services, leading to inefficiency, waste, and impoverishment	- Deliver Entitlement Package of universal services, financed through income tax or other social prepayment system, based on WHO principle of "coverage for all, not coverage of everything" - Control cost escalation by regulating private and public providers' services	- Mortality declines for all conditions covered by Entitlement Package - Number of people impoverished by catastrophic health spending is reduced
Management failures linked to capacity	- Invest in capacity of managers to focus on achieving health outcomes	- Better cadre of managers
Lack of capacity for strategic planning and evaluation of health objectives	- Extend National Rural Health Mission - Develop state strategic planning units to focus on health objectives, initially through the Entitlement Package - Use planning units to advocate for investment in skilled staff, training, monitoring, infrastructure - Invest in training limited number of public health managers	- States take ownership of health objectives - States invest more in health and demand additional funding from central government, private finance, etc.
Management failures linked to inadequate information	- Improve flow of information to purchasers and users of services, driving demand for quality	- Better efficiency
Lack of accountability of health providers to government	- Extend National Rural Health Mission, set and enforce national regulatory frameworks for care and treatment standards, applied to both private and public providers - Purchase services only from quality-assured providers, public or private	- Purchasers and public gain access to information about standards and performance of health providers, public and private - Quality, effectiveness, and efficiency of health services rise

Problem	*Selected actions*	*Outcomes*
	- Close down any provider that fails to meet standards within reasonable timeframe and with reasonable technical support - Regulate services in Entitlement Package, extend as budget grows - Invest in developing management information system to track providers and compare performance and outcomes across states - Conduct independent audits of data quality	- Reduce wastage by private sector - Better choice for consumers using public or private sector
Lack of accountability of health providers to politicians and public	- Publish annual report cards on a set of key health indicators - Engage panchayati raj institutions to act as advocates for citizens' entitlement to health services, raising awareness of entitlement and provider performance	- State politicians are held to account for outcomes and compared with neighbours, fuelling their demand for better performance and increased resources for health services - Public demands better services - Demand is linked directly to outcomes
Poor human resource management: lack of job descriptions, contracts, accountability structures, incentives for performance	- Require publication of job descriptions for all posts - Specify minimum standards for performance, regular reviews, and rewards for professional development in contracts - Reward providers for evidence of improved performance - Reward providers for increasing demand for Entitlement Package services (funding follows patients)	- Vacant posts and absenteeism fall, service gains efficiencies - Higher user numbers increase providers' income, permitting better staffing and remuneration - Use of services covered by Entitlement Package increases
Governance failures due to wider climate of corruption	- Increase transparency of resource flows, recruitment, and promotion	
	- Depoliticize recruitment, promotion, and transfers of medical staff by online advertising and application system - Procure supplies only from agreed essential drugs and equipment list, based on published prices and quality standards - Publish tenders and awards for contracts for building, maintenance, etc.	"E-governance" climate creates greater transparency and exposes politically motivated or corrupt appointments, promotions, procurement, and contract awards

Each of the reforms shown here could, we argue, have a catalytic effect on improving the overall performance of the system and health outcomes. The reforms – focusing resource allocation, increasing the supply of information, and improving regulation and standards – are closely linked to the implementation of the Entitlement Package.

Providers – whether local government health centres or private entities whose services are purchased by the government – would be required to deliver the Entitlement Package to people in a certain district. States could reduce providers' budgets in future years if they failed to provide the service to sufficient people in the current three-year period, and if the district's health outcomes did not improve over the previous period. To reach their targets, providers would need nurses, midwives, and medical officers, but the state government would award providers' funding on the basis of required outcomes, not bureaucratic processes, and would allow the provider some flexibility about how to spend it, provided the outcomes were achieved. This broad approach – payment for results – is already being implemented in the health systems of other countries.

A provider that is being funded on this basis will recruit the appropriate staff without delay, using its flexible budget. If the provider has difficulty recruiting people with the right training, it may offer incentives to attract staff with the appropriate training from elsewhere. If the provider has difficulty retaining staff, again, the onus is on that provider to devise incentives to keep them. If local users of the service sharply increase their demand because of growing awareness of the Entitlement Package, and budget allocations factor in user numbers and health outcomes, as in Mexico (Frenk et al. 2006), then the income to the provider will increase. This could be reflected in staff salaries or other benefits.

India already has examples of efficient providers that deliver better health outcomes (Government of India 2008b). In Karnataka, for example, a partnership between nongovernmental organizations and the medical colleges has been running 22 primary health centres since 2002. Of these, 14 centres are run by an NGO called the Karuna Trust, and 8 are run by other NGOs and the medical colleges. Two of the Karuna Trust's primary health centres have reported sharp falls in their infant mortality rates over this period. Clearly, however, more systematic evidence of the effect of

reforms is needed over a wider area to justify policy shifts.

We have, obviously, excluded from Table 5.2 many of the reforms advocated by other analysts of the Indian health system, not because we disagree with their merit but because they are likely to take longer or cost more than the reforms shown here. For example, it is widely acknowledged that aspects of India's medical training and education are in need of overhaul. However, this overhaul may take some years to achieve if implemented from the top down. By stimulating public demand for high-quality, affordable, cost-effective services through the initial Entitlement Package, India could overhaul medical education, for example by tying public funding to a requirement for newly qualified doctors to serve defined periods in rural areas.

In the next section, we estimate the additional costs of implementing the reforms identified here. In the final chapter, we suggest a timeline and financing mechanisms to turn these proposals into reality.

5.3 A modernised health system

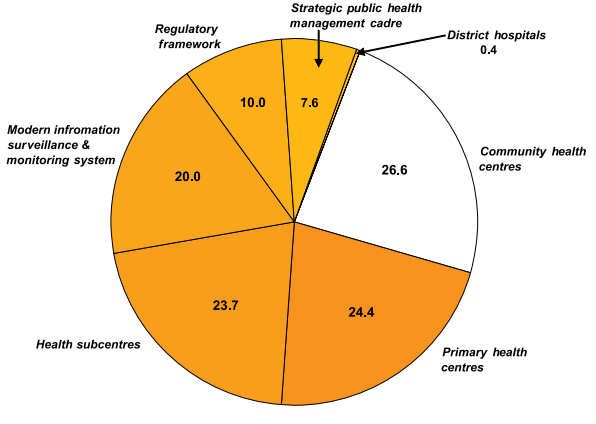
Our assessments suggest that India's government has a tremendous opportunity to make a highly cost-effective investment in a better health system. We describe the component costs below.

To reach the desired outcomes, we have assumed initially that states need to upgrade their buildings, equipment, and train staff in line with certain targets of the National Rural Health Mission. Included in these estimates are the costs of improving every government provider, from subcentres up to district hospitals – not only upgrading the buildings, equipment, and services to an acceptable standard, as defined by the Indian government, but also ensuring that all necessary workers are in post and have at least the minimum appropriate training (Chow et al. 2007). The report of the Pay Commission (Government of India 2008c) has recommended a significant increase in salaries for health professionals; our estimates take such an increase into account. However, the measure of success will be health outcomes, not the mere achievement of a required number of buildings, nurses, or pharmacists.

In addition, our estimates include three more items that appear critical for a modernised health system for India. The first is the development of a management information system, a major tool that could significantly improve accountability and performance. With appropriate software and an adequate network of computers, the system would be initially expensive but cost-effective when spread over 10 years (Figure 5.1). The tendering and selection process for this investment needs to be conducted transparently through an independent broker, and its piloting and associated staff training must be planned carefully and reviewed frequently.

A second component of a modernised system would be a robust regulatory framework, uniform across states, to set standards for health services and products and ensure their quality. As discussed in Chapter 4, the framework needs to be more extensive than the current Indian public health standards and applied and enforced for all providers, public or private. Since effectiveness would depend mainly on the quality of the skilled professionals who develop, administer, and enforce the framework, its setup costs would be mostly in human resources rather than in infrastructure. Finally, the cost of training a cadre of public health managers is included because this capacity would be essential not only

FIGURE 5.1 ANNUAL ESTIMATED PER CAPITA COSTS (RS) FOR ADDRESSING SHORTFALLS IN PUBLIC HEALTH SYSTEM OVER A DECADE



** The total per capita cost for all of India is Rs 112.7 per year.*
The total for the EAGA states is Rs 121.9 per year and for Non-EAGA States is Rs 104.2 per year.

for planning and evaluating services but also for administering and developing the other two structures.

In sum, we estimate that the additional cost over current spending would be just Rs 120 (US$ 3) per person per year, over a 10-year period, to strengthen India's health system; by starting immediately, India would see significant improvement within one generation. This represents about 0.4% of GDP per year at current prices. Thus, through the next decade, the combined additional cost of the Entitlement Package plus the health system improvement programme is around Rs 400 (US$ 10) per person per year, or around 1.2% of GDP (Table 5.3).

TABLE 5.3 TOTAL ADDITIONAL COSTS FOR ENTITLEMENT PACKAGE AND SYSTEM REFORMS,1ST DECADE, PER YEAR

Component	*Price per person (Rs)*	*Percentage of GDP at current prices*
Entitlement Package	280	0.8
Catalytic system reforms	120	0.4
Total	400	1.2

As we saw in Chapter 1, India in 2007 spent about 1.2% of GDP on public health costs, including those allocated to the National Rural Health Mission. If the government were to add to this the investment that we advocate above, it would increase public spending to 2.4% of GDP – still highly affordable – and bring tangible benefits to all. This would be incremental to current spending, adding to existing services and improving their coverage and quality. In the final chapter, we shall examine how and when these proposals might be put into practice and what might be the consequences of delay or dilution.

CHAPTER 6

No more business as usual:
Road map to an equitable and effective health system

So far in this report, we have described a publicly financed Entitlement Package of health care interventions that could save millions of lives in India, alongside reforms that could improve the performance of the health system. But can the government justify putting these ideas into practice? And if so, given the political and economic realities of India, how should it do so? This chapter aims to answer those questions. Drawing on the experience of other countries, we first explore what could happen if India's central and state governments fail to embrace radical change and instead allow the health system to evolve on its current course. The government must not leave health to the market, but nor must it use citizens' money to write blank cheques to the public sector without evidence of change. We propose an alternative model for the financing and structuring of health services in India in the early 21st century.

6.1 Private expansion, rising costs, and widening inequality: The risks of steady-as-she-goes

India's health system has been changing rapidly since economic liberalization. The private sector is growing fast, mainly because of the expansion in private health insurance schemes and a proliferation of private health providers. In recent years, private health care expenditure has been rising more than 12% per year, or about 50% more rapidly than

incomes (Mavalankar and Bhat 2000). What is likely to happen if the health system continues on this trajectory? For the reasons discussed above, an underfunded public sector, together with an expanding private sector, could lead to a neglect of preventive and public health services such as immunisation, a proliferation of curative services of varying usefulness, rising unit costs to patients, and widening inequalities in access to health care.

The central government has already begun to tackle the public sector's decline through the National Rural Health Mission. Although the health outcomes cannot yet be measured (NRHM 2007c), there are evident changes – for example, in the functioning of primary health centres, the appointment of village level staff, and the increasing percentage of women giving birth in institutions. However, as we have seen, the mission faces many challenges, including a lack of capacity, governance issues, and an extremely broad agenda. With spending still lagging well behind the amount promised by 2008–2009, the mission risks spreading limited money and skills too thinly to make enough of a difference. On present form, therefore, the private sector's rapid expansion is proceeding much faster than the modernization of the public sector.

For some observers, the expansion of the private sector should not be seen as a problem. After all, India's economic success since the early 1990s has been fuelled by the growth of the wider private sector and the rollback of government restrictions on the market. In this context, what is wrong with having a strong private health sector? The problem is that health is not like other commodities on the market, and because of this, a system entirely reliant on private finance is likely to be inequitable and inefficient. As we saw in Chapter 4, health care expenditures are more difficult to predict than other personal purchases and, when paid for out-of-pocket, are liable to result in catastrophic expenses that tip households into poverty.

Other countries' experiences may prove valuable for India as its policymakers consider how best to move forward. China and Vietnam have both experienced difficulties from leaving health care to the markets. Until the late 1970s, China's large rural population was enrolled

in a mandatory, basic form of health insurance known as the rural cooperative medical system. At that time, China's health indicators (such as infant mortality rates) were improving more rapidly than those of many countries of similar income levels. As part of the country's move away from central planning towards a market economy, membership in the cooperatives became optional, and rural households were encouraged instead to take responsibility for their own health care costs; providers were expected to finance their operations through user fees. By 1993, membership in the cooperatives had fallen from 48% of the population to 7%, and out-of-pocket medical costs had risen to 56% of all health spending. Overall expenditure on health care doubled over the period, and although health indicators continued to improve, they did so much more slowly than before, and more slowly than in other Asian countries. China's current moves towards creating a "harmonious society" appear likely to include efforts to reverse the effects of some of its market-led health care reforms (Yip and Hsiao, 2008).

Vietnam's experience is also illuminating. In 1989, as part of the country's economic reforms, it began to restructure health care. User fees were introduced at public hospitals, and private practitioners and pharmacies were legalized. Out-of-pocket expenditures on health care increased sharply, and by 1997, the World Bank reported a threefold "quality gap" between the poorest quintile and the richest quintile in the country. Fee waivers for the poorest did not work because public clinicians had no motive to provide care to these patients when they could treat other patients offering them expensive fees up front. The Vietnamese government is now working towards providing a universal health coverage scheme by 2010 (Colson 2007).

Such experiences clearly warn of the dangers of a health system reliant on private out-of-pocket expenditures. An obvious response is to increase the level of private health care insurance in India. Yet this approach is not trouble-free, either. Private health insurance schemes do protect their members from catastrophic out-of-pocket expenditures, but their protection is limited to those who qualify. The schemes tend to reject individuals with health problems, so unregulated growth in this market is likely also to exclude a large number of people from coverage.

India has a growing number of employment-linked health insurance schemes, notably the half-century-old Central Government Health Scheme for civil servants, politicians, their families, and pensioners (Naylor et al. 1999). However, employment-linked schemes have several problems. They exclude those in the informal economy, which in India's case means millions of people. Outside India's cities, too, employment-based health insurance is likely to remain inaccessible to the millions who work in the agrarian sector, as Mexico's experience has shown (Frenk et al. 2006). Even for those who are covered, there are drawbacks. Workers who are dependent on their employers for health coverage for themselves and their families tend to be less mobile than workers whose health needs are covered by tax-based public finance, as experience in the United States and elsewhere has shown. Also, international firms may prefer investing in a national economy where health care costs are borne by public finance rather than countries that rely on employment-based health insurance. For example, the car manufacturer Toyota has opted to invest in Canada, where health care is publicly financed, rather than in the United States, where health care costs add several thousand dollars to the cost of making each car (Webster 2006).

In October 2007, the central government launched a scheme called Rashtriya Swasthya Bima Yojana, a social insurance initiative for workers in the unorganized sector, to provide health coverage worth up to Rs 30,000 (US$ 750) per year to families classified as below the poverty line (NCEUS 2008). Central and state governments share the cost. Each family is issued a smart card to allow cashless payments for health care. The goals include eliminating out-of-pocket payments for health services, lessening health care shocks, and improving health service delivery. Though clearly an advance on the present system, it is not yet clear exactly what preventive and curative services are covered. Also, the government's new scheme remains nonuniversal, with disadvantages that we elaborate on below. With the Entitlement Package, in contrast, the services and preventive public health interventions would be clearly publicized and available to all, and users would know exactly what they could have.

Given the drawbacks of private and employment-based insurance, community-based or risk-pooling insurance schemes are another option

(Government of India 2008b). The Self-Employed Women's Association of Gujarat is an example. These schemes have often been successful in small communities, unions, or cooperatives, but at present it is not clear whether they can be extended and scaled up. Research into their effectiveness has suggested that in many cases, the crucial factor is a successful manager or leader (Deolalikar et al. 2008).

The lessons learned by other countries, and the experience of India to date, suggest that if the current trends in the health system towards privatization continue, health care costs will rise while inequalities of access to care will widen. At worst, India could end up with some of the least attractive aspects of the US health system – spending a higher share of GDP on health care than most industrialized countries, yet having poorer health outcomes than in comparable economies (World Bank 1993; WHO 2000). Although it would be unwise to oversimplify the portrayal of the US health care system or attempt too many comparisons with India, the policymakers of the world's largest democracy should be aware of the dangers of following the US model and the increasing difficulty of reversing policies once they are entrenched. Instead, the government may wish to take a proactive role in ensuring that public finance dominates the health system. Given that salaries and product costs in India are currently relatively low but likely to rise rapidly, the government should act sooner than later. The tough question, however, is how. We focus on this in more detail below.

6.2 Does a publicly financed health system deserve the trust of its users?

If the government is to shoulder responsibility for an equitable, publicly financed service, it needs to dramatically improve the quality of that service. At present, in many states the public health sector is perceived to be corrupt (Luce 2007), and in many rural areas it is simply absent. Many millions of people have voted with their feet by buying their health care elsewhere, even when offered subsidized access.

An example of the avoidance of publicly provided health care was the Universal Insurance Scheme, targeted at the poor. In 2003, the

central government announced that for Rs 1 (2.5 US cents) a day (Rs 365 a year, US$ 9), each individual was guaranteed hospital care (although not maternity services). To support the poorest, subsidies of up to Rs 200 (US$ 5) per year per person were payable, and discounts offered to large families. However, despite the apparent attractions of this scheme, enrolment has been very low. Analysts have suggested that the poor uptake is due to the lack of access to public health care services in much of rural India. Households see no reason to pay a premium for services that they currently have no confidence they will receive (Deolalikar et al. 2008).

It might appear that the best way to change this would be for the central and state governments to invest heavily in improving health care infrastructure across the board. Why not just invest large sums from India's coffers into a better public health service that offers all desired services? With public health care expenditure currently standing at around 1.2% of GDP, why not increase it immediately to the level enjoyed by countries of similar economic wealth, say 6% or 7% of GDP?

This option has appeal on the surface. However, given widespread concerns about the governance and capacity of India's public sector, it would currently be difficult to justify and would likely attract the derision of voters. Without better accountability than at present, the risk is that the central and state governments would be writing blank cheques with taxpayers' money to support corrupt practices, leaving ordinary people with a higher tax burden but still without the high-quality services they deserve.

6.3 A different solution: public finance, mixed providers, universal service, and no blank cheques

A polarized political climate makes it tempting to simplify the choices before India. Certain threads in this debate caricature the nation's real situation, appearing to suggest either that all private health care is good and all public health care bad, or conversely, that all public provision is good and anything private is bad. We suggest a more sophisticated approach. We argue, in essence, that the government should invest more money in health

by buying the Entitlement Package and instituting the radical reforms described in Chapter 5. But this investment is, by definition, limited at first. Despite its promise to reduce premature deaths in India by millions each year, the package offers a shorter list of services, and the identified reforms are fewer, than the current ambitions of the National Rural Health Mission. Providers of the package services would be paid by government, but those providers could be public, private, or nonprofit as long as all were subject to common regulatory frameworks and accountable to politicians and the media as well as the government. Worth another 1.2% of GDP, these investments are initially quite modest within the context of India's overall health care spending, private and public combined, of 6%. Only when those services have been delivered and the reforms implemented should the government invest further in the health system.

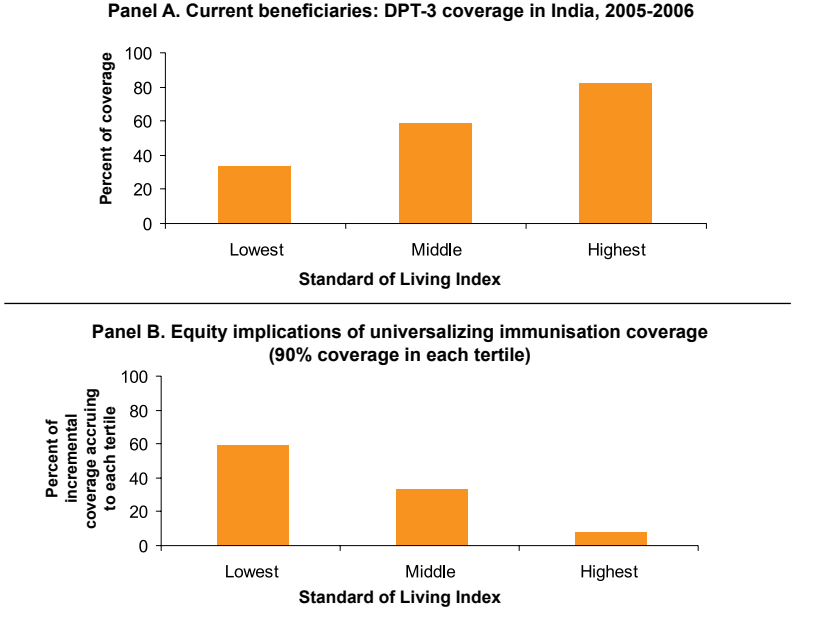
The Entitlement Package and its associated health system reforms offer more than simply a cost-effective tool to save millions of lives each year. They also offer a political and strategic instrument, a means for focusing state resources on doing a few things well and monitoring performance with greatly increased energy and transparency. This new climate of accountability would be the first step towards a modernised health system. The clear definition of services in the package would help focus demand because users would know their entitlements. And if, for example, the government saw fit to introduce such a package, money could follow patients, thus rewarding effective providers who met the demand for the specified services.

Crucially, we argue that the package must be offered free at the point of use for all Indians. This accords with the ethical framework of universal but defined services set out by the World Health Organization under the concept of the "new universalism", best summed up as "coverage for all, not coverage of everything" (WHO 1999). The concept recognizes the limitations of governments: they cannot provide everything for everyone, but they can provide important services for everyone. In India, the idea of universal services has been controversial. Most political parties have made a commitment to policies intended to ensure that the poor can access health services. However, universal services are more likely to be effective than services targeted at the poor, for several reasons.

First, universal health services are easier and more economical to monitor and administer than targeted services, which require money and effort to identify those who are eligible. Thus, for example, the Rashtriya Swasthya Bima Yojana scheme, which targets families below the poverty line, may have relatively high administrative costs; if offered to all citizens of India, these costs would fall.

Second, universal services are more likely than targeted services to benefit those in greatest need. When interventions for basic health needs (such as immunisation or safer deliveries) are offered universally, without targeting or identification systems, they actually reach more poor people than a targeted service would (Deolalikar et al. 2008; Jamison et al. 2006) (Figure 6.1).

FIGURE 6.1 WHY THE POOR GAIN MOST FROM SERVICES MADE AVAILABLE TO ALL



Third, services that are designed "for the poor" rather than for everyone tend to become "poor services". Health centres and clinics that are required to serve people of all income groups are accountable to

demanding and politically vocal groups. They will be kept under pressure to provide a consistently high standard of service. Because poorer people often lack a voice or political clout, services targeted at them tend to suffer chronic underfunding, lack of maintenance, and low expectations among professional staff. The participation of the middle classes in services is critical if those services are to be held to account not merely to their managers but also to their ultimate purchasers, the taxpayers of India.

Fourth, evidence from other countries suggests that universal services are more popular with people who would feel stigmatised by a targeted service, so that in practice more of them use the services.

Fifth, services that require individuals and families to identify themselves as Below the Poverty Line (BPL) are at odds with the rights of citizens in a modern democracy as argued by the noted Indian economist Amartya Sen (2004). The process robs individuals of the right to participate equally in the democratic process, and intensifies class distinctions.

Finally, the more low-income households are reached with essential health services, the greater the benefits to the wider community, including its middle classes. For example, the more children from low-income households who are immunised, the lower the risk of epidemics of avoidable infections, such as measles or polio.

Precedent for a large universal programme already exists in India – in education, where through the initiative known as Sarva Shiksha Abhiyan, all children are supposed to receive elementary schooling. Although it is too early to have formal systematic information on the results, it appears that groups of children who previously tended to miss out on school are now enrolling in much larger numbers – including girls, scheduled castes, and scheduled tribes (Wu et al. 2005).

6.4 A pathway for expanded public investment

If adoption of the Entitlement Package can drive improved health outcomes and improved performance in the health system, state governments will be justified in extending it, just as Mexico has extended its publicly financed package beyond its initial level (Frenk et al. 2006). Importantly, however,

any extension of the package must be justified by rising public demand for its services. Just as the Indian public largely rejected the 2003 Universal Insurance Scheme, state governments will need to demonstrate that their taxpayers are using the services in the initial package before increasing their investment. As indicated in Chapter 5, one tool to help achieve this goal is to reward providers that attract increased numbers of users, letting the money follow the patients.

A future package might expand treatment and management options for cardiovascular diseases, cancers, and other important noncommunicable diseases. At present, some of the most expensive health care interventions – and the most important causes of catastrophic expenditure – are hospital-based treatments for chronic diseases, such as coronary artery bypass surgery, cancer surgery, chemotherapy and radiotherapy. An ethical health system should offer these services free at the point of use, as part of an extended package, just as such services are offered in most European-type health systems. Although not all such treatment costs might be covered by an extended package, even at double the expenditure of the initial entitlement, they would at least protect a substantial proportion of those currently driven into poverty by chronic disease while saving many additional lives.

One key task for policy-makers is to ensure that service users understand that the package is an increment to existing services and would only add to, rather than restrict, poor people's access to care. For example, if a poor worker breaks his or her leg, they should not be denied access to the appropriate care simply because treatment for this condition is not in the package. Indeed, if the package is implemented properly in the way described, it is likely to give the injured worker a better chance than currently of finding a functioning hospital with a surgeon in post and appropriate painkillers in stock.

The long-term aim should be for India to restructure its health financing so that after demonstrating health gains from the initial package and reforms; eventually it spends no more than about 7% or 8% of GDP on health, of which 6% to 7% is public money and 1% to 2% is private finance. The increasing public component would be used to extend the

package with services such as essential cancer treatments, while the private component, as in European-type systems, would be a modest individual top-up or surcharge for services not offered within a publicly financed package. Private finance might be used by individuals to access services that cannot be justified on rational criteria of need or evidence of efficacy or cost-effectiveness. These might include, for example, expensive second-line cancer therapies for which the evidence of efficacy is incomplete. It is stressed, meanwhile, that individuals who choose to have privately financed health care for all their needs should be entitled to continue doing so.

6.5 The urgency of now

If India's people want better health for their money, they now have an historic opportunity to get it. The government's commitment to invest more in health, combined with the current success of the economy, make the conditions ideal for reform. Waiting too long will make change more difficult as the costs of labour and products rise. In Europe and Canada, the reforms that led to universal, publicly financed health care in the 20th century took at least three decades to achieve. Can India wait this long? Or, as a modern nation, can it leapfrog the industrialised West to achieve swifter and more effective reform? Here, we suggest a timeline for actions. Experience in other sectors of the national economy suggests that deadlines for change – for example, in introducing cleaner fuels or regulating home construction – have been useful in communicating clearly to all stakeholders that the plans are serious, enabling planning and mobilizing popular support. State governments could choose their own mechanisms for implementing the changes described here. Since many of the services included in the initial package would be offered to outpatients, regulation and accountability mechanisms must cover outpatient services if the outcomes are to be accurately monitored.

TABLE 6.1 TIMELINE FOR ACTION

By this date	*Action*	*Government health spending as a share of GDP (%)*	*Private health spending as a share of GDP (%)*
August 15, 2012 (65th Anniversary of Independence)	1) Publicly financed Entitlement Package introduced in all states, with independent monitoring for outcomes and performance 2) First phase of system reforms: register and accredit all health providers	2.4	4.5
August 15, 2017 (70th Anniversary of Independence)	3) Entitlement Package expanded in pilot states to cover wider range of affordable interventions, including major surgery for cancers	4	3
August 15, 2022 (75th anniversary of Independence)	4) Full implementation in all states of expanded Entitlement Package providing most evidence-based clinical services	7	1 - 2

The public finance could be raised in one of two ways: either through a universal public health insurance scheme or through general income taxation. We draw attention to the double gains from higher taxations of bidis and cigarettes. Not only would sharp increases deter consumption, saving millions of lives, but such taxes could raise over Rs 10,000 crores (100 billion, US$ 2.5 billion). The crucial requirement for success, once again, is that the public see the results of its increased investment in health - thus the stepwise increase in investment that we advocate.

6.6 Recommendations

1. The central and state governments should commit themselves to a high-quality, universal health care system by 2017. The principle for access to health services should be "coverage for all, not coverage of everything". Specific benchmarks should be:

a) Raising the budget allocation to health by an additional 1.2% GDP, to cover the initial Entitlement Package and costs of modernising the health system;

b) Delivering the initial Entitlement Package without delay, including ensuring that every child in India has access to the same lifesaving vaccines as other children worldwide; and that every mother has access to 24-hour, high-quality, well-staffed birthing centres in her district;

c) Extending the Entitlement Package by 2017 to 4% of GDP and to include a wider range of cost-effective and appropriate clinical services, for example, essential surgery and cancer treatments; and

d) Allowing services to be delivered through either public or private providers that meet the stringent quality standards set as a result of Recommendation 2.

2. The central government should strengthen enforcement by 2012 of national regulatory frameworks for health services, based on the Indian Public Health Standards and World Health Organization norms. Included in these frameworks would be minimum standards of quality of treatment and care; and quality control on pharmaceuticals and all other health care products. Providers whose services or products do not meet the quality standards by this deadline should be closed.

3. The central government should invest now in robust and publicly-accountable epidemiological and reporting systems, plus a management information system that would monitor performance for each district on key health outcomes. For certain health outcomes, such as maternal deaths, every event should be reviewed by the office of the Chief Minister

annually. Every few years, "report cards" for each district should be published. Independent scrutineers of the system should be appointed.

4. The central and state governments should undertake focused and selected reforms to the health system's human resources policies, including:

a) specific training of a cadre of public health managers at a range of accredited institutions;

b) published terms of reference, job descriptions and contracts, conforming to the standards framework indicated in Recommendation 2; and

c) adopting transparent hiring and transfer policies in order to depoliticise this process.

5. State governments should promote campaigns to inform the public of their rights and obligations under the Entitlement Package, ensuring that its effective delivery is monitored locally by Panchayati Raj Institutions.

Appendix A: Major Indian States by Income Group

	Empowered Action Group (EAG) States* + Assam	South	Others
LOW INCOME	Bihar Uttar Pradesh Rajasthan Madhya Pradesh Orissa Uttarakhand Chhattisgarh Jharkhand Assam		
MIDDLE INCOME		Karnataka Tamil Nadu Kerala Andhra Pradesh	West Bengal
HIGH INCOME			Punjab Delhi Haryana Gujarat Maharashtra

** The Empowered Action Group (EAG) States are those with high fertility rates and low socio-demographic indicators.*

Source: *Ministry of Health & Family Welfare. Govt. of India. Empowered Action Group (EAG). Available at URL: http://mohfw.nic.in/EAG.pdf. (Accessed on 3/05/07).*

Appendix B: Acknowledgments

This Report benefited greatly from ideas, technical inputs, and critical review from a broad range of individuals and organizations. Reviewers for the background papers or the summary report are noted below. In addition, valuable input was provided by a series of consultations.

A. Reviewers

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B. Consultations:

1. Initial Review of Outlines and Content of Background Papers

July 5 – 6, 2006 at St. John's Research Institute, St. John's National Academy of Health Sciences, Bangalore, India.

Chair: Meenakshi Datta Ghosh
Participants: Arun Kumar Agarwal, V.K. Chadha, Vijay Chandra, Jeffrey Chow, Rajesh Dikshit, Shraddha Jain, Prabhat Jha, P. Kumar, Ramanan Laxminarayan, Lysander Menezes, Prem Mony, R. Poornalingam, Cecily Ray, Shreelata Rao Seshadri, Sema Sgaier, V.P. Sharma, K. Srinivasan, P. Subramaniyam.

2. Examination of Draft Report Outline and Key Economic Issues

January 5 – 6, 2007, at Taj Mahal Hotel, New Delhi, India.

Participants: George Alleyne, Peter Berman, Phyllida Brown, Kanitta Buldhamcharoen, Usa Chaikledkaew, Shailaja Chandra, Jeffrey Chow, Sarah Darley, David de Ferranti, Anil Deolalikar, Neeraj Dhingra, P.P. Doke, N.K. Ganguly, Meenakshi Datta Ghosh, Rajeev Gowda, S. Jalaja, Dean T. Jamison, Shraddha Jain, Sunil Jain, Prabhat Jha, Satish Jha, Lalit Kant, Kin-Bing Wu, Manmeet Kaur, Rajesh Kumar, Varsha Malhotra, Ramanan Laxminarayan, Lysander Menezes, Rajiv Misra, Jai Narain, R. Poornalingam, D. Prabhakaran, Phusit Prakongsai, Inder Singh Rawat, U. Than Sein, Shreelata Rao Seshadri, R.C. Sethi, Devendra K. Sikri, Amarjeet Singh, Karan B. Singh, Mani Subramaniyam, H. Sudarshan, Paramita Sudharto, Jitender Sudhir, Viroj Tangcharoensathien.

3. Discussions on final analysis and recommendations on Institutional Reform and Human Resource Issues

November 17, 2007, at the National Institute for Public Cooperation and Child Development, New Delhi, India.

Chair: Prabhat Jha
Participants: Phyllida Brown, Shailaja Chandra, Neeraj Dhingra, Manmeet Kaur, Rajesh Kumar, Rajiv Misra, Sutapa Neogi, Shreelata Rao Seshadri, Jitender Sudhir, Gautam Vig.

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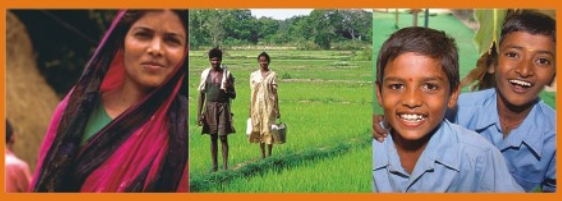

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