



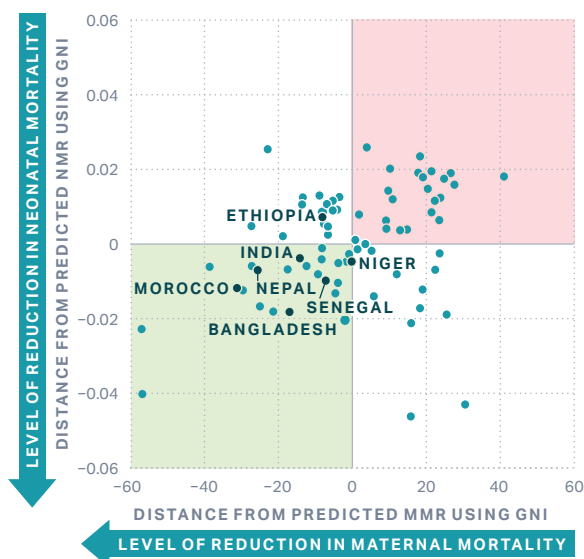
# NEONATAL AND MATERNAL MORTALITY

## ABOUT EXEMPLARS IN GLOBAL HEALTH

The Exemplars in Global Health (EGH) program is a global coalition of partners including researchers, academics, experts, funders, country stakeholders, and implementers. Our mission is to identify positive global health outliers, analyze what makes countries successful, and disseminate core lessons so they can be adapted in comparable settings. We aim to help country-level decision makers, global partners, and funders make strategic decisions, allocate resources, and craft evidence-based policies. A small, core team supporting EGH is based at Gates Ventures, the private office of Bill Gates, and closely collaborates with the Bill & Melinda Gates Foundation.

## COUNTRY SELECTION PROCESS

We identified outliers by assessing reductions in neonatal and maternal mortality rates relative to annual growth in gross national income from 2000 to 2017. From these outliers, we selected Exemplars by considering geographical diversity, data availability, and the transferability of the findings.



## TOPIC OVERVIEW

The world has reduced maternal mortality by approximately one-third since 2000, but the current maternal mortality ratio (152 deaths per 100,000 live births) is more than twice the UN's Sustainable Development Goal (SDG) target for 2030.

Since 2000, the mortality rate for children under five has also been cut by half, but progress in newborn survival has been much slower. An estimated 2.4 million newborns die each year within the first 28 days of life. Preterm birth, infections, and birth defects are among the leading causes of neonatal deaths.

Both maternal and newborn mortality are highly concentrated by geography. In 2017, Sub-Saharan Africa and South Asia accounted for 86% of the globe's estimated maternal deaths and 79% of all newborn deaths, in large part due to a lack of access to high-quality care during and after delivery.

## TECHNICAL ADVISORY GROUP

Research for every Exemplars in Global Health topic is guided by a Technical Advisory Group (TAG), consisting of a diverse range of topic-specific experts.

**Dr. Allisyn Moran** (Maternal Health Unit Head, World Health Organization), **Dr. Ana Langer** (Professor, Practice of Public Health, Coordinator of the Dean's Special Initiative on Women and Health, Harvard University), **Dr. Jeremy Shiffman** (Bloomberg Distinguished Professor of Global Health Policy, Johns Hopkins University), **Dr. Lisa Hirschhorn** (Professor of Medical Social Sciences and Psychiatry and Behavioral Sciences, Northwestern University), **Dr. Lucy Gilson** (Professor of Health Policy and Systems, University of Cape Town), **Dr. Peter Waiswa** (Associate Professor of Health Policy Planning and Management, School of Public Health, Makerere University College of Health Sciences), **Dr. Rajesh Kumar** (Technical Advisor, Health Systems Transformation Platform, New Delhi), **Dr. Steve Lim** (Professor of Health Metrics Sciences and Senior Director of Science and Engineering, Institute for Health Metrics and Evaluation), **Dr. Zulfiqar Bhutta** (Robert Harding Inaugural Chair in Global Child Health, Hospital for Sick Children, Toronto (SickKids))

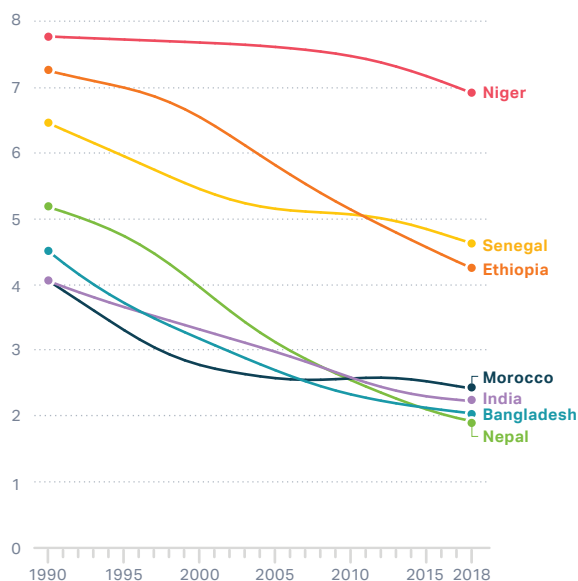
## RESEARCH PARTNERS

Our consortium of research partners is co-led by Countdown to 2030. It includes researchers from the London School of Hygiene & Tropical Medicine, Johns Hopkins University, and the University of Manitoba. Our in-country partner institutions include the Centre de Santé Reproductive in Morocco, the International Centre for Diarrhoeal Disease Research in Bangladesh (icddr,b), the National Health System Resource Centre and International Institute for Population Sciences (IIPS) in India, the South Asian Institute for Policy Analysis in Nepal, the Ethiopian Public Health Institute, the Niger National Institute of Statistics, and the Medical Research Council (MRC) Unit The Gambia, in Senegal.

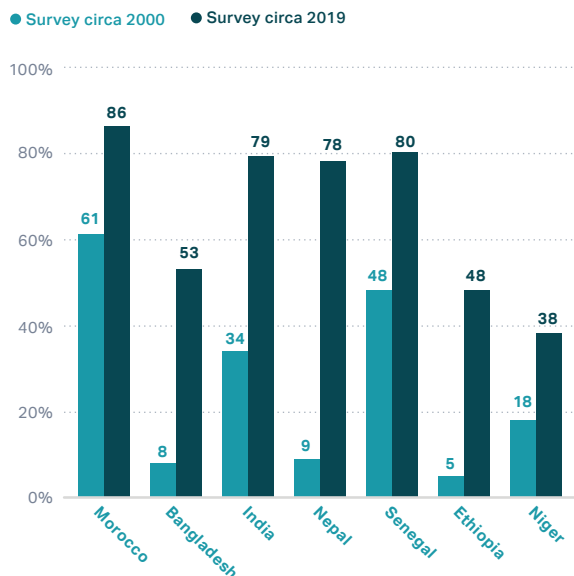




### TOTAL FERTILITY RATE (BIRTHS PER WOMAN)

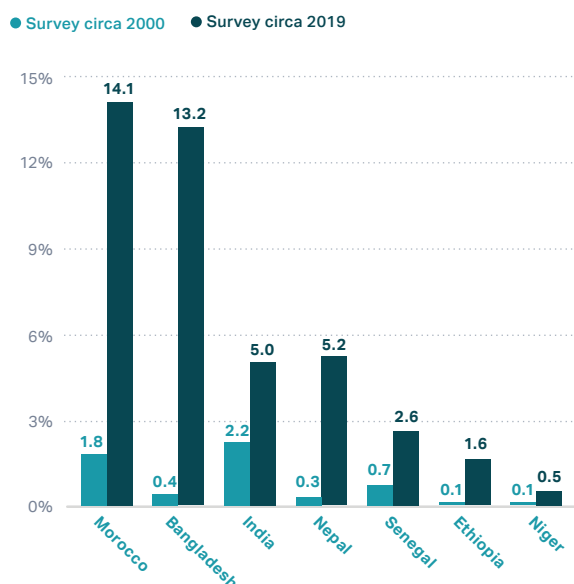


### COVERAGE OF FACILITY-BASED DELIVERIES (%)



### C-SECTION AMONG POOREST WEALTH QUINTILE

Percent of live births



### METHODOLOGY

We took a holistic approach to analyzing neonatal mortality rate (NMR) and maternal mortality ratio (MMR) reduction in each Exemplar country, adapting our methods based on data availability. Our findings were synthesized across five methods of inquiry: literature review, quantitative analysis of country level data, qualitative analysis, policy and program review, and financing analysis.

### EMERGING FINDINGS

Preliminary key themes contributing to declines in NMR and MMR Exemplar countries include:

#### Fertility Decline

Fertility declines are a major contributor for countries initially moving from higher to lower stages of mortality. Declines are usually driven by later age at first marriage and first birth, better access to abortion services, increases in contraceptive use (especially among rural and women of lower economic status), and increases to women's labor and workforce participation. Countries such as Bangladesh, Nepal, and India, which have seen the highest mortality reductions associated with fertility decline, have all seen increases for the indicators mentioned above. For example, in Bangladesh, the fertility decline between 2010 and 2017 explained 44% and 47% of the reductions in MMR and NMR, respectively.

#### Improved Service Contact

All Exemplar countries saw a sharp increase in access to services during the study period. Across Exemplar countries, the average rate at which women received the four antenatal care visits increased from 18% in 2000 to 52% in 2019. Rates of in-facility delivery with increasingly specialized providers also increased dramatically over this period. Ethiopia, Bangladesh, and Nepal reached 48%, 53%, and 78% coverage in 2019 respectively, despite each having less than 10% coverage in 2000. Over these two decades, childbirth-related interventions were responsible for an estimated 75% of maternal lives saved and 68% of neonatal lives saved in Exemplar countries, underscoring the importance of access to high-quality care at this juncture.

#### Equity Improvements

To continue reducing neonatal and mortality levels, widespread equity improvements for key indicators were prioritized in Exemplar countries, with comprehensive, complex care, becoming more accessible to all. Major reductions in rich-poor absolute gaps were observed in Senegal, India, and Morocco, and largely driven by demand generation, improved access to care, and removal of financial barriers. The average cesarean section rate among the poorest wealth quintile across seven Exemplar countries increased from 0.8% in 2000 to 6% in 2019, reflecting expanded access to crucial care.