

Achieving maternal and child health gains in Afghanistan: a Countdown to 2015 country case study



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Summary

Background After the fall of the Taliban in 2001, Afghanistan experienced a tumultuous period of democracy overshadowed by conflict, widespread insurgency, and an inflow of development assistance. Although there have been several cross-sectional assessments of health gains over the last decade, there has been no systematic analysis of progress and factors influencing maternal and child health in Afghanistan.

Methods We undertook a comprehensive, systematic assessment of reproductive, maternal, newborn, and child health in Afghanistan over the last decade. Given the paucity of high-quality data before 2001, we relied mainly on 11 nationally representative surveys conducted between 2003 and 2013. We estimated national and subnational time trends for key reproductive, maternal, and child health indicators, and used linear regression methods to determine predictors of change in health-care service use. All analyses were weighted for sampling and design effects. Additional information was collated and analysed about health system performance from third party surveys and about human resources from the Afghan Ministry of Public Health.

Findings Between 2003 and 2015, Afghanistan experienced a 29% decline in mortality of children younger than 5 years. Although definite reductions in maternal mortality remain uncertain, concurrent improvements in essential maternal health interventions suggest parallel survival gains in mothers. In a little over a decade (2003–13 inclusive), coverage of several maternal care interventions increased—eg, for antenatal care (16% to 53%), skilled birth attendance (14% to 46%), and births in a health facility (13% to 39%). Childhood vaccination coverage rates for the basic vaccines from the Expanded Programme of Immunisation (eg, BCG, measles, diphtheria-tetanus-pertussis, and three doses of polio) doubled over this period (about 40% to about 80%). Between 2005 and 2013, the number of deployed facility and community-based health-care professionals also increased, including for nurses (738 to 5766), midwives (211 to 3333), general physicians (403 to 5990), and community health workers (2682 to 28 837). Multivariable analysis of factors contributing to overall changes in skilled birth attendance and facility births suggests independent contributions of maternal literacy, deployment of community midwives, and proximity to a facility.

Interpretation Despite conflict and poverty, Afghanistan has made reasonable progress in its reproductive, maternal, newborn, and child health indicators over the last decade based on contributions of factors within and outside the health sector. However, equitable access to health care remains a challenge and present delivery models have high transactional costs, affecting sustainability. To maintain and further accelerate health and development gains, future strategies in Afghanistan will need to focus on investments in improving social determinants of health and targeted cost-effective interventions to address major causes of maternal and newborn mortality.

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Introduction

Few countries in the world have been at the epicentre of conflict, of population displacement, and of misery for as long as Afghanistan. One of the poorest countries of the world (panel 1),^{1–18} Afghanistan has been ravaged by incessant conflict and war among various factions for well over three decades. With its strategic geopolitical location, Afghanistan has long been a hunting ground for conquerors ranging from Alexander the Great seeking a passage to India and the superpowers of Great Britain

and the Soviet Union, seeking access to warm waters, or playing the so-called Great Game.^{9,10} The Soviet invasion of Afghanistan in 1979 led to mass displacement of over 4 million people to neighbouring countries, mainly in Pakistan, and subsequently to a series of events that continue to affect the entire region (panel 1).¹¹

Despite much donor interest and presence of development agencies, little systematic information is available about progress in maternal and child health and survival in Afghanistan since the 2001 ousting of the

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Research in context

Evidence before this study

Afghanistan's basic infrastructures, particularly those for health, had been virtually destroyed by 2001. Health and survival indicators of the civilian population in this time were some of the worst seen globally. About 1700 mothers per 100 000 livebirths were dying giving birth or shortly after, and more than 257 children per 1000 livebirths would not reach their 5th birthday—both of these figures were amongst the highest in the world in 2003. Almost 60% of children younger than 5 years were chronically malnourished, and 50% of children aged 6–24 months were anaemic, while three of four school-aged children were iodine deficient; nutrition indicators in mothers were similar. Facilities providing access to life-saving maternal and child interventions were virtually non-existent and those available were minimally accessed. Progress has been made since 2001 and we attempted to collate all available evidence to generate a methodical and comprehensive picture of achieved gains. We undertook a systematic in-depth review of all available electronic published and unpublished reports pertaining to the situation analysis of reproductive, maternal, newborn, and child health (RMNCH) in Afghanistan from 2001–14, and relevant policies, programme strategies, and interventions, official reports about progress towards Millennium Development Goals, and socioeconomic development. We searched papers published in 1980–2014 using these broad search terms: "reproductive" or "sexual" or "maternal" or "mother*" or "child*" or "under-5" or "newborn*" or "neonate*" or "post-neonate*" AND "health" or "risk" or "survival" or "mortality" or "nutrition" or "health system*" or "health finance*" or "health inequit*" or "health inequality*". Documents on policy, financial, and health system environment were specifically acquired to explore underlying determinants of progress achieved.

Added value of this study

To our knowledge, this case study is the first comprehensive, systematic assessment of RMNCH, nutrition and survival

gains, and contextual determinants of RMNCH outcomes in Afghanistan. We synthesised evidence from all available sources to undertake a thorough and robust situational analysis of trends in the country in the post-2001 rebuilding era. Data sources accessed included national and province level data from the Ministry of Public Health and other sectors (eg, telecommunications and agriculture), primary datasets from national health and demographic surveys, health facility assessment datasets, and a systematic review of the literature, among other sources. Our analysis integrates data from the various sources to elucidate trends at the national level, to conduct an in-depth assessment of subnational interventions coverage and inequities, and also to assess determinants of improvements in health-care service use. From 2001 to 2014 covers a period of relative peace coupled with substantive international funding and rebuilding of the conflict-torn nation; explicating RMNCH gains in this era, as our analysis has attempted to do, is vital to determining success factors, challenges, and opportunities moving forward.

Implications of all the available evidence

Our study provides detailed and robust information on the various drivers of maternal and child survival in Afghanistan, including coverage of interventions, subnational inequities, health systems and policies, health financing, and the lives saved analysis. Evidence from this case study can be used for understanding what has worked and not worked for scaling up RMNCH in Afghanistan. Data from the various aspects of the case study can be analysed further and used for agenda setting, policies, and programming at the national level and for provinces in the country. Further research is needed to understand progress made and permeating challenges, specifically in regards to interventions coverage, malnutrition, and inequities.

Taliban Government; the large repertoire of existing survey reports is mostly limited to cross-sectional assessments at various timepoints or specific geographic regions.^{19–22}

We conducted a comprehensive assessment of reproductive, maternal, newborn, and child health (RMNCH) and survival trends in Afghanistan, along with an analysis of health systems, policies, financial flows, and key determinants of health gains. The case study was supported by the Countdown to 2015 consortium and used standard Countdown methods.²³

Methods

Data sources and statistical analysis

We systematically reviewed all available published information on RMNCH and analysed nationally representative datasets with information about health,

mortality, and nutrition in women and children in Afghanistan (appendix).^{24–34}

Our analysis of maternal outcomes was restricted to women of reproductive age (15–49 years). We analysed data for children younger than 5 years, and where available, explored trends separately for neonates (<1 month) and post-neonates (1–59 months). National estimates of mortality in neonates and children younger than 5 years were obtained from the UN Inter-agency Group for Child Mortality Estimation for 2000–15.³⁵ Maternal mortality estimates were obtained from the UN Maternal Mortality Inter-agency Group, and were available for the years 2000, 2005, 2010, 2012, and 2013.³⁶ Maternal and child mortality estimates for Afghanistan published by the Institute for Health Metrics and Evaluation were also evaluated.^{37,38} Our rationale for relying heavily on modelled mortality estimates from

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