



Presented by the Ministry of Health, Ghana

Ghana National Newborn Health Strategy and Action Plan 2014–2018



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ACRONYMS

ACSM	advocacy, communication and social mobilisation
ANC	antenatal care
BFHI	Baby-Friendly Hospital Initiative
CHN	community health nurse
CHO	community health officer
CHPS	Community Health Planning and Services
CHV	community health volunteer
DHIMS2	District Health Information Management System 2
ENAP	Every Newborn Action Plan
ENC	essential newborn care
FHD	Family Health Division
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
HIV-AIDS	human immunodeficiency virus-acquired immunodeficiency syndrome
HRH	Human Resources for Health
IEC	information, education and communication
IMNCI	Integrated Management of Neonatal and Childhood Illness
IPTp	intermittent preventive treatment in pregnancy
KMC	Kangaroo Mother Care
M&E	monitoring and evaluation
MAF Plan	Millennium Development Goal Acceleration Framework and Country Action Plan: Maternal Health
MBFFI	Mother/Baby-Friendly Facility Initiative
MOH	Ministry of Health
MICS	Multiple Indicator Cluster Survey
NGO	nongovernmental organisation
NHIS	National Health Insurance Scheme
NMR	neonatal mortality rate
PMTCT	prevention of mother-to-child transmission (of HIV-AIDS)

RMNCH	reproductive, maternal, newborn and child health
SCNC	Subcommittee on Newborn Care
TBA	traditional birth attendant
TOR	Terms of Reference
UNICEF	United Nations Children’s Fund
USAID-BASICS	United States Agency for International Development-Basic Support for Institutionalizing Child Survival
WHO	World Health Organization

Foreword

Child health has remained a priority for the government of Ghana for decades. For this reason several internationally recommended interventions as well as local initiatives have been implemented by the Ministry of Health, Ghana Health Service, and partners to promote child survival and development.

Although evidence shows some reduction in both infant and under-five mortality rates in Ghana, with a 30% reduction in under-five mortality between 2003 and 2008, it is unlikely that the 2015 target of reducing child mortality rates will be easily met. The main underlying cause is stagnation and even increase in neonatal mortality over the last five years from 30 to 32 per 1000 live births. Neonatal deaths have thus become an important component of under-five deaths, currently accounting for as high as 40% of these deaths in Ghana.

A number of initiatives and frameworks have been developed and implemented by the health sector to address the problem of high under-five mortality. The reality, however, is that most of the interventions under these frameworks have focussed on the post-neonatal period with little attention to newborn care.

Ghana's Child Health Policy and Strategy documents (2007–2015) provide a framework for planning and implementing programmes for improving child survival and well-being. Although these documents give due importance to the newborn and highlight interventions and strategies for addressing newborn health, a number of things have changed since their development in 2006.

This document, Ghana's National Newborn Health Strategy and Action Plan 2014–2018 outlines a targeted strategy for accelerating the reduction of newborn deaths in Ghana. Furthermore it provides a costed action plan with clearly marked timelines for implementation to facilitate resource mobilisation, monitoring and evaluation, and scaling up of proposed newborn interventions. It is expected that all stakeholders working towards improving the health of children in Ghana will buy into this plan and collaborate towards attainment of the goals and objectives outlined here.

Hon. Hanny-Sherry Ayitey
Minister of Health, Ghana

EXECUTIVE SUMMARY

The slow decrease in neonatal mortality over the years as compared with the under-five mortality has been a cause of global concern. It has been a major bottleneck to the achievement of Millennium Development Goal (MDG) 4 in many countries, including Ghana. This has resulted in the Ghana Ministry of Health/Ghana Health Service (MOH/GHS) and development partners developing this National Newborn Health Strategy and Action Plan. The aim is not to institute a new vertical program, but to develop and implement this within the existing MDG Acceleration Framework and Country Action Plan: Maternal Health (MAF) and Reproductive, Maternal, Newborn and Child Health framework in a manner such that adequate focus is laid on this critical period of life in order to effectively decrease neonatal mortality.

This document covers (1) a global overview of newborn health; (2) relevant country information based on a larger report on the situational analysis of newborn health in Ghana; (3) the basis for the components of the Newborn Health Strategy and Action Plan; (4) the intervention package, goals and objectives; and (5) the key strategies to improve newborn health, each with its specific activities. In developing the strategy and action plan, besides review of relevant global and country literature, a national bottleneck analysis workshop, with representation from the various regions, was carried out to identify major issues related to newborn care along with inputs from a technical working group.

This document outlines the main intervention package, its application at various levels in the health system, and the goals and objectives. The key areas of newborn care include:

1. Basic essential newborn care.
2. Management of adverse intrapartum events (including birth asphyxia).
3. Care of the preterm/low-birthweight/growth-restricted baby.
4. Management of neonatal infections/sick newborn.

The strategies and activities to achieve these support those of the new global Every Newborn Action Plan adapted to suit the country requirements. The strategies related to newborn health include:

1. Developing or updating necessary policies, standards and coordinating mechanisms to support newborn care activities.
2. Updating the national Health Information Management System/District Health Information Management System (DHIMS2) to include key newborn indicators.
3. Increasing health financing for newborn care.
4. Ensuring procurement, equitable distribution and maintenance of quality essential medicines, medical devices and commodities for newborn care.
5. Ensuring availability and equitable distribution of key competent health workers.
6. Improving the capacity of facility-level health workers to address newborn care.
7. Building the capacity of community health workers to promote newborn health.

8. Promoting and institutionalising quality improvement, including supportive supervision/mentoring.
9. Scaling up a strengthened and expanded Mother/Baby-Friendly Facility Initiative.
10. Strengthening advocacy, communication and social mobilisation (ACSM) and other community-based interventions.
11. Strengthening links between health facilities and communities.
12. Strengthening public-private partnerships.
13. Operationalising an effective plan for monitoring and evaluation.
14. Managing the Newborn Health Strategy and Action Plan.

The goals of the Ghana Newborn Strategy and Action Plan are to reduce the neonatal mortality rate from 32 per 1000 live births in 2011 to 21 per 1000 live births in 2018 (a 5% decrease per year) and to reduce the institutional neonatal mortality by at least 35% by 2018. Among other objectives, the Strategy and Action Plan aims to train at least 90% of skilled attendants in the Essential Newborn Care package by 2018; increase the proportion of deliveries conducted by trained skilled birth attendants from 68% in 2011 to 82% in 2018; increase the proportion of babies receiving the first postnatal visit within 48 hours from 56% in 2011 to 90% in 2018; increase the proportion of babies receiving the 2nd postnatal visit by day 7 from 40% in 2013 to at least 80% in 2018; increase early initiation of breastfeeding (within 1 hour of birth) from 45.9% in 2011 to 80% in 2018; and increase exclusive breastfeeding at 6 months from 45.7% in 2011 to 85% in 2018.

An effective plan for monitoring and evaluation (M&E) will be developed and operationalised. This will include the development of an M&E framework to track progress with implementation and measure performance. Specific targets, outputs, outcomes and impact indicators will be defined and measured as per agreed milestones. Midterm and end-term project evaluations will also be conducted.

The financial management of funding for the Newborn Strategy and Action Plan will follow the existing financial management arrangement of MOH/GHS. The management arrangements will also conform to the existing Common Management Arrangement of MOH with partners.

The Family Health Division (FHD) of GHS will form the secretariat of the Subcommittee on Newborn Care (SCNC) and report through the Director General of GHS to the Minister of Health. The Child Health coordinator of FHD will be the overall coordinator of the Newborn Action Plan. However, various departments and divisions of MOH/GHS will operate different aspects of the Action Plan. Regions and districts will implement the Newborn Strategy and Action Plan in the spirit of integration without losing focus on newborn care. Focal persons will be appointed at the regional and district levels to oversee activities related to newborn care on behalf of the respective Regional Health Management Teams and District Health Management Teams.

A summary of the provisional costing related to the Ghana Newborn Health Strategy and Action Plan is noted below.

Summary of the Costing (Provisional) (US Dollars)

Strategy 1: Developing or updating necessary policies, standards and coordinating mechanisms to support newborn care activities	1,310,650
Strategy 2: Updating the national Health Information Management System/District Health Information Management System (DHIMS2) to include key newborn indicators	4000
Strategy 3: Increasing health financing for newborn care	7200
Strategy 4: Ensuring procurement , equitable distribution and maintenance of quality essential medicines, medical devices and commodities for newborn care	4,079,800
Strategy 5: Ensuring availability and equitable distribution of key competent health workers	2120
Strategy 6: Improving the capacity of facility-level health workers to address newborn care	4,364,800
Strategy 7: Building the capacity of community health workers to promote newborn health	702,800
Strategy 8: Promoting and institutionalising quality improvement, including supportive supervision and mentoring	5,638,145
Strategy 9: Scaling up a strengthened and expanded Mother/Baby-Friendly Facility Initiative	12,040,850
Strategy 10: Strengthening advocacy, communication and social mobilisation and other community-based interventions	18,966,400
Strategy 11: Strengthening links between health facilities and communities	30,500,000
Strategy 12: Strengthening public-private partnerships	485,600
Strategy 13: Operationalising an effective plan for monitoring and evaluation	3,061,200
Strategy 14: Managing the Newborn Strategy and Action Plan	TBD
Total Budget	US\$81,163,565

CHAPTER 1

INTRODUCTION

1.1 Rationale

Although evidence shows that there has been some reduction in both infant and under-five mortality rates in Ghana, it is unlikely that the 2015 target of reducing the child mortality rates will be easily met. This is because though Ghana has progressed on reduction of under-five mortality till 2008¹, there has been a reversal in reduction of under-five mortality over the last five years². The main underlying cause is stagnation and even an increase in neonatal mortality, which increased from 30 to 32 per 1000 live births. Neonatal deaths have thus become an important component of under-five deaths, accounting for as high as 40% of under-five mortality in Ghana². They now constitute a major cause of concern and need to be addressed urgently.

A number of initiatives and frameworks have been developed and implemented by the Ministry of Health/Ghana Health Service (MOH/GHS) to address the problem of the high under-five mortality, including the *Under 5 Child Health Policy: 2007–2105*³ and *Under 5 Child Health Strategy: 2007–2105*⁴, MDG Acceleration Framework and Country Action Plan: Maternal Health (MAF)⁵, initiatives of the accelerated phase of WHO's Expanded Programme on Immunization (EPI)⁶ with introduction of new and additional vaccines, and projects supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria. The reality, however, is that most of the interventions under these frameworks have focussed on the post-neonatal period, with little attention to neonatal and newborn care. The Ghana National Newborn Health Strategy and Action Plan 2014–2108 is designed to address this gap.

Ghana's Under 5 Child Health Policy (2007–2015) provides a framework for planning and implementing the programmes for improving child survival and well-being. The policy is organised along the continuum of care for the mother and child—pregnancy, birth and early and late newborn periods, infants and children. Though the Under 5 Child Health Policy and strategic documents have given importance to programmes related to newborn health, a number of things have changed since their development in 2006. Furthermore, a costed action plan with clearly marked timelines for implementation was not developed to facilitate resource mobilisation, monitoring and evaluation, and scaling up of the proposed newborn interventions.

It is under this context that the need for the development of a costed newborn scale-up plan for accelerating the reduction of newborn deaths in Ghana was identified during the recent joint MOH and partners business meeting, 29 April–6 May 2013, hence the development of this current National Newborn Strategy and Action Plan for 2014–2018.

1.2 Methodology

A detailed desk review was first undertaken of relevant policy and other documents on maternal and child health and health systems performance in Ghana and elsewhere. It involved reviewing MOH/GHS Strategic Plans, Under 5 Child Health Policy and strategic documents, annual reports of MOH/GHS, Emergency Obstetric and Neonatal Care report, MAF Strategy and Action Plan, as well as strategic plans for HIV, malaria, and sickle cell anemia. Data from

Demographic and Health Surveys (DHS) for 2003 and 2008, the Multiple Indicator Cluster Survey (MICS) 2011, and the District Health Information Management System (DHIMS2) were also reviewed.

The above were supplemented with literature searches on published data on neonatal care, newborn health, and maternal and child health in Ghana, as well as on international best practice on newborn care, using PubMed, systematic review searches, Google and other search engines.

Field visits were made to observe facilities and services for newborn care at all levels of the health delivery system. Key health personnel and partners at national, regional, district and Community Health Planning and Services (CHPS) zones were also interviewed.

A bottleneck analysis workshop was organised by a multi-stakeholder group to discuss and identify key bottlenecks in implementing interventions for newborn health in Ghana, as well as suggest solutions to identified bottlenecks⁷. The conceptual framework adopted was modified from Tanahashi's Health Service Coverage Evaluation methodology, which examines supply, demand and quality determinants plus the enabling environment for effective health services and interventions. The understanding is that barriers hinder clients from being beneficiaries of essential services and removal of bottlenecks could increase program coverage and the impact-level goals⁸. The analysis was undertaken using the World Health Organization's Health Systems Strengthening components⁹.

This was followed by another workshop of a technical working group to agree on key components and activities of the proposed newborn strategy. The draft National Strategy document was then prepared and shared with stakeholders before finalisation.

1.3 Outline of Document

This document follows what is outlined in the Table of Contents. Chapter 1 provides the rationale for the development of the Newborn Health Strategy and Action Plan. Chapter 2 elaborates on the current situation of newborn health globally and in Ghana and ends with a summary of the findings of the bottleneck analysis, using the health systems strengthening approach. Chapter 3 then provides a detailed analysis of the basis for the selection of the recommended intervention packages, objectives, strategies and key implementing activities. The proposed goals, objectives, and intervention packages are presented in Chapter 4, followed by details of the strategies and key activities to achieve the desired objectives in Chapter 5. The document ends with a description of the management arrangement for operationalising the Action Plan, a summary of the provisional budget estimate and several appendices.

CHAPTER 2

CURRENT SITUATION OF NEWBORN HEALTH

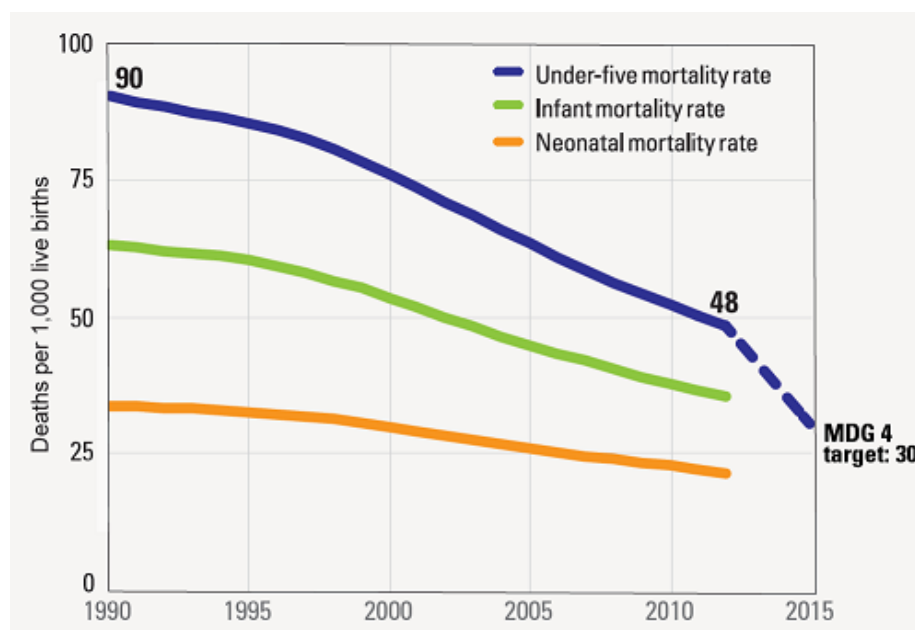
2.1 Global Overview

This section gives a brief overview of some of the key issues related to newborn health. Definitions of common terminology are noted in Appendix 1.

2.1.1 Magnitude of the problem

The current estimated newborn deaths are around 2.9 million per year. Stillbirths during the last three months of pregnancy constitute 2.6 million births each year. Trends in the under-five mortality both at the global level and in many low-resource countries, including Ghana, have indicated that while there has been a significant fall in the under-five deaths (almost halving since 1990¹⁰) and in infants above the age of one month, the decrease in neonatal mortality rates has been far slower (Figure 1). During the last decade the maternal mortality ratio has decreased by 4.2% per year, and child mortality (1–59 months) by 2.9% per year. Neonatal mortality, on the other hand, has decreased only by 2.1% per year, ranging from 3.0% per year in the more advanced countries to only 1.5% per year in sub-Saharan Africa¹¹. As a result, the proportion of neonatal deaths among children under 5 years has increased from 37% in 1990 to 44% in 2012¹². In fact, the high neonatal mortality rate (NMR) constitutes a major bottleneck, preventing some of these countries from achieving their set MDG 4 goal. Newborn health also constitutes a human right as specified in the Convention of the Rights of the Child¹³.

Figure 1. Trends in global under-five mortality rate since 1990.

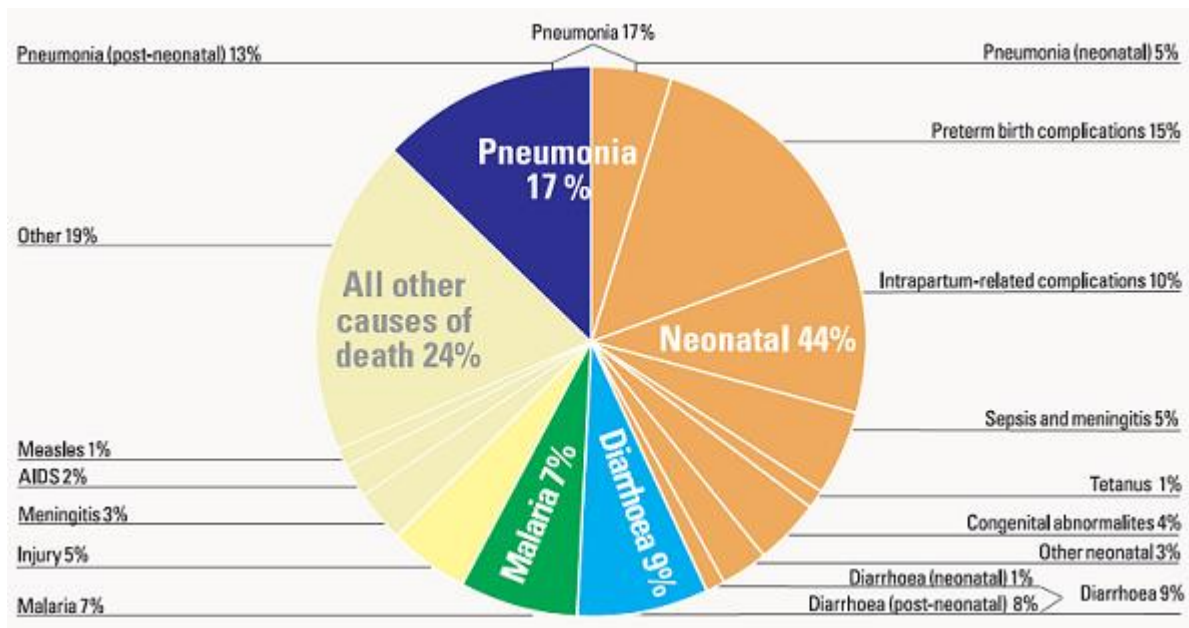


Source: UNICEF 2013. 2013 Statistical snapshot: Child Mortality¹⁰.

2.1.2 What do newborns die of?

The common causes of neonatal mortality within the under-five mortality are shown in Figure 2. The common causes of neonatal mortality include complications of prematurity, infections, and adverse intrapartum events, including birth asphyxia^{14,15}. Over 60% of the deaths are associated with low birth weight¹⁶.

Figure 2. Global distribution of deaths among children under five, by cause, 2012.

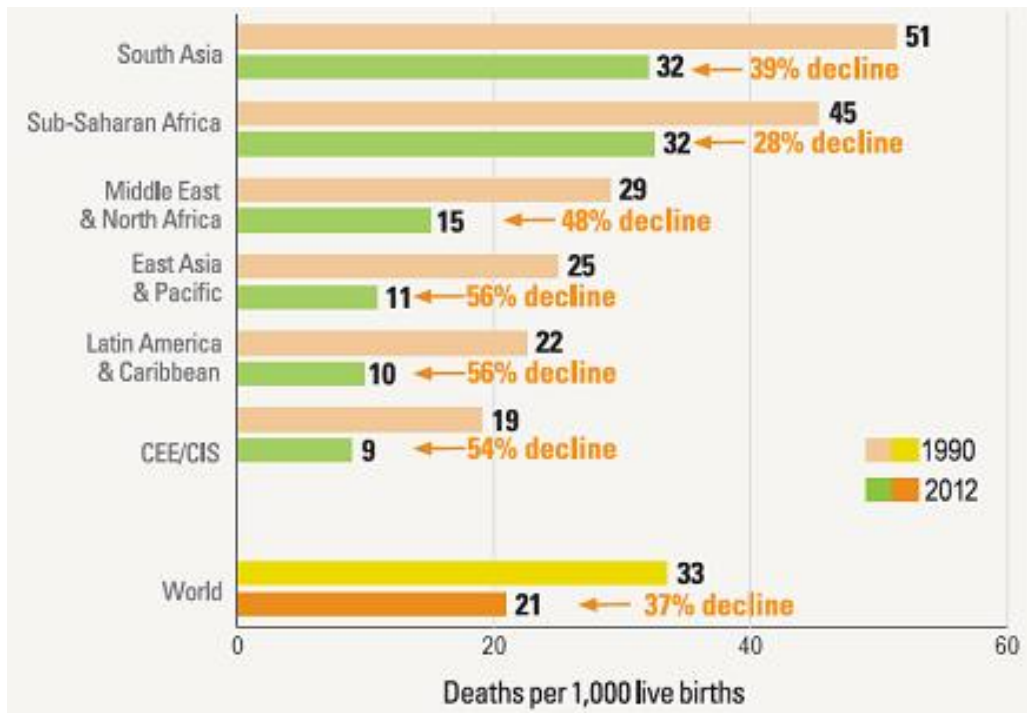


Source: UNICEF 2013. 2013 Statistical snapshot: Child Mortality¹⁰.

2.1.3 Where do newborns die?

Although numerically the total number of newborn deaths may be higher in South Asia, 15 (75%) of the 20 countries that have the highest risk of newborn deaths are in Africa. Africa, in fact, accounts for 25% of the newborn deaths even though it has only 11% of the world's population. Figure 3 shows the regional distribution and trends¹⁰. Within individual countries, in the high-resource countries, deaths mostly occur in facilities because most sick newborns are taken to the facility for care. In contrast, in low-resource countries, even if deliveries have taken place at facilities, because of early discharge and poor care-seeking behaviour, most of the newborns die at home and some may not even be reported.

Figure 3. Trends of newborn deaths in different regions of the world.

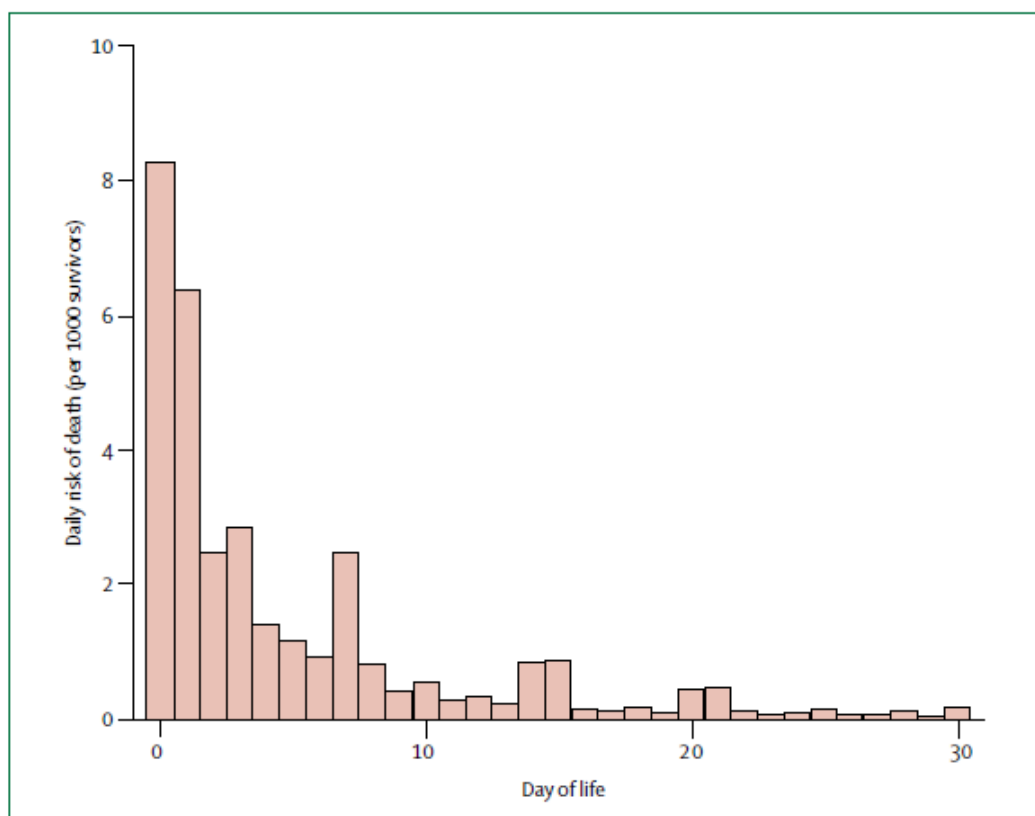


Source: UNICEF 2013. 2013 Statistical snapshot: Child Mortality¹⁰.

2.1.4 When do newborns die?

In the past, conventionally, postnatal visits were recommended between 4 and 6 weeks after birth. This totally missed the neonatal period that consists of just the first four weeks. Even more challenging is the fact that 50% of the deaths take place within the first 24 hours of birth and 75% by the end of the first week (Figure 4)¹⁷.

Figure 4. Timing of neonatal deaths.



Source: Lawn et al. 2005¹⁷.

These findings were responsible for the Joint WHO-UNICEF statement in 2009 recommending early postnatal visits, at least two in the first week, the first within 48 hours of birth and the second before the completion of the 7th day. More frequent visits were recommended for high-risk babies such as preterm/low-birthweight babies¹⁸. Guidelines for postnatal care have been updated recently by WHO¹⁹. According to the WHO recommendations, 'If birth is in a health facility, mothers and newborns should receive postnatal care in the facility for at least 24 hours after birth. If birth is at home, the first postnatal contact should be as early as possible within 24 hours of birth. At least three additional postnatal contacts are recommended for all mothers and newborns, on day 3 (48–72 hours), between days 7 and 14 after birth, and six weeks after birth'¹⁹. Other relevant elements of WHO's recommendations on postnatal care are highlighted in Appendix 2.

2.1.5 Every Newborn Action Plan

Over the past decade there has been growing global interest in the area of newborn health, and a large number of evidence-based strategies and action plans with tools for program implementation were developed by several organisations such as WHO²⁰, Save the Children (Saving Newborn Lives)²¹, USAID-BASICS²², and USAID-MCHIP²³. More recently a coordinated collaborative approach is being undertaken through a strong global developmental alliance. An Every Newborn Action Plan (ENAP) is being developed by a large number of partners led by WHO and UNICEF with additional inputs through several regional and country consultative meetings to address the high neonatal mortality rate that is a major bottleneck, hindering the

achievement of MDG 4 of decreasing child mortality²⁴. The plan follows a number of important initiatives such as Every Woman, Every Child²⁵, A Promise Renewed¹⁴ and the UN Commission for Life Saving Commodities²⁶. ENAP is a work still in progress, and is based on evidence and addresses the main causes of death, covering their prevention and management.

The ENAP has five guiding principles:

1. **Country ownership and leadership:** Countries have both the right and the responsibility to choose and provide optimal good quality services for mothers and children, including newborns. Community participation and alignment of contributions and harmonisation of actions by developmental partners are additional important components.
2. **Integration:** Quality newborn care should be implemented integrated with reproductive, maternal and child health, but maintaining clear visibility, in order to have optimal impact.
3. **Equity:** Universal coverage of the high-impact interventions must address equity issues reaching the poor and under-privileged groups.
4. **Accountability:** Transparency, good oversight and accountability are essential for proper coverage with quality care and use of allocated resources.
5. **Innovations:** While standard, evidence-based interventions and methods for implementing programme activities are available, innovative alternatives may need to be considered and applied to get better results. Some areas, therefore, may still need more research and development.

Based on the above, the ENAP has defined five key strategic objectives:

1. Strengthen and invest in care around labour, childbirth, the first day and week of life.
2. Improve quality of maternal and newborn care.
3. Reach every woman and every newborn and reduce inequities.
4. Harness the power of the parents, families and communities.
5. Count every newborn—to address measurements, program tracking and accountability.

The global targets for NMR set for the period 2020 to 2035 in ENAP are noted below in Table 1.

Table 1. Global targets for neonatal mortality rates, Every Newborn Action Plan.

Year	2020	2025	2030	2035
Neonatal Mortality Rate (Global weighted average)	15	12	9	7

Note: These figures take into account targets set in UNICEF's *Committing to Child Survival: A Promise Renewed* (2012)¹⁴.

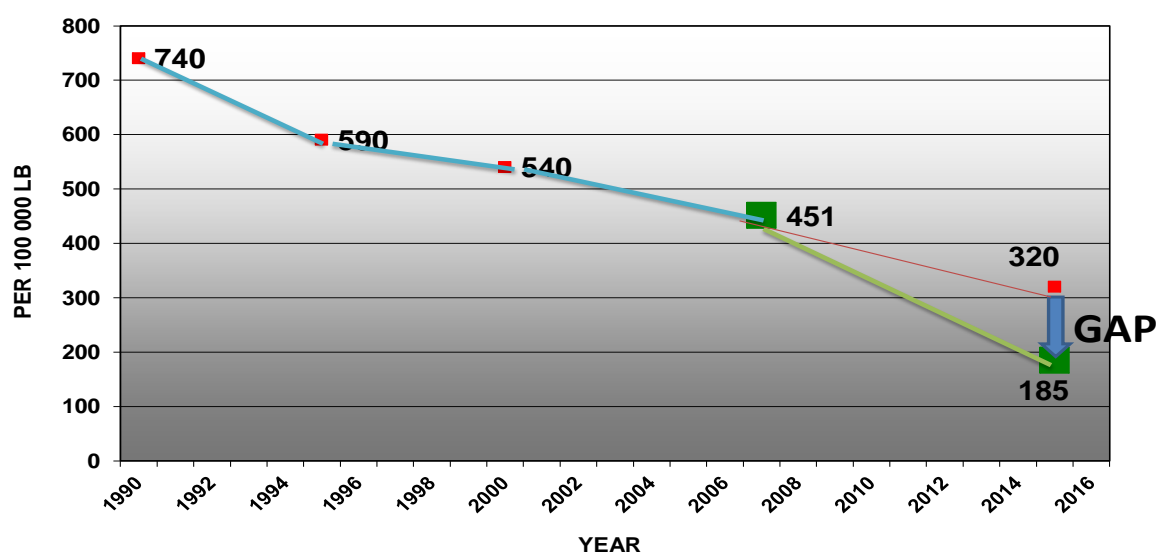
2.2 Current Situation of Newborn Health in Ghana

This section presents the key points relevant to newborn health in Ghana.

2.2.1 Trends in maternal mortality ratio

Maternal health care has improved over the past 20 years in Ghana, albeit at a slow pace. Between 1990 and 2005 the maternal mortality ratio reduced from 740 per 100,000 live births to 503 per 100,000 live births, and then to 451 per 100,000 live births in 2008 (see Figure 5 below, WHO et al. 2008)²⁷. If the current trends continue, maternal mortality will be reduced to only 329 per 100,000 by 2015 instead of the MDG target of 185 per 100,000 by 2015.

Figure 5. Maternal mortality ratio, Ghana, 1990–2015 projection.



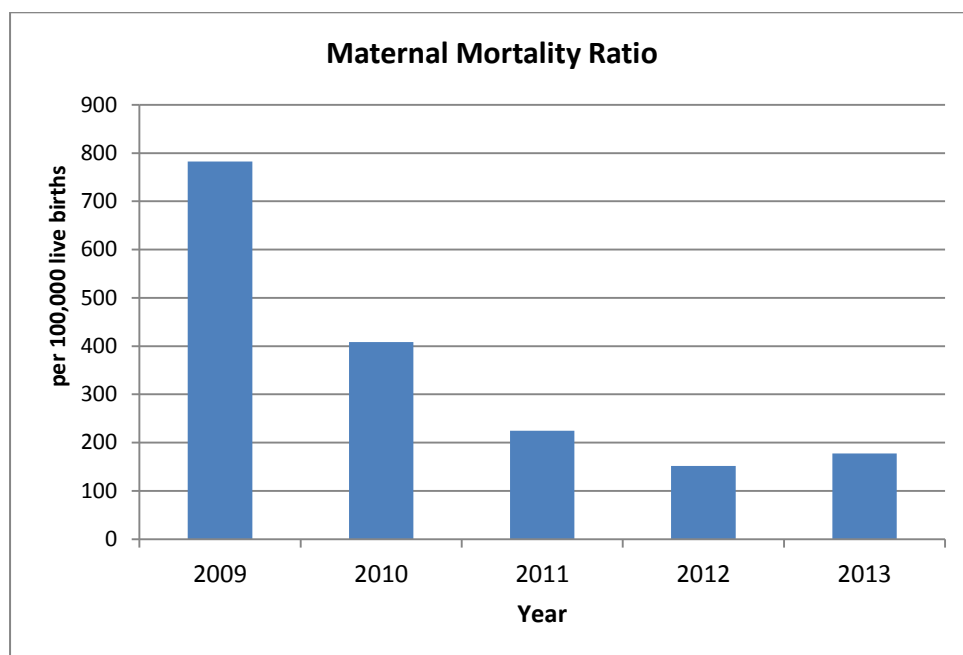
Source: WHO, 2008

Source: WHO et al., 2008. *Trends in Maternal Mortality 1990 to 2008*²⁷.

2.2.2 Institutional maternal mortality ratio

Institutional data in Ghana also suggest that maternal deaths per 100,000 live births have declined from 782/100,000 in 2009 to 151.9/100,000 in 2012²⁸ (Figure 6).

Figure 6. Maternal mortality ratio, Ghana, 2009 to 2013.

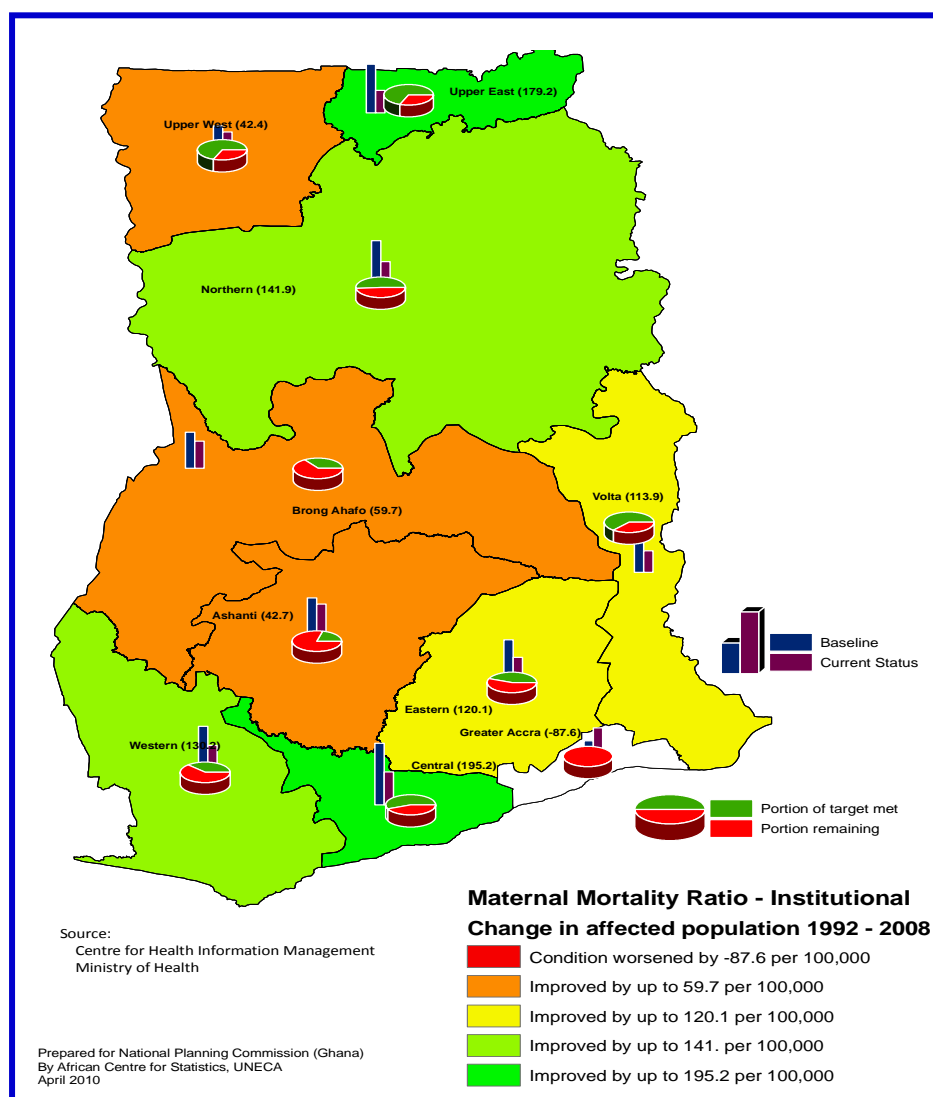


Source: Ghana Health Service DHIMS2²⁸.

2.2.3 Regional maternal mortality ratio

There are disparities in the institutional maternal mortality ratio across the 10 regions in Ghana from 1992 to 2008 (Figure 7). The maternal mortality ratio has decreased to 195.2 per 100,000 live births in Central and Upper East regions; 141 per 100,000 in Northern and Western Regions; 120.1 per 100,000 in Volta and Eastern Regions; and 59.7 per 100,000 in Upper West, Brong Ahafo and Ashanti regions. The only region where the maternal mortality rate has worsened is Greater Accra, with 87.6 per 100,000 live births (MAF Plan)⁵.

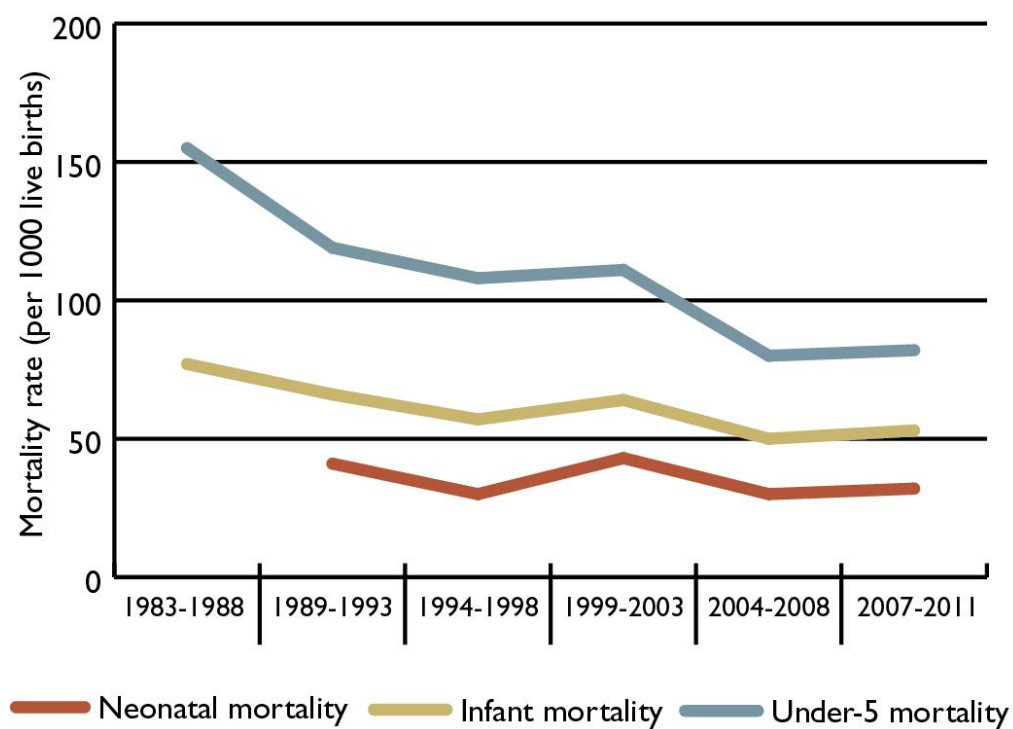
Figure 7. Map of institutional maternal mortality ratio in Ghana by region, 1992–2008.



2.2.4 Early childhood mortality

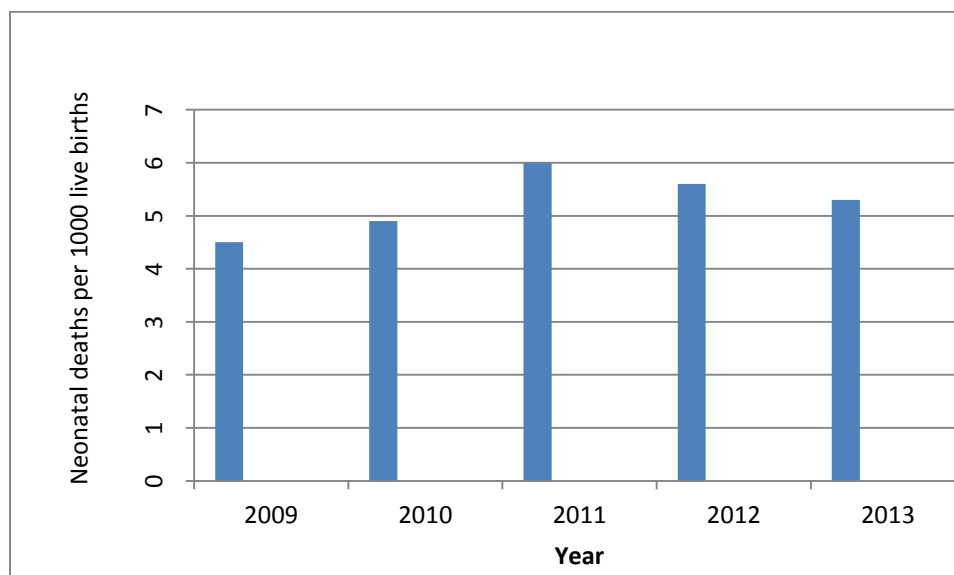
The Ghana Demographic and Health Survey (GDHS) 2008¹ and MICS 2011² showed a 30% reduction in the under-five mortality rate, as it declined from 111 per 1000 live births in 2003 to 80 per 1000 live births in 2008, while the infant mortality rate in 2008 stood at 50 per 1000 live births compared with 64 per 1000 live births in 2003. The neonatal mortality rate has seen a slower decrease from 43 per 1000 live births in 2003 to 30 per 1000 live births in 2008. The trends in under-five mortality in Ghana are indicated in Figure 8 and those related to neonatal mortality rates in Figure 9.

Figure 8. Trends in early childhood mortality rates in Ghana.



Source: Ghana Demographic and Health Surveys 1988²⁹, 1993³⁰, 1998³¹, 2003³², 2008¹; Ghana Multiple Indicator Cluster Survey, 2011²

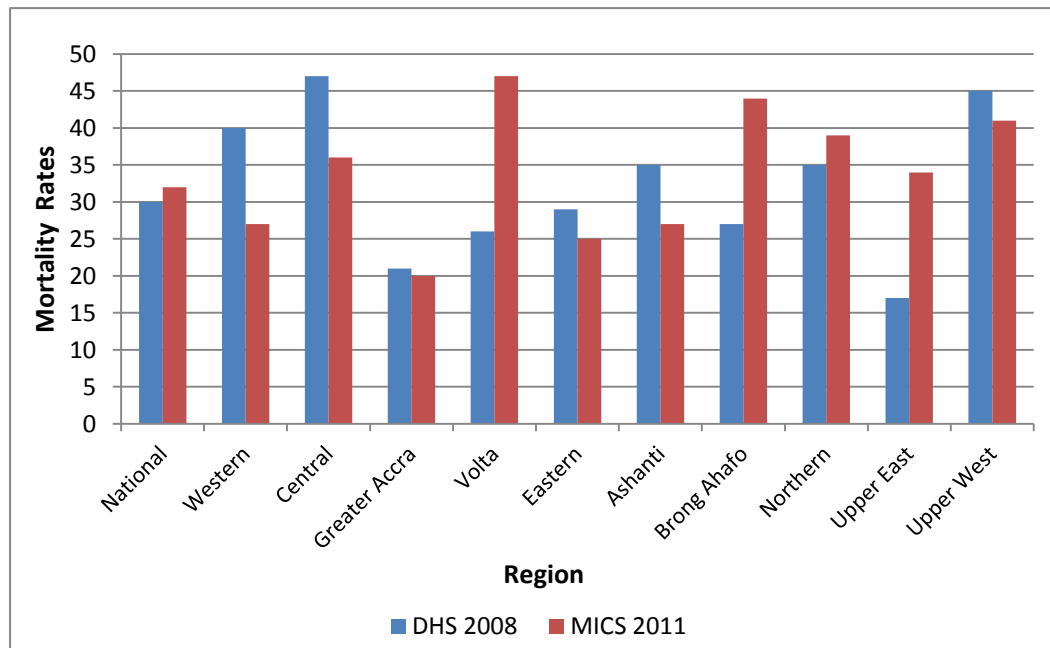
Figure 9. Neonatal deaths per 1000 live births in Ghana.



Source: Ghana Health Service DHIMS2²⁸

The neonatal death rate is worse in Volta, Brong Ahafo, Upper West, Northern and Upper East regions according to MICS and DHS (Figure 10).

Figure 10. Regional variations in neonatal mortality in Ghana.

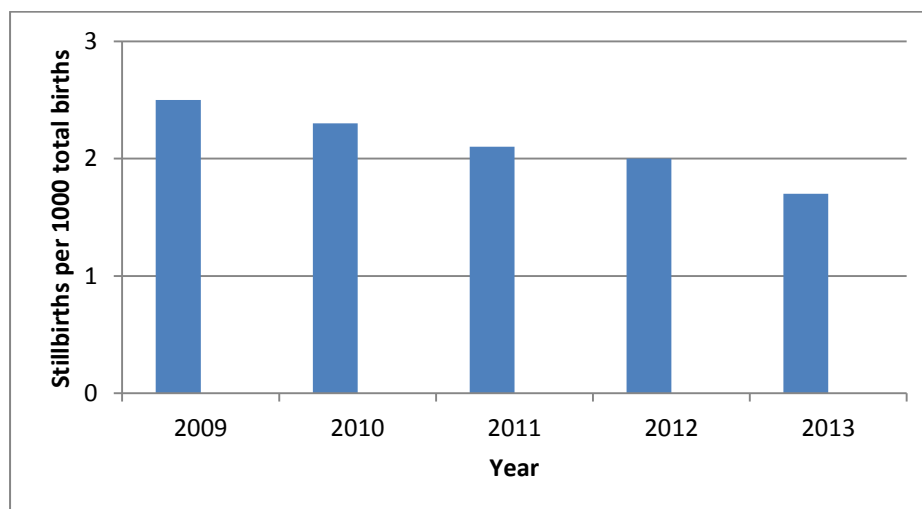


Source: Ghana DHS 2008¹; Ghana Multiple Indicator Cluster Survey 2011, Ghana².

2.2.5 Stillbirth rate

According to DHIMS2, the stillbirth rate has been decreasing from 2.5 per 1000 total births in 2009 to 2.1 per 1000 total births in 2012²⁸ (Figure 11). This is, however, recognized to be a gross under-reporting.

Figure 11. Stillbirth rate in Ghana, 2009–2013.



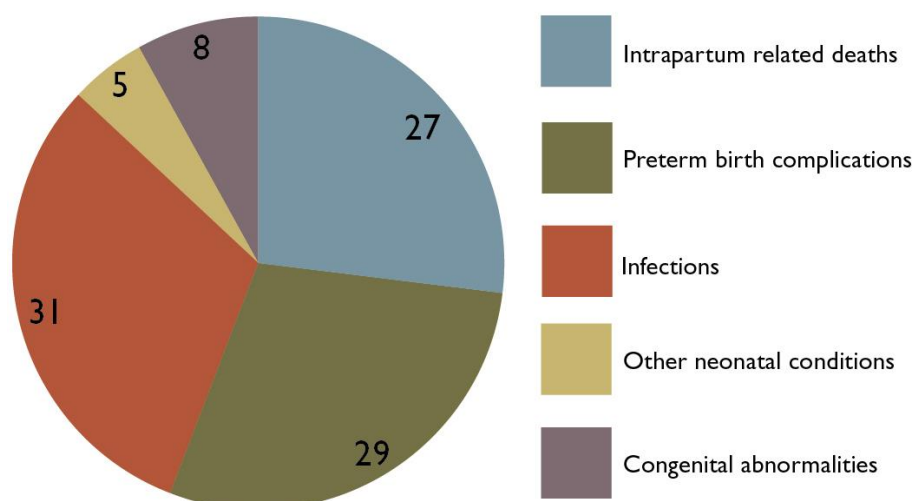
Source: Ghana Health Service DHIMS2²⁸.

2.2.6 Causes of neonatal deaths in Ghana

Based on the last Ghana DHS (2008)¹, the primary causes of newborn deaths were infections (32%), asphyxia (23%), prematurity and low birth weight (27%). Studies by Welbeck et al. 2013³³, Edmund et al. 2008³⁴ and Tettey and Wiredu 1997³⁵ corroborate these major causes of newborn deaths.

More recent data from UNICEF (Figure 12) show changes, with primary causes being infections (31%), preterm birth complications (29%), and intrapartum-related deaths (27%). It is possible that infections may be underestimated in some developing-country situations where care is less than adequate. In relation to complications in preterm babies, among the late preterm babies, which constitute a large proportion and a high priority in this group, infections also constitute an important cause of morbidity and mortality in low-resource countries, thus likely increasing the proportion of deaths due to infections.

Figure 12. Causes of newborn deaths in Ghana (%).

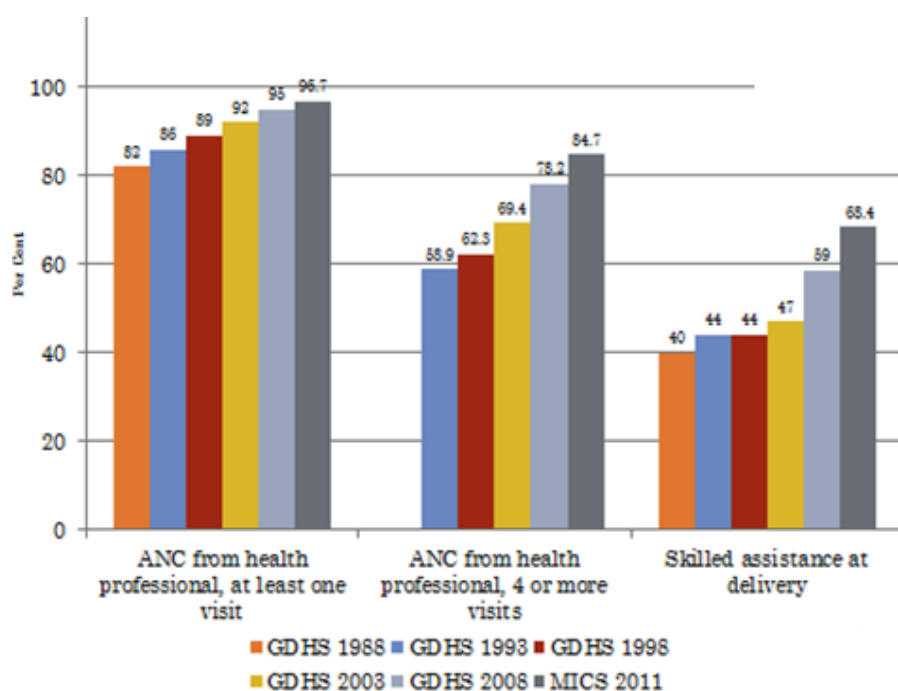


Source: UNICEF. Childinfo Monitoring the Situation of Children and Women website.

2.2.7 Trends in key performance indicators for maternal and neonatal health in Ghana

From all the available data from DHS and MICS, it can be seen that maternal care indicators have been improving steadily from 1988 to 2011. For example, antenatal care (ANC) (four or more visits) from health professionals increased from 58.9% in 1993 to 84.7% in 2011. The rate of skilled assistance at delivery also has also increased from 44% in 1993 to 68.4% in 2011 (Figure 13).

Figure 13. Maternal care performance, Ghana, 1988–2011.



Source: Ghana DHS 2008¹; Ghana Multiple Indicator Cluster Survey, 2011².

2.2.8 Bottleneck analysis of health system issues affecting newborn care in Ghana

The findings noted below are based on the results of a national bottleneck analysis workshop that was held in Agona Swedru, 16–18 October 2013, that brought together government and other stakeholders and regional representatives. The various barriers and bottlenecks were identified at the national and regional levels using pre-defined structured tools.

2.2.8.1 Policy, legal framework, guidance and governance

There is a good legal and broad policy framework for maternal, child and newborn health in Ghana, including the following:

- **The Constitution of the Republic of Ghana**

The 1992 Republican Constitution of Ghana provides some legal framework to cater for the needs of children. It states that the ‘state shall enact appropriate laws to assure the protection and promotion of all other basic human rights and freedoms, including the rights of the disabled, the elderly, children and other vulnerable groups in development processes’³⁶.

- **The Growth and Poverty Reduction Strategy 2006–2009**³⁷

- **The Ghana Shared Growth and Development Agenda of 2010**³⁸

Ghana is also a signatory to a number of international conventions and treaties for the protection of children. These include:

- **The Convention on the Rights of the Child and associated policies (Early Childhood Care and Development Policy, The Children’s Act 560, Gender and Child Policy 2004, Orphans and Vulnerable Children’s Policy 2005)**
- **Convention on the Elimination of All Forms of Discrimination Against Women**
- **Declaration and Plan of Action of the World Summit for Children (Child Health Policy 2006)**

The government created a new Ministry of Women and Children Affairs in 2002 and in 2009 renamed it the Ministry for Gender, Children and Social Protection to show its concern about issues related to women and children. Newborn health falls under Health Objective 3 of the MOH Medium-Term Development Plan 2010–2013, which is to improve access to quality maternal, neonatal, child and adolescent services. The Aide Memoire MOH/Partners of 2013 also focussed on newborn care, providing additional evidence of the emerging importance of newborn health in Ghana. Bottleneck issues under policy and governance are summarised below⁷.

- Inadequate focus on newborn health at national, regional and district levels.
- Newborn health has not been prioritised in the past in maternal and child health services.
- Focal person at national level is currently on a temporary post funded by a nongovernmental organisation.
- Only two regions have regional newborn health focal person.
- Registration of births and deaths is mandatory but is implemented poorly.
- Under-resourced Department of Births and Deaths Registry.
- Inadequate collaboration with other stakeholders such as GHS.
- Inadequate public education.
- Hindering social-cultural factors influencing registration of newborn births and deaths.
- Newborn care, including the three major causes of mortality, is inadequately addressed.
- Capacity exists at District Health Management Team but is inadequate.
- Poor accountability for newborn health at all levels.
- Inadequate visibility of newborn care issues.
- Absence of key newborn indicators on Sector Wide Indicators and Health Information Management System, including DHIMS2, GHS integrated indicators.

2.2.8.2 Health financing

Bottleneck issues concerning health financing include the following⁷:

- Limited funding to health sector.
- Inadequate and irregular financial resource flow, resulting in donor dependency.
- Delayed reimbursement by the National Health Insurance Scheme (NHIS).
- Presence of additional payments for maternal and newborn care due to:

- Stockout of essential commodities leading to the family buying them.
- Tests ordered by physician not covered by NHIS.
- Presence of 'unofficial' fees.
- Though the NHIS is supposed to cover all services for pregnant women and children under 18 years, including newborns, a number of essential newborn services are not covered, mainly because essential drugs for newborn care are not on the National Essential Drug List.
- 2nd postnatal care visit is not covered by NHIS.

2.2.8.3 Health information management system

The bottlenecks include the following⁷:

- Essential newborn indicators not covered by DHIMS2.
- Poor timeliness and completeness of data capture.
- Not all private facilities are included.
- Data collection tools used by some private facilities are not in synchrony with DHIMS2 format.

2.2.8.4 Human resources for health

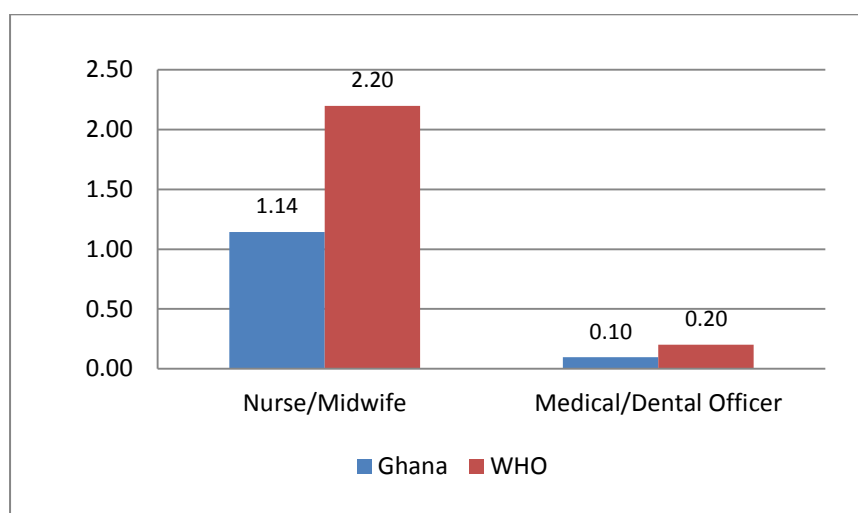
The National Policy on Human Resources for Health outlines the policy direction and strategies for human resources for health for 2012–2016 and beyond. The conceptual framework of the Human Resources for Health (HRH) policy, derived from the health sector policy, highlights the following HRH policy measures for the next five years³⁹:

- Increase the production and recruitment of health workers, focussing on the middle-level cadre.
- Retain, distribute equitably and increase productivity of health workers by strengthening supervision, refining compensation and incentive schemes and enhancing legislation and regulation.
- Advocate and mobilise other professionals related to health care to contribute to the promotion and maintenance of health.
- Empower environmental health inspectors to enforce standards for environmental hygiene.

Ghana is one of 57 HRH crisis countries with an insufficient number of critical health workers needed to reduce the country's high mortality rates.

Currently, the WHO benchmark for doctors stands at 0.20 physicians per 1000 population and 2.20 nurses per 1000 population⁴⁰ (Figure 14).

Figure 14. Physician and nurse density in Ghana against international benchmark.



Source: WHO 2010. Global Atlas of the Health Workforce⁴⁰.

In pursuance to the attainment of the health-related MDGs, the MOH has increased the production of some cadres of health staff. There has been an 86.67% increase in the production of midwives using various strategies between 2007 and 2010. The strategies include the increased intake into midwifery training schools, including piloting male students into selected midwifery training institutions; the establishment of new post-basic midwifery training institutions; increasing the number of post-basic midwifery to already existing schools and the addition of midwifery programmes to some health assistant training schools.

A two-year post-basic midwifery course for auxiliary staff has also been introduced. This admits community health nurses (CHNs) and health assistants from underserved areas. The aim is to train, within a short period, midwives for deployment to the areas where they served as CHNs. There are, however, inadequate numbers of tutors in health training institutions all over the country, with the deprived areas being more disadvantaged. The bottlenecks related to human resources for health are noted below⁷:

- Absence of staffing norms for health sector by facility level:
 - Failure to update old norms after many years due to lack of funding.
 - Inadequate capacity to develop staffing norms, particularly in delivery rooms and for units caring for small and sick newborns.
 - Absence of a workload analysis indicating the manpower needs at the various sites.
- Inadequate focus on newborn care in HRH policy.
- Inadequate production of key health staff for newborn care.
- Inadequate competency of existing skilled staff (doctors, midwives, nurses) in community/CHPS zone and facility, especially in care of small and sick newborns.

2.2.8.5 Service delivery

Bottlenecks in the area of service delivery are listed below⁷:

- Health centres other than large district hospitals are ill-equipped to manage serious complications of labour or illness in newborns as well as manage preterm babies.
- Counselling and health education practices are poor; examination and monitoring of mother and newborn during childbirth are inadequate.
- Only 33% of babies were born in facilities in 7 districts in Brong Ahafo Region capable of providing high-quality, basic resuscitation. Promotion of immediate Essential Newborn Care practices in facilities was also inadequate, with coverage of early initiation of breastfeeding and delayed bathing both below 50% for babies born in facilities⁴¹.
- Inappropriate infection control practice among health workers.
- Supervision has been problematic in service delivery in Ghana.

2.2.8.6 Medical products and technologies

Challenges/bottlenecks in this area include the following⁷:

- Although coordination mechanisms and the National Procurement Framework (ACT 663 2003) exist at national, regional and district levels, there is inadequate demand from care providers and inappropriate purchase of essential newborn commodities according to the opinion of participants in the bottleneck analysis workshop on newborn health.
- Inadequate supply of essential newborn equipment, medicines and other commodities.

2.2.8.7 Community beliefs, practices, ownership and partnership

Some of the challenges related to these areas are noted below⁷:

- Inappropriate community beliefs, attitudes and practices negatively affect uptake of newborn and other services.
- Significant delays in care-seeking for ill newborns occur in Ghana.
- Barriers to prompt allopathic care-seeking include sequential care-seeking practices, with often exclusive use of traditional medicine as first-line treatment for 7 days; previous negative experiences with health service facilities; financial constraints and remoteness from health facilities⁴².
- Despite widespread recognition of danger signs and reported intentions to treat ill infants through the formal health care system, traditional approaches to perinatal illness remain common.
- Health care decisions regarding infant care are often influenced by community members aside the infant's mother, and confidence in health care providers is issue-specific.
- There is a widespread understanding in rural northern Ghana of the need for clean delivery to reduce the risk of infection to both mothers and their babies during and shortly after delivery. Despite this understanding, many activities to do with cord care involve unclean materials and practices⁴³.

- Inappropriate perception of causes of illness of newborns adversely affects health care seeking. A common issue is the classification of most neonatal illnesses, especially resulting in failure to thrive, as *asram* in many parts of Ghana. *Asram* is perceived as a common illness which cannot be treated at health facilities and to which many danger signs in the newborn are attributed, and thus it affects care-seeking⁴⁴.
- Although included in the Reproductive Health Policy and Standards, Child Health Strategy and MAF Plan, there is inadequate capacity for advocacy and communication to address issues related to behaviour change and empowerment of families and communities on newborn health.
- There are inadequate functional community engagement mechanisms.

2.2.9 Assessment of progress towards targets in Child Health Strategy

GHS was able to achieve its projected target for 2011 as per the Child Health Strategy for the following indicators^{3,4}:

- Proportion of pregnant women who receive at least 4 focussed ANC visits.
- Proportion of mothers who received at least 2 doses of IPTp-SP (intermittent preventive treatment in pregnancy with sulfadoxine-pyrimethamine).
- Proportion of deliveries undertaken by skilled birth attendants.

The following indicators, however, lagged seriously behind:

- Proportion of newborns protected against tetanus.
- Proportion of mothers who initiated breastfeeding within 1 hour of birth.
- Proportion of referral facilities offering emergency obstetric and neonatal care.
- Proportion of newborns who had a care contact in the 1st 48 hours of life.
- Proportion of neonates exclusively breastfed.

Table 2 provides a summary assessment of progress towards achievement of targets spelt out in the Under-5 Child Health Strategy (2007–2015) as of 2011.

Table 2. Assessment of progress towards targets in Under-Five Child Health Strategy, 2007–2015.

Indicator	Baseline	Target at 2011	Performance at 2011	Target for 2015
Strategic objective 1: Improve coverage of focussed antenatal care interventions				
Proportion of pregnant women who receive at least 4 focussed ANC visits	69%	85%	86.6% (MICS 2011)	90%
Proportion of newborns protected against tetanus	77% (2006)	90%	70.3% (MICS 2011)	92%
Proportion of mothers who received at least 2 doses of IPTp-SP	28% (2006)	60%	64.6% (MICS 2011)	
Strategic objective 2: Improve coverage of skilled delivery interventions				
Proportion of deliveries undertaken by skilled birth attendants	50% (2006)	65%	68.4% (MICS 2011)	
Proportion of mothers who initiated breastfeeding within 1 hour of birth	35% (2006)	65%	45.9% (MICS 2011)	
Proportion of referral facilities offering emergency obstetric and neonatal care	Not Available	50%	69% [Full and partial] (EMONC 2011)	
Strategic objective 3: Improve coverage of neonatal interventions				
Proportion of newborns who had a care contact in the 1st 48 hours of life	54% (2006)	75%	56% (MICS 2011)	80%
Proportion of neonates exclusively breastfed	62% (2003)	80%	45.7% (up to 6 months by MICS; NA for up to 28 days)	85%

Source: MOH, Ghana. Under-Five Child Health Strategy 2007–2015⁴

CHAPTER 3

BASIS FOR DEVELOPMENT OF THE NEWBORN HEALTH STRATEGY AND PLAN

3.1 Introduction

This chapter covers the basis for development of the Ghana Newborn Health Strategy and Action Plan and provides background information for the various strategies developed for it. It includes factors from available global evidence-based information; findings of the situational analysis and the results of the workshop held in Agona Swedru, 16–18 October 2013, on a bottleneck analysis at the national and regional levels; discussion of challenges and identification of potential areas to address. The key bottlenecks identified in the workshop are noted among others in the previous chapter on the situational analysis in Ghana. A major challenge that was observed in the analysis was the absence of indicators and data in a number of areas related to newborn health^{7,45}. A preliminary set of activities was then developed based on these various processes and discussed in a subsequent two-day workshop with government representatives, key stakeholders and other organisations that aided in the initiation of the development of this document.

The Ghana Newborn Health Strategy and Action Plan is not intended to generate a vertical program, but, rather, to ensure a close integration with the maternal and child health components and be compatible with the MDG Acceleration Framework and Action Plan⁵ and Child Health Policy and Strategy documents^{3,4}. The reproductive health and maternal components—including family planning, antenatal care, labour, delivery and emergency obstetric care related to women and adolescent girls, and counselling for prevention of pregnancy in the latter—are covered in the maternal health policy and strategy documents, including the Ghana MDG Acceleration Framework and Country Action Plan: Maternal Health⁵, Reproductive Health Service Policy⁴⁶ and Maternal Health Records⁴⁷. Family planning, with optimal birth spacing, and activities addressing maternal health will play an important role in decreasing deaths, not only in mothers but also in their babies. Again, linking with other platforms such as activities for HIV/AIDS, malaria prevention and treatment and immunisation will also be beneficial. At the same time, in view of the high neonatal mortality rates, this separate Newborn Health Strategy and Action Plan is being developed to ensure an additional focus on the needs of the newborn. This is specifically targeted at promoting greater visibility of and appropriate responses to the needs of the newborn, and to ensure that key components required for optimal care of the baby remain strong in the integrated Reproductive, Maternal, Newborn and Child Health (RMNCH) approach.

The basis for the definition of the intervention package and the various strategic objectives and activities of the Ghana Newborn Health Strategy and Action Plan are highlighted below, each under relevant sections whose titles reflect the individual strategies outlined in chapters 4 and 5.

3.2 Definition of the Package

In identifying the newborn package for intervention, priority areas include the very basic preventive care required by all babies, along with addressing the three major causes of neonatal mortality—complications of prematurity and low birth weight, adverse intrapartum events including birth asphyxia, and infections. Within the newborn care package, the desired results are best likely to be achieved if both preventive and curative aspects are included and planning is initiated with a view to have the widest coverage possible. In view of this, interventions and their methods of operationalisation will need to be prioritised based on national, regional, and district requirements.

For preterm/low-birthweight babies, use of antenatal corticosteroids (for preterm births) and extra basic essential newborn care are necessary due to their increased vulnerability. This includes a comprehensive approach covering provision of warmth; additional support for feeding babies who are unable to suck; identification and appropriate treatment of problems, such as adverse intrapartum events, including birth asphyxia; jaundice and infections; appropriate stimulation; and more frequent follow-up, particularly in the early postnatal period. These babies need evaluation for anticipated problems/complications such as retrolental fibroplasia, monitoring of growth and development and other components of the routine follow-up care given to all newborns.

The priorities in public health are the groups of late (34 to <37 weeks) and moderate (32 to <34 weeks) preterm babies and the larger low-birthweight babies (at or above 1500 gm, and even to a greater extent, those above 1800 gm) that constitute the largest proportion of this sub-group⁴⁸. This does not preclude the care of smaller preterm babies in specialised facilities where available. Kangaroo Mother Care (KMC) is an extremely important, well-established, evidence-based method of providing this required extra care. It not only includes skin-to-skin contact with appropriate positioning but also the above comprehensive care, including promotion of use of expressed breast milk and breastfeeding and a good follow-up. It has numerous advantages and has been shown to result in an improved early outcome. In addition, a follow-up study to adolescence has shown a beneficial effect on 'premature brain networks and synaptic efficacy'^{49,50}. This KMC must be distinguished from the far briefer skin-to-skin contact that is recommended for **all** babies at birth and for sick babies during transport for referral, primarily for warmth and for promoting breastfeeding in babies who can accept feeds. *This brief skin-to-skin contact at birth and for transport of sick babies should **not** be documented as KMC for monitoring purposes.*

Prevention of infection is not only important during pregnancy, labour and delivery, but also during the postnatal period. Studies from Ghana have highlighted the importance of infections in the cause of deaths in the newborn period⁴⁵. In addition, although mortality is higher among preterm/low-birthweight babies, these babies mostly do not die of prematurity or low birth weight per se but of complications, infections constituting one of the important causes, especially in low-resource countries where the total NMR is high. As facility births are promoted and their numbers increase, it is essential that facilities are equipped to handle the increased workload with adequate supplies and skills of the health workers. *This is not only to ensure that all actions and procedures are carried out correctly, but also in a manner that does not result in increased infection.*

The latter is particularly important in the neonatal period because of the high risk of newborn infants for acquiring infections and their susceptibility to organisms that would not be a risk in older children. It is more critical in preterm/low-birthweight babies who are not only at an even greater risk of getting infections but also of dying from them (high case fatality rate). In the late preterm babies in low-resource centres with high NMR, infections are more likely to be the cause of death than respiratory distress syndrome. Prevention of infections thus is of great importance. As facility births are promoted and increase, in addition to hand washing and cord care, additional components are important, such as ensuring that as many elements that come in direct contact with the baby at birth are not only clean but, where feasible, subjected to at least high-level disinfection and even sterilisation. This is to avoid nosocomial infections that can cause severe infections with organisms that are more likely to be resistant to the commonly used antibiotics. One such element is the linen, which is frequently not available, especially at peripheral health centres, and needs to be brought in by mothers, resulting in babies being exposed to varying concentrations of a variety of germs.

This document perforce deals with the health components. However, the importance of non-health issues in improving newborn health cannot be overemphasised. Examples include, among others, safe and adequate water supply; education of children, including girls; and economic advancement. These are dealt with in the Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda, 2010–2013⁵¹ and should also be linked with health care in a manner that is feasible, as that will also help in decreasing neonatal mortality.

In low-resource settings, where the NMR is high, the focus is primarily on decreasing neonatal mortality. Equally important, however, but more challenging to address, especially in initial stages, is the area of ensuring and documenting improved *quality of survival*, optimal growth and development. It is not within the scope of this document to address these issues, but it is hoped that through the emphasis on good quality of care, there is, at least, promotion of the dictum 'Do no harm'.

3.3 Definition and Delivery of Interventions, Strategies and Activities at the Central, Regional and District Levels/Health Systems Strengthening

In view of the high neonatal mortality and the availability of a number of evidence-based interventions, strategies and action plans should be envisioned at scale so as to have an adequate impact. Prioritisation and targeting will be considered, however, as appropriate, in the scaling-up process due to scarcity of funding. This can be better achieved by having a coordinated, collaborative approach in planning and implementing the various strategies. The existing Subcommittee on Newborn Care (SCNC) can be expanded to include additional members and strengthened to serve as a vital medium to help facilitate, coordinate and oversee development and updating of policies, standards, guidelines, indicators for monitoring and evaluation and financing mechanisms. An active committee of this nature can have great advantages in leveraging funds and support at various levels and can also help ensure that interventions can more readily go to scale.

With effective oversight this approach can also promote uniformity in activities, adherence to standards, quality and, consequently, a better impact. While it is necessary to have strategies and action plans at the national level, expansion to the regional and district levels is critical.

Besides proper planning and procurement of funds, optimal service delivery at all levels, with emphasis on quality of care and documentation of results, is of paramount importance to have the desired impact on neonatal mortality and morbidity. Key elements of program implementation include availability of suitable commodities; adequate, competent and motivated health workers; strengthening of quality facility-based services; advocacy, communication for appropriate behaviour, and community-based interventions; and ongoing monitoring, evaluation, review and documentation of results. Supportive oversight by a functional, coordinating, cooperative body at the national level, such as the SCNC, with extension to the regional and district levels can bring added benefits, including uniformity and consistency in implementation, additional leveraging of resources, and increased chances of going to scale and sustainability. Hence a strong two-way link between the central policies, standards and guidelines and actual service delivery at all levels is critical.

3.3.1 Policies, guidelines, standards and coordinating mechanisms to support newborn health activities

Several existing policies, guidelines and standards, especially those related to maternal and child health, cover some aspects of newborn health, as in the Reproductive Health Service Policy⁴⁶, Ghana MDG Acceleration Framework and Country Action Plan: Maternal Health⁵, Child Health Policy³ and Child Health Strategy⁴. It is also well known that promotion of interventions related to family planning/birth spacing, maternal health and child health has a beneficial effect on newborn health. However, the content of elements related to newborn care is frequently inadequate. Optimal impact and the achievement of the desired MDG 4 goal can be achieved only if additional specific policies, guidelines and activities address the newborn baby's individual requirements in the first four weeks *with a special focus on labour, delivery and the ensuing 24 hours of birth to the end of the first week of life*. Available draft guidelines that are currently in place for neonatal care (for example, in Korle Bu Teaching Hospital) will be taken into consideration during the updating process.

3.3.2 Newborn indicators in Health Information Management System/DHIMS2

Currently, as noted in the summary of the situational analysis and the bottleneck analysis noted in Chapter 2, there are inadequate indicators related to newborn care for monitoring and evaluation and to document quality of care. It is essential to have these in place, ideally, before initiation of programmatic activities, to facilitate monitoring attaining the defined results.

Monitoring and evaluation using key data forms a critical part of program implementation and supports the principle 'Count every newborn', promoted by the global Every Newborn Action Plan²⁴. Documentation and review of data is important to verify if the implemented interventions have produced the desired results and is invaluable for validating quality of care. A draft set of indicators is listed in Appendix 3 related to the various goals and objectives noted in this document. These will be reviewed, adapted and prioritised as required by the GHS through the SCNC and then be operationalised. Having the indicators and tools to operationalise them in place *before* other major program activities are initiated will help promote more efficient monitoring and evaluation to document quality of care and results.

3.3.3 Health financing

While interest in the area of newborn health has increased, it is not necessarily reflected in the funding available for activities in this area. In fact, funds are not always clearly demarcated for defined newborn care activities. Ghana has the advantage of an existing National Health Insurance Scheme (NHIS). However, there are limitations to the types of care being covered. For example, while the first postnatal visit is reimbursed, this currently does not apply to the second visit. There are also deficiencies related to the coverage of the care of preterm and sick babies. Working through a coordinated group such as the SCNC and planning at scale, highlighting the critical importance of these newborn care interventions, can help in providing strong advocacy efforts to improve coverage by NHIS and funding by donors.

In addition, besides expanding services, some subsidisation of the cost and decrease in out-of-pocket expenses will need to be established for vulnerable low-income groups. This will help promote equity, serve the most-underprivileged population, address human rights issues and have a better impact on mortality. Political authorities will therefore be targeted during any advocacy activities for increased funding.

3.3.4 Essential medical devices and commodities for newborn care

The importance of availability of appropriate commodities to ensure delivery of optimal services has received considerable attention globally with the Every Woman, Every Child Initiative and the establishment of the UN Commission for Life Saving Commodities²⁶. Certain target commodities have been identified, the ones related to newborn care including (a) antenatal corticosteroids; (b) chlorhexidine for cord care; (c) items for neonatal resuscitation, including the self-inflating bag and mask for the newborn, suction devices and the training manikin/simulator; and (d) injectable antibiotics for treatment of sepsis. These serve as target commodities and obviously do not reflect all the basic commodities required for essential newborn care at the community level, peripheral facilities and referral units. Essential components include commodities and medical devices for basic care of babies at all facility levels, and for at least intermediary care at the first referral units and higher centres. Obviously, additional equipment is required for newborn care and it is essential that a feasible list of essential medications, commodities and medical devices be developed for use at different levels in the country by a central mechanism facilitated by the SCNC based on local requirements, prioritisation and available funds. Mechanisms for ensuring commodity security of these essential items for newborn care must be put in place in consultation with the MOH.

3.3.5 Human resources/skilled workforce

Delivery of quality services for newborn care requires the availability, equitable distribution and retention of competent skilled health workers (doctors, midwives, nurses and CHNs). Skilled health workers function primarily in facilities, with the exception of the CHNs, who work in addition at the community level.

The need for additional skilled birth attendants has led to a rapid increase in the number of midwives being trained. This has placed a burden on the existing trainers, whose numbers will need to be increased to meet the demand to promote better quality of training. Determining gaps in human resources density, including tutors for pre-service training, and revision and

updating of human resources policy to reflect the importance of the various components of newborn care then become important.

Suitable task shifting will also be required in some areas, for example, providing midwifery skills through a suitably designed shorter course (2 years) for CHNs, as has currently been started by the MOH. Similarly, physician assistants can also be trained to provide some elements of care for sick babies. More men are now becoming midwives and are accepted by the community.

Improving the competency of health workers is covered in the section below on capacity building, including pre-service education, and quality improvement through supportive supervision and mentoring.

3.3.5.1 Capacity building of skilled attendants in the care of the newborn

Some important issues to be considered in this area include the following:

1. Course content should cover the components of the defined newborn care package, including basic essential newborn care, adverse intrapartum events, prematurity and neonatal infections. In view of the concern with the number of babies being brought in for jaundice, and some coming at a very late stage, early detection, promotion of appropriate care-seeking for jaundice and basic management should also be included. This may also apply to sickle cell anemia, including screening in the newborn period, and will be determined after suitable discussions with the SCNC team.
2. Tools such as the reference manuals, guides, learning checklists, job aids, and orientation guides for managers are essential. Many of these are available at the global level and even in the country. They may, however, need some updating and adaptations to provide adequate focus on the newborn and to suit the current global evidence and country situation.
3. Besides technical aspects, other components that are not commonly covered in most training courses/workshops will also need to be included as noted below:
 - Implementation of the GHS Customer Care Policy⁵² to improve health worker attitudes and respectful behaviour with clients.
 - Brainstorming and developing practical plans to maintain quality.
 - Use and maintenance of equipment and commodities, avoiding stock-outs.
 - Maintenance and analysis/use of necessary data for monitoring and to evaluate quality of care.
4. Where commodities do not exist at the facilities, a proper coordination between procurement and supply of commodities and medical devices and initiation of training of health workers is essential. Otherwise lack or attrition of the required skills will interfere with the optimal use of these elements and delivery of quality care.
5. Key managers in newborn care also require orientation with suitable tools and methodology in order to support implementation.
6. Ideally, a system for recertification for health workers is also extremely important for quality improvement, as noted in the next section.

3.3.5.2 Quality improvement at facility level through supportive supervision/mentoring

The outcome of any program is dependent to a significant extent on the quality of services rendered. This, in turn, has a number of challenges. Assessing and strengthening the skills of health workers are important, but to ensure that the services are being utilised by the target population and document the results it is essential to also evaluate data that can show changes and trends, or lack thereof.

Unfortunately, there is often a lack of motivation among supervisors to make trips to the peripheral facilities. In addition, as many supervisors are primarily in government offices, the clinical skills required in certain elements of newborn care, such as resuscitation, may not always be ideal. In addition, frequent travel by supervisors to the various health centres, while desirable, may present a number of challenges, especially when motivation is inadequate. Hence while, where feasible, conventional methods of supervision may be used, innovative methods such as those noted below may be beneficial.

For hospitals and larger health centres, where there are usually adequate numbers of staff working together, regular *internal supervision* would be a good, feasible option. Hospital committees such as the Quality Assurance/Control Teams would be excellent. It should be ensured that infection control is a part of the activities of this group. With appropriate planning and motivation, it will be feasible to have monthly meetings of this group with the health workers. They can review the key data of the facility related to care of the baby at birth and the postnatal period and discuss and share the changes with relevant staff of the delivery room, postnatal wards and, where it exists, the special care unit caring for high-risk and sick babies.

Besides the timing of the postnatal visits, the content is equally important. Some of these components that are based on the recent WHO recommendations for postnatal care¹⁹ and that are also important at the facility level are highlighted in Appendix 2. The main challenges and problems to be tackled can also be discussed. Possible solutions can be identified and implemented and results evaluated. These results can then be discussed with the Quality Improvement Committee to determine if adaptations are required. If the results are good, they can move on to the next issue to be addressed. In practice, addressing small problems, one or a few at a time, is more feasible to implement and encourages future actions. These PDSA (plan, do, study and act) cycles are valuable components of the collaborative approach that can be applied and adapted where necessary to suit local requirements⁵³. These meetings also give an opportunity for the health workers to have updates and practice on simulators such as the training manikin for resuscitation. Ideally, having the manikin in the delivery room for repeated practice by the staff can also be beneficial.

In the smaller peripheral health centres and clinics there may not be adequate health workers to enable this approach. In such cases, health workers from different smaller facilities can, in turn, go to a common larger centre or the district hospital, where the monthly meeting can be held in the manner noted above for internal supervision through the supervisors. When applied well, this *group supervision* can support peer education, with health workers observing and learning from each other, and even promote a friendly competitive spirit for improvement. Identifying and using key benchmarks can add a useful objective tool in the evaluation.

In view of the very challenging nature of this strategic element, additional approaches are likely to be useful. Use of mobile phones can be explored, not only for collection, review and bilateral

transmission of data and information, but also tried for disseminating technical information, simple job aids, checklists and reminders. This may be linked with existing mHealth activities in GHS. Incentives and rewards such as certificates of recognition for better performance of supervisors and health workers may also be explored.

3.3.6 Expansion of an updated Mother/Baby-Friendly Facility Initiative

Breastfeeding and use of expressed breast milk is critical in promoting the survival and well-being of the newborn. The Baby Friendly Hospital Initiative (BFHI) was established globally in 1991⁵⁴. However, the expansion to more hospitals and the process of recertification to ensure continued adherence to the guiding principles have not been adequate. In addition, especially in the current period, where the importance of optimal care of the newborn is well acknowledged, merely supporting breastfeeding, important as it is, is not enough without addressing other aspects of care of the baby. In fact, ideally, hospitals including facilities at various levels should promote a truly mother and baby friendly environment.

3.3.7 Advocacy, communication and social mobilisation and other community-based interventions

Advocacy is essential for increasing awareness and motivation for suitable actions among all categories of stakeholders, including Metropolitan, Municipal and District Assemblies (MMDAs), the media and NGOs in Ghana. The Ministry for Gender, Children and Social Protection is a special partner in the MMDA group.

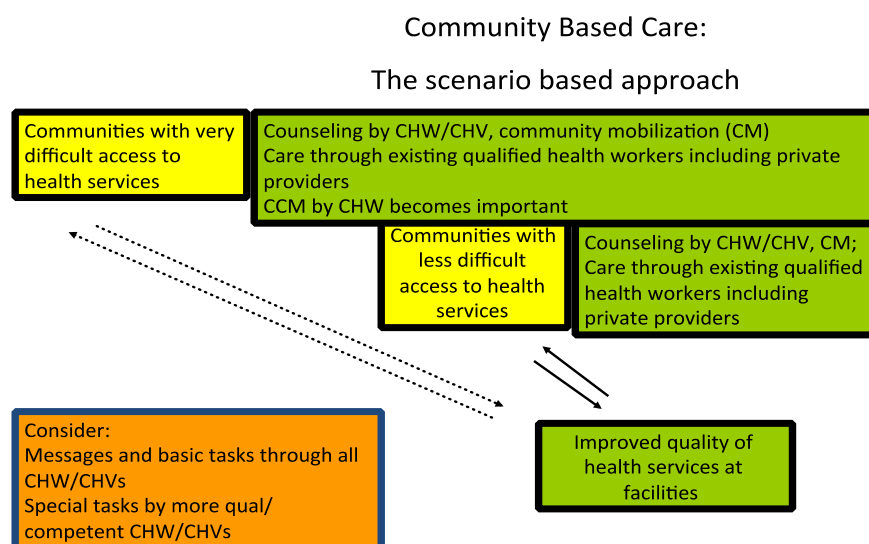
Communication strategies should be applied both at facility level and in the community and during home visits. In facilities, the antenatal clinics and postnatal wards and clinics offer good platforms through which key messages can be conveyed to mothers and families. Methods can include interpersonal communication, traditional methods such as street plays, and use of mass media. Mass media (radio and TV) has been shown to be useful for advocacy efforts in promoting interventions such as facility births and exclusive breastfeeding⁵⁵. Messages conveyed through a multipronged approach are more effective.

Even if facility deliveries are encouraged, mothers and babies may return home soon after the birth, some after just a few hours. Subsequently, due to a number of reasons, including cultural practices, they tend to remain home. Even when they develop problems, babies are kept at home and frequently care-seeking does not take place or is inappropriate, from traditional healers. Hence, good care at facilities needs to be combined with proper community mobilisation and communication strategies with appropriate messages being transmitted to mothers and families. Advocacy efforts and community-based interventions, including community mobilisation and home visits, are additional beneficial elements helping to promote optimal care, including antenatal care check-ups, deliveries with skilled birth attendants, early postnatal visits, and care-seeking for problems and danger signs. These activities are required to deal with a number of factors such as hindering traditional beliefs and cultural practices. Other factors such as financial constraints, poor access, inadequate quality of facility-based services, and at times poor behaviour of the health workers also need to be addressed.

Community leaders, women's groups, including grandmothers, and male involvement can play major roles in creating demand and helping indirectly to improve quality of care. This strategy also promotes empowerment of women.

Figure 15 highlights the importance of community-based care, along with improving the quality of facility-based care. Actual care at the community level may vary depending on access to facility care. In communities close to suitable facilities, trained unskilled community health volunteers can focus on community mobilisation and provision of health education and counselling to mothers and families in group sessions and during home visits, with emphasis on basic preventive care at home, identification of danger signs and appropriate care-seeking. Ghana has the advantage of having community health nurses who are really skilled workers. These, when trained for newborn care, can actually render care at home, such as administration of injectable antibiotics to sick newborns who can be managed at home. Suitable private providers and private hospitals can also provide additional support. Private health workers also need to be included in training programs and the facilities need to be governed by basic regulations promoting good quality of care. In communities with poor access to facilities, home care becomes even more important and is feasible with trained community health nurses. Where the latter too are inadequate, use of trained community health volunteers may also need to be explored.

Figure 15. Community-based care: scenario-based approach.



2

Source: Narayanan I. Newborn Health: From Advocacy to Scale presentation, 15–18 June 2009; Dakar, Senegal⁵⁶.

Note: CHW/CHVs in this figure indicates non-skilled community health workers/volunteers and does not include the skilled community health nurses. The latter with suitable training and supervision should be even more readily able to deal with community case management (CCM) of sick newborns who do not require hospitalisation.

3.3.8 Links between the facility and community, including referral

Both facility-level and community-based interventions are critical for improving newborn health in order to address supply and demand. Equally important is establishment of functional links between the two that promote increased understanding and support between the two groups. One of the common methods of establishing this link is through a working group with representatives from the facility health workers/managers, community groups and village

leaders. Periodic meetings of this working group can help review trends in results, identify problems and define and implement solutions. The GHS and Teaching Hospital Act #525 supports the formation of regional and district health committees to promote activities linking the formal health system with the community. Similarly a local government act exists linking the district and sub-district health committee with the community. However, these initiatives need to be strengthened and members motivated in order to promote more effective functioning.

Another major weakness is the lack of resources and logistics for the safe transport of mothers, and even more so, of the babies, from the community to the facilities and from centres to the more specialised referral centres. These too should be addressed.

Initially it may be useful to map out various facilities to determine which can be strengthened to care for sick babies so that counselling and advocacy can be carried out to promote the use of the appropriate facilities by families in order to avoid multiple referrals and delays in treatment that can be extremely risky to the sick newborn baby whose condition deteriorates rapidly.

3.3.9 Monitoring and evaluation

Besides ensuring that the key newborn care indicators are included in the country's Health Information Management System (DHIMS2), it is essential to operationalise a sound plan for monitoring and evaluation. Appropriate data collection tools are required at various levels, including registers, case sheets/patient records, and family-retained mother-baby cards at facility level, and registers, pictorial tools where required, and data collection forms at the community level. Innovative approaches, such as mobile technology, have also been utilised for collection and transmission of data. Review/analysis of data can not only give an idea of the results and trends, but also of the quality of care.

Promotion and strengthening of the system of vital registration of births and deaths are critical. So too is the documentation of stillbirths. A number of the fresh stillbirths may actually be revived through quality resuscitation at birth.

Regular perinatal/neonatal death audits, with discussions between the staff caring for the mother and baby, are useful in determining avoidable causes, challenges and possible solutions. Such audits when carried out well have been shown to improve quality of care and reduce perinatal mortality^{57,58}. Hence, ideally they should be carried out at least in hospitals.

3.3.10 Research

Research is an important method to determine the evidence base for further interventions or adaptations thereof. A recent global exercise conducted by WHO to identify research priorities for 2013–2035 indicated that nine of ten priorities identified related to known interventions. A number of priority areas were identified for research. The ones that are more relevant to low-resource countries included the following⁵⁹:

- In the domain of delivery:
 - Simplified resuscitation at lower levels of the health system.
 - Identification and management of neonatal infections at community level.
 - Addressing barriers to scaling up of exclusive breast feeding.

- Addressing barriers to scaling up of Kangaroo Mother Care at facility level.
- Evaluating the use of chlorhexidine for cord care in facilities.
- Improving the quality of care during labour and childbirth at facility level.
- In the domain of development:
 - Evaluation of Kangaroo Mother Care initiated at the community level.
 - Early detection of high-risk mothers during pregnancy and labour.
 - Simplified, improved intrapartum monitoring.
 - Evaluation of suitable oral antibiotics for treatment of neonatal sepsis.
 - Value of perinatal audits in improving quality of care during labour and delivery.

It would be useful for a body such as the Subcommittee on Newborn Care to facilitate an expert technical group to determine the areas to be addressed for research in Ghana.

CHAPTER 4

INTERVENTION PACKAGE, GOALS AND OBJECTIVES

4.1 Intervention Package for the Newborn

The newborn care package will be integrated with maternal and child health. Although the integration with maternal health can take place at several points, special focus will be from the period of labour and delivery, through the first 24 hours to the end of the first week of life, covering the period that accounts for 75% of neonatal deaths. Related to child health, while there are multiple links, priority will be given to breastfeeding and the care of the sick baby through the Integrated Management of Neonatal and Childhood Illness (IMNCI) Strategy.

4.1.1 Key areas in newborn care

The key areas of newborn care include:

1. Basic essential newborn care.
2. Management of adverse intrapartum events (including birth asphyxia).
3. Care of the preterm/low-birthweight/growth-restricted baby.
4. Management of neonatal infections/sick newborn.

4.1.2 Components within the key areas of essential newborn care

Basic essential newborn care

This is primarily *preventive* care, with focus at birth and the early postnatal period to the end of the first week.

1. Quality birthing practices, including prevention of infection (linked with and building on prevention of infection elements noted below)
2. Drying and provision of warmth, ideally through skin-to-skin contact with the mother
3. Cord care
4. Eye care
5. Vitamin K administration
6. Early, exclusive breastfeeding
7. Immunisation (BCG, polio)
8. Early appropriate quality ('focussed') postnatal care

Note: Other components such as PMTCT activities should be carried out as noted in the National HIV and AIDS, STI Policy⁶⁰, National AIDS Strategic Plan 2011–2015⁶¹, and MAF⁵ documents.

Management of adverse intrapartum events (birth asphyxia)

9. *Prevention.* As this relates to monitoring and care provided to the mother during labour and delivery, this is covered in the maternal health documents, including MAF5 and reproductive health policy and standards⁴⁶.

10. *Treatment* is through neonatal resuscitation, including basic resuscitation at all levels and more advanced care in the referral hospitals.

Care of the preterm/low-birthweight/growth-restricted baby

11. *Prevention.* Antenatal corticosteroids for preterm birth (during labour for gestational ages under 34 weeks) to prevent respiratory distress syndrome. Prevention is far easier and less costly than treatment. This intervention applies only to preterm births and not to mature low-birthweight babies.

Note: Prevention of prematurity/low birth weight itself is a more challenging issue, especially related to prematurity. However, optimal nutrition, care of the girl child, and care during the pre-pregnancy and pregnancy periods should be promoted as covered in the national maternal and child health strategies.

12. *Care of the preterm/low-birthweight/growth-restricted baby.* This includes extra essential newborn care, including warmth, additional support for babies who are unable to suck adequately, identification and treatment of problems and careful follow-up care to detect and manage complications and provide early stimulation. Kangaroo Mother Care is an effective method of providing this additional care to these vulnerable babies.

Management of neonatal infections/sick newborns

13. *Prevention of neonatal infections.* Examples of preventive strategies and actions are noted below. Appropriate treatment of maternal infections, management of labour, including premature rupture of membranes and rational use of prophylactic antibiotics where appropriate, as outlined in relevant Reproductive and Child Health protocols, will also help prevent many newborn infections.
 - a. Running water, soap and hand rubs.
 - b. Motivation for hand washing and following other rules for prevention of infection.
 - c. Items coming in contact with the baby at birth and high-risk/small babies in the neonatal special care unit should ideally not just be 'clean', as planned in home deliveries in low-resource countries, but preferably subjected to high-level disinfection (e.g., boiling cord ties) and/or sterilisation (e.g., autoclaving). Where feasible, use of disposable, single-use items such as cord clamps should be encouraged. Clean linen, where feasible autoclaved, will be useful. Hence linen should be available in the facility.
 - d. Cord care (use of sterile, single-use blades, scissors subjected to high-level disinfection, such as boiling or sterilised by autoclaving, for cord cutting and use of alcohol or chlorhexidine for cord care, as will be determined by the Subcommittee on Newborn Care).
14. *Treatment of neonatal infections (case management)*
 - a. Level of care
 - 1) Home/community-based care (through CHPS)
 - Preventive care, identification of danger signs and timely and appropriate care-seeking.

- Explore carrying out pilots for home-based treatment with injectable antibiotics by CHNs who are skilled and do home visits.
- 2) Peripheral centres (health centres, clinics, maternity homes)
 - The current IMNCI strategy is to administer the first dose of antibiotics and send the sick baby to the referral centre.
 - Explore providing full treatment to babies that are able to accept feeds at the centre itself or at home through trained CHNs instead of further referral.
 - 3) Referral hospitals—district/regional/national
 - Full treatment, including parenteral fluids, etc.
- b. Nature of infections
- 1) *Treatment of minor infections.* Can be managed with oral antibiotics at home.
 - 2) *Treatment of neonatal sepsis.* Requires injections and two antibiotics to cover infections with gram-negative and gram-positive organisms.

Note: In view of the problem of neonatal jaundice, early detection and management will be included in training activities.

It is not only important to identify the various components of newborn care to be addressed but also define what can be implemented at different levels. Table 3 addresses what can be carried out at home/community, CHPS compound, maternal clinics, peripheral centres and at referral hospitals.

Table 3. Newborn care interventions: application by sites and care providers.

Intervention	Home	CHPS Compound/Centre	Maternity Clinics	Health Centre	Referral Hospital
Basic essential newborn care	Yes, all components by all care providers (vitamin K and immunisations only by skilled attendants)	Yes, all components	Yes, all components	Yes, all components	Yes, all components
Prematurity					
Antenatal corticosteroids. Although these may be administered at peripheral centres it would be ideal to refer the mother for delivery to a referral facility that can care for preterm babies.		Yes with midwife/trained Community Health Nurse (CHN), but ideally send mother to referral facility that can care for preterm babies.	Yes, with midwife or trained CHN, but ideally send mother to referral facility that can care for preterm babies.	Yes; ideally send mother to referral facility that can care for preterm babies.	Yes, full management including the delivery and care of the preterm baby.

Intervention	Home	CHPS Compound/Centre	Maternity Clinics	Health Centre	Referral Hospital
Kangaroo Mother Care	Yes, definitely after being discharged from KMC care at a facility, by all categories of trained health workers. More evidence may be required for routinely <i>commencing</i> KMC after a home birth. Even if it is started at home, a preterm/low-birthweight baby needs to be referred to a suitable facility for initial assessment, care and monitoring of problems.	May commence it if the baby is born in the clinic, but the baby is likely to need to be sent to a referral centre for further evaluation. All categories of health workers may do follow-up KMC care, if trained, after the baby is discharged from the hospital.	May commence it if the baby is born in the clinic, but the baby is likely to need to be sent to a referral centre for further evaluation. All categories of health workers may do follow-up KMC care, if trained, after the baby is discharged from the hospital.	Yes, but may need to be sent to a referral centre for further evaluation unless local health workers are well trained in KMC. All categories of health workers may do follow-up KMC care, if trained, after the baby is discharged from the hospital.	Yes, full care and follow-up.
Basic neonatal resuscitation for adverse intrapartum events (birth asphyxia)	Only drying and stimulation unless the delivery is conducted by a trained nurse/midwife/CHN who is a skilled birth attendant.	Only drying and stimulation unless the delivery is conducted by a trained nurse/midwife/CHN who is a skilled birth attendant.	Yes, with midwife or trained nurse/midwife/CHN.	Yes	Yes. In addition, advanced resuscitation with intubation and further management will also be required.

Intervention	Home	CHPS Compound/Centre	Maternity Clinics	Health Centre	Referral Hospital
Management of neonatal infections					
Minor infections	Yes, with a trained nurse/midwife/CHN.	Yes, with a trained nurse/midwife/CHN.	Yes, with a trained nurse/midwife/CHN.	Yes	Yes
Neonatal sepsis treatable with intramuscular injections	<ol style="list-style-type: none"> 1. IMNCI strategy is to administer the first dose and send to the referral centre. 2. Explore, through pilot interventions, providing full treatment to babies that are able to accept feeds at any centre with skilled trained health workers instead of further referral. This may be particularly applicable to facilities that are close by where the baby can be brought daily or the CHN can visit the home daily to administer the doses. 				Yes, full care
Sick newborn requiring additional care	No, except first dose of the antibiotic with a trained CHN.	No, except first dose of the antibiotic with a trained CHN.	No, except first dose of the antibiotic with a trained CHN or midwife.	Mostly no, except first dose of the antibiotic with a trained CHN or midwife.	Yes, full care

4.1.3 Priorities for the current Ghana Newborn Strategy

1. Appropriate basic care (Level I) at all levels (home/community to the district/regional/teaching hospitals): major focus in year 1.
2. Intermediary level care (Level II) at referral hospitals: commence in referral hospitals in the first year.

Note: Level III care (neonatal intensive care units) should be considered in a limited number of large hospitals and after ensuring that the relevant hospitals are already implementing basic and intermediary care *effectively*. In this manner, the advanced care that is far more costly and that addresses a much smaller proportion of newborn babies is based on a firm foundation and delivered in an efficient manner.

4.2 Goals and Objectives

A holistic approach is required and will be included for implementing the newborn care package at both facility and community levels. However, in defining the specific goals and objectives noted in the section below, the key targets include only those that can be more readily monitored in the country by valid indicators. It is recognised that a number of the indicators do not have baseline for comparison currently, and efforts will be made to capture them through any ongoing or planned national surveys.

The goals and objectives outlined here extend over the next five-year period from 2014 to 2018.

4.2.1 Goals of the Newborn Strategy

1. To contribute to the reduction of neonatal mortality rate from 32 per 1000 live births in 2011 to 21 per 1000 live births in 2018 (5%/year).
2. To contribute to the reduction of institutional neonatal mortality rate by at least 35% by 2018.

4.2.2 Objectives of the Newborn Strategy

1. Increase the proportion of health workers trained in Essential Newborn Care

- a. To train at least 90% of skilled attendants in the Essential Newborn Care package by 2018.
- b. To train at least 90% of community health nurses and community health officers and at least 75% of community health volunteers on community-based interventions/activities for the newborn by 2018.
- c. To increase the proportion of skilled workers trained in the IMNCI strategy to at least 80% by the year 2018.
- d. To support incorporation of the full package of Essential Newborn Care in pre-service curricula for all relevant staff by 2018.

2. Improve Basic Essential Newborn Care (primarily preventive care)

- a. To increase the proportion of deliveries conducted by skilled birth attendants from 68% in 2011 to 82% in 2018.
- b. To increase the proportion of babies receiving the first postnatal visit within 48 hours from 56% in 2011 to 90% in 2018.
- c. To increase the proportion of babies receiving the 2nd postnatal visit by day 7 from 40% in 2013 to at least 80% in 2018.
- d. To increase early initiation of breastfeeding (within 1 hour of birth) from 45.9% in 2011 to 80% in 2018.
- e. To increase exclusive breastfeeding at 6 months from 45.7% in 2011 to 85% in 2018.

3. Provide basic neonatal resuscitation for adverse intrapartum events (birth asphyxia)

Treatment: To reduce institutional neonatal mortality (case fatality) due to adverse intrapartum events (birth asphyxia) by 50% by the year 2018.

4. Improve care of preterm/low-birthweight/growth-restricted babies

- a. *Prevention:* To administer antenatal corticosteroids to at least 60% of preterm births under 34 weeks gestational age by 2018.
- b. *Treatment:* To increase the number of hospitals providing the full package of KMC according to national criteria to at least 80% by 2018.
- c. To increase the proportion of babies with birth weight less than 2000 g receiving skin-to-skin contact for at least 3 hours per day for at least 1 week to at least 60% by 2018.

5. Improve management of neonatal infections

- a. *Prevention of Neonatal Infections*
 - 1) To increase the proportion of hospitals adhering to national infection control standards (related to care at delivery and early postnatal period) to at least 80% by 2018.
 - 2) To reduce the proportion of infections in hospital-born newborn babies requiring admission to the neonatal special care units by 50% by the year 2018.
- b. *Treatment of Neonatal Infections/Care of the Sick Newborn*
 - 1) To increase care-seeking for the sick newborn at health facilities to at least 80% by the year 2018.
 - 2) To reduce the mortality of newborns with sepsis in hospitals by 50% by the year 2018.

CHAPTER 5

STRATEGIES AND IMPLEMENTATION ACTIVITIES

The key strategies are organised according to the categories used for the bottleneck analysis described in Chapter 2, are in line with WHO's health systems strengthening categories noted in Chapter 2, and are also based on the underlying components noted in Chapter 3. In addition, activities have been developed under each strategy to identify the components to be implemented and to help develop the required budget.

5.1 Strategy 1: Developing or Updating Necessary Policies, Standards and Coordinating Mechanisms to Support Newborn Care Activities

Efforts will be made to strengthen the current coordinating mechanisms to improve governance and broaden multi-stakeholder participation in newborn care. The Terms of Reference (TOR) and membership of the Subcommittee on Newborn Care will be expanded and quarterly meetings held to track progress with implementation and address any bottlenecks identified.

Key Target Activities

5.1.1 Strengthen coordination mechanisms and governance for newborn care

The SCNC will ensure that the following activities are implemented directly or through supportive, facilitating supervisory oversight.

Sub-Activities

- 5.1.1.1 Review the membership and TOR of the SCNC to ensure that it has representation from all key groups that are already involved in or have a strong interest in the area of newborn health. These include, among others, government representatives; relevant UN organisations such as WHO, UNICEF and UNFPA; USAID; other donors and stakeholders; bilateral organisations; relevant implementing NGOs; professional bodies of obstetricians, paediatricians, nurses/midwives; and the Medical and Dental Council and Nursing Council.
 - Establish subgroups/task forces as required to carry out specific tasks noted below to develop the necessary individual strategies/policies, tools, etc.
 - Update the TOR of the SCNC to include overseeing the implementation of programs for newborn health, including harmonisation of data collecting tools from private facilities with the DHIMS template.
- 5.1.1.2 Convene regular quarterly meetings of the members, with regional focal persons to be included bi-annually. When the need arises additional meetings will be convened.
- 5.1.1.3 Establish links with other key committees/bodies to promote an integrated approach, while at the same time, through the focal point persons on newborn health at the national and regional levels, ensure adequate focus on newborn health within the framework of RMNCH.
- 5.1.1.4 Nominate a representative of the SCNC to the Safe Motherhood Committee and vice versa.

- 5.1.1.5 Appoint a focal person for newborn health within the Child Health Unit at the national level.
- 5.1.1.6 Appoint a focal person for newborn health in all regions.
- 5.1.1.7 Include a representative from the Birth and Death Department in the Newborn Health Subcommittee.
- 5.1.1.8 Provide operational cost for newborn health secretariat.

5.1.2 Develop/update policies, guidelines, standards, training and supervisory tools for newborn care

All essential policies, guidelines, training manuals and tools for newborn care will be updated from existing documents or new ones developed as applicable.

Sub-Activities

- 5.1.2.1 Develop/update guidelines for newborn care.
- 5.1.2.2 Develop standards for the components of the intervention package noted in Chapter 4.
- 5.1.2.3 Develop/update training tools, including manuals, guides, learning checklists and job aids.
- 5.1.2.4 Develop/update communication tools/IEC materials such as flip charts, posters, and pamphlets.
- 5.1.2.5 Develop/update supervisory tools, including checklists.
- 5.1.2.6. Review and update the lists/documents on technical specifications of essential medications, commodities and medical devices necessary for the newborn care package outlined above at all facility levels, including referral units, and for community-based interventions through CHPS.
- 5.1.2.7 Review definition of the viable fetus in order to consider revising it in keeping with WHO guidelines. (Currently, in Ghana, viability is limited to fetuses having a weight of 1000 gm or above and a gestational age of 28 weeks or more. The corresponding figures for the WHO guidelines are 500 gm and 22 weeks, respectively.)
- 5.1.2.8 Advocate for policy change to allow use of appropriate commodities for newborn care at peripheral facilities and communities as determined by the SCNC, especially where skilled workers such as community health officers/community health nurses are available so that they can be covered by the National Health Insurance Scheme.
- 5.1.2.9 Review the existing guidelines for postnatal visits along with the new WHO recommendations (see Appendix 2) to determine what should be adopted for the country.
- 5.1.2.10 Print copies of all documents developed.

5.2 Strategy 2: Updating the National Health Information Management System/DHIMS2 to Include Key Newborn Indicators

Working through the SCNC the current Health Information Management System will be updated to include key newborn indicators which will be captured by DHIMS2. The development and adaptation of a monitoring and evaluation framework and plan for newborn health will be supported.

Key Target Activities

- 5.2.1 Develop key indicators, including selecting the newborn indicators for the national sector-wide indicators. A draft list of indicators based on the goals and objectives outlined in Chapter 4 is provided in Appendix 3. These will be reviewed and adapted as required for the country.
- 5.2.2 Operationalise the key newborn indicators to be fully incorporated into DHIMS2.
- 5.2.3 Advocate for the inclusion of a newborn indicator in the MOH list of sector-wide indicators.
- 5.2.4 Adapt tools for collecting data/information to monitor newborn health processes and outcomes, ensuring that they are harmonised with DHIMS2 while at the same time ensuring standardisation of the language/method in reporting causes of death to ensure consistency across the various facilities.

The operationalising of indicators and development/updating of tools are described further below under the strategy on monitoring and evaluation.

5.3 Strategy 3: Increasing Health Financing for Newborn Care

Not much can be achieved without adequate funding of the proposed activities. Consequently, effort will be made to mobilise as much funding as possible from all stakeholders to implement the Strategy. Financing of the activities and strategies will be performance based.

Key Target Activities

- 5.3.1 Carry out advocacy activities for increased allocation of funds for newborn care with the Ministry of Finance, MOH and GHS managers at all levels, with development partners, and with other stakeholders as well as political authorities.
- 5.3.2 Advocate with MOH and NHIS for covering cost of newborn care, including normal delivery, first and second postnatal care visit, and care of high-risk babies such as preterm, low-birthweight and sick newborns. The proposal should thus include reimbursement of the cost of the following:
 - 5.3.2.1 Full care of three additional visits during the postnatal period on day 3 (48–72 hours), between days 7 and 14 after birth, and six weeks after birth.
 - 5.3.2.2 Full cost of care of high-risk babies such as preterm/low-birthweight and sick babies.
 - 5.3.2.3 Cover use of essential drugs according to the defined policy by levels of care, from hospitals to peripheral facilities and CHPS.

- 5.3.3 Advocate for the more impoverished, vulnerable families to be reached by NHIS. In order to avoid payment of additional/unofficial/'hidden' fees by families, ensure continuous availability of essential commodities for the newborn. When any task shifting is approved by GHS, the NHIS should reimburse the facilities accordingly. Examples include use of injectable antibiotics at health centres and CHPS and procedures such as vacuum extraction that are approved for application by midwives and should be covered by NHIS because they pertain to access to basic care.

5.4 Strategy 4: Ensuring Procurement, Equitable Distribution and Maintenance of Quality Essential Medicines, Medical Devices and Commodities for Newborn Care

The existing list of essential medications, commodities and devices will be reviewed to ensure that appropriate ones are on the relevant lists to ensure supply of appropriate components at the various levels, including at referral units, peripheral facilities/health centres and in the community, including components required for home visits. Prioritisation and definition of the list will be carried out under the aegis of the SCNC. The day-to-day use and maintenance of the commodities will be included in the capacity-building strategy related to health workers. Procurement and distribution of the relevant commodities will be coordinated with training of health workers in newborn care.

Key Target Activities

- 5.4.1 Identify a list of essential medications, commodities, and medical devices with the necessary specifications and quality control.
- 5.4.2 Develop a procurement plan for the five years based on the lists of essential medications, commodities and medical devices list developed by the SCNC (see also sub-activity 5.1.2.6 in this chapter under activity 5.1.2, *Develop/update policies, guidelines, standards, training and supervisory tools for newborn care*). This should include all relevant components such as an appropriate quantification process, forecasting and estimates of the identified commodities.
- 5.4.3 Ensure equitable distribution of the commodities.
- 5.4.4 Ensure commodity security for newborn care, i.e., ensure that essential medications and medical devices for newborns are included as a priority in the list of essential commodities to be procured by the MOH.
- 5.4.5 Develop and implement a plan for proper maintenance and replacement of parts for newborn care equipment/commodities with relevant actions based on the nature of the commodity. When ordering more specialised equipment, ensure that arrangements are simultaneously made to procure, train and equip maintenance/biomedical engineering personnel to be able to deal with them.
- 5.4.6 Support adequate warehousing/storage, distribution, and supply chain management. Institute a mechanism to reduce wastage from expired medicines. (Note: capacity building of health workers related to procurement, avoidance of stock-outs and in day-to-day management and maintenance of the essential drugs, commodities and medical devices is covered in the section on capacity building below under activity 5.6.9.)

5.5 Strategy 5: Ensuring Availability and Equitable Distribution of Key Competent Health Workers

Equitable distribution of adequate numbers of competent health workers at various levels of service delivery is essential for the implementation of this important strategy. The strategy will include applying task shifting where appropriate, e.g., CHN with midwifery training to provide basic emergency obstetric and newborn care; promoting equitable distribution of skilled workers, especially doctors and midwives; equitable redistribution of midwives; retention of doctors and other staff; redistribution of staff to deprived areas and with suitable capacity building noted below to help man the facilities.

Key Target Activities

- 5.5.1 Undertake workload analysis at relevant sites and levels, including those of training institutions, including health tutors. Link this with request for support from H4+, a group of UN health partners.
- 5.5.2 Support finalisation and implementation of the new staffing norms currently being developed by the MOH Human Resources Division.
- 5.5.3 Advocate for the production of adequate numbers of key health staff, including teacher trainers for newborn care, including paediatricians trained in neonatal care for referral centres.
- 5.5.4 Develop and implement policies on transfer and rotation of key trained personnel.
- 5.5.5 Support the development and implementation of courses for accreditation by the Medical and Dental Council and Nurses and Midwives Council of Ghana. The regulatory bodies can be supported to carry out this accreditation activity.
- 5.5.6 Improve **pre-service education** of midwives, nurses, doctors, and physician assistants at both public and private training institutions by including the following:
 - 5.5.6.1 Update the pre-service curriculum to include the newborn care package for in-service training.
 - 5.5.6.2 Supply commodities such as resuscitation equipment and training manikins for practice.
 - 5.5.6.3 Ensure **competency-based** pre-service training for all students enrolled in pre-service education.
 - 5.5.6.4 Advocate for inclusion of the technical areas as covered in the curriculum in the process of evaluation (examinations) to ensure that both education and evaluation target the same components and goals.

5.6 Strategy 6: Improving the Capacity of Facility-Level Health Workers to Address Newborn Care

Skills of relevant health workers providing care for the preterm/low birthweight and sick newborn will be improved.

Competency-based capacity building of facility-level health workers will focus on the technical areas outlined in the newborn care package (Chapter 4), including basic care of the newborn, care of preterm/low-birthweight babies, neonatal resuscitation, prevention of infection and management of sick newborns. In addition to training skilled birth attendants in newborn care, other skilled attendants such as general nurses, CHNs/CHOs, physician assistants and general physicians will be trained as required, as they will come in contact with the mother and baby in the follow-up clinic, especially when the babies are brought to the peripheral facilities for problems/illnesses.

Besides technical aspects, other components will be included in training that are not commonly covered in most training courses/workshops, such as customer care, brainstorming and developing practical plans to promote quality, proper use and maintenance of equipment and commodities, avoiding stock-outs, and maintenance and analysis/use of necessary data for monitoring and to evaluate quality of care.

Key Target Activities

- 5.6.1 Review methods of training in order to adopt optimal strategies that promote competency, minimise the period that health workers need to be away from work and are cost-effective.
- 5.6.2 Adapt/update training tools to ensure that they cover the components of newborn care outlined in the package. Tools will include reference manuals, guides, learning checklists, job aids, and orientation guides for managers.
Content of the training tools will include:
 - 5.6.2.1 Essential newborn care, including (a) basic essential newborn care; (b) antenatal corticosteroids, extra care for preterm/low-birthweight babies and follow-up care, including KMC; (c) basic neonatal resuscitation; and (d) identification of the sick newborn and administration of the first dose of antibiotics and referral, meant for all skilled health workers at all levels.
 - 5.6.2.2 More specialised care, including KMC and full care of neonatal sepsis, for staff of hospitals and larger centres that need to be prepared to handle these high-risk and sick babies.
- 5.6.3 Print copies of the above tools for training.
- 5.6.4 Orient key managers in newborn care (include tools and methods) in order to support implementation.
- 5.6.5 Undertake training of trainers, who will later on be used for cascade training at lower/peripheral levels.
- 5.6.6 Train skilled birth attendants, including CHNs, in the care of the newborn, focussing on *in-service competency-based training*. The training will include:

(a) basic essential newborn care; (b) antenatal corticosteroids for preterm and extra care for preterm/low-birthweight babies, including follow-up; (c) basic neonatal resuscitation; and (d) identification of the sick newborn and administration of the first dose of antibiotics and referral, meant for all skilled health workers at all levels, including CHNs at CHPS.

- 5.6.7 Train staff in more specialised care, including KMC training and full care of neonatal sepsis/sick newborn, and provide follow-up for staff of hospitals and larger centres that can care for such high-risk and sick babies.
- 5.6.8 Train staff in advanced care, especially in teaching and regional hospitals.
- 5.6.9 Train staff in management of the equipment and commodities supplied for newborn care to ensure proper care and avoidance of stock-outs.
- 5.6.10 Scale up GHS customer care training program using the GHS *Handbook on Customer Care* to improve health worker attitudes and promote respectful and appropriate behaviour with clients.

5.7 Strategy 7: Building the Capacity of Community Health Workers to Promote Newborn Health

CHNs/CHOs and less-skilled community health workers play an important role in communication, community mobilisation strategies and home visits that are important in promoting preventive care, identification of danger signs, appropriate care-seeking and suitable follow-up care. Here too training will be competency based, with a focus on communication skills. The more skilled workers such as CHNs/CHOs will need additional skills in providing basic care as noted in section 5.6 (Strategy 6).

Key Target Activities

- 5.7.1 Adapt tools—training guides for facilitators, pictorial job aids and counselling cards (often available as a flip chart, etc.)—to include newborn health for the CHOs/CHNs and CHVs.
- 5.7.2 Prints tools for training.
- 5.7.3 Train CHNs/CHOs/CHVs, promoting competency-based training, the main skill here being in communication.

5.8 Strategy 8: Promoting and Institutionalising Quality Improvement, Including Supportive Supervision and Mentoring

Key Target Activities

- 5.8.1 Review the *Draft In-Depth Supervision and On-the-Job Training Guide, Maternal and Child Health* (GHS, 2013) for supervisors and providers for:
 - Adequacy relevant to newborn care.
 - Effective application of the supervisory tool, to determine how best to use it.
- 5.8.2 Develop simpler version(s) for more widespread and frequent usage.

- 5.8.3 Review existing systems of supervision and develop/adapt alternative/innovative methods at facility level:
- Internal supervision for hospitals (through the quality assurance/improvement committee).
 - ‘Group’ supervision—adapted collaborative approaches (through meetings of health workers from peripheral centres at the district hospital or in one of the larger centres) (see Chapter 4).
- 5.8.4 Use mobile technology for improving quality along with M&E activities; initiate pilot projects.
- 5.8.5 Develop/adapt systems for providing supportive supervision for health workers at the community level:
- ‘Group’ supervision adapted collaborative approaches (through meetings of health workers from adapted collaborative approaches at selected health centres).
 - Involvement of key community leaders as a part of the supervisory group.
- 5.8.6 Implement supervisory activities based on the adaptations developed.
- 5.8.7 Promote appropriate rewards such as certificates of recognition and awards given to well performing centres/groups/health workers.

5.9 Strategy 9: Scaling Up a Strengthened and Expanded Mother/Baby-Friendly Facility Initiative

Important maternal issues are covered in the MAF⁵ and Reproductive Health Service Policy⁴⁶ documents. This document, being related to newborn care, will focus primarily on the baby components.

Key Target Activities

- 5.9.1 Revive, strengthen and expand the Baby Friendly Hospital Initiative to go beyond breastfeeding to optimal care of the mother-baby dyad appropriate for level of facility. Change name to Mother/Baby-Friendly Facility Initiative (MBFFI) to cover all facilities. This may include:
- Provision of respectful, courteous, and supportive facility-based care for the mother and baby.
 - Promotion of breastfeeding.
 - Use of expressed breast milk.
 - Provision of basic essential newborn care.
 - Provision of KMC at hospital level.
 - Promotion of mother support groups.
- 5.9.2 Scale up training on lactation management and use of expressed breast milk where relevant.
- 5.9.3 Develop and disseminate advocacy and communication tools to promote the new key activities of MBFFI .

- 5.9.4 Implement the recommendation of the Baby-Friendly Hospital Initiative Authority on decentralisation of the certification process.
- 5.9.5 Carry out recertification every three years of certified facilities by the BFHI Authority.
- 5.9.6 Advocate and support private facilities to be certified and also advocate for NHIS to support certification of private facilities. (Currently, only public facilities have come on board.)

Note: Babies with special feeding needs, such as motherless babies, will be managed based on the Ghana Infant and Young Child Feeding Strategy, 2008.

5.10 Strategy 10: Strengthening Advocacy, Communication and Social Mobilisation (ACSM) and Other Community-Based Interventions

Key Target Activities

Activities related to training and follow-up supervision of the CHNs/CHVs related to provision of improved quality of community-based interventions have been covered in the above sections on capacity building and supervision. The main activities listed below relate to advocacy and communication activities.

- 5.10.1 Create awareness and commitment for suitable actions among all categories of stakeholders, including Metropolitan, Municipal and District Assemblies (MMDAs), media and NGOs. This activity will be linked with the government's decentralisation action framework currently in progress.
- 5.10.2 Support the Child Health Week activities to devote one or two days for focussing on newborn health.
- 5.10.3 Identify and support national and regional champions for newborn health.
- 5.10.4 Develop a focussed advocacy and communication strategy on newborn health to be applied at:
 - Facility level (antenatal and postnatal clinics and lying-in wards); and
 - Community level, including community mobilisation and home visits (information, education and communication [IEC]).
- 5.10.5 Develop/update tools for implementing the above communication strategies at facility and community levels.
- 5.10.6 Implement the communication strategy components, including use of the various communication methods for health workers and families such as:
 - Interpersonal communication.
 - Traditional methods.
 - Increased focus on the newborn in the Child Health Week activities.
 - Mass media (expensive, but may be subsidized at times and is useful for some repetitive messages that do not require much explanation or counselling).
 - Use of mobile technology for sending messages (pictorial where relevant)—may be tried in selected areas.

- 5.10.7 Support community groups, such as women's groups and other significant groups for empowerment of women and families, for health education and for promoting antenatal and postnatal visits, facility births, recognition of danger signs and timely care-seeking.
- 5.10.8 Support CHNs and CHVs to make the designated home visits with the support of tools (e.g., counselling cards and reporting and M&E forms). Traditional birth attendants (TBAs) who can act as CHVs can also be trained in a similar manner to promote preventive care at home, advocacy for facility-based births, identification of danger signs and appropriate care-seeking. However, the GHS is currently not promoting home deliveries by TBAs.
- 5.10.9 Provide additional support to community health officers/CHNs to make the designated home visits through travel and transport allowance or through provision of motor bikes, including fuel and maintenance.

5.11 Strategy 11: Strengthening Links Between Health Facilities and Communities

Key Target Activities

- 5.11.1 Map out the existing facilities in a region to determine the ones that are more ready to be strengthened with capacity building of the staff and appropriately equipped for management of the sick newborn so that such babies can be referred to the appropriate facilities in order to avoid multiple referrals and delays.
- 5.11.2 Develop/strengthen transport services for referral of high-risk and sick babies with mothers to referral centres, using Central Region transport model as example.
- 5.11.3 Strengthen the activities of CHNs and public health nurses posted at health centres to provide optimal support to the CHNs/CHOs at the CHPS compounds and at outreach services.
 - 5.11.3.1 Support supervisory visits by health professionals from higher levels to CHNs/CHOs.
- 5.11.4 Promote links between the formal health system and the community. Through this mechanism strengthen the linking of the village health committees with CHNs and with representatives from facilities/formal health system.
 - 5.11.4.1 Convene quarterly meetings of the facility-community groups to review activities and discuss results, challenges and possible solutions.
 - 5.11.4.2 Strengthen the CHPS strategy to increase the links between midwives, CHOs, CHVs, TBAs and community-based NGOs. This may help to encourage referral for facility deliveries, counselling for preventive care, identification of danger signs and early care-seeking/referral for problems in the mother and baby. Encouraging TBAs to accompany mothers to the facilities and a supportive attitude from the midwife/CHO may also be helpful in promoting further referrals.

5.12 Strategy 12: Strengthening Public-Private Partnerships

The complexity of health makes it clear that no single ministry, agency or sector has all the requisite resources, skills and even authority to prosecute all the interventions required to improve newborn health. Improving health depends to a large extent on the role of sectors outside the health sector. The actions of other sectors impact positively or negatively on health, and ensuring that other sectors perform their health-related functions to prevent diseases and promote health is of major importance. A multi-sector approach working through public-private partnership is therefore called for and shall consequently be pursued and strengthened.

Private providers include nongovernmental hospitals and clinics, pharmacists and medicine sellers, as well as TBAs and traditional healers in communities. Private-sector providers will deliver the minimum essential package of newborn health interventions along the continuum of care. Private-sector providers are required to use national standards and guidelines for all aspects of clinical care. Strategies that will be adopted include building capacity of private providers in how to effectively engage in public-private partnerships, as well as how to deliver the essential package of newborn health interventions. Other ministries, departments and agencies will be supported to perform their health-related functions in support of newborn health through advocacy and other activities.

The SCNC can play an important role in identifying the necessary partners on the private side and determining their potential roles through bilateral discussions, ensuring that the true health interests of the clients (mothers, babies and families) are assured. It is essential that private institutions also adhere to standards and guidelines so that the quality of care is good. Where private institutions, organisations and companies are involved in programs, steps need to be in place to ensure that there is no conflict of interest and families receive the intended health benefits.

Key Target Activities

- 5.12.1 Identify key public-private partnerships with private institutions and organisations for the delivery of the defined package of interventions, taking care to anticipate and avoid conflicts of interest noted above.
- 5.12.2 Undertake training for key private and public health managers in how to engage in sustainable public-private partnership ventures using available training manual already developed by the private-sector unit of MOH with support from GIZ recently.
- 5.12.3 Distribute updated protocols, guidelines, checklists, tools and other materials to private providers. Hence quantities of these materials to be printed should take into account the needs of private providers.
- 5.12.4 Strengthen links with and facilitate improving quality of care in private institutions and among skilled private providers.
 - 5.12.4.1 Facilitate appropriate capacity building and supportive supervision of skilled private providers to improve quality of care for the newborn in private institutions through provision of standards, guidelines and tools.
 - 5.12.4.2 Facilitate harmonisation with the national government reporting system in private institutions through provision of standards, guidelines and DHIMS2 tools.

- 5.12.4.3 Facilitate adoption of the Mother/Baby-Friendly status in the private institutions.
- 5.12.4.4 Conduct supervisory visits to nongovernmental hospitals and clinics to monitor progress, identify problems and discuss/negotiate solutions.
- 5.12.4.5 Develop links with suitable private providers in the community to facilitate community-based programs.
- 5.12.4.6 Provide private providers and other Municipal and District Assemblies with messages and materials developed for health promotion and behaviour change activities.

5.13 Strategy 13: Operationalising an Effective Plan for Monitoring and Evaluation

An effective plan for monitoring and evaluation will be developed and operationalised. This will include the development of an M&E framework to track progress with implementation and measure performance. Specific targets, outputs, outcomes and impact indicators will be defined and measured as per agreed milestones. Midterm and end-term project evaluations will also be conducted. Advantage will also be taken to collaborate with ongoing or planned national surveys within the period to measure some of these newborn care indicators.

Key Target Activities

- 5.13.1 Establish a uniform system across the facilities for documenting morbidity and causes of death.
- 5.13.2 Operationalise use of adapted data collection tools (electronic and hard copies as applicable).
 - 5.13.2.1 Facility Level
 - Registers
 - Case sheets/patient records/family-retained mother-baby cards/records
 - Forms for collecting data—electronic versions and hard copies where relevant
 - 5.13.2.2 Community Level
 - Registers for CHOs/CHNs and CHVs
 - Forms for collecting data, including those related to newborn deaths at home/community
- 5.13.3 Support the inclusion of newborn health in the existing health collection and transmission of data.
- 5.13.4 Promote perinatal/neonatal death audits, at least in all hospitals.
- 5.13.5 Support data validation and analysis meetings for improving quality at all levels.
- 5.13.6 Undertake quarterly monitoring visits from national to sub-national and sub-national to local levels.
- 5.13.7 Undertake annual national stakeholders meetings on newborn care.
- 5.13.8 Undertake mid-term review meetings.
- 5.13.9 Undertake end-term review meetings.

Note: in implementing each of these activities effort will be made to integrate and link with other technical areas and strategies without losing the focus on newborn care.

5.14 Strategy 14: Managing the Newborn Health Strategy and Action Plan

The Newborn Health Strategy and Action Plan shall be the responsibility of the Ministry of Health, under the oversight of the SCNC Working Committee, and will be in keeping with the management of the MAF Operational Plan. The SCNC will:

1. Provide advice.
2. Mobilise resources.
3. Review progress and resolve constraints to progress.
4. Sustain advocacy.
5. Provide strategic technical support.

The financial management of funding for the Newborn Strategy and Action Plan will follow the existing financial management arrangement of MOH/GHS. The management arrangements will also conform to the existing Common Management Arrangement of MOH with partners, as well as the Decentralization Policy of the Government, as applicable. The Family Health Division of GHS will form the secretariat of the SCNC and report through the Director General of GHS to the SCNC. The Child Health coordinator of FHD will be the overall coordinator of the Newborn Action Plan. However, various departments and divisions of MOH/GHS will provide oversight to different aspects of the Action Plan. Regions and districts will implement the Newborn Health Strategy and Action Plan in the spirit of integration while at the same time not losing focus on newborn care. Focal persons will be appointed at the regional and district levels to oversee newborn care on behalf of the respective Regional Health Management Teams and District Health Management Teams.

5.15 Summary of Cost (Provisional)

	(US Dollars)
Strategy 1: Developing or updating necessary policies, standards and coordinating mechanisms to support newborn care activities	1,310,650
Strategy 2: Updating the national Health Information Management System/District Health Information Management System (DHIMS2) to include key newborn indicators	4000
Strategy 3: Increasing health financing for newborn care	7200
Strategy 4: Ensuring procurement , equitable distribution and maintenance of quality essential medicines, medical devices and commodities for newborn care	4,079,800
Strategy 5: Ensuring availability and equitable distribution of key competent health workers	2120
Strategy 6: Improving the capacity of facility-level health workers to address newborn care	4,364,800
Strategy 7: Building the capacity of community health workers to promote newborn health	702,800
Strategy 8: Promoting and institutionalising quality improvement, including supportive supervision and mentoring	5,638,145
Strategy 9: Scaling up a strengthened and expanded Mother/Baby-Friendly Facility Initiative	12,040,850
Strategy 10: Strengthening advocacy, communication and social mobilisation and other community-based interventions	18,966,400
Strategy 11: Strengthening links between health facilities and communities	30,500,000
Strategy 12: Strengthening public-private partnerships	485,600
Strategy 13: Operationalising an effective plan for monitoring and evaluation	3,061,200
Strategy 14: Managing the Newborn Strategy and Action Plan	TBD
Total Budget	US\$81,163,565

APPENDIX 1: DEFINITIONS

Term	Definition
Neonatal mortality rate	Probability of dying during the first 28 completed days of life. The rate is expressed as the number of deaths within the first 28 completed days of life per 1000 live births.
Early neonatal deaths	Deaths that occur in the first 7 days of a baby's life.
Late neonatal deaths	Deaths occurring after 7th day but before the 28th completed day of life.
Perinatal mortality rate	Deaths in the perinatal period, which includes late pregnancy, birth and the first week of life, and thus includes stillbirths and early neonatal deaths. The perinatal mortality rate is expressed as the number of stillbirths and early neonatal deaths per 1000 <i>total</i> births.
Total stillbirth	The birth of a dead viable baby (gestational age ≥ 22 weeks, weight ≥ 500 gm and body length ≥ 25 cm). For international purposes WHO recommends the use of the following parameters: gestational age ≥ 28 weeks, weight ≥ 1000 gm and body length ≥ 35 cm. Often termed 'third trimester stillbirth'.
Fresh stillbirth	The birth of a dead baby with no signs of maceration/ disintegration of the skin, where the death is assumed to have taken place during labour and the process of delivery.
Stillbirth rate	For international comparison, stillbirth rate is the number of stillbirths related to fetuses ≥ 28 weeks gestation per 1000 <i>total</i> births.
Post term*	A baby born between 42 weeks 0 days and beyond.
Late term*	A baby born between 41 weeks 0 days and 41 weeks 6 days.
Full term*	A baby born between 39 weeks 0 days and 40 weeks 6 days.
Early term*	A baby born between 37 weeks 0 days and 38 weeks 6 days.
Preterm	A baby born < 37 completed weeks of gestation.
Late preterm	A baby born after 34 completed weeks and before 37 completed weeks of gestation (between 34 weeks 0 days and 36 weeks 7 days OR 34 to < 37 completed weeks gestation).

Term	Definition
Moderate preterm	A baby born between 32 completed weeks and before completion of 34 weeks (between 32 weeks 0 days and 34 weeks 6 days OR 32 to <34 completed weeks gestation).
Very preterm	A baby born after 28 completed weeks gestation and before 32 completed weeks gestation (between 28 weeks 0 days and 32 weeks 6 days OR 28 to <32 completed weeks gestation).
Extremely preterm	A baby born at <28 completed weeks gestation (lower limit not clearly defined but may be taken to 22 weeks, which is currently recommended for fetal viability).

*Term pregnancy has been redefined by the American College of Obstetricians and Gynecologists to make clear that newborn outcomes are not similar even after completion of 37 weeks. Each week up to 39 weeks is important for the proper development of the fetus and for the baby to have a healthy start^{48,62}.

Note: The classification of prematurity is presented for information. The terminology may vary with some groups. The definitions are also hampered by the fact that ideally it should be documented through assessment by ultrasound, as calculation from the last menstrual period and from clinical assessments have their limitations. In low-resource countries the top priorities are the late and the moderate preterm babies.

APPENDIX 2: 2013 WHO RECOMMENDATIONS ON POSTNATAL CARE

Excerpted from the World Health Organization's *Recommendations on Postnatal Care of the Mother and Newborn, 2013*.¹⁹

RECOMMENDATION 1: Timing of discharge from a health facility after birth

- After an uncomplicated vaginal birth in a health facility, healthy mothers and newborns should receive care in the facility for at least 24 hours after birth. (For the newborn this includes an immediate assessment at birth and a full clinical examination around one hour after birth and before discharge.)

RECOMMENDATION 2: Number and timing of postnatal contacts

- If birth is in a health facility, mothers and newborns should receive postnatal care in the facility for at least 24 hours after birth. (For the newborn this includes an immediate assessment at birth and a full clinical examination around one hour after birth and before discharge.)
- If birth is at home, the first postnatal contact should be as early as possible within 24 hours of birth.
- At least three additional postnatal contacts are recommended for all mothers and newborns, on day 3 (48–72 hours), between days 7–14 after birth, and six weeks after birth.

RECOMMENDATION 3: Home visits for postnatal care

- Home visits in the first week after birth are recommended for care of the mother and newborn.

CONTENT OF POSTNATAL CARE FOR THE NEWBORN

RECOMMENDATION 4: Assessment of the baby

- The following signs should be assessed during each postnatal care contact and the newborn should be referred for further evaluation if any of the signs is present: *stopped feeding well, history of convulsions, fast breathing (breathing rate ≥ 60 per minute), severe chest in-drawing, no spontaneous movement, fever (temperature $\geq 37.5^{\circ}\text{C}$), low body temperature (temperature $< 35.5^{\circ}\text{C}$), any jaundice in first 24 hours of life, or yellow palms and soles at any age.*
- The family should be encouraged to seek health care early if they identify any of the above danger signs in between postnatal care visits.

RECOMMENDATION 5: Exclusive breastfeeding

- All babies should be exclusively breastfed from birth until 6 months of age. Mothers should be counselled and provided support for exclusive breastfeeding at each postnatal contact.

RECOMMENDATION 6: Cord care

- Daily chlorhexidine (7.1% chlorhexidine digluconate aqueous solution or gel, delivering 4% chlorhexidine) application to the umbilical cord stump during the first week of life is recommended for newborns who are born at home in settings with high neonatal mortality (30 or more neonatal deaths per 1000 live births).
- Clean, dry cord care is recommended for newborns born in health facilities and at home in low neonatal mortality settings. Use of chlorhexidine in these situations may be considered only to replace application of a harmful traditional substance, such as cow dung, to the cord stump.

RECOMMENDATION 7: Other postnatal care for the newborn

- Bathing should be delayed until 24 hours after birth. If this is not possible due to cultural reasons, bathing should be delayed for at least six hours.
- Appropriate clothing of the baby for ambient temperature is recommended. This means one to two layers of clothes more than adults, and use of hats/caps.
- The mother and baby should not be separated and should stay in the same room 24 hours a day.
- Communication and play with the newborn should be encouraged. Immunization should be promoted as per existing WHO guidelines.
- Preterm and low-birth-weight babies should be identified immediately after birth and should be provided special care as per existing WHO guidelines.

APPENDIX 3: LIST OF INDICATORS¹

This list covers a number of indicators, many based on the stated goals and objectives in Chapter 4, and listed in the second column. Some of these indicators may be more relevant to specific programmatic issues, while others need to be a definite part of the DHIMS2 and Sector Wide Indicators based on the consensus developed by the Subcommittee on Newborn Care and other relevant sections of the Ministry of Health and Ghana Health Service.

	Objectives/Targets	Indicator	Numerator	Denominator	Comments
1.	To contribute to the reduction of neonatal mortality rate from 32/1000 live births in 2011 to 21/1000 live births in 2018 (5%/year).	Neonatal mortality rate.	Number of neonatal deaths within 28 days of birth.	Total number of live births.	
2.	To contribute to the reduction of institutional neonatal mortality rate by at least 35% by 2018.	Institutional neonatal mortality rate.	Number of neonatal deaths within 28 days of birth at facilities.	Total number of live births at facilities.	
3.		Institutional neonatal mortality rate disaggregated by birth weight: >4000 g, 2500–3999 g, 2000–2499 g, 1500–1999 g, 1000–1499 g, <1000 g.	Number of neonatal deaths by categories of birth weight: >4000 g, 2500–3999 g, 2000–2499 g, 1500–1999 g, 1000–1499 g, <1000 g.	Total number of live births by categories of birth weight: >4000 g, 2500–3999 g, 2000–2499 g, 1500–1999 g, 1000–1499 g, <1000 g.	Sensitive indicator of quality of care in health facilities.

¹ Partly adapted from the Every Newborn Action Plan²⁴

	Objectives/Targets	Indicator	Numerator	Denominator	Comments
4.		Institutional mortality rate disaggregated by defined causes.	Number of neonatal deaths disaggregated by causes as defined by the SCNC within 28 days of birth at facilities.	Total number of live births at facilities.	Classification of neonatal deaths should be made uniform at all facility levels, based on the WHO International Classification of Diseases ⁶³ or adaptations thereof as determined by the SCNC.
5.		Stillbirth rate.	Number of babies born dead after 28 weeks of gestation.	Total number of births.	
6.		Fresh stillbirth rate.	Number of babies born dead not showing signs of life at birth and no signs of maceration.	Total births at the facility.	
7.		Intrapartum stillbirth rate.	Number of stillborn infants weighing >2500 g with no known major congenital anomalies and fetal heart rate documented on admission.	Total number of births that took place in the facility.	This is a good, sensitive indicator of the quality of care provided in the facility during labour and delivery.
8.	To increase the proportion of deliveries conducted by skilled birth attendants from 68% in 2011 to 82% in 2018.	Skilled attendant at birth.	Number of births attended by a skilled attendant (such as a doctor/nurse/midwife).	All births.	
9.		Facility births.	Number of births occurring in facilities.	All births.	

	Objectives/Targets	Indicator	Numerator	Denominator	Comments
10.	To train at least 90% of skilled attendants in Essential Newborn Care package by 2018.	Proportion of skilled attendants trained in newborn care.	Number of skilled attendants trained in newborn care.	Total number of skilled attendants.	This indicator is noted here because of the specific objective in Chapter 4.
11.	(a) To train at least 90% of community health nurses/officers on community-based interventions/activities for the newborn by 2018. (b) To train at least 75% of community health volunteers on community-based interventions/activities for the newborn by 2018.	Proportion of community health workers (CHOs/CHNs) trained on community-based interventions/activities for the newborn. Proportion of community health volunteers trained on community-based interventions/activities for the newborn.	Number of community health workers (CHOs/CHNs) trained on community-based interventions/activities for the newborn. Number of CHVs trained on community-based interventions/activities for the newborn.	Total number of community health workers (CHOs/CHNs). Total number of community health volunteers (CHVs).	These indicators are noted here because of the specific objectives in Chapter 4, and have been subdivided into two groups, one relevant to the community health workers (CHOs/CHNs) and the community health volunteers (CHVs).
12.	To increase the proportion of skilled workers trained in the IMNCI strategy to at least 80% by the year 2018.	Proportion of skilled health workers trained in the IMNCI strategy.	Number of skilled health workers trained in the IMNCI strategy.	Number of skilled health workers.	This indicator is noted here because of the specific objective in Chapter 4.
13.	To support incorporation of the full package of Essential Newborn Care in pre-service curricula for all relevant staff by 2018.	Proportion of colleges training physicians, nurses and midwives that have incorporated the full package of Essential Newborn Care in pre-service curricula for all relevant students.	Number of colleges training physicians, nurses and midwives that have incorporated the full package of Essential Newborn Care in pre-service curricula for all relevant students.	Number of colleges training physicians, nurses and midwives.	This indicator is noted here because of the specific objective in Chapter 4.

	Objectives/Targets	Indicator	Numerator	Denominator	Comments
14.		Proportion of newborns who received all four elements of essential newborn care: <ul style="list-style-type: none"> • Immediate and thorough drying • Immediate skin-to-skin contact • Delayed cord clamping • Initiation of breastfeeding in the first hour 	Number of newborns who received all four elements of essential newborn care.	Total number of live births in the health facility.	Indicator to document the quality of basic essential newborn care.
15.	To increase early initiation of breastfeeding (within 1 hour of birth) from 45.9% in 2011 to 80% in 2018.	Early initiation of breastfeeding.	Number of babies breastfed within 1 hour of birth.	All live births.	
16.	To increase exclusive breastfeeding at 6 months from 45.7% in 2011 to 85% in 2018.	Exclusive breastfeeding at 6 months disaggregated, if possible, at 1 month and 6 months.	Number of newborn babies exclusively breastfed till first 6 months of life disaggregated, if possible, at 1 month and 6 months.	All live births in the reference period/year where babies survived first 6 months of life disaggregated, if possible, at one month and 6 months.	
17.	To increase the proportion of babies receiving the first postnatal visit within 48 hours from 56% in 2011 to 90% in 2018.	First postnatal visit/contact with a trained health worker.	Number of babies receiving a visit/contact within 2 days of birth.	All live births.	

	Objectives/Targets	Indicator	Numerator	Denominator	Comments
18.		Quality of early postnatal care.	Percentage of live births that received at least 2 key services (cord checked, mother counselled on newborn danger signs, temperature assessed, breastfeeding supported, weighed) within 2 days after birth at a facility.	All live births.	Indicator to capture quality of early postnatal care more comprehensively.
19.	To increase the proportion of babies receiving the 2nd postnatal visit by day 7 from 40% in 2013 to at least 80% in 2018.	Second postnatal visit/contact with a trained health worker.	Number of babies receiving a visit/contact between 6 and 7 days of birth.	All live births.	
20.	To reduce institutional neonatal mortality (case fatality) due to adverse intrapartum events (birth asphyxia) by 50% by the year 2018.	Newborn resuscitation.	Number of babies not breathing after birth receiving resuscitation at birth.	Number of babies not breathing after birth.	
21.	To administer antenatal corticosteroids to at least 60% of preterm births under 34 weeks of gestation by 2018.	Antenatal corticosteroid use.	Number of babies born before 34 weeks (ultrasound confirmed) whose mothers received antenatal corticosteroids in facility births.	All newborn babies with ultrasound confirmed gestational age of less than 34 weeks in facility births.	

	Objectives/Targets	Indicator	Numerator	Denominator	Comments
22.	To increase the proportion of babies with birth weight less than 2000 g receiving skin-to-skin contact for at least 3 hours per day for at least 1 week to at least 60% by 2018.	Proportion of babies less than 2000 g receiving Kangaroo Mother Care.	Number of babies with birthweight less than 2000 g receiving skin-to-skin contact for at least 3 hours per day for at least 1 week.	All live born babies with birth weight less than 2000 g.	Do not include the brief skin-to-skin contact practiced at all births and during transport of sick babies.
23.	To increase the number of hospitals providing the full package of KMC according to national criteria to at least 80% by the year 2018.	Proportion of hospitals practicing Kangaroo Mother Care in the last year.	Number of hospitals practicing Kangaroo Mother Care in the last year.	Total number of hospitals.	
24.	To increase the proportion of hospitals adhering to national infection control standards (related to care at delivery and early postnatal period) to at least 80% by 2018.	Proportion of hospitals having a functional quality improvement/infection control team that met at least two times in the last year.	Number of hospitals having a functional quality improvement/infection control team that met at least two times in the last year.	Total number of hospitals.	
25.	To reduce the proportion of infections in hospital-born newborn babies requiring admission to the neonatal special care units by 50% by the year 2018.	Proportion of newborn babies born in the hospital admitted into the neonatal special care unit for infections.	Number of babies born in the hospital admitted into the neonatal special care unit with infections.	Total number of admissions in the neonatal special care unit.	
26.	To increase care-seeking for the sick newborn at the health facility to at least 80% by the year 2018.	Proportion of sick newborns under the age of 28 days among the children under five brought to facilities.	Number of sick newborns under the age of 28 days brought to facilities.	Total number of children <5 years brought to the facilities.	

	Objectives/Targets	Indicator	Numerator	Denominator	Comments
27.	To decrease the mortality of newborns with sepsis in hospitals by 50% by the year 2018.	Proportion of babies with neonatal sepsis that died in the hospital.	Number of babies with neonatal sepsis that died in the hospital.	Total number of babies admitted with neonatal sepsis in the hospital.	

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