



EVERY WOMAN
EVERY CHILD

EVERY NEWBORN ACTION PLAN

METRICS REPORT CARDS



Improving and using the data to
accelerate progress to end preventable maternal
and newborn deaths and stillbirths



World Health
Organization

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COMMITTING TO CHILD SURVIVAL
A PROMISE RENEWED

Every Newborn Action Plan

The Every Newborn Action Plan (ENAP) is based on evidence published in *The Lancet Every Newborn* series and is in support of the United Nations Secretary-General's *Every Woman Every Child* movement. Following consultations with member states and organizations, ENAP was launched in June 2014. The ENAP aims to support countries in reaching the Sustainable Development Goal (SDG) **target of fewer than 12 newborn deaths per 1000 live births**, and ENAP target of **fewer than 12 stillbirths per 1,000 total births by 2030**. The Plan was supported by a 2014 World Health Assembly resolution adopted to encourage government leaders, policymakers and program managers to end preventable newborn deaths and stillbirths. It is also closely linked to the Ending Preventable Maternal Mortality plan and supports key Sustainable Development Goals for health.

Metrics work in support of Every Newborn

The ENAP Metrics working group is co-chaired by the World Health Organisation (WHO) and London School of Hygiene & Tropical Medicine (LSHTM), and has a mandate to work with all partners involved with ENAP to ensure the milestones in the Action Plan related to metrics are met on time, and tools and learning are shared and available in open access for widespread use in countries.

This series of metrics report cards summarises the status of the data, including what can be used now, an ambitious approach to improving the data, and how those interested can find out more.

To contact ENAP metrics coordination group please email ENAPmetrics@lshtm.ac.uk

To read more information

The Lancet Every Newborn Series (2014) www.thelancet.com/series/everynewborn

The Every Newborn Action Plan (2014), and Progress Report (2015) www.everynewborn.org

WHO (2015) The WHO Technical consultation on newborn health indicators www.healthynewbornnetwork.org/sites/default/files/resources/ENAP_metrics_report.pdfBMC

Moxon et al., (2015) Count every newborn, a measurement improvement roadmap for coverage data. BMC Pregnancy and Childbirth 15 S2(8) www.biomedcentral.com/bmcpregnancychildbirth/supplements/15/S2

WHO (2015) Ending Preventable Maternal Mortality Report who.int/reproductivehealth/topics/maternal_perinatal/epmm/en/

The Roadmap for Health and Accountability (2015) Measurement for Accountability and Results in Health: <http://ma4health.hsaccess.org/roadmap>

Chou et al., (2015) Ending preventable maternal and newborn mortality and stillbirths. BMJ, 351 <http://www.bmj.com/content/351/bmj.h4255>

Sustainable Development Goals www.sustainabledevelopment.un.org

Proposed SDG Indicators <http://unsdsn.org/wp-content/uploads/2015/05/150612-FINAL-SDSN-Indicator-Report1.pdf>

Every Newborn Metrics Co-ordination Group



In support of over 80 partners who committed to the Every Newborn Action Plan

EVERY NEWBORN ACTION PLAN

DATA REPORT CARD 1

What do we need to measure and why?

Under its five strategic objectives, the Every Newborn Action Plan (ENAP) provides technical guidance for refining national policy within the context of health sector reform and wider reproductive, maternal, neonatal and child health strategies (Fig 1.1). High-quality care at birth for every woman and her baby is at the heart of the continuum of care (Fig 1.2). Scale up of these high-impact, and cost-effective interventions could give a triple return on investment and help to end preventable maternal and newborn deaths and stillbirths in support of the Global Strategy for Women's, Children's and Adolescent Health, under the Sustainable Development Goals.

Figure 1.1. Packages in the continuum of care

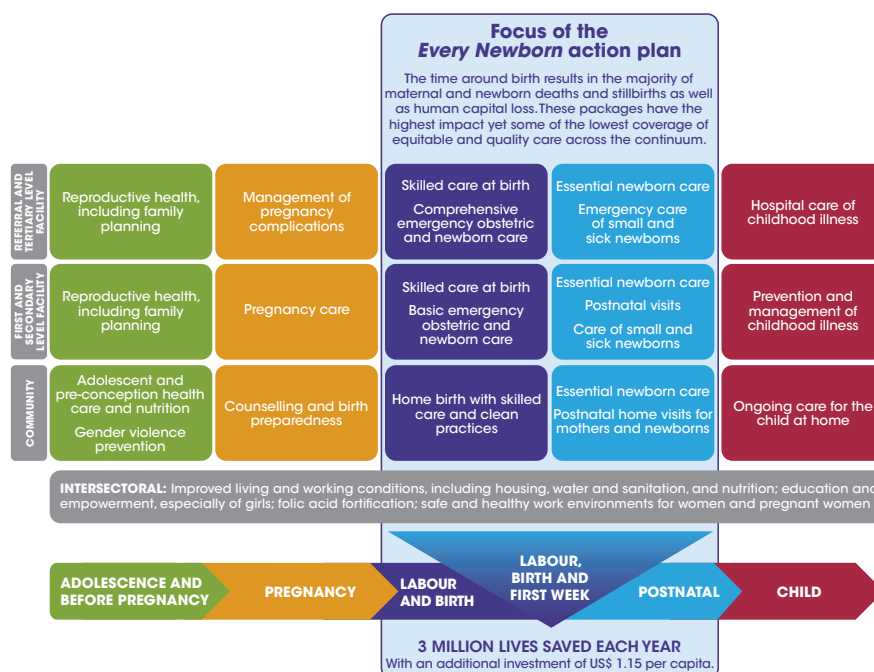


Figure 1.2. Strategic objectives of the ENAP



Data are crucial for informing and accelerating change, as well as monitoring quality and safety. Where indicators for high impact, evidence-based interventions are effectively tracked, equitable coverage tends to improve planning, leading to better population health outcomes. This has been seen for under-five deaths due to HIV/AIDS, malaria and measles (among others), which have seen the greatest proportional declines and have more advanced and more programmatic data (coverage and process), collected more frequently, and at a more granular level (e.g. district level, by various equity analyses groups). This contrasts with newborn health care where most of the high impact interventions do not have comparable coverage data or data are of poorer quantity and quality, and have been collected with less frequency¹.

What are the indicators, and why are these important?

Ten priority indicators were selected during wide consultations for the development of ENAP. These indicators are proposed for use in countries and have been prioritised according to the five ENAP objectives (Fig 1.1) in order to track impact, coverage of care for every mother and newborn, and specific interventions for complications and extra care (Table 1.1). Additional indicators are listed, including those important for measuring outcomes related to quality of care at birth and care for small and sick newborns, notably capturing intrapartum stillbirths and monitoring disability. Accurate, regular collection of maternal and newborn health data, including stillbirths, is essential to track in-country progress towards ENAP targets, and for programme managers and policymakers to monitor and respond to gaps in equity and quality of care. There are 29 countries which need to at least double progress to meet the target for neonatal mortality, and more that need to meet the target for stillbirth prevention, and these countries have the furthest to go in terms of health management information systems. It is therefore critical that a limited number of data points are prioritised and tested to ensure validity and feasibility for use; even in more challenging settings.

Priority gaps in metrics

Table 1.1 is colour coded. Impact indicators are shown in green; those in normal text have clear, agreed definitions, but the quality and quantity of data require improvement. Indicators of coverage of care of all mothers and newborns are shown in amber; the three identified for tracking are clearly defined, but data on the content and quality of care must be improved. The indicators for coverage of care for newborns at risk or with complications are shown in red, as their measurement requires the most work, with gaps in definitions. New research is required for validation and to assess the feasibility of their use at scale in health management information systems (HMIS).

The ENAP Measurement Improvement Roadmap is detailed in Report Card 2 and specifies challenges and gaps in measurement and provides a multi-year, multi-partner pathway to improving the status of measurement, including indicator definitions, tools, coverage, utility and validity.

Table 1.1: ENAP core and additional indicators

Current status		Core ENAP indicators	Additional indicators
Definitions clear – but quantity and consistency of data lacking	Impact	1. Maternal mortality ratio* 2. Stillbirth rate* 3. Neonatal mortality rate*	Intrapartum stillbirth rate Low birth weight rate Preterm birth rate Small for gestational age Neonatal morbidity rates Disability after neonatal conditions
Contact point definitions clear but data on content of care are lacking	Coverage: Care for All Mothers and Newborns	4. Skilled attendant at birth* 5. Early postnatal care for mothers and babies* 6. Essential newborn care (tracer is early breastfeeding)	Antenatal Care* Exclusive breastfeeding up to 6 months*
Gaps in coverage definitions, and requiring validation and feasibility testing for HMIS use	Coverage: Complications and Extra Care Input: Service Delivery Packages for Quality of Care	7. Antenatal corticosteroid use 8. Neonatal resuscitation 9. Kangaroo mother care 10. Treatment of severe neonatal infections	Caesarean section rate Chlorhexidine cord cleansing
	Input: Counting	Emergency Obstetric Care Care of Small and Sick Newborns Every Mother Every Newborn Quality Initiative with measurable norms and standards	
		Birth Registration	Death registration, cause of death

Shaded = Not currently routinely tracked at global level. **Bold red** = Indicator requiring additional testing to inform consistent measurement

Indicators to be disaggregated by equity such as urban/rural, income, and education. *also SGD core or complementary indicator

Adapted from WHO and UNICEF, Every Newborn Action Plan (2014), Mason et al. Lancet (2014), Moxon et al., BMC (2015)

For full references and further reading see Introduction to these report cards and www.everynewborn.org

¹ WHO (2014), The Every Newborn Action Plan

² Mason et al. (2014) From Evidence to action to deliver a healthy start for the next generation. The Lancet 384(9941) p455-467.

³ Moxon et al.(2015) Count every newborn; a measurement improvement roadmap for coverage data. BMC Pregnancy and Childbirth S2(8)

EVERY NEWBORN ACTION PLAN

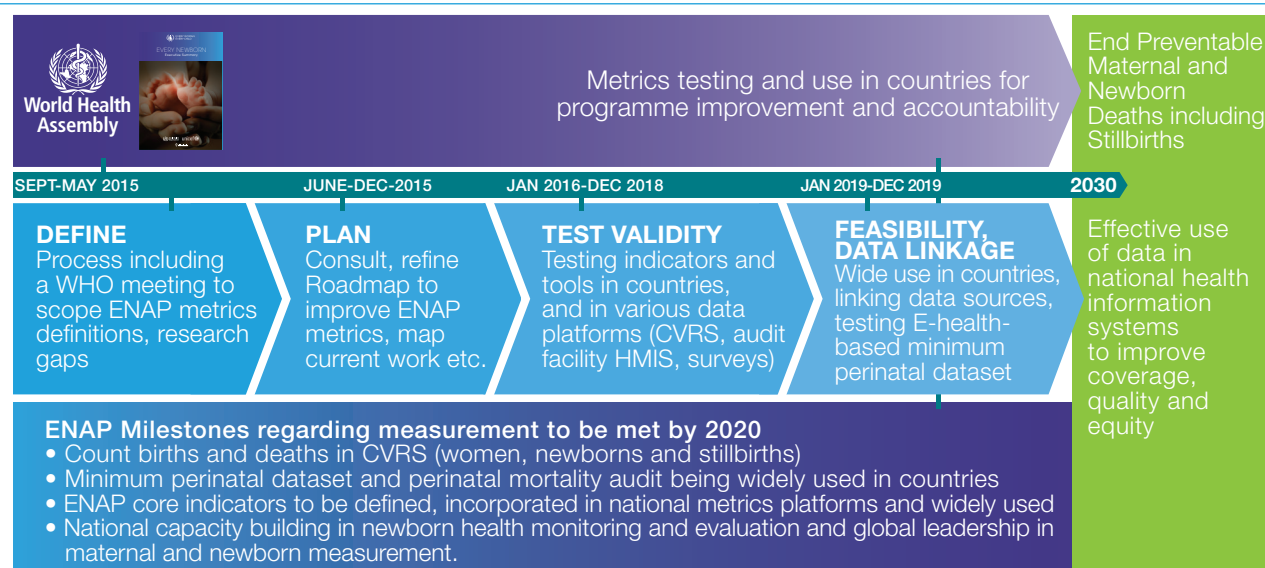
DATA REPORT CARD 2

How will the data be improved and used?

The Measurement Improvement Roadmap, an ambitious plan to improve and use data

Since 2014, substantial progress has been made in aligning indicator definitions that can be used in countries. A five-year multi-partner ENAP Measurement Improvement Roadmap details steps to meet key ENAP milestones (Fig 2.1). Coordinated via the ENAP metrics group, the Roadmap was developed in wide consultation, including a WHO meeting of 50 experts¹ and a series of consultation sessions throughout 2015. The purpose was to link to and contribute to the wider Measurement for Health roadmap for health systems, noting that counting births and deaths around the time of birth is fundamental to all health information systems.²

Figure 2.1: The Every Newborn Measurement Improvement Roadmap



What can we measure now to assess progress for care of small and sick newborns?

Given the gap in immediate measurement of population coverage data, and content and quality of care for treatment of small and sick newborns, Table 2.1 details indicators that are already in use and can be tracked immediately, while work progresses to validate and test feasibility for the coverage indicators for indicators 7-10.

Table 2.1: Process and readiness indicators to measure now regarding care of newborns with complications or those at risk³

INDICATOR	NUMERATOR	DENOMINATOR
Antenatal corticosteroids (ACS) use	Number of countries with ACS on the essential drug list for the purpose of fetal lung maturation in preterm labour	Number of countries with essential medicine list policy data
Newborn resuscitation	Number of facilities with a functional neonatal bag and two masks (sizes 0 and 1) in the labour and delivery service area	Number of facilities with inpatient maternity services that are assessed
Kangaroo Mother Care	Number of facilities in which a space is identified for KMC and where staff have received KMC training (< 2 years)	Number of facilities with inpatient maternity services that are assessed
Treatment of neonatal possible serious bacterial infection	Number of facilities in which gentamicin is available at suitable peripheral level for treatment of severe neonatal infection	Number of facilities assessed
Chlorhexidine (CHX) cord cleansing	Number countries with CHX on the essential drug list for the purpose of cord cleansing	Countries with essential medicine list policy data

What data improvements are most needed?

All the ENAP core indicators (Table 1.1), even those colour coded green (impact level), require improvements in quantity and quality of data, notably for intrapartum stillbirths. For skilled birth attendance and postnatal care, as well as antenatal care, advances have been made in data for coverage of the contact at this time, but there are gaps in the measurement of content and quality. There are major gaps (shown in red in Table 1.1) for indicators regarding treatment for newborns or women at risk or with complications. For these indicators, clinical judgement is usually needed in order to identify those in need of the intervention. As with caesarean section, this is hard to measure consistently, creating further measurement challenges for capturing the true denominator. Therefore, options need to be considered for testing more feasible denominator options (listed in Table 2.2).

Work to validate the core coverage indicators and test a range of potential denominators (Table 2.2) will start in Tanzania and Bangladesh.

The facility-based testing for ENAP includes

- Four core coverage indicators (Table 2.2)
- Facility readiness for small and sick newborn care (similar to Emergency Obstetric Care approach)
- Birth and death certificate innovations
- Birth weight and gestational age (GA) improvement
- Perinatal audit field testing and minimum perinatal dataset

The indicators will then be tested for feasibility of collection in routine health management information systems. Some interventions – such as use of chlorhexidine cord cleansing or kangaroo mother care – may also be measurable through household surveys and require separate work.

Table 2.2: Coverage indicators for validation regarding care of newborns with complications or those at risk³

INDICATOR	NUMERATOR	DENOMINATOR, OPTIONS TO BE TESTED
Antenatal corticosteroid (ACS) use	All women giving birth in a facility who are <34 completed weeks and received one dose of ACS for being at risk of preterm birth (note initial focus on counting all while testing ways to split by GA at birth to identify women treated who did not deliver <34 completed weeks)*	a) Live births in the facility b) Total births in the facility (including stillbirths) c) Estimated births (live or total) d) Target population for coverage (live births in facility by gestational age in weeks, notably gestational age <34 weeks as target population for coverage)
Newborn resuscitation	Number of newborns who were not breathing spontaneously/ crying at birth for whom resuscitation actions (stimulation and/or bag and mask) were initiated	
Kangaroo mother care (KMC)	Number of newborns initiated on facility-based KMC	
Treatment of neonatal possible serious bacterial infection (PSBI)	Number of newborns who received at least one dose of antibiotic injection for PSBI in the facility	

*Important for assessing safety⁴

Leadership from highest burden regions to improve and use data

To strengthen national technical leadership for data collection and use, the indicator improvement activity will be nested in academic centres of excellence, initially in two high-burden countries (Bangladesh and Tanzania). In addition, the INDEPTH network Maternal Newborn Interest Group, will lead to the testing of questions and improved tools for counting births and deaths around the time of birth, including improved cause of death and birth weight/gestational age (GA) assessments.

The road ahead

In addition to these initial actions, work is needed to improve measurement of GA and birthweight, and tools and systems are needed to integrate routine information systems data with impact data and other data platforms.

For full references and further reading see Introduction to these report cards and www.everynewborn.org

¹ World Health Organization (2014) The WHO Technical consultation on newborn health indicators, assess at www.everynewborn.org

² Measurement for Accountability and Results in Health (2015) The Roadmap for Health and Accountability

³ Moxon et al., (2015) Count every newborn, a measurement improvement roadmap for coverage data, BMC Pregnancy and Childbirth, S2(S8)

⁴ Liu et al. (2015) Antenatal corticosteroids for management of preterm birth: a multi-country analysis of health system bottlenecks and potential solutions, BMC Pregnancy and Childbirth, S2(S3)

EVERY NEWBORN DATA REPORT CARD

MEASURING CARE FOR SMALL AND SICK NEWBORNS




What do we want to measure and why?

The day of birth is the most vulnerable day in the human lifecycle, with 1 million newborns dying on their birthday, and 2.7 million babies dying during the first month of life. The main causes of death and disability include direct complications of prematurity (36%), intrapartum events (previously called birth asphyxia) (23%), and infections (23%). Millions of babies become sick and require inpatient hospital care with skilled nurses and appropriate equipment. The highest risk is for 15 million born preterm (before 37 weeks gestation), and especially for those born before 32 weeks who may stay in hospital for several weeks.

Ending preventable newborn deaths, plus improving child development, is dependent on timely and high-quality care for these small and sick newborns. The *Every Newborn Action Plan* (ENAP) highlighted the high impact from quality hospital-based care, with potential to save more than half a million lives a year. Yet there are major gaps for reaching families in the highest burden countries, and an important measurement gap.

For 15 years, obstetric care has had clear definitions for basic and comprehensive emergency obstetric care, enabling assessments of a single facility, a whole region, or country to be compared. This aids health ministries and managers to plan programmes, advocate for staff and equipment, and promote accountability structures within the health system. Similarly, care for small and sick newborns must be provided at different health system levels and with varying complexity, both for staff (especially midwives and neonatal nurses) and for equipment.

Figure 1: Evidence-based interventions for small and sick newborns, from basic to more complex care

More complex care		<ul style="list-style-type: none">• Specialised follow up of high risk infants (including preterm)• Treatment and screening for retinopathy of prematurity• Blood transfusion• Mechanical/assisted ventilation, including intubation• Continuous positive airway pressure (CPAP)
		<ul style="list-style-type: none">• Kangaroo mother care for ≤ 2000g, especially preterm babies, including follow up• Assisted feeding (including cup feeding, nasogastric feeding)• Safe administration of oxygen• Injectable antibiotics for neonatal infection• Intravenous fluids• Management of hypoglycaemia• Effective phototherapy• Seizure management
		<ul style="list-style-type: none">• Essential newborn care (drying, skin-to-skin contact of the newborn with the mother, delayed cord clamping, hygienic cord care, Vitamin K, eye care and vaccinations)• Thermal protection• Early initiation and support for exclusive breastfeeding• Neonatal resuscitation• Prevention of mother to child transmission of HIV

What can we measure now?

Even in high-income countries with widely available neonatal intensive care, standardised measures of coverage and quality are lacking. In most low- and many middle-income countries, care for small and sick newborns is being scaled up, but not tracked by routine health management systems. Health facility assessments (HFA) may be used to periodically capture information from a nationally representative sample of facilities on service readiness (such as staff, infrastructure, equipment, and service delivery). Several widely-used health facility assessment survey tools exist:

- **SPA** = Service Provision Assessment led by the Demographic Health Survey (DHS) programme: a comprehensive tool for monitoring readiness and availability of all main health programmes in a country's formal health care system.
- **SARA** = Service Availability and Readiness Assessments led by WHO: a more compact tool that can collect data more rapidly, to measure service readiness on select indicators for all main health programmes.
- **EmONC** = Emergency Obstetric and Newborn Care assessments, led by Averting Maternal Death & Disability (AMDD) and United Nations Population Fund (UNFPA) to measure ability to provide emergency obstetric "signal functions" (selected interventions to avert the main causes of obstetric death and disability).

While several newborn indicators are included in each tool, the assessments do not generate comparable data and fail to capture the more complex interventions required for small and sick newborns. The size and cost of these assessments limits their frequency, and as a result health programmes face gaps in timely data for planning and routine monitoring of service delivery.

What will *Every Newborn* metrics research tell us?

As part of the *Every Newborn* Measurement Improvement Roadmap, new research has been prioritised to enable standardised and more feasible routine measurement for care for small and sick newborns. This research is coordinated for *Every Newborn* by London School of Hygiene & Tropical Medicine (LSHTM) with WHO, Saving Newborn Lives/Save the Children, Averting Maternal Death and Disability (AMDD), UNICEF, UNFPA and USAID. The work is organised under two themes:

Theme A. Process for defining WHAT to measure:

A process is underway to inform which interventions are needed at different levels of the health system for inpatient care of small and sick newborns, and what components are necessary to deliver this care. Building from the WHO evidence-based guidelines, this process includes:

- Detailing structural characteristics: Creating and agreeing on the minimum structural characteristics (infrastructure, equipment, providers, and drugs) for facility readiness to deliver the evidence-based interventions (Figure 1).
- Harmonising indicators: The structural characteristics required to deliver inpatient care are extensive and there are many different indicators. Sentinel indicators of service readiness should be harmonised, and “signal functions” for levels of care prioritised.
- Consulting experts on signal functions: A global survey to assist in the prioritisation of signal functions has been developed and is open until August 2017 available in English, Spanish and French: www.healthynewbornnetwork.org/resource/enap-metrics-cards
- Finalising norms and standards: Under the mandate of WHO, guidelines and levels of care for small and sick newborns revised and made widely available.

Theme B. Evaluating HOW to measure care for small and sick newborns:

The ongoing research will inform:

- Standardised tool and minimal content to measure: To evaluate the status of the existing measurement tools to capture service readiness for inpatient care of small and sick newborns, we have reviewed three widely-used tools (SPA, SARA, EmONC). We have compared the content of these tools to the long list of ingredients to measure. There are many gaps, especially for more complex care. A core module will be developed, piloted and made widely available.
- Exploration of alternative data collection approaches: How do different data sources such as routine health management information systems compare in terms of accuracy and feasibility to gather data?
 - Data from the recent EmONC assessment in Malawi will be compared with the Malawian national health management information system.
 - Qualitative interviews will be carried out with health workers at various levels to assess data collection workload, barriers and enablers to data collection and utility for quality improvement and programme planning in Malawi.

More information

Visit Healthy Newborn Network for more information, references and data sources at healthynewbornnetwork.org

Key resources: Inpatient care of small and sick newborns: a multi-country analysis of health system bottlenecks and potential solutions: Moxon et al (2015): bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-15-S2-S7

This *Every Newborn* data report card is part of a series available at www.healthynewbornnetwork.org/resource/enap-metrics-cards

UPCOMING IN 2018! State of the World's newborns focused on small and sick newborns to be launched, based on a multicountry situational analysis led by Every Premie-SCALE, with support from USAID.

Published in June, 2017. For more information contact enapmetrics@lshtm.ac.uk

Take action

Please contribute your wisdom and fill in the survey on signal functions. Available in English, Spanish and French. www.healthynewbornnetwork.org/resource/enap-metrics-cards

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