

Keeping score: fostering accountability for children’s lives



We live in a remarkable era of accelerated progress in reducing child deaths in the poorest countries.¹ The death rate in children younger than 5 years in low-income countries has dropped by 28·1% since 2000. The Millennium Declaration set an ambitious goal of reducing the death rate in this age group by two-thirds in each country.² Progress has not been even, but since the year 2000 reductions were recorded in 136 of 138 low-income and middle-income countries. In the few months remaining until the end of the Millennium Development Goal period, even more can be achieved. Continued progress will benefit from a focus on results. Where are we making progress and where not? Where can more resources make the biggest difference?

We propose a Lives Saved Scorecard to drive funding and policy attention to where it is most needed. The ideal scorecard would track all investments by donors and governments, the coverage of each life-saving intervention, the quality of interventions delivered, and the link to child deaths averted in a cross-country,

comparable manner. Among donor organisations, this scorecard would measure effects, incentivise progress, and help to ensure that collective gaps are filled. Across partner countries, it can help to identify urgent funding shortfalls and show where expected progress has not been realised, as well as foster shared learning.

We propose beginning with a simple and pragmatic strategy for a scorecard: understanding the relationship between expenditures and effects. Estimates of child mortality are available for nearly all countries.¹ Likewise, donor expenditure for child health can be tracked,^{3,4} as can national health expenditure targeting children.⁵ For most countries, we can generate a reasonable time trend for expenditure on child health (appendix).

See Online for appendix

We have categorised 135 low-income and middle-income countries for each 1-year change from 2000 to 2013 for child deaths. In 55·6% of country-years, expenditure went up and child deaths went down or vice versa.^{1,3,4} However, in nearly half of all country-years, the effects went in the opposite direction. This finding

	2000	2001	2002	2003	2004	2005	2006	2007
GHE-S	1105973	1130650	1131982	1148547	1207419	1177436	1222565	1263992
Development assistance by channel								
GAVI	1009	39426	36658	53579	57980	83491	77418	206235
Global Fund	0	0	0	16635	15871	57625	68530	107635
UNICEF	51136	72741	68158	66859	77125	102496	60511	80767
UK	30243	3015	28667	26466	9071	28437	36035	31825
US bilateral	112779	143814	61392	45494	17361	41017	42575	54071
World Bank	130940	145313	160822	153684	187198	161253	102775	96596
Others	101760	112700	168927	210274	251403	226235	275882	310534
Total	427867	517009	524624	572991	616009	700554	663726	887663
Development assistance by source								
Australia	2425	2922	3197	3402	4461	10122	4434	6183
BMGF	30203	58346	42548	67499	21912	59712	50302	73784
Canada	6530	4064	15631	15451	23903	48565	21620	47224
France	6266	7806	11934	16992	7514	17841	52993	54193
Germany	18771	21009	25906	16265	24133	19449	23771	34500
Norway	4583	9014	18638	19500	28705	24783	20713	37797
Japan	39121	45760	23740	29634	35905	36302	35353	17653
UK	42047	24594	47303	52974	39823	66323	85551	118044
USA	156016	201475	153491	103040	125993	127868	110793	134262
Others	124330	144941	185433	251636	308121	299711	262630	370206
Total	427867	517009	524624	572991	616009	700554	663726	887663
GHE-S and DAH total	1533840	1647659	1656606	1721538	1823428	1877990	1886291	2151655

GHE-S=government health expenditure from their own revenue sources. DAH=development assistance for health. BMGF=Bill & Melinda Gates Foundation.

Table 1: Lives saved in children younger than 5 years by channel-specific spending on child health, 2000–07

	2008	2009	2010	2011	2012	2013	2014*	2000–14
GHE-S	1347229	1475304	1410250	1498709	1595556	1624208	1669792	20009612
Development assistance by channel								
GAVI	157969	132015	181387	218180	251301	358222	385039	2239909
Global Fund	141349	235125	241918	148306	154239	203457	196593	1587283
UNICEF	73992	76735	121123	149079	128882	151576	143630	1424810
UK	26763	28228	38082	69126	89342	89852	85083	620235
US bilateral	80511	104285	178107	186251	200689	213733	206867	1688946
World Bank	75211	123039	102932	140778	119318	131905	110452	1942216
Others	388777	360247	407961	440103	471079	407283	392300	4525465
Total	944572	1059674	1271510	1351823	1414850	1556028	1519964	14028864
Development assistance by source								
Australia	8637	9537	20885	30254	41715	40202	40875	229251
BMGF	119059	109217	103210	155428	191590	199858	209396	1492064
Canada	45037	55611	66135	82459	100006	89017	83877	705130
France	54396	55480	64044	50824	56136	46540	49452	552411
Germany	45003	48382	57418	50228	39881	47059	45950	517725
Norway	34752	41788	45140	52941	52238	64091	64971	519654
Japan	22089	42266	47333	40926	53617	43418	43098	556215
UK	85137	102680	149935	158432	211472	250198	248287	1682800
USA	190413	257342	340002	337214	339342	387258	367311	3331820
Others	348686	346908	398293	423371	370568	428589	407622	4671045
Total	944572	1059674	1271510	1351823	1414850	1556028	1519964	14028864
GHE-S and DAH total	2291801	2534978	2681760	2850532	3010406	3180236	3189756	34038476

2014 estimates are preliminary. GHE-S=government health expenditure from their own revenue sources. DAH=development assistance for health. BMGF=Bill & Melinda Gates Foundation.

Table 2: Lives saved in children younger than 5 years by channel-specific spending on child health, 2008–14

highlights how other factors can intervene in the relation between investment and child deaths averted: everything from wars and disasters to changes in health system efficiency could be causes of decreases in health expenditure and reductions in child deaths. The key point is that changes in death counts and changes in health expenditures, and thus the ratio of expenditures to lives saved, are observable.

Ratios of changes in expenditures to changes in deaths can be used to approximate the incremental cost per life saved. Using statistical methods (appendix), we have computed for each country in the period 2000 to 2013 the incremental cost per child life saved through health expenditures. To save a child's life, the cost is US\$4205 in low-income countries, \$6496 in lower-middle-income countries, and \$10 016 in upper-middle-income countries. Although costs are highest in upper-middle-income countries, there are many justifications to maintain and increase expenditures in these settings—such as disease eradication, funding of other public goods, and other important objectives.

We propose using this resources-to-lives-saved ratio as the basis for an initial Lives Saved Scorecard. Increased dollars spent by a national government or a donor in a country would be converted into estimated child deaths averted. By connecting investments to improvements in health, we can see the true stakes of any increased or decreased investments in health expenditure.

Tables 1 and 2 show the application of this approach to the period 2000–14 as a demonstration of principle. In rough terms, from 2000 to 2014, low-income and middle-income country governments spent \$133.0 billion on child health, and donors spent \$73.6 billion (appendix), which saved about 20 million and 14 million child lives, respectively (tables 1 and 2). From 2012 to 2013, child health expenditure increased by \$1.2 billion, saving an additional 170 000 lives. Among donors agencies, over the period 2000 to 2014, USAID, the World Bank, GAVI, UNICEF, and the Global Fund all saved more than a million child lives each. Developing country governments themselves spent vastly more than donors on child health, but the number of deaths averted by donor funds is only 29.9% less

because of the concentration of donor funding in the poorest countries, where the cost per life saved is lower.

Our scorecard makes some strong but reasonable assumptions. First, for a given country in a given year, we assume that all dollars irrespective of the source make the same contribution to saving child lives. Credit for reductions in child deaths is shared among funders in proportion to their investment. Second, we assume that the 2010–13 cost per child death averted in a country is a reasonable basis for predicting the present. If efficiency gains occur quickly from one year to the next, estimating cost per death averted from the recent past might overestimate current costs per life saved. Third, we assume that not all reduction in child mortality is due to expenditure on health interventions. The well established and strong association between maternal education and income per person and child mortality might partly be related to increased access to health interventions, but some of this association is probably related to other factors such as housing, nutrition, clean water and sanitation, indoor air pollution, birth spacing, child-rearing practices, hygiene, and other factors.

In practice, we propose computing and reporting by use of the expenditure-to-effect ratio as a quarterly Lives Saved Scorecard. Donors and national governments would need to be able to track quarterly spending or estimated disbursement on the basis of budgets or obligations. This scorecard can keep attention focused on further progress. It can also help in other ways, such as to identify where the greatest funding gaps exist.

Future versions of the scorecard can address important limitations in an iterative fashion. First, careful retrospective assessment in some countries of investments, changes in coverage, effective coverage, and changes in child mortality can strengthen the estimates of the cost per life saved for each country. Second, the effect of maternal health investments on newborn babies and children, including in reducing

stillborn deaths, should be explored and potentially incorporated. Third, in this model, the current period's spending has an effect on mortality in the current period. Many investments will continue to have an effect beyond the period in which they are made, and this approach does not intend to divert resources away from such longer-term investments. Overall, the scorecard can be annually revised and improved with better data.

This simple but practical Lives Saved Scorecard can be an important tool for fostering accountability and accelerating progress toward the crucial goal of preventing suffering throughout the world. We believe that this scorecard can and should be used after the end of 2015 to aid in tracking progress on the Global Goals for Sustainable Development. We know that despite the efforts of governments and donors to improve health in low-income and middle-income countries, too many children die before the age of 5 years. Without a way to monitor progress regularly, we will miss the opportunity to build on the momentum we have seen since the Millennium **Declaration**.

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Final results from a pivotal phase 3 malaria vaccine trial

In *The Lancet*, the RTS,S Clinical Trials Partnership¹ report the most recent results from the pivotal phase 3 trial of RTS,S/AS01 malaria vaccine, the fourth major publication from this randomised controlled trial.^{2–4} The trial enrolled 15 459 infants and young

children at 11 centres in seven sub-Saharan African countries: Burkina Faso, Gabon, Ghana, Kenya, Malawi, Mozambique, and Tanzania. Two age groups were included: 6–12 weeks and 5–17 months at first dose. The schedule involved a primary series of three monthly



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