TRACKING INTERVENTION COVERAGE FOR CHILD SURVIVAL

A brief history of the *Countdown* effort[1]

Ten years from now, in 2015, the governments of the world will meet to assess if we have achieved the Millennium Development Goals (MDGs), the most widely ratified set of development goals ever, signed onto by every country in the world (http://www.un.org/millenniumgoals/). MDG-4 commits the global community to reducing under-five child deaths by two-thirds from a baseline in 1990. MDG-5 has as its target reducing maternal mortality by three-quarters in the same time period.

Almost three years ago, in 2003, the Bellagio *Lancet* Child Survival Series helped to raise global awareness that each year over 10 million children under five die in the world, mainly from preventable conditions that rarely kill children in rich countries.[2-6] This year, a second *Lancet* series focused on a previously neglected subset of child deaths – the almost 40% of all under-five deaths which occur among newborn babies.[7-10] Together, these two series provided the necessary evidence to revitalise efforts to reduce child and newborn deaths and to achieve MDG-4. Both series demonstrated that the majority of child deaths could be prevented with simple, low-cost interventions feasible now, yet not reaching poor children. Massive increases are required in coverage of essential interventions to reach MDG-4.

What has happened in the intervening years since the Bellagio series was published in 2003? Has there been a renewed interest in child and newborn survival? Has this interest led to meaningful change in efforts to improve coverage? Have there been increases in the financial commitments to child and newborn survival?

These three years have seen real progress in advocacy for child and newborn survival. The leaders of both WHO and UNICEF have made public commitments to reducing child mortality.[11] A global child survival partnership was formed, and in 2005 joined forces with related efforts in maternal and newborn health to form an expanded group called the Partnership for Maternal, Newborn and Child Health (PMNCH). PMNCH will focus on high-level

advocacy, acceleration of action at the country level, and strengthening global mechanisms for accountability. An annual financial road map for reaching universal coverage with newborn and child health interventions in 75 countries has been developed,[12] and the running costs of averting six million child deaths annually in the 42 countries that accounted for 90% of child deaths in 2000 were estimated as a follow up to the *Lancet* child survival series.[13]*

There have also been encouraging efforts to strengthen child survival policies and programmes. UNICEF is fast-tracking a new strategy for child survival that encompasses both health and nutrition (http://www.unicef.org/about/execboard/files/H&Nstrategy/oralreport_5_May_rev.pdf). The Child Health Epidemiology Reference Group (CHERG)[13] and the *Lancet* Neonatal Survival Steering Team[7] have improved understanding of the causes of child and newborn deaths. Some countries, working in collaboration with the Child Survival Partnership, have moved ahead to translate the recommendations of the two *Lancet* series into concrete situation analyses and reassessments of program priorities. These countries include Cambodia, China, Ethiopia, India, Mozambique, Pakistan and Tanzania. All Regional Offices of WHO are working with governments and partners to develop new strategies for child survival that provide a basis for reinforced efforts to increase coverage with effective interventions, to strengthen health systems in their delivery, and to track key intermediate outcomes and eventual impact on child nutrition and mortality.[14] In response to the *World Health Report 2005* and accompanying policy briefs, Ministers of Health at the 2005 World Health Assembly passed a resolution putting maternal and child health and survival at the top of their list of health priorities (http://www.who.int/ mediacentre/news/ releases/2005 /prwha06/en/).

This is encouraging progress, and demonstrates that saving child lives is a cause that can unite partners and mobilize policymakers in a relatively short time period. But there is much more to be done in moving from advocacy and policy to country-led and country-owned action for newborn and child survival. Indeed much more can be done because of this strengthened support.

Initiated by the Child Survival Partnership and on behalf of a broad and growing group of institutions and agencies, the series of rolling conferences on child survival called for by the Bellagio Child Survival Study Group6 (Panel 1) and endorsed by the *Lancet* Neonatal Survival Steering Team[10] will begin in December, 2005 and continue through 2015. Every two years, this "*Countdown* to 2015" will bring together scientists, policy makers, activists and programme personnel committed to action for child and newborn survival.

* Recent analytic efforts in child survival over the past few years have focused on different sets of countries. The 2003 Lancet series on child survival focused on the 42 countries that together accounted for over 90% of under-five child deaths in 2000.[1] These same 42 countries were used in later estimates of the price tag associated with achieving universal coverage for the interventions proposed in the 2003 Lancet series.[12] The 2005 *World Health Report*[14] and the Lancet series on neonatal survival[8] focused on a broader subset of 75 countries with high numbers and rates of maternal as well as child deaths in 2000. A new selection of countries was made for the *Countdown* effort, drawing on 2004 mortality estimates and using criteria of ≥50,000 under-five deaths in that year or an under-five mortality rate of ≥90 per 1000 as reported in *The State of the World's Children 2006.*[18]

Panel 1
The Bellagio Call to Action For Child Survival

"…we [the Bellagio Study Group on Child Survival], commit ourselves to ensuring that there is an overall mechanism for improving accountability, re-energizing commitment, and recognizing accomplishments in child survival. We commit ourselves to convening a series of meetings, every 2 years, hosted by rotating institutions. Participants will be those who support child survival, who monitor interventions and delivery strategies, and other concerned individuals and organizations. The meetings will provide regular opportunities for the world to take stock of progress in preventing child deaths, and to hold countries and their partners accountable. This proposal for rolling conferences is not enough, but it is a long-term commitment to change and improve the state of child health."

The Bellagio Study Group on Child Survival.
"Knowledge into action for child survival."
Lancet 2003; 362: 323-27.

Our common purpose will be to share new evidence and experience, to take stock of progress in preventing child deaths, to hold international and national level institutions accountable if the rate of progress is not satisfactory, to identify any major gaps in knowledge or existing processes that are hindering progress, to propose new actions as appropriate and to advocate for greater investment in child survival. The *Countdown* has focused to date on child survival including neonatal survival; the recently formed PMNCH will strengthen links with maternal health so that future *Countdown* activities can address maternal mortality as well. Further information on Tracking Progress in Child Survival: *Countdown* to 2015 may be obtained at www.childsurvivalcountdown.com.

One important barrier to progress in child survival, and especially to efforts to increase accountability, is the scarcity of timely information on intervention coverage. Nationally representative coverage surveys are carried out only about every five years in most countries, and even less frequently in others.

Governments and their partners need information about coverage levels at much shorter intervals, to enable them to improve and target the reach of their programmes. This report is one part of the *Countdown* effort, providing a mechanism for ensuring that the best and most recent information on country-level progress in achieving intervention coverage is widely available to serve as a basis for documenting accomplishments and revitalizing efforts where needed.

A commitment to building on existing goals and monitoring efforts†

Countdown indicators and measurement approaches build on work that started in the 1990s in the context of monitoring progress toward the World Summit for Children goals. This work resulted in rapid increases in the availability of data on intervention coverage, due in large part to the development and implementation of the UNICEF Multiple Indicator Cluster Survey (MICS). Current child survival indicators reflect a united effort to remain consistent in the definition and measurement of indicators, thereby permitting the assessment of trends over time. In some cases (notably the definition and measurement of indicators for oral rehydration therapy for the prevention of dehydration during diarrhoea episodes[15]) changes have been made in an effort to retain indicator validity as public health recommendations have changed.

The *Countdown* aims to sharpen and reinforce efforts already under way to support countries in meeting their commitments to global goals, and to further the effective use of information collected through existing monitoring mechanisms. This section describes some of the most important existing goals and monitoring efforts upon which the *Countdown* will build.

A World Fit for Children goals

The World Fit for Children (WFFC) goals were adopted at a Special Session on Children of the United Nations Assembly in 2001. Countries are expected to report on progress towards these goals and targets in 2007, and UNICEF will be reporting on global progress. These targets served as a basis for the development of the list of consensus indicators for monitoring progress toward the MDGs,[16] and both the indicators and the data sets used to track progress are fully harmonized and assessed using identical data sets.

The Millennium Development Goals

The Millennium Development Goals (MDGs) are the world's time bound and quantified targets for dramatically reducing the world's poverty by 2015, including income poverty, hunger, disease, lack of adequate shelter, and exclusion – while promoting gender equality, education and environmental sustainability. The Goals also recognize basic human rights – the rights of each person on the planet to health, education, shelter, and security, as pledged in the Universal Declaration of Human Rights and the UN Millennium Declaration. There are a total of 8 goals and 18 specific targets with an agreed upon set of indicators to track progress. The MDGs with a direct focus on child and maternal survival are MDGs 4 and 5 (see Panel 2). Most if not all of the other MDGs will also have a direct or indirect

†Much of this section was adapted from an earlier unpublished report prepared for the High Level Meeting on Maternal, Newborn and Child Health, held in India on 7-9 April 2005. The report title was "Background Paper on Monitoring of Child, Newborn and Maternal Survival". Tessa Wardlaw and Nancy Terreri of UNICEF wrote the document with Vincent Fauveau and Stan Bernstein of UNFPA. Judith Standley and Wendy Graham also contributed. Sources for the earlier document included public documents of UNICEF, UNFPA, WHO and the Saving Newborn Lives Initiative of Save the Children. Material was also taken from the Report of the UN Millennium Project Task Force on Child Health and Maternal Health.

Panel 2
Millennium Development Goals (MDGs) that directly affect newborn and child survival

MDG-4 is to reduce child mortality.

Its specific target is to reduce the under-five mortality rate by two-thirds between 1990 and 2015. The monitoring indicators are:

- Under-five mortality rate
- Infant mortality rate
- Proportion of one-year-old children immunized against measles

MDG-5 is to improve maternal health.

Its specific target is to reduce maternal mortality by three quarters, between 1990 and 2015. The monitoring indicators are:‡

- Maternal mortality ratio
- Proportion of births attended by skilled health personnel

‡Changes recommended by the Task Force on Child Health and Maternal Health of the Millennium Task Force are under discussion.

impact on the survival and well being of newborns and children. For example, one of the targets for MDG-6 is to halt and reverse the incidence of malaria and other major diseases. The *Countdown* indicators for malaria prevention and treatment are among those being tracked in the United Nations Statistics Division MDG data base (http://millenniumindicators.un.org/unsd/mi/mi_goals.asp).

Regular monitoring of progress toward the MDGs is an important part of ensuring their achievement. Different mechanisms have been developed for monitoring progress at global, regional and country levels. The United Nations system provides both technical and financial support to this process, but the primary responsibility remains with national governments.

The Secretary General commissioned the UN Millennium Project in 2002 to serve as an independent advisory body to propose the best strategies for meeting the MDGs. One of ten thematic task forces focused on maternal and child health. The report of this group included specific recommendations for a greater focus on equity and additional targets and indicators (http://www.unmillenniumproject.org/ who/task04.htm). Several follow-up meetings have now been held to agree on the changes that will be incorporated into the MDG reporting process.

The indicators for MDG-4 on child survival are infant and under-five mortality rates and measles immunization coverage. However, a wider range of indicators will be required to adequately track progress. Toward this end, UNICEF, WHO and other experts and partners (e.g., The World Bank, groups involved in measurement such as Macro International and Saving Newborn Lives, and those that support these efforts including the Bill and Melinda Gates Foundation and the United States Agency for International Development) met in June 2004 to reach interagency consensus on a minimal set of key indicators for monitoring progress in child survival.[16] The list of indicators agreed upon by this group is available in

Annex 1. The meeting focused on coverage and impact indicators that can be measured through household surveys. The framework for this indicator discussion was the set of prevention and treatment interventions outlined in the 2003 *Lancet* series on child survival.

A focus on effective interventions

A limited set of known and effective interventions, if implemented together and at universal coverage, can save over six million child lives each year.[3,8,17] These interventions have been proven to reduce mortality from the major causes of child deaths worldwide, and are feasible for implementation at high levels of population coverage in poor countries. The cost of providing these interventions to all children who need them is affordable, estimated as about US$1.05 to $1.48 per inhabitant for the high-child-mortality countries in the analyses.[12,13]

The focus on coverage should not mask the importance of broader health system characteristics or the quality with which each intervention is delivered. These are also critically important in the effort to achieve the MDGs and must be addressed. We explain in the next section of the report why monitoring of intervention quality is more suited to national- than to global-level efforts.

Why focus on intervention coverage?

What is coverage?

Coverage is defined *as the proportion of individuals who need an intervention who actually receive it.* For the purposes of the *Countdown*, coverage refers to target populations for specific interventions, and is always measured at the population level rather than in health facilities or other settings.

Why track coverage at global level in preference to other possible indicators?

1. **Timely data on intervention coverage is essential for good programme management.** Governments and their partners need up-to-date information on whether their programmes are reaching mothers, newborns and other children under five years of age.
2. **Coverage indicators are good proxies for monitoring mortality reduction.** Increases in coverage show that policies and delivery strategies are being successful in reaching children and mothers. A failure to increase coverage, assuming adequate resources and good planning have been applied, is a cause for urgent concern. District and national managers, as well as their partners, should respond to low coverage rates by examining how interventions are being delivered and by removing bottlenecks or developing revised plans for delivery.

Panel 3
Why intervention coverage is a good indicator for global monitoring of progress in child survival

- Intervention coverage is the indicator closest to actual impact on newborn and child survival.
- Progress in coverage means policies, delivery strategies, drugs, equipment and human and financial resources are in place.
- A lack of progress in coverage means that one or more problems is present and needs to be addressed.

How is coverage currently measured, and how often?

The primary source of data on intervention coverage in most low-income countries is household surveys. These surveys are often carried out in collaboration with one of two international population-based survey initiatives – the UNICEF-supported Multiple Indicator Cluster Surveys (MICS, http:// www.childinfo.org/index2.htm) or the USAID-supported Demographic and Health Surveys (DHS, http://www.measuredhs. com). Programme reports are also used as a data source in the development of coverage estimates for immunization, vitamin A and the prevention of mother-to-child transmission (PMTCT) of the human immunodeficiency virus (HIV). [19]

In collaboration with countries, these household surveys are currently planned at about five-year intervals. This made sense in the past, especially because coverage was changing slowly, but needs to be reconsidered now given renewed attention to child survival and the rapid changes in coverage that will be needed to achieve the MDGs.

What are the limitations of focusing on coverage?

The most important limitation of focusing on coverage is that coverage indicators alone cannot capture the quality with which interventions are delivered. The assessment of quality is essential, and requires assessment efforts at national level and below that can determine whether or not an intervention is being delivered at levels of quality that are adequate to ensure its effectiveness.

A second limitation is that coverage monitoring cannot answer questions about **why** there is progress, or especially **why not**. Monitoring coverage, as a stand-alone effort, will never be sufficient to improve newborn and child survival. More comprehensive efforts to monitor aspects of the health system and specific policies, programme management processes, service availability and accessibility as well as utilization and demand are essential supports to sound public health decision making. The results of the monitoring must be used at all levels to improve programme coverage and effectiveness. The *Countdown* aims to contribute to these broader efforts by promoting coverage as a key measure of progress, signalling areas that need to be accelerated.

Improving the availability, quality and use of information at country level is a goal shared by WHO and UNICEF, and through partnerships with the Health Metrics Network and other projects and institutions. The *Countdown* seeks to stimulate and direct these efforts to maternal and child health programmes in countries most in need. The next section describes some of the most important links between the *Countdown* and other activities at global level.

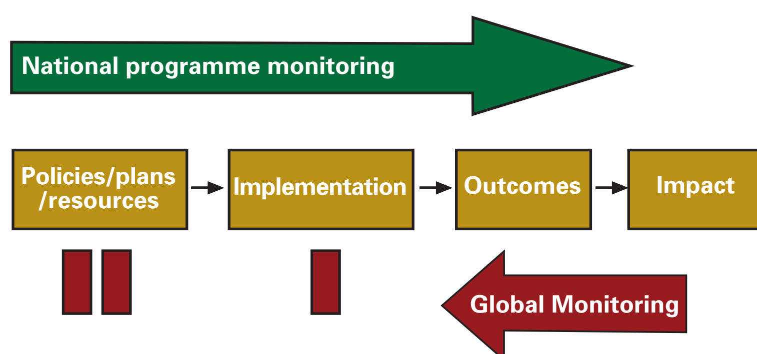
Links to other monitoring efforts

Countdown tracking of intervention coverage will build on and complement other efforts to strengthen the information base for sound programming in newborn and child survival. For example, the *Countdown* has made use of previous work undertaken by Columbia University in cooperation with USAID, UNICEF and others to develop a "Scorecard" to track policy and programme activities and provide an indication of whether progress was being made in reducing child mortality at country level.

The information presented in this and future Reports require no new data collection, although we hope it will make clear the need for more timely efforts to monitor coverage. The *Countdown* Reports seek instead to bring together in one place information that is both available and needed for evidence-based review and planning efforts in newborn and child health, primarily at the global level. We describe some of the most important *Countdown* links below.

- **Links to country-level monitoring** of newborn and child health programmes. As shown in Figure 1, country-level monitoring focuses on ensuring that needed policies, plans and resources are in place, and that programmes and strategies are implemented fully and at adequate levels of quality. Key outcomes needed to assess programme implementation include access, quality, coverage and equity. Monitoring indicators and methods must reflect country-level needs and decisions, and must provide timely information to improve programmes.

Figure 1: National and global monitoring should complement and reinforce one another



Global monitoring complements country-level efforts, but currently focuses on indicators that are closer to impact and that can be measured in ways that permit cross-country comparisons and estimates of global trends. Many indicators of coverage meet these criteria, as do some indicators of the impact of programme activities on the nutritional and health status of newborns and children. Efforts to identify and define indicators of policies, financial flows and human resources that are sufficiently valid and reliable for global

monitoring have begun, and will continue with the aim of inclusion in the 2007 *Countdown* Report.

Years of experience have demonstrated that monitoring efforts are more likely to be sustained and to produce valid data if they produce information useful at the level at which they are collected.[20] The implication for *Countdown* efforts is that all data incorporated into the country profiles should first have been reviewed and used to improve programme functioning in districts and countries.

- The State of the World's Children. Almost all of the population-based coverage data used in the Countdown are available from this annual publication by UNICEF (http://www.unicef.org/sowc/). The coverage figures reported in The State of the World's Children are subject to rigorous quality controls, and reflect the best and most recent estimates available in a given year. In cases where quality data become available after the closing of The State of the World's children databases, the quality control committee will hod special sessions to ensure that these data are included in the *Countdown* report.

- **World Health Report.** This annual publication by the World Health Organization, and the statistical tables and resources that lay behind it, is a good source of information on health system characteristics and expenditures although at present these are not specific to newborn and child survival. Data reported here on per capita expenditures on health were taken from the 2005 World Health Report.[14] We expect country-specific cause-of-death profiles to be available from this source in the future (http://www.who.int/whr/en/).

- **Health Metrics Network.** This global collaboration focuses on strengthening country health information systems to generate sound data for decision making at country and global levels (http://www.who.int/healthmetrics/en/). The *Countdown* seeks to complement these efforts with a particular focus on newborn and child survival.

There are also a number of interagency working groups on monitoring and evaluation that can contribute to and benefit from the efforts of the *Countdown*. These include the Child Health Epidemiology Reference Group (CHERG), the Roll Back Malaria Monitoring and Evaluation Reference Group (MERG), the WHO/UNICEF Joint Monitoring Programme on Water Supply and Sanitation (JMP) Technical Advisory Group, the HIV/AIDS Monitoring and Evaluation Reference Group (MERG) and the GAVI Monitoring and Evaluation Task Force.

Constraints

This is the first report in the *Countdown* series. It includes information available through late 2005. Future reports will be expanded to include both additional indicators (e.g., for newborn health and determinants of coverage) and more complete or additional data for the existing indicators (e.g., trend data, country-specific cause-of-death data). The Report is a "living" document, expanding over time as more and better data become available.

Important constraints affecting this first Report include:

- Some indicator data are outdated – drawn from household sample surveys conducted three to five years ago. The need for more frequent assessments at country-level and below is a key finding of this first report.

- Indicator data are not available at all for some countries and for some indicators.

- The availability of data is but one of many health system features reflected in the results of the coverage monitoring; further developmental work on how best to monitor health system strength is needed urgently.

- Standard methodological approaches for estimating uncertainty around indicator estimates have not yet been finalized.

Overview of the Report

As indicated above, all data presented in this report are available elsewhere. The added value of the *Countdown* is to bring together in one place the basic information needed to determine whether reductions in newborn and child mortality can be expected, in a context (the rolling conferences held every two years) that will support sound decision making and maximize the probability that barriers to further progress will be noticed and acted upon by policymakers, development agencies, and donors.

Chapter 2 explains how and why the 60 priority countries were selected, and summarizes the major programmatic aims for newborn and child survival and associated indicators.

Chapter 3 focuses on the preliminary findings of the 2005 Report. Specific note is taken of settings with demonstrated progress in raising coverage levels, and areas where intensified effort is needed. This preliminary discussion of the state of affairs with respect to child survival provided a starting point for more in-depth review discussion and action planning that took place at the Countdown conference during December 2005 in London, UK.

Chapter 4 introduces the individual country profiles. These profiles were the raw material analysed at the 2005 conference, and the starting line for continuing *Countdown* assessments of progress. Each report presents the most recent available information on selected demographic measures of newborn and child survival and nutritional status,

coverage rates for priority interventions, and selected indicators of policy support for and financial flows to child survival.

The information summarized in these pages is intended to help policymakers and their partners assess progress and prioritise actions in the effort to reduce child mortality. Because the *Countdown* reports are a work in progress, and especially because the *Countdown* represents an informal affiliation of individuals and agencies committed to reducing child mortality, we encourage readers to engage with this material critically and to make suggestions about how its utility in promoting and guiding action can be improved. Comments, critiques and suggestions can be proposed through communication with any of the many *Countdown* co-sponsors, or sent directly to Nancy Terreri (nterreri@unicef.org).

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