
World Vision
CHILD HEALTH NOW
TOGETHER WE CAN END PREVENTABLE DEATHS
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October 2009

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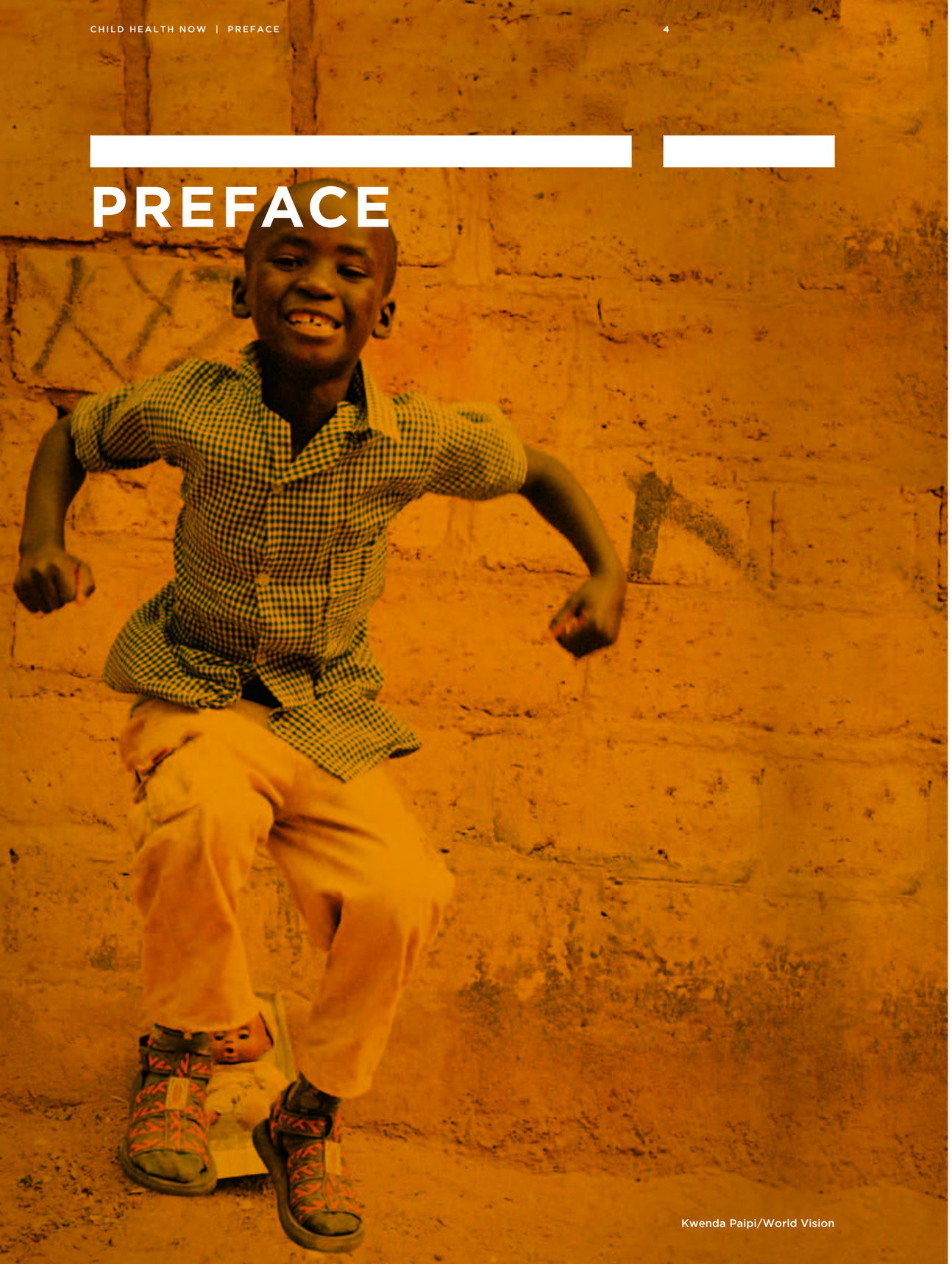
Cover photo Jon Warren, World Vision, March 2007.

Widow Jeanne Zaire, aged 33, is carrying 15 month old Abdou in Mgunga, a camp for Internally Displaced People on the outskirts of Goma, Democratic Republic of Congo. Since fleeing her home in Ngunga because of local conflict, Jeanne has lost 2 children to hunger and illness.

PREFACE



Kwenda Paipi/World Vision

"Child Health Now" is World Vision's first global campaign focused on a single issue: reducing the preventable deaths of children under five.

In the two minutes it will take you to read this preface, more than 30 children under the age of five will die. Most of them will succumb to preventable causes, such as diarrhoea, pneumonia, childbirth complications and malaria. Twenty-four hours from now, the total will exceed 24,000.

This is more than just a problem facing the developing world. It's a "silent" emergency. And it is, I believe, the greatest child rights violation of our time.

That's why World Vision has launched its "Child Health Now" campaign, a five-year commitment to reducing these deaths. Our campaign will draw on the lessons learned in our 1,600+ community programmes where our development strategies are fully linked to our advocacy efforts with local and national government bodies. Through this campaign, we will support communities in raising their voices about their right to quality health care, and we will press national governments to meet their responsibilities to children, mothers, families and communities throughout their country.

We will also join hands with local government and NGO partners to cooperatively address the critical health-related issues in specific communities. Our experience has demonstrated that effective health care – through simple, preventive, cost-effective measures – is a leading factor in community development. World Vision is making a significant financial commitment to health in its own programmes, of (US) $1.5 billion over the next 5 years.

But working locally won't be enough. World Vision will also urge wealthy nations to fulfil their promises to improve conditions in the developing world. More than 190 world leaders have committed to achieve the UN's Millennium Development Goals by 2015. World Vision's Child Health Now campaign calls on the international community to rededicate itself to these goals.

We want you to join us. Read this report, and then urge your elected leaders to put child health at the top of their agendas. Let them know you believe 24,000 child deaths every day are not acceptable, and ask them how they're going to help.

Together, we can make a difference. Together, we can make Child Health Now a priority.

Kevin Jenkins
President and CEO
World Vision International

EXECUTIVE SUMMARY

Andrew Goodwin/World Vision

In the year 2000, world leaders gathering at the United Nations collectively committed to a series of goals to tackle poverty and its underlying causes. The eight Millennium Development Goals, set for the year 2015, include ambitious but achievable targets for halving hunger and extreme poverty, attaining universal primary education and cutting child and maternal deaths. Five years before the target date, an analysis of progress is due: in the second half of 2010, the international community will again convene at the UN to review the goals and identify the steps needed to reach them.

From the perspective of children living in the world's poorest countries, this review is desperately needed. While movement towards all of the goals is uneven, and on current trends most will be missed, it lags furthest in the area of health. Only 30% of the progress needed to reach the MDG 4 target of cutting child mortality by two thirds by 2015 has been achieved. Progress on the closely connected target of cutting maternal deaths is even further off track. The upshot is that over 24,000 children continue to die each day before they reach their fifth birthdays. Put simply, this is the biggest child rights violation of our age. Overwhelmingly, these deaths are caused by poverty: ninety-nine per cent of under-five child deaths take place in developing countries, the clear majority of them from easily prevented neonatal complications and infections, and conditions such as diarrhoea and pneumonia. A lack of proper nutrition and safe water and sanitation are a factor in over half of all these deaths.

Despite claiming the lives of almost nine million children each year, this global toll is largely a silent emergency, attracting remarkably little high-level political attention, either in the worst-affected countries or at an international level. The resulting suffering and waste of human potential is doubly scandalous because the solutions, centred on preventive measures and family and community-level care, are proven and highly cost-effective. The experience of low income countries such as Malawi and Liberia, which, through a mix of high-level political commitment and focussed policies, have made substantial cuts in child deaths, demonstrates that progress can be made, even in the most resource-constrained contexts. Equally, the experience of countries such as Kenya and Burkina Faso, which since 1990 have gone backwards or stalled, testifies that business as usual will not achieve the health MDGs.

The next five years provide a narrow window within which to draw on these lessons, and accelerate progress in the 30 high-burden countries that account for eighty per cent of under-five deaths. In a world where a global economic downturn is squeezing households, government budgets and aid for the poorest countries, the limited progress that has been made is now threatened. The World Bank estimates

that a further 2.8 million children could die between now and 2015 unless immediate action is taken, adding further urgency to the challenge of child health. This report sets out an agenda for meeting that challenge.

THE SILENT EMERGENCY AND ITS CAUSES

Most child deaths are accounted for by just four main causes: neonatal complications and infections, with 40% of child deaths occurring in the first 28 days of life, and pneumonia, diarrhoea and malaria, which together account for a further 45% of child mortality. All of these causes are largely preventable – very few children die from them in the world's richest countries – and an estimated two thirds of children could be saved through simple interventions such as better nutrition and skilled birth attendance.

The epicentre of the child health emergency is sub-Saharan Africa and South Asia, with approximately half of all deaths accounted for by just five countries: India, Nigeria, the Democratic Republic of Congo, Pakistan and Ethiopia. Without a concerted and sustained effort in these countries, there's little prospect of MDG 4 being met at a global level. Most high-burden countries are poor, and many are poorly governed. All of them are characterised by high levels of health inequality, between rural and urban areas, and between rich and poor: in Nigeria, children from the poorest fifth of the population are three times more likely to die than those from the wealthiest fifth. Reducing these inequalities would, in itself, have a dramatic impact: if the mortality rate of the poorest twenty per cent of the population in all high-burden countries was raised to the level of the richest twenty per cent, there would be 3.5 million fewer child deaths each year.

The causes of this emergency vary according to the local context, and will require tailored responses by governments, donors and international institutions. But some common themes can be identified. Where governments have shown high-level political leadership on child health, results often follow. In Liberia, President Ellen Johnson Sirleaf has used the peace dividend to triple health spending, withdraw user charges and focus on the prevention of malaria. The child mortality rate has almost halved in less than five years.

While increased funding by itself will not achieve MDG 4, sufficient funding is a necessary condition of providing effective health care for children and their families. At the moment, it's a condition too many countries are failing to meet, with eighteen

where governments have shown high level political leadership on child health, **results** often **follow**

of the 30 high-burden countries spending less than 10% of government budgets on health. The distribution of health budgets is at least as important as the total level of spend: health workers with the right skills, located where people need them, providing a service that poor households can actually afford to use, are essential to improving child survival and wellbeing.

The first tier of healthcare for children is the household level, and beyond that the immediate community. Yet relatively little attention is paid by most governments to low-cost and easy-to-deliver measures that can be taken at this level, which can have a decisive impact on child health, from hand washing and breastfeeding to early identification of pneumonia. Community Health Workers have a potentially crucial role in delivering community-level health care, and in bolstering demand for effective health care through public education. World Vision's own estimates are that a comprehensive package of family and community care alone could prevent 2.5 million child deaths each year.

But despite the evidence in its favour, formal health systems tend to neglect such low-cost measures. What's needed is a redefinition of health systems to incorporate family- and community-level care, in tandem with a fundamental rebalancing of public spending placing much greater emphasis on prevention. Safe water and sanitation and basic hygiene are cases in point: the World Health Organisation estimates that together, they could together save $7 billion in health care costs each year.

a redefinition of health systems

WHAT RICH COUNTRIES MUST DO

Whether or not MDG 4 is achieved will be decided mainly within the poorest countries. However, the world's richest countries have a critical supporting role, in ensuring that no national plan to achieve child health is allowed to fail through a lack of resources. At present, there is no shortage of high level declarations and commitments to doing this, but in practice donor pledges on health have become a debased currency. To turn this situation around, the rich countries need both to commit more money to child health, and deliver more child health for the money.

At a global level, rich countries need to increase their commitment to health from the current level of $16 billion a year to $42.5 billion by 2015 if they're to meet the health MDGs in all developing countries. To put this funding requirement in context, it is equivalent to five days of health spending in the USA, or 4% of the fiscal stimulus package announced by the G20 for 2009.

Any increases in the level of aid for health must be accompanied by far-reaching

changes in where and how that aid is spent. Current donor efforts are scattergun and often poorly thought through – the 30 high-burden countries account for four-fifths of all child deaths, but less than half of the aid for health. Most of this aid doesn't focus on maternal and child health, with donors on average spending less than $8 per child in the worst affected countries. The principal diseases and underlying causes are similarly sidelined in donor spending: undernutrition is a factor in over a third of child deaths, yet just 1.5% of aid for health focuses on nutrition.

The aid that is currently spent on health is often of a low quality, being badly coordinated with other donors, unpredictable from the point of view of recipient governments, and often not aligned with developing countries' own health plans. While the OECD-DAC's aid effectiveness targets have helped to focus high-level donor attention on these issues; for example, including through initiatives such as the International Health Partnership, changes in practice have been slow to follow. Donors, like recipient governments, need to broaden their approach to health and ensure that the current emphasis on health systems strengthening embraces a strong commitment to tackling the wider determinants of child health, and to supporting family and community level care.

the thirty high burden countries account for **four-fifths** of all child deaths, **but less than half** **of the aid for health**

PROGRESS IS POSSIBLE

The risk of failure that hangs over MDG 4 must not become a counsel of despair. The fact that, even in some of the poorest countries, significant progress has been achieved should be a spur to joint action by national governments, donors and international institutions. Malawi's experience is a case in point. Despite being one of the poorest countries in Africa, it has almost halved child mortality in less than 20 years through a combination of measures, including increasing the number of attended births, boosting immunisation coverage and investment in better nutrition. This was possible partly because a single national health plan was forged that attracted substantial donor backing.

The lessons from Malawi and other countries that are on track to achieve MDG 4 need to be applied more widely, to those countries that have witnessed slow progress, or no progress, since 1990. One central lesson is that prevention is cheaper than cure: a reduction of 90% in deaths from measles in Southern Africa has been achieved through near-comprehensive vaccination since 2001. In Ethiopia, a drive to make insecticide-treated bed nets available to every household has, since 2005, underpinned a 61% reduction in malaria cases.

Another lesson from the success stories in child health is that changes at the family and community level are crucial to achieving sustainable progress, and that this requires flexible and decentralised national health plans. While the balance between different interventions has to vary according to the local context, three key areas require much closer attention in order to realise the right to child health:

- **Nutrition** – increased exclusive breastfeeding and complementary feeding, low-cost vitamin and mineral supplements to prevent malnutrition and stunting, and monitoring systems to ensure early detection and referral of children with acute malnutrition are key to cutting the 35% of child deaths where undernutrition is a factor.
- **Maternal health** – the survival and wellbeing of mothers is an end in itself and as such demands much greater focus from governments. It is also essential to achieving child health. Improvements in maternal nutrition during pregnancy and breastfeeding, greater access to and use of family planning services and birth spacing, skilled birth attendance and comprehensive antenatal and postnatal care would together prevent many of the 40% of child deaths that arise from neonatal complications and infections. They would also substantially cut the annual toll of 500,000 maternal deaths
- **Prevention and treatment of the main childhood infections** – hygiene education – the promotion of safe sanitation and hand washing with soap, allied to improved nutrition and provision of antibiotics would prevent up to 85% of deaths from pneumonia. Safe water and sanitation, and use of simple rehydration therapy, are key to preventing many of the 1.5 million child deaths each year from diarrhoea. Child deaths from malaria (over 700,000 each year) could be massively reduced by ensuring that at least 80% of target populations receive insecticide-treated bed nets, preventive treatment for pregnant women, spraying, treatment of mothers and children with Artemisinin Combination Therapy and community education about malaria prevention. Early diagnosis and treatment can prolong the lives of over 90% of children with HIV and AIDS.

RECOMMENDATIONS

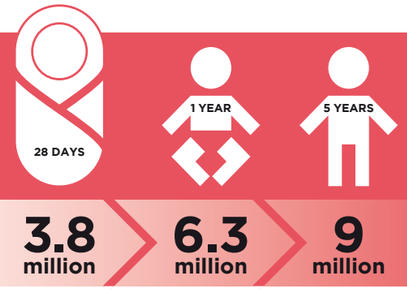
All of these measures, taken as part of a wider rebalancing of health strategies, can rescue MDG 4 from failure, and end the silent emergency that claims almost nine million children's lives each year. World Vision calls on national governments, donors and international institutions to work together to deliver on the following four areas:

1. **A single national plan to achieve MDG 4**, with priority given to producing plans for those high-burden countries that are currently off track, by the time of the UN MDG review in 2010. These plans need to be time-bound, costed and focussed on tackling the direct and indirect causes of child death and illness in each country.
2. **A full and timely donor response** to support national plans, with rich countries explicitly committing that no plan will fail for lack of finance. As part of this effort, donor countries need collectively to triple aid for health by 2015, to $42.5 billion a year, and ensure that the aid they give is targeted, predictable, coordinated and aligned with national priorities and systems.
3. **A focus on equity and neglected diseases** at the heart of the global effort, with governments and donors collaborating to ensure that a minimum package of healthcare is made available, free of charge at the point of use; that investment in community health workers is greatly increased and that pneumonia and diarrhoea and their underlying causes are prioritised in national plans.
4. **A comprehensive monitoring and accountability framework**, which gathers and disseminates data on progress towards MDG4 at the local, national and international level, as part of a regular UN review mechanism.

THE PROBLEM

WHO IS DYING?

9 MILLION
CHILDREN UNDER FIVE YEARS OF AGE DIE EVERY YEAR



WHERE ARE THEY DYING?

1% DEVELOPED COUNTRIES

99% DEVELOPING COUNTRIES

INDIA 2 million deaths

NIGERIA 1.1 million deaths

DRC 500 000 deaths

PAKISTAN 400,000 deaths

CHINA 382 000 deaths

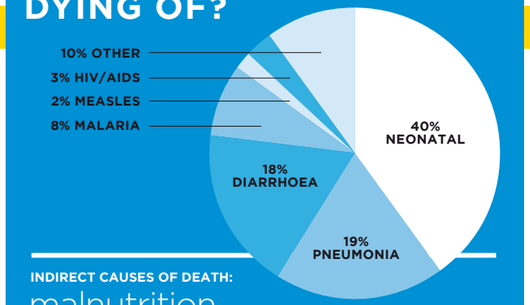
ETHIOPIA 381 000 deaths

5 million deaths
60% of all child deaths in just 6 countries

INEQUITY

For every 10 women giving birth with the help of a skilled attendant in urban areas, only 5 women have the same access in rural areas

WHAT ARE THEY DYING OF?



INDIRECT CAUSES OF DEATH:

malnutrition

water, sanitation & hygiene

health education

access to healthcare

prevention

but 2/3 of all child deaths are preventable

WHY ARE THEY DYING?

1. LACK OF POLITICAL WILL TO PRIORITISE CHILD HEALTH
2. FINANCIAL GAP BETWEEN FUNDING NEEDED AND AID RECEIVED
3. NO FORMAL POLITICAL VOICE FOR CHILDREN AND WOMEN
4. FAILURE TO ADDRESS OTHER SOCIAL DETERMINANTS OF HEALTH
5. DECISIONS ABOUT HEALTH EXCLUDE FAMILIES IN REAL NEED

THE SOLUTIONS

BY PROVIDING FAMILIES AND COMMUNITIES WITH SIMPLE SOLUTIONS,
6 MILLION
CHILDREN COULD BE SAVED EACH YEAR

BED NETS

ORAL REHYDRATION

EXCLUSIVE BREAST-FEEDING

SKILLED ATTENDANTS

IMMUNISATION

THESE ARE SOME OF THE PROVEN, COST-EFFECTIVE INTERVENTIONS THAT COULD SAVE CHILDREN'S LIVES

Source: World Vision (2009) Child Health Now Report, UNICEF (2009) State of the World's Children Report, Countdown to 2015 (2008) Tracking Progress in Maternal, Newborn and Child Survival Report

30 high burden countries account for **80%** of child deaths

over 700,000

children die each year from malaria

Almost 40% of children die from two preventable diseases: pneumonia and diarrhoea

Improved water, sanitation and hygiene could reduce diarrhoeal disease by 65%

Children whose mothers die in childbirth are 10 times more likely to die before their fifth birthday than those whose mothers survive

Donor aid for maternal, newborn and child health accounts for only 3% of global aid

Malnutrition is the **underlying cause** in at least **35%** of all child deaths

A **5%** improvement in child survival raises economic growth by **1%** per year over the subsequent decade

Just 40% of the children who need AIDS treatment are receiving it

On current trends there will still be 7 million under five child deaths in 2015

If the fourth Millennium Development Goal is achieved, this toll will be reduced to 4 million deaths by 2015

Achieving the child health MDG is likely to **save 12.5 million lives** in the five years to 2015, and would **save 29 million lives** in the ten years to 2020

Globally **40%** of mothers still give birth without a skilled attendant, and maternal deaths have not fallen significantly since **1990**

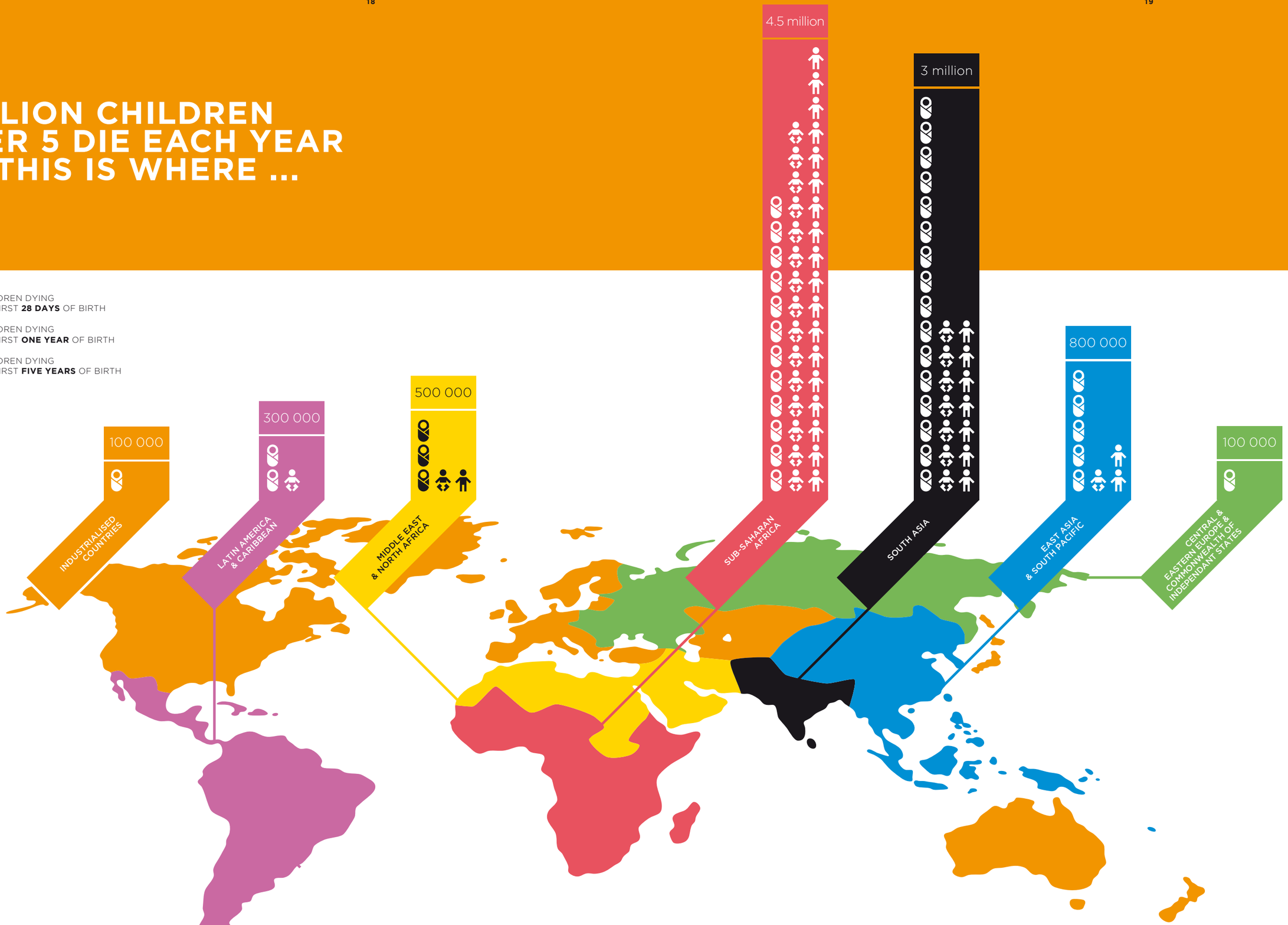
Babies who are not breastfed are 6 times more likely to die before the age of two months than children who are

9 MILLION CHILDREN UNDER 5 DIE EACH YEAR AND THIS IS WHERE ...

= **100,000** CHILDREN DYING WITHIN THE FIRST **28 DAYS** OF BIRTH

= **100,000** CHILDREN DYING WITHIN THE FIRST **ONE YEAR** OF BIRTH

= **100,000** CHILDREN DYING WITHIN THE FIRST **FIVE YEARS** OF BIRTH



All figures rounded to the nearest one hundred thousand
'CEE/CIS' and 'Industrialised Countries': Deaths within the first year and the first five years of age occur for these regions but are less than 100,000
Compiled using mortality data from UNICEF State of the World's Children 2009

INTRODUCTION

Sopheak Kong/World Vision

Our world is in the grip of a chronic emergency that is claiming the lives of more than 24,000 children under the age of five every day. Unlike other pressing crises, from the global economic downturn to climate change, this emergency does not dominate international summits, or media headlines. It does not drive political debate in most countries, nor, typically, is it reflected in the budget decisions made by governments. It claims a toll in excess of any recorded natural disaster, but is largely invisible, even in the poorest countries that are at the centre of this crisis in child wellbeing and survival.

As one of the world's largest development organisations, World Vision believes that the status quo is not an option: we know from six decades of programme experience that simple, proven measures – most of them at a low cost – can transform the opportunities of the world's poorest and most vulnerable children. A comprehensive set of interventions that includes oral rehydration for cases of diarrhoea, bed nets to prevent malaria, and exclusive breastfeeding can together save 16,000 children daily. The fact that some of the poorest countries have been able, through a mix of the right policies and sustained political commitment, to make dramatic cuts in child mortality demonstrates that there is nothing necessary or inevitable about the nine million child deaths that happen each year.

World Vision's Child Health Now campaign responds to this situation, which we believe every bit as urgent as the other, acute, humanitarian emergencies that we routinely address. This situation is on a scale that demands immediate and concerted action by governments, focused on those areas where children are at risk and dying. It also requires long term development of systems and structures to ensure the sustainable safety and health of children within their communities. This is not only a moral necessity, but a sound investment: in a globalised world, disease – and its social, economic and political consequences – spreads with increasing speed, as the recent experience of swine flu demonstrates.

In 2000, world leaders committed to eight Millennium Development Goals (MDGs), including that of cutting child deaths by two thirds by 2015. Currently, just one third of the necessary progress has been made towards this target. Efforts to achieve a similar reduction in deaths amongst women in pregnancy and childbirth – an urgent issue in its own right, but also one which is crucial to improvements in child health – are even further off-track, with less than 10% of the required progress made so far. Together, the health MDGs are furthest off-track of all the development goals: the next five years represent a narrow window of opportunity in which to turn

some of the **poorest countries** have been able ...to make **dramatic** cuts

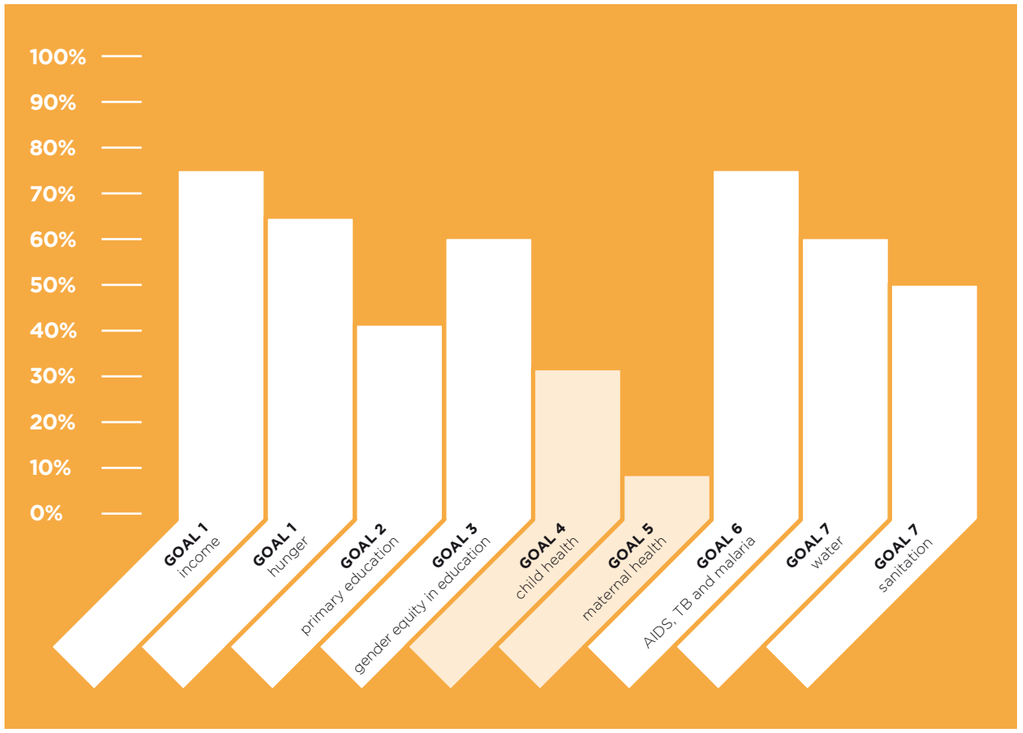


Figure 1 Global progess towards the Millennium Development Goals, 2008 (Source: Countdown to 2015)

this situation around.

Every country that is lagging on MDG 4 must adopt a clear, costed and time-bound plan of action to cut child deaths, based on their disease burden and specific context. These plans need to include, but also go beyond, the current focus on formal health systems and single-disease initiatives. Most children's lives will be saved, and most children kept healthy, by interventions – from safe water and sanitation to nutrition and family care – that are currently either neglected by or fall outside the remit of formal health systems.

While success will be determined mainly in the countries where children are

dying, the wider international community has a duty of care to support national efforts, and to ensure that no health plan is allowed to fail for lack of resources. This support will be doubly important in a period when global recession threatens to undo some of the limited progress that has already been made: the World Bank estimates that, without urgent action, as many as 2.8 million additional child deaths could result between now and 2015 as a result of a fall in household income and public spending in the poorest countries. At a time when some donors' resolve on aid commitments is wobbling, the world's poorest children need an intensification, not a diminution of effort.

This report sets out the case for joint action by developing country governments and donors, and the measures that are needed to achieve the goal of cutting child deaths by two thirds. Section one summarises the scale and nature of the challenge. Section two identifies the main causes of the emergency. Section three discusses the roles of donor countries and section four draws on experiences of success to make specific recommendations for action.

Jon Warren/World Vision

1. THE SILENT EMERGENCY

We are all familiar – to the point where some people have spoken of 'compassion fatigue' – with the acute emergencies covered in the media. Natural disasters attract public and political attention partly because they claim large numbers of lives in short periods of time. The Indian Ocean Tsunami that shocked the world on 26 December 2004, costing the lives of 216,000 people, was perhaps the most dramatic example of such an emergency, and prompted an unprecedented outpouring of concern and giving from people around the world. Yet for all the tragic loss and devastation caused by disasters, their toll on human life is far exceeded by the silent health emergency confronting millions of children in the world's poorest countries. In the period since the Tsunami, over 40 million children aged five and under have died from readily preventable causes. This is a chronic emergency that persists principally because of political inaction and misdirected effort. Perhaps because it continues, day after day, to exact its deadly toll on some of the world's most vulnerable and voiceless people – children in extreme poverty – it fails to attract much comment, or spark an outcry from media, politicians and civil society. In short, the global child health emergency is too often greeted with fatal indifference by those with the power to address it.

The vast majority of children under the age of five who die in the world today are dying essentially because they are poor, with ninety-nine per cent of under-five deaths occurring in developing countries. Four key causes directly account for most deaths: neonatal complications and infections (with 40% of child deaths happening in the first 28 days of life), pneumonia (which is a cause of 19% of child deaths), diarrhoea (18%) and malaria (8%).[1] Measles, and HIV and AIDS, are responsible for a further 2% and 3% of child deaths respectively. All of these causes are largely preventable,[2] and it is exceptionally rare to hear of a child dying from any one of these conditions in a rich country. Research shows that two thirds of the children dying each year – almost six million in total – could be saved through simple, affordable preventive strategies such as better nutrition, birth spacing and skilled birth attendance.[3] Undernutrition alone is a factor in approximately 3 million deaths. Early detection and treatment of ill health could also save a large number of lives and significantly reduce the number of children dying.[4]

A great many more people need to be covered by preventive interventions in the poorest countries if the health MDGs are to be met: at present, an estimated 270 million children live in what amounts to a health care desert, lacking access to even the most basic provision.[5] Millions more are confronted with health care that is patchy, and often unaccountable, unaffordable and poor quality. In some ways, tackling child deaths is only one part of the challenge: child illness, or morbidity, exacts its own heavy price on families and communities and can – especially in the

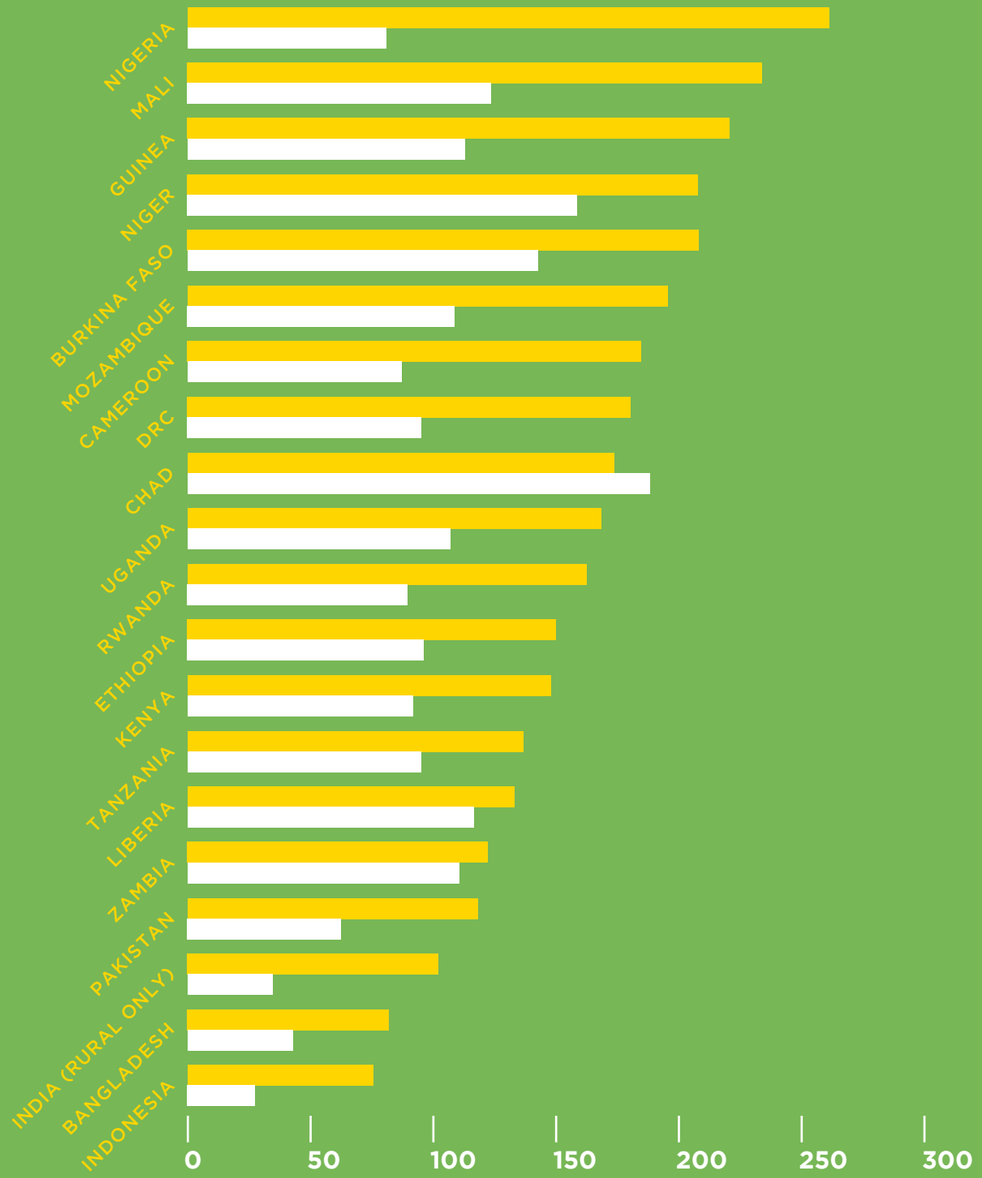
the vast majority **...are dying** essentially because they are **poor**

period from birth to two years – have a long term impact on children's cognitive and physical development. To meet these twin challenges of death and illness, health systems need to adopt a broader remit, that better balances prevention and cure, and is far more responsive to the needs of poor families and communities. While the international community has recently begun to re-focus its attention on strengthening health systems, a gulf remains between health care needs and health care provision in the communities where the majority of child deaths are happening.

THE EMERGENCY HOTSPOTS

Just six countries – India, Nigeria, the Democratic Republic of Congo, Pakistan, China and Ethiopia – together account for almost five million child deaths each year, or over half of the total. In total, the top twenty countries measured by the absolute numbers of child deaths, and the top twenty measured by the mortality rate, overlap to form a list of 30 high-burden countries that together account for 80% of the global total. Two of these, China and Indonesia, are middle-income countries with high economic growth rates and a growing resource base with which to address child health: both have approximately halved their mortality rate since 1990. Another, India, is on the brink of becoming a middle income country, although this masks enormous disparities, with the child mortality rate in the state of Orissa at almost 10%, whereas in Kerala it stands at a little over 1%.[6] The remaining high-burden countries are in sub-Saharan Africa or South Asia, and are overwhelmingly low-income countries with large rural populations. Many are affected by conflict, and have weak and largely unaccountable governments. In the worst-performing countries such as Sierra Leone, Niger and Afghanistan, a quarter of children fail to reach their fifth birthday – fifty times the proportion that die in early childhood in Western Europe or North America.

Over eighty percent of child deaths occur in the two regions of Sub-Saharan Africa (4.4 million or 50% of the total) and South Asia (2.8 million or 32%).[7] Yet even within these countries, life chances are not distributed equally: in more than half of all the high-burden countries for which data is available, the under-five mortality rate among the poorest 20%, or quintile, of the population is more than double that of the richest 20%. Nigeria, with over 1.1 million child deaths each year, has the largest disparity, with children born into the poorest 20% of the population over 3 times more likely to die before the age of five than are children in the wealthiest 20%. Often, these inequalities have a regional dimension. For example, in Tanzania the child mortality rate



CHILD MORTALITY AMONG THE POOREST 20% AND THE RICHEST 20%

■ POOREST 20% ■ RICHEST 20%

Child mortality rates per 1000 live births

Source: UNICEF State of the World's Children 2009, 20 high priority countries

in Ngorogoro district is 40 per 1000 births, whereas in Ruangwa it stands at 250.[8]

Behind this picture of unequal outcomes there lies a story of grossly unequal access to health care. For example, in Ethiopia, where 381,000 children die before the age of five, the wealthiest fifth of the population receive four fifths of health spending. The data on equity of access in the 30 high-burden countries shows that the coverage gap[9] for essential interventions is on average twice as large and up to three times as large for the poorest 20% of the population when compared with the gap experienced by the richest 20%.

a story of **grossly unequal** access to health

CHILD HEALTH IN A HIGH-BURDEN COUNTRY
The case of Nigeria

Nigeria is Africa's most populous nation, with its population of 145 million people growing at over 2% a year. Despite being one of the largest exporters of oil in the world, decades of military rule, endemic corruption and harsh economic policies have left 64% of the population living on less than $1 a day and a life expectancy of just 47 years for men and 46 for women. Within Nigeria there are enormous regional variations in living standards, with health conditions in the north of the country lagging far behind those in the south.

Decades of underinvestment in health care have played a role: in 1999 the Nigerian government spent only 1.7% of the federal budget on health, and although this increased to 6.4%, in 2002, it has since fallen back to only 4%[10], despite the $1 billion dollars it was granted in debt cancellation in 2006. Nigeria has a long way to go to fulfil the promise made by its president in 2001, at the Abuja inter-governmental meeting, to commit 15% of public spending to health. This lack of investment in health has been mirrored in education, water and sanitation, with most expenditure on essential services coming from households through out-of-pocket charges.

In principle about 71% of Nigerians have access to Primary Health Care (PHC), but many of these facilities are not functional due to lack of equipment, essential supplies and qualified staff. The problem is compounded by poor staff distribution (74% of doctors work in private hospitals) and low staff morale – due partly to irregular and inadequate remuneration, as well as a lack of supportive supervision, training and career advancement opportunities. As a result, many qualified health workers join private practice or migrate.

There are also other barriers to access, including the direct cost of health services, the cost of transport to reach them, the lack of decision-making responsibility and voice that can often deter people – especially women – from visiting facilities, and widespread perceptions of corruption in the health system. This reality is a stark contrast to the community-centred approach pioneered in Nigeria over twenty years ago, at a time when it was a leading example in Africa of primary health care.

Today almost one child in every five dies before his or her fifth birthday. The national coverage of measles vaccinations for the under ones is estimated to be 62%, while the number of children having had three doses of DPT is estimated at 54%. Only around 5% of children sleep under an insecticide treated bed net, despite malaria causing one quarter of all child deaths in Nigeria. Only one third of those children who get malaria or pneumonia seek care, and only a quarter of the children with diarrhoea seek health care,[11] despite the fact that these three diseases account for sixty percent of all child deaths.

Only one third of mothers deliver with a skilled health professional, while just thirteen percent use family planning measures to space their children. This leaves Nigeria with one of the highest maternal death rates in the world with over 1110 women dying for every 100,000 live births. That means 59,000 more children each year are left very vulnerable because they have lost their mothers. Only 17% of babies are exclusively breastfed, with only one third being put to the breast within an hour of delivery. Access to clean water and sanitation and hygiene education could dramatically improve health outcomes, but less than half of the population has access to safe water and less than one third have access to basic sanitation[12].

Reducing the health gap between rich and poor even within the poorest countries would have a dramatic impact on overall mortality rates: if the mortality indicators of the poorest Nigerians could be brought up to the level of the wealthiest 20% of the

population, child deaths would fall by two thirds. In India, child deaths would halve. Globally, if the bottom 20% had the same health outcomes as the top 20% in every high-burden country, there would be 3.5 million fewer child deaths each year.[13]

The disparities between income groups are often most extreme when coverage of specific interventions is examined, particularly interventions focussed on prevention, such as access to a skilled birth attendant. Indicators that are most sensitive to socio-economic status include the proportion of women with low body mass index (BMI), the rate of skilled attendance at birth and access to improved drinking water and sanitation. For example, in Ethiopia the richest 20% of the population are 39 times more likely to have access to improved sanitation facilities than the poorest 20%. The richest 20% of the population in Ethiopia is also 27 times more likely to have access to a skilled birth attendant at delivery than the poorest.

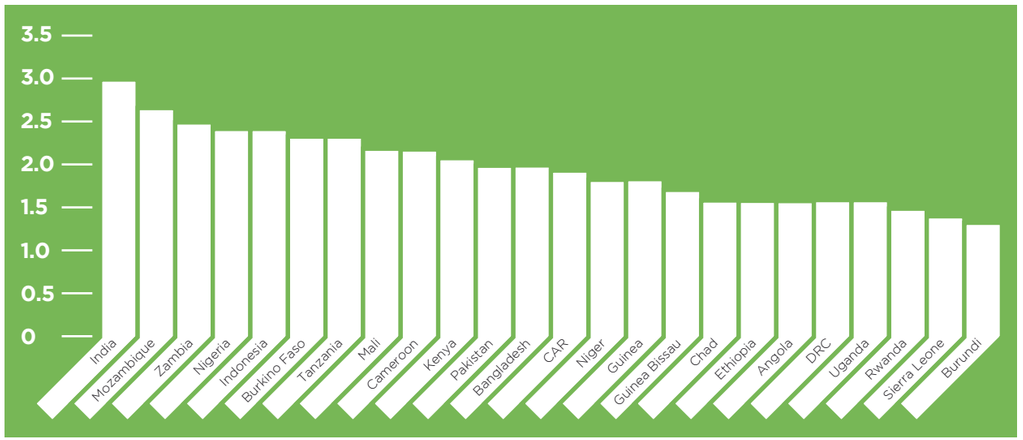


Figure 2 Relative size of the gap in access to essential healthcare between the richest 20% and poorest 20%, 2006 (Source: Countdown to 2015). Data was only available for 24 countries.

In India and Bangladesh, women in the poorest quintile are between 2 and 3 times more likely to be malnourished, measured against their BMI, than those in the richest quintile. This increases the likelihood of pre- and post-natal complications, impaired foetal growth and maternal death. The disparity between the proportion of women with low BMI is even greater in Kenya, where 23% of women in the poorest quintile have a low BMI compared to only 5% of women in the richest quintile.

In many cases, access to health care and wider determinants of child health, such as water and sanitation, differ greatly by geography, particularly between urban and rural populations. Niger is a case in point: households in rural areas are up to 9 times less likely to have access to improved sanitation facilities than those in urban areas and rural women are only one third as likely to have a skilled attendant at delivery as their urban counterparts. But even within urban populations, inequities abound as the poor slum dwellers sometimes endure worse conditions than those in rural areas, particularly in relation to water and sanitaton.

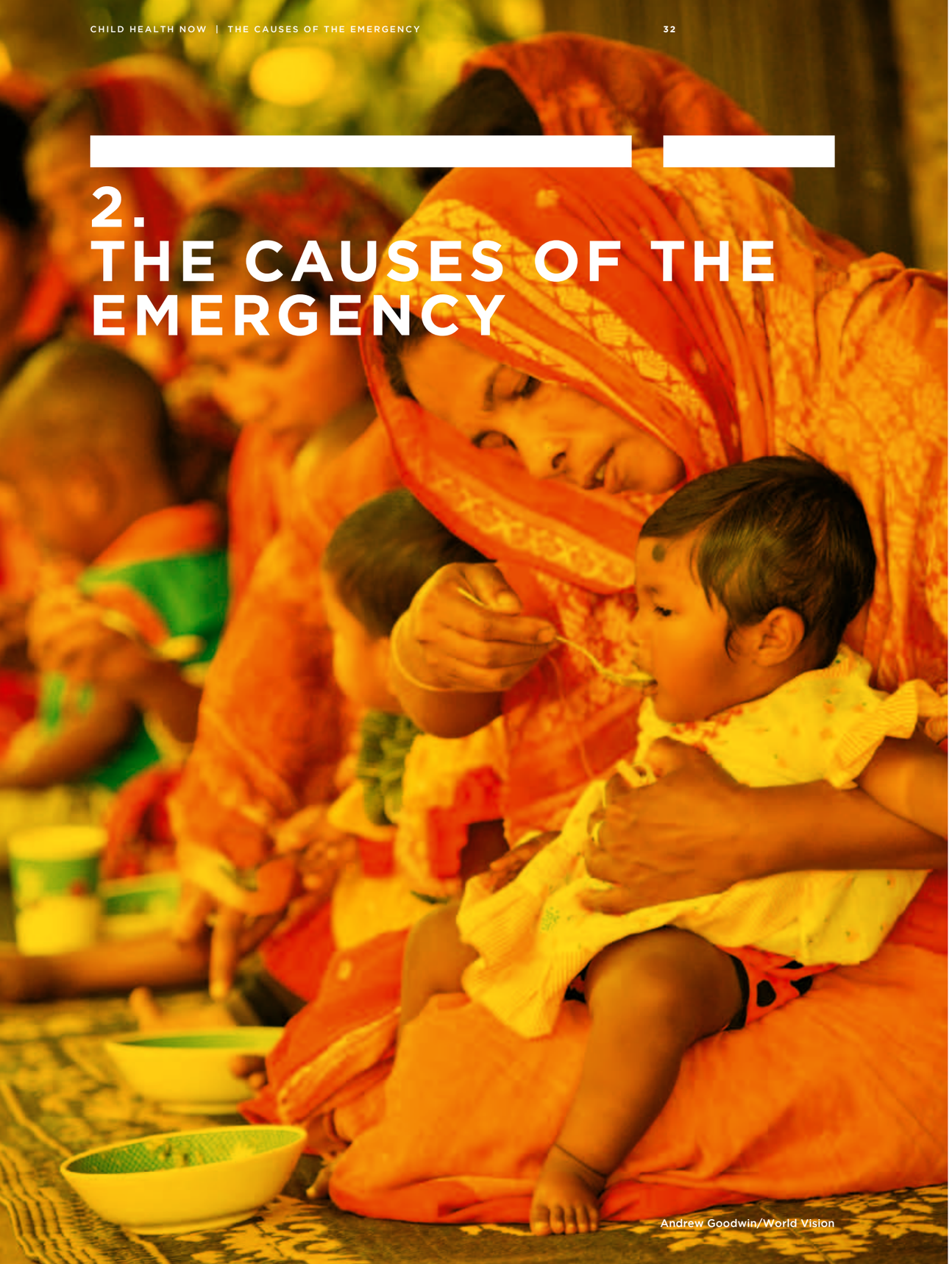
Reducing these inequalities and achieving MDG 4 will require tailored strategies for rural areas, where people are dispersed, incomes are lower and transport and communications infrastructure is often limited, and for urban slum areas where the uncertain legal status of communities often leads to public services not being provided.

HYGIENE AND NUTRITION EDUCATION IN BANGLADESH

The village of Idilpur is located outside of the town of Jalchatra in the Tangail district of northern Bangladesh. The flooded roads make access difficult, but mothers are still travelling from neighbouring villages to find out what has been happening in Idilpur that has resulted in fewer children falling ill or dying.

The Hearth Programme, supported by World Vision Bangladesh, involves a series of health education sessions where mothers get together and learn about things which they can do around the family home to improve the health of their children. This includes how to prepare food safely, and how to cook it to get the best nutritional value from it, as well as how to balance a child's diet with different food groups. They are also learning about the importance of food hygiene and how things like hand washing with soap can prevent on childhood killers like diarrhoea.

Through the support the programme gives to mothers and education about basic hygiene, huge improvements have been made in the health of this small village. When the sessions are over, mothers are able to pass on what they have learnt to others in the community – healthy nourished children have a demonstration effect, attesting to the value of the basic preventive measures promoted through the programme.



Andrew Goodwin/World Vision

2. THE CAUSES OF THE EMERGENCY

A HUMAN RIGHTS VIOLATION

The child health emergency has many causes, both global and local, and these vary widely according to the context. Yet one common theme in many of the high-burden countries is the failure of governments to prioritise child wellbeing. This has happened despite child and maternal health being a binding responsibility: Article 24 of the International Convention on the Rights of the Child (CRC), which has been signed by every country bar Somalia and the United States of America, sets out states' obligations to ensure children enjoy "the highest attainable standard of health and access to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such health care services." In particular the CRC commits States to "take appropriate measures to diminish infant and child mortality".

One common objection to treating child health as a right is that cash-strapped developing country governments cannot afford it. But this is misplaced: human rights conventions recognise the inability of many countries to fund universal health care coverage immediately from their own resources. However, states are obliged to progressively realise the right to health, by adopting clear steps and making the maximum financial and political effort. And while the primary responsibility rests with national governments, there is an international obligation at the level at which governments operate collectively – through the UN and International Financial Institutions – to help governments of the poorest countries to overcome their resource constraints. These interlocking principles of maximum resource mobilisation, progressive implementation and international cooperation establish clear criteria against which to judge the performance of individual governments and the international community in realising the right to health.

The rights of children are often especially neglected because they have no formal political voice. Women, too, are often marginalised in political debate and national agenda-setting, and may lack knowledge about their rights or the confidence to claim them. Given the close relationship between child and maternal health, it is often a lack of real commitment to rights for women that lies behind the failure of governments to prioritise child health.

When governments do make women's and children's health a priority, the gains are clear. Countries making progress in child survival have a number of features in common, foremost of which is high level political commitment. Where heads of government and politicians collectively lead on child health, greater use of health

The Convention on the Rights of the Child – Article 24

1. States Parties recognise the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such health care services.
2. States Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures:

a) To diminish infant and child mortality;
b) To ensure the provision of necessary medical assistance and health care to all children with emphasis on the development of primary health care;
c) To combat disease and malnutrition, including within the framework of primary health care, through, inter alia, the application of readily available technology and through the provision of adequate nutritious foods and clean drinking-water, taking into consideration the dangers and risks of environmental pollution;
d) To ensure appropriate pre-natal and post-natal health care for mothers;
e) To ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, »

services, improved public awareness of health issues, increased health worker morale and stronger donor engagement tend to follow; as evidenced recently in Liberia, Nepal, Uganda, Rwanda and Malawi.

In the case of Liberia, the election of Ellen Johnson Sirleaf as president and the transition out of conflict have marked a new commitment to child health, with the government tripling annual health spending from $9 per person to $28, equivalent to one fifth of the national budget. It has suspended user charges, which has led to increased uptake of services, which together with increased bed net usage and the treatment of 60% of malaria outbreaks has contributed to 23,000 children's lives being saved.[15] While there is still a long way to go, Liberia's under-five mortality rate has reduced from 235 to 133 deaths per 1000 live births in less than five years.

FUNDING LEVELS

Unlike in Liberia, many governments in high-burden countries have failed to match the scale of the challenge with a commensurate response. In 2001 at the African Union Summit in Abuja, Nigeria, governments committed to allocating 15% of their national budgets to health, as a realistic basis for universal coverage of essential services.[16] Yet eight years on, only a handful of countries are meeting this target, and 17 African countries actually cut their health spending in the three year period after Abuja.[17] Only three of the 30 high-burden countries currently spend at or above 15% of public expenditure, while 18 countries are spending less than 10%. Nigeria and India, the two countries with the highest absolute number of child deaths, both commit less than 5% of total expenditure to health.

MAKING HEALTH CARE FREE AT THE POINT OF USE

Despite children's access to health care being recognised as a right, in reality it remains an unaffordable luxury for many of the 200 million under fives who live on less than $1 a day.[19] An estimated four billion people living in developing countries have borrowed money or sold assets in order to purchase health care. One of the more extreme manifestations of unaffordable health care involves stories of women in countries such as Kenya being locked up in maternity wards until they can pay for the

» the advantages of breastfeeding, hygiene and environmental sanitation and the prevention of accidents;

f) To develop preventive health care, guidance for parents and family planning education and services.

3. States Parties shall take all effective and appropriate measures with a view to abolishing traditional practices prejudicial to the health of children.
4. States Parties undertake to promote and encourage international co-operation with a view to achieving progressively the full realisation of the right recognised in the present article. In this regard, particular account shall be taken of the needs of developing countries.

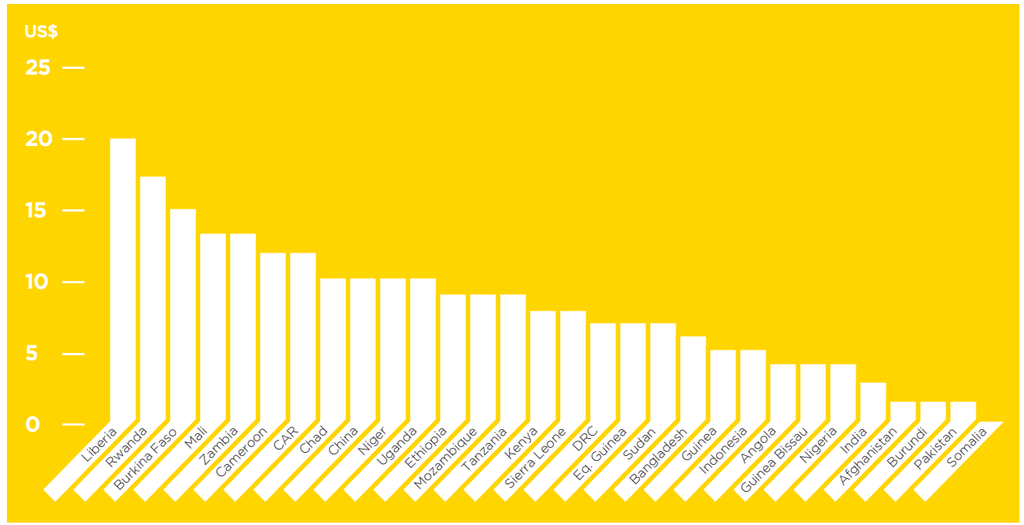


Figure 3 Government health spending as a percentage of government budgets, expressed in dollars for 30 priority countries, 2007 (Source: Countdown to 2015). No data was available for Somalia.

cost of their delivery.[20]

Health spending is often difficult to anticipate and can involve substantial payments, and for this reason households are frequently forced into 'distress sales' of income-earning assets such as livestock or land, in order to finance care for a family member: the WHO has estimated that 100 million people are drawn into poverty each year as a result of paying for health. [21] One study of a number of African countries found that over thirty percent of people in poor households were simply unable to get access to care as a result of cost barriers.[22] A study into the effects of out-of-pocket payments on poverty in 11 Asian countries found that 78 million people ended up with less than $1 per day after they had paid for health care. The study concluded that "out-of-pocket health payments exacerbate poverty. Policies to reduce the number of Asians living on less than $1 per day need to include measures to reduce such payments."[23]

The case for making basic health care in developing countries free at the point of use is compelling: an estimated 233,000 children's lives could be saved annually by doing this in 20 African countries, at a cost of less than $1.50 per person per year.[24]

Countries that provide publicly subsidised essential services free at the point of access tend to achieve the most equitable outcomes and the best aggregate health indicators, as a recent World Bank study of health services in Asia found.[25]

Abolishing official fees is only one part of the challenge. Many of the cost barriers to basic health care arise from unofficial costs – for example, in Armenia an estimated two thirds of health funding comes from 'under the table payments' – while indirect costs such as transport to reach health care providers can also be prohibitive.[26] Therefore any strategy to make health care free has to be accompanied by an adequate increase in funding, both to offset the income lost from official and unofficial charges, and to cope with the resulting increase in demand for services.

But within the context of a wider strategy to put health care on a sustainable and equitable footing, a number of low-income countries have boosted access by abolishing user charges at the point of use. For example, in 2001 Uganda made health care free and service utilisation increased by over 100%. Evaluations indicate that much of the increased use was from the poorest 20%, most of them women and children. Similarly, Zambia abolished fees in 2006 in rural areas, partly financed through debt relief from the World Bank and International Monetary Fund, and increased health service use by 50%. Burundi saw an increase of deliveries in health units of over 60% when they made deliveries free, and Niger and Nepal have had similar positive experiences.[27]

In contrast, many of the worst-performing high-burden countries, including Sierra Leone, Guinea Bissau and Nigeria, fund their systems through out-of-pocket payments, resulting in highly unequal outcomes. In the absence of more pro-poor funding policies being put in place in these countries – including providing care free at the point of use – the current lack of progress towards MDG 4 looks set to continue.

countries that provide **publicly subidised** essential services **free at access** tend to achieve the most **equitable** outcomes

HEALTH WORKERS AND SYSTEMS MANAGEMENT

Health care is by its nature a labour-intensive service, and health workers – from doctors and nurses in formal health systems to skilled birth attendants and health educators at the community level – form the backbone of any effective strategy to achieve MDG 4. To achieve an adequate level of accessible health care the World Health Organisation (WHO) recommends a minimum of 2.5 staff per 1000 population[28], yet as the graph illustrates, only one of the 30 high-burden countries has reached this level, and

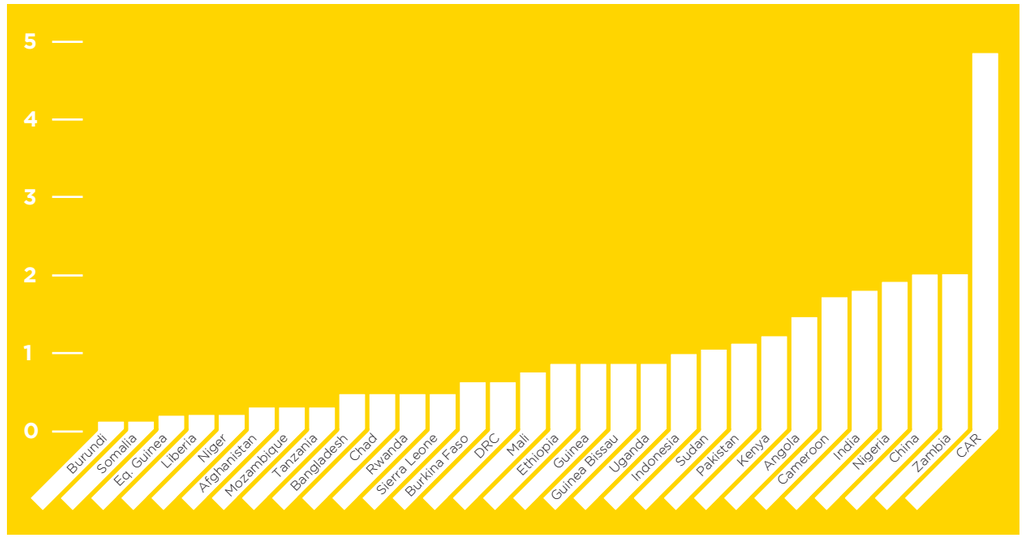


Figure 4 Number of health workers per 1000 population in 30 priority countries, 2004 (Source: Countdown to 2015)

twenty-three have less than half the recommended minimum staffing numbers.[29] In comparison, a wealthy country like the United Kingdom has around fifteen health workers per 1000 population, or more than six times the WHO minimum.[30]

Numbers of health workers are only one part of the challenge. Governments must also ensure that health workers have the skills needed to address the health needs of a population. In 2006 the WHO recommended that countries invest $10 per person per year on training and retaining adequate numbers of skilled health workers to meet the MDGs.[31] The same report advised countries to carry out human resource evaluations to determine how many staff they required and what skill gaps they needed to address.

These gaps are largest in rural areas: in most countries, trained health workers are concentrated in towns and cities. In Tanzania, the predominantly urban Moshi district has over 12 health workers per 1000 people, in comparison with 0.3 in the rural Bukombe district.[33] In the short term, high-burden countries will need to retain the health workers they have and improve their skills and capacity through strategies such as task shifting and the development of lower cadres of health workers – as has happened in Afghanistan with the 18 month training programme for community

midwives operating at the village level[34]. Other measures include increasing the skills of nurses and midwives to enable them to carry out emergency obstetric care – these strategies have had a positive impact in Mozambique and Malawi.[35]

FAILURE TO REACH VULNERABLE FAMILIES AND COMMUNITIES

The first tier of health care intervention for children under five tends to be at the household level, usually from a parent. Beyond this, interventions are typically delivered at the community level, either by official or unofficial health care providers. Given this, more attention should be given to easy-to-administer interventions that focus on prevention and minimise costs. These include improved nutrition, hand washing, breast feeding and early identification of pneumonia, all of which have the potential to be rapidly scaled up. World Vision's own estimates are that a comprehensive programme of family and community care, including these interventions, could save the lives of 2.5 million children annually – or over half of the total needed to reach MDG 4.[36]

Despite the centrality of family and community level health, health plans and policies tend to focus heavily on supply side failures, such as logistics, transport, human and financial management systems and the management of essential health information. Typically, few resources and little effort are devoted to dealing with demand side barriers and the social determinants of health. For example, resources are often spent on community mobilisation efforts to encourage increased use of services, without initially determining and addressing community priorities and needs. Communities – especially women and children – are often sidelined in the planning or monitoring of services or policies, which in turn can lead to low take-up of services.

COMMUNITY NEEDS AND GOVERNMENT RESPONSE
Bridging the gap in Nepal

In the rural and mountainous Makwanpur District of Nepal, 90% of women give birth at home. In a project based on a Bolivian example of community based social mobilisation activities, female facilitators were hired to conduct meetings with women to determine the supply and demand-side barriers to increased use of clinics. The programme then addressed the supply side, while the communities worked on overcoming demand side barriers – for example by educating women about the value of antenatal classes and exclusive breastfeeding. Issues addressed under the programme included strengthening of health facilities, especially for neonatal care, addressing transport barriers to accessing health care, house- to-house health promotion campaigns, and education about nutrition and the importance of delivery with a skilled attendant. The neonatal death rates in the communities dropped by one third, maternal mortality rates were reduced by about 70%, and health service utilisation increased by over 100%.[35]

What is a health system?
The WHO defines a health system as: **"all organisations, people and actions whose primary intent is to promote, restore or maintain health."** This includes organisations and groups of people such as mothers caring for their child at home, organisations campaigning for the promotion and use of insecticide-treated bed nets to prevent malaria, traditional healers, community health workers, health clinics and hospitals run by the government, NGOs and health insurance organisations.
A health system will need as a minimum several process and capacity functions in order to operate effectively. Generally these include:

- Direct **service delivery** to the population– primary, secondary (for example district health clinics) and tertiary (for example central teaching hospitals) level care. Services can be provided by the private and public sector, and includes preventive, curative and rehabilitative care.
- **Supporting services** that make service delivery possible – for example: drug procurement and storage; equipment maintenance
- Sufficient numbers in the **health workforce** and their development, including initial and ongoing training of health workers
- A **physical infrastructure** needed to deliver the health services, including hospitals, laboratories, medical and other equipment and training schools »

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- **Financing arrangements** which might include health insurance, direct payments by patients, public funding and international aid
- A system for **regulation & licensing** that protects the public from unsafe products, ineffective medicines or inept treatment
- Overall **stewardship** function of the health system, which includes setting policy; planning and allocating resources; and monitoring performance

Experience shows that community health workers (CHWs) can be critical in helping to bridge this gap between the health care needs of mothers and children and the day-to-day reality of health care systems. China's system of 'barefoot doctors', which was established in the 1950s and contributed to a doubling of life expectancy over a 25 year period before being dismantled, and similar approaches in Nicaragua in the 1980s, demonstrate the potential for semi-skilled health workers to deliver dramatic improvements in child survival and wellbeing.[37] Distinct from skilled health workers such as doctors, nurses and midwives, CHWs nonetheless need to be viewed as an integral part of the health system, and can make a crucial contribution in such areas as health education, immunisation and basic ante–natal care (see box).

CHILDBIRTH IN RURAL NEPAL
Tara Devi's story

Tara Devi, aged 19, was cutting grass in the fields to feed the family cattle when the labour pains started. Her waters had broken at home, but she did not know the signs of the early stages of labour and had continued

her daily tasks. Eventually, the pain was so intense she returned to her home in the village. Normally, this is a 45-minute walk uphill, but on this occasion it took nearly two hours. She recalls, 'I didn't know what was happening to me. Every five minutes I had to either lean on the side wall or a tree, as the pain was unbearable.'

When she reached home her husband was similarly unaware that she was in labour, and told her to prepare his meal. Only when her mother-in-law returned to eat, and told her what was happening, did she call for her own mother. By this point the baby's head was emerging. Tara's mother and husband carried her on to a bed, as she was losing consciousness with the pain. With no hospitals or health posts nearby, her mother delivered the baby.

After the birth, the placenta did not come out and after a week of growing pain Tara's mother accompanied her on a three hour walk to the nearest hospital. Borrowing money from neighbours, she had Tara carried on a stretcher by porters, and she was treated and returned home the same day. After giving birth to a second child in similar circumstances, Tara suffered prolapse and had her uterus surgically removed. She is now 36 and works as a community health worker in her village, educating women about the early signs of labour, and how to give birth safely.

Rather than being treated as a quick fix, or as a cheaper alternative to skilled health workers, CHWs are part of a continuum of care that runs from the household through to the hospital, and need to receive specific training and effective management and support. Because they're usually physically and functionally closer to children and their families than skilled health workers, CHWs can also play a valuable role in raising demand for effective health care among communities and ensuring that formal health systems are more accountable and responsive; for example, by involving local people in the planning and monitoring of services. The role of CHWs is perhaps especially relevant in high-burden countries with large, dispersed rural populations and weak infrastructure, and national plans to achieve MDG 4 need to include full legislative and financial support to build their capacity.

CHWs are part **of a continuum** of care that runs from the **household** to the **hospital**

COMMUNITY HEALTH WORKERS
The case of Cambodia

The Northeast Cambodia Child Survival programme focussed on breastfeeding support and promotion, immunisation, nutrition, micronutrient supplementation, management of diarrhoea, use of bed nets and increased access to reproductive health and maternal health services. Community health workers (CHWs) and their supervisors acted as change agents to increase utilisation of services and improve healthy behaviours.

The outcome was a 75% reduction in maternal death rates and a 70% reduction in child mortality rates in the affected communities, a dramatic increase in the number of women exclusively breastfeeding – from 2% to 73%, increased uptake of tetanus vaccination from 12% to 73%, increased use of iodised salt from 1% to 41%, an increase in oral rehydration therapy (ORT) from 15% to 81%. The number of fully immunised children increased from 17% to 79%. Use of antenatal services more than doubled and the number of women delivered by skilled attendants also increased from 19% to 25%. The CHWs' collection of data has also improved the district health information system, and thus supported future health planning.[38]

TACKLING THE UNDERLYING CAUSES

It is a well-worn truism that health involves much more than health care: lasting improvements in child wellbeing require a comprehensive approach that not only builds systems to prevent and cure illness, but also addresses the many wider social determinants of health. Some of these determinants directly affect child survival – for example, unsafe water is the underlying causes of 1.5 million deaths each year from diarrhoea. Other factors, such as a lack of parental education, and discrimination against women and girls, may be less immediately attributable but nonetheless have a major impact on children.

This was an insight that drove many of the social reforms in Western Europe after the Second World War. The Beveridge plan in the United Kingdom was one such

example, and was part of a comprehensive effort to raise living standards not only through universal health provision, but also through improvements in nutrition, housing and income-security.[39] Yet this insight, shared by the WHO's landmark 1978 Alma Ata declaration on health care, is often lost in the practicalities of providing health care in developing countries today.[40] Health ministries tend to work in isolation from ministries responsible for water, nutrition and other key determinants, and while many countries have national health care plans, very few have adopted a genuinely cross-sectoral approach to achieving MDG 4.

The neglect of water and sanitation should be cause for particular concern: the WHO estimates that improved water, sanitation and basic hygiene practices could together save US$7 billion dollars in health care costs each year.[42] Yet most national efforts to improve access to safe water for the poorest have been piecemeal and under-funded. Water provision tends to be dominated by relatively high-technology integrated systems, and poor and rural households are often bypassed as a result: for example, in Benin over 90% of the wealthiest 20% of the population, concentrated in urban areas, has access to a treated water supply. Among the overwhelmingly rural poorest fifth, less than 15% of the population has access.[43]

The Alma Ata Declaration[41]
The International Conference on Primary Health Care, convened by the WHO and UNICEF in 1978 in Alma-Ata, Kazakhstan, and attended by almost all member countries of the World Health Organization (WHO), was a landmark in global efforts to realise the right to health. The declaration that emerged from the conference identified primary health care as crucial to these efforts. It recognised that achieving health – defined as the highest possible level of wellbeing, and not simply a lack of illness – requires not only formal medical interventions but also a much greater emphasis on preventive measures, many of them lying outside of formal health systems, and on health promotion and rehabilitation. It set the year 2000 as a target date by which everyone would be healthy enough to lead a socially and economically productive life.

CLIMATE CHANGE AND HEALTH
A current and future challenge

The effects of climate change on child health are often overlooked, but are both a current and growing challenge in achieving MDG 4. The impacts on children are likely to be severe, both because children are more vulnerable than adults to illness, and because they find it harder to obtain their rights; for example, they often come last in line for food. Climate change is being felt most strongly in already poor and often agriculturally marginal settings, which tend also to have high levels of child illness and death. Changes in average temperatures are increasing the risk from communicable diseases, especially malaria, and climate-related water insecurity (for example, through salination of the water supply, flooding and glacier melt) is likely to increase the risk of waterborne disease, including diarrhoea. Climate change is already believed to account for over 150,000 deaths and 5 million incidences of disease annually, while one recent study has predicted an increased risk of climate-related conflict in up to 46 countries that are home to 2.7 billion people. By 2050 up to 150 million people could be displaced due to desertification, water scarcity, floods and storms, with children likely to be disproportionately affected as a result.[44]

Improved sanitation could generate similarly large returns in terms of child health: for every $1 invested in this area, an estimated $9 are returned to national economies through increased productivity and reduced burden of health care.[45] Given that a lack of sanitation is a factor in over two million child deaths a year[46], and is the principal cause of nearly half of this total – which means that safe toilets and improved hygiene together could reduce diarrhoea by 65% – there's a clear need for it to be put front and centre of national and global strategies to achieve MDG 4.[47] Yet sanitation and basic hygiene are perhaps the most neglected of all the key determinants of child health: during the 1990s, on average only $1 in every 10 of donor aid for water and sanitation was targeted at sanitation. Recipient governments' own funding in this area is usually similarly low, and responsibility tends to be decentralised to the local level. Other simple, related hygiene measures can also yield dramatic results. Hand washing with soap is estimated to reduce diarrhoeal deaths by 45% and pneumonia by 23%.[48]

The status of women is another key factor in child health outcomes which, as with water and sanitation, tends to be neglected. This is not for a lack of evidence: in a study of data from 152 countries, female literacy and poverty were identified as the two biggest determinants in child mortality. Women with an education, especially to the secondary level, are more likely to seek health care for themselves and their children, and to ensure that treatment is administered effectively.[49] One study from Sri Lanka shows that child death rates decrease for every extra year of full-time education undertaken by their mothers, while children born to mothers with no education are two times more likely to die than those born to mothers that have completed secondary school .[50] Women completing secondary level education also marry later, space their births and have fewer children, thereby improving their own health as well as that of their children.[51]

women
completing
secondary
education
...improve their own
health
as well as that of
their children

Given this body of evidence, the gender disparity in education in many of the high-burden countries is a key concern. Globally over 55% of the seventy-five million out-of-school children are girls. In Niger, 56% of boys receive a primary education, compared with 40% of girls. In Afghanistan, three quarters of boys attend primary school but fewer than half of all girls. At the secondary level, the gap widens further, with three times more Afghan boys than girls receiving an education.[52]

Closing the current educational gender gap in the poorest countries should be a matter of priority because girls and women have a right to education. But doing so would also generate significant benefits for child health. Tackling discrimination against women and girls often involves engaging communities around sensitive cultural and religious issues, many of which – such as female genital mutilation, early marriage and negative attitudes to family planning – can directly affect health outcomes. Given the inherent difficulties in changing such practices, it is essential that health strategies are sufficiently decentralised to take proper account of children's local contexts, and that activities are tailored to take these barriers into account. World Vision's own Channels of Hope initiative, where we work with local religious leaders such as pastors and imams to challenge the stigma associated with HIV and AIDS, and to promote behaviour change, is one example of how communities can be constructively engaged to achieve better health outcomes.[53]

Jon Warren/World Vision

3. WHAT RICH COUNTRIES MUST DO: MORE MONEY FOR CHILD HEALTH, MORE CHILD HEALTH FOR THE MONEY

Ninety-nine out of every hundred child deaths happen in developing countries. Clearly, the main drivers of change have to come from within these countries, not least through greater political pressure for child health from individual citizens and communities, and from organised civil society, including NGOs, the media, and professional, business and religious organisations. Experience tells us that where governments have made significant strides towards the goal of cutting child deaths, these have been underpinned by popular demand and informed public debate.

At the same time, rich countries have a real and urgent responsibility to support these national efforts to achieve MDG 4. Universal rights, including the right to child health and wellbeing, entail universal responsibilities, and the international community has a crucial role in helping resource-constrained national governments to meet the health needs of their children. This responsibility is regularly invoked, not only in human rights documents, but also in summit communiqués and declarations. Yet in practice, the richest countries all too often fall short, with highly damaging consequences for millions of the world's poorest and most vulnerable children. This section will show that rich countries themselves must step up their efforts, by providing more money for child health, but also by changing the ways that they give, so as to ensure more child health for their money.

HITTING THE TARGET: PRIORITY COUNTRIES AND PREVENTION

If global efforts to achieve MDG 4 are characterised as a war on poverty and disease, it would be accurate to say that many of the donor countries are currently firing blanks. At the most fundamental level, there is a mismatch between the nature of the problem and the direction of flow of money and energy. There are three main dimensions to this problem. First, aid is not being directed to the countries with the greatest need. Just 30 high-burden countries[54] account for over 80% of child mortality – or over 7 million deaths each year – yet these same countries receive less than half of global aid commitments for health. Three countries – India, Nigeria and the Democratic Republic of Congo – together contribute 40% of total child deaths, yet received only 17% of aid for health between 2006 and 2007.[55] In some cases, this reflects donor concerns about a country's willingness or ability to use money well, but it also points to a wider pattern of aid giving, in which the wealthier developing

countries tend to receive disproportionate support at the expense of the countries most in need, and donors separate recipients into a handful of 'darlings' and a larger group of 'orphans' with similar needs.[56]

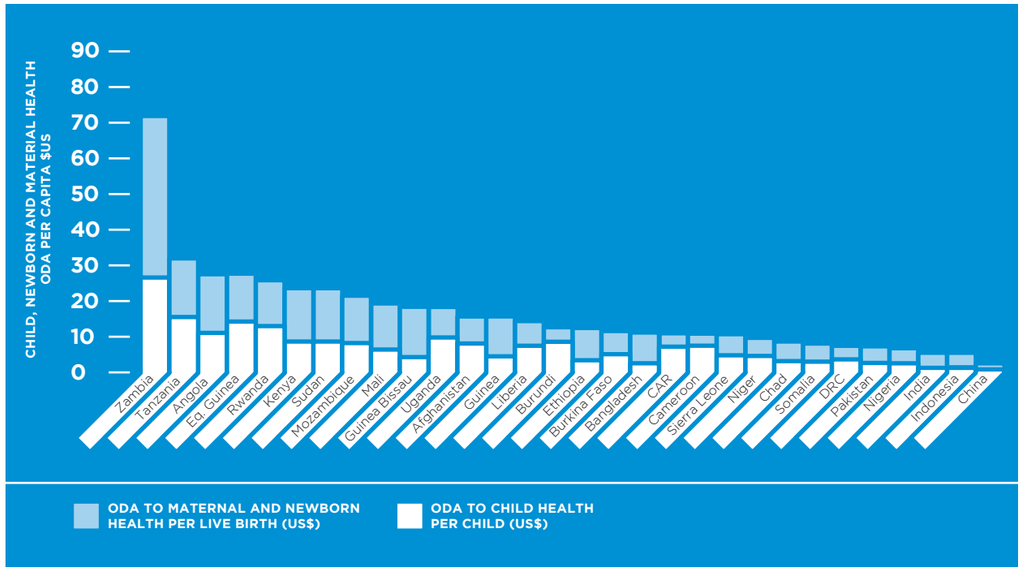

Figure 5 Donor spending on child, newborn and maternal health per capita, 2005 (Source: UNICEF 2008)

Second, the aid that is currently being given to health is not only poorly targeted by country, but is also insufficiently focused on child and maternal health: in recent years aid for child and maternal health has accounted for only around 3% of overall development assistance.[57] As the graph illustrates, in the 30 highest-burden countries, donors on average, are spending less than $8 per child on child health, and less than $10 on maternal and newborn health per birth. In some of the worst-performing high-burden countries with large populations, including the DRC, Pakistan and Nigeria, donor money is more than two thirds below this level. World Vision's own estimates, based on an update of the work of the Commission on Macroeconomics and Health, are that a minimum package of primary health care in developing

countries should cost $40 per person per year.[58]

Third, the principal diseases and underlying causes of child death are not receiving the lion's share of aid for health. A lot of the political energy and donor funding in recent years has been directed towards vertical programmes to address specific diseases – particularly HIV, TB and malaria. These efforts have often yielded significant results – not least the more than four million people who are now receiving antiretroviral treatment for HIV and AIDS – and need to be sustained. Yet at the same time, key causes of child deaths such as undernutrition, poor sanitation and lack of hygiene have been woefully neglected. For example, despite undernutrition being a factor in over a third of all child deaths, in 2007 donors allocated just 1.5% of aid for health to nutrition.[59]

While the current imbalance in donor funding must not be seen as an argument for a reduced effort around HIV and AIDS or other high-profile diseases, there is a legitimate debate that needs to happen about the allocation of any increases in aid for health in the period up to 2015. What is clear is that current levels of funding for disease prevention, maternal and newborn health and nutrition are grossly inadequate to the scale of the challenge, and unless they account for a greater share of donor health spending in the future, the prospect of getting back on track towards MDG 4 will rapidly recede. One major strand of donor funding should be support for national health plans that are explicitly geared to cutting child mortality, that respond to the specific context and disease burden of each country, and that involve a broad range of stakeholders. It's critically important that funding for disease-specific programmes should reinforce these countries' health plans, rather than create parallel structures. Some of the initial discussions about how the Global Fund for AIDS, TB and Malaria (GFATM) and Global Alliance for Vaccines and Immunisation (GAVI) can contribute to health systems strengthening are an encouraging first step in this direction, and need continued support from other donor agencies.

MORE MONEY FOR CHILD HEALTH

Even if donor countries were smarter in the targeting of aid for health, the current collective aid effort is insufficient for the scale of the challenge. Despite increases in recent years, best estimates of the global health financing gap suggest that donors need to roughly triple the aid they provide from the current level of $16 billion a year. The inter-governmental High Level Task Force on Innovative International Financing

support for health plans **that are explicitly geared to cutting child mortality**

for Health Systems (HLTF) on health recently identified a required increase in health funding from all sources – including domestic revenues in developing countries – of between $36 and $45 billion dollars to meet all the health Millennium Development Goals. However, this estimate takes into consideration just 49 of the world's poorest countries, accounting for only 60% of global child deaths, and also assumes an unrealistically high level of contribution from developing country governments. World Vision's own calculation is that, in order to reach the health MDGs in all developing countries, a more realistic annual external financing requirement would be $37.5 billion by 2012 and $42.5 billion by 2015.[59]

These increases are substantial, but as the HLTF has noted[60], they are also attainable if donors stick to the aid pledges they have already made. These include commitments at the UN Monterrey summit on Financing for Development, the G8 summit in 2005, and in World Health Assembly Resolution 58.31.[61]. Indeed, by reaching the UN aid giving target of 0.7% of national income by 2015, global Official Development Assistance would total $390 billion a year, requiring just 11% of aid to be allocated to health.[62] Viewed from another angle, the required increase in external financing to achieve the health MDGs is equivalent to less than a week of health spending in the United States of America, or roughly 4% of the fiscal stimulus package agreed by the G20 for 2009.[63]

An increased funding commitment to child health needs to include not only more bilateral funding from national donor agencies, but also a greater investment in the international institutions that have a lead responsibility on health. Effective multilateral champions of child health are essential to convene donors and governments at the global level, to monitor progress, disseminate best practice and coordinate efforts. Yet current funding arrangements are often ad hoc and uneven. For example the Child and Adolescent Health department in the WHO has a budget of just $29 million that they share with the maternal and family planning sections of the WHO.[64]

increases...
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MORE CHILD HEALTH FOR THE MONEY

Where aid is given to the health sector, the quality of that aid often significantly limits its impact on the poorest and most vulnerable children. In 2005, when the OECD, World Bank and others convened a major meeting on aid effectiveness in Paris, donors adopted a series of targets to improve the quality and reduce the

transaction costs of aid by 2010. The health sector is in many ways a test bed for the 'Paris indicators': aid for health tends to be especially fragmented, partly because it's possible for donors to make single-disease interventions that yield quick and visible results but which neglect wider health issues. One comparative study for the UK's Department for International Development looked at aid effectiveness in the water, education and health sectors in Uganda, Ethiopia and Bangladesh and found harmonisation of donor efforts, and alignment behind recipient governments' national plans were especially weak in health.[65] In the case of Ethiopia, another recent study found that 16 official donors are currently implementing 54 programmes in health, with most of the money provided off-budget and almost three-quarters of donor missions not being coordinated.[66]

Donors have recognised many of the shortcomings that beset aid to health, not least through the multi-donor International Health Partnership which aims to improve donor coordination and alignment with national plans to strengthen health systems. Yet the language of partnership and national ownership tends to run ahead of the reality on the ground, partly because of the large numbers of donors typically involved in health, the complexity of the different interventions that contribute to health outcomes, and the fact that most health spending is recurrent, posing particular challenges to donors who are unwilling to be tied into long term funding arrangements.[67]

The final issue – that of predictability – is a particular challenge in the health sector, most obviously in areas such as antiretroviral treatment where recurrent spending commitments are difficult to reverse, and which governments cannot be expected to adopt without some long term assurance from donors. While some bilateral donors, such as the UK, have given long term indications of support, these are in effect assurances of 'best efforts' rather than binding commitments, and, in practice, aid has sometimes still been interrupted because of wider disputes about conditionality.[68] In a recent OECD study just ten of 33 donor countries could provide forward aid spending information for their principal recipients – the rest was estimated by the OECD's Development Assistance Committee. Several donors, including Japan, have not provided any projections up to 2010 of the aid actually being made available to governments, described as 'Core Programmable Aid'.[69]

Beyond these specific issues, there are ongoing systemic barriers to more effective aid that limit the impact of donor health assistance. For example, substantial amounts of aid for health continue to be 'tied' to goods and services from the donor country. As well as working as a form of 'round-tripping', tied aid stifles competition

and therefore tends to inflate procurement costs – the OECD has estimated that tied aid erodes the value of transfers to recipients by as much as 30%.[70] For example, in Cambodia USAID contracts over a minimum threshold were required to be awarded to US companies. In one instance, this would have meant a health care NGO being required to spend 4-5 times the local market price on oral rehydration salts. Following a search for alternative funding, the NGO was able to procure locally through the WHO.[71] While progress has been made in this area, with approximately 80% of bilateral aid officially untied at the 2008 review of the Paris aid effectiveness targets in Accra, *de facto* most donors continue to procure through contractors from their own countries. The UK is a case in point, where despite aid being officially untied in 2001, 80% of contracts from DFID Headquarters in 2005-6 were awarded to UK firms.[72]

SUPPORTING THE WIDER DETERMINANTS OF CHILD HEALTH

Cutting child deaths and fostering child well-being relies on much more than formal health care provision, as has already been shown. Water and sanitation, good nutrition and basic preventive measures at the household and community level – such as exclusive breastfeeding and health education – are often the most important factors shaping the life chances of children. At present, however, these wider determinants tend to be missing from the dominant donor approach to health, which usually focuses either on disease-specific programmes or a narrowly defined health systems strengthening. This partly reflects the institutional compartmentalisation that pertains for both donor agencies and governments; for example, water often comes under infrastructure, leaving its role in human development in the margins as a result; nutrition tends to be neglected in donor funding, falling between the stools of agricultural development and emergency feeding.

The first challenges for donors and recipient governments alike is to broaden their definitions of health systems to incorporate other critical determinants of child wellbeing, and to create planning and implementation systems that ensure key preventive measures are integral to every national health plan. A second challenge is to fully fund efforts to tackle the indirect causes of child death and illness. Currently, total aid for water and sanitation stands at $6.5 billion a year, or an estimated 40% of what is needed to help address unmet needs for the 2.5

billion people without adequate sanitation, and the almost 900 million people without access to safe drinking water. Food security, which is a key contributor to child nutrition, is similarly under-funded, and currently receives just one third of estimated financing needs.

Sector	Total aid in 2007	World Vision estimate of total aid required
Water and sanitation	$6.5 billion	$15 billion
Food security and agricultural development	$8.0 billion	$22 billion
Basic education	$3.8 billion	$11 billion

Current levels of donor funding for underlying issues vs estimate of total aid required per annum

4. PROGRESS IS POSSIBLE: REASONS FOR OPTIMISM

Justin Douglass/World Vision

Despite the unfinished business of the Millennium Development Goals, and the patchiness of the global effort to cut child deaths, recent decades have also witnessed dramatic improvements in child survival and wellbeing. Half a century ago, when the global population was half what it is now, 20 million children died annually before the age of five – more than twice as many as today. The average child mortality rate for developing countries has fallen steeply, from 30% in the late 1970s to 10% today, and this progress has continued in many regions of the world: since 1990 Latin America and Eastern Europe have achieved more than a 50% reduction in under-five deaths.[74]

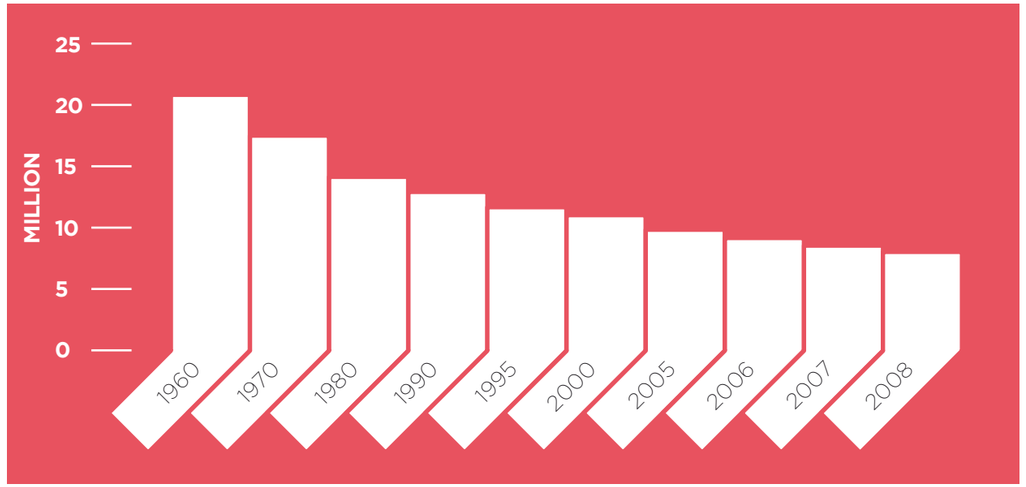


Figure 6 The global total of child deaths has more than halved while the population has more than doubled (Source: UNICEF 2008)

Much of this progress has been driven by rising incomes and living standards, especially in East Asia and Latin America. But that is not the whole story. MDG 4 commits the international community to cutting the child mortality rate by two-thirds between 1990 and 2015, which requires an average reduction of 4.3% per year. One-third of developing countries have in fact achieved or almost achieved this rate of decrease, including many low-income countries that – despite limited economic progress – have invested intelligently in interventions with a high return for child wellbeing [75]. The high performers include Nepal, Laos, Bangladesh, Vietnam,

Mongolia, Bolivia and Malawi (see box).[76] These stories of progress matter in themselves, but also point to a wider lesson for policymakers and politicians: even in resource-poor settings, a combination of focussed, evidence-based interventions and national leadership can bring about lasting improvements in child health.

SUCCESS IN A LOW-INCOME COUNTRY
The case of Malawi

Despite being one of the poorest countries in the world, Malawi has almost halved its under-five mortality from 210 per thousand in 1990 to 111 per thousand in 2007. They have done this through a limited number of proven, low-cost measures, including increasing the number of children delivered by a skilled attendant to 60%, increasing immunisation cover to 99%, and increasing coverage of Vitamin A supplements from zero to 86%. Community management of pneumonia and wide-scale food security programmes (which in turn reduced stunting by 20%), therapeutic feeding and promotion of exclusive breastfeeding (now practised by 57% of women) also played a significant role. Malawi has also made some progress towards harmonised donor aid through a single national plan and monitoring and evaluation system and closer coordination of donors. In a country that has lost significant numbers of nurses through brain drain to the UK and South Africa, the government also prioritised an increased number of trained health workers in the country.

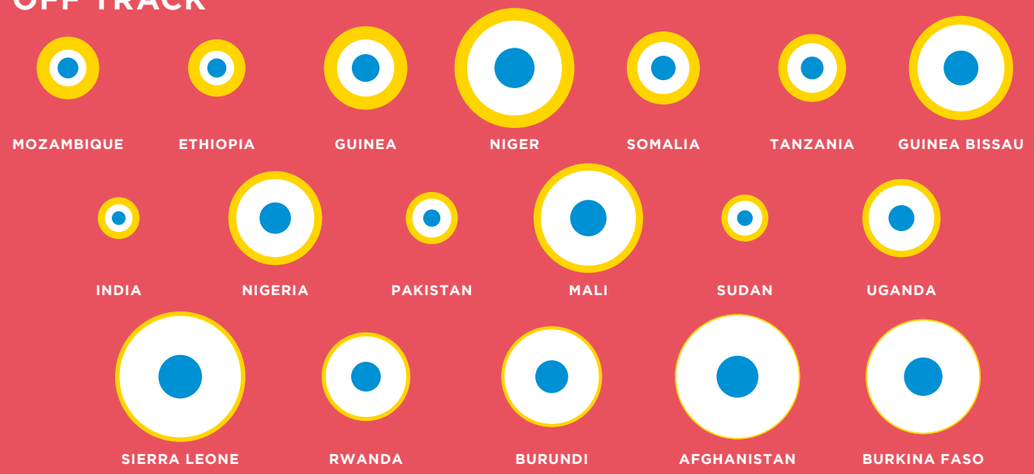
Conversely, countries that have failed in these areas have fallen further behind. One third of countries since 1990 have averaged less than half of the required rate of annual progress, with Burkina Faso, Afghanistan and Burundi seeing almost no change in the last twenty years. Meanwhile a smaller number of countries have actually gone backwards during this period, including Cameroon, Chad and Kenya. In the case of Kenya, despite being the wealthiest country in East Africa, political inaction, crumbling health infrastructure and the unmet needs of a growing population of refugees and displaced people have all contributed to a rise in the Child Mortality Rate of one quarter. [77]

PROGRESS TOWARDS MDG 4

- Ordered according to countries that have made the most to least progress between 1990 and 2006
- Circles sized from small to large, according to countries that are closest to and least closest to meeting their targets as at 2006
- Within each country, circles are scaled in proportion to their child mortality rates
- For example, Mozambique made a greater progress between 1990 and 2006 in reducing its child mortality rate compared to India.
- However India's mortality rate in 2006 is closer to its 2015 target than Mozambique

ON TRACK

OFF TRACK



NO PROGRESS

FAIL

Source: Countdown to 2015, Tackling Progress in Maternal, Newborn and Child Survival 2008 Report, 29 high priority countries

RENEWED FOCUS ON PREVENTION

Those countries that are set to achieve MDG 4 demonstrate the importance of effective preventive measures that keep children healthy from birth through to their fifth birthday. Most of these measures are simple and low cost.[78] For example:

- In Southern Africa, near-comprehensive vaccination has driven a fall of 90% in child deaths from measles since 2001.[79]
- In Ethiopia, near universal coverage of bed nets treated with insecticide over the past 3 years has yielded spectacular results, with a halving of deaths from malaria and 61% reduction in malaria cases since 2005.[80]
- In Tanzania, the child mortality rate remained stuck at 140 per 1000 births for most of the 1990s. However, since 1998 an increase in health spending, with a strong focus on immunisation and malaria prevention has contributed to a fall of 25% in child deaths.[82]
- Globally, new HIV infections among children have fallen to levels last seen in 1996 – mainly as a result of greater investment in strategies to prevent mother-to-child transmission.[81]

Yet despite the compelling case for prevention being both cheaper and more effective than cure (see box), the poorest countries tend not to prioritise inter-sectoral prevention in their health budgets. Countries that are off track on achieving MDG 4 need to focus on single national plans directed to improving the health outcomes of the maximum number of people at a sustainable cost, with an emphasis on reaching mothers and children below the age of five. A package of measures is needed that responds to the specific disease burdens and underlying causes in each context. The balance between these interventions will vary within countries as well as between countries, but will need to include nutrition, hygiene, access to clean water and sanitation, birth spacing and family planning, skilled birth attendance and pre- and post-natal care, emergency management of obstetric complications, and the prevention and rapid treatment of major newborn and childhood diseases (especially pneumonia, diarrhoea, malaria, measles, and, in some countries, HIV and AIDS).

Malawi has followed such an approach, to the point where it has refused to accept money from donors not prepared to support the national health plan and strategy. Other countries, such as Liberia, are also moving towards adopting a single plan, strategy and monitoring and evaluation framework in an attempt to improve coordination, harmonisation and impact of national health programmes and investments.

simple and low cost

THE IMPACT OF PREVENTION ON CHILD MORTALITY
Experience from West and Central Africa

In a Canadian-funded programme in partnership with UNICEF, eleven West and Central African countries implemented an accelerated child survival and development programme (ACSD) to show the impact of a comprehensive package of preventive interventions on child deaths. Results in pilot districts with a total population of 3 million demonstrated significant impact, including an overall 20% reduction in child mortality. When the package was expanded to more areas and included a wider range of interventions, there was a further 10% reduction in child mortality.

These results were achieved without any increase in uptake of curative care, and were driven mainly by such measures as immunisations, bed nets, Vitamin A and antenatal care. To date, the programme is reaching over 17 million people. The evaluation report from UNICEF concluded, "the main constraint in most countries in moving forward with this very promising programme is shortage of funding." Advocacy is required to maintain momentum to encourage countries "… to mainstream ACSD into their national health policies and programmes in the context of Poverty Reduction Strategies and Health Sector Reforms"... and ensure resources for child survival are included in the "mid-term expenditure frameworks, basket funding and budget support plans." [82]

CHANGES AT THE FAMILY AND COMMUNITY LEVEL

The most effective national health plans are sufficiently flexible and decentralised to accommodate and promote context-specific local plans. In turn, government efforts to achieve MDG 4 need to be rooted in the understanding that a child's immediate family and community are the first, and usually most important, line of defence in keeping them healthy and enabling them to develop.

At the moment, this dimension of child health is often lacking, or is treated as an afterthought in national planning processes. Yet without the proper engagement of

families and communities, 3 key sets of preventive interventions will be difficult to implement:

I. Adequate nutrition for children under two years of age
II. Improving maternal health
III. Effective prevention and treatment programmes for the main childhood infections.

I. ADEQUATE NUTRITION FOR CHILDREN UP TO TWO YEARS OF AGE

Children's vulnerability to illness and death begins in the womb, when the mother's nutrition plays a central role in foetal development. The link between child and maternal nutrition continues after birth, through breastfeeding, and the period from birth to two years is a decisive window in which life-long physical and cognitive development is strongly determined. Child undernutrition during this period, in contrast to later in childhood, leads to long term stunting, which reduces resistance to infection. In Africa, the number of stunted children increased from 40-45 million over the course of the 1990s, or roughly one third of the global total.[83] An estimated 146 million children are malnourished globally – the overwhelming majority in sub-Saharan Africa and South Asia,[84] and 35% of all child deaths are associated with undernutrition.[85]

Given the pivotal role of nutrition in child health and survival, greater focus needs to be given to three key nutritional interventions:

- **Increasing exclusive breastfeeding and complementary feeding** Despite the fact that exclusive breastfeeding can reduce infant deaths by 13% many women do not breastfeed their children. Community-level programmes to encourage and maintain breastfeeding are an essential component of improving nutrition for children, but for this to happen health workers need to be in dialogue with mothers in the community. In particular, women need to learn how to breastfeed and receive support to begin breastfeeding immediately after birth, so that newborns can benefit from the high nutritional value of the mother's first milk. The largest health benefits accrue where children are fed exclusively for six months. Beyond this age, community health workers can play a valuable role in advising mothers and other caregivers on how to prepare the most effective nutritional foods that are locally available. Given that the value of exclusive breastfeeding is affected by the mother's own nutritional intake, the evidence that – particularly in South Asia – women are more likely to experience hunger than men underscores the importance of not approaching child nutrition in isolation, and of ensuring that adult nutrition is also addressed, as an end in itself as well as a means to improved child health.[86]
- **Improving micronutrient uptake to prevent chronic malnutrition and stunting** – although chronic malnutrition caused by a lack of vitamins and minerals, or 'micronutrients', is often hidden, its health impact on children is real. Without sufficient iron, children can suffer irreversible cognitive deficits. Likewise, iodine deficiency is the single most preventable cause of brain damage and mental impairment in young children. Inadequate vitamin A increases a child's risk of dying from diarrhoea, measles, and malaria by between one fifth and one quarter, and is associated with 1.1 million child deaths. Deficiencies in zinc, a micronutrient which helps strengthen the immune system, raise the risk of death from pneumonia, diarrhoea and malaria by 13-21%.[87] The threat of micronutrient deficiency can be addressed through supplements of vitamins and minerals to children provided in 'dosing campaigns', and by adding micronutrients to staple foods such as cereals. Micronutrient programmes are low cost – best estimates are that 80% coverage of Vitamin A in Africa could be achieved at a total cost of $1.20 per child – and also cost-effective: indeed, one recent economic survey calculated that returns on micro-nutrient programmes for children rated above those on trade liberalisation, malaria prevention, and even water and sanitation.[88]

NUTRITION AND CHILD HEALTH
The case of Haiti

Donor and government efforts to improve child nutrition tend to be dominated by a 'recuperative' approach that targets children once they have become under-nourished. A recent study in Haiti by researchers from the International Food Policy Research Institute (IFPRI) and Cornell University compared this model with a preventive approach that targeted all children under the age of 2, whether or not they are diagnosed with undernutrition.[89] The four-year project was carried out in collaboration with World Vision Haiti as part of their Title II Maternal and Child Health

80%
coverage of
Vitamin A in Africa
could be achieved
at a cost of
$1.20
per child

and Nutrition programme in the Central Plateau region.

The study found that the earlier in a child's life and the longer the period over which food supplements are provided to children under 2 years of age, the greater the benefits—not only in terms of early growth, but also in long-term physical and cognitive development. In short, investing in the first two years of life provides benefits that last far beyond childhood.

- **Reducing acute malnutrition and wasting** – Globally there are close to 20 million children suffering from acute malnutrition, and UNICEF estimates that every year 20 million children are born underweight.[90] Malnutrition can place children in vicious cycle, as it weakens a child's ability to fight disease, while infections reduce a child's appetite and so increase the level of malnutrition. Community Management of Acute Malnutrition (CMAM), recently endorsed by the World Health Organization, is one effective model for addressing acute malnutrition amongst children aged five and under. CMAM is focused on timely detection and referral of children with acute malnutrition, and for those children without medical complications it aims to provide rapid treatment at home or through outpatient care, mainly through ready-to-use therapeutic food.

II. IMPROVED MATERNAL HEALTH

Maternal health matters for women, but is also intimately tied to child survival and wellbeing: children are up to ten times more likely to die if their mother has died.[91] Of all the Millennium Development Goals, the goal to improve maternal health (MDG5) is the furthest off-track, with over half a million women dying each year from pregnancy and childbirth-related complications.[95] The toll is even heavier than this figure suggests: an estimated 10 million more women suffer debilitating, long-term effects from pregnancy-related complications.[95] Yet the vast majority of maternal deaths and disabilities – an estimated 80% – could be prevented if women had access to relatively simple and cost effective maternal health services such as adequate nutrition, family planning, a skilled attendant at birth and accessible emergency obstetric care.[93]

MDG 4: World Vision's contribution

World Vision is the world's largest child-focused international non-government organisation, and partners with communities in over 95 countries in Africa, Asia, Europe, the Middle East, North America and Oceania. Since 1950 World Vision has worked alongside children, families and communities to overcome poverty and injustice, and we currently reach 100 million people in developing countries every year. Annually, World Vision invests approximately $200 million in cash spending towards addressing health in our area development programmes. We place a particular emphasis on child and maternal survival and wellbeing – MDGs 4 and 5 – and through our programmes also distribute an additional $250 million of in-kind contributions in the form of medication and health products. In partnership with families, communities, and government, World Vision will commit approximately $1.5 billion USD over the next five years towards reducing child mortality through the promotion of evidence-based interventions addressing maternal and child health and nutrition, HIV and AIDS, and water and sanitation.

- **Improved Maternal Nutrition** – At least one fifth of all maternal deaths are linked to poor nutrition.[94] In the long term, public policies to promote greater food security at the household level – achieved in turn through sustainable livelihoods, including in agriculture – have a central role in combatting these deaths. So too have micronutrient supplements, especially iron to prevent anaemia, and Vitamin A, folic acid and salt iodisation, all of which contribute to reducing maternal and child deaths and improving childhood development. In addition, all pregnant women should be offered advice on how to increase their calorie and protein intake during pregnancy to protect themselves and their children.
- **Increased access to and use of family planning and birth spacing** – Increased access to family planning services and birth spacing could reduce maternal death by an estimated third: pregnancy intervals of at least two years contribute as well to healthier children who are at lower risk of neonatal and perinatal death. At present in Sub-Saharan Africa less than one quarter of women use family planning to space their pregnancies.[95]
- **Skilled birth attendance** – It is no coincidence that the two regions of the world with the highest maternal mortality rates – sub-Saharan Africa and South Asia – also have the lowest proportion of births supported by skilled attendants. Approximately 15% of births involve complications, and experience shows that skilled birth attendants can avert a high proportion of maternal and perinatal deaths, both by tackling complications directly and by referring women to emergency services[96]. Yet each year 60 million women give birth at home with no skilled birth attendant.[97] In rural areas, especially, women often lack access to these services: of 57 developing countries surveyed between 1996 and 2005, on average 81% of urban women gave birth assisted by a birth attendant, but the figure was just 49% for rural women.[98]
- **Antenatal and postnatal care** – Antenatal care – involving a minimum of four care visits over the course of a pregnancy – is key to anticipating and preventing problems in pregnancy, and helping to ensure a safe and healthy birth. Antenatal care can help to protect women and children from sexually transmitted infections, such as HIV, and prescribe appropriate treatment. It can also include other preventive interventions such as immunisation against tetanus, and bed nets and antimalarial drugs. National health plans need to place equal priority on postnatal care, which is among the most neglected areas of maternal health in high-burden countries – with very few governments regularly recording data on levels of service. This is especially worrying given that 60% of maternal deaths occur in the postnatal period.[99] Ensuring that women are monitored and that they are visited twice in the postnatal period can help to prevent and manage postnatal infections, bleeding and other complications.

CHILD AND MATERNAL HEALTH AND NUTRITION
World Vision's 7-11 approach

World Vision's own child and maternal health programmes, informed by the best available evidence on preventing deaths among mothers and newborn children, are focussed on a minimum set of low-cost essential health and nutrition interventions which can together make a significant contribution to MDG 4 and 5. The "7-11" approach refers to a menu of possible measures which can be applied depending on the particular local social and economic context, consisting of 7 possible time-sensitive interventions for mothers and 11 for children under the age of two. Our recommendations in this report, focussed on prevention at the family and community level, draw strongly on this experience.

The 7-11 core interventions are:

Maternal health	**Child health (0-24 months)**
Adequate diet	Appropriate breastfeeding
Iron-folate supplements	Essential newborn care
Tetanus toxoid immunisation	Hand washing
Malaria prevention and intermittent preventive treatment	Appropriate complementary feeding (6-24 months)
Healthy birth spacing and timing	Adequate iron
De-worming	Vitamin A supplements
Access to antenatal care, skilled birth attendance, prevention of mother to child transmission, HIV and STI screening	Oral rehydration therapy/Zinc
	Care seeking for fever
	Full immunisation coverage for age
	Malaria prevention
	De-worming (+12 months)

III. EFFECTIVE PREVENTION AND TREATMENT PROGRAMMES FOR THE MAIN CHILDHOOD INFECTIONS

Pneumonia, diarrhoea, malaria and HIV and AIDS together account for over 50% of all under-five deaths. Together with measles, these diseases need to be at the centre of global efforts to achieve MDG 4. At the national and local levels, the balance of effort between these different infections will vary. For example, HIV and AIDS account for just 3% of under-five deaths globally, but are a leading cause of child deaths in Southern Africa (and a major factor in child vulnerability more broadly), whereas in parts of West Africa malaria is a far more significant threat to child survival. While malaria and AIDS especially have attracted significant vertical funding from donors, what's equally important is that national efforts to cut child deaths do not simply take a disease-focussed approach, but instead, simultaneously tackle the indirect causes and underlying factors behind the major child killers.

- **Pneumonia** – Pneumonia accounts for almost 2 million child deaths annually. While a new pneumococcal vaccine will soon be available which could help to reduce deaths by one third,[103] up to 85% of deaths from pneumonia could be prevented by early detection and treatment with antibiotics, and such simple measures as washing hands with soap. Improved nutrition through breastfeeding and zinc supplements especially can also limit the vulnerability to pneumonia among young children. Reducing indoor air pollution from stoves can significantly reduce the number of respiratory infections: one study in Kenya found that smoke hoods and chimney stoves can reduce particulate pollution in homes by up to 80%.[104]
- **Diarrhoea** – Every year approximately 1.5 million children die from diarrhoea.[101] Increased access to safe water, sanitation and hygiene – one of the targets of the seventh Millennium Development Goal – would by itself largely address diarrhoea, with 45% of all cases avoidable through hand-washing with soap.[102] While a new vaccine will soon be rolled out to prevent diarrhoeal deaths due to rotavirus, simple Oral Rehydration Therapy (ORT) – essential salts dissolved in clean water – can prevent diarrhoea, once contracted, from becoming fatal. ORTs were instrumental in more than halving diarrhoeal deaths from 4.6 million to 1.8 million annually between 1980 and 2000. A more effective roll out of ORT in Sub-Saharan Africa could save an estimated further 550,000 lives each year.[103]
- **Malaria** – Malaria kills 850,000 people every year – 85% of the victims are children under five – and debilitates many more people, hitting economic activity and diverting scarce household resources. Even one serious malarial infection can pull

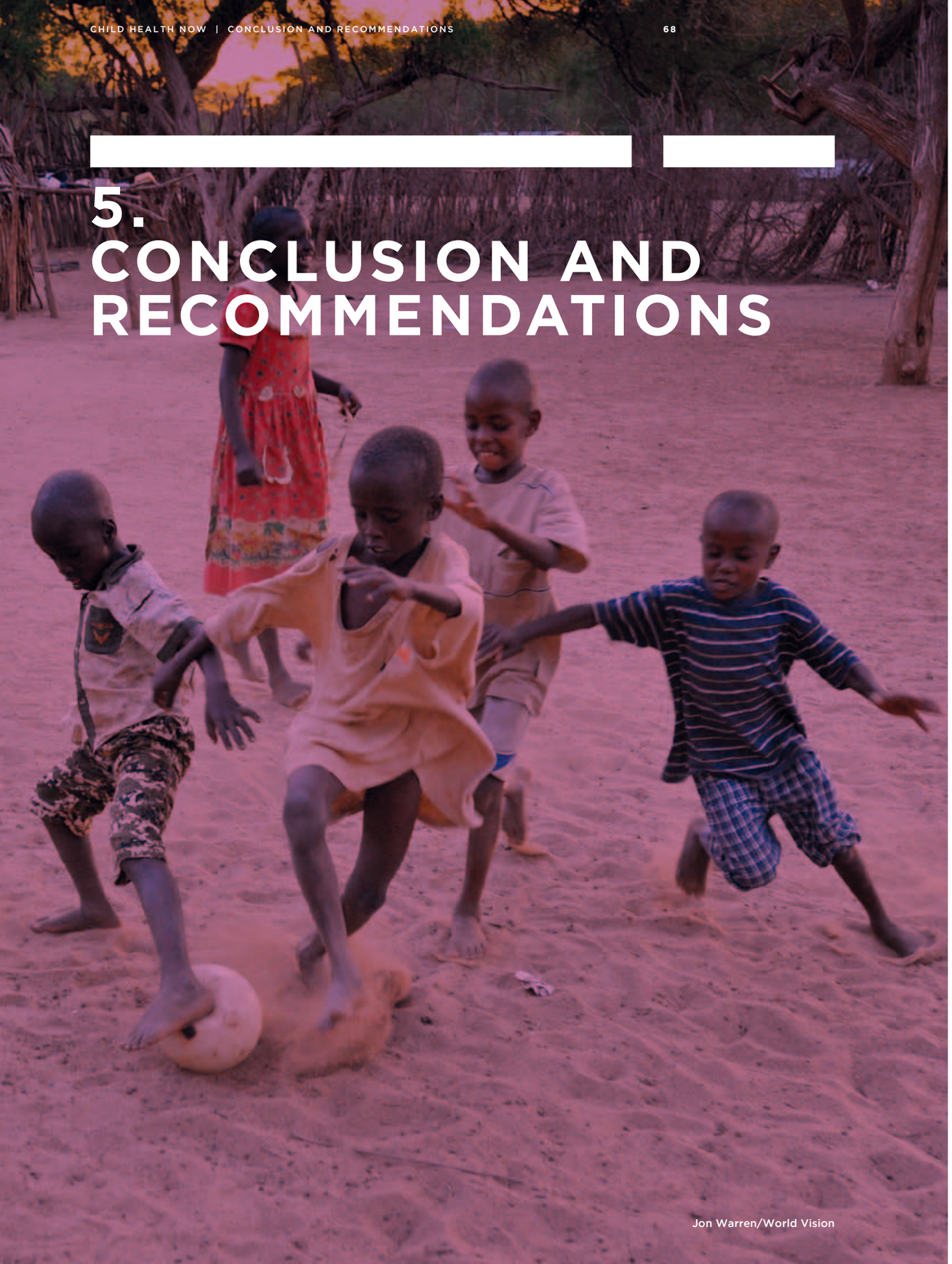
tackle the **indirect causes** and **underlying factors**

a family into poverty due to the cost of care. Sub-Saharan Africa bears the greatest burden, accounting for 90% of all deaths: in most other malarial regions of the world, prevention and treatment systems are better established and deaths are rarer. Preventing malaria in a target population requires four interventions with at least 80% coverage: [104] the use of long-lasting insecticide-treated bed nets; Intermittent Preventative Treatment (IPT) for pregnant women; indoor residual spraying in highly endemic areas; and treatment of mothers and children with malaria with ACT (Artemisinin Combination Therapy) within 24 hours of onset of fever. These programmes require a relatively high level of knowledge and motivation on the part of the target population, and involving communities in planning and implementing malaria control programmes boosts their sustainability.

- **HIV and AIDS** – There are currently 2 million children under the age of five infected with HIV, although millions more live in HIV-affected households that bear a high social and economic burden, and as a result are highly susceptible to other infections. The impact of HIV and AIDS is especially high in sub-Saharan Africa, which accounts for 22 million of the 30 million cases worldwide, and within that region is most concentrated in Southern Africa, where seven countries have prevalence rates of over 15%.[105] In these countries especially, any plan to prevent child deaths must give HIV due attention, both as a direct cause of child death and as a cause of child vulnerability. To minimise new infections among children all pregnant women need to be tested for HIV and, if positive, receive appropriate antiretrovirals before delivery, as well as starting antiretroviral therapy if that is required for their own health. Newborns need to be tested for HIV and treated if positive – early diagnosis and treatment can prolong the life of over 90% of the children infected with HIV, but over 50% of children with HIV are still undiagnosed by their second birthday.[106] Starting treatment within 12 weeks of life significantly improves children's survival rates, with one study in South Africa finding a 76% drop in child mortality among children with HIV when treatment was started within this period.[107] Developing anti-retroviral treatments (ARTs) that are safe and effective for children, and increasing the coverage of existing paediatric ARTs to children with HIV also has a vital role in extending the life and improving the wellbeing of children who are diagnosed with the virus: at present less than 40% of HIV positive children globally are receiving antiretorvirals.[108]

EVERY DECISION AFFECTS EVERY CHILD

5. CONCLUSION AND RECOMMENDATIONS



Jon Warren/World Vision

Five years away from the target date for the Millennium Development Goals, the global commitment to cut child deaths by two thirds, and transform the opportunities of millions of the world's children, hangs in the balance. The world as a whole is off track, and the poorest countries in Africa and South Asia will not reach the goal without a fundamental change of direction. Business as usual will not get us there.

This report has shown that what's needed is well established: a major rebalancing of health strategies, with far greater emphasis on proven, low-cost preventive measures, and on the role of the family and community as the first and most important point of health care intervention in a child's life. This will in turn require governments and donors to work with a broader definition of health systems, which incorporates issues that often lie beyond the immediate remit of health ministries – such as water and sanitation, and nutrition – and the direct role of skilled health professionals.

emphasis on proven, low-cost **preventive measures** and on the role of family and community

This change of approach needs to come first and foremost from within the 30 high-burden countries that are at the centre of the global child health emergency. Some of these countries are already showing the way: the experiences of Malawi, Tanzania, Bangladesh and other low-income countries that have succeeded in making major inroads into child mortality rates are instructive. New policies need to be coupled with a new politics that responds to the needs and priorities of children, their families and communities, and treats the current scale of child death and illness as an inexcusable violation of basic rights.

Yet even where these conditions exist, the poorest countries cannot address child health alone. Donor countries have a crucial part to play in achieving MDG4, by increasing their level of financial commitment, but also by using that money more intelligently to support single national health plans, budgets and monitoring systems. The review of the Millennium Development Goals in the second half of 2010 provides an opportunity to generate renewed momentum and commitment in this area, at a time when some donors' resolve on international development is weakening in the face of domestic fiscal pressure.

Experience demonstrates that progress on child health cannot be achieved by any one actor, or single intervention. Achieving MDG 4 will require organisations and individuals to collaborate across professional, technical and institutional boundaries, and to sacrifice some pride and jettison some prejudices in doing so. The potential outcome, however, should provide a focus: by the MDG target date the right actions in combination can cut the annual toll of child deaths by almost six million, and change the lives of these and millions of other children, their families and

communities for the better. This goal is a moral imperative worth pursuing in its own right, but is also one of the soundest investments the international community can make in future economic and social development.

Martin Luther King, almost half a century ago in a moment of tumultuous political change and hard choices, spoke of the 'fierce urgency of now'. Five years away from the target date of the Millennium Development Goals, in a period of economic downturn and political flux, no task demands more immediate and concerted action, and a greater sense of fierce urgency – from governments, donors and civil society – than ending the silent emergency that each year needlessly claims the lives of almost nine million children under the age of five.

one of the **soundest investments** the international community can make

RECOMMENDATIONS

1. A single national plan to achieve MDG 4
National governments must adopt clear, time-bound and costed health plans, focussed on tackling the direct and indirect causes of child deaths in their countries. These plans need to be developed through a transparent and iterative process that brings together key national stakeholders including civil society organisations, health professionals and faith groups, and be based on an accurate and up to date analysis of the nature and scale of unmet need. The content of national plans will vary according to context, but must balance preventive and curative interventions and should focus on achieving the maximum impact at least cost, through a basket of evidence-based measures focussed on child and maternal health. Those high-burden countries that are off-track and do not already have such plans should aim to have produced an initial version by the time of the United Nations MDG review scheduled for late 2010.

2. A full and timely donor response to support national plans
The world's richest countries must ensure that no country that is committed to achieving MDG 4 fails for lack of financial and technical resources. Donor countries need collectively to triple aid to health, to $42.5 billion a year by 2015 – in the context of meeting their existing commitments, and of their long-standing pledges to reach the UN aid target of 0.7% of national income. Donors must work with the OECD and UN systems to reform their aid and provide it in a predictable, well coordinated and timely way that encourages the adoption of one health plan, budget and monitoring framework for each country. Donor countries should use the

MDG review to agree a clear funding compact between themselves and high-burden countries to help get back on track to reach the child health goal by 2015, and ensure an even allocation of aid on the basis of need and the ability to use it well.

3. Equity and neglected diseases at the heart of the global effort
Governments and donors need to work together at the national and international levels to achieve equitable access to health care, by addressing the economic and social barriers that currently prevent millions of the poorest and most vulnerable children from receiving basic services. This will require making a minimum health care package available free at the point of use, and investment in national networks of community health workers who can reduce the distance between health care provision and those who need it most. In many cases, reaching the poorest and most marginalised populations will require tailored interventions that in some cases carry additional costs, but which can generate long term individual and societal benefits. Donors and governments must also collaborate to address the neglected diseases, especially pneumonia and diarrhoea, and their underlying causes – in particular nutrition, water and sanitation and hygiene – through national plans, and to fund them in proportion to their impact on child wellbeing as part of a broadened approach to health systems strengthening.

4. A comprehensive monitoring and accountability framework for MDG 4
Local, national and international level data should be gathered and regularly published, summarising progress in cutting child deaths. These should be reviewed in open government-donor forums at the national level, and through a regular review mechanism in the UN system. This monitoring system needs to incorporate regular feedback into national plans, which can be revised and updated according to evidence of what is and is not working. Local-level data on progress need to be gathered with the participation of, and made available to, communities and civil society organisations, so that they can be used to promote greater transparency and accountability of government to health service users.

ANNEX

Patricia Mouamar/World Vision

ANNEX 1

HIGH PRIORITY COUNTRIES – KEY INDICATORS

The twenty countries with the highest rates of child deaths per 1000 children born and the twenty with the greatest overall numbers of child deaths overlap, giving a total of 30 high-priority countries where child deaths are most prevalent.

Country	Child Mortality Rate 2007	Health workers per 1000		Government expenditure on health ($pppy)	% Gov health exp	Under five deaths 2007
Afghanistan	257	0.4		29	2	338,000
Angola	158	1.4		100	4	128,000
Bangladesh	61	0.6		12	6	244,000
Burkina Faso	191	0.5		41	15	125,000
Burundi	180	0.2		3	2	72,000
Cameroon	148	1.8		20	11	96,000
CAR	172	5		11	11	27,000
Chad	209	0.5		39	10	103,000
China	22	2.1		88	10	382,000
DRC	161	0.6		4	7	502,000
Eq. Guinea	206	0.8		509	7	4,000
Ethiopia	119	0.3		16	9	381,000
Guinea	150	0.8		9	5	57,000
Guinea Bissau	198	0.8		8	4	17,000
India	72	1.9		22	3	1,953,000
Indonesia	31	1		42	5	136,000
Kenya	121	1.3		32	8	179,000
Liberia	133	0.3		4	20	25,000
Mali	196	0.7		33	13	117,000
Mozambique	168	0.4		26	9	144,000
Niger	176	0.3		21	10	123,000
Nigeria	189	2		18	4	1,126,000
Pakistan	90	1.2		8	2	400,000
Rwanda	181	0.5		38	17	79,000
Sierra Leone	262	0.5		11	8	70,000
Somalia	142	0.2			nd	54,000
Sudan	109	1.1		27	7	134,000
Tanzania	116	0.4		42	9	186,000
Uganda	130	0.8		18	10	188,000
Zambia	170	2.1		48	13	80,000
Total						**7,470,000**

Source: UNICEF (2008)

ANNEX 2

PROGRESS ON KEY INTERVENTIONS TO CUT UNDER 5 CHILD MORTALITY BY TWO THIRDS 1990-2015 (MDG 4)

Country	CMR 1990 and 2007	Target Mortality Rate	On track/ Off track	Progress in exclusive breastfeeding (%)		Progress in treatment of diarrhoea (%)	Progress in treatment of pneumonia (%)	Progress on ODA funding for MDG 4
Afghanistan	260:257	target 87	Off track			nd	nd	increased
Angola	258:158		Off track					increased
Bangladesh	151:61	target 50	On track	reduced from 46 to 37		improved from 35 to 49	improved from 27 to 30	reduced
Burkina Faso	206:191	target 69	Very off track	increased from 3 to 7		increased from 19 to 42	increased from 22 to 30	
Burundi	189:180	target 63	Off track	reduced by 10		increased 5	reduced by 1	increased
Cameroon	139:148	target 46	Very off track (I)	increased by 3		reduced by 5	increased by 5	increased
CAR	171:172	target 58	Very off track (I)	increased by 3		0	0	reduced
Chad	201:209	target 67	Very off track (I)	reduced by 6		reduced by 17	reduced by 7	stagnant
China	45 : 22	target 15	On track	nd		nd	nd	none
DRC	200:161	target 66	Very off track (NP)	nd		nd	nd	reduced
Eq Guinea	170:206	target 57	Off track	nd		nd	nd	
Ethiopia	204:119	target 68	Off track	reduced from 54 to 49		reduced from 38 to 15	increase from 16 to 19	increased
Guinea	231:150	target 78	Off track	increased by 7		increased by 5	increased by 1	increased
Guinea Bissau	240:198	target 80	Very off track	reduced by 10		nd	reduced by 4	reduced
India	117:72	target 38	Off track	increased from 44 to 46		increased from 22 to 32	stagnant at 69	
Indonesia	91:31	target 30	On track (almost			reduced by 5		stagnant
Kenya	97:121	target 32	Very off track (I)	0			reduced by 5	increased
Liberia	205:133	target 78	Very off track (NP)	nd		nd	nd	reduced
Mali	250:196	target 83	Off track	increased from 8 to 25		increased from 27 to 45	increased from 2 to 36	
Mozambique	201: 168	target 78	Off track	stagnant at 30		increased from 33 to 47	increased from 39 to 55	increased
Niger	304:176	target 107	Off track	increased from 3 to 14		increased from 12 to 43	increased from 14 to 27	
Nigeria	230:189	target 77	Off track	increased from 1 to 16		no progress	increased from 23 to 33	increased
Pakistan	132:90	target 43	Off track	nd		nd	nd	increased
Rwanda	195:181	target 59	Off track	increased from 83 to 88		increased from 20 to 24	reduced from 30 to 28	reduced
Sierra Leone	290:262	target 9	Very off track	increased by 2		reduced by 5	reduced by 1	reduced
Somalia	203:142	target 68	Off track	0				stagnant
Sudan	125:109	target 40	Off track	increased from 13 to 18		nd	nd	increased
Tanzania	157:116	target 54	Off track	increased from 23 to 41		reduced from 54 to 53	reduced from 65 to 59	increased
Uganda	175:130	target 53	Off track	increased from 57 to 60		increased from 23 to 29	increased from 61 to 67	increased to $10 per child
Zambia	163:170	target 80	Very off track	increased from 10 to 40		increased from 43 to 48	increased from 62 to 68	increased to $27 per child

Source: Countdown to 2015 (2008)
nd = no data

ANNEX 3

EQUITY INDICATORS BY COUNTRY

Disparities in coverage of key preventive indicators

Afghanistan	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	–	–	–
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	35	7	0.2	–	–	–
Use of improved drinking water sources, %	37	17	0.5	–	–	–
Use of improved sanitation facilities, %	45	25	0.6	–	–	–

Angola	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	17	19	0.9	17	14	0.8
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	71	26	2.7	–	–	–
Use of improved drinking water sources, %	62	39	1.6	–	–	–
Use of improved sanitation facilities, %	79	16	4.9	–	–	–

Bangladesh	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	–	–	–
Proportion of women with low BMI, %	25	37	1.5	47	17	0.4
Skilled attendant at delivery, %	37	13	0.4	–	–	–
Use of improved drinking water sources, %	85	78	0.9	79	86	1.1
Use of improved sanitation facilities, %	48	32	0.7	–	–	–

Burkina Faso	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	24	6	4.0	4	26	6.5
Proportion of women with low BMI, %	9	24	0.4	26	9	0.3
Skilled attendant at delivery, %	66	51	1.3	56	65	1.2
Use of improved drinking water sources, %	97	66	1.5	78	94	1.2
Use of improved sanitation facilities, %	41	6	6.8	0	97	–

Burundi	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	40	7	5.7	5	19	3.8
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	75	32	2.3	25	55	2.2
Use of improved drinking water sources, %	84	70	1.2	65	76	1.2
Use of improved sanitation facilities, %	44	41	1.1	30	35	1.2

Source: Countdown to 2015 (2008)

Cameroon	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	14	12	1.2	9	18	2.0
Proportion of women with low BMI, %	6	8	0.8	10	4	0.4
Skilled attendant at delivery, %	86	46	1.9	23	98	4.3
Use of improved drinking water sources, %	88	47	1.9	36	99	2.8
Use of improved sanitation facilities, %	58	42	1.4	5	74	14.8

CAR	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	24	10	2.4	5	28	5.6
Proportion of women with low BMI, %	13	17	0.8	0	0	–
Skilled attendant at delivery, %	83	35	2.4	27	89	3.3
Use of improved drinking water sources, %	90	51	1.8	42	93	2.2
Use of improved sanitation facilities, %	40	25	1.6	20	75	3.8

Chad	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	1	0	–	0	2	–
Proportion of women with low BMI, %	15	22	0.7	31	15	0.5
Skilled attendant at delivery, %	–	–	–	–	–	–
Use of improved drinking water sources, %	71	40	1.8	–	–	–
Use of improved sanitation facilities, %	23	4	5.8	–	–	–

China	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	–	–	–
Proportion of women with low BMI, %	–	–	–	–	–	–
Indicator 3 (skilled attendant at delivery, %)	99	97	1.0	–	–	–
Use of improved drinking water sources, %	98	81	0.8	–	–	–
Use of improved sanitation facilities, %	74	59	0.8	–	–	–

DRC	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	8	4	2.0	–	–	–
Proportion of women with low BMI, %	16	21	0.8	23	15	0.7
Skilled attendant at delivery, %	91	63	1.4	–	–	–
Use of improved drinking water sources, %	82	29	2.8	–	–	–
Use of improved sanitation facilities, %	42	25	1.7	–	–	–

Equatorial Guinea	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	3	0	–	0	3	–
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	87	49	1.8	47	85	1.8
Use of improved drinking water sources, %	45	42	1.1	–	–	–
Use of improved sanitation facilities, %	60	46	1.3	–	–	–

Ethiopia	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	36	33	1.1	35	34	1.0
Proportion of women with low BMI, %	19	28	0.7	30	20	0.7
Skilled attendant at delivery, %	45	3	15.0	1	27	27.0
Use of improved drinking water sources, %	96	31	3.1	47	82	1.7
Use of improved sanitation facilities, %	27	8	3.4	1	39	39.0

Guinea	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	3	1	3.0	–	–	–
Proportion of women with low BMI, %	11	14	0.8	13	12	0.9
Skilled attendant at delivery, %	81	26	3.1	15	87	5.8
Use of improved drinking water sources, %	91	59	1.5	32	94	2.9
Use of improved sanitation facilities, %	33	12	2.8	0	75	–

Guinea Bissau	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	32	42	0.8	40	30	0.8
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	69	27	2.6	19	79	4.2
Use of improved drinking water sources, %	82	47	1.7	31	91	2.9
Use of improved sanitation facilities, %	48	26	1.8	18	99	5.5

India	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	–	–	–
Proportion of women with low BMI, %	25	41	1.6	52	18	0.3
Skilled attendant at delivery, %	74	38	0.5	19	89	4.7
Use of improved drinking water sources, %	96	86	0.9	78	95	1.2
Use of improved sanitation facilities, %	52	18	0.3	3	94	31.3

Indonesia	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	0	0	–	–	–	–
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	–	–	–	–	–	–
Use of improved drinking water sources, %	89	71	0.8	–	–	–
Use of improved sanitation facilities, %	61	33	0.5	–	–	–

Kenya	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	12	5	2.4	–	–	–
Proportion of women with low BMI, %	5	15	0.3	23	5	0.2
Skilled attendant at delivery, %	72	35	2.1	17	75	4.4
Use of improved drinking water sources, %	85	49	1.7	–	–	–
Use of improved sanitation facilities, %	19	48	0.4	–	–	–

Liberia	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	–	–	–
Proportion of women with low BMI, %	8	12	0.7	14	8	0.6
Skilled attendant at delivery, %	79	32	2.5	–	–	–
Use of improved drinking water sources, %	72	52	1.4	–	–	–
Use of improved sanitation facilities, %	49	7	7.0	–	–	–

Mali	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	29	26	1.1	26	34	1.3
Proportion of women with low BMI, %	10	15	0.7	16	10	0.6
Skilled attendant at delivery, %	80	38	2.1	35	86	2.5
Use of improved drinking water sources, %	86	48	1.8	–	–	–
Use of improved sanitation facilities, %	59	39	1.5	–	–	–

Mozambique	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	–	–	–
Proportion of women with low BMI, %	6	10	0.6	10	5	0.5
Skilled attendant at delivery, %	81	34	2.4	–	–	–
Use of improved drinking water sources, %	71	26	2.7	–	–	–
Use of improved sanitation facilities, %	53	19	2.8	–	–	–

Niger	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	15	6	2.5	5	14	2.8
Proportion of women with low BMI, %	13	21	0.6	19	13	0.7
Skilled attendant at delivery, %	78	25	3.1	21	71	3.4
Use of improved drinking water sources, %	91	32	2.8	1	87	87.0
Use of improved sanitation facilities, %	27	3	9.0	0	64	–

Nigeria	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	1	1	1.0	–	–	–
Proportion of women with low BMI, %	13	16	0.8	22	9	0.4
Skilled attendant at delivery, %	59	26	2.3	12	84	7.0
Use of improved drinking water sources, %	65	30	2.2	–	–	–
Use of improved sanitation facilities, %	35	25	1.4	–	–	–

Pakistan	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	–	–	–
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	60	30	0.5	16	77	4.8
Use of improved drinking water sources, %	95	87	0.9	–	–	–
Use of improved sanitation facilities, %	90	40	0.4	–	–	–

Rwanda	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	26	11	2.4	5	31	6.2
Proportion of women with low BMI, %	10	10	1.0	11	7	0.6
Indicator 3 (skilled attendant at delivery, %)	70	49	1.4	–	–	–
Use of improved drinking water sources, %	82	61	1.3	4	62	15.5
Use of improved sanitation facilities, %	51	47	1.1	49	84	1.7

Sierra Leone	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	5	5	1.0	4	8	2.0
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	76	35	2.2	27	83	3.1
Use of improved drinking water sources, %	83	32	2.6	11	91	8.3
Use of improved sanitation facilities, %	20	5	4.0	1	79	79.0

Somalia	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	18	8	2.3	2	17	8.5
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	65	15	4.3	11	77	7.0
Use of improved drinking water sources, %	63	10	6.3	3	74	24.7
Use of improved sanitation facilities, %	51	7	7.3	0	86	–

Sudan	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	–	–	–	15	37	2.5
Proportion of women with low BMI, %	–	–	–	–	–	–
Skilled attendant at delivery, %	–	–	–	15	90	6.0
Use of improved drinking water sources, %	78	64	1.2	–	–	–
Use of improved sanitation facilities, %	50	24	2.1	–	–	–

Tanzania	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	49	21	2.3	–	–	–
Proportion of women with low BMI, %	8	12	0.7	13	7	0.5
Indicator 3 (skilled attendant at delivery, %)	79	35	2.3	26	85	3.3
Use of improved drinking water sources, %	81	46	1.8	–	–	–
Use of improved sanitation facilities, %	31	34	0.9	–	–	–

Uganda	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	21	8	2.6	11	15	1.4
Proportion of women with low BMI, %	6	14	0.4	23	6	0.3
Skilled attendant at delivery, %	80	37	2.2	28	76	2.7
Use of improved drinking water sources, %	90	60	1.5	67	83	1.2
Use of improved sanitation facilities, %	29	34	0.9	42	98	2.3

Zambia	Urban	Rural	Ratio	Poorest	Richest	Ratio
Children sleeping under ITNs, %	30	28	1.1	–	-	–
Proportion of women with low BMI, %	11	18	0.6	0	0	–
Skilled attendant at delivery, %	83	31	2.7	–	–	–
Use of improved drinking water sources, %	90	41	2.2	–	–	–
Use of improved sanitation facilities, %	55	51	1.1	–	–	–

ANNEX 4

POTENTIAL LIVES SAVED THROUGH WIDER USE OF FAMILY AND COMMUNITY HEALTH STRATEGIES

Cause of death	Current annual deaths (millions)	Proven responses that can be implemented at the family and community level	Estimated minimum reduction in deaths	Estimated minimum lives saved annually (million)	Background information
maternal deaths	0.5	later marriage and birth spacing, iron folate and calcium supplements, insecticide treated nets to reduce malaria, clean birth practices and handwashing of mother and birth attendant, peer support of mother, immediate breastfeeding to reduce bleeding, strategies to reduce delays in obtaining treatment	25%	0.13	For causes of maternal death see Khan et al 2006 'WHO analysis of causes of maternal death: a systematic review' *Lancet* 2006; 367: 1066–74. For an example of significant reduction in maternal deaths (80%) through community based strategies see Manandhar et al 2004 'Effect of a participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomised controlled trial' *Lancet* 2004; 364:970-979.
Child deaths					
preterm birth	0.9	later marriage and birth spacing, adequate maternal nutrition including iron folate, calcium and zinc, insecticide treated bednets for mother, clean birthing practices and handwashing of mother and birth attendant, skin to skin care, adequate warmth for the child, exclusive breastfeeding	20%	0.18	Preterm birth can be reduced though improved maternal nutrition, and zinc and calcium supplements. For example Villar et al 2006 'World Health Organization randomized trial of calcium supplementation among low calcium intake pregnant women' *Am J Obstet Gynecol* 2006 Mar;194(3):639-49. found an average 30% reduction in preterm births and Mahomed et al 2007 'Zinc supplementation for improving pregnancy and infant outcome' *Cochrane Review* (www.cochrane.org/reviews/en/ab000230.html) found an average 14% reduction. See Darmstadt et al 2008 'Saving newborn lives in Asia and Africa: cost and impact of phased scale-up of interventions within the continuum of care' *Health Policy and Planning* 2008 23(2):101-117 for a summary of community level prevention and treatment approaches to preterm and other neonatal problems which the authors estimate would reduce neonatal deaths by 13 – 32%.
birth asphyxia	0.7	early identification and home-based resuscitation techniques	25%	0.18	Ariawan et al 2007 *Managing Birth Asphyxia in Home Based Deliveries: The Impact of Village Midwives Training and Supervision on Newborn Resuscitation in Cirebon, Indonesia* (PATH) report a 47% reduction in asphyxia deaths and Darmstadt et al 2008 (above) estimate that asphyxia deaths can be reduced by 25 to 50% through community level strategies.
antenatal sepsis	0.9	clean birthing practices and hand washing, cord care, early identification and referral	15%	0.13	Darmstadt et al 2008 (above) estimate that deaths from neonatal infection can be reduced by 10-20% and tetanus deaths by 75% through clean birthing practices and cord care. Bang et al 2005 'Neonatal and infant mortality in the ten years (1993 to 2003) of the Gadchiroli field trial: e ect of home-based neonatal care'. *J Perinatology* 2005; 25 (Suppl 1): S92–107 found a 17% reduction in sepsis deaths through primary prevention.
tetanus	0.2	clean birthing practices, hand washing, cord care, early identification and referral	20%	0.04	see above
other neonatal causes	0.5	effect of more effective birth and neonatal care	10%	0.05	Assumes small improvement due to better maternal nutrition, birth and antenatal care practices.
pneumonia	1.7	exclusive breastfeeding and effective complementary feeding, vitamin A and zinc, hand washing, reduced indoor air pollution, early identification and referral	40%	0.67	Luby et al 2005 'Effect of handwashing on child health: a randomised controlled trial' *Lancet* 2005; 366: 225–33 found a 50% reduction in pneumonia through hand washing alone. Roth et al 2008 'Acute lower respiratory infections in childhood: opportunities for reducing the global burden through nutritional interventions' *Bull.* WHO Vol 86, No 5, May 2008, 321-416 estimated that zinc supplementation could result in a 7% reduction in child pneumonia deaths and breastfeeding a 15% decrease in respiratory disease hospitalizations.
diarrhoea	1.5	exclusive breastfeeding and effective complementary feeding, vitamin A and zinc, hand washing, clean water, oral rehydration salts, hygienic food preparation, early identification and referral	60%	0.90	Luby et al 2005 'Effect of handwashing on child health: a randomised controlled trial' *Lancet* 2005; 366: 225–33 found a 53% reduction in diarrhoea through hand washing alone. Curtis and Cairncross 2003 'Effect of washing hands with soap on diarrhoea risk in the community: a systematic review', *Lancet Infectious Diseases* 2003; 3:275-281 found a 42-47% reduction. Also see Pittet 2005 'Clean hands reduce the burden of disease' *Lancet* 2005;366: 185-187. Zinc supplementation is also highly effective at reducing the incidence and severity of diarrhoea – Lazzerini and Ronfani 2008 'Oral zinc for treating diarrhoea in children' *Cochrane Review* (www.cochrane.org/reviews/en/ab005436.html) found average reductions of incidence of around 30%. Hand washing and zinc supplementation when combined with other family and community level interventions can prevent most diarrhoeal deaths.
malaria	0.7	insecticide treated bed nets, local residual spraying, improved nutrition, vitamin A and zinc, early identification and referral	20%	0.14	Lengeler C 2004 'Insecticide-treated bed nets and curtains for preventing malaria' *Cochrane Review* (www.cochrane.org/reviews/en/ab000363.html) reported that 20% of malarial deaths in children can be prevented by ITNs alone.
measles	0.2	improved nutrition, vitamin A supplements and as treatment, effective treatment of secondary diarrhoea and pneumonia	25%	0.04	Yang et al 2009 'Vitamin A for treating measles in children' *Cochrane Review* (www.cochrane.org/reviews/en/ab001479.html) found reductions in mortality of at least 67% for children under two years of age; also see above effects for diarrhoea and pneumonia.
injuries	0.3	wound treatment, better nutrition, early referral	10%	0.03	Low reduction estimate to be conservative.
AIDS	0.3	improved nutrition and early referral	10%	0.03	Low reduction estimate to be conservative.
Other child deaths	1.1	health improvements through the above actions to improve nutrition, reduce infections	10%	0.11	At least half of the deaths in this category are caused by other infectious diseases and are likely to be amenable to the nutrition interventions cited for the major childhood diseases.
Total	**8.8**			**2.5**	
Source of information on disease breakdown: UNICEF State of the World's Children 2008 p8 applied to latest UNICEF estimate of total child deaths				28%	of deaths of children under five, at a minimum, could be prevented through scale-up of effective family and community level strategies. This is more than half of the death reduction, 4.7 million, required to achieve MDG4.

Source: Countdown to 2015 (2008)

It should be noted that the number of deaths prevented would be even greater if families or community health workers, in conjunction with families, were also able to administer antimalarials, antibiotics and drugs to prevent post-partum haemorrhage.

For a discussion of family and community based strategies and examples of successful programs see: Costello et al 2004 'Reducing maternal and neonatal mortality in the poorest communities' *BMJ* 2004;329:1166-1168 , Bhutta et al 2008 'Interventions to address maternal, newborn, and child survival: what difference can integrated primary health care strategies make?' *Lancet* 2008; 372: 972–89, Rosato et al 2008 'Community participation: lessons for maternal, newborn, and child health' Lancet 2008; 372: 962–71, Darmstadt et al 2008 'Saving newborn lives in Asia and Africa: cost and impact of phased scale-up of interventions within the continuum of care' *Health Policy and Planning* 2008 23(2):101-117.

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