### Articles

## Malawi and Millennium Development Goal 4: a Countdown to 2015 country case study

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#### **Summary**

**Background** Several years in advance of the 2015 endpoint for the Millennium Development Goals (MDGs), Malawi was already thought to be one of the few countries in sub-Saharan Africa likely to meet the MDG 4 target of reducing under-5 mortality by two-thirds between 1990 and 2015. Countdown to 2015 therefore selected the Malawi National Statistical Office to lead an in-depth country case study, aimed mainly at explaining the country's success in improving child survival.

Methods We estimated child and neonatal mortality for the years 2000–14 using five district-representative household surveys. The study included recalculation of coverage indicators for that period, and used the Lives Saved Tool (LiST) to attribute the child lives saved in the years from 2000 to 2013 to various interventions. We documented the adoption and implementation of policies and programmes affecting the health of women and children, and developed estimates of financing.

**Findings** The estimated mortality rate in children younger than 5 years declined substantially in the study period, from 247 deaths (90% CI 234–262) per 1000 livebirths in 1990 to 71 deaths (58–83) in 2013, with an annual rate of decline of  $5 \cdot 4\%$ . The most rapid mortality decline occurred in the 1–59 months age group; neonatal mortality declined more slowly (from 50 to 23 deaths per 1000 livebirths), representing an annual rate of decline of  $3 \cdot 3\%$ . Nearly half of the coverage indicators have increased by more than 20 percentage points between 2000 and 2014. Results from the LiST analysis show that about 280 000 children's lives were saved between 2000 and 2013, attributable to interventions including treatment for diarrhoea, pneumonia, and malaria (23%), insecticide-treated bednets (20%), vaccines (17%), reductions in wasting (11%) and stunting (9%), facility birth care (7%), and prevention and treatment of HIV (7%). The amount of funding allocated to the health sector has increased substantially, particularly to child health and HIV and from external sources, but remains below internationally agreed targets. Key policies to address the major causes of child mortality and deliver high-impact interventions at scale throughout Malawi began in the late 1990s and intensified in the latter half of the 2000s and into the 2010s, backed by health-sector-wide policies to improve women's and children's health.

Interpretation This case study confirmed that Malawi had achieved MDG 4 for child survival by 2013. Our findings suggest that this was achieved mainly through the scale-up of interventions that are effective against the major causes of child deaths (malaria, pneumonia, and diarrhoea), programmes to reduce child undernutrition and mother-to-child transmission of HIV, and some improvements in the quality of care provided around birth. The Government of Malawi was among the first in sub-Saharan Africa to adopt evidence-based policies and implement programmes at scale to prevent unnecessary child deaths. Much remains to be done, building on this success and extending it to higher proportions of the population and targeting continued high neonatal mortality rates.

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#### Introduction

The world is at the finish line for the Millennium Development Goals (MDGs), madly counting and publicising how many countries have met their goals and how many have not.<sup>1</sup> But the important questions

are not how many, but why, how, and to what extent some countries have achieved the goals and others have not. Answering these questions needs in-depth, historical analysis of the decisions made by governments, partners, and families over the course of





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#### **Research in context**

#### Evidence before this study

This is the first in-depth multidisciplinary analysis of how Malawi has achieved MDG 4. We searched PubMed with no language restrictions with the search terms ("Child"[Mesh] OR ("child"[MeSH Terms] OR "child"[All Fields] OR "children"[All Fields]) OR ("pediatrics"[MeSH Terms] OR "pediatrics"[All Fields] OR "paediatric"[All Fields]) OR ("pediatrics"[MeSH Terms] OR "pediatrics"[All Fields]) OR ("pediatrics"[All Fields])) AND ("Malawi"[MeSH Terms] OR "Malawi"[All Fields]) AND ("mortality"[MeSH Terms] OR "mortality"[All fields] OR "death"[MeSH Terms] OR "death"[All fields]) AND ("Malawi"[MeSH Terms] OR "Malawi"[All Fields]) between Sept 1, 2000 and Jan 4, 2016 (the date of the last search). We found 435 studies, none of which had investigated Malawi's achievement of MDG 4 in as much depth as our study.

#### Added value of this study

This study is the first to pool nationally representative household survey datasets to produce trends in under-5 and neonatal mortality by district, region, and the whole of Malawi. We also examined trends in coverage of key interventions, equity of intervention coverage and mortality, and present a thorough analysis estimating the lives saved by each of the main interventions between 2000 and 2013 using the Lives Saved Tool. This analysis explains 80% of the observed reduction in under-5 mortality. This is also the first study to synthesise publicly available information, relevant published articles, policy documents, and information gained from interviewing key programme and finance staff at district and national levels to investigate Malawi's success in child survival.

#### Implications of all the available evidence

This study should inform further efforts to reduce under-5 (especially newborn) mortality as well as maternal mortality in Malawi, and contribute to planning for achievement of the Sustainable Development Goal targets of ending preventable mortality by 2030. Other countries in sub-Saharan Africa should also learn from Malawi's relative success via this in-depth case study.

25 years, drawing on imperfect data from widely varying sources and analytical approaches from many disciplines that rely on plausibility rather than probability inferences.<sup>2</sup> The need for answers is urgent, because the MDG finish line is also the starting point for the next set of global and country goals—goals that build on the strengths of the MDGs, but take into account the new understanding regarding the inter-relatedness of health and development, of contextual constraints, and of the challenges of producing timely measurements of progress that can guide mid-course corrections in policies and programmes.<sup>34</sup>

For the **UN Millennium Development Goal**s see http:// www.un.org/millenniumgoals/

Countdown to 2015 for Maternal, Newborn and Child Survival (Countdown) is a suprainstitutional movement established in 2003 to set and maintain standards for accountability for improving the health of women and children.5 Countdown tracks progress and equity in population coverage of health interventions (ie, the proportion of individuals who need an intervention who actually receive it) and the health system and financial determinants related to population coverage in the 75 countries with the highest burdens of maternal and child mortality worldwide.4 Frustrated with the failure to explain country progress in achieving high and equitable coverage levels through the use of statistical approaches comparing progress across countries,6 Countdown established a programme of in-depth country case studies led by country institutions, bringing together multidisciplinary teams to explore how and why individual countries were able to make progress towards the achievement of MDG 4 and MDG 5, addressing child and maternal survival, respectively. Case studies have

been completed in Bangladesh,<sup>7</sup> Niger,<sup>8</sup> Peru (Huicho L, et al, Universidad Peruana Cayetano Heredia, Universidad Nacional Mayor de San Marcos, and Instituto Nacional de Salud del Niño, Lima, Peru, personal communication), and Tanzania,<sup>9</sup> and this report presents the results for Malawi. Work is continuing in Afghanistan, China, Ethiopia, Kenya, and Pakistan. This case study was led by the Malawi National Statistical Office, with contributions from the Malawian Government, non-governmental organisations, WHO, other UN agencies, and a range of academic institutions both within and outside the country.

The global community has been watching Malawi in recent years, despite its small population of about 16.7 million people (as of 2014).<sup>10</sup> At the start of the monitoring period for the MDGs in 1990, Malawi's under-5 mortality rate was 247 (90% CI 234–262) per 1000 livebirths (at the national level, we have used estimates from the UN Interagency Group on Mortality Estimation [IGME], because these are the official estimates of the UN agencies).<sup>11</sup> By 2013, Malawi was on a trajectory towards success in child survival. The under-5 mortality rate had declined at an average annual rate of  $5 \cdot 4\%$ , to 71 (90% CI 58–83) per 1000 livebirths. In this study, we used a recently completed national survey to determine whether Malawi achieved MDG 4.

Malawi's progress was notable in part because it ran counter to expectations based on the usual predictors of rapid advances in development. It is a landlocked country with few natural resources, and in 2013 ranked 174th of 187 countries on the Human Development Index.<sup>12</sup> Based on purchasing-power-parity (PPP) estimates and international US dollars, the gross Download English Version:

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