Vieri Lastrucci and Maria José Caldés Pinilla

Priorities: mothers and children

The Millennium Development Goals for reducing child and maternal mortality will not be achieved by a great many countries. Nevertheless, great progress has been made and further improvements will be possible if the planned actions are stepped up. The main point of reference for global efforts must be the struggle against inequalities. This is the only way to guarantee mothers and children the services they need.

As the deadline set by the United Nations for achieving the Millennium Development Goals (MDGs) approaches – that is, the end of 2015 – the international community is pondering its successes and failures. Meanwhile, the new strategic outline for the post-2015 agenda is being defined, in the so-called Sustainable Development Goals, which will reorient international efforts. Maternal and child health has been one of the crucial elements in overall development strategy and will likely remain so in the future.

This transitional period is the ideal time to form an in-depth analysis of the results achieved in this field hitherto and to see what can and must be done in the future. The fourth and fifth MDGs aimed to reduce child and maternal mortali-

Vieri Lastrucci is a medical doctor and public policy consultant at the Global Health Center in Florence. Maria José Caldés Pinilla is the Center's director.

Map 1 • Progress for MDG4 (Reduce infant mortality)

Off Target　Some Progress　On Target　*Countries colored white have no data for this issue*

Map 2 • Progress for MDG5 (Reduce maternal mortality)

Off Target　Some Progress　On Target　*Countries colored white have no data for this issue*

ty by two-thirds and three-quarters, respectively, compared to the levels recorded in 1990, and to guarantee universal access to sexual and reproductive health. Periodic reports, called "Countdown Reports", have constantly monitored progress achieved in the 75 states that accounted for 95% of maternal and child mortality worldwide.

GOALS STILL REMOTE. As maps 1 and 2 show, only a few of the countdown states will achieve goal number four (MDG4) in 2015; fewer still will achieve MDG5. In the case of both MDG4 and MDG5, sub-Saharan Africa is the most critical region. The highest mortality rates occur here and, with few exceptions, the slowest progress is achieved. Nevertheless, child mortality has fallen substantially (though not as much as intended or hoped) since 1990, with an almost 50% reduction in mortality in the under-fives.

The main causes of infant mortality include malaria, respiratory diseases and diarrhea; these deaths are largely avoidable by means of simple prevention and curative interventions. However, neonatal mortality (occurring during the first 28 days of life) has shown the slowest progress, thus accounting for a growing proportion of deaths in the under-fives (44%).

Progress achieved in maternal health is also slower than in child health: half of the countdown states still have high maternal mortality rates (300-400 for every 100,000 live births) and 16 states (all of them in sub-Saharan Africa) still have very high maternal mortality rates (over 500 for 100,000 live births).

Overall, maternal mortality fell by about 40% between 1990 and 2013 (from 380 to 210 for 100,000 live births) and, on average, during the period 2000-2013, maternal mortality fell by 3.1% a year. Most of these deaths occur during childbirth or immediately afterwards and are due mainly to preventable causes such as high blood pressure, blood loss and infections.

Chart 1 • Correlation between child mortality and CCI

Under-5 mortality rate (per 1000 live births)
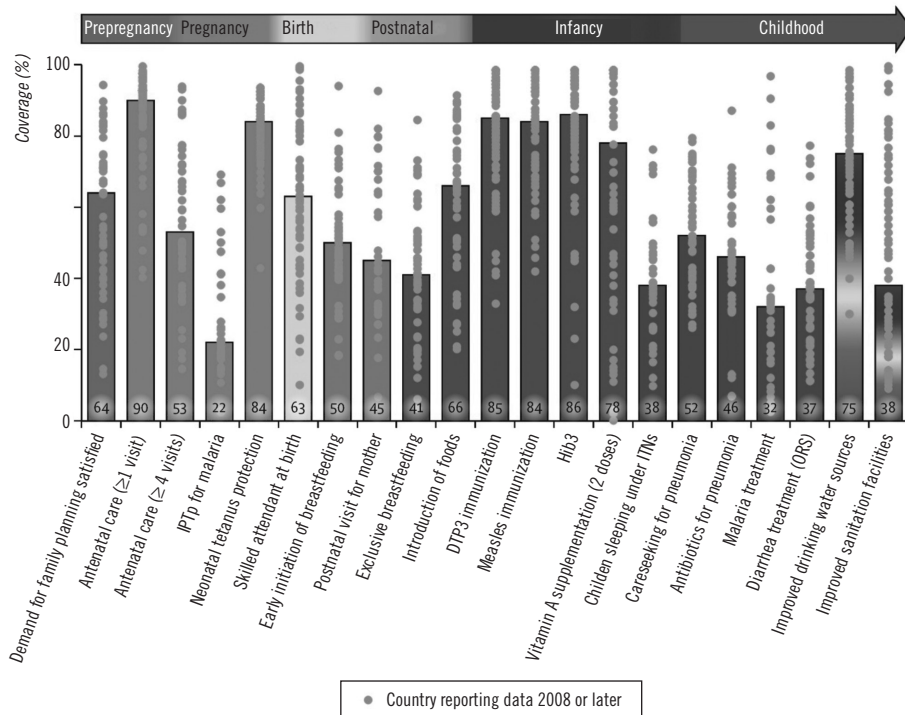
Score on the composite coverage index (%)
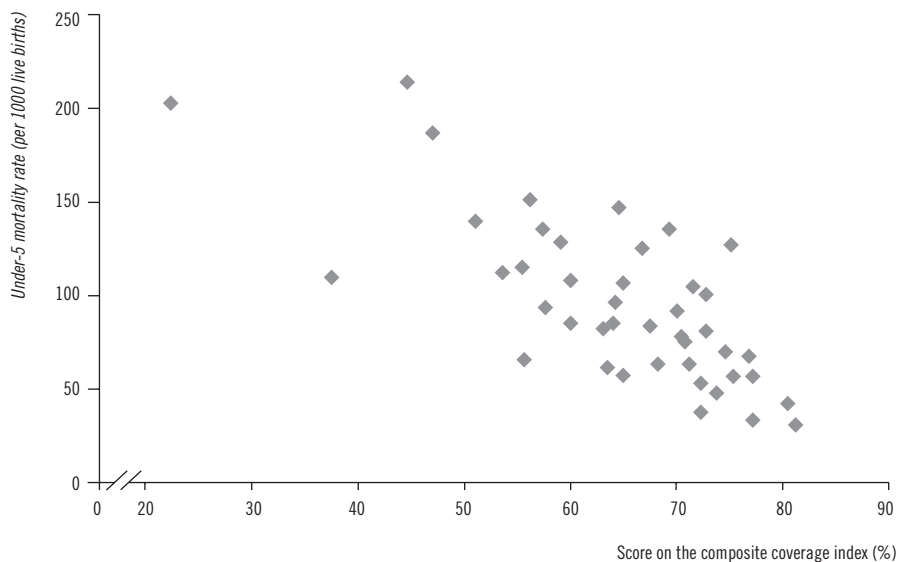
Apart from the health and economic progress of each state, one of the crucial factors in improving maternal and child health is the percentage of the population receiving preventive and curative interventions. Chart 1 shows a strong inverse correlation between child mortality and the Composite Coverage Index (CCI), which shows the weighted average of coverage for eight preventive and curative interventions along the continuum of maternal and child treatments.[1]

THE ISSUE OF INEQUALITIES. An overview of children's and women's access to a range of effective interventions in the countdown states (figure 1) – interventions that should ideally be available to all – shows that the average for each intervention is still low: only in the case of a very few interventions is there an average of more than 75%. This is true, for example, in the case of prenatal care (at least one visit) and with interventions connected with vaccinations. Moreover, we can see a considerable difference in the

Figure 1 • Coverage for key interventions in children's and women's health in countdown states

Prepregnancy | Pregnancy | Birth | Postnatal | Infancy | Childhood

Coverage (%)

Intervention	Value
Demand for family planning satisfied	64
Antenatal care (≥1 visit)	90
Antenatal care (≥4 visits)	53
IPTp for malaria	22
Neonatal tetanus protection	84
Skilled attendant at birth	63
Early initiation of breastfeeding	50
Postnatal visit for mother	45
Exclusive breastfeeding	41
Introduction of foods	66
DTP3 immunization	85
Measles immunization	84
Hib3	86
Vitamin A supplementation (2 doses)	78
Childen sleeping under ITNs	38
Careseeking for pneumonia	52
Antibiotics for pneumonia	46
Malaria treatment	32
Diarrhea treatment (ORS)	37
Improved drinking water sources	75
Improved sanitation facilities	38

● Country reporting data 2008 or later

population covered from nation to nation. However, to focus solely on average coverage at national levels can conceal major differences in access to services between different groups of population within an individual country. Figure 2 shows the results of the CCI for each country, subdivided by wealth quintiles: the clear message is that there are deep inequalities not only between states but also within each individual state, with coverage increasing gradually from the poorest quintile to the wealthiest one.

Depending on the state, the CCI in the wealthiest populations ranges from almost 60% coverage to above 80% coverage. But if these levels have been achieved for the wealthiest sectors of the population, then it should be possible to achieve them for the entire population.

Figure 2 • CCI coverage per wealth quintile in the principal countdown states
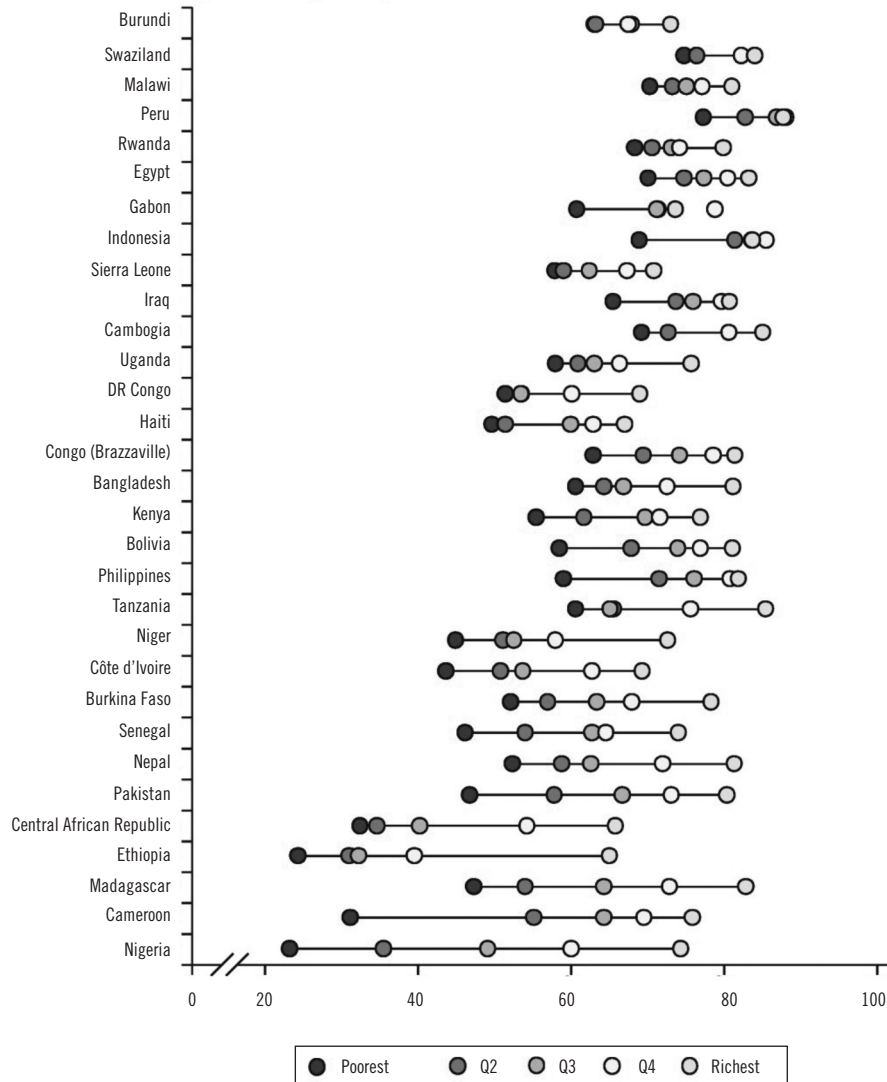
To take Nigeria as an example, there is a huge gap between the wealthiest population quintile and the poorest: only approximately 20% of the poorest people enjoy access to interventions, as against almost 80% of the wealthiest. If we look at figure 3, we can see how, moving from the poorest quintile to the wealthiest, the percentage of the population covered by no interven-

Figure 3 • Population covered in Nigeria, by number of interventions and wealth quintiles
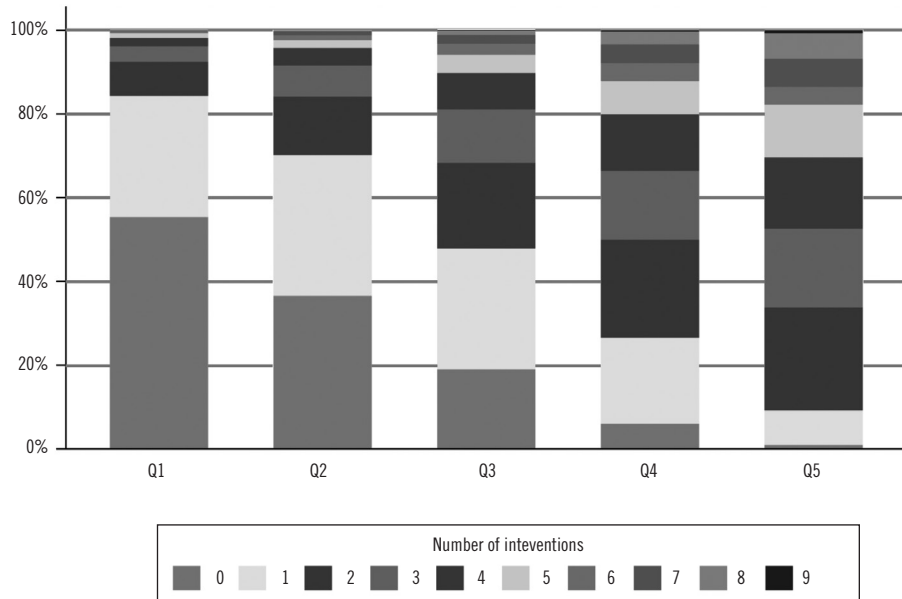
tions or just one intervention falls from over 80% to less than 10%. And, on the contrary, the proportion of the population covered by at least five interventions ranges from less than 5% of the poorest to 30% of the wealthiest.

An analysis of the differences in the levels of coverage within the population can help us to plan more efficient approaches to reducing inequalities. Indeed, we can see three kinds of inequalities: "linear," "downward" and "upward," best demonstrated in figure 2. Under normal conditions, countries with low coverage levels tends to show upward inequality, whereby the wealthiest quintile enjoys much higher coverage than the others (for instance, Bangladesh and Ethiopia in figure 2). As levels of coverage increase, there is a shift to linear inequality, whereby the distance between the groups is similar (Madagascar). When high levels of coverage are achieved, downward inequality begins to occur, with more poor people falling behind the rest (Bolivia).

Table 1 • Changes in national coverage of interventions in countdown states

	Median coverage (%)		Change (%)	Proportion of gap closed
	2000-2007	2008-2012		
Haemophilus influenzae type B (Hib-3) immunization	86	91	5	36
Malaria treatment (first line)	5	37	32	34
Antenatal care (at least one visit)	85	90	5	33
Children sleeping under ITNs*	10	38	28	31
Antibiotic treatment for pneumonia	26	47	21	28
Improved drinking water sources	66	75	9	26
Measles immunization	79	84	5	24
Skilled attendant at birth	54	63	9	20
IPTp°	7	25	18	19
Demand for family planning satisfied	56	64	8	18
DTP3^ immunization	82	85	3	17
Exclusive breastfeeding	34	41	7	11
Careseeking for pneumonia	48	52	4	8
Oral rehydration salts treatment	29	35	6	8
ORT with continued feeding	42	46	4	7
Improved sanitation facilities	36	40	4	6

* ITN = insecticide-treated bednet; ° IPTp = intermittent preventive treatment of malaria during pregnancy;
^ DTP3 = Diphtheria, Pertussis and Tetanus immunization

KNOWING WHERE TO FOCUS EFFORTS. These considerations are useful in identifying target groups for interventions in each country. Indeed, when there is linear inequality it is still necessary to increase coverage throughout the population, paying particular attention to the poor, in order to prevent the pattern from shifting toward "downward" inequality. When there is downward inequality, it becomes essential to focus on the poorest people, since most of the population already enjoys reasonable levels of coverage. Last, in the case of upward inequality, the most extensive interventions will be needed, because coverage is low even for the wealthiest.

If, apart from considering groups of population, we analyze coverage results more closely, in light of the changes that they undergo over time (see table), we can identify three separate patterns of coverage that help to show where efforts still need to be focused. The first pattern shows a high percentage of

the population covered during the period 2000-2007 (more than 80%) and considerable progress in closing the remaining distance from universal coverage. This trend is shown for antenatal care (at least one visit) and vaccination interventions. The second pattern shows interventions in which progress in absolute terms has been achieved (increases of approximately 20%), but coverage is still low. Interventions in this category include the use of mosquito nets treated with insecticides to protect sleeping children and intermittent preventive malaria treatment for pregnant women. The third and last pattern is for interventions whose coverage is inadequate and has not significantly improved. This includes birth assistance by qualified personnel, breastfeeding up to six months and the search for suitable cures and treatments for diarrhea and pneumonia.

In conclusion, though most states will not achieve the Millennium Development Goals 4 and 5, the countdown results do show that considerable progress has been made since 1990. The notable acceleration of progress in recent years suggests that further improvements are possible, if actions are continued and intensified. The huge inequalities – not only in terms of health outcomes but also in terms of populations reached by preventive and curative interventions – are increasingly widespread and hamper the improvement of reproductive, maternal, and child health. The struggle against inequality must therefore be the point of reference guiding global efforts. In other words, guaranteeing that all women and children receive the services they need is an increasingly necessary precondition for ensuring that the progress achieved hitherto not only continue but accelerate.

[1] These interventions relate to: family planning requirements; births by qualified personnel; prenatal assistance by qualified prsonnel; tetanus, whooping cough, and diphtheria vaccinations in three doses; tuberculosis vaccinations; oral rerhydration therapy for childrren suffering from diarrhea; and the search for suitable treatments for pneumonia.