IMPROVING MONITORING DATA SYSTEMS TO COUNT AND ACCOUNT FOR STILLBIRTHS

DISCUSSION PAPER

August 2022

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WORLD BANK GROUP
Health, Nutrition & Population

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Health, Nutrition, and Population (HNP) Discussion Paper

Improving Monitoring and Data Systems to Count and Account for Stillbirths

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Abstract:

Each year, globally, nearly 2 million pregnancies result in stillbirths. Almost half (42 percent) of all stillbirths occur during labor. Yet, stillbirth rates are generally not considered when assessing the impact of poor quality antenatal and intrapartum care. One of the reasons is that the availability of stillbirth data is still very limited in low- and middle-income countries (LMICs), where 84 percent of stillbirths occur. Many national data systems in LMICs do not record stillbirths, or the stillbirth data are unusable due to nonstandard definitions, inaccurate classification, or underreporting.

Not counting the millions of stillbirths annually in the Global Financing Facility (GFF)-supported countries is a missed opportunity for measuring impact and return on investments. If the Every Newborn Action Plan (ENAP) stillbirth target of 12/1,000 births were reached across the 37 GFF-supported countries, over 500,000 stillbirths would be averted each year based on 2019 estimates.

The GFF commissioned this report to improve the monitoring and reporting of stillbirths for the 37 GFF-supported countries and to inform other LMIC governments, including those supported by the World Bank and other development partners. The objectives of the report are to (i) synthesize challenges and enablers that modify routine stillbirth reporting in LMICs; (ii) synthesize the current landscape of stillbirth reporting across the countries with which the GFF partners; and (iii) provide guidance to the GFF, the World Bank, and other development planners on improving reporting of stillbirths.

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Acronyms

A&F	Audit and Feedback
CRVS	Civil Registration and Vital Statistics
DHIS-2	District Health Information Software-2
DHS	Demographic and Health Survey
EHS	Essential Health Services
ENAP	Every Newborn Action Plan
GFF	Global Financing Facility
HMIS	Health Management Information System
IPTp	Intermittent Preventive Treatment of Malaria in Pregnant Women
LMIC	Low- and Middle-Income Country
MCCD	Medical Certificate of Cause of Death
MICS	Multiple Indicator Cluster Survey
MPDSR	Maternal and Perinatal Death Surveillance and Response
RMNCAH-N	Reproductive, Maternal, Newborn, Child, and Adolescent Health and Nutrition
UN IGME	United Nations Inter-agency Group for Child Mortality Estimation
WHO	World Health Organization

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ACKNOWLEDGMENTS

EXECUTIVE SUMMARY

INTRODUCTION

Each year, globally, nearly 2 million pregnancies result in stillbirths. The COVID-19 pandemic has led to a significant increase in stillbirths. Countries with high stillbirth rates may see increases in the number of stillbirths between 20.0 to 26.6 percent over a 12-month period (UNICEF 2020). The Every Newborn Action Plan (ENAP), led by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) and endorsed by 194 WHO member states, calls for each country to achieve a rate of 12 stillbirths or fewer per 1,000 total births by 2030 (WHO and UNICEF 2020b).

Most stillbirths are preventable, and high stillbirth rates are a marker of low access and coverage of antenatal and intrapartum care. Almost half (42 percent) of all stillbirths occur during labor (UNICEF 2020). Intrapartum stillbirth is a particular tragedy since timely interventions could prevent a majority of these deaths. For too long, stillbirths have not been included when assessing the impact of poor quality antenatal and intrapartum care. Consequently, the benefit of investing in improved antenatal and intrapartum care has been underestimated, with missed opportunities for scaling up more specific interventions to end preventable stillbirths.

Stillbirths[1] can and should be counted. Although the availability of stillbirth data is improving, it is still very limited in low- and middle-income countries (LMICs), where 84 percent of stillbirths occur. Nearly one-third of the 195 countries studied by the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME) had no stillbirth data (24 countries) or lacked high-quality data (38 countries). Currently, these national data systems do not record stillbirths, or the stillbirth data are unusable due to nonstandard definitions, inaccurate classification, or underreporting (UNICEF 2020). Not counting stillbirths occurring annually in the GFF-supported countries is a missed opportunity for measuring impact and return on investments. Across the 37 GFF-supported countries, if the ENAP stillbirth target of 12/1,000 births was reached, over 500,000 stillbirths would be averted each year based on 2019 estimates.

This report was commissioned by the Global Financing Facility to improve the monitoring and reporting of stillbirths for the 37 GFF-supported countries and other LMIC governments, including those supported by the World Bank and other development partners. The report's objectives are the following:

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[1] Many countries use different definitions for stillbirths: however, for international comparisons, the World Health Organization (WHO) through the 10th revision of the International Classification of Diseases (ICD-10) recommends the following definition: "A fetal death occurring at >=1,000 grams, or if birthweight is not available, at >=28 weeks of gestation, or >=35 cm [centimeters] crown-heel length." However, for the most recent UN estimates and from ICD-11 onward, the >=28 weeks gestational age definition is used for international comparison, with the >=1,000 gram threshold applicable only if gestational age is not available (UNICEF 2020; United Nations Inter-agency Group for Child Mortality Estimation 2021).

1) To synthesize challenges and enablers that modify routine stillbirth reporting in LMICs
2) To synthesize the current landscape of stillbirth reporting across the countries with whom the GFF partners
3) To provide guidance to the GFF, the World Bank, and other development planners on improving reporting of stillbirths

The report is based upon a desk review of the current peer-reviewed and grey literature on stillbirths. In addition, interviews were held with key partner organizations.

FINDINGS

The known barriers to including stillbirths in routine reporting in data systems such as Health Management Information Systems (HMIS), Civil Registration and Vital Statistics (CRVS) systems, perinatal death[2] audits linked to Maternal and Perinatal Death Surveillance and Response (MPDSR), and population-based household surveys at different health systems levels include the following:

1) National and subnational levels: Limited awareness of the burden of stillbirths due to poor stillbirth data; disparate country-level standards and guidance on the definition of stillbirths and standards of measurement; lack of legal frameworks requiring perinatal death notification/registration of stillbirths; limited government financing to monitor stillbirths; and challenges with recording stillbirths and data systems for routine reporting.

2) Health facility and community levels: Nonstandardized health facility registers; low levels of community-based reporting; misclassification of stillbirths and inaccurate reporting due to inadequacy of health workers' skills, lack of time, and/or stigma and fear of blame associated with stillbirths/lack of legal frameworks to protect health care workers in these deaths; or shortage of human and material resources at health facilities including HMIS logistics.

3) Individual-level: Social and religious norms and stigma surrounding stillbirths and reporting of stillbirths.

Across the 37 GFF-supported countries,[3] only a fifth have defined stillbirth targets in their national newborn or Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH-N) plans (WHO and UNICEF 2020b). Fewer than a third are required by law to register stillbirths in their Civil Registration and Vital Statistics (CRVS) systems (Figure ES-1) (Annex 1). Approximately 40 percent do not currently report stillbirths in their Health Management Information Systems (HMIS) (UN IGME 2021). Fewer than 40 percent have a perinatal death review system (WHO and UNICEF 2020b). Though this

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[2] Perinatal deaths are those occurring in the perinatal period (from 22 completed weeks of gestation and ending 7 completed days after births [i.e., includes days 0–6 after birth]). Therefore, perinatal deaths include both early and late stillbirths and early neonatal deaths (WHO 2020).

[3] This includes 36 GFF partner countries + Honduras (a GFF-eligible country that received emergency COVID-19 Essential Health Services (EHS) cofinancing on an exceptional basis).

analysis is only limited to those countries currently supported by the GFF (Figure ES-1), these shortfalls are likely to be typical of other LMICs as well.

Figure ES-1. Number of GFF-Supported Countries with Defined Stillbirth Targets and Stillbirth Data-Collection Systems
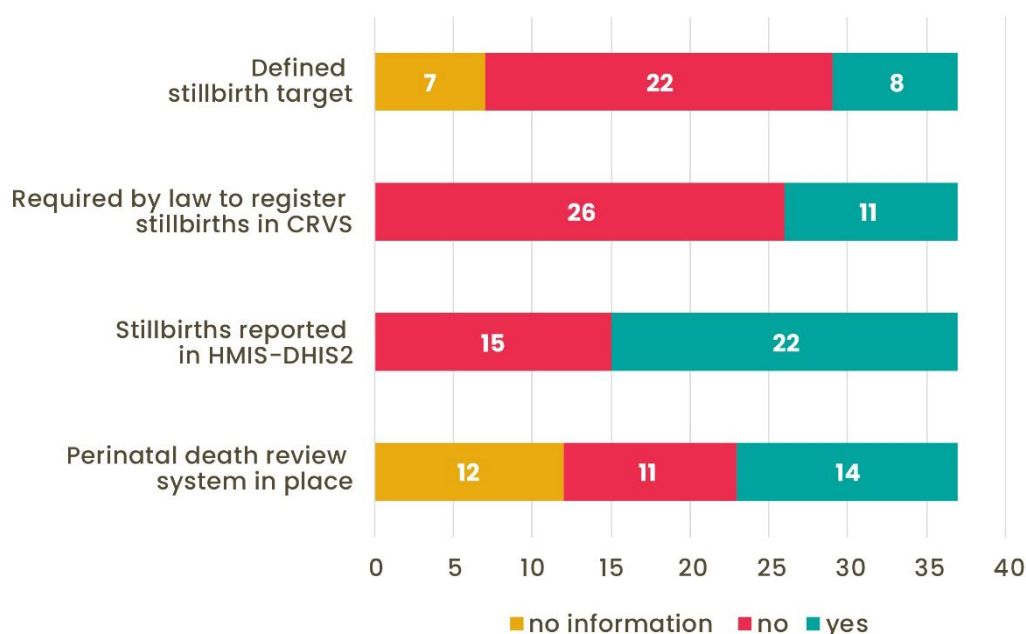
Sources: GFF Data 2022, UN IGME, 2021, WHO and UNICEF 2020b
Note: The values provided in Figure ES-1 are based on the most recent secondary data sources available and, therefore, may not be completely up-to-date. See Annex 1 for further data sources and years.
CRVS = Civil Registration and Vital Statistics; HMIS = Health Management Information Systems (HMIS); DHIS-2 = District Health Information Software-2.

RECOMMENDED ACTIONS

National and subnational levels

Strategies, legal frameworks, and funding

- Ensure that the definition of stillbirths is aligned with international standards. While countries can define stillbirths as they want, depending on their context, at a minimum all countries should report stillbirths at >= 28 weeks gestation for international comparison. Where feasible, collect data for early gestation stillbirths (>=22 – <28 completed weeks) and report these separately than those that are >=28 weeks (WHO 2021).
- Institute legal framework, safeguards, or protocol for perinatal death notification.
- Increase country investments in stillbirth monitoring and national and subnational data collection and system reforms, including financing to strengthen CRVS and MPDSR systems.

- Increase awareness and political commitment to the importance of stillbirth reporting through advocacy, training, and targeted education (Blencowe 2020).
- Support the development of a national strategy that includes the definition and goals for preventing stillbirths and how stillbirths should be reported.

Actionable information systems

HMIS

- Record stillbirths in HMIS/District Health Information Software-2 (DHIS-2), using the standard WHO minimum perinatal data set (WHO 2012, 2016).
- Include tracking of early (fetal deaths 22–27 weeks) and late (fetal deaths >= 28 weeks) gestation stillbirths in DHIS-2.
- Extend the reach of HMIS systems to track live births and stillbirths occurring in private sector facilities and at home.

CRVS

- Where necessary, develop/amend a costed national CRVS strategy and implementation plan, including reporting stillbirths.
- Collect stillbirth data in CRVS and produce vital statistics. Expand access to computerized CRVS systems.
- Introduce innovations to improve birth registration in countries with low national and subnational coverage through incentives to community-level staff.

Perinatal death reviews

- MPDSR should not be limited to maternal and neonatal deaths but should routinely include the review of stillbirths.
- As recommended by the WHO, ensure national prioritization of prevention of maternal and perinatal deaths and conduct a "No Name, No Blame, and No Shame" MPDSR through a national MPDSR policy and guidelines, a legal framework for notifying deaths and involving communities and other sectors, ensuring availability of MPDSR tools, nurturing team relationships and a culture of quality improvement among those who participate in the audit, and regular audit meetings (WHO 2021; Palestra et al. 2021).
- Define common/core measures for monitoring MPDSR at the health facility, district/regional, and national levels to better track implementation by all programs at all levels and to facilitate learning.
- Establish MPDSR committees at provincial/district levels and align their roles in information sharing and communication with facility-level MPDSR committees.
- Coordinate maternal and perinatal death reviews and activities, including how to prioritize the review of perinatal deaths.
- Integrate MPDSR into routine monitoring systems to standardize the process and accountability within both the public and private sectors.

Population-based household surveys

- Ensure the use of more reliable measures of stillbirths (i.e., for household surveys, using a full pregnancy history [FPH] instead of a full birth history [FBH]) (Blencowe 2020; Akuze et al. 2020).
- Add questions on gestational age and birthweight for all births, vital status at birth for all stillbirths and neonatal deaths, and sex of the stillborn baby (Blencowe 2020).
- Include the most vulnerable in household surveys: women <15 years old, never married, and living in fragile settings (Blencowe 2020).
- Ensure sufficient quality and length of interviewer training.
- Address misreporting by raising awareness and public education about stillbirths to reduce the stigma experienced by women. Promote respectful maternity care agenda (Shakespeare et al. 2019).

Data use and interoperability

- At the national level, use data collected in data systems detailed above to track progress toward the ENAP target of 12 stillbirths or fewer per 1,000 total births in every country by 2030. Report and review stillbirth data and neonatal deaths at the facility and district levels, monitoring for potential misclassification (UNICEF 2020). Disaggregate reported stillbirth rates at all levels of care, equity groupings, and for public and private facilities.
- Disaggregate by antepartum/ intrapartum and not fresh/macerated.
- Look for opportunities to integrate stillbirth reporting in existing systems (e.g., CRVS system, MPDSR, HMIS, and at the community level, if stillbirth reporting is not routine). Improve interoperability between different data platforms to streamline data systems and increase efficiency.
- Ensure that stillbirth data are accessible at all health system levels through dashboards, and monthly and annual reports, and that they are understood, valued, and acted upon.

Health facilities/Communities

- Ensure standardized and streamlined registers for countries using either paper or electronic systems. Involve health care workers in designing the changes to existing registers to meet their needs for clinical decision making and data reporting. Move from classifying stillbirths as fresh and macerated, to using the presence of a fetal heart rate on admission for delivery, to classify stillbirths as antepartum or intrapartum.
- Record stillbirths using the standard WHO minimum perinatal data set (WHO 2012, 2016).
- Standardize DHIS systems flow to include registers, forms, and electronic HMIS (e.g., DHIS-2).
- Improve community-based reporting through community sources. Explore integrating the reporting of stillbirths with other existing initiatives, such as community-based Maternal and Perinatal Death Surveillance and Response systems, integrated disease surveillance and response systems, or ongoing public health campaigns (e.g., vaccination).
- Train community informants on how to identify and report stillbirths.

- Explore different modes of data collection for births occurring outside of the health system, including pregnancy registers and mhealth innovations.

Health worker competency, training, and supervision

- Conduct and improve preservice and in-service training on the importance of accurate recording and registering of every birth and death, including stillbirths; timely newborn care, recognizing signs of life and neonatal resuscitation; recording fetal heart rate on admission; assessing gestational age accurately for both live and stillborn babies; building health worker skills to implement MPDSR processes; recording stillbirths as antepartum/intrapartum and not fresh/macerated; addressing sociocultural norms regarding stillbirths, and communicating about the stillborn baby to bereaved women and families in a sensitive manner (Blencowe 2020; Blencowe et al. 2021).
- Institute a health facility "No Name, No Blame, and No Shame" reporting process for stillbirths as outlined by WHO for MPDSR reporting (see MPDSR section above) (WHO 2021; Palestra et al. 2021).
- Conduct health facility analyses of data-recording roles and practices and data flows. Determine who should be responsible for data entry and allocate necessary resources.
- Explore use of digital technology and mobile apps for recording and reporting stillbirths.
- Value health care workers' routine data recording.
- Provide supportive supervision to improve data quality.
- Improve data quality through cycles of audit and feedback (A&F), comparing HMIS monthly reports to labor ward register data, and/or supportive supervision.

Availability of resources

- Ensure sufficient hardware for data entry, including paper registers, summary forms, computers, Internet, servers, and power backup. Explore data-collection systems that function in settings with intermittent or limited electricity (Blencowe 2020).
- Ensure functional and suitable digital weighing devices for every birth (Kong et al. 2021).
- Explore innovations to improve the measurement of gestational age and birthweight (Blencowe 2020).
- Provide guidelines and job aids for weighing babies at birth.

Families/Individuals

- Provide improved communication between families and health care providers for improved care and reporting of stillbirths (WHO and UNICEF 2019).
- Provide bereavement support for families, communities, and caregivers affected by stillbirths (WHO and UNICEF 2019). Conduct implementation research on this understudied topic in LMICs.
- Address misreporting by raising awareness and public education about stillbirths to reduce the stigma experienced by women. Promote a respectful maternity care agenda (Shakespeare et al. 2019).

Opportunities for the GFF, World Bank, and development partners to support governments to strengthen the routine reporting of stillbirths

Catalyze health financing and improve health service quality

- Build on existing in-country health financing work to ensure adequate domestic financing to
  (a) improve the utilization of facility-based health care services for antenatal and intrapartum care; (b) improve clinical practice and quality of services provided during antenatal care and labor and delivery; and (c) sustain the supply of quality RMNCAH-N products and technologies, including systems for demand forecasting and procurement for essential equipment (including infant weighing scales).
- In World Bank projects where actions include improving the quality of HMIS, include the reporting of stillbirths through verification mechanisms and use disaggregated data (equity) for course correction.

Provide country-level technical support, analytics, and innovation

- Raise awareness of stillbirths as a marker of poor maternal health and low access and coverage of antenatal and intrapartum care; the importance of stillbirth prevention; address stigma and blame associated with stillbirths; and provide bereavement support for families and health workers.
- Provide technical support to countries to report and estimate stillbirth prevention potential.
- Provide investment and technical support to ensure that guidelines and legal frameworks incorporate international stillbirth definitions and standards for measurement and reporting.
- Provide investment and technical support to ensure that stillbirth indicators are integrated into existing reporting systems, including digital HMIS platforms; are interoperable; and are accessible at all health systems levels through dashboards with routine data review. For example:

  - Analyze existing CRVS systems to identify gaps, including indicators (reporting of fetal deaths), birth and fetal death registration coverage, birth and death registration sites or reporting modalities, quality of birth and death registration data, submission mechanisms for vital registration records, and demand and utilization of CRVS data.
  - Assist countries in strengthening existing CRVS systems to capture all life events, including fetal deaths; build electronic systems for sustainable and efficient delivery of CRVS services; and link to other data-collection systems.
  - Provide technical assistance (TA) for countries to change labor and delivery registers and HMIS-DHIS-2 reporting systems to include recording gestational age, presence of fetal heart sound during labor, and birth outcome for each birth and death (WHO and UNICEF 2020b).
  - Provide TA to integrate digital innovations in identifying, recording, and reporting stillbirths into national strategies and service delivery, including national digital health policies and data-use plans.

- While not the focus of this paper, technical assistance should not stop at improving the monitoring and classification of stillbirths but can also extend to responsiveness and stillbirth prevention. Technical assistance can include quality and respectful antenatal care (ANC), including screening for infections; intermittent preventive treatment of malaria in pregnant women (IPTp); and improved quality of care during birth, including the implementation of the WHO Labor Care Guide.

Implementation research

- Conduct in-country implementation research on interventions to standardize labor ward register design and improve register layout, column labeling, and cell coding to see whether it improves data quality (Shamba et al. 2021).
- Conduct in-country implementation research to streamline HMIS data systems, including registers and case notes to improve real-time decision making (e.g., better classification of stillbirths) while reducing the documentation burden on health workers (UN IGME 2021).
- Conduct assessment of the impact on quality of stillbirth reporting of a two-way data flow from the labor ward registers into the HMIS and with feedback returning to the health facility to strengthen health care workers' performance (Shamba et al. 2021).
- Explore the feasibility and acceptability of innovations for identifying stillbirths using advanced technologies such as machine learning and pattern recognition (Aftab et al. 2021).

Strengthen data for decision making

- Include stillbirth indicators in World Bank World Development Indicators (i.e., late gestation stillbirth rate [>28 weeks] and proportion of intrapartum and antepartum stillbirths).
- Work with other development and financing partners to adopt the same stillbirth indicators across all relevant health sector projects.
- For the GFF, include routine monitoring of stillbirths in the GFF data portal.
- For the World Bank, include stillbirths prevented as an impact indicator in all projects that support high-quality intrapartum care; stillbirth reporting in projects that support strengthened HMIS; and stillbirth inclusion in MPDSR where this is part of a monitoring and evaluation (M&E) framework.
- For the GFF and World Bank, advocate for the inclusion of stillbirth monitoring in the results framework of projects that address maternal and newborn health, given that stillbirths are an indicator of the poor quality of antenatal and intrapartum care and service delivery.

In addition to the above, the GFF can advocate for the inclusion of stillbirth monitoring and response within country investment cases and support country platforms to improve the monitoring of stillbirths.

Include stillbirths in investment cases

- Work with the government and country platform stakeholders to recommend CRVS components for timely and accurate data on vital events, including stillbirths, are included in RMNCAH-N investment cases.
- Support the Ministry of Health to conduct assessments on data sources on stillbirth.
- Assist the government (or country platform) in prioritizing activities to improve the availability, quality, and use of data on stillbirths in national reporting systems.
- Provide funding and technical assistance to identify and cost the scaled use of innovations to address key constraints in stillbirth reporting, such as portable heart rate monitors, training packages to identify and classify stillbirths, and new tools for identifying and reporting stillbirths in the community.

Continue dialogue and stakeholder mobilization through the GFF country platform

Through the GFF country platform, undertake dialogue and stakeholder mobilization on the importance of prioritizing:

- Support the government to form a group of in-country champions, including the private sector, which will advocate for stillbirth prevention and reporting at national and subnational levels and for reaching the ENAP stillbirth target of 12 stillbirths or fewer per 1,000 total births.
- Develop an implementation plan that outlines the roles and responsibilities for implementation and accountability for results for the investment case.

PART I – INTRODUCTION

Each year, globally, nearly 2 million pregnancies result in stillbirths (see Box 1 for the definition of stillbirth). The 2020 report of the UN Inter-agency Group for Child Mortality Estimation (UN IGME) called stillbirths a "neglected tragedy" because they are unnecessary, unseen, unrecognized, underprioritized, and underfinanced (UNICEF 2020; Lawn 2021). Most stillbirths are preventable, and high stillbirth rates are a marker of low access to and poor coverage of antenatal and intrapartum care. There are five main causes of stillbirths: childbirth complications, maternal infections in pregnancy, chronic maternal conditions, fetal growth restrictions, and congenital abnormalities (UNICEF 2020; Hug et al. 2021). Notably, some 42 percent of stillbirths occur between the onset of labor and the birth. Even though many global initiatives have recently increased their commitment to the critical issue of stillbirths, there is still

Box 1. Definition of Stillbirth

Many countries use different definitions for stillbirths; however, for international comparisons, the World Health Organization (WHO) through the 10th revision of the International Classification of Diseases (ICD-10) recommends the following definition: "A fetal death occurring at >=1,000 grams, or if birthweight is not available at >=28 weeks of gestation, or >= 35 cm [centimeters] crown-heel length." However, for the most recent UN estimates and from ICD-11 onward, the >= 28 weeks gestational age definition is used for international comparison, with the >=1,000 gram threshold applicable only if the gestational age is not available.

Source: UNICEF 2020; UN IGME 2021.

much work to be done to reduce stillbirth rates in low- and middle-income countries (LMICs), where 84 percent of stillbirths occur. Stillbirths have received less attention as a public health issue than neonatal, under-five, and maternal mortality: during the past two decades, the annual rate of reduction of stillbirth has been much smaller than reductions in neonatal deaths, deaths among children ages 1–59 months, and maternal deaths (UNICEF 2020) (Figure 1).

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Figure 1: Annual Rate of Reduction in Stillbirths, Mortality Rates among Neonates, Children Aged 1–59 Months, and Maternal Mortality Ratio (2000–2019)
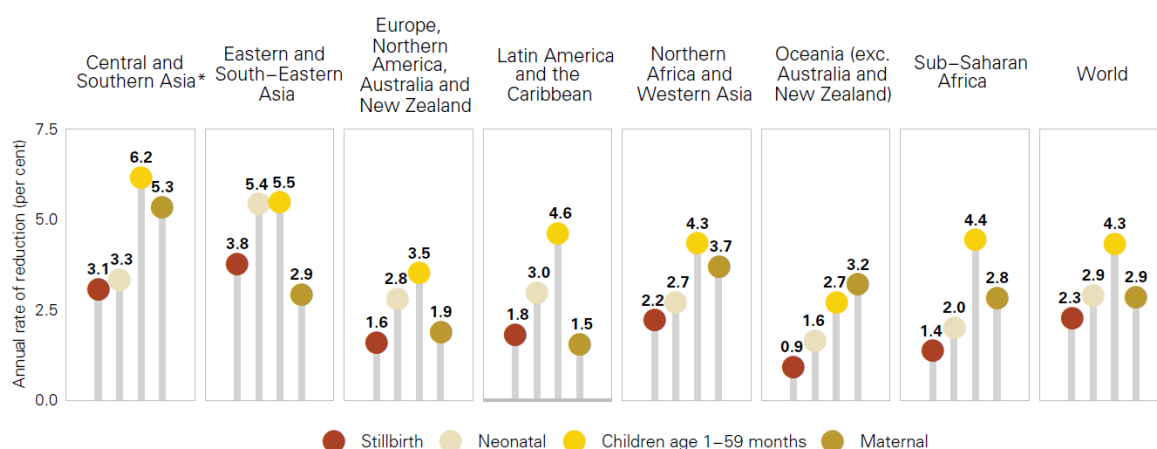
Source: UNICEF 2020.

Stillbirths are a significant public health issue and a sensitive and measurable outcome indicator of antenatal and intrapartum care quality and equity. Timely, accurate identification and recording of stillbirths from community to national levels is the first step to preventing stillbirths. However, many data systems in LMICs do not sufficiently report stillbirths. If stillbirth recording were improved, it could enhance knowledge of where, when, and why they occurred and provide critical information to health care professionals, facility and district managers, and national policy makers to prioritize interventions and investments. In addition, better recording of stillbirths will help track progress toward global, national, and subnational targets and increase investments to improve the prevention of stillbirths (UNICEF 2020; Blencowe 2020; Hug et al. 2021).

This report was commissioned by the Global Financing Facility for Women, Children and Adolescents (GFF)[4] to improve the reporting and monitoring of stillbirths for the 37 GFF-supported countries and other LMIC country governments, including those supported by the World Bank and other development partners. The report's objectives are to achieve the following:

1. Synthesize challenges and enablers that modify routine stillbirth reporting in LMICs.

2. Synthesize stillbirth-related background information for GFF-supported countries—including stillbirth rates, reduction targets, and data-collection systems.

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[4] The Global Financing Facility for Women, Children and Adolescents (GFF) is a multistakeholder global partnership housed at the World Bank that is committed to ensuring all women, children, and adolescents can survive and thrive. The GFF supports low- and lower-middle-income countries with catalytic financing and technical assistance to develop and implement prioritized national health plans to scale up access to affordable, quality care for women, children, and adolescents.

3. Guide national, subnational, and facility-based health planners, the GFF, the World Bank, and other development planners on how to improve reporting of stillbirths.

BACKGROUND

Stillbirths are a marker of inequity. In 2019, before the COVID-19 pandemic, the risk of a woman having a stillbirth was 7.6 times higher in low-income than in high-income countries. Regional disparities also exist: Over three-quarters of all global stillbirths occurred in sub-Saharan Africa and Central and Southern Asia. About half of all stillbirths were in six countries (India, Pakistan, Nigeria, the Democratic Republic of Congo, China, and Ethiopia [highest to lowest])—four of which receive support from the GFF (UNICEF 2020; Hug et al. 2021; IBRD and GFF 2021). There are reports of an unequal burden of stillbirths within countries themselves. Stillbirth rates are higher in rural compared to urban areas, and among women with less education and lower socioeconomic status (UNICEF 2020).

Intrapartum stillbirths are an indicator of the quality of care during birth. Globally 42 percent of stillbirths occur during the intrapartum period (i.e., during labor). In sub-Saharan Africa and Central and Southern Asia, about half of all stillbirths occur during the intrapartum period, compared to in Europe, Northern America, Australia, and New Zealand, with only 6 percent of all stillbirths occurring during labor (UNICEF 2020).

Though the impact of COVID-19 on stillbirth outcomes is not yet well understood, stillbirths must be included in global and country impact analyses of the COVID-19 pandemic (Homer et al. 2021). The COVID-19 pandemic has exacerbated already struggling health care systems and reduced access to high-quality antenatal and delivery care. Based on projections, the pandemic could increase the global number of stillbirths by 3.2 to 11.1 percent. Countries with high stillbirth rates may see increases in the number of stillbirths between 20.0 to 26.6 percent (UNICEF 2020). Country-level mitigation efforts to uncover the drivers of increased stillbirth rates during the COVID-19 pandemic will depend on accurate stillbirth reporting among countries whose health care services and vital registration systems are already overburdened (UNICEF 2020; Homer et al. 2021).

More is being done to strengthen the counting of stillbirths. Despite there being no specific target for stillbirths in the Sustainable Development Goals (SDGs), several global initiatives are working on preventing stillbirths and setting global stillbirth targets. The Every Newborn Action Plan (ENAP), led by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) and endorsed by 194 WHO member states, for example, provides countries with a roadmap for ending preventable newborn deaths and calls for each country to achieve a rate of 12 stillbirths or fewer per 1,000 total births by 2030 (WHO and UNICEF 2020b). The UN Global Strategy for Women's Children's and Adolescents' Health (2016–2030) includes stillbirths in its vision statement (UNICEF 2016). Stillbirths are one of the "100 Core Health Indicators" of the WHO and ENAP core indicators (WHO and UNICEF 2020b; Frøen et al. 2016). The UN IGME conducts stillbirth estimates every two years.

The importance of focusing and reporting on stillbirths in the GFF agenda

The GFF currently supports 37 low- and middle-income countries in Africa, Asia, and Latin America with the highest maternal, newborn, and child mortality burdens. Several GFF

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partner countries have developed strategies to improve care at birth, which has helped reduce maternal and newborn mortality. However, almost all 37 GFF-supported countries are off-track to reaching their stillbirth targets of 12 stillbirths or fewer per 1,000 total births, translating into millions of lives lost. Less than one-third of the countries have defined stillbirth rate targets in their national newborn or Reproductive, Maternal, Newborn, Child, Adolescent Health (RMNCAH) plans (WHO and UNICEF 2020b). Many of these countries have some of the highest stillbirth rates globally (Table 1) (WHO and UNICEF 2020a).

Not counting the stillbirths occurring annually in the GFF-supported countries is a missed opportunity for measuring impact and return on investments. The UN IGME estimated that 22.1 million pregnancies will result in a stillbirth between now and 2030 if the stillbirth rate for each country stays at the 2019 level. If the ENAP 2030 target were met, 5.6 million stillbirths would be prevented over the next decade. Moreover, if each country's rate fell to that of a high-income country (3.0 stillbirths per 1,000 live births), 12.2 million stillbirths would be averted (see Figure 2) (UNICEF 2020). Across the 37 GFF-supported countries if the ENAP stillbirth target of 12/1,000 births were reached, over 500,000 stillbirths would be averted each year based on 2019 estimates (see Table 1).

Figure 2. Lives Saved with Accelerated Progress in Preventing Stillbirths
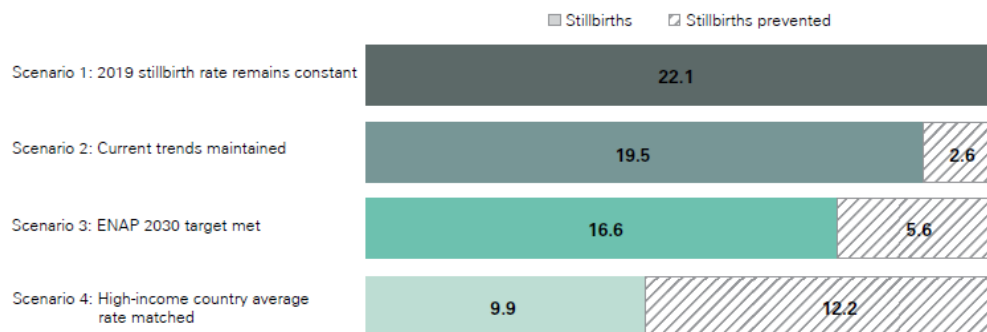
Source: UNICEF 2020.
Note: ENAP = Every Newborn Action Plan.

4

Table 1. GFF-Supported Countries: Stillbirth Rates, Numbers of Stillbirths, and Stillbirths That Could Be Averted If ENAP Target Were Met

COUNTRY	IGME stillbirth rate estimates (Stillbirths per 1,000 total births) (UNICEF 2020)[a,b]		Estimated number of stillbirths in 2019 (IGME)	Stillbirths averted if ENAP target of 12 stillbirths/ 1,000 total births were met[c]
	2010	2019		
Afghanistan	32.6	28.4	35,384	20,433
Bangladesh	29.7	24.3	72,508	36,702
Burkina Faso	23.7	19.5	15,141	5,823
Cambodia	16.5	12.5	4,573	183
Cameroon	21.7	19.4	17,872	6,817
Central African Republic	32.5	29.8	5,147	3,074
Chad	30.1	27.5	18,802	10,597
Cote d'Ivoire	26.8	23.2	21,735	10,493
DRC	30.1	27.2	98,871	55,251
Ethiopia	31.1	24.6	90,323	46,263
Ghana	25.1	21.7	19,529	8,730
Guatemala	15.9	12.7	5,498	303
Guinea	26.8	25.2	11,895	6,231
Haiti	22.6	19.9	5,470	2,172
Honduras	10.1	8.5	1,787	—
Indonesia	11.9	9.5	45,857	—
Kenya	20.6	19.7	30,030	11,738
Liberia	25.4	24.2	4,008	2,021
Madagascar	17.5	16.5	14,671	4,001
Malawi	20.0	16.3	10,440	2,754

5

COUNTRY	IGME stillbirth rate estimates (Stillbirths per 1,000 total births) (UNICEF 2020)		Estimated number of stillbirths in 2019 (IGME)	Stillbirths averted if ENAP target of 12 stillbirths/ 1,000 total births were met
	2010	2019		
Mali	23.0	19.7	16,251	6,352
Mauritania	25.4	22.0	3,385	1,539
Mozambique	25.5	21.7	25,096	11,218
Myanmar	16.3	14.1	13,493	2,010
Niger	21.9	19.6	21,283	8,253
Nigeria	23.7	22.2	171,428	78,764
Pakistan	36.5	30.6	190,483	115,784
Rwanda	18.9	16.9	6,798	1,971
Senegal	22.6	19.7	11,157	4,361
Sierra Leone	27.7	23.7	6,249	3,085
Somalia	29.1	26.8	17,738	9,796
Tajikistan	10.9	9.0	2,542	—
Tanzania	21.8	18.8	40,480	14,642
Uganda	20.8	17.8	29,928	9,752
Vietnam	9.6	7.8	12,479	—
Zambia	17.3	14.8	9,597	1,816
Zimbabwe	23.7	16.0	7,113	1,778
TOTAL				504,704

Source: UNICEF 2020, GFF calculations 2022
Notes: DRC = Democratic Republic of Congo; ENAP = Every Newborn Action Plan; "-" Already met target; "—" Not available)
Notes:
a. UN IGME stillbirth estimates are developed in consultation with countries and are based on available country-level data sources including registration systems (e.g., CRVS, birth or death registries, or HMIS), household surveys (e.g., DHS), or from population-based studies (1).
b. Current DHS questionnaires significantly underestimate stillbirths (14,23).
c. Assuming countries already below 12 SBR stay at or below current level.

To measure the return on investment of addressing stillbirths at the country level, the GFF can support countries to include the reporting and prevention of stillbirths in country-led investment cases (Box 2). It is also important to include estimates of the expected stillbirth reduction due to health system reforms and scale-up of interventions known to prevent stillbirths (BRD and GFF 2021). At present, reducing preventable stillbirths is mentioned in very few Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH-N) investment cases.

Also instrumental for the GFF agenda is providing technical assistance and/or financing to enhance data-driven approaches to accelerate progress in RMNCAH-N services and outcomes. This includes strengthening a country's data systems to capture stillbirth data in health facilities and routine information systems and ensuring that stillbirths are included in routine tracking across the 37 GFF partner countries. It also involves strengthening partner countries' CRVS systems, which are critical to record vital events (including deaths and the accurate causes of death) and for governments to assess their maternal and child health priorities and target interventions (see Sections 3 and 4 for more information). As of June 2021, 21 of the GFF-cofinanced countries included CRVS strengthening in their investment cases, and 13 allocated financing to strengthen their CRVS systems (IBRD and GFF 2021; GFF 2020). However, currently, stillbirths are not a prioritized vital event in the GFF CRVS agenda. Only two GFF-supported countries have stillbirths registered as part of the civil registration system (see Annex 1). And finally, while many investment cases include actions to support greater access to timely quality care during birth, which will also support stillbirth prevention, additional interventions that only focus on stillbirth prevention can be overlooked in a country's implementation plan if the investment case does not incorporate stillbirths in the analysis.

> **Box 2. What Is an Investment Case?**
>
> When a country joins the GFF, the government works with relevant stakeholders to prepare and implement an investment case and a results framework. Investment cases demonstrate a country's commitment to improving data systems, increasing domestic resources, aligning other external funding, and focusing on equity for national investment case priorities. The investment case identifies the key reforms and strategic shifts needed to accelerate progress toward clearly defined Reproductive, Maternal, Newborn, Child, and Adolescent Health and Nutrition (RMNCAH-N) outcomes, helping guide priorities and implementation across various government levels. Not including stillbirths in RMNCAH-N investment cases and the effect of that on potential stillbirths averted contributes to a significant loss of life and a missed opportunity, and a quality health system measurement gap.
>
> *Source:* Authors

Methodology

The report draws on a desk review of the current peer-reviewed and grey literature on stillbirths. For general information about stillbirths, data sources included partner websites including the United Nations Children's Fund (UNICEF); the World Health Organization (WHO); Healthy Newborn Network (HNN); the United States Agency for International Development (USAID); the Centre for Maternal, Adolescent, Reproductive and Child Health (MARCH); the London School of Hygiene and Tropical Medicine; and the Healthy Newborn Network, Maternal Health Taskforce at the Harvard T.H. Chan School of Public Health. Peer-reviewed journal papers were identified and scanned for manual inclusion if they were published between 2000 and 2022, written in English, and focused on barriers and enabling factors to stillbirth reporting at the community, national, or global level. Quantitative, qualitative, and mixed-method studies were all included. A literature search was performed using seven electronic databases (PubMed, CINAHL, APA PyscInfo, Embase, Ovid Healthstar, Global Health, and Google Scholar) to identify potentially relevant papers. Hand searches of the reference lists were conducted of existing reviews, peer-reviewed articles, and reports.

The report is organized as follows. Section 2 explains what data sources are generally used in countries to count stillbirths. Section 3 addresses the challenges and enablers for stillbirth reporting. Section 4 offers lessons learned to improve stillbirth reporting opportunities by health system entry points to achieve SDG targets. It also provides recommendations for the World Bank, GFF, and other development partners to support governments to strengthen the routine reporting of stillbirths.

PART II – DATA SOURCES

Stillbirths can be counted. As mentioned previously, although stillbirth data are becoming more available, they are still limited in LMICs. The UN IGME found that nearly one-third of the 195 countries studied had no stillbirth data (24 countries) or no quality data (38 countries). This is because their data systems do not record stillbirths at all or the data are unusable due to nonstandard definitions, inaccurate classification, or underreporting (UNICEF 2020). The main ways that countries can count stillbirths are provided in Table 2.

Table 2. Main Data Sources for Stillbirths

Method	Purpose
Routine data systems	
Civil Registration and Vital Statistics (CRVS) systems	A national or subnational CRVS system records the details of all major life events of a person, prioritizing live births and deaths, followed by stillbirths. Stillbirth data are obtained through local civil registrars based on notifications from health facilities or CHWs (WHO 2022b; WHO and UNICEF 2021).
Health Management Information Systems (HMIS)	National or subnational HMIS provide birth-related outcome data from routinely collected and compiled administrative data sources recorded in obstetric and neonatal medical charts, records, or registers. Data from these sources are fed into a database or registry and compiled into a subnational and/or national HMIS, sometimes using the electronic DHIS-2 platform (WHO 2022b).
Maternal and Perinatal Death Surveillance and Response (MPDSR) systems	MPDSR systems allow health system managers to better understand the causes of maternal and perinatal death and their contributing factors and address those to improve health care quality (WHO and UNICEF 2020b). To obtain data, deaths are identified at the community and health facility by community health workers. Death audits and reviews are used to verify the submitted data. Ideally, perinatal and maternal death reviews should be linked and coordinated, but that is not always the case.
Population-based household surveys	
Demographic and Health Survey (DHS)	The DHS is used in more than 90 countries and is generally conducted every five years. Eligible women of reproductive age (15–49) are included in the household face-to-face surveys carried

	out by trained fieldwork interviewer teams, and pregnancy and or birth histories are recorded.
Multiple Indicator Cluster Surveys (MICS)	Since the 1990s, MICS have been carried out in 118 countries, generating data on key indicators for women and children. MICS use face-to-face surveys with household members. Pregnancy-related questions are generally directed at women (15–49). However, only a few countries use the special modules to obtain full pregnancy histories.
Other household surveys	Other household face-to-face surveys include Reproductive Health Surveys (RHSs) (which are very similar to DHS/MICS and nationally representative) and subnational population-based studies to collect data on stillbirths. Sometimes these studies are done explicitly in countries without high coverage of routine administrative data (UNICEF 2020).

Source: Authors
Notes: CHWs = Community health workers

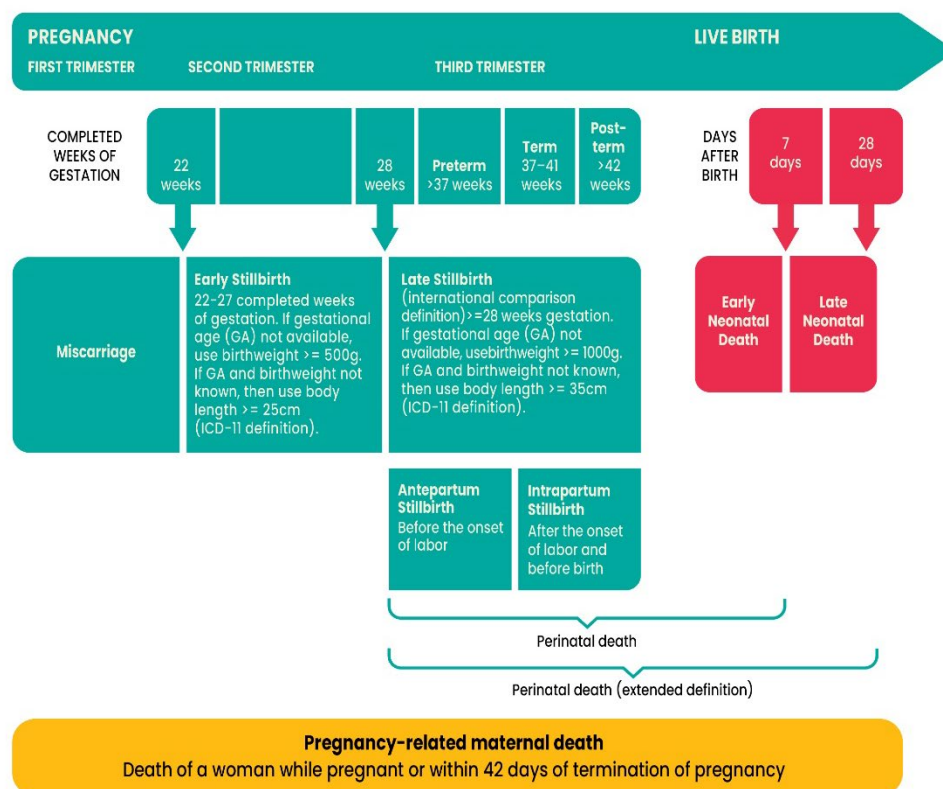# PART III – CHALLENGES AND ENABLERS FOR STILLBIRTH REPORTING

This section outlines the main challenges and enablers to reporting stillbirths. These include challenges in differing definitions of stillbirths; enabling policy environments; challenges and enablers in recording and data systems for routine reporting; challenges and opportunities in health worker competency and capacity to report stillbirths; and challenges and opportunities in data use and response.

CHALLENGES REGARDING DIFFERING DEFINITIONS OF STILLBIRTHS

Many countries use different criteria, or combinations of criteria, for defining a stillbirth, resulting in inconsistent reporting of stillbirths within and across countries (see Annex 2). Some countries use gestational age as stillbirth criteria; others use birthweight or both gestational age and birthweight. According to the UN IGME, about one-third of stillbirth data used different cut-off criteria. Using different gestational age and birthweight cut-offs for stillbirths results in different estimates of stillbirth rates and impacts overall data comparability (UNICEF 2020). As outlined in Box 1, the ICD-11 recommends the >=28 weeks gestational age as the single parameter for stillbirth definitions for international comparison and >= 1,000 grams of weight if the gestational age is not available (WHO 2022a).

Stillbirths should also be classified into either antepartum (occurring before the onset of labor) or intrapartum (occurring after the onset of labor and before birth), as these are indicative of different quality of care measures (WHO 2016). Antepartum stillbirths reflect the quality of care during antenatal care services, whereas intrapartum stillbirths are a measure of the quality of care during labor (see Figure 3). Many data systems do not ask for such a detailed classification of stillbirths, and many health care workers have difficulties determining the appropriate category of stillbirths.

Figure 3. Pregnancy Outcome Definitions

Source: Adapted from WHO 2016.
Notes: g = Grams; cm = Centimeters.

CHALLENGES AND ENABLERS RELATED TO POLICY ENVIRONMENTS

Awareness of the importance of stillbirths and stillbirth data

There is a general lack of understanding of stillbirths and the importance of stillbirth data as a marker of equity and the quality of antenatal and intrapartum care among policy makers, health facility managers, health care workers, and the public. Challenges include making disaggregated data available and accessible to policy makers, identifying evidence gaps, raising awareness, and addressing those gaps, especially among the highest risk groups (Blencowe 2020). Challenges also include offering respectful, supportive care to those affected after a stillbirth. The International Stillbirth Alliance (ISA), for example, is a global membership organization working to connect all those working on or affected by stillbirths. It helps foster mutual accountability to provide the evidence needed to prevent stillbirths, generate informed policies, and provide care "centered on and driven by bereaved families" (International Stillbirth Alliance 2021). Ideally, increased accountability can create demand for better monitoring and measuring of stillbirths.

Country-level standards and guidance on the definition of stillbirths and standards for measurement

Many LMICs lack clear and consistent guidelines on the definition of stillbirths and standards for measurement (Blencowe 2020). Many do not have national guidelines relating to MPDSR (either standalone documents or part of broader maternal and newborn health policies) or do not implement national guidelines at the subnational or facility level (Kinney, Walugembe, and Wanduru 2021).

Legal frameworks

In many countries, health care facilities, especially in private settings, are not legally obliged to report vital events to their Ministry of Health. A legislative framework requiring perinatal death notification and changes in the civil registration legislation to include registration of stillbirths would facilitate and obligate health care clinicians to report deaths to the administrative system and may demonstrate perinatal mortality as a government priority (Blencowe 2020; Kinney, Walugembe, and Wanduru 2021).

Government financing to monitor stillbirths and improve data systems at national and subnational levels

Many LMICs provide limited investments for stillbirth monitoring, including strengthening CRVS, MPDSR, and audit and feedback (A&F) systems. However, budget line items in and of themselves do not necessarily increase spending without political commitment to the issue (Kinney, Walugembe, and Wanduru 2021).

CHALLENGES AND ENABLERS IN RECORDING AND DATA SYSTEMS FOR ROUTINE REPORTING

Accurate stillbirth data rely on data systems reaching every birth and capturing outcomes for all women, no matter where they live, their age, or whether they are delivered at home or in a public or private facility.

Health Management Information Systems

Given that globally more than 80 percent of births occur in health care facilities, the HMIS is an excellent method to count stillbirths. HMIS data on stillbirths could ideally be used to provide essential information about antenatal and perinatal care quality to managers and health care workers at facility levels, managers at the district level, and policy makers at the national level. However, many challenges exist with HMIS systems' coverage of stillbirths, data quality, and potential for using the data.

Capturing stillbirths in the District Health Information Software-2 (DHIS-2)

While many countries use the DHIS-2 as an electronic platform to collate and analyze HMIS data, few—including those cofunded by the GFF—track stillbirths in the DHIS-2 (see Annex 1).

Capturing stillbirths outside of public health facilities

Some HMIS systems, for example, do not capture birth outcomes outside public health facilities. Population-based coverage of stillbirths could be enhanced by including births in private facilities through formal data-sharing processes. HMIS data could be enhanced by including stillbirth indicators in the DHIS-2.

Capturing stillbirths occurring at home

Many HMIS country systems also do not capture births, and thereby stillbirths, occurring at home—resulting in excluding the most marginalized populations. Using community health workers or volunteers to record information on stillbirths occurring in the home could improve HMIS coverage. New technology such as the DHIS-2 Tracker, which collects individual-level (or case-based) data, could provide data on women giving birth at home who have attended at least one antenatal care (ANC) visit. Further investment in this technology is needed as is training for health care workers on how to use it (Blencowe 2020).

Accurate recording of stillbirth data that feeds into the HMIS

As explained in Subsection 3.3.5, the quality of the Health Management Information Systems' ability to record stillbirths depends on whether these data are being recorded at the health or community level and on their accuracy (Blencowe 2020). The Every Newborn-Measurement Improvement for Newborn and Stillbirth Indicators (EN-MINI) Tools for Routine Health Information Systems were recently developed[5] to assess HMIS performance for data collected from the health facility up to subnational and national levels. The EN-MINI tools are flexible and can be used for individually selected indicators (e.g., facility stillbirth rate, intrapartum stillbirth rate, etc.) in addition to currently prepopulated indicators (generic stillbirth rate) (Data for Impact 2022).

Collating data for optimal use

Countries' HMIS may record stillbirths but not necessarily capture information on timing (antepartum vs. intrapartum), gestational age, or birthweight—thereby limiting the understanding of the causes of stillbirths and how to address those (Blencowe 2020).

Civil Registration and Vital Statistics

Recording stillbirths and their causes of death

Improving CRVS systems of LMICs has been an important topic on the global development agenda in recent years. The civil registration of births and deaths provides a legal way to document identity and civil status; provides individuals access to numerous

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[5] The EN-MINI tools were designed and made available through collaborative implementation research by the London School of Hygiene and Tropical Medicine (UK), Ifakara Health Institute Tanzania, icddr,b Bangladesh, and D4I (USAID).

socioeconomic benefits; and generates vital statistics on fertility, mortality, and patterns of death (WHO and UNICEF 2021). While the registration of births in CRVS systems has significantly improved over the past several years, there are wide disparities in coverage between high- and low-income countries, wealth quintiles, and urban and rural populations. Even when CRVS systems record birth events, they may not record stillbirths. Conversely, in death registration, causes of death and stillbirths are often missing. These low-quality and incomplete data are challenges that make it difficult to use CRVS systems at present to provide national estimates of stillbirth data, especially in LMICs (Blencowe 2020).

The WHO and UN recommend collecting stillbirth data within the CRVS system. However, despite these recommendations, recording stillbirth data is generally not included in CRVS legal frameworks or CRVS-strengthening efforts (Blencowe 2020; Joos, Swiney, and Sferrazza 2022). Two resources have recently been developed to improve stillbirth reporting within the CRVS systems: The Civil Registration, Vital Statistics and Identify Management (CRVSID): Legal and Regulatory Review Toolkit provides guidance on reviewing CRVS legal frameworks. A joint WHO and UNICEF guidance on Health Sector Contributions towards Improving the Civil Registration of Births and Death in Low-Income Countries: Guidance for Health Sector Managers, Civil Registrars and Development Partners provides operational support for strengthening CRVS systems, including the reporting of stillbirths. The document includes recommended process indicators to monitor the health sector's contribution to the notification and registration of live births and stillbirths. It also includes the recommended WHO minimum perinatal data set to enable the calculation of key stillbirth and perinatal indicators (see Boxes 3–4).

Box 3. Sample Process Indicators to Monitor Health Sector's Involvement in Notification and Registration of Stillbirths

Number of stillbirths notified by the health facilities to the civil registrar within the legally mandated time period.

Percentage of stillbirths in the health facility notified to the civil registrar, within a defined period, among total stillbirths in the health facility.

Number of stillbirths notified through CHWs within the legally mandated time period after birth.

Source: WHO and UNICEF 2021.

> **Box 4. Questions on the WHO Medical Certificate of Cause of Death (MCCD) Form Relevant to Fetal or Infant Deaths**
>
> Multiple pregnancy? Yes, No, Unknown
>
> Stillborn? Yes, No, Unknown
>
> If death within 24 hours, specify number of hours survived _____
>
> Birthweight (in grams) _____
>
> Number of completed weeks of pregnancy _____
>
> Age of mother (years) _____
>
> If death was perinatal, please state conditions of mother that affected the fetus and newborn _____
>
> *Source:* WHO and UNICEF 2021.

Perinatal death surveillance and response systems

Maternal and perinatal death, surveillance, and response (MPDSR) systems enable health system managers to better understand the causes of maternal and perinatal deaths and their contributing factors, and to implement actions to improve service delivery and health care quality (WHO and UNICEF 2020b; Palestra et al. 2021). Perinatal death reviews, however, are not as widely implemented as maternal death reviews (WHO and UNICEF 2020a). Also, often, MPDSRs are only facility-based, and full-scale national implementation of an MPDSR is currently limited. While MPDSRs can provide useful information on the causes of perinatal deaths, most of these systems in LMICs currently do not have information on the overall national prevalence of stillbirths (Blencowe 2020). The WHO has recently developed an operational guide titled Maternal and Perinatal Death Surveillance and Response: Materials to Support Implementation to provide a roadmap for conducting MPDSR in clinical and policy settings and to assess the burden of maternal deaths, stillbirths, and neonatal deaths (WHO 2021). One of the chapters in the report is devoted to "overcoming the blame culture of MPDSR," given that blame is often related to MPDSR processes at the health worker and/or health facility levels. Successful implementation of MPDSR requires a "No Name, No Blame, and No Shame" environment at these levels as well as a supportive policy and political environment (WHO 2021; Palestra et al. 2021).

Population-based household surveys

Estimating stillbirth rates

Nationally or subnationally representative household surveys are the primary data source for many LMICs to measure pregnancies and adverse pregnancy outcomes (APO) (Kwesiga et al. 2020). They are the preferred source of stillbirth data in countries where

health facility delivery is not very high or where the private sector is excluded from HMIS data (USAID 2022). Population-based surveys use various methods to estimate stillbirth rates—affecting the quality of the estimates. The DHS program's questionnaires, for example, since 1984, have used a full birth history (FBH) to measure a woman's lifetime live births and survival status of the child. The DHS questionnaire has undergone many survey phases,[6] but until 2013, the core questionnaire collected information on stillbirths using a reproductive calendar. Then, with the DHS-7 questionnaire, stillbirth rates were measured in some countries by having women provide a full birth history and answer additional questions on pregnancy losses to document stillbirths (known as the full birth history + [FBH+]). However, this approach missed capturing some stillbirths, possibly because women may not report the event for different reasons (e.g., stigma, sociocultural beliefs), or interviewers may misclassify or misreport these events. More recently, a woman's full pregnancy history (FPH)—which captures miscarriages, terminations of pregnancy, stillbirths, and live births—has been used by DHS in 17 countries. The Every Newborn-INDEPTH study—a randomized comparison of the FBH+ method versus obtaining a woman's FPH in five countries (Guinea-Bissau, Ethiopia, Uganda, Bangladesh, and Ghana)—found that the reporting of stillbirths improved using the FPH approach (Akuze et al. 2021). As a result, the DHS core survey module (DHS-8) was recently changed to the FPH approach. DHS-8 survey collection is ongoing in 12 of the 37 GFF countries. While this new measurement approach is promising, the EN-INDEPTH study also found that improvements in stillborn birth rates varied across sites, highlighting that changing the questionnaire in and of itself will not be sufficient. However, other factors such as survey training and implementation will also play an important role (Akuze et al. 2020; Akuze et al. 2021). In addition, further research is needed to adapt and refine the survey questions to context-specific situations (Akuze et al. 2020).

Factors affecting data quality and accuracy

Numerous factors can affect the quality and accuracy of stillbirth data collected through population-based or household surveys, including the following:

- *Omission of important risk groups.* Many large-scale household surveys do not include the most vulnerable women, such as pregnant women under 15 years old, those not married, and/or women living in the most vulnerable areas (e.g., fragile or conflict-affected areas) (Blencowe 2020).
- *Length of interviewer training.* The Every Newborn-INDEPTH study found that shorter interviewer training was associated with less consistent reporting of FPH (Akuze et al. 2020).
- *Sociocultural and spiritual beliefs.* Many women are reluctant to report their stillbirths because they are afraid of being blamed or judged. They may also be unwilling to speak about sad memories and have different beliefs about the point at which the baby is considered "human" (Kwesiga et al. 2020; Zakar et al. 2018; Haws et al. 2010). Also, differences in local understanding of miscarriage, stillbirths, and neonatal deaths can

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[6] Currently the DHS is in its eighth phase (DHS-8).

contribute to misreporting (Blencowe et al. 2021; Kwesiga et al. 2020; Zakar et al. 2018). Qualitative research from four districts in Pakistan found that both male and female community members had a poor understanding of stillbirths and felt that it did not matter to classify when a baby died because death is "by the will of Allah" (Zakar et al. 2018).

• *Knowledge of gestational age and birthweight.* The EN-INDEPTH study found that only 58 percent of women who experienced stillbirths knew their baby's gestational age (in weeks), and only 13 percent knew the birthweight. These data are needed to differentiate whether adverse pregnancy events are stillbirths or early neonatal deaths. Improving health providers' ability to measure vital status, gestational age, and birthweight correctly and communicating these with women will be essential to improving household survey stillbirth data (Blencowe et al. 2021).

Health facility registers

Using international standards of stillbirth classification to record perinatal outcome information

In 2016 the WHO published the Making Every Baby Count—Audit Guide, which provides the standard recommended minimum perinatal dataset to record every birth, and the WHO application of ICD-10 to deaths during the perinatal period: ICD-PM, which provides a standardized system for classifying stillbirths and neonatal deaths. Despite these agreed-upon indicators, facility-based health systems do not always record key perinatal outcome information. It is important that countries and health care facilities review their birth outcome registers to ensure that elements of the WHO standards are included (Blencowe 2020).

Register design

Facility registers are often complex and not streamlined, affecting the quality of the data being collected. According to the Every Newborn Birth Indicators Research Tracking in Hospitals (EN-BIRTH) study conducted in five hospitals in Bangladesh, Nepal, and Tanzania, health care workers had to document care in multiple documents, including in large and unwieldy paper-based registers. These registers contained many (>50) data elements that needed to be entered and that overlapped and duplicated other documentation (e.g., informal registers, individual patient case notes). While the routine register data completeness in the EN-BIRTH study hospitals was greater than 90 percent, the data accuracy meant the registers underestimated the observed stillbirth rate between 1.1 to 7.4 per 1,000 stillbirths. All the hospitals in the study were using paper-based registers. Respondents anticipated transitioning to electronic platforms because they felt it would save them time but reported they would need additional training on using digital systems (Shamba et al. 2021). According to the study, if a health facility has to rely on paper-based forms because it lacks the resources to create an electronic system, does not have regular supplies of electricity, or simply because staff feel more comfortable using them, a streamlined, shorter, standardized register design, with local adaptation may enable more accurate reporting (Shamba et al. 2021)

The EN-BIRTH study also found that register design was not standardized across the countries. Bangladesh, Tanzania, and Nepal lacked clear instructions, job aids, and training to guide health workers to complete register/case notes documentation. Facility registers in Bangladesh, for example, asked health care workers to indicate whether the newborn was born dead or alive. If it was a stillbirth, to indicate whether it was "fresh" or "macerated." In Tanzania, the register only had a blank box titled "Complications during pregnancy, labor, and outcome of delivery and condition of mother and child." Health workers generally inserted a dash if the baby was born alive; if it was a stillbirth, they inserted "FSB" or "MSB" to indicate a fresh or macerated stillbirth. In Nepal, there was a blank box with a column titled "Outcome of baby/APGAR score," and health care workers generally inserted the type of stillbirth (Peven et al. 2021) (see Annex 1). The varying register designs in these countries' hospitals point to several issues that influence the validity and utility of the data recorded in them: (1) the design and instructions in the facility registers capturing source data were not standardized; (2) open-ended questions in the columns can lead to incomplete recording birth outcomes; and (3) as mentioned above, stillbirth appearance (fresh/macerated) is not a good proxy for timing of stillbirths.

CHALLENGES AND OPPORTUNITIES IN HEALTH WORKER COMPETENCY AND CAPACITY TO REPORT STILLBIRTHS

Correctly classifying stillbirths

One challenge that many health workers have, which contributes to the misclassification of stillbirths, is assessing infants' timing of death and survival status. In some cases, health professionals may not know the gestational age at the time of the fetal death, and the EN-BIRTH study found in some hospitals, stillbirths were not routinely weighed (Kong et al. 2021; Day et al. 2020). Also, they may misclassify a stillbirth as a miscarriage or neonatal death, especially in high stillbirth settings that primarily rely on verbal autopsies (Peven et al. 2021; Blencowe et al. 2016). The EN-BIRTH study, for example, found that stillbirths were often misclassified as neonatal deaths, and neonatal deaths were misclassified as stillbirths (Peven et al. 2021). In-depth interviews and focus group discussions in Pakistan with health professionals and parents who experienced a stillbirth found that most Lady Health Workers (LHWs) (i.e., community health workers) could not differentiate between miscarriages, stillbirths, and neonatal deaths—leading to inaccurate reporting of stillbirths. According to one Lady Health Worker, "*It is very confusing to define stillbirth. I have asked the Lady Health Supervisor about the difference between a stillbirth and a neonatal death. She said, it's almost the same, so we can report it any way we want*" (Zakar et al. 2018)*.*

The best way to identify an intrapartum stillbirth is to ensure that every woman admitted in labor has the fetal heart rate recorded on admission. A subsequent stillbirth can then be classified as intrapartum if a fetal heart was recorded. However, most stillbirths in health facility registers in LMICs are recorded as either "macerated" or "fresh" by visual appearance. The assumption is that a "macerated" stillbirth is when the fetus died more than 12 hours prior to childbirth and "fresh" if fewer than 12 hours prior to childbirth (Peven et al. 2021). "Macerated" thus implies antepartum stillbirths and "fresh" intrapartum stillbirths. The EN-BIRTH study found that fresh or macerated appearance is a poor proxy for the timing of death since about one-third (31 percent) of observed intrapartum stillbirths were recorded as macerated, resulting in underestimation of intrapartum stillbirths (Peven et al. 2021).

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Time to fill out registers

In the EN-BIRTH study, health care workers also often complained about the amount of time it takes for labor and delivery ward documentation and not having sufficient numbers of health workers to fill out the registers. They also mentioned that data quality could be negatively affected if a worker does not have the time to fill out the register immediately after caring for a patient. Often, complete data were more valued than correct data (Shamba et al. 2021). Many respondents, however, acknowledged the importance of completing the HMIS registers to help identify whether patients are receiving the appropriate health care services (Peven et al. 2021). They felt that it would be helpful for health care workers to obtain feedback from those compiling the HMIS data in the health facilities but that they never do (Shamba et al. 2021).

Another complication to recording stillbirths at the health facility is that some pregnant women deliver in the gynecology ward rather than the labor ward if their pregnancy is perceived not to be viable. These births are not always included in the standard delivery register (Blencowe 2020). To improve the efficiency of the data system and thereby the quality of its data, it is essential to understand better the recording practices and data flow in each health facility (Blencowe 2020). Facilities will need to determine whether data entry and their quality should be the responsibility of the health care worker providing the care to the pregnant woman or whether this task should be shifted to other actors. Some respondents in the EN-BIRTH study felt that only the person providing the care should do the recording, whereas others felt that other team members can help. Insufficient human resources, especially during the night shifts affects patient care and quality of routine data (Shamba et al. 2021).

Knowledge, training, and supervision and feedback

The inadequate knowledge and training of health care workers have been cited as barriers to facility-based stillbirth audits (Kinney, Walugembe, and Wanduru 2021; Gondwe et al. 2021). A scoping review of 58 maternal and perinatal death surveillance studies conducted in LMICs, for example, found that inadequate technical skills and knowledge were barriers among many countries to completing MPDSR processes (Kinney, Walugembe, and Wanduru 2021). Health care workers who do not understand the importance of reporting stillbirths can also pose barriers to reporting. According to the qualitative research from Pakistan, for example, some traditional birth attendants felt that it was useless to report stillbirths because they did not have any way to prevent stillbirths or adverse pregnancy outcomes (Zakar et al. 2018). Also, there is often little value given to health care workers' routine data recording and its importance for decision making (Shamba et al. 2021).

Training health care workers in the importance of stillbirth data, completing register/case notes documentation with supportive supervision, to enable high data quality is often minimal (Blencowe 2020; Shamba et al. 2021). Feeding back how to use cycles of audit and feedback (A&F) to improve data quality can be useful, as shown in a recent study in the largest maternity hospital in Kenya (Maina et al. 2018) (see Box 5).

<div style="border: 1px solid black; padding: 10px;">

Box 5. Using Audit and Feedback to Improve Stillbirth-Related Data Quality in Kenya

A recent study in Kenya found that routine data collection in a high-volume neonatal unit improved through cycles of audit and feedback (A&F). A&F was used so that health care providers and hospital management could better understand the completeness of data documentation. The data were presented quarterly at the existing monthly mortality meetings, where areas for improvement and actions to promote change were identified. Documentation of gestational age, for example, improved from <20 percent to >70 percent in six months.

</div>

Source: Maina et al. 2018

Sociocultural norms

Misclassification can also result from stigma and fear of blame associated with stillbirths. For example, in the EN-BIRTH study in Bangladesh, one health worker mentioned that sometimes workers hesitated to record a live baby who died as a neonatal death because they were afraid that it would look bad for the facility. They, therefore, classified the neonatal death as a stillbirth. In other situations, the stigma of stillbirth results in the baby being classified as an abortion (Peven et al. 2021). Other studies cited in the scoping review of maternal and perinatal death surveillance reported that health care workers, during perinatal death audits, are afraid of being threatened during review meetings or fear negative repercussions, which created barriers to implementing the MPDSR (Kinney, Walugembe, and Wanduru 2021).

Availability of resources

A shortage of human and material resources may contribute to inaccurate recording of stillbirths. Inadequate human resources can be due to insufficient health care workers, staff workload, high rotation of trained staff, and high turnover of staff exiting the health workforce (Kinney, Walugembe, and Wanduru 2021; Gondwe et al. 2021). Insufficient material resources may include a lack of digital infant weighing scales or health registers (Kong et al. 2021). Guidelines and job aids to support health workers to weigh stillborn babies at birth are also often missing, and the WHO has not developed standard guidance on weighing stillborn babies at birth (Blencowe 2020; Shamba et al. 2021; NEST360 and UNICEF 2021). For electronic records, barriers have been noted, including high start-up costs, erratic power supplies, increased time to enter patient information, and a lack of integration between the paper-based and electronic information system and the workflow of health care workers (NEST360 and UNICEF 2021). For perinatal death audits, facility costs relating to the audit and reporting process (including costs associated with data collection, transport, and training) have been cited, as well as lack of funds for implementing recommendations from the audit process (Kinney, Walugembe, and Wanduru 2021).

CHALLENGES AND OPPORTUNITIES IN DATA USE AND INTEROPERABILITY

Data sharing, coordination, and use

Data need to be accessible to be used for action. Ideally, HMIS facility and community-level data on stillbirths should be shared with health care workers and higher-level data systems at the district, provincial, and national levels. This is not always the case, as noted in the EN-BIRTH multicountry study, which found a low level of two-way feedback loops between nurse-midwives collecting the data at facilities and data users higher up (Shamba et al. 2021). Stillbirth data use among health care workers is more likely if they are involved in the design of data-collection tools, if data are available in real-time, and if health care worker capacity is strengthened to analyze data and to use it for decision making. Use among policy makers to guide policy and programs is more likely if data are made accessible and understandable through different knowledge-management products, including dashboards, monthly or annual reporting, policy briefs, etc. (Blencowe 2020). Data quality improves when data are used. Too often data are moved up the data pyramid without being used by the health workers who collected them (Shamba et al. 2021).

Interoperability of data systems

Many countries' data systems do not link existing pregnancy and child mortality surveillance, thereby impacting these data systems' quality, accuracy, and use for measuring stillbirths. There are often no institutionalized and structured mechanisms for

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Box 6. Pilot of an Integrated Maternal, Perinatal, and Neonatal Mortality Surveillance System in Pakistan

The burden of stillbirths in Pakistan is among the highest in the world. While stillbirth rates (SBRs) have improved over the last decade, the country is at risk of missing its 2030 Every Newborn Action Plan (ENAP) target of 12 or fewer stillbirths per 1,000 total births.

Currently, there is no national or provincial health information system in the country that integrates maternal, perinatal, and neonatal data sources at the district or subdistrict levels (Zakar et al. 2018). Data are captured across numerous management information systems, including the DHIS, Lady Health Worker Program Management Information System (LHW-MIS), and the Maternal, Newborn, and Child Health Management Information System (MNCH-MIS)—all of which are not integrated (WHO, 2019; Anwar et al. 2018a). Furthermore, the DHIS collects data solely from public health facilities, excluding the 34 percent of births taking place in private health facilities. It is estimated that Lady Health Workers (LHWs) operating at the community level only cover 70 percent of Pakistan's population, and thus may be missing out on a significant proportion of the 34 percent of births taking place at home (Anwar et al. 2018a; NIPS and ICF 2019).

In 2018, Anwar and colleagues published a study that measured maternal, perinatal, and neonatal mortality rates of an enhanced surveillance system in a rural district of Pakistan. Using this surveillance system, all deaths (maternal, neonatal, early neonatal, and stillbirths) were recorded from the community level in public and private health facilities, and integrated at the district level. All deaths were verified at the household level. The study found that birth and death data could feasibly be extended from the routine HMIS to areas and health facilities where previously these data were not reported (e.g., private facilities), and the quality of data could be improved (e.g., its completeness). The study found higher maternal mortality, perinatal mortality, and neonatal mortality rates using the enhanced surveillance system than in the routine monitoring system. The SBR from the enhanced surveillance system did not differ from that calculated before the system was put in place, because LHWs may have underenumerated early neonatal mortality and labeled these deaths as stillbirths in the regular surveillance system (Anwar et al. 2018b).

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integrating mortality data from the community to the facility, district, and national levels. According to a pilot project in Pakistan, enhanced surveillance of maternal, perinatal, and neonatal mortality is possible (see Box 6). In addition, it is important that data from the CRVS system and HMIS are interoperable to improve the coverage, accuracy, and detail of the data (Blencowe 2020).

PART IV – CONCLUSIONS AND RECOMMENDATIONS

This report has presented several challenges and opportunities to rapidly improve stillbirth data. This section provides a list of recommended actions that countries can take by health system entry points, which are aligned to the current reporting challenges (see Table 2). To assist countries assess their progress in improving stillbirth reporting, a checklist is presented in Annex 3. All recommendations are drawn from the UN Inter-agency Group for Child Mortality Estimation, the WHO Maternal and Perinatal Death Surveillance and Response, the information systems pages on the NEST360/UNICEF Toolkit on information systems to implement small and sick newborn care services, as well as the literature scoping reviews.

This section also presents opportunities for the GFF and development partners to support governments to strengthen the routine reporting of stillbirths and identify and address preventable stillbirths. The recommendations encompass support for undertaking a country-specific analysis of current systems and opportunities (building on the summary of current GFF-supported country systems in Annex 1), specific technical assistance, use of financing instruments, and engagement of coalitions to support strengthened systems for stillbirth reporting.

RECOMMENDED ACTIONS BY HEALTH SYSTEM–LEVEL ENTRY POINTS

Table 3 outlines recommended actions by health system entry points. A checklist for policy makers and program implementers to improve stillbirth reporting is provided in Annex 3.

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Table 3. Challenges and Recommended Actions by Health System–Level Entry Points

CHALLENGES	RECOMMENDED ACTIONS
National and subnational	
Strategies, legal frameworks, and funding:	
• The definition of stillbirth is not aligned with international standards and is not used consistently in all data reporting tools.	• Ensure that the definition of stillbirths is aligned with international standards. While countries can define stillbirths as they want depending on their context, at a minimum, all countries should report stillbirths at >= 28 weeks gestation for international comparison. Where feasible, also collect data for early gestation stillbirths (>=22 — <28 weeks) and report these separately to those >=28 weeks (WHO 2021).
• Lack of legal frameworks requiring perinatal death notification and civil registration legislation to include the registration of stillbirths.	• Institute legal framework, safeguards, or protocol for perinatal death notification.
• Limited government financing to monitor stillbirths and improve data systems.	• Increase country investments in stillbirth monitoring and national and subnational data collection and system reforms, including financing to strengthen CRVS and MPDSR systems.
• Limited awareness of the importance of stillbirth data as a marker of equity and the quality of antenatal and intrapartum care.	• Increase awareness and political commitment to the importance of stillbirth reporting through advocacy, training, and targeted education (Blencowe 2020).
• Lack of clear and consistent guidelines on the definition of stillbirths and standards for measurement.	• Support the development of a national strategy that includes the definition and goals for preventing stillbirths and how stillbirths should be reported.

CHALLENGES	RECOMMENDED ACTIONS

Actionable information systems

HMIS

• Some countries do not record or report stillbirth via HMIS/DHIS2 even if there is a policy to do so.	• Record stillbirths in HMIS/DHIS2 using the standard WHO minimum perinatal data set (WHO 2016, 2012). • Include tracking of early stillbirths (fetal deaths 22—27 weeks) and late gestation stillbirths (fetal deaths >=28 weeks) in DHIS-2.
• Many exclude home births and births in private health facilities.	• Extend the reach of HMIS systems to track live births and stillbirths occurring in private sector facilities and at home. • Improve interoperability between health facility and community information systems to capture stillbirths. • Link verbal autopsy from home births with MPDSR systems.

CRVS

• Recording stillbirth data is generally not included in CRVS legal frameworks or CRVS strengthening efforts.[a]	• Where necessary, develop/amend a costed national CRVS strategy and implementation plan, including reporting stillbirths.
• Low coverage of CRVS in LMICs, particularly for rural populations or some marginalized groups.	• Collect stillbirth data in CRVS and produce vital statistics. • Expand access to computerized CRVS systems. • Introduce innovations to improve birth registration in countries with low national and subnational coverage through incentives to community-level staff.

Perinatal death reviews

• Perinatal death reviews are not as widely implemented as maternal death reviews.	• MPDSR should not be limited to maternal and neonatal deaths but should routinely include the review of stillbirths. • As recommended by the WHO, ensure national prioritization of prevention of maternal and perinatal deaths and conducting a "No Name, No Blame, and No Shame" MPDSR through a national MPDSR policy and guidelines, a legal framework for notifying deaths and involving communities and othersectors, availability of MPDSR tools, nurturing team relationships and a culture of quality improvement among those who participate in the audit, and regular audit meetings (WHO 2021; Palestra et al. 2021).
• Failure to move to full-scale national and subnational implementation of MPDSR.	• Define common/core measures for monitoring MPDSR at the health facility, district/regional, and national levels to better track implementation by all programs at all levels and to facilitate learning. • Establish MPDSR committees at provincial/district levels and align their roles in information sharing and communication. • Coordinate maternal and perinatal death reviews and activities, including how to prioritize the review of perinatal deaths. • Integrate MPDSR into routine monitoring systems to standardize the process and accountability within both the public and private sectors.

CHALLENGES	RECOMMENDED ACTIONS
Population-based household surveys	
• Few country large-scale retrospective household surveys (e.g., DHS, MICS) report on stillbirths and/or use a woman's full pregnancy history (FPH) method.	• Ensure the use of more reliable measures of stillbirths (i.e., for household surveys using a full pregnancy history instead of a full birth history) (Akuze et al. 2020; Blencowe 2020). • Add questions on gestational age and birthweight for all births, vital status at birth for all stillbirths and neonatal deaths, and sex of stillborn baby (Blencowe 2020).
• Most marginalized/vulnerable groups may not be fully represented (e.g., in fragile settings).	• Include the most vulnerable in household surveys: women <15 years old, never married, and living in fragile settings (Blencowe 2020).
• Data quality accuracy can be affected by length of interviewer training, sociocultural beliefs, and/or women not knowing their stillborn baby's gestational age or birthweight.	• Ensure sufficient quality and length of interviewer training, including building rapport with respondents to earn a woman's trust and interviewer's understanding of and respect for local culture (Kwesiga et al. 2020). • Address misreporting by raising awareness and public education about stillbirth to reduce the stigma experienced by women. Promote respectful maternity care agenda (Shakespeare et al. 2019).
Data use and interoperability	
• Data reports are not always shared with health care workers or higher-level data systems. • Lack of bidirectional HMIS feedback.	• At the national level, use data collected in data systems detailed above to track progress toward the ENAP target of 12 stillbirths or fewer per 1,000 total births in every country by 2030. Report and review stillbirth data and neonatal deaths at the facility and district levels, monitoring for potential misclassification (UNICEF 2020). Disaggregate reported stillbirth rates at all levels of care, equity groupings, and for public and private facilities.
• Different data systems are often not interlinked and interoperable.	• Look for opportunities to integrate stillbirth reporting in existing systems (e.g., CRVS system, MPDSR, HMIS, and at the community level) (if stillbirth reporting is not routine). Improve interoperability between different data platforms to streamline data systems and increase efficiency.
• Stillbirth data are not always used for action at both national and subnational levels.	• Ensure that stillbirth data are accessible at all health systems levels through dashboards, monthly reports, and annual reports and that they are understood, valued, and acted upon (Blencowe 2020).
• Widespread use of macerated and fresh stillbirth.[b]	• Disaggregate by antepartum/ intrapartum and not fresh/macerated.

CHALLENGES	RECOMMENDED ACTIONS

Health facilities/communities

Health and community registers

• Facility registers do not always record key perinatal outcome information. They can be very complex, not streamlined, too long, and/or provide vague instructions.	• Ensure standardized and streamlined registers for countries using either paper or electronic systems. Involve health care workers in designing the changes to existing registers to meet their needs for clinical decision making and data reporting. Move from classifying stillbirths from fresh and macerated to using the presence of a fetal heart rate on admission for delivery to classify stillbirths as antepartum or intrapartum.
• Registers do not always use the WHO standardized system for classifying stillbirths and neonatal deaths. • Summary forms/ tally sheets used to aggregate data not aligned with registers.	• Record stillbirths using the standard WHO minimum perinatal data set (WHO 2016, 2012). • Standardize HMIS systems flow to include registers, forms, and electronic HMIS (e.g., DHIS-2).
• Community-based births are often not recorded, especially stillbirths.	• Improve community-based reporting through community sources. Explore integrating the reporting of stillbirths with other existing initiatives, such as community-based maternal death surveillance and response systems, integrated disease surveillance and response systems, or ongoing public health campaigns (e.g., vaccination).
• Misclassification between stillbirth and neonatal death is common through community informants.	• Train community informants on how to identify and report stillbirths (WHO 2016). • Explore different modes of data collection for births occurring outside of the health system, including pregnancy registers and mhealth innovations (Blencowe 2020).

Health worker competency, training, and supervision

• Difficulty in correctly classifying stillbirths, including those that are antepartum and intrapartum. • Lack of health worker training in HMIS competencies. • Inadequate technical skills and knowledge to complete MPDSR processes.	• Conduct and improve preservice and in-service training on the importance of accurate recording and registering every birth and death, including stillbirths; timely newborn care, recognizing signs of life and neonatal resuscitation; recording fetal heart rate on admission; accurate gestational age assessment for both live and stillborn babies; build health worker skills to implement MPDSR processes; record stillbirths by antepartum/ intrapartum and not fresh/ macerated; sociocultural norms regarding stillbirths, and communicating about the stillborn baby to bereaved women and families in a sensitive manner (Blencowe et al. 2021; Blencowe 2020).

CHALLENGES	RECOMMENDED ACTIONS
• Misclassification resulting from stigma and fear of blame associated with stillbirths.	• Institute a health facility "No Name, No Blame, and No Shame" reporting process for stillbirths as outlined by WHO for MPDSR reporting (see MPDSR section above) (WHO 2021; Palestra et al. 2021).
• Length of time to fill out registers for busy health workers.	• Conduct health facility analyses of data-recording roles and practices and data flows. Determine who should be responsible for data entry and allocate necessary resources. • Explore use of digital technology and mobile apps for recording and reporting stillbirths.
• Low motivation for HMIS tasks.	• Value health care workers' routine data recording.
• Minimal supervision on how to fill out the registers and data quality.	• Provide supportive supervision to improve data quality. • Improve data quality through cycles of audit and feedback, comparing HMIS monthly reports to labor ward register data (Shamba et al. 2021).

Availability of resources

• Shortage of human and material resources at health facilities, including HMIS logistics.	• Ensure sufficient hardware for data entry, including paper registers, summary forms, computers, Internet, servers, and power backup. Explore data-collection systems that function in settings with intermittent or limited electricity (Blencowe 2020). • Ensure functional and suitable digital weighing devices for every birth (Kong et al. 2021). • Explore innovations to improve the measurement of gestational age and birthweight (Blencowe 2020). • Provide guidelines and job aids for weighing live and stillborn babies at birth.

Families/Individuals

• Social and religious norms and stigma surrounding stillbirths and reporting of stillbirths.	• Provide improved communication between families and health care providers for improved care and reporting of stillbirths (UNICEF 2016). • Provide bereavement support for families, communities, and caregivers affected by stillbirths (WHO and UNICEF 2019). Conduct implementation research on this understudied topic in LMICs. • Address misreporting by raising awareness and public education about stillbirth to reduce the stigma experienced by women. Promote respectful maternity care agenda (Shakespeare et al. 2019).

OPPORTUNITIES FOR THE GFF AND THE WORLD BANK TO SUPPORT GOVERNMENTS TO STRENGTHEN THE ROUTINE REPORTING OF STILLBIRTHS

Across the 37 GFF-supported countries,[7] only a fifth have defined stillbirth targets in their national newborn or Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH-N) plans, and fewer than a third are required by law to register stillbirths in their CRVS systems (Figure 4) (Annex 1) (WHO and UNICEF 2020b). Approximately 40 percent do not currently report stillbirths in their HMIS (UN IGME 2021). Fewer than 40 percent have a perinatal death review system (WHO and UNICEF 2020b). Though this analysis (Figure 4) is only limited to those countries currently supported by the GFF, these shortfalls are likely to be typical of other LMICs as well. Below are recommendations for the GFF, the World Bank, and other development partners to address some of these and other gaps in reporting and preventing stillbirths.

Figure 4. Number of GFF-Supported Countries with Defined Stillbirth Targets and Stillbirth Data-Collection Systems
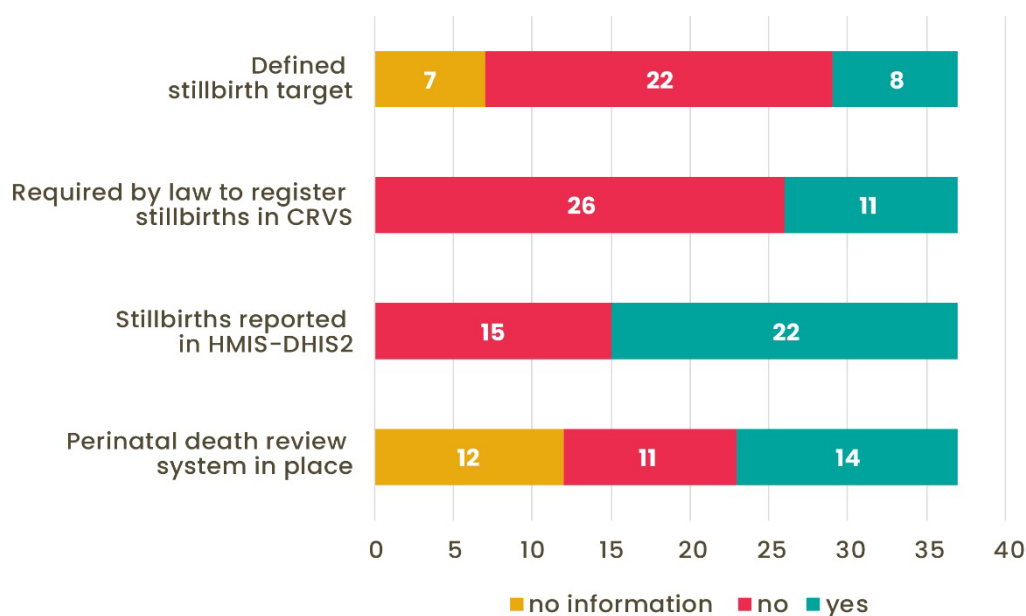
Sources: GFF Data 2022, UN IGME, 2021, WHO and UNICEF 2020b
Note: The values provided in Figure 4 are based on the most recent secondary data sources available and, therefore, may not be completely up-to-date. See Annex 1 for further data sources and years for the other indicators.

CRVS = Civil Registration and Vital Statistics; HMIS = Health Management Information Systems (HMIS); DHIS-2 = District Health Information Software-2.

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[7] This includes 36 GFF partner countries + Honduras (a GFF-eligible country that received emergency COVID-19 EHS grant cofinancing on an exceptional basis).

Catalyze health financing and improve health service quality

- Build on existing in-country health financing work to ensure adequate domestic financing to achieve the following:
- (a) improve the utilization of facility-based health care services for antenatal and intrapartum care; (b) improve clinical practice and quality of services provided during antenatal care and labor and delivery; and (c) sustain the supply of quality RMNCAH-N products and technologies, including systems for demand forecasting and procurement for essential equipment (including infant weighing scales).
- In World Bank projects where actions encompass improving the quality of HMIS, include the reporting of stillbirths through verification mechanisms and use disaggregated data (equity) for course correction.

Provide country-level technical support, analytics, and innovation

- Raise awareness of stillbirths as a marker of poor maternal health and low access and coverage of antenatal and intrapartum care, and the importance of stillbirth prevention; address stigma and blame associated with stillbirths; and provide bereavement support for families and health workers.
- Provide technical support to countries to report and estimate stillbirth prevention potential.
- Provide investment and technical support to ensure that guidelines and legal frameworks incorporate international stillbirth definitions and standards for measurement and reporting.
- Provide investment and technical support to ensure that stillbirth indicators are integrated into existing reporting systems, including digital HMIS platforms; are interoperable; and are accessible at all health systems levels through dashboards with routine data review. For example:

  o Analyze existing CRVS systems to identify gaps, including indicators (reporting of fetal deaths), birth and fetal death registration coverage, birth and death registration sites or reporting modalities, quality of birth and death registration data, submission mechanisms for vital registration records, and demand and utilization of CRVS data.
  o Assist countries in strengthening existing CRVS systems to capture all life events, including fetal deaths; build electronic systems for sustainable and efficient delivery of CRVS services; and link to other data-collection systems.
  o Provide technical assistance (TA) for countries to change labor and delivery registers and HMIS-DHIS-2 reporting systems to include recording gestational age, presence of fetal heart sound during labor, and birth outcome for each birth and death (WHO and UNICEF, 2020).
  o Provide TA to integrate digital innovations in identifying, recording, and reporting stillbirths into national strategies and service delivery, including national digital health policies and data-use plans.

- While not the focus of this paper, technical assistance should not stop at improving the monitoring and classification of stillbirths but can also extend to responsiveness and stillbirth prevention. Technical assistance can include quality and respectful

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antenatal care (ANC) and screening for infections; intermittent preventive treatment of malaria in pregnant women (IPTp); and improved quality of care during birth, including the implementation of the WHO Labor Care Guide.

Implementation research

- Conduct in-country implementation research on interventions to standardize labor ward register design and improve register layout, column labeling, and cell coding to see whether it improves data quality (Shamba et al. 2021).
- Conduct in-country implementation research to streamline HMIS data systems, including registers and case notes to improve real-time decision making (e.g., better classification of stillbirths) while reducing the documentation burden on health workers (UN IGME 2021).
- Conduct assessment of the impact on quality of stillbirth reporting of a two-way data flow from the labor ward registers into the HMIS and with feedback returning to the health facility to strengthen health care workers' performance (Shamba et al. 2021).
- Explore the feasibility and acceptability of innovations for identifying stillbirths using advanced technologies such as machine learning and pattern recognition (Aftab et al. 2021).

Strengthen data for decision making

- Include stillbirth indicators in World Bank World Development Indicators (i.e., late gestation stillbirth rate [>28 weeks] and proportion of intrapartum and antepartum stillbirths).
- Work with other development and financing partners to adopt the same stillbirth indicators across all relevant health sector projects.
- For the GFF, include routine monitoring of stillbirths in the GFF data portal.
- For the World Bank, include stillbirths prevented as an impact indicator in all projects that support high-quality intrapartum care; stillbirth reporting in projects that support strengthened HMIS; and stillbirth inclusion in MPDSR where this is part of an M&E framework.
- For the GFF and World Bank, advocate for the inclusion of stillbirth monitoring in the results framework of projects that address maternal and newborn health, given that stillbirths are an indicator of poor quality of antenatal and intrapartum care and service delivery.

In addition to the above, the GFF can advocate for the inclusion of stillbirth monitoring and response within country investment cases and help country platforms improve the monitoring of stillbirths.

Include stillbirths in investment cases

- Work with the government and country platform stakeholders to recommend CRVS components for timely and accurate data on vital events, including stillbirths, are included in RMNCAH-N investment cases.
- Support the Ministry of Health to conduct assessments on data sources on stillbirth.

- Assist the government (or country platform) in prioritizing activities to improve the availability, quality, and use of data on stillbirths in national reporting systems.
- Provide funding and technical assistance to identify and cost the scaled use of innovations to address key constraints in stillbirth reporting, such as portable heart rate monitors, training packages to identify and classify stillbirths, and new tools for identifying and reporting stillbirths in the community.

Continue dialogue and stakeholder mobilization through the GFF country platform

Through the GFF country platform, undertake dialogue and stakeholder mobilization on the importance of prioritizing:

- Support the government to form a group of champions in-country, including the private sector, who will advocate for stillbirth prevention and reporting at national and subnational levels and reaching the ENAP stillbirth target of 12 stillbirths or fewer per 1,000 total births.
- Develop an implementation plan that outlines the roles and responsibilities for implementation and accountability for results for the investment case.

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ANNEX 1: STILLBIRTH DEFINITIONS AND DATA COLLECTION SYSTEMS FOR THE GFF-SUPPORTED COUNTRIES

Country	CRVS (Required by law to register stillbirths with the civil registration authority [a])	HMIS-DHIS-2 [b] (Whether and what information collected on stillbirths) (UN IGME, 2021)	DHS-7 (2013–2018) (DHS 2022)		DHS-8 (2022–2023) (DHS 2022)	Perinatal death review system in place (2016) (WHO and UNICEF 2020b)	Facility-level reporting of stillbirths (USAID 2018)			Research focusing on stillbirths planned by country (WHO and UNICEF 2020b)
			FBH	FPH	FPH		Yes/No	GA (weeks) recorded during L&D [c]	Fetal heart sounds recorded during L&D	
Afghanistan	No	HMIS-DHIS-2 2020 (Any/Not defined) HMIS-DHIS-2 2014 (GA 28 weeks)	Yes	No	—	No	Yes (F&M) (USAID 2018)	Yes. Register and partograph	No	No
Bangladesh	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	Ongoing	—	Yes. (F/M) (USAID 2018)	Yes. Partograph	Yes. Partograph	No
Burkina Faso	No	HMIS-DHIS-2 2020 (GA 28 weeks)	No	No	Ongoing	No	—	—	—	Yes
Cambodia	No	No	Yes	No	Ongoing	—	—	—	—	—
Cameroon	No	No	No	No	—	Yes	—	—	—	No
Central African Republic	No	No	No	No	—	—	—			—

Country	CRVS (Required by law to register stillbirths with the civil registration authority [a]	HMIS-DHIS-2 [b] (Whether and what information collected on stillbirths) (UN IGME, 2021)	DHS-7 (2013–2018) (DHS 2022)		DHS-8 (2022–2023) (DHS 2022)	Perinatal death review system in place (2016) (WHO and UNICEF 2020b)	Facility-level reporting of stillbirths (USAID 2018)			Research focusing on stillbirths planned by country (WHO and UNICEF 2020b)
			FBH	FPH	FPH		Yes/No	GA (weeks) recorded during L&D [c]	Fetal heart sounds recorded during L&D	
Chad	No	HMIS-DHIS-2 2014 (GA 28 weeks)	Yes	No	—	Yes	—	—	—	No
Cote d'Ivoire	No	No	No	No	Ongoing	No	—	—	—	No
DRC	No	No	No	No	—	Yes	Yes (F&M) (USAID 2018)	Yes. Partograph	No	No
Ethiopia	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	Ongoing	No	Yes (Combined) (USAID 2018)	No	Yes. Partograph	No
Ghana	Yes	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	—	Yes	Yes (F&M) (USAID 2018)	Yes. Register	No	No
Guatemala	Yes[d]	No	Yes	No	Ongoing	—	—	—	—	—
Guinea	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	—	No	—	—	—	No
Haiti	No	No	Yes	No	—	—	Yes (Combined) (USAID 2018)	Yes. Register	Yes. Partograph	—
Honduras	No	HMIS-DHIS-2 2020 (GA 28 weeks)	—	No	—	—	—	—	—	—

Country	CRVS (Required by law to register stillbirths with the civil registration authority [a]	HMIS-DHIS-2 [b] (Whether and what information collected on stillbirths) (UN IGME, 2021)	DHS-7 (2013–2018) (DHS 2022)		DHS-8 (2022–2023) (DHS 2022)	Perinatal death review system in place (2016) (WHO and UNICEF 2020b)	Facility-level reporting of stillbirths (USAID 2018)			Research focusing on stillbirths planned by country (WHO and UNICEF 2020b)
			FBH	FPH	FPH		Yes/No	GA (weeks) recorded during L&D [c]	Fetal heart sounds recorded during L&D	
Indonesia	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	Ongoing	Yes	Yes (F&M) (USAID 2018)	Yes. Register and partograph	No	Yes
Kenya	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	Ongoing	—	Yes (F&M) (USAID 2018)	Yes. Register and partograph	No	No
Liberia	Yes	HMIS-DHIS-2 2019 (GA 28 weeks)	No	Yes	—	No	Yes (Combined) (USAID 2018)	Yes. Register	No	Yes
Madagascar	No	HMIS-DHIS-2 2020 (GA 28 weeks)	No	No	Ongoing	Yes	Yes (F&M) (USAID 2018)	—	—	—
Malawi	No	HMIS-DHIS-2 2019 (GA 28 weeks)	Yes	No	—	—	Yes (F&M) (USAID 2018)	Yes. Register	No	No
Mali	No	HMIS-DHIS-2 2020 (GA 28 weeks)	No	No	—	No	Yes (F&M) (USAID 2018)	No	No	No

Country	CRVS (Required by law to register stillbirths with the civil registration authority [a]	HMIS-DHIS-2 [b] (Whether and what information collected on stillbirths) (UN IGME, 2021)	DHS-7 (2013–2018) (DHS 2022)		DHS-8 (2022–2023) (DHS 2022)	Perinatal death review system in place (2016) (WHO and UNICEF 2020b)	Facility-level reporting of stillbirths (USAID 2018)			Research focusing on stillbirths planned by country (WHO and UNICEF 2020b)
			FBH	FPH	FPH		Yes/No	GA (weeks) recorded during L&D [c]	Fetal heart sounds recorded during L&D	
Mauritania	Yes	No	No	Yes (Data not yet available – Ongoing)	—	No	—	—	—	No
Mozambique	Yes	HMIS-DHIS-2 2019 (GA 28 weeks)	No	No	Ongoing	—	Yes (Combined) (USAID 2018)	Yes. Register and partograph	Yes. Register and partograph	Yes
Myanmar	No	No	Yes	No	—	Yes	Yes (Combined) (USAID 2018)	Yes. Register	Yes. Register	No
Niger	No	HMIS-DHIS-2 2018 (1,000g)	Yes	No	—	No	—	—	—	Yes
Nigeria	Yes	No	Yes	No	—	Yes	Yes (F&M) (USAID 2018)	—	—	Yes
Pakistan	Yes in Khyber Pakhtunkhwa	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	Yes	—	No	Yes (Combined) (USAID 2018)	No	Yes. Partograph	—

Country	CRVS (Required by law to register stillbirths with the civil registration authority [a])	HMIS-DHIS-2 [b] (Whether and what information collected on stillbirths) (UN IGME, 2021)	DHS-7 (2013–2018) (DHS 2022)		DHS-8 (2022–2023) (DHS 2022)	Perinatal death review system in place (2016) (WHO and UNICEF 2020b)	Facility-level reporting of stillbirths (USAID 2018)			Research focusing on stillbirths planned by country (WHO and UNICEF 2020b)
			FBH	FPH	FPH		Yes/No	GA (weeks) recorded during L&D [c]	Fetal heart sounds recorded during L&D	
Rwanda	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	Yes	—	—	Yes (F&M) (USAID 2018)	Yes. Register and partograph	Yes. Register and partograph	No
Senegal	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	Ongoing	No	Yes (F&M) (USAID 2018)	—	—	No
Sierra Leone	Yes	No	No	No	—	No	—	—	—	No
Somalia	No	No	—	No	—	—	—	—	—	—
Tajikistan	Yes[e]	No	Yes	Yes		—	—	—	—	Yes
Tanzania	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	Ongoing	Yes	Yes (F&M) (USAID 2018)	Yes. Partograph	Yes. Partograph	No
Uganda	No	HMIS-DHIS-2 2020 (GA 28 weeks)	Yes	No	—	Yes	Yes (F&M) (USAID 2018)	No	No	—
Vietnam	No	No	No	No	—	No	—	—	—	No
Zambia	Yes	No	Yes	No	—	Yes (2022)	Yes (F&M) (USAID 2018)	Yes. Register	Yes. Partograph	No

Country	CRVS (Required by law to register stillbirths with the civil registration authority [a])	HMIS-DHIS-2 [b] (Whether and what information collected on stillbirths) (UN IGME, 2021)	DHS-7 (2013–2018) (DHS 2022)		DHS-8 (2022–2023) (DHS 2022)	Perinatal death review system in place (2016) (WHO and UNICEF 2020b)	Facility-level reporting of stillbirths (USAID 2018)			Research focusing on stillbirths planned by country (WHO and UNICEF 2020b)
			FBH	FPH	FPH		Yes/No	GA (weeks) recorded during L&D [c]	Fetal heart sounds recorded during L&D	
Zimbabwe	Yes	HMIS-DHIS-2 2020 (GA 28 weeks)		No	—	Yes	—	—	—	—

Source: Adapted from information from GFF data 2022, DHS 2022, UN IGME 2021, USAID 2018, WHO and UNICEF 2020b.

Notes: CRVS = Civil Registration and Vital Statistics; HMIS = Health Management Information Systems; DHIS-2 = District Health Information Software-2; DHS = Demographic and Health Survey; FBH = Full birth history ; FPH = Full pregnancy history; GA = Gestational age; L&D = Labor and delivery; DRC = Democratic Republic of Congo; — = Not available.

Notes:

a. Source: GFF data, 2022
b. Estimates are based on the latest data obtained by UN IGMEE. Countries may have other data that were not included in the IGME estimates because they were not available, provided by the country, or did not meet inclusion criteria.
c. If registered in the partograph only, then probably not registered in the HMIS.
d. Data on stillbirths from the civil registration system are available.
e. Data on stillbirths from the civil registration system are available.

ANNEX 2. STILLBIRTH DEFINITIONS BY COUNTRY AND SOURCE[a]

Country/territory	Administrative data (vital registration and birth and death registries)	Health Information Management Systems (HMIS)	Population study data	Household survey
Afghanistan		500g, not defined		7 months
Bangladesh	28 weeks	28 weeks	28 weeks, 1,000g or 28 weeks, 22 weeks, 1,000g and 28 weeks, not defined, 24 weeks	7 months
Burkina Faso		28 weeks	28 weeks	7 months
Cambodia				7 months
Cameroon				7 months
Chad		28 weeks		
Cote d'Ivoire			28 weeks	
DRC			28 weeks, 1,000g, 1,000g or 28 weeks, 500g or 20 weeks	
Ethiopia		28 weeks	28 weeks, not defined, 1,000g or 28 weeks	7 months
Ghana	All fetal deaths	1,000g, 28 weeks	28 weeks, 24 weeks	7 months
Guatemala	28 weeks, 22 weeks		1,000g or 28 weeks, 28 weeks, 500g or 20 weeks, 1,000g and 28 weeks	7 months
Guinea		28 weeks		7 months

Country/territory	Administrative data (vital registration and birth and death registries)	Health Information Management Systems (HMIS)	Population study data	Household survey
Haiti	—	—	—	—
Honduras		28 weeks		7 months
Indonesia		28 weeks	28 weeks, 1,000g and 28 weeks	7 months
Kenya		1,000g or 28 weeks	1,000g or 28 weeks, 28 weeks, 500g or 20 weeks, 1,000g and 28 weeks, 20 weeks	7 months
Liberia	All fetal deaths	28 weeks, 500g	1,000g and 28 weeks	7 months
Madagascar		28 weeks		7 months
Malawi		28 weeks, 1,000g	22 weeks, 28 weeks, not defined	7 months
Mali		28 weeks	1,000g or 28 weeks	7 months
Mauritania[b]				
Mozambique		1,000g or 28 weeks	28 weeks, not defined, 1,000g or 28 weeks	7 months
Myanmar	not defined			7 months
Niger	28 weeks	1,000g	24 weeks	7 months
Nigeria				7 months

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Country/territory	Administrative data (vital registration and birth and death registries)	Health Information Management Systems (HMIS)	Population study data	Household survey
Pakistan		Not defined, 22 weeks, 28 weeks	Not defined, 28 weeks, 1,000g, 1,000g or 28 weeks, 500g or 20 weeks, 1,000g and 28 weeks	7 months
Rwanda		28 weeks		7 months
Senegal		Not defined, 1,000g, 28 weeks		7 months
Sierra Leone	28 weeks			7 months
Somalia	—	—	—	—
Tajikistan	28 weeks, not defined			7 months
Tanzania		28 weeks	1,000g, 28 weeks	7 months
Uganda		1,000g, 1,000g or 28 weeks	28 weeks, not defined	7 months
Vietnam			24 weeks, 28 weeks	7 months
Zambia	28 weeks		1,000g, 1,000g and 28 weeks, 1,000g or 28 weeks, 28 weeks, not defined, 500g or 20 weeks	7 months
Zimbabwe	28 weeks	28 weeks	22 weeks	7 months

Source: UN IGME 2021

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Notes: DRC = Democratic Republic of Congo; — = Not available.

Notes:

    a.   Stillbirths are reported inconsistently across countries due to the use of different criteria or combinations of criteria and varying thresholds in areas such as gestational age and/or birthweight. The table summarizes the criteria by which stillbirth data are available in countries by source type. Weeks refer to the gestational age threshold, g to birthweight in grams, cm (centimeters) to body length or any criteria. The same data source can provide stillbirths by different criteria. For international comparison UN IGME stillbirth estimates refer to stillbirths occurring at or after 28 weeks of gestation (http://childmortality.org)

    b.   No data source for stillbirths and no information on the definition in http://childmortality.org.

ANNEX 3. CHECKLIST TO IMPROVE STILLBIRTH REPORTING

The following can support a comprehensive analysis of current gaps in stillbirth reporting and identify entry points for enhanced monitoring and responsiveness.

National/subnational government

Strategies, legal frameworks, and funding

☐ Is there an agreed definition of stillbirths and is it aligned with international standards across all data sources?

☐ Does a national maternal, perinatal, and neonatal strategy exist that includes the definition of stillbirths, the reporting requirements, and goals for preventing stillbirths?

☐ Are there legal frameworks, safeguards, or protocols for perinatal death notification?

☐ Are there sufficient country investments in stillbirth monitoring and enhancing national and subnational data collection and system reforms, including financing to strengthen CRVS and MPDSR systems?

☐ Has the government endorsed the Every Newborn Action Plan and developed an action plan that includes addressing stillbirths?

Data systems and reporting

HMIS/DHIS-2

☐ Does the HMIS/DHIS-2 record stillbirths using the WHO minimum set of perinatal indicators? (WHO 2016)

☐ Does it capture stillbirths and live births from home births and private facilities?

☐ Does it include tracking of early (22–27 weeks) and late (fetal deaths >=28 weeks) gestation stillbirths?

CRVS

☐ Is the CRVS system required by law to register stillbirths?

MPDSR

☐ Are perinatal death reviews being implemented?

☐ Are stillbirths routinely included in MPDSR?

☐ Are there common/core measures for monitoring MPDSR at the health facility, district/regional, and national levels to better track implementation of MPDSR and responsiveness to identified actions to reduce perinatal mortality?

Population-based household surveys

☐ Does the DHS and/or MICS collect data on full pregnancy histories?

☐ Are the most vulnerable women included in household surveys that measure perinatal deaths (e.g., women <15 years old, never married, and living in fragile settings)?

<u>Data use and interoperability</u>

- ☐ Do existing data systems integrate stillbirth reporting from different sources (e.g., CRVS system, MPDSR, HMIS)?
- ☐ What is the quality, completeness, analysis, and use of the data from each data platform at both national and subnational levels?
- ☐ Are stillbirth data accessible to subnational governments through dashboards, monthly reports, and annual reports?
- ☐ Are the different stillbirth data platforms interoperable to streamline data systems and increase efficiency?
- ☐ Are reported stillbirth rates disaggregated at all levels of care (community to national level), equity groupings, and public and private facilities?

Health facilities and communities

<u>Health worker training</u>

- ☐ Are health workers being trained on the following:
    - o the importance of accurate recording and registering every birth and death, including stillbirths
    - o timely newborn care, recognizing signs of life, and neonatal resuscitation to enable health workers differentiate between intrapartum fetal and early neonatal deaths
    - o recording fetal heart rate on admission to categorize a death as antepartum or intrapartum
    - o recording stillbirths by antepartum/intrapartum and not fresh/macerated
    - o gestational age assessment for both live and stillborn babies
    - o implementing MPDSR processes
    - o sociocultural norms regarding stillbirths and communicating about the stillborn baby to bereaved women and families in a sensitive manner, both verbally and in written forms

<u>Supplies/Equipment</u>

- ☐ Do health facilities have sufficient hardware for data entry?
- ☐ Does every health facility have functional and suitable digital weighing devices for every birth?
- ☐ Are guidelines and job aids available for weighing live and stillborn babies at birth?

<u>Data reporting and quality</u>

- ☐ Are the health facility registers standardized and streamlined?
- ☐ Do the health facility and community registers report on stillbirths, including gestational age and presence of fetal heart sound during labor and delivery (L&D)?
- ☐ Is there a system to identify and report community-based stillbirths through different sources?
- ☐ Are health facilities regularly conducting data quality reviews?

☐ Is supportive supervision being provided to improve data quality, including accurate collection and classification of stillbirth data?

Families/Individuals

☐ Is there a family-centered approach to both care and measurement (e.g., communication with bereaved families and health care providers and community groups to provide compassionate support to grieving parents and families)?

ANNEX 4: USEFUL RESOURCES AND TOOLS

CRVS:

- o [Health Sector Contributions towards Improving the Civil Registration of Births and Death in Low-Income Countries: Guidance for Health Sector Managers, Civil Registrars and Development Partners](#) (UNICEF and WHO 2021). Guidance on how to improve registration of live births, stillbirths, and deaths.
- o [The Civil Registration, Vital Statistics and Identify Management (CRVSID): Legal and Regulatory Review Toolkit.](#) Global Health Advocacy Incubator and Vital Strategies (2021). Provides guidance on reviewing CRVS legal frameworks.

HMIS:

- o [Every Newborn-Measurement Improvement for Newborn & Stillbirth Indicators (EN-MINI) Tools for Routine Health Information Systems](#). Data for Impact (2022). The EN-MINI tools comprehensively measure HMIS performance for stillbirth data collected at health facility up to subnational and national levels. EN-MINI Tools: MAP newborn data availability, assess USE of newborn data for decisions, and identify how to IMPROVE newborn data quality. The USE and IMPROVE tools are adapted from the [Performance of Routine Information System Management (PRISM)](#) series. The EN-MINI tools, digital collection forms, automated analysis, training, reports, etc., can all be found on the website.
- o [Analysis and Use of Health Facility Data: Guidance for RMNCAH Programme Managers](#) (WHO 2019). Describes core set of RMNCAH indicators that can be captured through HMIS, including stillbirths. Provides references on how to assess the quality of data and how to use it for decision making.

Perinatal Audit/Review:

- o Making Every Baby Count: Audit and Review of Stillbirths and Neonatal Deaths (WHO [2016]). Provides guidance on the key components needed to establish and audit system for stillbirths and neonatal deaths. Also includes tools, forms, and additional resources needed to conduct such audits.
- o [Maternal and Perinatal Death Surveillance and Response (WHO 2021).](#) Provides a roadmap for conducting MPDSR in clinical and policy settings. Provides list of useful resources and tools for conducting MPDSR, and indicators for monitoring MPDSR at the health, district/regional, and national levels.

Other:

- o [SURVIVE AND THRIVE: Transforming Care for Every Small and Sick Newborn](#) (WHO 2019). Chapter 5 presents information on how to improve birth and newborn data quality, including for stillbirths.

- [The WHO application of ICD-10 to deaths during the perinatal period: ICD-PM](#) (WHO 2016). Presents a grouping system for the identification of perinatal deaths using ICD-10 codes to help guide health care providers and those responsible for death certification to correctly classify perinatal deaths.
- [WHO Standards of Care to Improve Maternal and Newborn Quality of Care in Facilities](#) (WHO 2019). Provides health care facility standards of care for mothers and newborns to improve quality of care and standardized data collection and recording.

Each year, globally, nearly 2 million pregnancies result in stillbirths. Almost half (42 percent) of all stillbirths occur during labor. Yet, stillbirth rates are generally not considered when assessing the impact of poor quality antenatal and intrapartum care. One of the reasons is that the availability of stillbirth data is still very limited in low- and middle-income countries (LMICs), where 84 percent of stillbirths occur. Many national data systems in LMICs do not record stillbirths, or the stillbirth data are unusable due to nonstandard definitions, inaccurate classification, or underreporting.

Not counting the millions of stillbirths annually in the Global Financing Facility (GFF)-supported countries is a missed opportunity for measuring impact and return on investments. If the Every Newborn Action Plan (ENAP) stillbirth target of 12/1,000 births were reached across the 37 GFF-supported countries, over 500,000 stillbirths would be averted each year based on 2019 estimates.

The GFF commissioned this report to improve the monitoring and reporting of stillbirths for the 37 GFF-supported countries and to inform other LMIC governments, including those supported by the World Bank and other development partners. The objectives of the report are to (i) synthesize challenges and enablers that modify routine stillbirth reporting in LMICs; (ii) synthesize the current landscape of stillbirth reporting across the countries with which the GFF partners; and (iii) provide guidance to the GFF, the World Bank, and other development planners on improving reporting of stillbirths.

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